National Energy Board

Office national de l'énergie

Short-term Canadian Natural Gas Deliverability

2015–2017

Appendices

AN ENERGY MARKET ASSESSMENT JUNE 2015

Canada

National Energy Board | Office national de l'énergie

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APPENDIX A

A1 Methodology (Detailed Description)

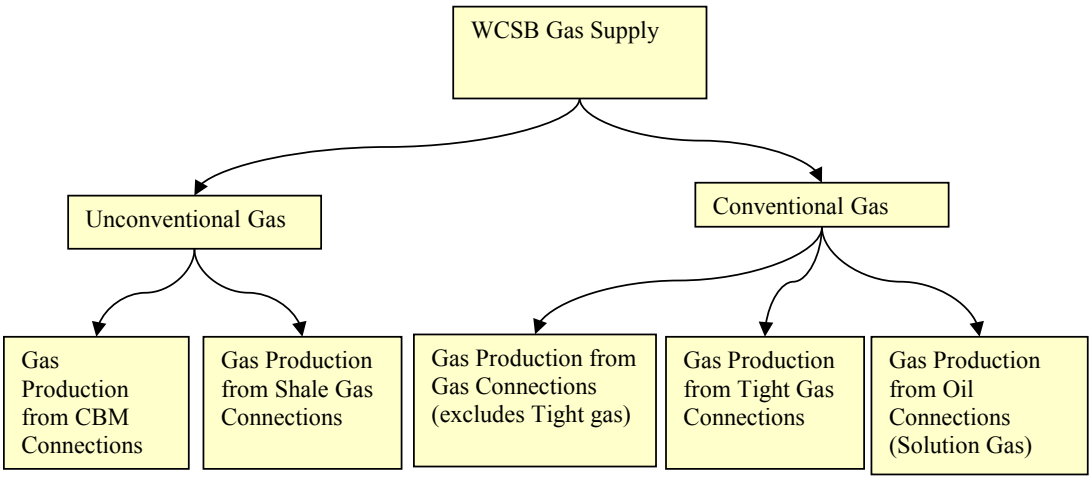
Canadian natural gas deliverability from 2015 to 2017 will consist of conventional gas supply from the Westerm Canada Sedimentary Basin (WCSB) with contributions from Atlantic Canada, Ontario, Northwest Territories, CBM production from Alberta, and shale gas production from Alberta and B.C. In this report, an analysis of trends in well production characteristics and resource development expectations was undertaken to develop parameters that define future natural gas deliverability from the WCSB. A different approach was undertaken for other regions of Canada where production is sourced from a smaller number of wells.

A1.1 WCSB Gas Supply

To assess gas deliverability for the WCSB, gas production was split into two major categories as shown in Figure A1.1.

FIGURE A1.1

WCSB Major Gas Supply Categories for Deliverability Assessment



The methodology to determine gas deliverability associated with conventional gas connections (including tight gas), CBM connections, and shale gas is described below. Canadian shale gas included in this analysis is also tight gas but is split out to provide more detailed information. The methodology to determine gas deliverability related to oil connections (solution gas) is described in section 1.2 of this appendix.

A1.1.1 Gas Connections from Gas Wells

The methodology used to assess deliverability is mostly the same for conventional gas connections (including tight gas) and CBM connections. Production decline analysis on historical production data was used to determine parameters that define future performance. In the case of CBM, shale gas, and Montney tight gas, historical data is more limited, so the views gathered in consultations with industry played a larger role in establishing the performance parameters.

A1.1.1.1 Groupings for Production Decline Analysis

Different groupings of conventional gas connections (including tight gas), shale gas, and CBM connections were made to assess well performance characteristics. Conventional gas connections were grouped geographically on the basis of the Petrocube areas in Alberta, B.C., and Saskatchewan, as shown in Figure A1.2. Conventional gas connections in each area were also grouped by zone. In this analysis, gas deliverability from the Montney formation is separate from the other tight gas sources.

FIGURE A1.2

WCSB Area Map

Within each Petrocube area and zone, gas connections were grouped by connection year, with all connections made prior to 1999 forming a single grouping, and separate groupings for each year from 1999 through 2013.

CBM connections were grouped primarily by zone into three categories:

- Horseshoe Canyon Main Play
- Mannville CBM, and
- Other CBM

For the projection period, CBM development is expected to occur only in Alberta.

Within each of the three categories of CBM resources, connections were also grouped by connection year. Due to the short period of commercial production, there are fewer connection year groupings. For the Horseshoe Canyon Main Play and Other CBM categories, there is a single grouping for all connections made prior to 2004, and separate groupings for each year from 2004 through 2013. For Mannville CBM, a single grouping was made for all connections made prior to 2006, and separate groupings for each following year.

Existing Connections vs. Future Connections

In this report, "existing connections" are connections brought on production prior to January 1, 2014, and "future connections" are connections brought on production from January 1, 2014 onwards. The methodology applied to make the gas deliverability projections for existing connections is substantially different from what is done to assess deliverability for future connections.

A1.1.1.2 Methodology for Existing Connections

For existing connections, production decline analysis on historical production data is done on each grouping (gas type/study area/zone/connection year) to develop two sets of parameters.

1. Group deliverability parameters—describing deliverability expectations for the entire gas resource grouping.
2. Average connection deliverability parameters—describing deliverability expectations for the average gas connection in the grouping (note: these only apply when the grouping represents a specific connection year).

The methodology for the production decline analysis on existing connections is described below. The group deliverability parameters and average connection deliverability parameters resulting from this analysis are contained in Appendices A.3 and A.4, respectively. In the deliverability model, the group deliverability parameters are used to make the deliverability projection for existing connections.

Production Decline Analysis Methodology

The production decline analysis procedure described below applies to conventional gas connections (including tight gas), and CBM in the WCSB.

Conventional gas connections are grouped by study area, zone, and connection year. CBM connections in Alberta are grouped by producing zone and connection year. For each of these groupings, a data set of group marketable production history is created and, where the grouping represents a specific connection year, a data set of average connection marketable production history is also generated.

The data sets for group marketable production are generated as follows:

- Raw well production for gas connections in each grouping is summed by calendar month getting total group raw production by calendar month.
- The total group raw production by calendar month is multiplied by an average shrinkage factor that applies to the grouping and divided by the number of days in each month to get total monthly marketable gas production and marketable gas production rate (MMcf/d) for each calendar month.
- Using this data set, plots of total daily marketable production rate versus total cumulative marketable production are generated for each grouping.

The data sets for average connection production history are created as follows.

- The raw well production by month for each connection in the grouping is put in a data base.
- For each entry of production month for each connection, a value of normalized production month is calculated as the number of months between the month the connection began producing and the actual production month (this is the normalized production month).
- The raw production for connections in the grouping is summed by normalized production month and then multiplied by the average shrinkage factor that applies to the grouping, providing total marketable production by normalized production month.
- The total marketable production by normalized production month is then divided by the total number of connections in the grouping to get marketable production for the average connection by normalized production month.
- The marketable production for normalized production month is then divided by the average number of days in a month, or 30.4375, giving the production rate for the average connection in the grouping by normalized production month. (Note: due to the different number of production months for connections in the grouping coming on stream at different times of the year, some production data could not be used in the calculation of the average connection production rate).
- Using this data set, plots of daily marketable production rate versus cumulative marketable production for the average connection were generated for each grouping.

For conventional gas connections, the following procedures are applied in performing production decline analysis using the group and average connection historical production data sets:

- **Production Decline Analysis for the Pre-1999 Connections**

  In each study area, the group rate versus cumulative production plot for the grouping of gas connections on production prior to 1999 is the first to be evaluated. In all study areas, a stable exponential decline for the past several years was exhibited. The group plot for all the connections prior to 1998 yields a current marketable production rate, a stable decline rate applicable to future production, and a terminal decline that may be applicable to later connection year groupings for the study area.

- **Evaluate Connection Year 1999 through 2013**

  After the initial aggregate connection year is evaluated for a study area, each connection year is evaluated in sequence, from 1999 through 2013.

a. **Production Decline Analysis for the Average Connection:**

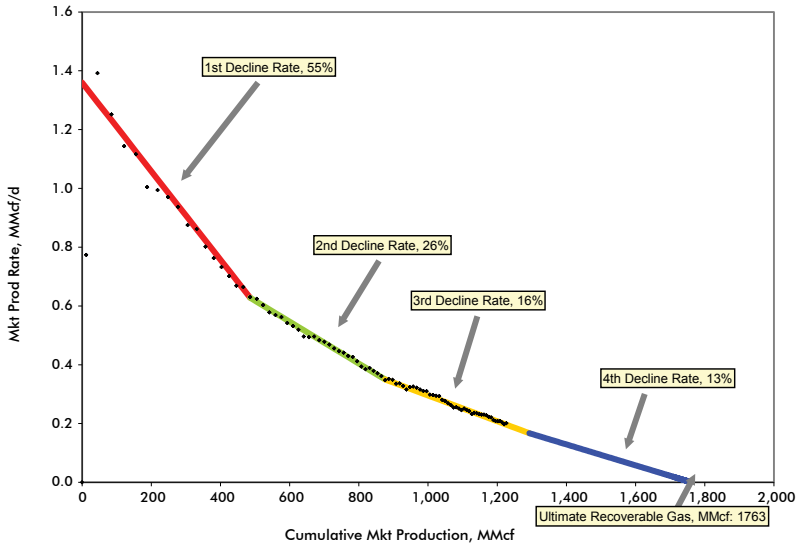
For each connection year, the rate versus cumulative production plot for the average connection is evaluated first to establish the following parameters that describe the production profile of the average connection over the entire productive life:

- Initial Production Rate
- First Decline Rate
- Second Decline Rate
- Months to Second Decline Rate- usually around 18 months
- Third Decline Rate
- Months to Third Decline Rate- usually around 45 months
- Fourth Decline Rate
- Months to Fourth Decline Rate- usually around 100 months

Figure A1.3 shows an example of the plots used in evaluation of average connection performance, and the different decline rates that are applied to describe the production.

FIGURE A1.3

Example of Average Connection Production Decline Analysis Plot



Source: NEB analysis of Divestco Geovista well production data

For the earlier connection years, the available data is usually sufficient to establish all of the above parameters. For more recent connection years, the duration of historical production data becomes shorter and the parameters describing the later life decline performance must be taken from that determined for earlier connection years. In the example shown in Figure A1.3, the available data is sufficient to determine parameters defining the first, second, and third decline periods for the connection, but the parameters defining the fourth decline period must be assumed based on the analysis of earlier connection years.

It is assumed that, unless the historical data for the connection year indicates otherwise, the fourth decline rate will equal the terminal decline rate for the grouping established through evaluation

of all pre-1999 connections, and that period of the terminal decline rate will commence after 120 months of production.

The decline parameters determined in this manner for average connections are available in Appendix A4.

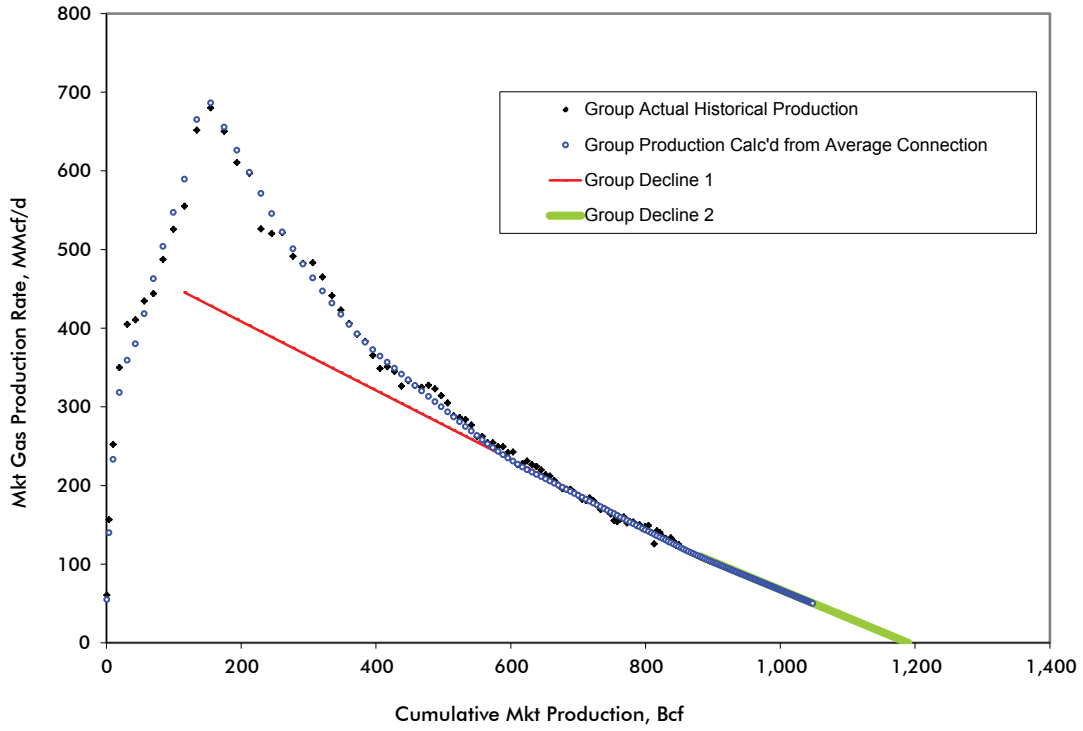
b. **Production Decline Analysis for the Group Data:**

Once the performance parameters for the average connection are established, the procedure focuses on evaluation of group performance parameters.

As a first step, the average connection performance parameters are combined with the known connection schedule to calculate the expected group performance. This is plotted with the actual group performance data. If the data calculated from average connection performance data does not provide a good match with the actual historical production data for the group, then the average connection parameters may be revised until a good match is obtained between calculated group production data (from average connection data) and actual group production data. An example of the group plots described here is shown in Figure A1.4.

FIGURE A1.4

Example of Group Production Decline Analysis Plot



Source: NEB analysis of Divestco Geovista well production data

The following group performance parameters are determined from the group plot:

- Production Rate as of December 2013
- 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)

In the earlier connection year groupings (2001, 2002, etc.), the actual group data is usually stabilized by the current date at or near the terminal decline rate established via the pre-1999 aggregate grouping. In these cases a single decline rate sufficiently describes the entire remaining productive life of the grouping. In these cases the expected performance calculated from average connection data has little influence over determination of the group parameters.

In later connection years (2011, 2012, etc.) actual group production history data cannot provide a good basis upon which to project future deliverability. In these cases the expected performance calculated from average connection data is vital to establishing the current a nd future decline rates applicable for the connection year.

Group performance parameters determined in this manner are available in Appendix A3.

Production Decline Analysis of CBM

The production decline analysis procedure described above is also applied to the CBM groupings, subject to the following:

1. The short production history of CBM in Alberta makes it difficult to establish long term decline rates based on historical data, especially with regard to Mannville CBM. Nevertheless, decline rates that describe the full productive life of CBM connections are still estimated in this EMA, based on industry consultations, and on the NEB's view of ultimate gas recovery for the average connections for the different CBM groupings.
2. Mannville CBM connections have a different performance profile than the other gas resources in the WCSB. While gas connections for all other groupings can be described by an initial production rate that declines in a relatively predictable manner, Mannville CBM connections go through a dewatering phase with gas production increasing over a period of months to a peak rate. After the peak rate is reached decline will occur. Thus a slightly different set of parameters is used to describe performance of the average connection for Mannville CBM, with initial production rate being replaced by "Months to Peak Production" and "Peak Production Rate".

A1.1.1.3 Methodology for Future Connections

For future connections, deliverability is projected based on the number of future connections and the expected average performance characteristics of those connections. The drilling projection is used to estimate the number of future gas connections. Historical trends in average connection performance parameters, obtained from production decline analysis of existing gas connections, are used to estimate average connection performance parameters for future connection years.

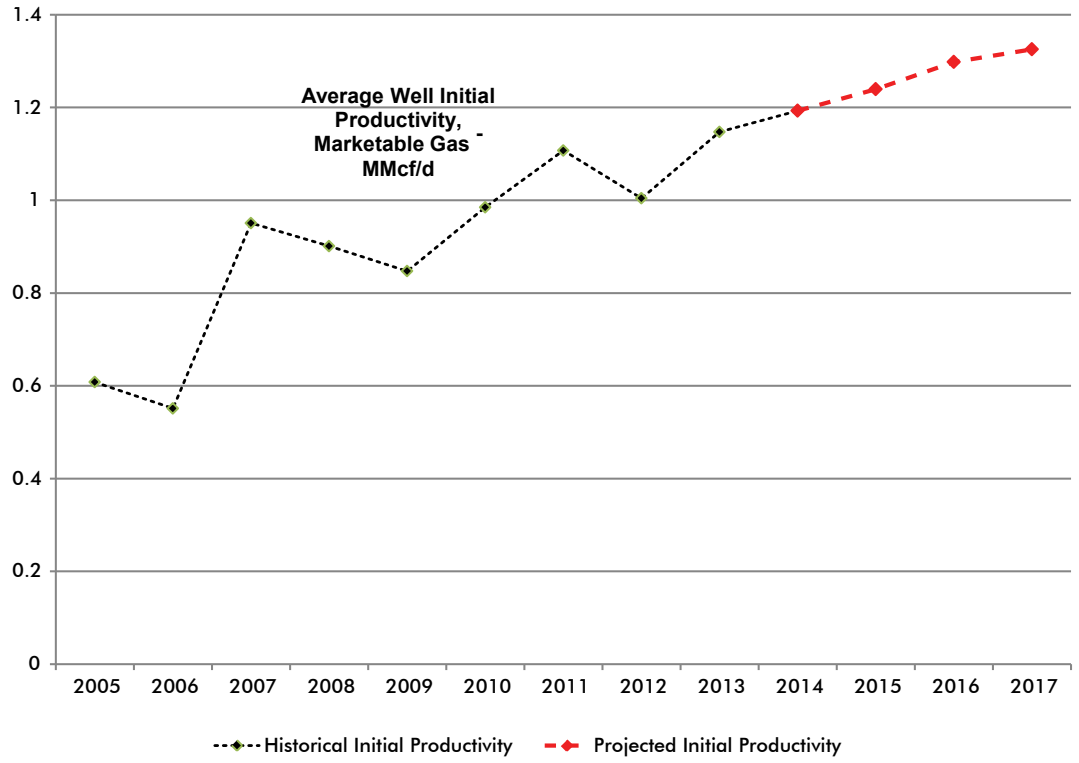
A1.1.1.3.1 Performance of Future Connections

The performance of future connections is obtained in each resource grouping by extrapolating the production performance trends for average connections in past connection years. The performance parameters estimated are initial productivity of the average connection and the associated decline rates.

In many groupings, each new connection year follows a trend of decreasing initial productivity for the average conventional gas connection. This trend is evident in Figure A1.5, which shows the initial production rate over time for conventional gas connections in the West Central Alberta Tertiary conventional grouping. Recently, however, there has been a trend in some tight and shale groupings where initial productivity for the average gas connection has been increasing. The Initial Production Rate for future gas connections is estimated by extrapolating the trend in each resource grouping. Historical and projected initial productivity values for the average connection for all gas resource groupings are contained in Appendices A3 and A4.

FIGURE A1.5

Example of Initial Productivity of Average Connections by Connection Year – West Central Alberta Mannville Tight Grouping

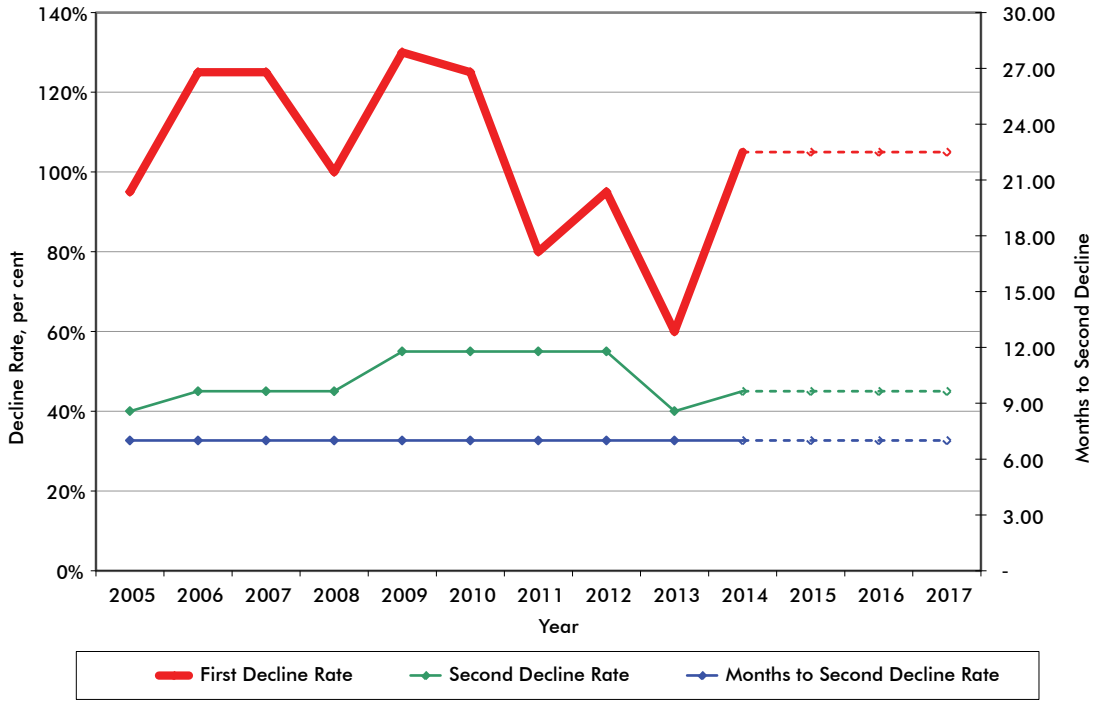


Source: NEB analysis of Divestco well production data

The key decline parameters impacting short-term deliverability are the first decline rate, second decline rate, and months to second decline rate. Figure A1.6 shows the historical and projected values of these key decline parameters for the average connections during the years 2005 through 2017 for conventional gas connections in the Southwest Alberta, Tertiary, Upper Cretaceous, Upper Colorado grouping. As shown in Figure A1.6, trends seen in the decline parameters in past connection years are used to establish these key parameters for future years.

FIGURE A1.6

Example of Key Decline Parameters for Average Connections Over Time - Southwest Alberta, Tertiary, Upper Cretaceous, Upper Colorado Conventional Grouping



A1.1.1.3.2 Number of Future Connections

Projecting the number of future connections requires an estimate of the annual number of gas-intent (including tight gas), shale-intent, and CBM-intent wells for each resource grouping and then multiplying by the ratio of annual connections to annual wells.

Shown in Figure A1.7 is the methodology for projecting the number of gas-intent and CBM-intent wells for each year over the projection period. The key inputs are **Annual Drilling Investment** and **Costs per Drill Day**. Adjustments to these two key inputs (shown as yellow boxes in Figure A1.7) produce different drilling activity situations in the WCSB. Other inputs required by the procedure are shown in the green boxes in Figure A1.7. The values projected for these other inputs are estimated from an analysis of historical data.

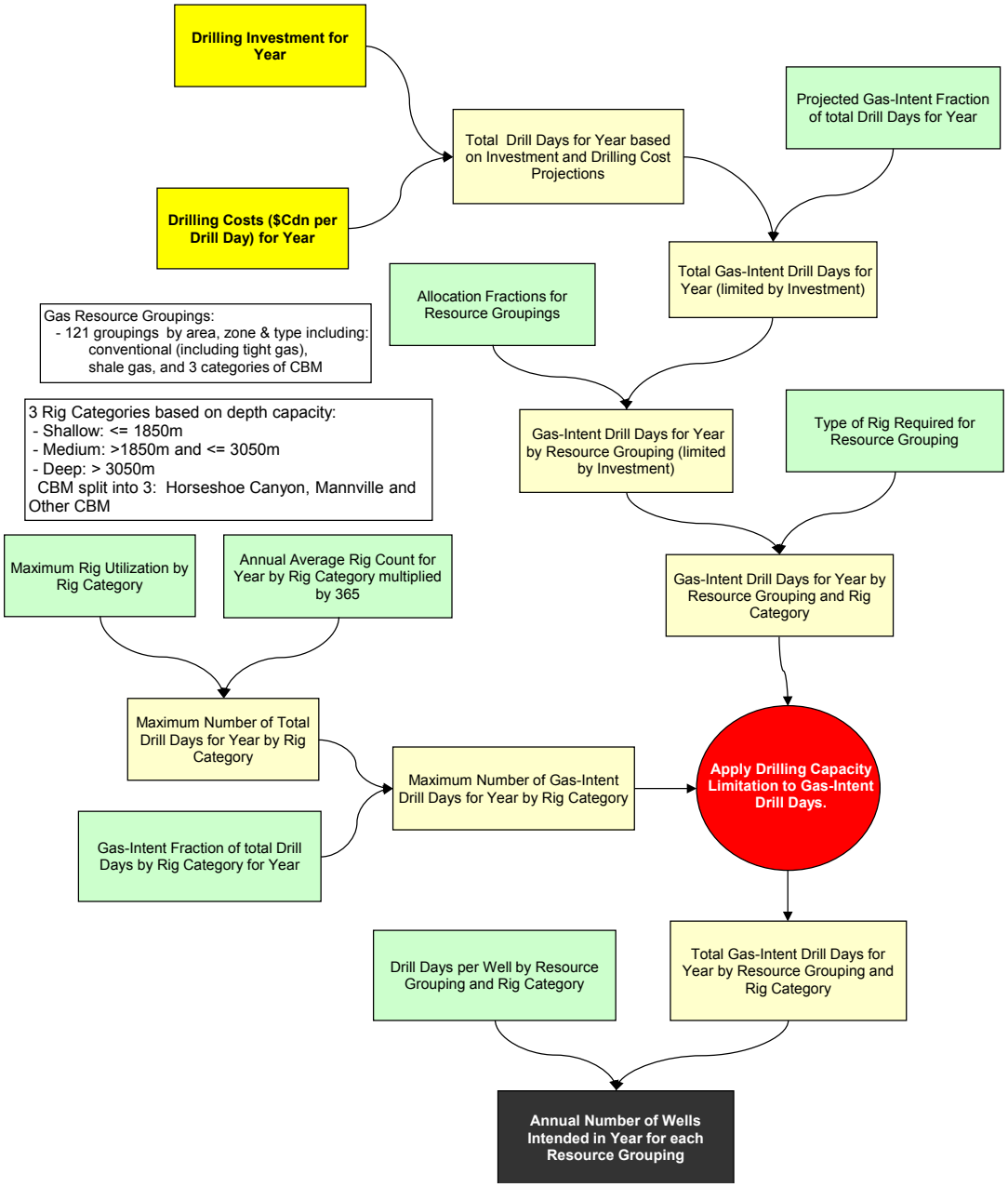
The Board projects an allocation of gas-intent drill days for each of the resource groupings. The allocation fractions are determined from historical trends, recent estimates of supply costs, and the Board's view of development potential for the resource groupings. The allocation fractions reflect the historical trends of an increasing focus on the deeper formations located in the western side of the

basin, increasing interest in tight gas and gas shales in B.C, and further development of liquids rich/wet natural gas. Tables of the historical data (drill days and allocation fractions) and the projected allocation fractions are available in Table B1.

After allocating the gas-intent drill days to the resource groupings, a check is completed against drilling capacity to ensure that physical drilling limitations are not exceeded. The number of gas-intent wells drilled in each year is calculated by dividing the drill days targeting each resource grouping by the applicable average number of drill days per well.

FIGURE A1.7

Flowchart of Drilling Projection Methodology



For each resource grouping, a connection ratio (the ratio of annual connections to annual wells drilled targeting a grouping) is estimated based on historical data. The annual number of wells drilled is multiplied by the connection ratio to obtain the number of annual connections for each resource grouping. The connection ratios for each resource grouping are provided in Table B.2. The annual number of connections for each resource grouping is allocated to each month of the year in accordance with the established historical connection schedule.

A1.1.2 Solution Gas

Solution gas is gas produced from oil wells in conjunction with the crude oil and accounts for about nine per cent of total marketable gas production in the WCSB. To estimate deliverability of solution gas, oil connections are grouped by study area and production decline analysis is performed on the entire grouping to obtain the current production rate and the decline rate. The deliverability resulting from these parameters is deemed to represent all solution gas deliverability (i.e. deliverability from both existing and future connections).

A1.1.3 Yukon and Northwest Territories

In the Yukon and Northwest Territories, conventional gas was produced from two pools close to the territorial border of 60 degrees north latitude. These two pools (or fields) are Kotaneelee and Cameron Hills. Kotaneelee production ceased in September 2012. Much further to the north, the Ikhil and Norman Wells fields also produce small amounts of gas that serve local purposes and are not tied into the North American pipeline grid. With the limited number of producing wells and development activity in the Cameron Hills area, production decline analysis for the existing gas connections provides a good estimate of future deliverability. No deliverability from the Mackenzie Delta and elsewhere along the Mackenzie Corridor is included during the three year projection period.

In this report, gas deliverability of the southerly fields tied into the pipeline grid is represented as total deliverability from the Yukon and Northwest.

A1.2 Atlantic Canada

For producing wells from offshore Nova Scotia, production profiles are based on an average of the decline rates in the two producing projects. No additional infill wells are assumed for the producing fields over the projection period. The parameters used in the compression analysis are based on discussions with industry representatives. Deliverability from the Deep Panuke development started in fall 2013.

Onshore production from the McCully Field in New Brunswick was connected into the regional pipeline system at the end of June 2007. Future development and performance of the field is based on corporate development plans and industry consultations, and takes into consideration the performance of existing wells.

Due to the early stage of assessment and lack of data, reasonable estimates of onshore CBM and shale gas deliverability in Nova Scotia and New Brunswick cannot be developed at this time.

A1.3 Other Canadian Production

The WCSB, Yukon and Northwest Territories, and Atlantic Canada discussed in the pre-ceding sections of this chapter account for almost all of Canada's deliverability. This mi-nor remaining amount of Canadian deliverability is from Ontario. Deliverability from Ontario is projected by extrapolation of historical production volumes. Due to the early stage of assessment and lack of data, reasonable estimates of Quebec natural gas deliver-ability cannot be developed at this time.

A1.4 Canadian Deliverability and Canadian Demand

Canadian natural gas demand is met within the integrated North American natural gas market by a combination of Canadian natural gas deliverability and imports of U.S. gas.

Natural gas deliverability is defined as the estimated amount of gas supply that could be produced from a given area, after field processing, based on historical production and individual well declines, as well as projected activity. All estimated gas use prior to the outlet from field processing plants has already been deducted from the deliverability estimate, and likewise is not included in the demand estimate. Gas consumed at the Goldboro processing facility in Nova Scotia is in this category of field processing and has therefore already been deducted from Atlantic Canada deliverability.

Current and projected Canadian gas demand is divided geographically at the Saskatchewan-Manitoba border into Western and Eastern Canada demand. Western Canada demand includes gas volumes withdrawn during the recovery of natural gas liquids at straddle plants. Approximately 85 to 90 per cent of the gas volumes leaving Alberta are processed through the straddle plants, where much of the ethane in the gas stream is extracted along with traces of other NGLs and heavier components remaining after field processing. A table of the Average Annual Canadian Deliverability and Demand is available in Appendix E.

Canadian gas demand includes gas required for pipeline fuel in the respective areas. The Board's projection of Canadian gas demand is based on historical trends and expected major increments of gas-fired power generation and industrial projects (including oil sands developments). The demand projection is based on the assumption of average weather conditions. Considerable variability in actual gas demand is possible due to the impact of weather variation on Canada's space heating needs.

Appendix A2 - DELIVERABILITY PARAMETERS - RESULTS

A2.1 WCSB

Using the Board's methodology, connections in the WCSB are categorized as either gas or oil. Gas connections are further categorized as conventional (including the tight gas sub-category), and unconventional (including shale gas and CBM). Connections are grouped based on geographical area, producing zone, and connection year, with different grouping criteria applied to different types of connections.

In the case of existing gas connections (those on production prior to 1 January 2014), and all oil connections (solution gas), production decline analysis is used to establish parameters that define future deliverability of each grouping. Section A2.1.1 below provides further discussion of the parameters resulting from the production decline analysis.

For future gas connections (those on production after 1 January 2014), the number of expected future connections and the expected production performance of those future connections is estimated to provide a basis for the deliverability projection. Section A2.1.2 below provides discussion of the parameters used to project deliverability for future gas connections.

A2.1.1 Production from Existing Gas Connections

The future deliverability of existing connections of the resource groupings comprising conventional (including tight gas), and unconventional (including shale gas and CBM), and all solution gas was determined via the production decline analysis procedure described in Appendix A3. The decline parameters describing the expected future deliverability of each grouping are listed in Appendix A3.

The deliverability parameters for these groupings ***are not*** impacted by the different price cases considered in this report. The different price cases are included to reflect uncertainty in future gas drilling activity only.

The parameters describing future deliverability for all of these groupings are the production rate as of December 2013 and as many as four future decline rates that apply to specified time periods 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 well groupings, 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 or possibly 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 there were no further gas connections made after the end of 2011. Deliverability projections made in previous reports for these categories of groupings have proved to be very close to actual performance.

The Board's projections show that aggregate production for these groupings will decline by 13 per cent per year over 2014 to 2017. Deliverability from future gas connections supplements the declining deliverability from existing connections.

A2.1.2 Future Gas Connections

Deliverability associated with future gas connections is calculated for each resource grouping using estimates for production performance of the average connection and the number of connections in future years. The parameters associated with both of these inputs are discussed in the sections below.

While past deliverability projections for existing gas connections have enjoyed a high degree of accuracy, the certainty associated with the projections for future gas connections is less. The key uncertainty is the level of gas drilling that will occur. Three price cases have been created to address the uncertainty inherent in the gas drilling projections.

A2.1.2.1 Performance Parameters for Future Average Gas Connections

The production decline analysis procedures described in Appendix A.1 provide the basis for establishing performance parameters for future gas connections. The trends seen in average connection performance for the various groupings of existing connections are used to make an estimate of performance parameters for future gas connections.

For conventional gas connections (including tight gas), the connections are grouped based on area, formation, and connection year from 1999 through 2013. These 13 connection year groupings are assessed for each grouping, providing an excellent historical data set to estimate performance of future wells.

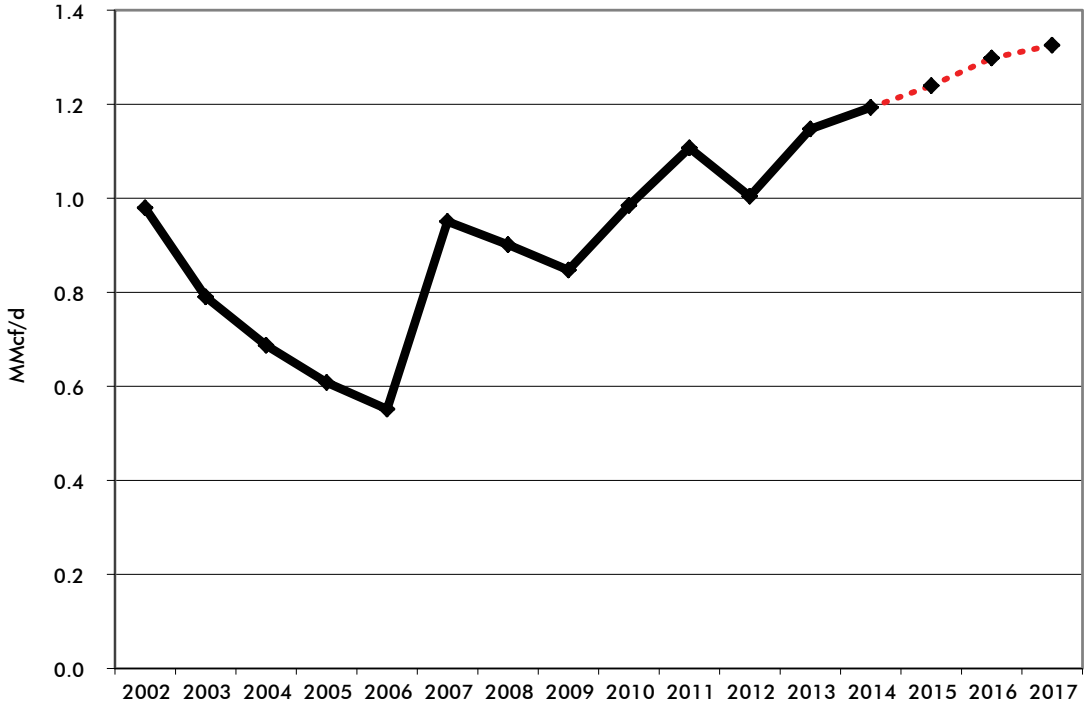
Two trends are apparent in the performance parameters for the existing conventional gas connections.

- Decline rates applicable to the average connection are quite stable over the past several connection years.
- Initial productivity of the average connection increases from connection year to connection year.

With respect to initial productivity of the average gas connection, the overall trend for the WCSB is shown in Figure A2.1. After decreases in initial productivity over 2001 to 2006, the trend reversed upward for 2007, remained fairly stable through 2009, and continued upward through to 2014 as higher initial productivity rates from tight gas and shale gas wells began to represent a growing share of the wells drilled in a year. Initial productivity over the projection is almost flat primarily due to holding the rates constant for most gas wells.

FIGURE A2.1

WCSB Initial Productivity of Average Gas Connections by Connection Year



Source: NEB Analysis of Divestco Well Production Data

Table A2.1 shows the historical average initial production rates for the average gas connections for each area. Appendices A3 and A4 provide a complete listing of all performance parameters for average connections by grouping for both historical and future connection year groupings.

TABLE A2.1

WCSB Initial Productivity of Average Gas Connections by Connection Year by Area - MMcf/d

Area	2007	2008	2009	2010	2011	2012	2013
00 - Alberta CBM	0.103	0.099	0.067	0.047	0.046	0.037	0.036
01 - Southern Alberta	0.097	0.119	0.105	0.145	0.130	0.083	0.063
02 - Southwest Alberta	0.227	0.308	0.303	0.259	0.241	0.142	0.170
03 - Southern Foothills	0.342	0.151	0.683	0.008			
04 - Eastern Alberta	0.075	0.080	0.093	0.092	0.102	0.097	0.137
05 - Central Alberta	0.210	0.196	0.204	0.227	0.168	0.169	0.149
06 - West Central Alberta	0.416	0.509	0.453	0.505	0.580	1.131	1.030
07 - Central Foothills	2.560	2.152	1.599	1.628	2.966	2.466	0.331
08 - Kaybob	0.660	0.561	0.742	0.697	0.803	0.530	0.998
09 - Alberta Deep Basin	0.750	0.779	1.057	1.022	0.811	0.953	1.018
10 - Northeast Alberta	0.162	0.163	0.149	0.135	0.171	0.051	0.036
11 - Peace River	0.542	0.484	0.596	0.530	0.509	1.298	1.538
12 - Northwest Alberta	0.273	0.391	0.731	0.334	0.122	0.035	3.550
13 - BC Deep Basin	1.294	1.431	1.388	2.482	2.105	1.330	3.084
14 - Fort St. John	1.085	1.218	1.450	1.426	1.297	1.022	1.452
15 - Northeast BC	0.741	1.040	1.016	2.168	1.867	2.217	
16 - BC Foothills	1.021	1.552	1.254	1.644	2.193	2.232	2.399
17 - Southwest Saskatchewan	0.027	0.026	0.018	0.016	0.028	0.027	0.028
18 - West Saskatchewan	0.069	0.068	0.062	0.056	0.078	0.033	0.097
Total WCSB	*0.951*	*0.901*	*0.847*	*0.985*	*1.107*	*1.004*	*1.147*

Source: NEB Analysis of Divestco Well Production Data

The average connection performance parameters projected for connection years 2014 through 2017 are the same in all three price cases assessed in this report. Variance between the cases is affected by applying different levels of gas drilling activity as discussed further in section 1.2.2 of this appendix.

A2.1.2.2 Number of Future Gas Connections

The projected number of connections by year and the projected production performance of the average connections in those years are applied to provide deliverability associated with future gas connections. To determine the number of future gas connections, projections of gas-intent drilling are made for each of the resource groupings. The annual number of wells targeted to each grouping is applied to the ratio of annual connections to annual wells for that grouping to provide the annual number of connections.

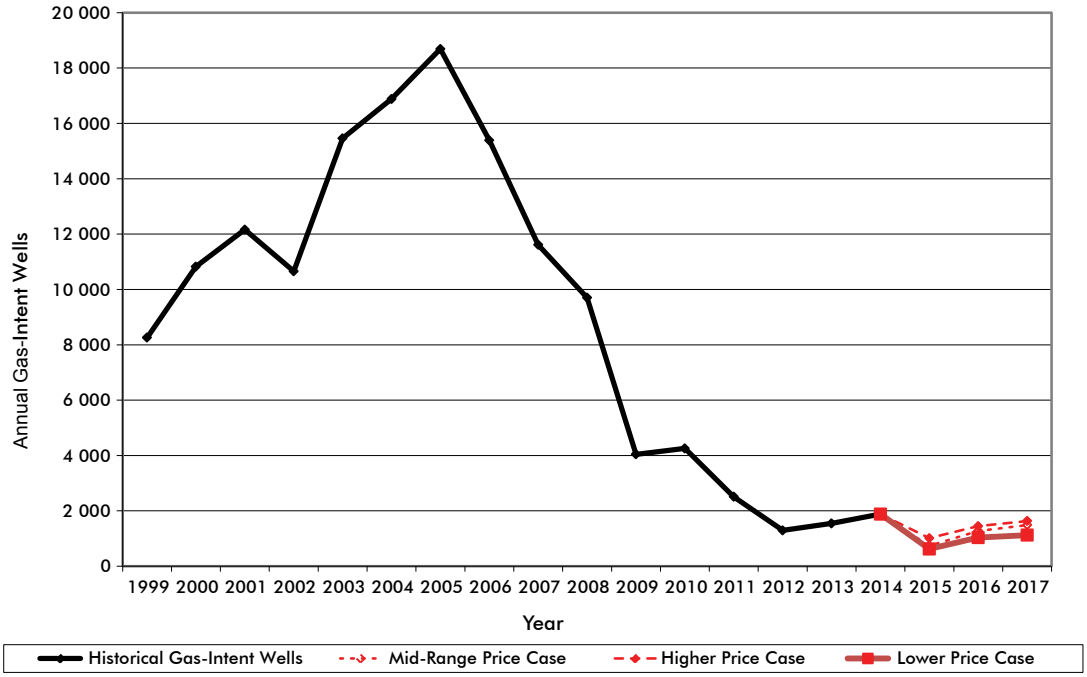
Volatile and unpredictable market conditions are expected to be the primary influence on gas-intent drilling activity. As a result, there is a high degree of uncertainty in the gas drilling activity that might occur in the coming years. Three drilling activity cases (Mid-Range, Higher, and Lower) that are based on

projections of gas price reflect a range of market conditions that may occur over the projection period. Figure A2.2 indicates the projected number of gas-intent wells for all resource grouping in each case.

Detailed tabulations of projected annual gas-intent-wells, connection ratios, and annual connections for each resource grouping for each case are provided in Table B2.

FIGURE A2.2

WCSB Gas-Intent Well Drilling Cases



A2.2 Atlantic Canada, Ontario, and Quebec

As indicated in Appendix A1, deliverability from Atlantic Canada and Ontario is based on extrapolation of prior trends. No additional wells over the 2015 to 2017 period are assumed to be drilled that would contribute to deliverability at this time.

Marketable production from the Deep Panuke development started in fall 2013. Currently, production from Deep Panuke is shut in due to issues with high levels of water being produced alongside gas production. Although Deep Panuke is expected to return to production by October 2015, incursion of water into the reservoir could adversely impact the amount of natural gas recoverable over the lifetime of the project.

Future development and performance of the McCully field in New Brunswick is based on corporate development plans and consultations with industry. No additional drilling is expected over the projection period. Consequently, this report does not show any natural gas deliverability throughout the projection period.

Testing of onshore CBM and shale gas prospects is ongoing in Atlantic Canada. Due to the early stage of development, reasonable estimates of onshore CBM productivity cannot be developed due to a lack of data.

Deliverability from Ontario continues to decline with no additional drilling expected over the projection period.

Shale gas potential exists in Quebec; however, insufficient data is available. Consequently, this report does not show any natural gas deliverability throughout the projection period.

Appendix A3 – Decline Parameters for Groupings of Existing Gas Connections

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
Horseshoe Canyon	HSC	-
Mannville CBM	Mannville	-

TABLE A3.2

Grouping Index

Area Name	Area Number	Resource Type	Resource Group
CBM Area	00	CBM	Main HSC
CBM Area	00	CBM	Mannville
Southern Alberta	01	Conventional	Tert;UprCret;UprColr
Southern Alberta	01	Conventional	Colr
Southern Alberta	01	Conventional	Mnvl
Southern Alberta	01	Tight	UprColr
Southwest Alberta	02	Conventional	Tert;UprCret;UprColr
Southwest Alberta	02	Conventional	Colr
Southwest Alberta	02	Conventional	MdlMnvl;LwrMnvl
Southwest Alberta	02	Conventional	Jur;Miss
Southwest Alberta	02	Conventional	UprDvn
Southwest Alberta	02	Tight	UprColr
Southwest Alberta	02	Tight	Colr
Southwest Alberta	02	Tight	LwrMnvl
Southern Foothills	03	Conventional	Miss;UprDvn

Area Name	Area Number	Resource Type	Resource Group
Eastern Alberta	04	Conventional	UprCret;UprColr
Eastern Alberta	04	Conventional	Colr;Mnvl
Eastern Alberta	04	Tight	UprColr
Eastern Alberta	04	Shale	Duvernay
Central Alberta	05	Conventional	Tert;UprCret
Central Alberta	05	Conventional	Colr
Central Alberta	05	Conventional	Mnvl
Central Alberta	05	Conventional	Miss;UprDvn
Central Alberta	05	Tight	Colr
Central Alberta	05	Tight	Mvl
Central Alberta	05	Tight	Montney
Central Alberta	05	Shale	Duvernay
West Central Alberta	06	Conventional	Tert
West Central Alberta	06	Conventional	UprCret;UprColr
West Central Alberta	06	Conventional	Mnvl
West Central Alberta	06	Conventional	LwrMnvl; Jur
West Central Alberta	06	Conventional	Miss
West Central Alberta	06	Conventional	UprDvn
West Central Alberta	06	Tight	Colr
West Central Alberta	06	Tight	Mnvl
West Central Alberta	06	Tight	Montney
West Central Alberta	06	Shale	Duvernay
Central Foothills	07	Conventional	UprColr
Central Foothills	07	Conventional	Colr;Mnvl
Central Foothills	07	Conventional	Jur;Tri;Perm
Central Foothills	07	Conventional	Miss
Central Foothills	07	Conventional	UprDvn;MdlDvn
Central Foothills	07	Tight	UprColr;Colr
Central Foothills	07	Tight	Mnvl
Central Foothills	07	Tight	Jur
Central Foothills	07	Tight	Montney
Central Foothills	07	Shale	Duvernay
Kaybob	08	Conventional	UprColr;Colr
Kaybob	08	Conventional	Mnvl;Jur
Kaybob	08	Conventional	Tri
Kaybob	08	Conventional	UprDvn
Kaybob	08	Tight	Colr;Mnvl
Kaybob	08	Tight	Tri
Kaybob	08	Tight	Montney
Kaybob	08	Shale	Duvernay

Area Name	Area Number	Resource Type	Resource Group
Alberta Deep Basin	09	Conventional	UprCret
Alberta Deep Basin	09	Conventional	UprColr
Alberta Deep Basin	09	Conventional	Mnvl;Jur
Alberta Deep Basin	09	Conventional	Tri
Alberta Deep Basin	09	Conventional	UprDvn
Alberta Deep Basin	09	Tight	UprColr
Alberta Deep Basin	09	Tight	Colr
Alberta Deep Basin	09	Tight	Mnvl;Jur
Alberta Deep Basin	09	Tight	Tri
Alberta Deep Basin	09	Tight	Montney
Alberta Deep Basin	09	Shale	Duvernay
Northeast Alberta	10	Conventional	Mnvl;UprDvn
Peace River	11	Conventional	UprColr
Peace River	11	Conventional	Colr;UprMnvl
Peace River	11	Conventional	MdlMnvl;LwrMnvl
Peace River	11	Conventional	UprTri
Peace River	11	Conventional	LwrTri
Peace River	11	Conventional	Miss
Peace River	11	Conventional	UprDvn;MdlDvn
Peace River	11	Tight	UprColr
Peace River	11	Tight	MdlMnvl;LwrMnvl
Peace River	11	Tight	UprTri
Peace River	11	Tight	LwrTri
Peace River	11	Tight	Tri
Peace River	11	Tight	Miss
Peace River	11	Tight	Montney
Peace River	11	Shale	Duvernay
Northwest Alberta	12	Conventional	Mnvl
Northwest Alberta	12	Conventional	Miss
Northwest Alberta	12	Conventional	UprDvn
Northwest Alberta	12	Conventional	MdlDvn
Northwest Alberta	12	Shale	Duvernay
BC Deep Basin	13	Conventional	Colr
BC Deep Basin	13	Conventional	LwrTri
BC Deep Basin	13	Tight	Colr
BC Deep Basin	13	Tight	Mnvl
BC Deep Basin	13	Tight	LwrTri
BC Deep Basin	13	Tight	Montney

Area Name	Area Number	Resource Type	Resource Group
Fort St. John	14	Conventional	Mnvl
Fort St. John	14	Conventional	Tri
Fort St. John	14	Conventional	Perm;Miss
Fort St. John	14	Conventional	UprDvn;MdlDvn
Fort St. John	14	Tight	Mnvl
Fort St. John	14	Tight	Tri
Fort St. John	14	Tight	Perm;Miss
Fort St. John	14	Tight	Dvn
Fort St. John	14	Tight	Montney
Northeast BC	15	Conventional	LwrMnvl
Northeast BC	15	Conventional	Perm;Miss
Northeast BC	15	Conventional	UprDvn;MdlDvn
Northeast BC	15	Tight	UprDvn
Northeast BC	15	Shale	Cordova
Northeast BC	15	Shale	Horn River
Northeast BC	15	Shale	Liard
BC Foothills	16	Conventional	Colr;Mnvl
BC Foothills	16	Conventional	Tri;Perm;Miss
BC Foothills	16	Tight	LwrTri
BC Foothills	16	Tight	Tri
BC Foothills	16	Tight	Montney
Southwest Saskatchewan	17	Tight	UprColr
West Saskatchewan	18	Conventional	Colr
West Saskatchewan	18	Conventional	MdlMnvl;LwrMnvl;Miss
East Saskatchewan	19	Conventional	Solution Gas

TABLE A3.3

Decline Parameters for Groupings of Existing Gas Connections

Resource Grouping - Gas - Alberta Coalbed Methane - Horseshoe Canyon						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2006	241.25	0.14	0.12	25	0.10	60
2007	158.46	0.14	0.12	25	0.10	60
2008	114.19	0.14	0.12	25	0.10	60
2009	127.71	0.14	0.12	25	0.10	60
2010	80.41	0.14	0.12	25	0.10	60
2011	65.10	0.16	0.14	25	0.12	60
2012	24.10	0.16	0.14	25	0.12	60
2013	14.02	0.16	0.12	25	0.05	60

Resource Grouping - Gas - Alberta Coalbed Methane - Mannville						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2007	31.48	0.16	0.14	25	0.12	60
2008	38.56	0.14	0.12	25	0.10	60
2009	8.33	0.14	0.12	25	0.10	60
2010	4.75	0.14	0.12	25	0.10	60
2011	0.00	0.16	0.12	25	0.05	60
2012	0.00	0.00	0.00	0	0.00	0
2013	0.00	0.00	0.00	0	0.00	0

Resource Grouping - Gas - Alberta Coalbed Methane - Other						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2006	39.60	0.10	0.08	25	0.05	60
2007	55.69	0.10	0.08	25	0.05	60
2008	7.93	0.10	0.08	25	0.05	60
2009	16.45	0.10	0.08	25	0.05	60
2010	0.77	0.10	0.08	25	0.05	60
2011	3.31	0.16	0.14	25	0.12	60
2012	0.75	0.16	0.14	25	0.12	60
2013	4.12	0.16	0.12	25	0.05	60

Resource Grouping - Gas - Southern Alberta - Conventional - Tertiary, Upper Cretaceous, Upper Colorado						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	28.80	0.16	0.14	25	0.10	60
2006	22.45	0.16	0.12	25	0.10	60
2007	31.13	0.16	0.12	25	0.10	60
2008	25.73	0.16	0.12	25	0.10	60
2009	11.20	0.16	0.12	25	0.10	60
2010	15.62	0.16	0.14	25	0.10	60
2011	7.76	0.16	0.14	25	0.10	60
2012	2.40	0.16	0.12	25	0.10	60
2013	2.39	0.16	0.12	25	0.10	60

Resource Grouping - Gas - Southern Alberta - Conventional - Colorado						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	10.02	0.16	0.12	25	0.08	60
2006	4.90	0.16	0.12	25	0.08	60
2007	16.74	0.16	0.12	25	0.08	60
2008	15.40	0.16	0.12	25	0.08	60
2009	1.78	0.16	0.12	25	0.08	60
2010	2.83	0.16	0.12	25	0.08	60
2011	0.73	0.16	0.12	25	0.08	60
2012	0.20	0.16	0.12	25	0.08	60
2013	0.00	0.16	0.12	25	0.08	60

Resource Grouping - Gas - Southern Alberta - Conventional - Mannville						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	15.86	0.16	0.12	25	0.10	60
2006	24.84	0.16	0.12	25	0.10	60
2007	9.52	0.16	0.12	25	0.10	60
2008	23.03	0.16	0.12	25	0.10	60
2009	14.63	0.16	0.12	25	0.10	60
2010	10.93	0.16	0.12	25	0.10	60
2011	12.48	0.16	0.12	25	0.10	60
2012	7.27	0.16	0.12	25	0.10	60
2013	1.91	0.16	0.12	25	0.10	60

Resource Grouping - Gas - Southern Alberta - Tight - Upper Colorado						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	146.14	0.16	0.12	25	0.10	60
2006	150.62	0.16	0.12	25	0.10	60
2007	149.02	0.16	0.12	25	0.10	60
2008	135.91	0.16	0.12	25	0.10	60
2009	84.74	0.16	0.12	25	0.10	60
2010	58.06	0.16	0.12	25	0.10	60
2011	52.14	0.16	0.12	25	0.10	60
2012	6.14	0.16	0.12	25	0.10	60
2013	0.39	0.16	0.12	25	0.10	60

Resource Grouping - Gas - Southwest Alberta - Conventional - Tertiary, Upper Cretaceous, Upper Colorado						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	18.61	0.16	0.12	25	0.10	60
2006	11.44	0.16	0.12	25	0.10	60
2007	14.05	0.16	0.12	25	0.10	60
2008	13.35	0.16	0.12	25	0.10	60
2009	2.67	0.16	0.12	25	0.10	60
2010	4.00	0.16	0.12	25	0.10	60
2011	2.71	0.16	0.12	25	0.10	60
2012	3.12	0.16	0.12	25	0.10	60
2013	0.43	0.16	0.12	25	0.10	60

Resource Grouping - Gas - Southwest Alberta - Conventional - Colorado						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	1.20	0.16	0.12	25	0.10	60
2006	1.04	0.16	0.12	25	0.10	60
2007	1.23	0.16	0.12	25	0.10	60
2008	1.20	0.16	0.12	25	0.10	60
2009	0.11	0.16	0.12	25	0.10	60
2010	1.31	0.16	0.12	25	0.10	60
2011	0.95	0.16	0.12	25	0.10	60
2012	0.41	0.16	0.12	25	0.10	60
2013	0.00	0.00	0.00	0	0.00	0

Resource Grouping - Gas - Southwest Alberta - Conventional - Middle Mannville, Lower Mannville						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	7.71	0.20	0.16	25	0.12	60
2006	3.63	0.20	0.16	25	0.12	60
2007	4.22	0.20	0.16	25	0.12	60
2008	9.60	0.20	0.16	25	0.12	60
2009	4.64	0.20	0.16	25	0.12	60
2010	1.80	0.20	0.16	25	0.12	60
2011	2.41	0.20	0.16	25	0.12	60
2012	1.05	0.20	0.16	25	0.12	60
2013	0.61	0.20	0.16	25	0.12	60

Resource Grouping - Gas - Southwest Alberta - Conventional - Jurassic, Mississippian						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	0.96	0.16	0.12	25	0.05	60
2006	0.00	0.16	0.12	25	0.05	60
2007	0.94	0.16	0.12	25	0.05	60
2008	0.36	0.16	0.12	25	0.05	60
2009	1.49	0.16	0.12	25	0.05	60
2010	0.49	0.16	0.12	25	0.05	60
2011	0.16	0.16	0.12	25	0.05	60
2012	0.00	0.00	0.00	0	0.00	0
2013	0.00	0.00	0.00	0	0.00	0

Resource Grouping - Gas - Southwest Alberta - Conventional - Upper Devonian						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	0.13	0.20	0.12	25	0.05	60
2006	2.70	0.16	0.12	25	0.05	60
2007	0.91	0.20	0.12	25	0.05	60
2008	0.10	0.25	0.12	25	0.05	60
2009	1.58	0.16	0.12	25	0.05	60
2010	0.65	0.20	0.12	25	0.05	60
2011	0.15	0.16	0.12	25	0.05	60
2012	0.00	0.00	0.00	0	0.00	0
2013	0.00	0.00	0.00	0	0.00	0

Resource Grouping - Gas - Southwest Alberta - Tight - Upper Colorado						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	3.01	0.20	0.12	25	0.10	60
2006	0.51	0.20	0.12	25	0.10	60
2007	1.32	0.20	0.12	25	0.10	60
2008	0.21	0.16	0.12	25	0.10	60
2009	0.09	0.20	0.12	25	0.10	60
2010	0.63	0.16	0.12	25	0.10	60
2011	0.00	0.00	0.00	0	0.00	0
2012	0.04	0.16	0.12	25	0.05	60
2013	0.00	0.00	0.00	0	0.00	0

Resource Grouping - Gas - Southwest Alberta - Tight - Colorado						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	0.22	0.20	0.16	25	0.12	60
2006	0.09	0.20	0.16	25	0.12	60
2007	0.37	0.20	0.16	25	0.12	60
2008	0.88	0.20	0.16	25	0.12	60
2009	0.58	0.20	0.16	25	0.12	60
2010	0.16	0.20	0.16	25	0.12	60
2011	0.14	0.20	0.16	25	0.12	60
2012	1.93	0.20	0.16	25	0.12	60
2013	0.00	0.20	0.16	25	0.12	0

Resource Grouping - Gas - Southwest Alberta - Tight - Lower Mannville						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	10.82	0.16	0.12	25	0.10	60
2006	12.83	0.16	0.12	25	0.10	60
2007	16.79	0.16	0.12	25	0.10	60
2008	11.77	0.16	0.12	25	0.10	60
2009	7.79	0.16	0.12	25	0.10	60
2010	3.29	0.16	0.12	25	0.10	60
2011	0.00	0.00	0.00	0	0.10	0
2012	1.13	0.16	0.12	25	0.10	60
2013	0.00	0.00	0.00	0	0.10	0

Resource Grouping - Gas - Southern Foothills - Conventional - Mississippian, Upper Devonian						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	14.50	0.16	0.12	25	0.05	60
2006	85.20	0.16	0.12	25	0.05	60
2007	36.73	0.16	0.12	25	0.05	60
2008	7.13	0.16	0.12	25	0.05	60
2009	12.08	0.16	0.12	25	0.05	60
2010	0.02	0.16	0.12	25	0.05	60
2011	0.00	0.00	0.00	0	0.00	0
2012	0.00	0.00	0.00	0	0.00	0
2013	0.00	0.00	0.00	0	0.00	0

Resource Grouping - Gas - Eastern Alberta - Conventional - Upper Cretaceous, Upper Colorado						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	11.66	0.16	0.12	25	0.08	60
2006	10.82	0.16	0.12	25	0.08	60
2007	3.99	0.16	0.12	25	0.08	60
2008	4.57	0.30	0.22	18	0.08	40
2009	1.06	0.16	0.12	25	0.08	60
2010	1.48	0.16	0.12	25	0.08	60
2011	0.90	0.16	0.12	25	0.08	60
2012	1.84	0.16	0.12	25	0.08	60
2013	1.28	0.16	0.12	25	0.08	60

Resource Grouping - Gas - Eastern Alberta - Conventional - Colorado, Mannville						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	86.62	0.20	0.12	25	0.10	60
2006	55.34	0.20	0.12	25	0.10	60
2007	45.24	0.20	0.12	25	0.10	60
2008	37.11	0.20	0.12	25	0.10	60
2009	31.36	0.20	0.12	25	0.10	60
2010	11.97	0.20	0.12	25	0.10	60
2011	6.47	0.20	0.12	25	0.10	60
2012	2.82	0.20	0.12	25	0.10	60
2013	7.11	0.20	0.12	25	0.10	60

Resource Grouping - Gas - Eastern Alberta - Tight - Upper Colorado						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	11.50	0.16	0.12	25	0.05	60
2006	14.50	0.16	0.12	25	0.05	60
2007	85.20	0.16	0.12	25	0.05	60
2008	36.73	0.16	0.12	25	0.05	60
2009	7.13	0.16	0.12	25	0.05	60
2010	12.08	0.16	0.12	25	0.05	60
2011	0.02	0.16	0.12	25	0.05	60
2012	0.00	0.00	0.00	0	0.00	0
2013	0.00	0.00	0.00	0	0.00	0

Resource Grouping - Gas - Central Alberta - Conventional - Tertiary, Upper Cretaceous						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	28.20	0.16	0.12	25	0.08	60
2006	25.45	0.16	0.12	25	0.08	60
2007	31.90	0.16	0.12	25	0.08	60
2008	24.24	0.16	0.12	25	0.08	60
2009	11.28	0.16	0.12	25	0.08	60
2010	8.63	0.16	0.12	25	0.08	60
2011	7.05	0.16	0.12	25	0.08	60
2012	3.05	0.16	0.12	25	0.08	60
2013	0.90	0.16	0.12	25	0.08	60

Resource Grouping - Gas - Central Alberta - Conventional - Colorado						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	4.61	0.16	0.12	25	0.05	60
2006	7.96	0.16	0.12	25	0.05	60
2007	5.42	0.16	0.12	25	0.05	60
2008	2.11	0.16	0.12	25	0.05	60
2009	1.17	0.16	0.12	25	0.05	60
2010	1.50	0.16	0.12	25	0.05	60
2011	0.60	0.16	0.12	25	0.05	60
2012	0.07	0.16	0.12	25	0.05	60
2013	0.39	0.16	0.12	25	0.05	60

Resource Grouping - Gas - Central Alberta - Conventional - Mannville						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	31.11	0.16	0.12	25	0.08	60
2006	25.07	0.16	0.12	25	0.08	60
2007	36.00	0.16	0.12	25	0.08	60
2008	21.61	0.16	0.12	25	0.08	60
2009	11.84	0.16	0.12	25	0.08	60
2010	4.64	0.16	0.12	25	0.08	60
2011	8.71	0.16	0.12	25	0.08	60
2012	3.67	0.16	0.12	25	0.08	60
2013	4.46	0.16	0.12	25	0.08	60

Resource Grouping - Gas - Central Alberta - Conventional - Mississippian, Upper Devonian						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	5.67	0.16	0.12	25	0.05	60
2006	3.48	0.16	0.12	25	0.05	60
2007	7.35	0.16	0.12	25	0.05	60
2008	5.38	0.17	0.12	25	0.05	60
2009	1.23	0.16	0.12	25	0.05	60
2010	0.03	0.16	0.12	25	0.05	60
2011	2.59	0.16	0.12	25	0.05	60
2012	0.34	0.16	0.12	25	0.05	60
2013	2.52	0.16	0.12	25	0.05	60

Resource Grouping - Gas - Central Alberta - Tight - Colorado						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	2.78	0.16	0.12	25	0.05	60
2006	3.31	0.16	0.12	25	0.05	60
2007	1.58	0.16	0.12	25	0.05	60
2008	0.00	0.16	0.12	25	0.05	60
2009	2.38	0.16	0.12	25	0.05	60
2010	5.70	0.16	0.12	25	0.05	60
2011	0.40	0.16	0.12	25	0.05	60
2012	0.23	0.16	0.12	25	0.05	60
2013	0.32	0.16	0.12	25	0.05	60

Resource Grouping - Gas - Central Alberta - Tight - Mannville						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	3.71	0.16	0.12	25	0.05	60
2006	4.39	0.16	0.12	25	0.05	60
2007	4.09	0.16	0.12	25	0.05	60
2008	2.04	0.16	0.12	25	0.05	60
2009	2.76	0.16	0.12	25	0.05	60
2010	3.61	0.16	0.12	25	0.05	60
2011	1.35	0.16	0.12	25	0.05	60
2012	0.62	0.16	0.12	25	0.05	60
2013	1.51	0.16	0.12	25	0.05	60

Resource Grouping - Gas - West Central Alberta - Conventional - Tertiary						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	14.60	0.16	0.12	25	0.08	60
2006	14.09	0.16	0.12	25	0.08	60
2007	13.35	0.16	0.12	25	0.08	60
2008	14.89	0.16	0.12	25	0.08	60
2009	7.81	0.16	0.12	25	0.08	60
2010	8.32	0.16	0.12	25	0.08	60
2011	2.50	0.16	0.12	25	0.08	60
2012	0.88	0.16	0.12	25	0.08	60
2013	0.00	0.00	0.00	0	0.00	0

Resource Grouping - Gas - West Central Alberta - Conventional - Upper Cretaceous, Upper Colorado						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	13.57	0.16	0.12	25	0.10	60
2006	15.12	0.16	0.12	25	0.10	60
2007	22.28	0.16	0.12	25	0.10	60
2008	17.06	0.16	0.12	25	0.10	60
2009	7.71	0.16	0.12	25	0.10	60
2010	11.64	0.16	0.12	25	0.10	60
2011	41.27	0.16	0.12	25	0.10	60
2012	27.20	0.16	0.12	25	0.10	60
2013	28.05	0.16	0.12	25	0.10	60

Resource Grouping - Gas - West Central Alberta - Conventional - Mannville						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	1.49	0.10	0.08	25	0.05	60
2006	0.48	0.10	0.08	25	0.05	60
2007	1.04	0.10	0.08	25	0.05	60
2008	1.61	0.10	0.08	25	0.05	60
2009	0.14	0.10	0.08	25	0.05	60
2010	2.48	0.10	0.08	25	0.05	60
2011	0.47	0.16	0.12	25	0.05	60
2012	1.66	0.16	0.12	25	0.05	60
2013	4.36	0.16	0.12	25	0.05	60

Resource Grouping - Gas - West Central Alberta - Conventional - Lower Mannville, Jurassic						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	12.79	0.12	0.10	25	0.08	60
2006	13.61	0.12	0.10	25	0.08	60
2007	13.50	0.12	0.10	25	0.08	60
2008	9.65	0.12	0.10	25	0.08	60
2009	8.78	0.12	0.10	25	0.08	60
2010	7.11	0.12	0.10	25	0.08	60
2011	21.86	0.16	0.12	25	0.05	60
2012	21.00	0.16	0.12	25	0.05	60
2013	44.60	0.16	0.12	25	0.05	60

Resource Grouping - Gas - West Central Alberta - Conventional - Missisippian						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	14.14	0.16	0.12	25	0.10	60
2006	14.77	0.16	0.12	25	0.10	60
2007	21.50	0.16	0.12	25	0.10	60
2008	7.33	0.16	0.12	25	0.10	60
2009	11.81	0.16	0.12	25	0.10	60
2010	1.06	0.16	0.12	25	0.10	60
2011	4.18	0.16	0.12	25	0.10	60
2012	2.38	0.16	0.12	25	0.10	60
2013	1.25	0.16	0.12	25	0.10	60

Resource Grouping - Gas - West Central Alberta - Conventional - Upper Devonian						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	53.82	0.20	0.16	25	0.12	60
2006	5.38	0.20	0.16	25	0.12	60
2007	29.60	0.20	0.16	25	0.12	60
2008	12.11	0.20	0.16	25	0.12	60
2009	1.68	0.20	0.16	25	0.12	60
2010	4.13	0.20	0.16	25	0.12	60
2011	0.50	0.20	0.16	25	0.12	60
2012	1.90	0.20	0.16	25	0.12	60
2013	0.53	0.20	0.16	25	0.12	60

Resource Grouping - Gas - West Central Alberta - Tight - Colorado						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	9.02	0.17	0.12	25	0.05	60
2006	14.09	0.16	0.12	25	0.05	60
2007	6.02	0.16	0.12	25	0.05	60
2008	5.94	0.16	0.12	25	0.05	60
2009	1.27	0.16	0.12	25	0.05	60
2010	7.39	0.16	0.12	25	0.05	60
2011	2.14	0.16	0.12	25	0.05	60
2012	5.49	0.16	0.12	25	0.05	60
2013	0.34	0.16	0.12	25	0.05	60

Resource Grouping - Gas - West Central Alberta - Tight - Mannville						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	23.08	0.16	0.12	25	0.08	60
2006	33.23	0.16	0.12	25	0.08	60
2007	29.42	0.16	0.12	25	0.08	60
2008	34.19	0.16	0.12	25	0.08	60
2009	17.34	0.16	0.12	25	0.08	60
2010	43.88	0.16	0.12	25	0.08	60
2011	94.25	0.16	0.12	25	0.08	60
2012	63.75	0.16	0.12	25	0.08	60
2013	377.99	0.16	0.12	25	0.08	60

Resource Grouping - Gas - Central Foothills - Conventional - Upper Colorado						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	7.40	0.16	0.12	25	0.05	60
2006	11.00	0.16	0.12	25	0.05	60
2007	7.04	0.16	0.12	25	0.05	60
2008	11.33	0.16	0.12	25	0.05	60
2009	4.40	0.16	0.12	25	0.05	60
2010	5.34	0.16	0.12	25	0.05	60
2011	1.71	0.16	0.12	25	0.05	60
2012	6.16	0.16	0.12	25	0.05	60
2013	0.60	0.16	0.12	25	0.05	60

Resource Grouping - Gas - Central Foothills - Conventional - Colorado, Mannville						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	9.23	0.16	0.12	25	0.05	60
2006	7.37	0.16	0.12	25	0.05	60
2007	11.16	0.16	0.12	25	0.05	60
2008	20.30	0.16	0.12	25	0.05	60
2009	14.59	0.16	0.12	25	0.05	60
2010	10.34	0.16	0.12	25	0.05	60
2011	13.64	0.16	0.12	25	0.05	60
2012	15.49	0.16	0.12	25	0.05	60
2013	0.76	0.16	0.12	25	0.05	60

Resource Grouping - Gas - Central Foothills - Conventional - Jurassic, Triassic, Permian						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	1.88	0.16	0.12	25	0.05	60
2006	19.13	0.16	0.12	25	0.05	60
2007	9.40	0.16	0.12	25	0.05	60
2008	6.42	0.16	0.12	24	0.05	60
2009	14.57	0.16	0.12	25	0.05	60
2010	9.95	0.16	0.12	25	0.05	60
2011	12.56	0.16	0.12	25	0.05	60
2012	0.76	0.16	0.12	25	0.05	60
2013	1.83	0.16	0.12	25	0.05	60

Resource Grouping - Gas - Central Foothills - Conventional - Mississippian						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	17.18	0.14	0.12	25	0.10	60
2006	17.88	0.14	0.12	25	0.05	60
2007	19.32	0.14	0.12	25	0.10	60
2008	46.84	0.16	0.14	25	0.05	60
2009	43.20	0.14	0.12	25	0.10	60
2010	24.81	0.16	0.14	25	0.05	60
2011	0.00	0.00	0.00	0	0.00	0
2012	0.00	0.00	0.00	0	0.00	0
2013	1.85	0.16	0.12	25	0.05	60

Resource Grouping - Gas - Central Foothills - Conventional - Upper Devonian, Middle Devonian						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	25.11	0.16	0.12	25	0.05	60
2006	9.90	0.16	0.12	25	0.05	60
2007	22.73	0.16	0.12	25	0.05	60
2008	4.83	0.16	0.12	25	0.05	60
2009	3.16	0.16	0.12	25	0.05	60
2010	2.63	0.16	0.12	25	0.05	60
2011	4.37	0.16	0.12	25	0.05	60
2012	0.00	0.00	0.00	0	0.00	0
2013	0.00	0.00	0.00	0	0.00	0

Resource Grouping - Gas - Central Foothills - Tight - Colorado						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	2.22	0.16	0.12	25	0.08	60
2006	2.23	0.16	0.12	25	0.08	60
2007	1.60	0.16	0.12	25	0.08	60
2008	0.38	0.16	0.12	25	0.08	60
2009	1.83	0.16	0.12	25	0.08	60
2010	0.00	0.16	0.12	25	0.08	60
2011	0.00	0.00	0.00	0	0.00	0
2012	0.00	0.00	0.00	0	0.00	0
2013	0.00	0.00	0.00	0	0.00	0

Resource Grouping - Gas - Central Foothills - Tight - Mannville						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	0.27	0.16	0.12	25	0.05	60
2006	1.44	0.16	0.12	25	0.05	60
2007	1.70	0.16	0.12	25	0.05	60
2008	0.05	0.16	0.12	25	0.05	60
2009	1.85	0.16	0.12	25	0.05	60
2010	0.00	0.16	0.12	25	0.05	60
2011	1.88	0.16	0.12	25	0.05	60
2012	2.75	0.16	0.12	25	0.05	60
2013	0.00	0.00	0.00	0	0.00	0

Resource Grouping - Gas - Central Foothills - Tight - Jurassic						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2007	8.47	0.16	0.12	25	0.08	60
2008	20.19	0.16	0.12	25	0.08	60
2009	5.07	0.16	0.12	25	0.08	60
2010	0.00	0.16	0.12	25	0.08	60
2011	1.29	0.16	0.12	25	0.08	60
2012	3.30	0.16	0.12	25	0.08	60
2013	0.00	0.00	0.00	0	0.00	0

Resource Grouping - Gas - Kaybob - Conventional - Colorado						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	4.50	0.16	0.12	25	0.05	60
2006	3.94	0.16	0.12	25	0.05	60
2007	1.59	0.16	0.12	25	0.05	60
2008	4.74	0.16	0.12	25	0.05	60
2009	1.81	0.16	0.12	25	0.05	60
2010	0.71	0.16	0.12	25	0.05	60
2011	0.10	0.16	0.12	25	0.05	60
2012	0.02	0.16	0.12	25	0.05	60
2013	0.00	0.00	0.00	0	0.00	0

Resource Grouping - Gas - Kaybob - Conventional - Mannville, Jurassic						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	20.55	0.16	0.12	25	0.05	60
2006	18.00	0.16	0.12	25	0.05	60
2007	21.79	0.16	0.12	25	0.05	60
2008	14.69	0.16	0.12	25	0.05	60
2009	3.91	0.16	0.12	25	0.05	60
2010	1.09	0.16	0.12	25	0.05	60
2011	1.06	0.16	0.12	25	0.05	60
2012	0.29	0.16	0.12	25	0.05	60
2013	3.58	0.16	0.12	25	0.05	60

Resource Grouping - Gas - Kaybob - Conventional - Triassic						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	12.00	0.16	0.12	25	0.05	60
2006	9.09	0.16	0.12	25	0.05	60
2007	7.74	0.16	0.12	25	0.05	60
2008	7.21	0.16	0.12	25	0.05	60
2009	5.07	0.16	0.12	25	0.05	60
2010	1.05	0.16	0.12	25	0.05	60
2011	0.96	0.16	0.12	25	0.05	60
2012	0.52	0.16	0.12	25	0.05	60
2013	0.00	0.00	0.00	0	0.00	0

Resource Grouping - Gas - Kaybob - Conventional - Upper Devonian						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	9.90	0.16	0.12	25	0.05	60
2006	22.73	0.16	0.12	25	0.05	60
2007	4.83	0.16	0.12	25	0.05	60
2008	3.16	0.16	0.12	25	0.05	60
2009	2.63	0.16	0.12	25	0.05	60
2010	4.37	0.16	0.12	25	0.05	60
2011	0.00	0.16	0.12	25	0.05	60
2012	0.00	0.16	0.12	25	0.05	60
2013	0.00	0.16	0.12	25	0.05	60

Resource Grouping - Gas - Kaybob - Tight - Colorado, Mannville						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	26.21	0.16	0.12	25	0.10	60
2006	35.23	0.16	0.12	25	0.10	60
2007	29.28	0.16	0.12	25	0.10	60
2008	29.61	0.16	0.12	25	0.10	60
2009	18.63	0.16	0.12	25	0.10	60
2010	26.62	0.16	0.12	25	0.10	60
2011	27.97	0.16	0.12	25	0.10	60
2012	18.92	0.16	0.12	25	0.10	60
2013	16.22	0.16	0.12	25	0.10	60

Resource Grouping - Gas - Kaybob - Tight - Triassic						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	7.37	0.16	0.12	25	0.10	60
2006	15.57	0.16	0.12	25	0.10	60
2007	7.69	0.16	0.12	25	0.10	60
2008	1.40	0.16	0.12	25	0.10	60
2009	2.75	0.16	0.12	25	0.10	60
2010	2.70	0.16	0.12	25	0.10	60
2011	2.15	0.16	0.12	25	0.10	60
2012	0.80	0.16	0.12	25	0.10	60
2013	1.17	0.16	0.12	25	0.10	60

Resource Grouping - Gas - Kaybob - Tight - Montney						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2007	2.30	0.16	0.12	25	0.10	60
2008	12.06	0.16	0.12	25	0.10	60
2009	15.36	0.16	0.12	25	0.10	60
2010	17.04	0.16	0.12	25	0.10	60
2011	15.64	0.16	0.12	25	0.10	60
2012	8.26	0.16	0.12	25	0.10	60
2013	13.00	0.16	0.12	25	0.10	60

Resource Grouping - Gas - Kaybob - Shale - Duvernay						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2011	0.46	0.20	0.16	25	0.12	60
2012	3.31	0.20	0.16	25	0.12	60
2013	20.28	0.20	0.16	25	0.12	60

Resource Grouping - Gas - Alberta Deep Basin - Conventional - Upper Cretaceous						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	6.81	0.16	0.12	25	0.05	60
2006	2.03	0.10	0.08	25	0.05	60
2007	3.30	0.16	0.14	25	0.05	60
2008	1.26	0.16	0.14	25	0.05	45
2009	3.04	0.16	0.14	25	0.05	45
2010	2.34	0.16	0.14	25	0.05	45
2011	4.32	0.16	0.12	25	0.05	60
2012	3.87	0.16	0.12	25	0.05	60
2013	2.86	0.16	0.12	25	0.05	60

Resource Grouping - Gas - Alberta Deep Basin - Conventional - Upper Colorado						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	5.03	0.16	0.14	25	0.05	60
2006	8.80	0.16	0.14	25	0.05	60
2007	15.84	0.16	0.14	25	0.05	60
2008	2.80	0.16	0.14	25	0.05	45
2009	3.16	0.16	0.14	25	0.05	45
2010	4.62	0.16	0.14	25	0.05	45
2011	11.06	0.16	0.12	25	0.05	60
2012	9.06	0.16	0.12	25	0.05	60
2013	5.21	0.16	0.12	25	0.05	60

Resource Grouping - Gas - Alberta Deep Basin - Conventional - Mannville, Jurassic						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	1.60	0.16	0.14	25	0.05	60
2006	4.57	0.16	0.12	25	0.05	60
2007	3.12	0.16	0.12	25	0.05	60
2008	2.47	0.16	0.12	25	0.05	45
2009	0.62	0.16	0.12	25	0.05	45
2010	2.48	0.10	0.08	25	0.05	45
2011	3.41	0.16	0.12	25	0.05	60
2012	1.19	0.16	0.12	25	0.05	60
2013	1.60	0.16	0.12	25	0.05	60

Resource Grouping - Gas - Alberta Deep Basin - Conventional - Triassic						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	7.85	0.16	0.12	25	0.05	60
2006	6.15	0.16	0.12	25	0.05	60
2007	3.23	0.16	0.12	25	0.05	60
2008	0.80	0.16	0.12	25	0.05	45
2009	0.69	0.16	0.12	20	0.05	40
2010	1.19	0.16	0.12	25	0.05	60
2011	1.06	0.16	0.12	25	0.05	60
2012	0.15	0.16	0.12	25	0.05	60
2013	0.13	0.16	0.12	25	0.05	60

Resource Grouping - Gas - Alberta Deep Basin - Conventional - Upper Devonian						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	4.04	0.16	0.12	25	0.05	60
2006	0.17	0.16	0.12	25	0.05	60
2007	6.29	0.16	0.12	25	0.05	60
2008	4.44	0.16	0.12	25	0.05	60
2009	0.13	0.16	0.12	25	0.05	60
2010	1.28	0.16	0.12	25	0.05	60
2011	0.01	0.16	0.12	25	0.05	60
2012	0.00	0.00	0.00	0	0.00	0
2013	0.00	0.00	0.00	0	0.00	0

Resource Grouping - Gas - Alberta Deep Basin - Tight - Upper Colorado						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	60.35	0.20	0.16	25	0.12	60
2006	54.76	0.20	0.16	25	0.12	60
2007	52.13	0.20	0.16	25	0.12	60
2008	26.52	0.20	0.16	25	0.12	60
2009	17.79	0.20	0.16	25	0.12	60
2010	28.07	0.20	0.16	25	0.12	60
2011	45.89	0.20	0.16	25	0.12	60
2012	55.60	0.20	0.16	25	0.12	60
2013	21.24	0.20	0.16	25	0.12	60

Resource Grouping - Gas - Alberta Deep Basin - Tight - Colorado						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	7.49	0.16	0.12	25	0.08	60
2006	6.72	0.16	0.12	25	0.08	60
2007	10.08	0.16	0.12	25	0.08	60
2008	6.64	0.16	0.12	25	0.08	60
2009	5.22	0.16	0.12	25	0.08	60
2010	3.60	0.16	0.12	25	0.08	60
2011	0.34	0.16	0.12	25	0.08	60
2012	1.11	0.16	0.12	25	0.08	60
2013	7.68	0.16	0.12	25	0.08	60

Resource Grouping - Gas - Alberta Deep Basin - Tight - Mannville, Jurassic						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	144.24	0.16	0.12	25	0.10	60
2006	211.72	0.16	0.12	25	0.10	60
2007	177.60	0.16	0.12	25	0.10	60
2008	204.62	0.16	0.12	25	0.10	60
2009	139.58	0.16	0.12	25	0.10	60
2010	229.34	0.16	0.12	25	0.10	60
2011	323.96	0.16	0.12	25	0.10	60
2012	302.54	0.16	0.12	25	0.10	60
2013	316.78	0.16	0.12	25	0.10	60

Resource Grouping - Gas - Alberta Deep Basin - Tight - Triassic						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	5.15	0.16	0.12	25	0.10	60
2006	3.38	0.16	0.12	25	0.10	60
2007	2.12	0.16	0.12	25	0.10	60
2008	4.61	0.16	0.12	25	0.10	60
2009	1.24	0.16	0.12	25	0.10	60
2010	6.42	0.16	0.12	25	0.10	60
2011	8.20	0.16	0.12	25	0.10	60
2012	8.03	0.16	0.12	25	0.10	60
2013	13.73	0.16	0.12	25	0.10	60

Resource Grouping - Gas - Alberta Deep Basin - Tight - Montney						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2008	7.71	0.16	0.12	25	0.05	60
2009	4.80	0.16	0.12	25	0.05	60
2010	37.73	0.16	0.12	25	0.05	60
2011	49.92	0.16	0.12	25	0.05	60
2012	99.94	0.16	0.12	25	0.05	60
2013	112.03	0.16	0.12	25	0.05	60

Resource Grouping - Gas - Alberta Deep Basin - Shale - Duvernay						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2012	2.07	0.20	0.16	25	0.12	60
2013	2.07	0.20	0.16	25	0.12	60

Resource Grouping - Gas - Northeast Alberta - Conventional - Mannville, Upper Devonian						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	10.53	0.16	0.14	25	0.05	60
2006	15.24	0.16	0.14	25	0.05	60
2007	10.23	0.16	0.12	25	0.05	60
2008	5.40	0.16	0.12	25	0.05	60
2009	6.00	0.16	0.14	25	0.05	60
2010	3.35	0.16	0.14	25	0.05	60
2011	1.11	0.16	0.12	25	0.05	60
2012	0.65	0.16	0.12	25	0.05	60
2013	0.15	0.16	0.12	25	0.05	60

Resource Grouping - Gas - Peace River - Conventional - Upper Colorado						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	1.00	0.16	0.12	25	0.05	60
2006	0.34	0.16	0.12	25	0.05	60
2007	0.36	0.16	0.12	25	0.05	60
2008	0.09	0.16	0.12	25	0.05	60
2009	0.42	0.16	0.12	25	0.05	60
2010	0.08	0.16	0.12	25	0.05	60
2011	3.15	0.16	0.12	25	0.05	60
2012	0.00	0.00	0.00	0	0.00	0
2013	0.00	0.00	0.00	0	0.00	0

Resource Grouping - Gas - Peace River - Conventional - Colorado, Upper Mannville						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	4.36	0.20	0.16	25	0.10	60
2006	3.88	0.20	0.16	25	0.10	60
2007	4.46	0.20	0.16	25	0.10	60
2008	1.20	0.20	0.16	25	0.10	60
2009	0.76	0.20	0.16	25	0.10	60
2010	1.78	0.20	0.16	25	0.10	60
2011	1.01	0.20	0.16	25	0.10	60
2012	0.10	0.20	0.16	25	0.10	60
2013	1.86	0.20	0.16	25	0.10	60

Resource Grouping - Gas - Peace River - Conventional - Middle Mannville, Lower Mannville						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	9.10	0.20	0.16	25	0.10	60
2006	12.78	0.20	0.16	25	0.10	60
2007	9.83	0.20	0.16	25	0.10	60
2008	4.08	0.20	0.16	25	0.10	60
2009	4.40	0.20	0.16	25	0.10	60
2010	2.63	0.20	0.16	25	0.10	60
2011	0.52	0.20	0.16	25	0.10	60
2012	0.75	0.20	0.16	25	0.10	60
2013	0.01	0.20	0.16	25	0.10	60

Resource Grouping - Gas - Peace River - Conventional - Upper Triassic						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	0.56	0.16	0.12	25	0.10	60
2006	1.22	0.16	0.12	25	0.10	60
2007	1.48	0.16	0.12	25	0.10	60
2008	0.59	0.16	0.12	25	0.10	60
2009	1.23	0.16	0.12	25	0.10	60
2010	0.94	0.16	0.12	25	0.10	60
2011	1.07	0.16	0.12	25	0.10	60
2012	0.42	0.16	0.12	25	0.10	60
2013	0.17	0.16	0.12	25	0.10	60

Resource Grouping - Gas - Peace River - Conventional - Lower Triassic						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	3.19	0.16	0.12	25	0.08	60
2006	16.74	0.16	0.12	25	0.08	60
2007	10.47	0.16	0.12	25	0.08	60
2008	4.11	0.16	0.12	25	0.08	60
2009	5.69	0.16	0.12	25	0.08	60
2010	5.16	0.16	0.12	25	0.08	60
2011	4.52	0.16	0.12	25	0.08	60
2012	0.56	0.16	0.12	25	0.08	60
2013	2.29	0.16	0.12	25	0.08	60

Resource Grouping - Gas - Peace River - Conventional - Mississippian						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	8.62	0.16	0.12	25	0.08	60
2006	7.90	0.16	0.12	25	0.08	60
2007	8.21	0.16	0.12	25	0.08	60
2008	21.20	0.16	0.12	25	0.08	60
2009	5.60	0.16	0.12	25	0.08	60
2010	3.59	0.16	0.12	25	0.08	60
2011	1.89	0.16	0.12	25	0.08	60
2012	2.19	0.16	0.12	25	0.08	60
2013	0.08	0.16	0.12	25	0.08	60

Resource Grouping - Gas - Peace River - Conventional - Upper Devonian, Middle Devonian						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	4.83	0.16	0.12	25	0.08	60
2006	1.23	0.16	0.12	25	0.08	60
2007	6.07	0.16	0.12	25	0.08	60
2008	0.71	0.16	0.12	25	0.08	60
2009	0.21	0.16	0.12	25	0.08	60
2010	0.42	0.16	0.12	25	0.08	60
2011	1.93	0.16	0.12	25	0.08	60
2012	3.07	0.16	0.12	25	0.08	60
2013	0.39	0.16	0.12	25	0.08	60

Resource Grouping - Gas - Peace River - Tight - Triassic						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	34.98	0.20	0.16	25	0.12	60
2006	8.52	0.20	0.16	25	0.12	60
2007	5.37	0.20	0.16	25	0.12	60
2008	4.30	0.20	0.16	25	0.12	60
2009	2.11	0.20	0.16	25	0.12	60
2010	2.14	0.20	0.16	25	0.12	60
2011	0.54	0.20	0.16	25	0.12	60
2012	0.00	0.20	0.16	0	0.12	0
2013	3.00	0.20	0.16	25	0.12	60

Resource Grouping - Gas - Peace River - Tight - Lower Triassic						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	4.27	0.16	0.12	25	0.10	60
2006	4.32	0.16	0.12	25	0.10	60
2007	2.91	0.16	0.12	25	0.10	60
2008	4.34	0.16	0.12	25	0.10	60
2009	1.21	0.16	0.12	25	0.10	60
2010	1.12	0.16	0.12	25	0.10	60
2011	0.28	0.16	0.12	25	0.10	60
2012	2.47	0.16	0.12	25	0.10	60
2013	10.36	0.16	0.12	25	0.10	60

Resource Grouping - Gas - Northwest Alberta - Conventional - Mannville						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	9.48	0.16	0.12	25	0.05	60
2006	12.93	0.16	0.12	25	0.05	60
2007	3.61	0.16	0.12	25	0.05	60
2008	24.36	0.16	0.12	25	0.05	60
2009	5.11	0.16	0.12	25	0.05	60
2010	4.28	0.16	0.12	25	0.05	60
2011	0.58	0.16	0.12	25	0.05	60
2012	0.41	0.16	0.12	25	0.05	60
2013	0.00	0.00	0.00	0	0.00	0

Resource Grouping - Gas - Northwest Alberta - Conventional - Mississippian						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	7.80	0.16	0.12	25	0.08	60
2006	7.43	0.16	0.12	25	0.08	60
2007	1.54	0.16	0.12	25	0.08	60
2008	3.90	0.16	0.12	25	0.08	60
2009	0.61	0.16	0.12	25	0.08	60
2010	0.41	0.16	0.12	25	0.08	60
2011	0.08	0.16	0.12	25	0.08	60
2012	0.00	0.00	0.00	0	0.08	0
2013	0.00	0.00	0.00	0	0.08	0

Resource Grouping - Gas - Northwest Alberta - Conventional - Upper Devonian						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	8.45	0.16	0.12	25	0.08	60
2006	11.34	0.16	0.12	25	0.08	60
2007	1.74	0.16	0.12	25	0.08	60
2008	3.53	0.16	0.12	25	0.08	60
2009	2.92	0.16	0.12	25	0.08	60
2010	0.91	0.16	0.12	25	0.08	60
2011	0.05	0.16	0.12	25	0.08	60
2012	0.06	0.16	0.12	25	0.08	60
2013	0.01	0.16	0.12	25	0.08	60

Resource Grouping - Gas - Northwest Alberta - Conventional - Middle Devonian						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	6.94	0.20	0.16	25	0.12	60
2006	2.88	0.20	0.16	25	0.12	60
2007	1.84	0.20	0.16	25	0.12	60
2008	0.78	0.20	0.16	25	0.12	60
2009	0.51	0.20	0.16	25	0.12	60
2010	0.44	0.20	0.16	25	0.12	60
2011	0.32	0.20	0.16	25	0.12	60
2012	0.00	0.20	0.16	0	0.12	0
2013	0.98	0.20	0.16	25	0.12	60

Resource Grouping - Gas - BC Deep Basin - Conventional - Colorado						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	2.15	0.20	0.16	25	0.12	60
2006	0.15	0.20	0.16	25	0.12	60
2007	0.06	0.20	0.16	25	0.12	60
2008	0.59	0.20	0.16	25	0.12	60
2009	0.03	0.20	0.16	25	0.12	60
2010	2.10	0.20	0.16	25	0.12	60
2011	0.00	0.20	0.16	0	0.12	0
2012	0.00	0.20	0.16	0	0.12	0
2013	0.13	0.20	0.16	25	0.12	60

Resource Grouping - Gas - BC Deep Basin - Conventional - Lower Triassic						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	72.41	0.16	0.12	25	0.10	60
2006	8.11	0.16	0.12	25	0.10	60
2007	26.65	0.16	0.12	25	0.10	60
2008	17.92	0.16	0.12	25	0.10	60
2009	10.30	0.16	0.12	25	0.10	60
2010	13.26	0.16	0.12	25	0.10	60
2011	12.41	0.16	0.12	25	0.10	60
2012	0.61	0.16	0.12	25	0.10	60
2013	16.50	0.16	0.12	25	0.10	60

Resource Grouping - Gas - BC Deep Basin - Tight - Colorado						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	0.75	0.16	0.12	25	0.05	60
2006	1.45	0.16	0.12	25	0.05	60
2007	2.32	0.16	0.12	12	0.05	60
2008	0.96	0.16	0.12	25	0.05	60
2009	3.54	0.16	0.12	25	0.05	60
2010	0.00	0.10	0.08	25	0.05	60
2011	0.92	0.16	0.12	25	0.05	60
2012	0.00	0.00	0.00	0	0.00	0
2013	0.00	0.00	0.00	0	0.00	0

Resource Grouping - Gas - BC Deep Basin - Tight - Mannville						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	53.14	0.16	0.12	25	0.10	60
2006	25.50	0.16	0.12	25	0.10	60
2007	11.51	0.16	0.12	25	0.10	60
2008	18.71	0.16	0.12	25	0.10	60
2009	10.14	0.16	0.12	25	0.10	60
2010	27.13	0.16	0.12	25	0.10	60
2011	28.64	0.16	0.12	25	0.10	60
2012	6.65	0.16	0.12	25	0.10	60
2013	11.82	0.16	0.12	25	0.10	60

Resource Grouping - Gas - BC Deep Basin - Tight - Montney						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2006	65.91	0.20	0.14	25	0.12	60
2007	0.59	0.20	0.14	25	0.12	60
2008	10.53	0.20	0.14	25	0.12	60
2009	26.29	0.20	0.14	25	0.12	60
2010	36.68	0.20	0.14	25	0.12	60
2011	144.30	0.20	0.14	25	0.12	60
2012	43.03	0.20	0.14	25	0.12	60
2013	27.02	0.20	0.14	25	0.12	60

Resource Grouping - Gas - Fort St John - Conventional - Mannville						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	52.41	0.22	0.20	25	0.14	60
2006	59.04	0.22	0.20	25	0.14	60
2007	26.67	0.22	0.20	25	0.14	60
2008	32.80	0.22	0.20	25	0.14	60
2009	8.40	0.22	0.20	25	0.14	60
2010	17.97	0.22	0.20	25	0.14	60
2011	3.77	0.22	0.20	25	0.14	60
2012	0.78	0.22	0.20	25	0.14	60
2013	0.00	0.22	0.20	25	0.14	60

Resource Grouping - Gas - Fort St John - Conventional - Triassic						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	163.48	0.20	0.16	25	0.12	60
2006	35.53	0.20	0.16	25	0.12	60
2007	28.35	0.20	0.16	25	0.12	60
2008	31.62	0.20	0.16	25	0.12	60
2009	16.54	0.20	0.16	25	0.12	60
2010	20.27	0.20	0.16	25	0.12	60
2011	12.70	0.20	0.16	25	0.12	60
2012	27.36	0.20	0.16	25	0.12	60
2013	21.09	0.20	0.16	25	0.12	60

Resource Grouping - Gas - Fort St John - Conventional - Permian, Mississippian						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	3.00	0.16	0.12	25	0.10	60
2006	9.86	0.16	0.12	25	0.10	60
2007	17.05	0.16	0.12	25	0.10	60
2008	12.08	0.16	0.12	25	0.10	60
2009	14.96	0.16	0.12	25	0.10	60
2010	4.17	0.16	0.12	25	0.10	60
2011	5.77	0.16	0.12	25	0.10	60
2012	0.00	0.00	0.00	0	0.10	0
2013	0.00	0.00	0.00	0	0.10	0

Resource Grouping - Gas - Fort St John - Conventional - Upper Devonian, Middle Devonian						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	6.84	0.20	0.16	25	0.12	60
2006	3.96	0.20	0.16	25	0.12	60
2007	1.02	0.20	0.16	25	0.12	60
2008	0.00	0.20	0.16	0	0.12	0
2009	3.12	0.20	0.16	25	0.12	60
2010	9.14	0.20	0.16	25	0.12	60
2011	1.03	0.20	0.16	25	0.12	60
2012	0.00	0.20	0.16	0	0.12	0
2013	0.00	0.20	0.16	0	0.12	0

Resource Grouping - Gas - Fort St. John - Tight - Montney						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2006	8.84	0.16	0.12	25	0.10	60
2007	73.35	0.16	0.12	25	0.10	60
2008	138.68	0.16	0.12	25	0.10	60
2009	265.91	0.16	0.12	25	0.10	60
2010	281.07	0.16	0.12	25	0.10	60
2011	215.14	0.16	0.12	25	0.10	60
2012	331.16	0.16	0.12	25	0.10	60
2013	331.73	0.16	0.12	25	0.10	60

Resource Grouping - Gas - Northeast BC - Conventional - Lower Mannville						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	0.84	0.16	0.12	25	0.10	60
2006	4.32	0.16	0.12	25	0.10	60
2007	0.00	0.00	0.00	0	0.10	0
2008	0.73	0.16	0.12	25	0.10	60
2009	0.00	0.00	0.00	0	0.10	0
2010	0.00	0.16	0.12	25	0.10	60
2011	0.00	0.00	0.00	0	0.10	0
2012	2.17	0.16	0.12	25	0.10	60
2013	0.00	0.00	0.00	0	0.10	0

Resource Grouping - Gas - Northeast BC - Conventional - Permain, Mississippian						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	9.19	0.18	0.16	25	0.12	60
2006	3.17	0.18	0.16	25	0.12	60
2007	9.49	0.18	0.16	25	0.12	60
2008	1.14	0.18	0.16	25	0.12	60
2009	0.98	0.18	0.16	25	0.12	60
2010	0.25	0.18	0.16	25	0.12	60
2011	2.18	0.18	0.16	25	0.12	60
2012	0.00	0.18	0.16	0	0.12	0
2013	0.00	0.18	0.16	0	0.12	0

Resource Grouping - Gas - Northeast BC - Conventional - Upper Devonian, Middle Devonian						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	32.65	0.20	0.16	25	0.12	60
2006	10.82	0.20	0.16	25	0.12	60
2007	7.45	0.20	0.16	25	0.12	60
2008	2.92	0.20	0.16	25	0.12	60
2009	0.37	0.20	0.16	25	0.12	60
2010	7.98	0.20	0.16	25	0.12	60
2011	1.20	0.20	0.16	25	0.12	60
2012	0.00	0.20	0.16	0	0.12	0
2013	2.77	0.20	0.16	25	0.12	60

Resource Grouping - Gas - Northeast BC - Tight - Upper Devonian						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	111.78	0.30	0.16	25	0.12	60
2006	66.25	0.30	0.16	25	0.12	60
2007	71.61	0.30	0.16	25	0.12	60
2008	66.57	0.30	0.16	25	0.12	60
2009	37.23	0.30	0.16	25	0.12	60
2010	34.99	0.30	0.16	25	0.12	60
2011	38.58	0.30	0.16	25	0.12	60
2012	0.00	0.30	0.16	0	0.12	0
2013	0.00	0.30	0.16	0	0.12	0

Resource Grouping - Gas - Northeast BC - Shale - Horn River						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2006	3.65	0.24	0.16	25	0.12	60
2007	0.33	0.24	0.16	25	0.12	60
2008	24.66	0.24	0.16	25	0.12	60
2009	68.51	0.24	0.16	25	0.12	60
2010	291.01	0.24	0.16	25	0.12	60
2011	206.74	0.24	0.16	25	0.12	60
2012	316.04	0.24	0.16	25	0.12	60
2013	0.00	0.00	0.00	0	0.00	0

Resource Grouping - Gas - Northeast BC - Shale - Cordova						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2010	4.95	0.20	0.16	20	0.12	60
2011	16.42	0.20	0.16	25	0.12	60
2012	19.83	0.20	0.16	25	0.12	60
2013	0.00	0.00	0.00	0	0.00	0

Resource Grouping - Gas - Northeast BC - Shale - Liard						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2011	9.17	0.16	0.12	25.00	0.05	60.00
2012	0.00	0.00	0.00	0.00	0.00	0.00
2013	0.37	0.16	0.12	25.00	0.05	60.00

Resource Grouping - Gas - BC Foothills - Conventional - Colorado, Mannville						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	2.39	0.20	0.16	25	0.12	60
2006	6.98	0.20	0.16	25	0.12	60
2007	6.49	0.20	0.16	25	0.12	60
2008	9.89	0.20	0.16	25	0.12	60
2009	2.83	0.20	0.16	25	0.12	60
2010	3.44	0.20	0.16	25	0.12	60
2011	18.80	0.20	0.16	25	0.12	60
2012	0.00	0.20	0.16	0	0.12	0
2013	0.00	0.20	0.16	0	0.12	0

Resource Grouping - Gas - BC Foothills - Conventional - Triassic, Permian, Mississippian						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	63.60	0.10	0.08	25	0.10	60
2006	100.26	0.16	0.12	25	0.10	60
2007	39.30	0.16	0.12	25	0.10	60
2008	73.20	0.16	0.12	25	0.10	60
2009	41.90	0.16	0.12	25	0.10	60
2010	4.75	0.16	0.12	25	0.10	60
2011	27.99	0.16	0.12	25	0.10	60
2012	2.64	0.16	0.12	25	0.10	60
2013	90.49	0.16	0.12	25	0.10	60

Resource Grouping - Gas - BC Foothills - Tight - Montney						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	4.71	0.16	0.12	25	0.10	60
2006	0.00	0.00	0.00	0	0.10	0
2007	5.31	0.16	0.12	25	0.10	60
2008	0.00	0.00	0.00	0	0.10	0
2009	3.74	0.16	0.12	25	0.10	60
2010	21.74	0.16	0.12	25	0.10	60
2011	44.81	0.16	0.12	25	0.10	60
2012	42.47	0.16	0.12	25	0.10	60
2013	203.26	0.16	0.12	25	0.10	60

Resource Grouping - Gas - Southwest Saskatchewan - Tight - Upper Colorado						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	55.16	0.16	0.12	25	0.10	60
2006	50.68	0.16	0.12	25	0.10	60
2007	41.43	0.16	0.12	25	0.10	60
2008	35.31	0.16	0.12	25	0.10	60
2009	36.04	0.16	0.12	25	0.10	60
2010	18.88	0.16	0.12	25	0.10	60
2011	9.69	0.16	0.12	25	0.10	60
2012	6.65	0.16	0.12	25	0.10	60
2013	1.09	0.16	0.12	25	0.10	60

Resource Grouping - Gas - West Saskatchewan - Conventional - Colorado						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	3.90	0.16	0.12	25	0.08	60
2006	9.89	0.16	0.12	25	0.08	60
2007	4.03	0.16	0.12	25	0.08	60
2008	3.49	0.16	0.12	25	0.08	60
2009	8.42	0.16	0.12	25	0.08	60
2010	1.22	0.16	0.12	25	0.08	60
2011	0.12	0.16	0.12	25	0.08	60
2012	0.14	0.16	0.12	25	0.08	60
2013	0.08	0.16	0.12	25	0.08	60

Resource Grouping - Gas - West Saskatchewan - Conventional - Middle Mannville, Lower Mannville, Mississippian						
Connection Year	**"Group Production Rate as of Dec. 31, Mkt MMcf/d"**	**First Decline Rate**	**Second Decline Rate**	**Months to Second Decline Rate**	**Third Decline Rate**	**Months to Third Decline Rate**
2005	7.76	0.20	0.16	25	0.12	60
2006	19.95	0.20	0.16	25	0.12	60
2007	5.46	0.20	0.16	25	0.12	60
2008	9.39	0.20	0.16	25	0.12	60
2009	3.01	0.20	0.16	25	0.12	60
2010	2.92	0.20	0.16	25	0.12	60
2011	2.27	0.20	0.16	25	0.12	60
2012	2.21	0.20	0.16	25	0.12	60
2013	2.92	0.20	0.16	25	0.12	60

Appendix A4 - Decline Parameters for Groupings of Future Gas Connections

Resource Grouping - Gas - Alberta Coalbed Methane - Mannville										
Connection Year	**"Peak Production MMcf/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**
2005	0.24	0.40	0.20	16	0.15	36	0.10	90	0.10	500
2006	0.38	0.01	0.40	15	0.20	30	0.15	50	0.10	100
2007	0.38	0.01	0.40	15	0.20	30	0.15	50	0.10	100
2008	0.38	0.01	0.40	15	0.20	30	0.15	50	0.10	100
2009	0.38	0.01	0.40	15	0.20	30	0.15	50	0.10	100
2010	0.38	0.01	0.40	15	0.20	30	0.15	50	0.10	100
2011	0.38	0.01	0.40	15	0.20	30	0.15	50	0.10	100
2012	0.38	0.01	0.40	15	0.20	30	0.15	50	0.10	100
2013	0.38	0.01	0.40	15	0.20	30	0.15	50	0.10	100
2014	0.38	0.01	0.40	15	0.20	30	0.15	50	0.10	100
2015	0.38	0.01	0.40	15	0.20	30	0.15	50	0.10	100
2016	0.38	0.01	0.40	15	0.20	30	0.15	50	0.10	100
2017	0.38	0.01	0.40	15	0.20	30	0.15	50	0.10	100

Resource Grouping - Gas - Alberta Coalbed Methane - Horseshoe Canyon										
Connection Year	**"Peak Production MMcf/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**
2005	0.06	0.25	0.16	7	0.17	20	0.12	45	0.10	90
2006	0.07	0.25	0.18	7	0.16	20	0.12	45	0.10	90
2007	0.07	0.50	0.20	7	0.16	20	0.12	45	0.10	90
2008	0.06	0.40	0.20	7	0.16	20	0.14	45	0.10	90
2009	0.06	0.45	0.20	7	0.15	20	0.10	45	0.10	90
2010	0.05	0.30	0.20	7	0.15	20	0.10	45	0.10	90
2011	0.04	0.50	0.30	7	0.20	20	0.10	45	0.10	90
2012	0.04	0.50	0.30	7	0.20	20	0.10	45	0.10	90
2013	0.05	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2014	0.06	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2015	0.06	0.70	0.40	7	0.20	20	0.12	45	0.10	90
2016	0.06	0.70	0.40	7	0.20	20	0.12	45	0.10	90
2017	0.06	0.70	0.40	7	0.20	20	0.12	45	0.10	90

Resource Grouping - Gas - Alberta Coalbed Methane - Other										
Connection Year	**"Peak Production MMcf/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**
2006	0.06	0.80	0.30	7	0.20	20	0.05	45	0.05	90
2007	0.07	0.75	0.35	7	0.16	20	0.05	45	0.05	90
2008	0.05	0.50	0.30	7	0.11	20	0.08	45	0.50	90
2009	0.03	0.40	0.21	7	0.18	20	0.10	45	0.05	90
2010	0.03	0.35	0.25	7	0.16	20	1.20	45	0.05	90
2011	0.03	0.55	0.35	7	0.20	20	0.16	45	0.12	90
2012	0.03	0.55	0.35	7	0.60	20	0.12	45	0.10	90
2013	0.03	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2014	0.03	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2015	0.03	0.70	0.40	7	0.20	20	0.12	45	0.05	90
2016	0.03	0.70	0.40	7	0.20	20	0.12	45	0.05	90
2017	0.03	0.70	0.40	7	0.20	20	0.12	45	0.05	90

Resource Grouping - Gas - Southern Alberta - Conventional - Tertiary, Upper Cretaceous, Upper Colorado										
Connection Year	**"Peak Production MMcf/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**
2005	0.07	0.73	0.45	7	0.22	20	0.14	45	0.08	90
2006	0.08	1.05	0.37	7	0.22	20	0.14	45	0.10	90
2007	0.08	0.60	0.40	7	0.18	20	0.14	45	0.08	82
2008	0.10	0.62	0.45	10	0.22	20	0.14	45	0.08	80
2009	0.08	0.80	0.45	8	0.22	20	0.14	45	0.08	90
2010	0.11	0.80	0.44	7	0.25	20	0.14	45	0.08	90
2011	0.08	0.65	0.40	7	0.25	20	0.14	45	0.08	90
2012	0.07	0.65	0.40	7	0.25	20	0.12	45	0.08	90
2013	0.02	0.65	0.40	7	0.20	20	0.12	45	0.08	90
2014	0.01	0.80	0.40	7	0.20	20	0.12	45	0.08	90
2015	0.01	0.80	0.40	7	0.20	20	0.12	45	0.08	90
2016	0.01	0.80	0.40	7	0.20	20	0.12	45	0.08	90
2017	0.01	0.80	0.40	7	0.20	20	0.12	45	0.08	90

Resource Grouping - Gas - Southern Alberta - Conventional - Colorado										
Connection Year	**"Peak Production MMcf/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**
2005	0.21	0.85	0.60	10	0.35	20	0.16	45	0.08	90
2006	0.15	1.35	0.57	7	0.30	30	0.14	50	0.08	90
2007	0.12	0.80	0.62	10	0.22	20	0.12	45	0.08	90
2008	0.11	0.95	0.50	7	0.15	20	0.12	45	0.08	90
2009	0.12	1.25	0.60	7	0.30	20	0.16	45	0.08	90
2010	0.22	0.95	0.40	7	0.30	20	0.16	45	0.08	90
2011	0.22	1.25	0.55	7	0.25	20	0.16	45	0.08	90
2012	0.03	0.85	0.45	7	0.25	20	0.16	45	0.08	90
2013	0.07	0.95	0.55	7	0.20	20	0.12	45	0.05	90
2014	0.07	0.95	0.55	7	0.20	20	0.12	45	0.08	90
2015	0.07	0.95	0.55	7	0.20	20	0.12	45	0.08	90
2016	0.07	0.95	0.55	7	0.20	20	0.12	45	0.08	90
2017	0.07	0.95	0.55	7	0.20	20	0.12	45	0.08	90

Resource Grouping - Gas - Southern Alberta - Conventional - Mannville										
Connection Year	**"Peak Production MMcf/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**
2005	0.28	0.55	0.65	7	0.45	20	0.20	45	0.10	90
2006	0.24	0.70	0.60	7	0.33	20	0.16	45	0.10	90
2007	0.23	0.70	0.45	7	0.35	20	0.20	45	0.10	90
2008	0.32	0.70	0.50	10	0.25	20	0.18	45	0.10	90
2009	0.26	0.85	0.35	7	0.22	20	0.16	45	0.10	90
2010	0.29	1.00	0.50	7	0.35	20	0.20	45	0.10	90
2011	0.32	1.30	0.60	7	0.30	20	0.20	45	0.10	90
2012	0.28	0.95	0.55	7	0.30	20	0.20	45	0.10	90
2013	0.10	0.90	0.55	7	0.30	20	0.20	45	0.10	90
2014	0.09	0.90	0.55	7	0.30	20	0.16	45	0.10	90
2015	0.09	0.90	0.55	7	0.30	20	0.16	45	0.10	90
2016	0.09	0.90	0.55	7	0.30	20	0.16	45	0.10	90
2017	0.09	0.90	0.55	7	0.30	20	0.16	45	0.10	90

Resource Grouping - Gas - Southern Alberta - Tight - Upper Colorado										
Connection Year	**"Peak Production MMcf/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**
2005	0.08	0.80	0.35	7	0.22	20	0.12	45	0.12	90
2006	0.08	0.90	0.40	7	0.20	20	0.12	45	0.12	90
2007	0.08	0.85	0.40	7	0.18	20	0.14	45	0.12	90
2008	0.07	0.90	0.37	7	0.20	20	0.16	45	0.12	90
2009	0.08	0.75	0.43	7	0.20	20	0.16	45	0.12	90
2010	0.08	0.65	0.45	7	0.22	20	0.16	45	0.12	90
2011	0.07	0.60	0.33	7	0.22	20	0.12	45	0.12	90
2012	0.08	0.85	0.40	7	0.22	20	0.12	45	0.12	90
2013	0.01	0.85	0.40	7	0.20	20	0.12	45	0.12	90
2014	0.01	0.85	0.40	7	0.20	20	0.12	45	0.12	90
2015	0.01	0.85	0.40	7	0.20	20	0.12	45	0.12	90
2016	0.01	0.85	0.40	7	0.20	20	0.12	45	0.12	90
2017	0.01	0.85	0.40	7	0.20	20	0.12	45	0.12	90

Resource Grouping - Gas - Southwest Alberta - Conventional - Tertiary, Upper Cretaceous, Upper Colorado										
Connection Year	**"Peak Production MMcf/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**
2005	0.15	1.20	0.40	7	0.30	20	0.16	45	0.10	90
2006	0.12	1.05	0.45	7	0.30	20	0.20	45	0.10	90
2007	0.14	1.40	0.50	7	0.25	20	0.16	45	0.10	90
2008	0.12	1.30	0.50	7	0.27	20	0.16	45	0.10	90
2009	0.10	0.80	0.55	7	0.32	20	0.18	45	0.10	90
2010	0.08	0.95	0.55	7	0.30	20	0.18	45	0.10	90
2011	0.07	0.65	0.40	7	0.25	20	0.16	45	0.10	90
2012	0.11	0.90	0.50	7	0.25	20	0.16	45	0.10	90
2013	0.07	0.90	0.50	7	0.25	20	0.16	45	0.10	90
2014	0.07	0.90	0.50	7	0.25	20	0.16	45	0.10	90
2015	0.07	0.90	0.50	7	0.25	20	0.16	45	0.10	90
2016	0.07	0.90	0.50	7	0.25	20	0.16	45	0.10	90
2017	0.07	0.90	0.50	7	0.25	20	0.16	45	0.10	90

Resource Grouping - Gas - Southwest Alberta - Conventional - Colorado										
Connection Year	**"Peak Production MMcf/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**
2005	0.11	0.98	0.40	7	0.30	20	0.24	45	0.12	90
2006	0.22	1.45	0.65	7	0.33	20	0.20	45	0.12	90
2007	0.25	1.05	0.65	7	0.35	20	0.24	45	0.12	90
2008	0.26	1.05	0.65	7	0.35	20	0.24	45	0.12	90
2009	0.12	1.95	0.70	7	0.37	20	0.16	45	0.12	90
2010	0.31	1.65	0.60	7	0.30	20	0.16	45	0.12	90
2011	0.07	0.80	0.40	7	0.30	20	0.16	45	0.12	90
2012	0.23	1.05	0.60	7	0.30	20	0.24	45	0.12	90
2013	0.12	1.05	0.60	7	0.30	20	0.24	45	0.12	90
2014	0.12	1.05	0.60	7	0.30	20	0.24	45	0.12	90
2015	0.12	1.05	0.60	7	0.30	20	0.24	45	0.12	90
2016	0.12	1.05	0.60	7	0.30	20	0.24	45	0.12	90
2017	0.12	1.05	0.60	7	0.30	20	0.24	45	0.12	90

Resource Grouping - Gas - Southwest Alberta - Conventional - Middle Mannville, Lower Mannville										
Connection Year	**"Peak Production MMcf/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**
2005	0.55	1.15	0.65	7	0.37	20	0.22	45	0.12	90
2006	0.44	0.85	0.80	7	0.40	20	0.20	45	0.12	90
2007	0.43	0.75	0.58	7	0.45	20	0.30	45	0.12	90
2008	0.44	0.75	0.45	7	0.32	20	0.16	45	0.12	90
2009	0.52	1.00	0.45	7	0.32	20	0.16	45	0.12	90
2010	0.45	1.25	0.75	7	0.35	20	0.20	45	0.12	90
2011	0.85	0.65	0.40	7	0.30	20	0.20	45	0.12	90
2012	0.12	1.25	0.65	7	0.30	20	0.16	45	0.12	90
2013	0.18	0.85	0.60	7	0.30	20	0.20	45	0.12	90
2014	0.08	0.85	0.60	7	0.30	20	0.16	45	0.12	90
2015	0.08	0.85	0.60	7	0.30	20	0.16	45	0.12	90
2016	0.08	0.85	0.60	7	0.30	20	0.16	45	0.12	90
2017	0.08	0.85	0.60	7	0.30	20	0.16	45	0.12	90

Resource Grouping - Gas - Southwest Alberta - Conventional - Jurassic, Mississippian										
Connection Year	**"Peak Production MMcf/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**
2005	0.51	1.55	0.75	7	0.27	20	0.14	45	0.08	90
2006	0.20	1.40	1.15	7	0.85	20	0.25	45	0.12	90
2007	0.26	1.35	0.60	7	0.20	20	0.14	45	0.08	90
2008	0.83	1.15	0.80	7	0.55	20	0.25	45	0.12	90
2009	0.90	0.85	0.40	7	0.27	20	0.16	45	0.10	90
2010	0.25	0.60	0.40	7	0.25	20	0.14	45	0.08	90
2011	0.22	1.45	0.65	7	0.30	20	0.14	45	0.08	90
2012	0.22	1.45	0.65	7	0.30	20	0.14	45	0.08	90
2013	0.22	1.45	0.65	7	0.30	20	0.14	45	0.08	90
2014	0.22	1.45	0.65	7	0.30	20	0.14	45	0.08	90
2015	0.22	1.45	0.65	7	0.30	20	0.14	45	0.08	90
2016	0.22	1.45	0.65	7	0.30	20	0.14	45	0.08	90
2017	0.22	1.45	0.65	7	0.30	20	0.14	45	0.08	90

Resource Grouping - Gas - Southwest Alberta - Conventional - Upper Devonian										
Connection Year	**"Peak Production MMcf/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**
2005	0.11	0.30	0.20	7	0.18	20	0.16	45	0.12	90
2006	0.37	0.70	0.45	7	0.40	20	0.20	45	0.12	90
2007	0.49	0.85	0.55	7	0.27	20	0.12	45	0.05	90
2008	0.23	1.20	0.85	7	0.25	20	0.16	45	0.12	90
2009	0.28	0.65	0.40	7	0.22	20	0.16	45	0.12	90
2010	0.18	0.75	0.40	7	0.25	20	0.16	45	0.12	90
2011	0.03	0.95	0.55	7	0.25	20	0.16	45	0.12	90
2012	0.04	0.85	0.45	7	0.20	20	0.16	45	0.12	90
2013	0.04	0.85	0.45	7	0.20	20	0.16	45	0.12	90
2014	0.04	0.85	0.45	7	0.20	20	0.16	45	0.12	90
2015	0.04	0.85	0.45	7	0.20	20	0.16	45	0.12	90
2016	0.04	0.85	0.45	7	0.20	20	0.16	45	0.12	90
2017	0.04	0.85	0.45	7	0.20	20	0.16	45	0.12	90

Resource Grouping - Gas - Southwest Alberta - Tight - Upper Colorado										
Connection Year	**"Peak Production MMcf/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**
2005	0.10	1.65	0.40	7	0.27	20	0.14	45	0.12	90
2006	0.05	1.25	0.35	7	0.24	20	0.12	45	0.12	90
2007	0.12	1.35	0.62	7	0.25	20	0.18	45	0.12	90
2008	0.07	1.05	0.75	7	0.30	20	0.16	45	0.12	90
2009	0.25	1.65	0.65	7	0.20	20	0.16	45	0.12	90
2010	0.16	0.60	0.40	7	0.20	20	0.16	45	0.12	90
2011	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2012	0.06	1.25	0.60	7	0.25	20	0.16	45	0.12	90
2013	0.06	1.25	0.60	7	0.25	20	0.16	45	0.12	90
2014	0.06	1.25	0.60	7	0.25	20	0.16	45	0.12	90
2015	0.06	1.25	0.60	7	0.25	20	0.16	45	0.12	90
2016	0.06	1.25	0.60	7	0.25	20	0.16	45	0.12	90
2017	0.06	1.25	0.60	7	0.25	20	0.16	45	0.12	90

Resource Grouping - Gas - Southwest Alberta - Tight - Colorado										
Connection Year	**"Peak Production MMcf/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**
2005	0.12	0.75	0.30	7	0.24	20	0.16	45	0.12	90
2006	0.13	1.35	0.60	7	0.25	20	0.14	45	0.12	90
2007	0.64	1.20	0.55	7	0.32	20	0.16	45	0.12	90
2008	1.28	1.95	0.80	7	0.45	20	0.16	45	0.12	90
2009	0.91	1.00	0.40	7	0.30	20	0.16	45	0.12	90
2010	0.36	0.90	0.40	7	0.24	20	0.16	45	0.12	90
2011	0.23	0.95	0.55	7	0.30	20	0.16	45	0.12	90
2012	1.46	0.85	0.40	7	0.20	20	0.16	45	0.12	90
2013	0.68	0.85	0.40	7	0.20	20	0.16	45	0.12	90
2014	0.68	0.85	0.40	7	0.20	20	0.16	45	0.12	90
2015	0.68	0.85	0.40	7	0.20	20	0.16	45	0.12	90
2016	0.68	0.85	0.40	7	0.20	20	0.16	45	0.12	90
2017	0.68	0.85	0.40	7	0.20	20	0.16	45	0.12	90

Resource Grouping - Gas - Southwest Alberta - Tight - Lower Mannville										
Connection Year	**"Peak Production MMcf/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**
2005	0.66	0.95	0.35	7	0.20	20	0.12	45	0.12	90
2006	0.91	0.75	0.45	7	0.35	20	0.16	45	0.12	90
2007	0.58	0.70	0.45	7	0.30	20	0.10	45	0.10	90
2008	0.38	0.60	0.40	7	0.20	20	0.16	45	0.12	90
2009	0.36	0.80	0.30	7	0.20	20	0.16	45	0.12	90
2010	0.55	0.95	0.45	7	0.28	20	0.16	45	0.12	90
2011	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2012	0.65	0.65	0.40	7	0.22	20	0.16	45	0.12	90
2013	0.65	0.65	0.40	7	0.22	20	0.16	45	0.12	90
2014	0.65	0.65	0.40	7	0.22	20	0.16	45	0.12	90
2015	0.65	0.65	0.40	7	0.22	20	0.16	45	0.12	90
2016	0.65	0.65	0.40	7	0.22	20	0.16	45	0.12	90
2017	0.65	0.65	0.40	7	0.22	20	0.16	45	0.12	90

Resource Grouping - Gas - Southern Foothills - Conventional - Mississippian, Upper Devonian										
Connection Year	**"Peak Production MMcf/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**
2005	1.81	0.55	0.35	7	0.20	20	0.10	45	0.05	90
2006	2.49	0.65	0.30	7	0.16	20	0.10	45	0.05	90
2007	1.99	0.40	0.20	7	0.12	20	0.08	45	0.05	90
2008	2.05	0.25	0.20	7	0.18	20	0.12	45	0.08	90
2009	6.50	0.40	0.25	7	0.16	20	0.12	45	0.08	90
2010	2.00	0.40	0.30	7	0.20	20	0.12	45	0.08	90
2011	2.00	0.40	0.30	7	0.20	20	0.12	45	0.08	90
2012	2.00	0.40	0.30	7	0.20	20	0.12	45	0.08	90
2013	2.00	0.40	0.30	7	0.20	20	0.12	45	0.08	90
2014	2.00	0.40	0.30	7	0.20	20	0.12	45	0.08	90
2015	2.00	0.40	0.30	7	0.20	20	0.12	45	0.08	90
2016	2.00	0.40	0.30	7	0.20	20	0.12	45	0.08	90
2017	2.00	0.40	0.30	7	0.20	20	0.12	45	0.08	90

Resource Grouping - Gas - Eastern Alberta - Conventional - Upper Cretaceous, Upper Colorado										
Connection Year	**"Peak Production MMcf/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**
2005	0.10	0.75	0.40	7	0.22	20	0.12	45	0.08	90
2006	0.05	0.95	0.43	7	0.20	20	0.16	45	0.08	90
2007	0.05	0.75	0.40	7	0.25	20	0.22	45	0.12	90
2008	0.06	0.55	0.40	7	0.25	20	0.16	45	0.12	90
2009	0.09	0.65	0.30	10	0.25	20	0.16	45	0.12	90
2010	0.14	0.95	0.45	7	0.25	20	0.16	45	0.12	90
2011	0.16	1.25	0.50	7	0.25	20	0.16	45	0.12	90
2012	0.19	0.95	0.45	7	0.25	20	0.16	45	0.12	90
2013	0.22	0.80	0.45	7	0.25	20	0.16	45	0.12	90
2014	0.15	0.65	0.40	7	0.20	20	0.12	45	0.08	90
2015	0.15	0.65	0.40	7	0.20	20	0.12	45	0.08	90
2016	0.15	0.65	0.40	7	0.20	20	0.12	45	0.08	90
2017	0.15	0.65	0.40	7	0.20	20	0.12	45	0.08	90

Resource Grouping - Gas - Eastern Alberta - Conventional - Colorado, Mannville										
Connection Year	**"Peak Production MMcf/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**
2005	0.18	0.80	0.50	7	0.32	20	0.18	45	0.12	90
2006	0.16	0.70	0.45	7	0.36	20	0.25	45	0.12	90
2007	0.18	0.90	0.55	7	0.35	20	0.26	45	0.12	90
2008	0.18	0.85	0.50	7	0.33	20	0.24	45	0.12	90
2009	0.21	1.05	0.41	7	0.30	20	0.20	45	0.12	90
2010	0.16	1.10	0.69	7	0.35	20	0.20	45	0.12	90
2011	0.15	1.25	0.65	7	0.35	20	0.20	45	0.12	90
2012	0.12	1.05	0.50	7	0.40	20	0.20	45	0.12	90
2013	0.13	1.05	0.50	7	0.30	20	0.20	45	0.12	90
2014	0.12	1.05	0.50	7	0.30	20	0.20	45	0.12	90
2015	0.12	1.05	0.50	7	0.30	20	0.20	45	0.12	90
2016	0.12	1.05	0.50	7	0.30	20	0.20	45	0.12	90
2017	0.12	1.05	0.50	7	0.30	20	0.20	45	0.12	90

Resource Grouping - Gas - Eastern Alberta - Tight - Upper Colorado										
Connection Year	**"Peak Production MMcf/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**
2005	0.06	0.80	0.50	7	0.20	20	0.12	45	0.12	90
2006	0.06	0.75	0.40	7	0.25	20	0.16	45	0.12	90
2007	0.04	1.20	0.35	7	0.20	20	0.05	45	0.05	90
2008	0.06	1.25	0.40	7	0.25	20	0.12	45	0.12	90
2009	0.05	1.75	0.45	7	0.25	20	0.16	45	0.12	90
2010	0.04	0.75	0.40	7	0.25	20	0.16	45	0.12	90
2011	0.06	0.70	0.40	7	0.22	20	0.16	45	0.12	90
2012	0.03	0.65	0.40	7	0.22	20	0.16	45	0.12	90
2013	0.03	0.65	0.40	7	0.22	20	0.16	45	0.12	90
2014	0.03	0.65	0.40	7	0.22	20	0.16	45	0.12	90
2015	0.03	0.65	0.40	7	0.22	20	0.16	45	0.12	90
2016	0.03	0.65	0.40	7	0.22	20	0.16	45	0.12	90
2017	0.03	0.65	0.40	7	0.22	20	0.16	45	0.12	90

Resource Grouping - Gas - Eastern Alberta - Shale - Duvernay										
Connection Year	**"Peak Production MMcf/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**
2013	1.50	0.85	0.40	7	0.20	20	0.16	45	0.12	90
2014	2.00	0.85	0.40	7	0.20	20	0.16	45	0.12	90
2015	2.00	0.85	0.40	7	0.20	20	0.16	45	0.12	90
2016	2.00	0.85	0.40	7	0.20	20	0.16	45	0.12	90
2017	2.00	0.85	0.40	7	0.20	20	0.16	45	0.12	90

Resource Grouping - Gas - Central Alberta - Conventional - Tertiary, Upper Cretaceous										
Connection Year	**"Peak Production MMcf/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**
2005	0.14	1.05	0.50	7	0.25	20	0.16	45	0.12	90
2006	0.10	0.85	0.46	7	0.25	20	0.16	45	0.12	90
2007	0.14	0.70	0.42	7	0.25	20	0.18	45	0.12	90
2008	0.12	0.75	0.47	7	0.27	20	0.16	45	0.12	90
2009	0.12	1.10	0.47	7	0.23	20	0.16	45	0.12	90
2010	0.12	1.25	0.45	7	0.25	20	0.16	45	0.12	90
2011	0.12	0.85	0.50	7	0.25	20	0.16	45	0.12	90
2012	0.07	0.95	0.50	7	0.25	20	0.16	45	0.12	90
2013	0.02	0.95	0.50	7	0.20	20	0.16	45	0.12	90
2014	0.02	0.95	0.50	7	0.20	20	0.16	45	0.12	90
2015	0.02	0.95	0.50	7	0.20	20	0.16	45	0.12	90
2016	0.02	0.95	0.50	7	0.20	20	0.16	45	0.12	90
2017	0.02	0.95	0.50	7	0.20	20	0.16	45	0.12	90

Resource Grouping - Gas - Central Alberta - Conventional - Colorado										
Connection Year	**"Peak Production MMcf/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**
2005	0.20	1.15	0.40	7	0.30	20	0.20	45	0.12	90
2006	0.11	0.75	0.43	7	0.25	20	0.14	45	0.10	90
2007	0.16	0.50	0.35	7	0.25	20	0.16	45	0.12	90
2008	0.13	0.70	0.55	7	0.25	20	0.16	45	0.12	90
2009	0.18	1.30	0.45	7	0.25	20	0.16	45	0.12	90
2010	0.18	1.25	0.70	7	0.30	20	0.16	45	0.12	90
2011	0.11	1.15	0.50	7	0.30	20	0.16	45	0.12	90
2012	0.14	0.85	0.50	7	0.30	20	0.16	45	0.12	90
2013	0.15	0.90	0.40	7	0.30	20	0.16	45	0.12	90
2014	0.15	0.90	0.40	7	0.20	20	0.16	45	0.12	90
2015	0.15	0.90	0.40	7	0.20	20	0.16	45	0.12	90
2016	0.16	0.90	0.40	7	0.20	20	0.16	45	0.12	90
2017	0.16	0.90	0.40	7	0.20	20	0.16	45	0.12	90

Resource Grouping - Gas - Central Alberta - Conventional - Mannville										
Connection Year	**"Peak Production MMcf/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**
2005	0.30	0.80	0.53	7	0.35	20	0.26	45	0.12	90
2006	0.30	0.60	0.50	7	0.45	20	0.25	45	0.12	90
2007	0.30	0.80	0.55	7	0.38	20	0.20	45	0.12	90
2008	0.25	0.95	0.60	7	0.35	20	0.18	45	0.12	90
2009	0.25	0.75	0.52	7	0.40	20	0.18	45	0.12	90
2010	0.27	1.35	0.85	7	0.45	20	0.20	45	0.12	90
2011	0.26	1.15	0.50	7	0.30	20	0.18	45	0.12	90
2012	0.27	0.85	0.50	7	0.30	20	0.16	45	0.12	90
2013	0.25	0.80	0.50	7	0.30	20	0.16	45	0.12	90
2014	0.12	0.80	0.50	7	0.30	20	0.20	45	0.12	90
2015	0.12	0.80	0.50	7	0.30	20	0.20	45	0.12	90
2016	0.12	0.80	0.50	7	0.30	20	0.20	45	0.12	90
2017	0.12	0.80	0.50	7	0.30	20	0.20	45	0.12	90

Resource Grouping - Gas - Central Alberta - Conventional - Mississippian, Upper Devonian										
Connection Year	**"Peak Production MMcf/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**
2005	0.54	0.80	0.50	7	0.30	20	0.20	45	0.12	90
2006	0.59	0.80	0.50	7	0.30	20	0.20	45	0.12	90
2007	0.62	0.80	0.50	7	0.30	20	0.20	45	0.12	90
2008	0.65	0.80	0.50	7	0.30	20	0.20	45	0.12	90
2009	0.66	0.80	0.50	7	0.30	20	0.20	45	0.12	90
2010	0.68	0.80	0.50	7	0.30	20	0.20	45	0.12	90
2011	0.69	0.80	0.50	7	0.30	20	0.20	45	0.12	90
2012	0.70	0.80	0.50	7	0.30	20	0.20	45	0.12	90
2013	0.72	0.80	0.50	7	0.30	20	0.20	45	0.12	90
2014	0.73	0.80	0.50	7	0.30	20	0.20	45	0.12	90
2015	0.73	0.80	0.50	7	0.30	20	0.20	45	0.12	90
2016	0.74	0.80	0.50	7	0.30	20	0.20	45	0.12	90
2017	0.75	0.80	0.50	7	0.30	20	0.20	45	0.12	90

Resource Grouping - Gas - Central Alberta - Tight - Colorado										
Connection Year	**"Peak Production MMcf/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**
2005	0.45	1.05	0.35	7	0.22	20	0.16	45	0.12	90
2006	0.33	0.65	0.30	7	0.14	20	0.12	45	0.10	90
2007	0.52	0.95	0.50	7	0.22	20	0.12	45	0.10	90
2008	0.92	0.95	0.35	7	0.24	20	0.16	45	0.12	90
2009	0.36	0.90	0.40	7	0.24	20	0.16	45	0.12	90
2010	2.11	0.65	0.40	7	0.25	20	0.16	45	0.12	90
2011	0.19	0.85	0.45	7	0.24	20	0.16	45	0.12	90
2012	0.21	1.05	0.60	7	0.25	20	0.16	45	0.12	90
2013	0.41	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2014	0.43	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2015	0.45	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2016	0.47	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2017	0.49	0.65	0.40	7	0.20	20	0.16	45	0.12	90

Resource Grouping - Gas - Central Alberta - Tight - Mannville										
Connection Year	**"Peak Production MMcf/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**
2005	0.24	0.65	0.40	7	0.30	20	0.14	45	0.12	90
2006	0.50	1.15	0.43	7	0.30	20	0.16	45	0.12	90
2007	0.34	0.65	0.30	7	0.28	20	0.20	45	0.12	90
2008	0.53	0.85	0.65	7	0.50	20	0.20	45	0.12	90
2009	0.70	1.20	0.50	7	0.32	20	0.16	45	0.12	90
2010	0.39	1.15	0.65	7	0.30	20	0.16	45	0.12	90
2011	0.29	1.15	0.60	7	0.30	20	0.16	45	0.12	90
2012	0.69	1.05	0.50	7	0.30	20	0.16	45	0.12	90
2013	0.40	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2014	1.49	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2015	1.49	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2016	1.49	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2017	1.49	0.65	0.40	7	0.20	20	0.16	45	0.12	90

Resource Grouping - Gas - Central Alberta - Tight - Montney										
Connection Year	**"Peak Production MMcf/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**
2013	3.50	2.50	0.80	6	0.40	20	0.20	45	0.12	100
2014	3.50	2.50	0.80	6	0.40	20	0.20	45	0.12	100
2015	3.50	2.50	0.80	6	0.40	20	0.20	45	0.12	100
2016	3.50	2.50	0.80	6	0.40	20	0.20	45	0.12	100
2017	3.50	2.50	0.80	6	0.40	20	0.20	45	0.12	100

Resource Grouping - Gas - Central Alberta - Shale - Duvernay										
Connection Year	**"Peak Production MMcf/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**
2013	2.00	0.85	0.40	7	0.20	20	0.16	45	0.12	90
2014	2.00	0.85	0.40	7	0.20	20	0.16	45	0.12	90
2015	2.00	0.85	0.40	7	0.20	20	0.16	45	0.12	90
2016	2.00	0.85	0.40	7	0.20	20	0.16	45	0.12	90
2017	2.00	0.85	0.40	7	0.20	20	0.16	45	0.12	90

Resource Grouping - Gas - West Central Alberta - Conventional - Tertiary										
Connection Year	**"Peak Production MMcf/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**
2005	0.14	0.65	0.47	7	0.25	20	0.18	45	0.12	90
2006	0.15	0.70	0.40	7	0.32	20	0.20	45	0.12	90
2007	0.15	0.60	0.40	7	0.30	20	0.20	45	0.12	90
2008	0.16	0.55	0.42	7	0.32	20	0.16	45	0.12	90
2009	0.23	0.72	0.45	7	0.25	20	0.16	45	0.12	90
2010	0.25	1.10	0.60	7	0.32	20	0.16	45	0.12	90
2011	0.29	0.75	0.50	7	0.25	20	0.16	45	0.12	90
2012	0.20	0.75	0.50	7	0.30	20	0.16	45	0.12	90
2013	0.20	0.75	0.50	7	0.30	20	0.16	45	0.12	90
2014	0.20	0.75	0.50	7	0.30	20	0.16	45	0.12	90
2015	0.20	0.75	0.50	7	0.30	20	0.16	45	0.12	90
2016	0.20	0.75	0.50	7	0.30	20	0.16	45	0.12	90
2017	0.20	0.75	0.50	7	0.30	20	0.16	45	0.12	90

Resource Grouping - Gas - West Central Alberta - Conventional - Upper Cretaceous, Upper Colorado										
Connection Year	**"Peak Production MMcf/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**
2005	0.14	0.80	0.42	7	0.25	20	0.18	45	0.12	90
2006	0.13	0.85	0.45	7	0.25	20	0.16	45	0.12	90
2007	0.17	0.45	0.30	7	0.22	20	0.14	45	0.10	90
2008	0.18	0.50	0.30	7	0.25	20	0.16	45	0.12	90
2009	0.17	0.60	0.30	7	0.25	20	0.16	45	0.12	90
2010	0.40	1.15	0.40	7	0.24	20	0.16	45	0.12	90
2011	0.60	1.25	0.50	7	0.25	20	0.16	45	0.12	90
2012	0.61	0.90	0.50	7	0.25	20	0.16	45	0.12	90
2013	0.65	1.10	0.50	7	0.25	20	0.16	45	0.12	90
2014	0.66	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2015	0.66	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2016	0.66	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2017	0.66	0.65	0.40	7	0.20	20	0.16	45	0.12	90

Resource Grouping - Gas - West Central Alberta - Conventional - Mannville										
Connection Year	**"Peak Production MMcf/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**
2005	0.50	0.99	0.55	7	0.40	20	0.16	45	0.10	90
2006	0.23	1.15	0.50	7	0.24	20	0.16	45	0.12	90
2007	0.43	1.45	0.60	7	0.30	20	0.16	45	0.12	90
2008	0.46	0.80	0.30	7	0.20	20	0.16	45	0.12	90
2009	0.08	1.20	0.40	7	0.24	20	0.16	45	0.12	90
2010	1.43	0.65	0.40	7	0.22	20	0.12	45	0.05	90
2011	0.13	0.95	0.45	7	0.25	20	0.16	45	0.12	90
2012	0.42	0.75	0.40	7	0.25	20	0.16	45	0.12	90
2013	0.50	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2014	0.50	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2015	0.50	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2016	0.50	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2017	0.50	0.65	0.40	7	0.20	20	0.16	45	0.12	90

Resource Grouping - Gas - West Central Alberta - Conventional - Lower Mannville, Jurassic										
Connection Year	**"Peak Production MMcf/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**
2005	0.31	0.65	0.42	7	0.32	20	0.18	45	0.12	90
2006	0.27	1.10	0.50	7	0.22	20	0.16	45	0.12	90
2007	0.24	0.90	0.43	7	0.25	20	0.16	45	0.12	90
2008	0.24	0.65	0.40	7	0.34	20	0.20	45	0.12	90
2009	0.35	0.60	0.45	7	0.30	20	0.16	45	0.12	90
2010	0.51	0.85	0.55	7	0.30	20	0.20	45	0.12	90
2011	0.84	0.85	0.55	7	0.30	20	0.20	45	0.12	90
2012	1.32	0.85	0.50	7	0.30	20	0.16	45	0.12	90
2013	1.75	0.85	0.45	7	0.30	20	0.20	45	0.12	90
2014	1.66	0.85	0.45	7	0.30	20	0.16	45	0.12	90
2015	1.66	0.85	0.45	7	0.30	20	0.16	45	0.12	90
2016	1.66	0.85	0.45	7	0.30	20	0.16	45	0.12	90
2017	1.66	0.85	0.45	7	0.30	20	0.16	45	0.12	90

Resource Grouping - Gas - West Central Alberta - Conventional - Missisippian										
Connection Year	**"Peak Production MMcf/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**
2005	0.72	0.20	0.27	7	0.40	20	0.22	45	0.12	90
2006	0.80	0.85	0.45	7	0.33	20	0.20	45	0.12	90
2007	0.53	0.50	0.35	7	0.25	20	0.18	45	0.12	90
2008	0.28	1.15	0.35	7	0.18	20	0.16	45	0.12	90
2009	0.54	0.70	0.30	7	0.25	20	0.16	45	0.12	90
2010	0.28	1.25	0.44	7	0.24	20	0.16	45	0.12	90
2011	0.66	1.45	0.55	7	0.24	20	0.16	45	0.12	90
2012	1.60	1.25	0.50	7	0.24	20	0.16	45	0.12	90
2013	0.26	0.95	0.50	7	0.24	20	0.16	45	0.12	90
2014	0.26	0.95	0.50	7	0.24	20	0.16	45	0.12	90
2015	0.26	0.95	0.50	7	0.24	20	0.16	45	0.12	90
2016	0.26	0.95	0.50	7	0.24	20	0.16	45	0.12	90
2017	0.26	0.95	0.50	7	0.24	20	0.16	45	0.12	90

Resource Grouping - Gas - West Central Alberta - Conventional - Upper Devonian										
Connection Year	**"Peak Production MMcf/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**
2005	0.96	0.35	0.20	7	0.12	20	0.10	45	0.05	90
2006	0.45	1.05	0.50	7	0.35	20	0.16	45	0.12	90
2007	1.68	0.40	0.27	7	0.20	20	0.16	45	0.12	90
2008	1.68	1.25	0.50	7	0.25	20	0.16	45	0.12	90
2009	0.71	1.25	0.80	9	0.45	20	0.16	45	0.12	90
2010	0.82	1.25	0.65	7	0.30	20	0.16	45	0.12	90
2011	0.24	1.25	0.50	7	0.24	20	0.16	45	0.12	90
2012	0.36	1.25	0.50	7	0.24	20	0.16	45	0.12	90
2013	0.22	0.80	0.50	7	0.24	20	0.16	45	0.12	90
2014	0.22	0.80	0.50	7	0.24	20	0.16	45	0.12	90
2015	0.22	0.80	0.50	7	0.24	20	0.16	45	0.12	90
2016	0.22	0.80	0.50	7	0.24	20	0.16	45	0.12	90
2017	0.22	0.80	0.50	7	0.24	20	0.16	45	0.12	90

Resource Grouping - Gas - West Central Alberta - Tight - Colorado										
Connection Year	**"Peak Production MMcf/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**
2005	0.37	0.99	0.52	7	0.12	20	0.10	45	0.08	90
2006	0.70	0.75	0.35	7	0.22	20	0.18	45	0.08	90
2007	0.43	0.70	0.40	7	0.25	20	0.16	45	0.08	90
2008	0.90	0.75	0.60	7	0.25	25	0.12	45	0.08	90
2009	0.56	1.00	0.25	7	0.16	20	0.14	45	0.08	90
2010	0.45	0.55	0.40	7	0.25	20	0.14	45	0.08	90
2011	0.50	0.90	0.50	7	0.35	20	0.16	45	0.12	90
2012	2.13	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2013	0.18	0.80	0.50	7	0.30	20	0.14	45	0.08	90
2014	0.40	0.65	0.40	7	0.20	20	0.12	45	0.08	90
2015	0.40	0.65	0.40	7	0.20	20	0.12	45	0.08	90
2016	0.40	0.65	0.40	7	0.20	20	0.12	45	0.08	90
2017	0.40	0.65	0.40	7	0.20	20	0.12	45	0.08	90

Resource Grouping - Gas - West Central Alberta - Tight - Mannville										
Connection Year	**"Peak Production MMcf/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**
2005	0.45	0.65	0.35	7	0.23	20	0.16	45	0.12	90
2006	0.55	1.00	0.45	7	0.21	20	0.16	45	0.12	90
2007	0.48	1.00	0.32	7	0.22	20	0.16	45	0.12	90
2008	0.57	0.85	0.55	7	0.22	20	0.16	45	0.12	90
2009	0.74	0.75	0.52	7	0.35	20	0.20	45	0.12	90
2010	1.12	1.15	0.60	7	0.30	20	0.16	45	0.12	90
2011	1.49	1.05	0.60	7	0.30	20	0.16	45	0.12	90
2012	1.61	1.25	0.60	7	0.30	20	0.16	45	0.12	90
2013	2.21	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2014	1.87	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2015	1.87	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2016	1.87	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2017	1.87	0.65	0.40	7	0.20	20	0.16	45	0.12	90

Resource Grouping - Gas - West Central Alberta - Tight - Montney										
Connection Year	**"Peak Production MMcf/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**
2013	3.50	2.25	0.80	6	0.40	20	0.20	45	0.12	100
2014	3.50	2.25	0.80	6	0.40	20	0.20	45	0.12	100
2015	3.50	2.25	0.80	6	0.40	20	0.20	45	0.12	100
2016	3.50	2.25	0.80	6	0.40	20	0.20	45	0.12	100
2017	3.50	2.25	0.80	6	0.40	20	0.20	45	0.12	100

Resource Grouping - Gas - West Central Alberta - Shale - Duvernay										
Connection Year	**"Peak Production MMcf/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**
2013	1.50	0.85	0.40	7	0.20	20	0.12	45	0.05	90
2014	2.00	0.85	0.40	7	0.20	20	0.12	45	0.05	90
2015	2.00	0.85	0.40	7	0.20	20	0.12	45	0.05	90
2016	2.00	0.85	0.40	7	0.20	20	0.12	45	0.05	90
2017	2.00	0.85	0.40	7	0.20	20	0.12	45	0.05	90

Resource Grouping - Gas - Central Foothills - Conventional - Upper Colorado										
Connection Year	**"Peak Production MMcf/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**
2005	0.71	0.40	0.31	7	0.22	20	0.10	45	0.08	90
2006	0.70	0.50	0.35	7	0.26	20	0.12	45	0.05	90
2007	0.60	0.85	0.55	7	0.32	20	0.10	45	0.05	90
2008	1.38	0.80	0.50	6	0.28	20	0.16	45	0.07	90
2009	1.62	0.60	0.45	7	0.30	20	0.25	45	0.15	90
2010	0.91	0.80	0.60	7	0.40	20	0.15	45	0.05	90
2011	1.10	0.68	0.45	7	0.30	20	0.12	45	0.05	90
2012	1.57	0.60	0.50	7	0.20	20	0.12	45	0.05	90
2013	0.39	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2014	0.39	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2015	0.39	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2016	0.39	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2017	0.39	0.65	0.40	7	0.20	20	0.12	45	0.05	90

Resource Grouping - Gas - Central Foothills - Conventional - Colorado, Mannville										
Connection Year	**"Peak Production MMcf/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**
2005	0.81	0.70	0.55	7	0.21	20	0.12	45	0.05	90
2006	1.01	0.40	0.35	7	0.30	20	0.24	45	0.08	90
2007	1.10	0.75	0.40	7	0.28	20	0.10	45	0.05	90
2008	1.70	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2009	1.00	0.50	0.40	7	0.14	20	0.08	45	0.05	90
2010	1.50	0.45	0.35	7	0.26	20	0.10	45	0.05	90
2011	1.60	0.55	0.45	7	0.25	20	0.12	45	0.05	90
2012	1.85	0.55	0.35	7	0.20	20	0.12	45	0.05	90
2013	0.56	0.50	0.30	7	0.20	20	0.12	45	0.05	90
2014	1.00	0.50	0.30	7	0.20	20	0.12	45	0.05	90
2015	1.00	0.50	0.30	7	0.20	20	0.12	45	0.05	90
2016	1.00	0.50	0.30	7	0.20	20	0.12	45	0.05	90
2017	1.00	0.50	0.30	7	0.20	20	0.12	45	0.05	90

Resource Grouping - Gas - Central Foothills - Conventional - Jurassic, Triassic, Permian										
Connection Year	**"Peak Production MMcf/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**
2005	0.75	0.40	0.20	7	0.16	20	0.12	45	0.05	90
2006	4.58	0.30	0.20	7	0.16	20	0.14	45	0.08	90
2007	3.38	0.65	0.45	7	0.35	20	0.26	45	0.08	90
2008	3.80	0.60	0.35	7	0.25	20	0.16	45	0.08	90
2009	2.67	0.30	0.20	7	0.12	20	0.10	45	0.05	90
2010	2.16	0.65	0.30	7	0.24	20	0.12	45	0.05	90
2011	3.00	0.65	0.30	7	0.24	20	0.12	45	0.05	90
2012	0.79	0.65	0.30	7	0.24	20	0.12	45	0.05	90
2013	4.32	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2014	2.71	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2015	2.71	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2016	2.71	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2017	2.71	0.65	0.40	7	0.20	20	0.12	45	0.05	90

Resource Grouping - Gas - Central Foothills - Conventional - Mississippian										
Connection Year	**"Peak Production MMcf/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**
2005	2.66	0.75	0.35	7	0.24	20	0.13	45	0.05	90
2006	2.15	0.30	0.26	7	0.20	20	0.15	45	0.07	90
2007	3.05	0.35	0.25	7	0.22	20	0.15	45	0.08	90
2008	4.25	0.60	0.35	7	0.22	25	0.08	45	0.05	90
2009	5.20	0.60	0.35	10	0.19	25	0.08	45	0.05	90
2010	4.25	0.45	0.25	7	0.08	20	0.05	45	0.05	90
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	2.22	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2014	2.22	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2015	2.22	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2016	2.22	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2017	2.22	0.65	0.40	7	0.20	20	0.12	45	0.05	90

Resource Grouping - Gas - Central Foothills - Conventional - Upper Devonian, Middle Devonian										
Connection Year	**"Peak Production MMcf/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**
2005	6.30	0.15	0.18	7	0.20	20	0.16	45	0.12	90
2006	4.21	0.40	0.25	7	0.16	20	0.12	45	0.05	90
2007	1.99	0.45	0.30	7	0.20	20	0.12	45	0.05	90
2008	1.65	0.45	0.30	7	0.20	20	0.12	45	0.05	90
2009	1.31	0.45	0.30	7	0.20	20	0.12	45	0.05	90
2010	1.18	0.85	0.40	7	0.12	20	0.12	45	0.12	90
2011	2.92	0.85	0.50	7	0.30	20	0.12	45	0.12	90
2012	2.92	0.85	0.50	7	0.30	20	0.12	45	0.12	90
2013	2.92	0.85	0.50	7	0.30	20	0.12	45	0.12	90
2014	2.92	0.85	0.50	7	0.30	20	0.12	45	0.12	90
2015	2.92	0.85	0.50	7	0.30	20	0.12	45	0.12	90
2016	2.92	0.85	0.50	7	0.30	20	0.12	45	0.12	90
2017	2.92	0.85	0.50	7	0.30	20	0.12	45	0.12	90

Resource Grouping - Gas - Central Foothills - Tight - Colorado										
Connection Year	**"Peak Production MMcf/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**
2005	1.55	0.75	0.40	7	0.28	20	0.20	45	0.12	90
2006	0.23	0.55	0.10	7	0.05	20	0.02	45	0.02	90
2007	1.28	1.55	0.60	7	0.28	20	0.16	45	0.12	90
2008	0.75	0.48	0.38	7	0.30	20	0.18	45	0.12	90
2009	1.36	1.25	0.45	7	0.24	20	0.16	45	0.12	90
2010	1.05	1.25	0.45	7	0.24	20	0.16	45	0.12	90
2011	1.05	1.25	0.45	7	0.24	20	0.16	45	0.12	90
2012	1.05	1.25	0.45	7	0.24	20	0.16	45	0.12	90
2013	1.05	1.25	0.45	7	0.24	20	0.16	45	0.12	90
2014	1.05	1.25	0.45	7	0.24	20	0.16	45	0.12	90
2015	1.05	1.25	0.45	7	0.24	20	0.16	45	0.12	90
2016	1.05	1.25	0.45	7	0.24	20	0.16	45	0.12	90
2017	1.05	1.25	0.45	7	0.24	20	0.16	45	0.12	90

Resource Grouping - Gas - Central Foothills - Tight - Mannville										
Connection Year	**"Peak Production MMcf/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**
2005	0.30	0.60	0.35	7	0.20	20	0.12	45	0.05	90
2006	5.63	1.65	0.75	7	0.45	20	0.05	45	0.05	90
2007	0.59	1.25	0.30	7	0.16	20	0.10	45	0.05	90
2008	0.31	1.45	0.60	7	0.23	20	0.16	45	0.12	90
2009	2.22	1.25	0.45	7	0.25	20	0.16	45	0.12	90
2010	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2011	9.60	1.45	0.62	7	0.30	20	0.16	45	0.12	90
2012	5.88	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2013	2.45	1.05	0.40	7	0.20	20	0.12	45	0.05	90
2014	2.45	1.05	0.40	7	0.20	20	0.12	45	0.05	90
2015	2.45	1.05	0.40	7	0.20	20	0.12	45	0.05	90
2016	2.45	1.05	0.40	7	0.20	20	0.12	45	0.05	90
2017	2.45	1.05	0.40	7	0.20	20	0.12	45	0.05	90

Resource Grouping - Gas - Central Foothills - Tight - Jurassic										
Connection Year	**"Peak Production MMcf/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**
2005	4.51	0.60	0.40	7	0.30	20	0.22	45	0.12	90
2006	1.12	0.85	0.55	7	0.20	20	0.14	45	0.12	90
2007	1.32	0.85	0.50	7	0.18	20	0.16	45	0.12	90
2008	3.76	0.85	0.35	7	0.18	25	0.16	45	0.12	90
2009	2.32	1.15	0.40	7	0.20	20	0.16	45	0.12	90
2010	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2011	1.76	0.65	0.40	7	0.30	20	0.16	45	0.12	90
2012	3.71	0.75	0.40	7	0.24	20	0.16	45	0.12	90
2013	2.73	0.70	0.40	7	0.27	20	0.16	45	0.12	90
2014	2.73	0.70	0.40	7	0.27	20	0.16	45	0.12	90
2015	2.73	0.70	0.40	7	0.27	20	0.16	45	0.12	90
2016	2.73	0.70	0.40	7	0.27	20	0.16	45	0.12	90
2017	2.73	0.70	0.40	7	0.27	20	0.16	45	0.12	90

Resource Grouping - Gas - Central Foothills - Tight - Montney										
Connection Year	**"Peak Production MMcf/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**
2013	3.50	0.83	0.58	7	0.30	25	0.18	45	0.16	95
2014	3.50	0.83	0.58	7	0.30	25	0.18	45	0.16	95
2015	3.50	0.83	0.58	7	0.30	25	0.18	45	0.16	95
2016	3.50	0.83	0.58	7	0.30	25	0.18	45	0.16	95
2017	3.50	0.83	0.58	7	0.30	25	0.18	45	0.16	95

Resource Grouping - Gas - Central Foothills - Shale - Duvernay										
Connection Year	**"Peak Production MMcf/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**
2013	1.50	0.85	0.40	7	0.20	20	0.16	45	0.12	90
2014	2.00	0.85	0.40	7	0.20	20	0.16	45	0.12	90
2015	2.00	0.85	0.40	7	0.20	20	0.16	45	0.12	90
2016	2.00	0.85	0.40	7	0.20	20	0.16	45	0.12	90
2017	2.00	0.85	0.40	7	0.20	20	0.16	45	0.12	90

Resource Grouping - Gas - Kaybob - Conventional - Colorado										
Connection Year	**"Peak Production MMcf/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**
2005	0.60	0.75	0.60	7	0.40	20	0.16	45	0.08	90
2006	0.43	0.75	0.35	7	0.22	20	0.10	45	0.08	90
2007	0.49	0.75	0.60	7	0.40	20	0.10	45	0.08	90
2008	0.47	0.75	0.30	7	0.10	20	0.08	45	0.05	90
2009	0.76	0.85	0.40	7	0.30	20	0.12	45	0.08	90
2010	0.62	0.70	0.60	7	0.50	20	0.14	45	0.08	90
2011	0.20	0.85	0.50	7	0.14	20	0.10	45	0.08	90
2012	0.03	0.65	0.40	7	0.20	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	0.02	0.65	0.40	7	0.20	20	0.12	45	0.08	90
2015	0.02	0.65	0.40	7	0.20	20	0.12	45	0.08	90
2016	0.02	0.65	0.40	7	0.20	20	0.12	45	0.08	90
2017	0.02	0.65	0.40	7	0.20	20	0.12	45	0.08	90

Resource Grouping - Gas - Kaybob - Conventional - Mannville, Jurassic										
Connection Year	**"Peak Production MMcf/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**
2005	0.76	0.65	0.45	7	0.25	20	0.12	45	0.08	90
2006	0.70	0.65	0.40	7	0.25	20	0.14	45	0.08	90
2007	0.65	0.30	0.20	7	0.16	20	0.12	45	0.08	90
2008	0.82	0.65	0.42	7	0.16	20	0.14	45	0.08	90
2009	0.80	0.55	0.30	7	0.20	20	0.16	45	0.08	90
2010	0.47	0.60	0.45	7	0.30	20	0.16	45	0.08	90
2011	0.39	0.75	0.40	7	0.25	20	0.16	45	0.08	90
2012	0.44	0.65	0.45	7	0.25	20	0.16	45	0.08	90
2013	2.51	0.65	0.40	7	0.30	20	0.16	45	0.08	90
2014	0.47	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2015	0.47	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2016	0.47	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2017	0.47	0.65	0.40	7	0.20	20	0.12	45	0.05	90

Resource Grouping - Gas - Kaybob - Conventional - Triassic										
Connection Year	**"Peak Production MMcf/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**
2005	1.19	0.55	0.40	7	0.25	20	0.16	45	0.08	90
2006	1.07	0.95	0.60	7	0.25	20	0.16	45	0.12	90
2007	1.02	0.35	0.35	7	0.25	20	0.18	45	0.12	90
2008	0.68	0.16	0.14	7	0.12	20	0.10	45	0.08	90
2009	0.91	0.18	0.16	7	0.12	20	0.10	45	0.08	90
2010	0.39	0.85	0.45	7	0.25	20	0.16	45	0.08	90
2011	1.59	0.65	0.40	7	0.22	20	0.16	45	0.12	90
2012	0.39	0.20	0.18	7	0.16	20	0.12	45	0.08	90
2013	0.39	0.20	0.18	7	0.16	20	0.12	45	0.08	90
2014	0.39	0.20	0.18	7	0.16	20	0.12	45	0.08	90
2015	0.39	0.20	0.18	7	0.16	20	0.12	45	0.08	90
2016	0.39	0.20	0.18	7	0.16	20	0.12	45	0.08	90
2017	0.39	0.20	0.18	7	0.16	20	0.12	45	0.08	90

Resource Grouping - Gas - Kaybob - Conventional - Upper Devonian										
Connection Year	**"Peak Production MMcf/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**
2005	0.05	0.35	0.25	7	0.20	25	0.12	45	0.05	90
2006	0.96	0.65	0.35	7	0.25	20	0.16	45	0.08	90
2007	0.66	0.50	0.25	7	0.16	20	0.14	45	0.08	90
2008	0.48	0.50	0.25	7	0.20	20	0.18	45	0.08	90
2009	0.97	0.75	0.50	7	0.25	20	0.16	45	0.08	90
2010	0.68	0.50	0.35	7	0.25	20	0.16	45	0.08	90
2011	0.24	0.55	0.30	7	0.20	20	0.16	45	0.08	90
2012	0.41	0.50	0.30	7	0.20	20	0.12	45	0.08	90
2013	0.58	0.60	0.30	7	0.20	20	0.12	45	0.08	90
2014	0.58	0.60	0.30	7	0.20	20	0.12	45	0.08	90
2015	0.58	0.60	0.30	7	0.20	20	0.12	45	0.08	90
2016	0.58	0.60	0.30	7	0.20	20	0.12	45	0.08	90
2017	0.58	0.60	0.30	7	0.20	20	0.12	45	0.08	90

Resource Grouping - Gas - Kaybob - Tight - Colorado, Mannville										
Connection Year	**"Peak Production MMcf/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**
2005	0.62	0.88	0.50	7	0.26	20	0.14	45	0.12	90
2006	0.70	0.95	0.45	7	0.28	20	0.18	45	0.12	90
2007	0.67	0.75	0.50	7	0.33	20	0.18	45	0.12	90
2008	0.62	1.10	0.50	7	0.25	20	0.16	45	0.12	90
2009	1.29	0.90	0.67	7	0.40	20	0.20	45	0.12	90
2010	1.46	1.35	0.62	7	0.40	20	0.16	45	0.12	90
2011	1.47	1.10	0.55	7	0.40	20	0.16	45	0.12	90
2012	1.49	1.10	0.55	7	0.35	20	0.16	45	0.12	90
2013	1.00	1.10	0.55	7	0.35	20	0.16	45	0.12	90
2014	0.88	1.10	0.55	7	0.35	20	0.16	45	0.12	90
2015	0.88	1.10	0.55	7	0.35	20	0.16	45	0.12	90
2016	0.88	1.10	0.55	7	0.35	20	0.16	45	0.12	90
2017	0.88	1.10	0.55	7	0.35	20	0.16	45	0.12	90

Resource Grouping - Gas - Kaybob - Tight - Triassic										
Connection Year	**"Peak Production MMcf/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**
2005	0.92	1.05	0.47	7	0.25	20	0.16	45	0.12	90
2006	0.75	0.85	0.50	7	0.20	20	0.24	45	0.12	90
2007	0.65	0.75	0.50	7	0.30	20	0.24	45	0.12	90
2008	0.35	1.15	0.55	7	0.30	25	0.20	45	0.12	90
2009	0.40	0.60	0.40	7	0.30	20	0.20	45	0.12	90
2010	0.82	1.30	0.60	7	0.30	20	0.20	45	0.12	90
2011	1.16	1.25	0.75	7	0.40	20	0.30	45	0.12	90
2012	0.41	1.25	0.60	7	0.30	20	0.20	45	0.12	90
2013	1.27	1.25	0.60	7	0.30	20	0.20	45	0.12	90
2014	1.04	1.25	0.60	7	0.30	20	0.20	45	0.12	90
2015	1.04	1.25	0.60	7	0.30	20	0.20	45	0.12	90
2016	1.04	1.25	0.60	7	0.30	20	0.20	45	0.12	90
2017	1.04	1.25	0.60	7	0.30	20	0.20	45	0.12	90

Resource Grouping - Gas - Kaybob- Tight - Montney										
Connection Year	**"Peak Production MMcf/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**
2012	3.00	0.80	0.55	7	0.24	20	0.12	45	0.12	90
2013	3.50	0.80	0.55	7	0.24	20	0.12	45	0.12	90
2014	3.50	0.80	0.55	7	0.24	20	0.12	45	0.12	90
2015	3.50	0.80	0.55	7	0.24	20	0.12	45	0.12	90
2016	3.50	0.80	0.55	7	0.24	20	0.12	45	0.12	90
2017	3.50	0.80	0.55	7	0.24	20	0.12	45	0.12	90

Resource Grouping - Gas - Kaybob - Shale - Duvernay										
Connection Year	**"Peak Production MMcf/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**
2012	1.50	0.85	0.40	7	0.20	20	0.12	45	0.05	90
2013	2.00	0.85	0.40	7	0.20	20	0.12	45	0.05	90
2014	2.00	0.85	0.40	7	0.20	20	0.12	45	0.05	90
2015	2.00	0.85	0.40	7	0.20	20	0.12	45	0.05	90
2016	2.00	0.85	0.40	7	0.20	20	0.12	45	0.05	90
2017	2.00	0.85	0.40	7	0.20	20	0.12	45	0.05	90

Resource Grouping - Gas - Alberta Deep Basin - Conventional - Upper Cretaceous										
Connection Year	**"Peak Production MMcf/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**
2005	0.44	0.40	0.25	7	0.16	20	0.10	45	0.08	90
2006	0.35	0.45	0.20	7	0.12	20	0.08	45	0.05	90
2007	0.42	0.85	0.35	7	0.14	20	0.08	45	0.08	90
2008	0.52	0.65	0.25	7	0.16	20	0.12	45	0.08	90
2009	0.52	0.45	0.22	7	0.12	20	0.10	45	0.05	90
2010	0.48	0.35	0.40	7	0.20	20	0.12	45	0.05	90
2011	0.60	0.55	0.25	7	0.16	20	0.12	45	0.08	90
2012	1.16	0.65	0.35	7	0.20	20	0.16	45	0.08	90
2013	1.77	0.65	0.35	7	0.20	20	0.16	45	0.08	90
2014	0.27	0.65	0.40	7	0.20	20	0.12	45	0.08	90
2015	0.27	0.65	0.40	7	0.20	20	0.12	45	0.08	90
2016	0.27	0.65	0.40	7	0.20	20	0.12	45	0.08	90
2017	0.27	0.65	0.40	7	0.20	20	0.12	45	0.08	90

Resource Grouping - Gas - Alberta Deep Basin - Conventional - Upper Colorado										
Connection Year	**"Peak Production MMcf/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**
2005	0.46	0.75	0.45	7	0.36	20	0.20	45	0.08	90
2006	0.59	0.85	0.53	7	0.36	20	0.15	45	0.06	90
2007	1.16	0.65	0.55	7	0.40	20	0.18	45	0.08	90
2008	0.43	0.70	0.55	7	0.36	20	0.10	45	0.08	90
2009	0.47	0.70	0.30	7	0.18	20	0.14	45	0.08	90
2010	0.78	0.70	0.50	7	0.40	20	0.16	45	0.08	90
2011	0.65	0.65	0.30	7	0.16	20	0.12	45	0.08	90
2012	0.76	0.65	0.30	7	0.20	20	0.12	45	0.08	90
2013	0.51	0.65	0.30	7	0.20	20	0.12	45	0.08	90
2014	0.79	0.65	0.40	7	0.20	20	0.12	45	0.08	90
2015	0.79	0.65	0.40	7	0.20	20	0.12	45	0.08	90
2016	0.79	0.65	0.40	7	0.20	20	0.12	45	0.08	90
2017	0.79	0.65	0.40	7	0.20	20	0.12	45	0.08	90

Resource Grouping - Gas - Alberta Deep Basin - Conventional - Mannville, Jurassic										
Connection Year	**"Peak Production MMcf/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**
2005	0.26	0.45	0.35	7	0.25	20	0.21	45	0.13	90
2006	0.25	0.60	0.25	7	0.20	20	0.16	45	0.08	90
2007	0.18	0.75	0.20	7	0.12	20	0.08	45	0.05	90
2008	0.45	0.90	0.20	7	0.12	20	0.10	45	0.08	90
2009	0.18	0.75	0.40	7	0.20	20	0.12	45	0.05	90
2010	0.66	0.95	0.65	7	0.30	20	0.14	45	0.05	90
2011	0.58	0.50	0.30	7	0.20	20	0.14	45	0.05	90
2012	0.72	1.25	0.50	7	0.25	20	0.12	45	0.05	90
2013	1.24	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2014	1.30	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2015	1.30	0.75	0.40	7	0.20	20	0.12	45	0.05	90
2016	1.30	0.75	0.40	7	0.20	20	0.12	45	0.05	90
2017	1.30	0.75	0.40	7	0.20	20	0.12	45	0.05	90

Resource Grouping - Gas - Alberta Deep Basin - Conventional - Triassic										
Connection Year	**"Peak Production MMcf/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**
2005	1.10	0.30	0.28	7	0.22	20	0.16	45	0.08	90
2006	1.25	0.30	0.25	7	0.20	20	0.16	45	0.08	90
2007	0.72	0.50	0.30	7	0.20	20	0.16	45	0.08	90
2008	0.95	0.65	0.50	7	0.28	20	0.20	45	0.08	90
2009	1.38	0.80	0.40	7	0.25	20	0.16	45	0.08	90
2010	1.98	0.85	0.50	7	0.16	20	0.12	45	0.08	90
2011	1.33	1.30	0.45	7	0.25	20	0.16	45	0.08	90
2012	0.33	1.40	0.45	7	0.25	20	0.16	45	0.08	90
2013	0.25	1.20	0.40	7	0.20	20	0.16	45	0.08	90
2014	0.29	1.30	0.43	7	0.23	20	0.16	45	0.08	90
2015	0.29	1.30	0.43	7	0.23	20	0.16	45	0.08	90
2016	0.29	1.30	0.43	7	0.23	20	0.16	45	0.08	90
2017	0.29	1.30	0.43	7	0.23	20	0.16	45	0.08	90

Resource Grouping - Gas - Alberta Deep Basin - Conventional - Upper Devonian										
Connection Year	**"Peak Production MMcf/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**
2005	4.15	1.10	0.65	7	0.45	20	0.26	45	0.08	90
2006	0.37	0.95	0.55	7	0.25	20	0.12	45	0.05	90
2007	6.10	0.16	0.14	7	0.12	20	0.08	45	0.05	90
2008	4.19	0.50	0.30	7	0.20	20	0.12	45	0.08	90
2009	4.03	0.60	0.55	7	0.50	20	0.40	45	0.30	90
2010	0.91	0.85	0.50	7	0.25	20	0.16	45	0.12	90
2011	0.03	0.65	0.40	7	0.25	20	0.16	45	0.08	90
2012	1.60	1.25	0.60	7	0.30	20	0.16	45	0.12	90
2013	0.81	0.95	0.50	7	0.28	20	0.16	45	0.10	90
2014	0.81	0.95	0.50	7	0.28	20	0.16	45	0.10	90
2015	0.81	0.95	0.50	7	0.28	20	0.16	45	0.10	90
2016	0.81	0.95	0.50	7	0.28	20	0.16	45	0.10	90
2017	0.81	0.95	0.50	7	0.28	20	0.16	45	0.10	90

Resource Grouping - Gas - Alberta Deep Basin - Tight - Upper Colorado										
Connection Year	**"Peak Production MMcf/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**
2005	0.58	0.90	0.40	7	0.23	20	0.13	45	0.12	90
2006	0.54	1.00	0.35	7	0.23	20	0.16	45	0.12	90
2007	0.55	1.05	0.45	7	0.19	20	0.12	45	0.12	90
2008	0.60	0.90	0.37	7	0.24	20	0.16	45	0.12	90
2009	0.78	0.85	0.58	7	0.28	20	0.16	45	0.12	90
2010	0.95	0.90	0.50	7	0.26	20	0.16	45	0.12	90
2011	1.14	1.00	0.55	7	0.30	20	0.16	45	0.12	90
2012	1.41	0.90	0.60	7	0.24	20	0.16	45	0.12	90
2013	1.09	1.00	0.60	7	0.24	20	0.16	45	0.12	90
2014	1.27	0.90	0.60	7	0.20	20	0.16	45	0.12	90
2015	1.27	0.90	0.60	7	0.20	20	0.16	45	0.12	90
2016	1.27	0.90	0.60	7	0.20	20	0.16	45	0.12	90
2017	1.27	0.90	0.60	7	0.20	20	0.16	45	0.12	90

Resource Grouping - Gas - Alberta Deep Basin - Tight - Colorado										
Connection Year	**"Peak Production MMcf/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**
2005	0.53	0.60	0.40	7	0.22	20	0.16	45	0.10	90
2006	0.48	0.50	0.44	7	0.28	20	0.16	45	0.10	90
2007	0.91	1.05	0.45	7	0.25	20	0.14	45	0.10	90
2008	0.62	0.30	0.25	7	0.20	20	0.14	35	0.12	90
2009	1.27	1.45	0.30	7	0.25	20	0.12	45	0.10	90
2010	0.99	1.15	0.58	7	0.25	20	0.12	45	0.10	90
2011	1.01	1.50	0.80	7	0.55	20	0.16	45	0.10	90
2012	0.82	0.90	0.60	7	0.25	20	0.16	45	0.10	90
2013	5.29	0.65	0.40	7	0.20	20	0.12	45	0.10	90
2014	2.37	0.90	0.50	7	0.20	20	0.12	45	0.10	90
2015	2.37	0.90	0.50	7	0.20	20	0.12	45	0.10	90
2016	2.37	0.90	0.50	7	0.20	20	0.12	45	0.10	90
2017	2.37	0.90	0.50	7	0.20	20	0.12	45	0.10	90

Resource Grouping - Gas - Alberta Deep Basin - Tight - Mannville, Jurassic										
Connection Year	**"Peak Production MMcf/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**
2005	0.54	0.60	0.45	7	0.28	20	0.14	45	0.10	90
2006	0.57	0.65	0.45	7	0.26	20	0.14	45	0.10	90
2007	0.71	0.75	0.41	7	0.28	20	0.16	45	0.10	90
2008	0.98	0.85	0.45	7	0.27	20	0.16	45	0.10	90
2009	0.97	0.70	0.50	7	0.24	20	0.16	45	0.10	90
2010	1.22	0.80	0.45	7	0.30	20	0.18	45	0.10	90
2011	1.85	0.90	0.50	7	0.26	20	0.16	45	0.10	90
2012	2.12	0.90	0.50	7	0.26	20	0.16	45	0.10	90
2013	2.34	0.90	0.50	7	0.26	20	0.16	45	0.10	90
2014	2.57	0.65	0.40	7	0.20	20	0.16	45	0.10	90
2015	2.57	0.85	0.45	7	0.20	20	0.16	45	0.10	90
2016	2.57	0.85	0.45	7	0.20	20	0.16	45	0.10	90
2017	2.57	0.85	0.45	7	0.20	20	0.16	45	0.10	90

Resource Grouping - Gas - Alberta Deep Basin - Tight - Triassic										
Connection Year	**"Peak Production MMcf/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**
2005	0.79	0.95	0.45	7	0.20	20	0.16	45	0.12	90
2006	0.71	1.00	0.45	7	0.25	20	0.18	45	0.10	90
2007	0.54	1.25	0.50	7	0.30	20	0.20	45	0.10	90
2008	1.20	1.45	0.55	7	0.27	20	0.16	45	0.11	90
2009	0.61	1.15	0.60	7	0.40	20	0.25	45	0.10	90
2010	1.38	1.25	0.55	7	0.30	20	0.16	45	0.10	90
2011	0.79	0.70	0.35	7	0.24	20	0.16	45	0.10	90
2012	1.17	0.70	0.45	7	0.25	20	0.16	45	0.10	90
2013	1.52	0.70	0.40	7	0.24	20	0.16	45	0.10	90
2014	1.52	0.70	0.40	7	0.24	20	0.16	45	0.10	90
2015	1.52	0.70	0.40	7	0.24	20	0.16	45	0.10	90
2016	1.52	0.70	0.40	7	0.24	20	0.16	45	0.10	90
2017	1.52	0.70	0.40	7	0.24	20	0.16	45	0.10	90

Resource Grouping - Gas - Alberta Deep Basin - Tight - Montney										
Connection Year	**"Peak Production MMcf/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**
2012	2.46	0.45	0.30	7	0.20	20	0.16	45	0.10	90
2013	2.50	0.65	0.40	7	0.20	20	0.12	45	0.10	90
2014	2.50	0.65	0.40	7	0.20	20	0.12	45	0.10	90
2015	3.50	0.65	0.40	7	0.20	20	0.12	45	0.10	90
2016	3.50	0.65	0.40	7	0.20	20	0.12	45	0.10	90
2017	3.50	0.65	0.40	7	0.20	20	0.12	45	0.10	90

Resource Grouping - Gas - Alberta Deep Basin - Shale - Duvernay										
Connection Year	**"Peak Production MMcf/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**
2012	1.46	0.85	0.45	7	0.24	20	0.16	45	0.12	90
2013	1.83	0.85	0.45	7	0.25	20	0.16	45	0.12	90
2014	2.00	0.85	0.40	7	0.20	20	0.16	45	0.12	90
2015	2.00	0.85	0.40	7	0.20	20	0.16	45	0.12	90
2016	2.00	0.85	0.40	7	0.20	20	0.16	45	0.12	90
2017	2.00	0.85	0.40	7	0.20	20	0.16	45	0.12	90

Resource Grouping - Gas - Northeast Alberta - Conventional - Mannville, Upper Devonian										
Connection Year	**"Peak Production MMcf/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**
2005	0.23	0.60	0.45	7	0.30	20	0.20	45	0.10	90
2006	0.18	0.55	0.40	7	0.28	20	0.20	45	0.10	90
2007	0.20	0.60	0.45	7	0.30	20	0.14	45	0.12	90
2008	0.20	0.60	0.47	7	0.40	20	0.20	45	0.12	90
2009	0.18	0.65	0.50	7	0.28	20	0.12	45	0.12	90
2010	0.17	0.40	0.26	7	0.42	20	0.12	45	0.12	90
2011	0.21	0.65	0.40	7	0.26	20	0.12	45	0.12	90
2012	0.08	0.45	0.30	7	0.20	20	0.12	45	0.12	90
2013	0.04	0.45	0.30	7	0.20	20	0.12	45	0.12	90
2014	0.11	0.65	0.40	7	0.20	20	0.12	45	0.12	90
2015	0.11	0.65	0.40	7	0.20	20	0.12	45	0.12	90
2016	0.11	0.65	0.40	7	0.20	20	0.12	45	0.12	90
2017	0.11	0.65	0.40	7	0.20	20	0.12	45	0.12	90

Resource Grouping - Gas - Peace River - Conventional - Upper Colorado										
Connection Year	**"Peak Production MMcf/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**
2005	0.37	0.65	0.50	7	0.30	20	0.20	45	0.12	90
2006	0.25	0.75	0.50	7	0.40	20	0.26	45	0.12	90
2007	0.30	0.65	0.30	7	0.25	20	0.20	45	0.08	90
2008	0.24	0.65	0.55	7	0.35	20	0.16	45	0.12	90
2009	0.22	0.30	0.16	7	0.12	20	0.10	45	0.05	90
2010	0.81	1.10	0.65	7	0.45	20	0.36	45	0.12	90
2011	1.18	0.60	0.40	7	0.20	20	0.16	45	0.10	90
2012	0.59	0.60	0.40	7	0.20	20	0.16	45	0.10	90
2013	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2014	0.44	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2015	0.44	0.65	0.40	7	0.20	20	0.16	45	0.10	90
2016	0.44	0.65	0.40	7	0.20	20	0.16	45	0.10	90
2017	0.44	0.65	0.40	7	0.20	20	0.16	45	0.10	90

Resource Grouping - Gas - Peace River - Conventional - Colorado, Upper Mannville										
Connection Year	**"Peak Production MMcf/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**
2005	0.59	0.50	0.40	7	0.35	20	0.28	45	0.12	90
2006	0.41	0.25	0.55	7	0.40	20	0.20	45	0.12	90
2007	0.60	0.50	0.40	7	0.50	20	0.30	45	0.12	90
2008	0.39	0.75	0.65	7	0.38	20	0.14	45	0.10	90
2009	0.39	0.75	0.30	7	0.20	20	0.14	45	0.12	90
2010	0.54	0.65	0.45	7	0.30	20	0.16	45	0.12	90
2011	0.58	0.50	0.30	7	0.20	20	0.16	45	0.12	90
2012	0.26	0.50	0.30	7	0.20	20	0.16	45	0.12	90
2013	4.28	0.75	0.35	7	0.20	20	0.16	45	0.08	90
2014	0.69	0.65	0.40	7	0.20	20	0.16	45	0.10	90
2015	0.69	0.65	0.40	7	0.20	20	0.16	45	0.10	90
2016	0.69	0.65	0.40	7	0.20	20	0.16	45	0.10	90
2017	0.69	0.65	0.40	7	0.20	20	0.16	45	0.10	90

Resource Grouping - Gas - Peace River - Conventional - Middle Mannville, Lower Mannville										
Connection Year	**"Peak Production MMcf/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**
2005	0.67	0.75	0.70	7	0.32	20	0.20	45	0.12	90
2006	0.60	0.60	0.50	7	0.35	20	0.28	45	0.12	90
2007	0.61	0.65	0.50	7	0.36	20	0.28	45	0.12	90
2008	0.49	0.75	0.40	7	0.36	20	0.24	45	0.12	90
2009	0.61	0.75	0.45	7	0.30	20	0.16	45	0.12	90
2010	0.41	0.95	0.55	7	0.22	20	0.16	45	0.12	90
2011	0.34	0.65	0.30	7	0.20	20	0.16	45	0.12	90
2012	0.80	0.60	0.45	7	0.30	20	0.16	45	0.12	90
2013	0.01	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2014	0.80	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2015	0.53	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2016	0.45	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2017	0.59	0.65	0.40	7	0.20	20	0.16	45	0.12	90

Resource Grouping - Gas - Peace River - Conventional - Upper Triassic										
Connection Year	**"Peak Production MMcf/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**
2005	0.44	0.95	0.60	7	0.42	20	0.18	45	0.12	90
2006	0.76	0.80	0.50	7	0.30	20	0.20	45	0.12	90
2007	0.77	1.20	0.90	7	0.50	20	0.16	45	0.10	90
2008	0.63	0.80	0.55	7	0.40	20	0.16	45	0.12	90
2009	0.86	0.90	0.75	7	0.20	20	0.14	45	0.12	90
2010	0.63	0.65	0.50	7	0.25	20	0.16	45	0.12	90
2011	1.99	0.65	0.40	7	0.25	20	0.16	45	0.12	90
2012	0.51	0.65	0.40	7	0.25	20	0.16	45	0.12	90
2013	0.38	0.65	0.40	7	0.25	20	0.16	45	0.12	90
2014	0.38	0.65	0.40	7	0.25	20	0.16	45	0.12	90
2015	0.38	0.65	0.40	7	0.25	20	0.16	45	0.12	90
2016	0.38	0.65	0.40	7	0.25	20	0.16	45	0.12	90
2017	0.38	0.65	0.40	7	0.25	20	0.16	45	0.12	90

Resource Grouping - Gas - Peace River - Conventional - Lower Triassic										
Connection Year	**"Peak Production MMcf/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**
2005	0.63	0.70	0.45	7	0.26	20	0.12	45	0.08	90
2006	0.66	0.45	0.25	7	0.20	20	0.12	45	0.08	90
2007	0.70	1.15	0.55	7	0.25	20	0.16	45	0.08	90
2008	0.98	0.65	0.45	7	0.40	20	0.10	45	0.05	90
2009	2.05	0.45	0.40	7	0.35	20	0.16	45	0.10	90
2010	1.08	0.60	0.50	7	0.30	20	0.18	45	0.10	90
2011	2.61	0.10	0.30	7	0.25	20	0.16	45	0.10	90
2012	0.98	0.40	0.30	7	0.20	20	0.16	45	0.12	90
2013	4.07	0.60	0.40	7	0.20	20	0.16	45	0.12	90
2014	2.18	0.50	0.35	7	0.20	20	0.16	45	0.12	90
2015	2.18	0.50	0.35	7	0.20	20	0.16	45	0.12	90
2016	2.18	0.50	0.35	7	0.20	20	0.16	45	0.12	90
2017	2.18	0.50	0.35	7	0.20	20	0.16	45	0.12	90

Resource Grouping - Gas - Peace River - Conventional - Mississippian										
Connection Year	**"Peak Production MMcf/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**
2005	0.70	0.05	0.65	7	0.40	20	0.14	45	0.08	90
2006	0.61	0.60	0.55	7	0.40	20	0.12	45	0.08	90
2007	0.58	0.75	0.55	7	0.22	20	0.12	45	0.08	90
2008	0.90	0.05	0.38	7	0.40	20	0.18	45	0.08	90
2009	1.17	0.55	0.35	7	0.25	20	0.16	45	0.12	90
2010	0.58	0.40	0.30	7	0.16	20	0.12	45	0.08	90
2011	0.46	0.40	0.25	7	0.16	20	0.12	45	0.08	90
2012	1.49	0.50	0.30	7	0.20	20	0.12	45	0.08	90
2013	0.84	0.50	0.30	7	0.20	20	0.12	45	0.08	90
2014	0.84	0.50	0.30	7	0.20	20	0.12	45	0.08	90
2015	0.84	0.50	0.30	7	0.20	20	0.12	45	0.08	90
2016	0.84	0.50	0.30	7	0.20	20	0.12	45	0.08	90
2017	0.84	0.50	0.30	7	0.20	20	0.12	45	0.08	90

Resource Grouping - Gas - Peace River - Conventional - Upper Devonian, Middle Devonian										
Connection Year	**"Peak Production MMcf/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**
2005	3.19	0.10	0.40	7	0.28	20	0.20	45	0.12	90
2006	0.60	0.95	0.45	7	0.30	20	0.16	45	0.12	90
2007	1.96	0.85	0.60	7	0.25	20	0.16	45	0.12	90
2008	0.72	0.90	0.50	7	0.25	20	0.16	45	0.12	90
2009	0.36	0.95	0.40	7	0.25	20	0.18	45	0.12	90
2010	1.11	0.65	0.40	7	0.25	20	0.16	45	0.12	90
2011	3.48	1.25	0.50	7	0.25	20	0.16	45	0.12	90
2012	5.42	0.20	0.16	7	0.14	20	0.12	45	0.10	90
2013	1.01	0.65	0.40	7	0.25	20	0.16	45	0.10	90
2014	1.01	0.65	0.40	7	0.25	20	0.16	45	0.10	90
2015	1.01	0.65	0.40	7	0.25	20	0.16	45	0.10	90
2016	1.01	0.65	0.40	7	0.25	20	0.16	45	0.10	90
2017	1.01	0.65	0.40	7	0.25	20	0.16	45	0.10	90

Resource Grouping - Gas - Peace River - Tight - Triassic										
Connection Year	**"Peak Production MMcf/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**
2005	0.87	1.50	0.62	7	0.32	20	0.16	45	0.12	90
2006	0.59	0.80	0.50	7	0.38	20	0.26	45	0.12	90
2007	0.58	1.10	0.70	7	0.38	20	0.24	45	0.12	90
2008	0.76	0.85	0.58	7	0.30	20	0.24	45	0.12	90
2009	0.50	0.80	0.40	7	0.20	20	0.16	45	0.12	90
2010	0.58	0.75	0.45	7	0.28	20	0.16	45	0.12	90
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	1.66	1.25	0.50	7	0.24	20	0.16	45	0.12	90
2014	0.20	0.85	0.50	7	0.25	20	0.16	45	0.12	90
2015	0.20	0.85	0.50	7	0.25	20	0.16	45	0.12	90
2016	0.20	0.85	0.50	7	0.25	20	0.16	45	0.12	90
2017	0.20	0.85	0.50	7	0.25	20	0.16	45	0.12	90

Resource Grouping - Gas - Peace River - Tight - Lower Triassic										
Connection Year	**"Peak Production MMcf/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**
2005	0.59	0.70	0.50	7	0.30	20	0.14	45	0.08	90
2006	0.67	1.75	0.45	7	0.35	20	0.24	45	0.12	90
2007	0.45	0.40	0.35	7	0.25	20	0.20	45	0.12	90
2008	0.56	0.85	0.52	7	0.28	20	0.20	45	0.12	90
2009	0.56	1.25	0.65	7	0.30	20	0.20	45	0.12	90
2010	0.77	1.25	0.58	7	0.30	20	0.20	45	0.12	90
2011	0.23	1.25	0.60	7	0.30	20	0.20	45	0.12	90
2012	1.85	1.25	0.60	7	0.30	20	0.20	45	0.12	90
2013	3.20	1.15	0.60	7	0.30	20	0.20	45	0.12	90
2014	1.76	1.15	0.60	7	0.30	20	0.20	45	0.12	90
2015	1.76	1.15	0.60	7	0.30	20	0.20	45	0.12	90
2016	1.76	1.15	0.60	7	0.30	20	0.20	45	0.12	90
2017	1.76	1.15	0.60	7	0.30	20	0.20	45	0.12	90

Resource Grouping - Gas - Peace River - Tight - Montney										
Connection Year	**"Peak Production MMcf/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**
2013	2.94	0.85	0.60	7	0.30	20	0.16	45	0.10	90
2014	3.50	0.85	0.60	7	0.30	20	0.16	45	0.10	90
2015	3.50	0.85	0.60	7	0.30	20	0.16	45	0.10	90
2016	3.50	0.85	0.60	7	0.30	20	0.16	45	0.10	90
2017	3.50	0.85	0.60	7	0.30	20	0.16	45	0.10	90

Resource Grouping - Gas - Peace River - Shale - Duvernay										
Connection Year	**"Peak Production MMcf/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**
2013	1.50	0.85	0.40	7	0.20	20	0.16	45	0.12	90
2014	2.00	0.85	0.40	7	0.20	20	0.16	45	0.12	90
2015	2.00	0.85	0.40	7	0.20	20	0.16	45	0.12	90
2016	2.00	0.85	0.40	7	0.20	20	0.16	45	0.12	90
2017	2.00	0.85	0.40	7	0.20	20	0.16	45	0.12	90

Resource Grouping - Gas - Northwest Alberta - Conventional - Mannville										
Connection Year	**"Peak Production MMcf/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**
2005	0.08	0.15	0.25	7	0.25	20	0.20	45	0.08	90
2006	0.12	0.28	0.20	7	0.18	20	0.15	45	0.08	90
2007	0.16	0.55	0.45	7	0.34	20	0.12	45	0.08	90
2008	0.22	0.20	0.10	7	0.08	20	0.05	45	0.05	90
2009	0.28	0.25	0.16	7	0.10	20	0.08	45	0.05	90
2010	0.29	0.45	0.25	7	0.16	20	0.10	45	0.05	90
2011	0.35	0.45	0.20	7	0.16	20	0.10	45	0.05	90
2012	0.09	0.45	0.20	7	0.16	20	0.10	45	0.05	90
2013	0.24	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2014	0.24	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2015	0.24	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2016	0.24	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2017	0.24	0.65	0.40	7	0.20	20	0.12	45	0.05	90

Resource Grouping - Gas - Northwest Alberta - Conventional - Mississippian										
Connection Year	**"Peak Production MMcf/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**
2005	0.20	0.45	0.30	7	0.25	20	0.12	45	0.08	90
2006	0.10	0.35	0.22	7	0.15	20	0.08	45	0.05	90
2007	0.25	0.65	0.50	7	0.35	20	0.14	45	0.12	90
2008	0.25	0.65	0.20	7	0.12	20	0.10	45	0.08	90
2009	0.15	0.40	0.18	7	0.12	20	0.10	45	0.08	90
2010	0.21	0.10	0.20	7	0.12	20	0.10	45	0.08	90
2011	0.03	0.45	0.20	7	0.12	20	0.10	45	0.08	90
2012	0.03	0.65	0.40	7	0.22	20	0.16	45	0.12	90
2013	0.03	0.65	0.40	7	0.22	20	0.16	45	0.12	90
2014	0.03	0.65	0.40	7	0.22	20	0.16	45	0.12	90
2015	0.03	0.65	0.40	7	0.22	20	0.16	45	0.12	90
2016	0.03	0.65	0.40	7	0.22	20	0.16	45	0.12	90
2017	0.03	0.65	0.40	7	0.22	20	0.16	45	0.12	90

Resource Grouping - Gas - Northwest Alberta - Conventional - Upper Devonian										
Connection Year	**"Peak Production MMcf/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**
2005	0.63	0.85	0.60	7	0.40	20	0.20	45	0.12	90
2006	0.77	1.25	0.50	7	0.18	20	0.16	45	0.12	90
2007	0.27	0.55	0.45	7	0.30	20	0.14	45	0.08	90
2008	0.67	1.25	0.45	7	0.20	20	0.14	45	0.10	90
2009	2.49	1.45	0.65	7	0.40	20	0.16	45	0.12	90
2010	0.70	0.65	0.40	7	0.27	20	0.16	45	0.12	90
2011	0.03	0.25	0.12	7	0.10	20	0.08	45	0.05	90
2012	0.12	0.65	0.30	7	0.20	20	0.16	45	0.12	90
2013	0.02	0.65	0.30	7	0.20	20	0.16	45	0.12	90
2014	0.02	0.65	0.30	7	0.20	20	0.16	45	0.12	90
2015	0.02	0.65	0.30	7	0.20	20	0.16	45	0.12	90
2016	0.02	0.65	0.30	7	0.20	20	0.16	45	0.12	90
2017	0.02	0.65	0.30	7	0.20	20	0.16	45	0.12	90

Resource Grouping - Gas - Northwest Alberta - Conventional - Middle Devonian										
Connection Year	**"Peak Production MMcf/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**
2005	0.87	0.60	0.50	7	0.38	20	0.30	45	0.12	90
2006	0.68	1.25	0.85	7	0.42	20	0.20	45	0.12	90
2007	0.64	0.85	0.70	7	0.34	20	0.24	45	0.12	90
2008	0.92	1.35	0.95	7	0.55	20	0.30	45	0.12	90
2009	1.05	1.35	0.85	7	0.34	20	0.26	45	0.12	90
2010	0.81	0.85	0.50	7	0.35	20	0.24	45	0.12	90
2011	0.63	0.70	0.40	7	0.28	20	0.20	45	0.12	90
2012	0.00	0.65	0.40	7	0.22	20	0.16	45	0.12	90
2013	2.95	0.65	0.40	7	0.20	20	0.20	45	0.12	90
2014	1.19	0.65	0.40	7	0.20	20	0.20	45	0.12	90
2015	1.19	0.65	0.40	7	0.20	20	0.20	45	0.12	90
2016	1.19	0.65	0.40	7	0.20	20	0.20	45	0.12	90
2017	1.19	0.65	0.40	7	0.20	20	0.20	45	0.12	90

Resource Grouping - Gas - Northwest Alberta - Shale - Duvernay										
Connection Year	**"Peak Production MMcf/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**
2013	1.50	0.85	0.40	7	0.20	20	0.16	45	0.12	90
2014	2.00	0.85	0.40	7	0.20	20	0.16	45	0.12	90
2015	2.00	0.85	0.40	7	0.20	20	0.16	45	0.12	90
2016	2.00	0.85	0.40	7	0.20	20	0.16	45	0.12	90
2017	2.00	0.85	0.40	7	0.20	20	0.16	45	0.12	90

Resource Grouping - Gas - BC Deep Basin - Conventional - Colorado										
Connection Year	**"Peak Production MMcf/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**
2005	4.19	0.85	0.60	7	0.34	20	0.20	45	0.12	90
2006	0.28	1.45	0.60	7	0.18	20	0.12	45	0.10	90
2007	0.15	0.50	0.25	7	0.20	20	0.16	45	0.12	90
2008	1.02	0.65	0.40	7	0.30	20	0.18	45	0.12	90
2009	0.06	1.25	0.45	7	0.20	20	0.16	45	0.12	90
2010	2.63	0.85	0.50	7	0.25	20	0.16	45	0.12	90
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	0.12	0.85	0.50	7	0.20	20	0.16	45	0.12	90
2014	0.12	0.85	0.50	7	0.20	20	0.16	45	0.12	90
2015	0.12	0.85	0.50	7	0.20	20	0.16	45	0.12	90
2016	0.12	0.85	0.50	7	0.20	20	0.16	45	0.12	90
2017	0.12	0.85	0.50	7	0.20	20	0.16	45	0.12	90

Resource Grouping - Gas - BC Deep Basin - Conventional - Lower Triassic										
Connection Year	**"Peak Production MMcf/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**
2005	1.37	0.10	0.30	7	0.20	20	0.12	45	0.05	90
2006	0.82	0.70	0.45	7	0.27	20	0.16	45	0.12	90
2007	1.20	0.45	0.20	7	0.16	20	0.12	45	0.10	90
2008	1.33	0.65	0.35	7	0.16	20	0.12	45	0.12	90
2009	1.59	0.40	0.25	7	0.22	20	0.16	45	0.12	90
2010	4.08	0.85	0.55	7	0.30	20	0.16	45	0.12	90
2011	3.00	0.85	0.50	7	0.25	20	0.16	45	0.12	90
2012	2.91	0.85	0.50	7	0.25	20	0.16	45	0.12	90
2013	7.61	0.85	0.50	7	0.30	20	0.16	45	0.12	90
2014	2.84	0.85	0.50	7	0.30	20	0.16	45	0.12	90
2015	2.84	0.85	0.50	7	0.30	20	0.16	45	0.12	90
2016	2.84	0.85	0.50	7	0.30	20	0.16	45	0.12	90
2017	2.84	0.85	0.50	7	0.30	20	0.16	45	0.12	90

Resource Grouping - Gas - BC Deep Basin - Tight - Colorado										
Connection Year	**"Peak Production MMcf/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**
2005	0.63	1.55	0.85	7	0.38	20	0.10	45	0.05	90
2006	0.96	1.05	0.40	7	0.10	20	0.05	45	0.05	90
2007	1.25	0.40	0.20	7	0.25	20	0.12	45	0.05	90
2008	1.43	1.95	0.55	7	0.30	20	0.12	45	0.05	90
2009	2.54	1.55	0.65	7	0.30	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	2.57	1.45	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	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2014	0.04	1.45	0.40	7	0.30	20	0.12	45	0.05	90
2015	0.86	1.45	0.40	7	0.30	20	0.12	45	0.05	90
2016	0.86	1.45	0.40	7	0.30	20	0.12	45	0.05	90
2017	0.86	1.45	0.40	7	0.30	20	0.12	45	0.05	90

Resource Grouping - Gas - BC Deep Basin - Tight - Mannville										
Connection Year	**"Peak Production MMcf/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**
2004	1.37	1.75	0.65	7	0.22	20	0.16	45	0.05	90
2005	1.73	2.20	0.65	7	0.30	20	0.16	45	0.12	90
2006	1.78	2.15	0.65	7	0.32	20	0.16	45	0.12	90
2007	2.98	1.55	0.70	7	0.40	20	0.16	45	0.12	90
2008	2.81	1.15	0.60	7	0.30	20	0.16	45	0.12	90
2009	3.85	0.80	0.65	7	0.40	20	0.20	45	0.12	90
2010	3.35	0.85	0.60	7	0.25	20	0.16	45	0.12	90
2011	2.65	1.05	0.60	7	0.30	20	0.16	45	0.12	90
2012	5.29	1.25	0.60	7	0.30	20	0.16	45	0.12	90
2013	3.77	1.25	0.60	7	0.30	20	0.16	45	0.12	90
2014	3.77	1.25	0.60	7	0.30	20	0.16	45	0.12	90
2015	3.77	1.25	0.60	7	0.30	20	0.16	45	0.12	90
2016	3.77	1.25	0.60	7	0.30	20	0.16	45	0.12	90
2017	3.77	1.25	0.60	7	0.30	20	0.16	45	0.12	90

Resource Grouping - Gas - BC Deep Basin - Tight - Montney										
Connection Year	**"Peak Production MMcf/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**
2006	1.40	1.85	0.63	7	0.25	20	0.14	45	0.12	90
2007	3.50	1.65	0.55	7	0.30	20	0.16	45	0.12	90
2008	3.50	0.80	0.45	7	0.25	20	0.16	45	0.12	90
2009	4.00	0.85	0.45	7	0.25	20	0.16	45	0.12	90
2010	4.00	0.85	0.45	7	0.25	20	0.16	45	0.12	90
2011	4.50	0.85	0.45	7	0.25	20	0.16	45	0.12	90
2012	4.50	0.85	0.45	7	0.25	20	0.16	45	0.12	90
2013	4.50	0.85	0.45	7	0.25	20	0.16	45	0.12	90
2014	4.50	0.85	0.45	7	0.25	20	0.16	45	0.12	90
2015	4.50	0.85	0.45	7	0.25	20	0.16	45	0.12	90
2016	4.50	0.85	0.45	7	0.25	20	0.16	45	0.12	90
2017	4.50	0.85	0.45	7	0.25	20	0.16	45	0.12	90

Resource Grouping - Gas - Fort St John - Conventional - Mannville										
Connection Year	**"Peak Production MMcf/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**
2005	0.33	0.55	0.40	7	0.28	20	0.18	45	0.14	90
2006	0.38	1.00	0.40	7	0.25	20	0.18	45	0.16	90
2007	0.46	0.80	0.50	7	0.32	20	0.20	45	0.18	90
2008	0.38	0.88	0.45	7	0.22	20	0.20	45	0.18	90
2009	0.32	0.85	0.43	7	0.30	20	0.25	45	0.18	90
2010	1.20	1.20	0.55	7	0.28	20	0.20	45	0.12	90
2011	0.12	0.45	0.30	7	0.20	20	0.16	45	0.12	90
2012	0.20	0.40	0.30	7	0.20	20	0.16	45	0.12	90
2013	0.00	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2014	0.20	0.65	0.40	7	0.30	20	0.16	45	0.12	90
2015	0.20	0.65	0.40	7	0.30	20	0.16	45	0.12	90
2016	0.20	0.65	0.40	7	0.30	20	0.16	45	0.12	90
2017	0.20	0.65	0.40	7	0.30	20	0.16	45	0.12	90

Resource Grouping - Gas - Fort St John - Conventional - Triassic										
Connection Year	**"Peak Production MMcf/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**
2005	0.66	0.95	0.40	7	0.25	20	0.16	45	0.12	90
2006	0.61	0.85	0.50	7	0.25	20	0.18	45	0.12	90
2007	0.60	1.05	0.40	7	0.28	20	0.20	45	0.12	90
2008	0.69	1.10	0.40	7	0.23	20	0.18	45	0.12	90
2009	0.74	1.15	0.50	7	0.25	20	0.18	45	0.12	90
2010	0.91	1.15	0.40	7	0.25	20	0.18	45	0.12	90
2011	1.06	0.95	0.60	7	0.30	20	0.16	45	0.12	90
2012	1.83	0.65	0.40	7	0.25	20	0.16	45	0.12	90
2013	1.39	0.65	0.40	7	0.25	20	0.16	45	0.12	90
2014	1.93	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2015	1.72	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2016	1.72	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2017	1.72	0.65	0.40	7	0.20	20	0.16	45	0.12	90

Resource Grouping - Gas - Fort St John - Conventional - Permian, Mississippian										
Connection Year	**"Peak Production MMcf/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**
2005	1.46	0.95	0.40	7	0.14	20	0.12	45	0.10	90
2006	0.92	0.75	0.50	7	0.12	20	0.10	45	0.05	90
2007	2.34	0.50	0.30	7	0.20	20	0.16	45	0.12	90
2008	2.69	0.95	0.50	7	0.30	20	0.16	45	0.12	90
2009	2.00	0.40	0.30	7	0.20	20	0.18	45	0.12	90
2010	2.37	1.45	0.60	7	0.30	20	0.18	45	0.12	90
2011	3.27	0.30	0.25	7	0.20	20	0.16	45	0.12	90
2012	3.27	0.30	0.25	7	0.20	20	0.16	45	0.12	90
2013	3.27	0.30	0.25	7	0.20	20	0.16	45	0.12	90
2014	3.27	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2015	3.27	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2016	3.27	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2017	3.27	0.65	0.40	7	0.20	20	0.16	45	0.12	90

Resource Grouping - Gas - Fort St John - Conventional - Upper Devonian, Middle Devonian										
Connection Year	**"Peak Production MMcf/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**
2005	4.44	0.50	0.45	7	0.32	20	0.24	45	0.12	90
2006	1.22	0.95	0.40	7	0.25	20	0.14	45	0.12	90
2007	2.86	0.30	0.90	7	0.45	20	0.24	45	0.12	90
2008	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2009	6.65	0.85	0.52	7	0.20	20	0.16	45	0.12	90
2010	4.48	1.25	0.60	7	0.30	20	0.16	45	0.12	90
2011	3.00	1.25	0.55	7	0.30	20	0.16	45	0.12	90
2012	3.00	1.25	0.55	7	0.30	20	0.16	45	0.12	90
2013	3.00	1.25	0.55	7	0.30	20	0.16	45	0.12	90
2014	3.00	1.35	0.55	7	0.30	20	0.16	45	0.12	90
2015	3.00	1.35	0.55	7	0.30	20	0.16	45	0.12	90
2016	3.00	1.35	0.55	7	0.30	20	0.16	45	0.12	90
2017	3.00	1.35	0.55	7	0.30	20	0.16	45	0.12	90

Resource Grouping - Gas - Fort St John - Tight - Montney										
Connection Year	**"Peak Production MMcf/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**
2006	3.00	0.75	0.45	7	0.32	20	0.18	45	0.12	90
2007	3.50	0.85	0.60	7	0.28	20	0.12	45	0.05	90
2008	3.50	0.75	0.45	7	0.25	20	0.12	45	0.05	90
2009	4.00	0.35	0.28	7	0.20	20	0.16	45	0.05	90
2010	4.00	0.45	0.30	7	0.20	20	0.16	45	0.12	90
2011	4.00	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2012	4.50	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2013	4.50	0.65	0.40	7	0.20	20	0.16	45	0.10	90
2014	4.50	0.65	0.40	7	0.20	20	0.16	45	0.10	90
2015	4.50	0.65	0.40	7	0.20	20	0.16	45	0.10	90
2016	4.50	0.65	0.40	7	0.20	20	0.16	45	0.10	90
2017	4.50	0.65	0.40	7	0.20	20	0.16	45	0.10	90

Resource Grouping - Gas - Northeast BC - Conventional - Lower Mannville										
Connection Year	**"Peak Production MMcf/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**
2005	0.70	0.35	0.25	7	0.20	20	0.16	45	0.12	90
2006	0.21	0.55	0.25	7	0.08	20	0.05	45	0.05	90
2007	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2008	0.41	0.65	0.40	7	0.18	20	0.16	45	0.12	90
2009	0.17	0.95	0.35	4	0.22	20	0.16	45	0.12	500
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	0.99	0.80	0.40	7	0.25	20	0.16	45	0.12	90
2013	0.99	0.80	0.40	7	0.25	20	0.16	45	0.12	90
2014	0.99	0.80	0.40	7	0.25	20	0.16	45	0.12	90
2015	0.99	0.80	0.40	7	0.25	20	0.16	45	0.12	90
2016	0.99	0.80	0.40	7	0.25	20	0.16	45	0.12	90
2017	0.99	0.80	0.40	7	0.25	20	0.16	45	0.12	90

Resource Grouping - Gas - Northeast BC - Conventional - Permain, Mississippian										
Connection Year	**"Peak Production MMcf/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**
2005	1.23	0.50	0.30	7	0.25	20	0.18	45	0.12	90
2006	0.65	1.25	0.60	7	0.35	20	0.22	45	0.12	90
2007	0.28	0.35	0.12	7	0.10	20	0.08	45	0.05	90
2008	0.44	1.00	0.30	7	0.18	20	0.16	45	0.12	90
2009	1.02	0.30	0.20	7	0.16	20	0.14	45	0.12	90
2010	0.19	0.30	0.20	7	0.18	20	0.16	45	0.12	90
2011	0.52	0.30	0.22	7	0.18	20	0.16	45	0.12	90
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	0.52	0.30	0.22	7	0.18	20	0.16	45	0.12	90
2015	0.52	0.30	0.22	7	0.18	20	0.16	45	0.12	90
2016	0.52	0.30	0.22	7	0.18	20	0.16	45	0.12	90
2017	0.52	0.30	0.22	7	0.18	20	0.16	45	0.12	90

Resource Grouping - Gas - Northeast BC - Conventional - Upper Devonian, Middle Devonian										
Connection Year	**"Peak Production MMcf/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**
2005	1.71	0.45	0.25	7	0.20	20	0.16	45	0.12	90
2006	1.39	0.95	0.40	7	0.25	20	0.18	45	0.12	90
2007	0.92	0.85	0.40	7	0.30	20	0.16	45	0.12	90
2008	1.22	2.65	0.60	7	0.25	20	0.16	45	0.12	90
2009	0.10	1.25	0.60	7	0.30	20	0.16	45	0.12	90
2010	2.98	2.05	0.55	7	0.30	20	0.16	45	0.12	90
2011	0.63	0.65	0.35	7	0.20	20	0.16	45	0.12	90
2012	0.00	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2013	0.56	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2014	0.56	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2015	0.56	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2016	0.56	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2017	0.56	0.65	0.40	7	0.20	20	0.16	45	0.12	90

Resource Grouping - Gas - Northeast BC - Tight - Upper Devonian										
Connection Year	**"Peak Production MMcf/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**
2005	1.28	1.25	0.45	7	0.28	20	0.16	45	0.12	90
2006	1.08	1.65	0.53	7	0.23	20	0.16	45	0.12	90
2007	1.53	1.80	0.60	7	0.28	20	0.16	45	0.12	90
2008	1.37	1.55	0.60	7	0.30	20	0.16	45	0.12	90
2009	0.99	0.75	0.40	7	0.30	20	0.16	45	0.12	90
2010	1.41	1.35	0.65	7	0.30	20	0.16	45	0.12	90
2011	2.46	1.55	0.65	7	0.30	20	0.16	45	0.12	90
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	2.37	1.55	0.65	0	0.30	0	0.16	0	0.12	90
2015	2.37	1.55	0.65	0	0.30	0	0.16	0	0.12	90
2016	2.37	1.55	0.65	0	0.30	0	0.16	0	0.12	90
2017	2.37	1.55	0.65	0	0.30	0	0.16	0	0.12	90

Resource Grouping - Gas - Northeast BC - Shale - Horn River										
Connection Year	**"Peak Production MMcf/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**
2006	1.00	0.95	0.45	7	0.24	20	0.16	45	0.12	90
2007	1.52	1.50	0.85	7	0.45	20	0.16	45	0.12	90
2008	2.96	0.95	0.65	7	0.24	20	0.16	45	0.12	90
2009	3.96	0.75	0.45	7	0.34	20	0.16	45	0.12	90
2010	5.26	0.55	0.38	7	0.24	20	0.16	45	0.12	90
2011	6.50	0.50	0.38	7	0.24	20	0.16	45	0.12	90
2012	7.40	0.55	0.38	7	0.24	20	0.16	45	0.12	90
2013	8.00	0.55	0.38	7	0.24	20	0.16	45	0.12	90
2014	8.00	0.55	0.38	7	0.24	20	0.16	45	0.12	90
2015	8.00	0.55	0.38	7	0.24	20	0.16	45	0.12	90
2016	8.00	0.55	0.38	7	0.24	20	0.16	45	0.12	90
2017	8.00	0.55	0.38	7	0.24	20	0.16	45	0.12	90

Resource Grouping - Gas - Northeast BC - Shale - Cordova										
Connection Year	**"Peak Production MMcf/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**
2012	1.79	0.75	0.40	7	0.20	20	0.16	45	0.12	90
2013	2.50	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2014	2.50	0.75	0.40	7	0.20	20	0.16	45	0.12	90
2015	2.50	0.75	0.40	7	0.20	20	0.16	45	0.12	90
2016	2.50	0.75	0.40	7	0.20	20	0.16	45	0.12	90
2017	2.50	0.75	0.40	7	0.20	20	0.16	45	0.12	90

Resource Grouping - Gas - Northeast BC - Shale - Liard										
Connection Year	**"Peak Production MMcf/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**
2014	3.00	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2015	3.00	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2016	3.00	0.65	0.40	7	0.20	20	0.12	45	0.05	90
2017	3.00	0.65	0.40	7	0.20	20	0.12	45	0.05	90

Resource Grouping - Gas - BC Foothills - Conventional - Colorado, Mannville										
Connection Year	**"Peak Production MMcf/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**
2005	1.11	1.05	0.55	7	0.36	20	0.22	45	0.12	90
2006	0.67	0.55	0.30	7	0.25	20	0.16	45	0.12	90
2007	0.68	0.40	0.30	7	0.20	20	0.12	45	0.12	90
2008	0.88	0.75	0.45	7	0.25	20	0.16	45	0.12	90
2009	0.29	0.50	0.30	7	0.20	20	0.16	45	0.12	90
2010	1.50	0.25	0.20	7	0.14	20	0.12	45	0.12	90
2011	1.67	0.12	0.10	7	0.08	20	0.05	45	0.05	90
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	1.69	0.55	0.30	7	0.20	20	0.16	45	0.12	90
2015	1.69	0.55	0.30	7	0.20	20	0.16	45	0.12	90
2016	1.69	0.55	0.30	7	0.20	20	0.16	45	0.12	90
2017	1.69	0.55	0.30	7	0.20	20	0.16	45	0.12	90

Resource Grouping - Gas - BC Foothills - Conventional - Triassic, Permian, Mississippian										
Connection Year	**"Peak Production MMcf/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**
2005	3.60	0.30	0.20	7	0.12	20	0.08	45	0.05	90
2006	4.30	0.35	0.18	7	0.14	20	0.12	45	0.10	90
2007	1.85	0.50	0.30	7	0.20	20	0.16	45	0.12	90
2008	3.05	0.45	0.30	7	0.20	20	0.16	45	0.12	90
2009	4.41	0.40	0.25	7	0.20	20	0.16	45	0.12	90
2010	1.21	1.45	0.60	7	0.30	20	0.16	45	0.12	90
2011	3.99	0.85	0.45	7	0.24	20	0.16	45	0.12	90
2012	2.35	0.65	0.40	7	0.24	20	0.16	45	0.12	90
2013	1.83	0.65	0.40	7	0.24	20	0.16	45	0.12	90
2014	1.83	0.65	0.40	7	0.24	20	0.16	45	0.12	90
2015	1.83	0.65	0.40	7	0.24	20	0.16	45	0.12	90
2016	1.83	0.65	0.40	7	0.24	20	0.16	45	0.12	90
2017	1.83	0.65	0.40	7	0.24	20	0.16	45	0.12	90

Resource Grouping - Gas - BC Foothills - Tight - Triassic										
Connection Year	**"Peak Production MMcf/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**
2005	0.95	1.45	0.60	7	0.30	20	0.20	45	0.12	90
2006	0.58	0.37	0.30	7	0.35	20	0.20	45	0.12	90
2007	0.52	0.75	0.40	7	0.30	20	0.20	45	0.12	90
2008	1.48	0.75	0.40	7	0.25	20	0.20	45	0.12	90
2009	1.13	0.85	0.45	7	0.30	20	0.20	45	0.12	90
2010	2.61	0.85	0.45	7	0.30	20	0.20	45	0.12	90
2011	0.00	0.85	0.45	7	0.30	20	0.20	45	0.12	90
2012	0.00	0.85	0.45	7	0.30	20	0.20	45	0.12	90
2013	0.00	0.85	0.45	7	0.30	20	0.20	45	0.12	90
2014	2.61	0.85	0.45	7	0.30	20	0.20	45	0.12	90
2015	2.61	0.85	0.45	7	0.30	20	0.20	45	0.12	90
2016	2.61	0.85	0.45	7	0.30	20	0.20	45	0.12	90
2017	2.61	0.85	0.45	7	0.30	20	0.20	45	0.12	90

Resource Grouping - Gas - BC Foothills - Tight - Montney										
Connection Year	**"Peak Production MMcf/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**
2007	3.50	0.65	0.40	7	0.22	20	0.16	45	0.12	90
2008	3.50	0.00	0.00	0	0.00	0	0.00	0	0.00	0
2009	3.50	1.10	0.50	7	0.24	20	0.16	45	0.12	90
2010	3.50	0.80	0.45	7	0.24	20	0.16	45	0.12	90
2011	4.00	0.85	0.30	7	0.20	20	0.16	45	0.12	90
2012	4.00	0.80	0.45	7	0.24	20	0.16	45	0.12	90
2013	4.00	0.80	0.40	7	0.20	20	0.12	45	0.10	90
2014	4.00	0.80	0.40	7	0.20	20	0.12	45	0.10	90
2015	4.00	0.80	0.40	7	0.20	20	0.12	45	0.10	90
2016	4.00	0.80	0.40	7	0.20	20	0.12	45	0.10	90
2017	4.00	0.80	0.40	7	0.20	20	0.12	45	0.10	90

Resource Grouping - Gas - Southwest Saskatchewan - Tight - Upper Colorado										
Connection Year	**"Peak Production MMcf/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**
2005	0.05	0.45	0.32	7	0.20	20	0.16	45	0.12	90
2006	0.07	0.50	0.38	7	0.25	20	0.20	45	0.12	90
2007	0.06	0.55	0.40	7	0.22	20	0.16	45	0.12	90
2008	0.05	0.55	0.37	7	0.30	20	0.16	45	0.12	90
2009	0.05	0.60	0.40	7	0.25	20	0.16	45	0.12	90
2010	0.04	0.55	0.28	7	0.20	20	0.14	45	0.12	90
2011	0.03	0.40	0.30	7	0.22	20	0.16	45	0.12	90
2012	0.03	0.40	0.10	7	0.08	20	0.16	45	0.12	90
2013	0.03	0.40	0.30	7	0.20	20	0.16	45	0.10	90
2014	0.02	0.40	0.30	7	0.20	20	0.16	45	0.10	90
2015	0.02	0.40	0.30	7	0.20	20	0.16	45	0.10	90
2016	0.02	0.40	0.30	7	0.20	20	0.16	45	0.10	90
2017	0.02	0.40	0.30	7	0.20	20	0.16	45	0.10	90

Resource Grouping - Gas - West Saskatchewan - Conventional - Colorado										
Connection Year	**"Peak Production MMcf/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**
2005	0.10	1.10	0.60	7	0.20	20	0.14	45	0.12	90
2006	0.09	0.70	0.50	7	0.30	20	0.10	45	0.08	90
2007	0.09	1.10	0.35	7	0.25	20	0.16	45	0.12	90
2008	0.08	0.80	0.30	7	0.20	20	0.16	45	0.12	90
2009	0.04	0.75	0.35	7	0.26	20	0.20	45	0.12	90
2010	0.09	0.90	0.25	7	0.20	20	0.16	45	0.12	90
2011	0.07	1.40	0.65	7	0.45	20	0.16	45	0.12	90
2012	0.04	0.60	0.40	7	0.20	20	0.16	45	0.12	90
2013	0.04	0.60	0.40	7	0.20	20	0.16	45	0.12	90
2014	0.05	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2015	0.05	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2016	0.05	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2017	0.05	0.65	0.40	7	0.20	20	0.16	45	0.12	90

Resource Grouping - Gas - West SK - Conventional - Middle Mannville, Lower Mannville, Mississippian										
Connection Year	**"Peak Production MMcf/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**
2005	0.23	0.90	0.70	7	0.50	20	0.20	45	0.12	90
2006	0.21	0.85	0.75	7	0.35	20	0.30	45	0.12	90
2007	0.18	0.90	0.55	7	0.40	20	0.24	45	0.12	90
2008	0.17	0.85	0.35	7	0.25	20	0.20	45	0.12	90
2009	0.18	1.00	0.60	7	0.40	20	0.20	45	0.12	90
2010	0.16	1.50	0.55	7	0.20	20	0.16	45	0.12	90
2011	0.15	1.50	0.30	7	0.20	20	0.16	45	0.12	90
2012	0.22	1.65	0.40	7	0.24	20	0.16	45	0.12	90
2013	0.24	0.65	0.40	7	0.24	20	0.16	45	0.12	90
2014	0.34	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2015	0.34	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2016	0.35	0.65	0.40	7	0.20	20	0.16	45	0.12	90
2017	0.35	0.65	0.40	7	0.20	20	0.16	45	0.12	90

APPENDIX B

B1 – Factors for Allocation of Gas-Intent Drill Days by Area

Historical Gas-Intent Drill Days by Area

Year	00 - Alberta CBM	01 - Southern Alberta	02 - Southwest Alberta	03 - Southern Foothills	04 - Eastern Alberta	05 - Central Alberta	06 - West Central Alberta	07 - Central Foothills	08 - Kaybob	09 - Alberta Deep Basin	10 - Northeast Alberta	11 - Peace River	12 - Northwest Alberta	13 - BC Deep Basin	14 - Fort St. John	15 - Northeast BC (excl Shale)	15 - Northeast BC (Shale)	16 - BC Foothills	17 - Southwest Saskatchewan	18 - West Saskatchewan	19 - East Saskatchewan
2004	14,390	14,672	2,607	528	5,511	6,131	9,138	6,047	2,712	23,217	1,662	2,915	3,029	3,817	5,086	6,551	62	2,036	14,324	1,657	11
2005	29,100	12,868	3,608	399	7,569	9,445	11,429	4,539	3,295	29,144	1,421	3,953	2,409	6,900	5,858	5,624	0	2,194	13,720	1,694	11
2006	14,861	11,454	2,066	295	8,355	5,197	9,735	5,913	3,380	29,343	1,761	4,195	1,769	6,281	5,704	4,602	160	2,316	11,982	1,016	0
2007	12,023	8,665	1,702	477	4,224	3,093	6,042	3,676	2,981	16,470	1,219	2,196	595	3,092	3,984	2,245	228	2,443	6,427	506	18
2008	8,341	6,497	1,376	78	1,686	2,940	6,102	3,806	2,905	15,029	663	2,889	520	4,074	5,778	1,872	1,232	2,652	6,623	1,755	8
2009	5,019	2,343	327	21	465	761	3,429	1,958	2,465	10,094	232	1,676	179	3,091	4,228	610	5,081	1,309	848	125	0
2010	8,910	6,016	893	86	495	1,086	3,928	1,248	2,393	13,708	65	2,343	86	4,439	5,452	810	3,663	3,097	179	15	10
2011	2,877	1,150	236	0	350	413	4,553	1,068	1,829	12,875	66	1,711	45	2,852	5,917	594	6,624	2,868	119	47	9
2012	311	178	38	0	310	203	2,732	531	2,107	10,613	0	1,503	27	1,185	6,471	60	3,368	2,207	20	35	8
2013	253	393	7	0	78	202	4,074	377	4,241	11,696	124	1,515	0	2,181	6,293	76	2,143	3,627	0	29	18

Historical Fraction of Total Gas-Intent Drill Days by Area

DrlYr	00 - Alberta CBM	01 - Southern Alberta	02 - Southwest Alberta	03 - Southern Foothills	04 - Eastern Alberta	05 - Central Alberta	06 - West Central Alberta	07 - Central Foothills	08 - Kaybob	09 - Alberta Deep Basin	10 - Northeast Alberta	11 - Peace River	12 - Northwest Alberta	13 - BC Deep Basin	14 - Fort St. John	15 - Northeast BC (excl Shale)	15 - Northeast BC (Shale)	16 - BC Foothills	17 - Southwest Saskat-chewan	18 - West Saskat-chewan	19 - East Saskat-chewan
2004	0.1141	0.1163	0.0207	0.0042	0.0437	0.0486	0.0725	0.0480	0.0215	0.1841	0.0132	0.0231	0.0240	0.0303	0.0403	0.0519	0.0005	0.0161	0.1136	0.0131	0.0001
2005	0.1875	0.0829	0.0233	0.0026	0.0488	0.0609	0.0736	0.0292	0.0212	0.1878	0.0092	0.0255	0.0155	0.0445	0.0377	0.0362	0.0000	0.0141	0.0884	0.0109	0.0001
2006	0.1140	0.0878	0.0158	0.0023	0.0641	0.0399	0.0747	0.0454	0.0259	0.2250	0.0135	0.0322	0.0136	0.0482	0.0437	0.0353	0.0012	0.0178	0.0919	0.0078	0.0000
2007	0.1461	0.1053	0.0207	0.0058	0.0513	0.0376	0.0734	0.0447	0.0362	0.2001	0.0148	0.0267	0.0072	0.0376	0.0484	0.0273	0.0028	0.0297	0.0781	0.0061	0.0002
2008	0.1086	0.0846	0.0179	0.0010	0.0219	0.0383	0.0794	0.0495	0.0378	0.1956	0.0086	0.0376	0.0068	0.0530	0.0752	0.0244	0.0160	0.0345	0.0862	0.0228	0.0001
2009	0.1134	0.0529	0.0074	0.0005	0.0105	0.0172	0.0775	0.0442	0.0557	0.2281	0.0052	0.0379	0.0040	0.0698	0.0955	0.0138	0.1148	0.0296	0.0192	0.0028	0.0000
2010	0.1512	0.1021	0.0152	0.0015	0.0084	0.0184	0.0667	0.0212	0.0406	0.2326	0.0011	0.0398	0.0015	0.0753	0.0925	0.0137	0.0622	0.0526	0.0030	0.0003	0.0002
2011	0.0623	0.0249	0.0051	0.0000	0.0076	0.0089	0.0985	0.0231	0.0396	0.2787	0.0014	0.0370	0.0010	0.0617	0.1281	0.0129	0.1434	0.0621	0.0026	0.0010	0.0002
2012	0.0097	0.0056	0.0012	0.0000	0.0097	0.0064	0.0856	0.0166	0.0660	0.3326	0.0000	0.0471	0.0008	0.0371	0.2028	0.0019	0.1056	0.0692	0.0006	0.0011	0.0003
2013	0.0068	0.0105	0.0002	0.0000	0.0021	0.0054	0.1091	0.0101	0.1136	0.3133	0.0033	0.0406	0.0000	0.0584	0.1686	0.0020	0.0574	0.0972	0.0000	0.0008	0.0005

Projected Gas-Intent Drill Days by Area - Mid-Range Price Case

DrlYr	00 - Alberta CBM	01 - Southern Alberta	02 - Southwest Alberta	03 - Southern Foothills	04 - Eastern Alberta	05 - Central Alberta	06 - West Central Alberta	07 - Central Foothills	08 - Kaybob	09 - Alberta Deep Basin	10 - Northeast Alberta	11 - Peace River	12 - Northwest Alberta	13 - BC Deep Basin	14 - Fort St. John	15 - Northeast BC (excl Shale)	15 - Northeast BC (Shale)	16 - BC Foothills	17 - Southwest Saskat-chewan	18 - West Saskat-chewan	19 - East Saskat-chewan
2014	249	512	9	0	97	250	4,933	139	3,033	13,858	153	1,784	30	2,338	7,086	571	322	4,227	0	81	22
2015	97	200	3	0	38	98	1,939	54	1,186	5,425	60	695	12	913	2,760	225	126	1,646	0	32	9
2016	169	347	6	0	65	171	3,387	94	2,062	9,407	104	1,195	20	1,574	4,745	392	220	2,830	0	55	15
2017	197	405	7	0	76	200	3,989	109	2,419	10,969	121	1,376	24	1,822	5,463	463	259	3,258	0	64	18

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

DrlYr	00 - Alberta CBM	01 - Southern Alberta	02 - Southwest Alberta	03 - Southern Foothills	04 - Eastern Alberta	05 - Central Alberta	06 - West Central Alberta	07 - Central Foothills	08 - Kaybob	09 - Alberta Deep Basin	10 - Northeast Alberta	11 - Peace River	12 - Northwest Alberta	13 - BC Deep Basin	14 - Fort St. John	15 - Northeast BC	15 - Northeast BC (Shale)	16 - BC Foothills	17 - Southwest Saskat-chewan	18 - West Saskat-chewan	19 - East Saskat-chewan
2014	0.0063	0.0129	0.0002	0.0000	0.0024	0.0063	0.1243	0.0035	0.0764	0.3491	0.0039	0.0449	0.0008	0.0589	0.1785	0.0144	0.0081	0.1065	0.0000	0.0020	0.0006
2015	0.0063	0.0129	0.0002	0.0000	0.0024	0.0063	0.1250	0.0035	0.0764	0.3496	0.0039	0.0448	0.0008	0.0588	0.1779	0.0145	0.0081	0.1061	0.0000	0.0020	0.0006
2016	0.0063	0.0129	0.0002	0.0000	0.0024	0.0064	0.1261	0.0035	0.0768	0.3503	0.0039	0.0445	0.0008	0.0586	0.1767	0.0146	0.0082	0.1054	0.0000	0.0020	0.0006
2017	0.0063	0.0130	0.0002	0.0000	0.0024	0.0064	0.1277	0.0035	0.0774	0.3511	0.0039	0.0441	0.0008	0.0583	0.1749	0.0148	0.0083	0.1043	0.0000	0.0020	0.0006

Projected Gas-Intent Drill Days by Area - Higher Price Case

DrlYr	00 - Alberta CBM	01 - Southern Alberta	02 - Southwest Alberta	03 - Southern Foothills	04 - Eastern Alberta	05 - Central Alberta	06 - West Central Alberta	07 - Central Foothills	08 - Kaybob	09 - Alberta Deep Basin	10 - Northeast Alberta	11 - Peace River	12 - Northwest Alberta	13 - BC Deep Basin	14 - Fort St. John	15 - Northeast BC (excl Shale)	15 - Northeast BC (Shale)	16 - BC Foothills	17 - Southwest Saskat-chewan	18 - West Saskat-chewan	19 - East Saskat-chewan
2014	249	512	9	0	97	250	4,933	139	3,033	13,858	153	1,784	30	2,338	7,086	571	322	4,227	0	81	22
2015	134	276	5	0	52	135	2,670	75	1,633	7,468	83	957	16	1,256	3,800	309	174	2,266	0	44	12
2016	191	394	7	0	74	194	3,844	107	2,341	10,678	118	1,356	23	1,787	5,385	445	249	3,212	0	62	17
2017	216	445	8	0	84	219	4,380	120	2,657	12,045	133	1,511	26	2,001	5,999	508	285	3,577	0	70	19

Projected Fraction of Total Gas-Intent Drill Days by Area - Higher Price Case

DrlYr	00 - Alberta CBM	01 - Southern Alberta	02 - Southwest Alberta	03 - Southern Foothills	04 - Eastern Alberta	05 - Central Alberta	06 - West Central Alberta	07 - Central Foothills	08 - Kaybob	09 - Alberta Deep Basin	10 - Northeast Alberta	11 - Peace River	12 - Northwest Alberta	13 - BC Deep Basin	14 - Fort St. John	15 - Northeast BC	15 - Northeast BC (Shale)	16 - BC Foothills	17 - Southwest Saskat-chewan	18 - West Saskat-chewan	19 - East Saskat-chewan
2014	0.0063	0.0129	0.0002	0.0000	0.0024	0.0063	0.1243	0.0035	0.0764	0.3491	0.0039	0.0449	0.0008	0.0589	0.1785	0.0144	0.0081	0.1065	0.0000	0.0020	0.0006
2015	0.0063	0.0129	0.0002	0.0000	0.0024	0.0063	0.1250	0.0035	0.0764	0.3496	0.0039	0.0448	0.0008	0.0588	0.1779	0.0145	0.0081	0.1061	0.0000	0.0020	0.0006
2016	0.0063	0.0129	0.0002	0.0000	0.0024	0.0064	0.1261	0.0035	0.0768	0.3503	0.0039	0.0445	0.0008	0.0586	0.1767	0.0146	0.0082	0.1054	0.0000	0.0020	0.0006
2017	0.0063	0.0130	0.0002	0.0000	0.0024	0.0064	0.1277	0.0035	0.0774	0.3511	0.0039	0.0441	0.0008	0.0583	0.1749	0.0148	0.0083	0.1043	0.0000	0.0020	0.0006

Projected Gas-Intent Drill Days by Area - Lower Price Case

DrlYr	00 - Alberta CBM	01 - Southern Alberta	02 - Southwest Alberta	03 - Southern Foothills	04 - Eastern Alberta	05 - Central Alberta	06 - West Central Alberta	07 - Central Foothills	08 - Kaybob	09 - Alberta Deep Basin	10 - Northeast Alberta	11 - Peace River	12 - Northwest Alberta	13 - BC Deep Basin	14 - Fort St. John	15 - Northeast BC (excl Shale)	15 - Northeast BC (Shale)	16 - BC Foothills	17 - Southwest Saskat-chewan	18 - West Saskat-chewan	19 - East Saskat-chewan
2014	249	512	9	0	97	250	4,933	139	3,033	13,858	153	1,784	30	2,338	7,086	571	322	4,227	0	81	22
2015	82	169	3	0	32	83	1,638	46	1,002	4,583	51	587	10	771	2,332	190	107	1,391	0	27	7
2016	137	282	5	0	53	138	2,747	76	1,673	7,631	84	969	16	1,277	3,849	318	178	2,296	0	44	12
2017	148	305	5	0	57	150	3,005	82	1,823	8,265	91	1,037	18	1,373	4,116	349	195	2,455	0	48	13

Projected Fraction of Total Gas-Intent Drill Days by Area - Lower Price Case

DrlYr	00 - Alberta CBM	01 - Southern Alberta	02 - Southwest Alberta	03 - Southern Foothills	04 - Eastern Alberta	05 - Central Alberta	06 - West Central Alberta	07 - Central Foothills	08 - Kaybob	09 - Alberta Deep Basin	10 - Northeast Alberta	11 - Peace River	12 - Northwest Alberta	13 - BC Deep Basin	14 - Fort St. John	15 - Northeast BC	15 - Northeast BC (Shale)	16 - BC Foothills	17 - Southwest Saskat-chewan	18 - West Saskat-chewan	19 - East Saskat-chewan
2014	0.0063	0.0129	0.0002	0.0000	0.0024	0.0063	0.1243	0.0035	0.0764	0.3491	0.0039	0.0449	0.0008	0.0589	0.1785	0.0144	0.0081	0.1065	0.0000	0.0020	0.0006
2015	0.0063	0.0129	0.0002	0.0000	0.0024	0.0063	0.1250	0.0035	0.0764	0.3496	0.0039	0.0448	0.0008	0.0588	0.1779	0.0145	0.0081	0.1061	0.0000	0.0020	0.0006
2016	0.0063	0.0129	0.0002	0.0000	0.0024	0.0064	0.1261	0.0035	0.0768	0.3503	0.0039	0.0445	0.0008	0.0586	0.1767	0.0146	0.0082	0.1054	0.0000	0.0020	0.0006
2017	0.0063	0.0130	0.0002	0.0000	0.0024	0.0064	0.1277	0.0035	0.0774	0.3511	0.0039	0.0441	0.0008	0.0583	0.1749	0.0148	0.0083	0.1043	0.0000	0.0020	0.0006

B2 – Detailed Gas-Intent Drilling and Gas Connection Projections by Case

Mid-Range Price Case

Resource Grouping	Projected Annual Number of Wells Targeted to Resource Grouping			Connection Ratio	Projected Annual Number of Connections for Resource Grouping		
	2015	2016	2017		2015	2016	2017
Gas Connections							
00 - Alberta CBM	31	54	63	1.270	39	68	80
01 - Southern Alberta	91	158	184	1.227	112	193	226
Tight Portion	4	8	9	1.061	5	8	10
02 - Southwest Alberta	1	2	2	1.114	1	2	2
Tight Portion	0	0	0		0	0	0
03 - Southern Foothills	0	0	0		0	0	0
04 - Eastern Alberta	8	14	17	1.058	9	15	18
Tight Portion	0	0	0		0	0	0
Duvernay Shale Portion	0	0	0		0	0	0
05 - Central Alberta	12	20	24	1.244	15	25	30
Tight Portion	3	5	6	1.346	4	6	7
Duvernay Shale Portion	0	0	0		0	0	0
06 - West Central Alberta	107	186	219	1.126	120	210	247
Tight Portion	64	112	132	1.127	72	126	149
Duvernay Shale Portion	1	2	2	1.000	1	2	2
07 - Central Foothills	1	2	3	1.160	2	3	3
Montney Tight Portion	0	0	0		0	0	0
Other Tight Portion	0	0	0		0	0	0
Duvernay Shale Portion	0	0	0		0	0	0
08 - Kaybob	36	63	74	1.006	36	63	74
Montney Tight Portion	9	16	19	1.000	9	16	19
Other Tight Portion	9	16	19	1.040	9	17	20
Duvernay Shale Portion	14	24	29	1.000	14	24	29
09 - Alberta Deep Basin	177	307	359	1.189	210	365	428
Montney Tight Portion	67	115	132	1.000	67	115	132
Other Tight Portion	80	141	167	1.363	110	192	228
Duvernay Shale Portion	4	8	9	1.000	4	8	9
10 - Northeast Alberta	36	62	73	0.930	33	58	68
11 - Peace River	31	54	62	1.011	32	55	63
Montney Tight Portion	29	50	58	1.000	29	50	58
Other Tight Portion	1	1	1	1.264	1	1	2
Duvernay Shale Portion	0	0	0		0	0	0
12 - Northwest Alberta	1	2	2	0.967	1	2	2
Duvernay Shale Portion	0	0	0		0	0	0
13 - BC Deep Basin	22	38	44	1.025	23	39	45
Montney Tight Portion	17	30	34	1.000	17	30	34
Other Tight Portion	3	6	7	1.128	4	6	7
14 - Fort St. John	112	192	221	1.001	112	192	221
Montney Tight Portion	107	185	212	1.000	107	185	212
15 - Northeast BC	13	22	26	1.031	13	23	27
Tight Portion	8	14	16	0.970	8	13	16
Cordova Shale Portion	0	0	0		0	0	0
Horn River Shale Portion	2	4	5	1.000	2	4	5
16 - BC Foothills	48	82	94	1.002	48	82	95
Montney Tight Portion	45	78	89	1.000	45	78	89
17 - Southwest Saskatchewan	0	0	0		0	0	0
Tight Portion	0	0	0		0	0	0
18 - West Saskatchewan	10	17	19	1.034	10	17	20
19 - East Saskatchewan	1	2	2	1.000	1	2	2
Subtotal: Gas - Conventional (non-tight)	237	410	478	1.133	268	465	542
Subtotal: Gas - Tight	447	774	901	1.088	486	843	982
Montney portion of Tight	275	473	544	1.000	275	473	544
Subtotal: Gas - CBM	31	54	63	1.270	39	68	80
Subtotal: Gas - Shale	22	38	45	1.000	22	38	45
Gas Connections - CBM Breakdown							
AB - Main HSC	76	41	58	1.279	97	52	75
AB - Mannville CBM	0	0	0		0	0	0
AB - Other CBM	3	2	3	1.070	4	2	3
Subtotal: Gas - CBM	79	43	61	1.270	101	54	77
Total: All Gas	**737**	**1 277**	**1 487**	**1.107**	**816**	**1 414**	**1 649**

Higher Price Case

Resource Grouping	Projected Annual Number of Wells Targeted to Resource Grouping			Connection Ratio	Projected Annual Number of Connections for Resource Grouping		
	2015	2016	2017		2015	2016	2017
Gas Connections							
00 - Alberta CBM	43	61	69	1.270	54	77	87
01 - Southern Alberta	125	179	202	1.227	154	219	248
Tight Portion	6	9	10	1.061	6	9	11
02 - Southwest Alberta	1	2	2	1.114	1	2	2
Tight Portion	0	0	0		0	0	0
03 - Southern Foothills	0	0	0		0	0	0
04 - Eastern Alberta	11	16	18	1.058	12	17	19
Tight Portion	0	0	0		0	0	0
Duvernay Shale Portion	0	0	0		0	0	0
05 - Central Alberta	16	23	26	1.244	20	29	33
Tight Portion	4	5	6	1.346	5	7	8
Duvernay Shale Portion	0	0	0		0	0	0
06 - West Central Alberta	147	212	241	1.126	166	238	271
Tight Portion	88	127	145	1.127	99	143	164
Duvernay Shale Portion	2	2	3	1.000	2	2	3
07 - Central Foothills	2	3	3	1.160	2	3	4
Montney Tight Portion	0	0	0		0	0	0
Other Tight Portion	0	0	0		0	0	0
Duvernay Shale Portion	0	0	0		0	0	0
08 - Kaybob	50	71	81	1.006	50	72	81
Montney Tight Portion	13	18	20	1.000	13	18	20
Other Tight Portion	13	18	21	1.040	13	19	22
Duvernay Shale Portion	19	28	32	1.000	19	28	32
09 - Alberta Deep Basin	243	348	394	1.189	289	414	470
Montney Tight Portion	92	130	145	1.000	92	130	145
Other Tight Portion	111	160	184	1.363	151	218	250
Duvernay Shale Portion	6	9	10	1.000	6	9	10
10 - Northeast Alberta	50	71	80	0.930	46	66	74
11 - Peace River	43	61	68	1.011	44	62	69
Montney Tight Portion	40	57	64	1.000	40	57	64
Other Tight Portion	1	1	1	1.264	1	1	2
Duvernay Shale Portion	0	0	0		0	0	0
12 - Northwest Alberta	1	2	2	0.967	1	2	2
Duvernay Shale Portion	0	0	0		0	0	0
13 - BC Deep Basin	30	43	48	1.025	31	44	49
Montney Tight Portion	24	34	38	1.000	24	34	38
Other Tight Portion	4	6	7	1.128	5	7	8
14 - Fort St. John	154	218	243	1.001	154	218	243
Montney Tight Portion	148	209	233	1.000	148	209	233
15 - Northeast BC	18	25	29	1.031	18	26	30
Tight Portion	11	16	18	0.970	10	15	17
Cordova Shale Portion	0	0	0		0	0	0
Horn River Shale Portion	3	5	5	1.000	3	5	5
16 - BC Foothills	66	93	104	1.002	66	93	104
Montney Tight Portion	62	88	98	1.000	62	88	98
17 - Southwest Saskatchewan	0	0	0		0	0	0
Tight Portion	0	0	0		0	0	0
18 - West Saskatchewan	13	19	21	1.034	14	19	22
19 - East Saskatchewan	1	2	2	1.000	1	2	2
Subtotal: Gas - Conventional (non-tight)	326	466	525	1.133	369	528	595
Subtotal: Gas - Tight	615	879	989	1.088	669	957	1 079
Montney portion of Tight	379	537	597	1.000	379	537	597
Subtotal: Gas - CBM	43	61	69	1.270	54	77	87
Subtotal: Gas - Shale	30	44	50	1.000	30	44	50
Gas Connections - CBM Breakdown							
AB - Main HSC	76	41	58	1.279	97	52	75
AB - Mannville CBM	0	0	0		0	0	0
AB - Other CBM	3	2	3	1.070	4	2	3
Subtotal: Gas - CBM	79	43	61	1.270	101	54	77
Total: All Gas	**1 014**	**1 449**	**1 633**	**1.107**	**1 123**	**1 605**	**1 811**

Lower Price Case

Resource Grouping	Projected Annual Number of Wells Targeted to Resource Grouping			Connection Ratio	Projected Annual Number of Connections for Resource Grouping		
	2015	2016	2017		2015	2016	2017
Gas Connections							
00 - Alberta CBM	26	44	47	1.270	33	55	60
01 - Southern Alberta	77	128	138	1.227	94	157	170
Tight Portion	4	6	7	1.061	4	7	7
02 - Southwest Alberta	1	1	1	1.114	1	1	2
Tight Portion	0	0	0		0	0	0
03 - Southern Foothills	0	0	0		0	0	0
04 - Eastern Alberta	7	12	13	1.058	7	12	13
Tight Portion	0	0	0		0	0	0
Duvernay Shale Portion	0	0	0		0	0	0
05 - Central Alberta	10	17	18	1.244	12	21	22
Tight Portion	2	4	4	1.346	3	5	6
Duvernay Shale Portion	0	0	0		0	0	0
06 - West Central Alberta	90	151	165	1.126	102	170	186
Tight Portion	54	91	100	1.127	61	102	112
Duvernay Shale Portion	1	2	2	1.000	1	2	2
07 - Central Foothills	1	2	2	1.160	1	2	2
Montney Tight Portion	0	0	0		0	0	0
Other Tight Portion	0	0	0		0	0	0
Duvernay Shale Portion	0	0	0		0	0	0
08 - Kaybob	31	51	55	1.006	31	51	56
Montney Tight Portion	8	13	14	1.000	8	13	14
Other Tight Portion	8	13	14	1.040	8	14	15
Duvernay Shale Portion	12	20	22	1.000	12	20	22
09 - Alberta Deep Basin	149	249	270	1.189	177	296	322
Montney Tight Portion	56	93	99	1.000	56	93	99
Other Tight Portion	68	115	126	1.363	93	156	172
Duvernay Shale Portion	4	6	7	1.000	4	6	7
10 - Northeast Alberta	30	51	55	0.930	28	47	51
11 - Peace River	27	44	47	1.011	27	44	47
Montney Tight Portion	25	41	44	1.000	25	41	44
Other Tight Portion	0	1	1	1.264	1	1	1
Duvernay Shale Portion	0	0	0		0	0	0
12 - Northwest Alberta	1	1	1	0.967	1	1	1
Duvernay Shale Portion	0	0	0		0	0	0
13 - BC Deep Basin	19	31	33	1.025	19	32	34
Montney Tight Portion	15	24	26	1.000	15	24	26
Other Tight Portion	3	4	5	1.128	3	5	6
14 - Fort St. John	94	156	167	1.001	94	156	167
Montney Tight Portion	91	150	160	1.000	91	150	160
15 - Northeast BC	11	18	20	1.031	11	19	20
Tight Portion	7	11	12	0.970	6	11	12
Cordova Shale Portion	0	0	0		0	0	0
Horn River Shale Portion	2	3	4	1.000	2	3	4
16 - BC Foothills	40	67	71	1.002	40	67	71
Montney Tight Portion	38	63	67	1.000	38	63	67
17 - Southwest Saskatchewan	0	0	0		0	0	0
Tight Portion	0	0	0		0	0	0
18 - West Saskatchewan	8	13	15	1.034	8	14	15
19 - East Saskatchewan	1	1	1	1.000	1	1	1
Subtotal: Gas - Conventional (non-tight)	200	333	360	1.133	227	377	408
Subtotal: Gas - Tight	378	628	679	1.088	411	684	740
Montney portion of Tight	233	384	410	1.000	233	384	410
Subtotal: Gas - CBM	26	44	47	1.270	33	55	60
Subtotal: Gas - Shale	19	31	34	1.000	19	31	34
Gas Connections - CBM Breakdown							
AB - Main HSC	25	42	45	1.279	32	53	58
AB - Mannville CBM	0	0	0		0	0	0
AB - Other CBM	1	2	2	1.070	1	2	2
Subtotal: Gas - CBM	26	44	47	1.270	33	55	60
Total: All Gas	**622**	**1 036**	**1 121**	**1.107**	**689**	**1 147**	**1 242**

APPENDIX C

Deliverability Details by Case

C.1 - Canadian Gas Deliverability by Area/Resource – Mid-Range Price Case

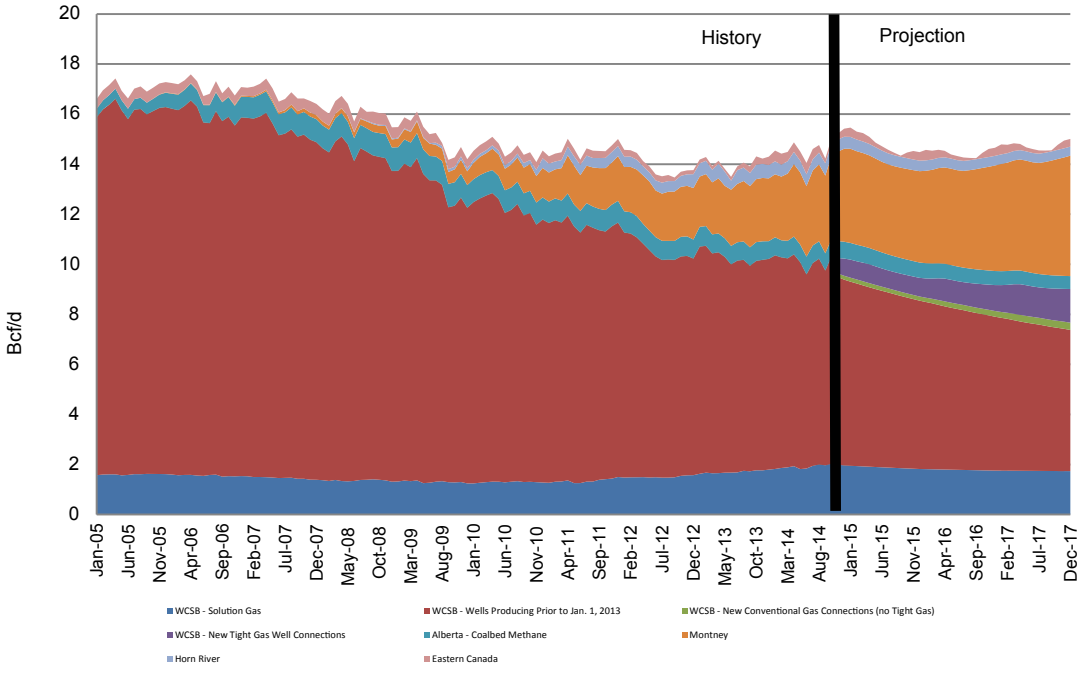
Area/Resource	Historical				Projected					
	2013*		2014		2015		2016		2017	
	$10^6m^3/d$	MMcf/d	$10^6m^3/d$	MMcf/d	$10^6m^3/d$	MMcf/d	$10^6m^3/d$	MMcf/d	$10^6m^3/d$	MMcf/d
00 - Alberta CBM	21.11	745	19.67	694	18.11	639	16.54	584	15.16	535
HSC Portion	15.50	547	14.44	510	13.15	464	11.91	420	10.82	382
Mannville Portion	1.94	69	1.74	61	1.60	57	1.45	51	1.31	46
Other CBM Portion	3.67	129	3.49	123	3.35	118	3.18	112	3.03	107
01 - Southern Alberta	27.69	977	26.18	924	24.73	873	22.61	798	20.78	733
Solution Gas	2.34	83	2.57	91	2.64	93	2.59	92	2.60	92
Tight Portion	17.76	627	16.48	582	15.47	546	13.99	494	12.65	447
02 - Southwest Alberta	5.41	191	5.25	185	4.99	176	4.63	163	4.25	150
Solution Gas	0.70	25	0.85	30	0.94	33	0.96	34	0.93	33
Tight Portion	1.62	57	1.51	53	1.36	48	1.23	43	1.11	39
03 - Southern Foothills	4.10	145	3.62	128	3.07	108	2.93	103	2.79	99
Solution Gas	0.13	4	0.14	5	0.15	5	0.14	5	0.14	5
04 - Eastern Alberta	12.58	444	12.20	431	11.77	416	10.86	383	10.12	357
Solution Gas	4.46	157	4.65	164	4.59	162	4.32	153	4.15	147
Tight Portion	0.32	11	0.29	10	0.28	10	0.27	9	0.25	9
Duvernay Shale Portion	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
05 - Central Alberta	15.20	537	14.49	511	13.91	491	13.11	463	12.56	443
Solution Gas	3.71	131	3.65	129	3.53	125	3.39	120	3.38	119
Tight Portion	1.31	46	1.32	47	1.42	50	1.42	50	1.48	52
Duvernay Shale Portion	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
06 - West Central Alberta	45.53	1 607	48.51	1 712	48.99	1 729	47.38	1 672	48.31	1 705
Solution Gas	12.90	456	13.72	484	12.95	457	12.09	427	12.04	425
Tight Portion	16.66	588	18.88	667	20.70	731	20.81	735	22.24	785
Duvernay Shale Portion	0.14	5	0.28	10	0.29	10	0.30	11	0.34	12
07 - Central Foothills	18.86	666	17.37	613	16.16	570	15.32	541	14.59	515
Solution Gas	0.36	13	0.43	15	0.38	13	0.38	13	0.38	13
Montney Tight Portion	0.16	6	0.08	3	0.08	3	0.07	2	0.06	2
Other Tight Portion	1.18	41	0.98	35	0.86	30	0.79	28	0.73	26
Duvernay Shale Portion	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
08 - Kaybob	19.65	694	21.00	741	21.44	757	20.97	740	21.27	751
Solution Gas	5.91	209	7.00	247	7.25	256	7.08	250	7.04	249
Montney Tight Portion	1.65	58	2.15	76	2.70	95	2.83	100	3.22	114
Other Tight Portion	6.34	224	6.04	213	5.64	199	5.17	183	4.82	170
Duvernay Shale Portion	0.52	18	1.24	44	1.69	60	1.93	68	2.38	84
09 - Alberta Deep Basin	66.32	2 341	71.58	2 527	76.88	2 714	78.80	2 782	85.05	3 002
Solution Gas	2.46	87	3.26	115	3.26	115	3.18	112	3.12	110
Montney Tight Portion	5.43	192	9.94	351	14.39	508	17.23	608	21.53	760
Other Tight Portion	51.75	1 827	52.10	1 839	53.10	1 874	52.14	1 841	53.79	1 899
Duvernay Shale Portion	0.13	5	0.32	11	0.51	18	0.59	21	0.74	26
10 - Northeast Alberta	8.42	297	8.12	287	7.78	275	7.34	259	7.12	252
Solution Gas	2.26	80	2.33	82	2.14	76	1.90	67	1.86	66
11 - Peace River	22.24	785	25.31	893	25.18	889	24.30	858	24.47	864
Solution Gas	5.19	183	7.03	248	6.85	242	6.49	229	6.22	220
Montney Tight Portion	8.85	312	10.87	384	11.63	410	11.65	411	12.53	442
Other Tight Portion	1.70	60	1.46	51	1.29	46	1.16	41	1.06	37
Duvernay Shale Portion	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
12 - Northwest Alberta	7.29	257	6.65	235	6.02	212	5.36	189	5.00	177
Solution Gas	2.70	95	2.43	86	2.02	71	1.61	57	1.49	53
Duvernay Shale Portion	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
13 - BC Deep Basin	15.57	550	14.83	523	15.14	535	14.94	527	15.58	550
Montney Portion	7.22	255	7.53	266	8.51	300	8.74	309	9.64	340
Other Tight Portion	4.89	173	4.17	147	3.93	139	3.69	130	3.58	126
14 - Fort St. John	49.75	1 756	57.29	2 022	63.16	2 230	65.43	2 310	72.40	2 556
Solution Gas	0.90	32	1.10	39	1.08	38	1.06	38	1.05	37
Montney Portion	34.69	1 225	43.96	1 552	52.55	1 855	55.83	1 971	63.59	2 245

C.1 - Canadian Gas Deliverability by Area/Resource – Mid-Range Price Case (continued)										
Area/Resource	Historical				Projected					
	2013*		2014		2015		2016		2017	
	$10^6m^3/d$	MMcf/d	$10^6m^3/d$	MMcf/d	$10^6m^3/d$	MMcf/d	$10^6m^3/d$	MMcf/d	$10^6m^3/d$	MMcf/d
15 - Northeast BC	25.39	896	23.38	826	21.41	756	19.37	684	18.02	636
Solution Gas	0.14	5	0.13	5	0.13	5	0.13	5	0.13	4
Tight Portion	6.29	222	5.80	205	5.28	186	4.89	173	4.65	164
Cordova Shale Portion	0.93	33	0.76	27	0.61	22	0.53	19	0.46	16
Horn River Shale Portion	14.98	529	13.66	482	12.63	446	11.33	400	10.50	371
16 - BC Foothills	15.20	536	18.08	638	21.47	758	21.59	762	23.36	825
Montney Tight Portion	6.84	242	10.78	381	13.81	488	14.64	517	17.00	600
17 - Southwest Saskatchewan	6.23	220	6.03	213	5.49	194	5.01	177	4.57	161
Solution Gas	0.35	12	0.51	18	0.53	19	0.53	19	0.52	18
Tight Portion	5.79	204	5.46	193	4.96	175	4.48	158	4.05	143
18 - West Saskatchewan	4.14	146	4.54	160	4.49	159	4.21	149	3.87	137
Solution Gas	2.41	85	2.89	102	3.07	108	2.90	103	2.65	94
19 - East Saskatchewan	1.35	48	1.74	62	1.83	65	1.79	63	1.70	60
Solution Gas	1.34	47	1.74	62	1.83	65	1.79	63	1.70	60
22 - Yukon and North West Territories	0.34	12	0.30	11	0.25	9	0.19	7	0.13	5
Total Conventional (no tight, no solution gas)	**125.85**	**4 443**	**115.99**	**4 095**	**107.15**	**3 782**	**99.84**	**3 524**	**94.11**	**3 322**
Total Tight	**180.45**	**6 370**	**199.80**	**7 053**	**217.95**	**7 694**	**221.04**	**7 803**	**237.99**	**8 401**
Montney Portion	**64.84**	**2289.02**	**85.31**	**3011.41**	**103.66**	**3659.48**	**110.99**	**3918.15**	**127.58**	**4503.69**
Total Solution Gas	**48.27**	**1703.81**	**54.43**	**1921.44**	**53.33**	**1882.74**	**50.56**	**1784.82**	**49.42**	**1744.55**
Total CBM	**21.11**	**745**	**19.67**	**694**	**18.11**	**639**	**16.54**	**584**	**15.16**	**535**
Total Shale	**16.70**	**589**	**16.26**	**574**	**15.73**	**555**	**14.68**	**518**	**14.43**	**509**
Total WCSB	**392.38**	**13 851**	**406.15**	**14 337**	**412.27**	**14 554**	**402.66**	**14 214**	**411.11**	**14 513**
Atlantic Canada	5.16	182	9.38	331	6.45	228	6.38	225	6.09	215
Other Canada	0.35	12	0.30	10	0.28	10	0.26	9	0.24	9
Total Canada	**397.89**	**14 046**	**415.83**	**14 679**	**419.01**	**14 791**	**409.31**	**14 449**	**417.45**	**14 736**

rates are annual averages
*matched to 2013 actual production for Jan-Oct

FIGURE C.1

Outlook for Canadian Gas Deliverability – Mid-Range Price Case



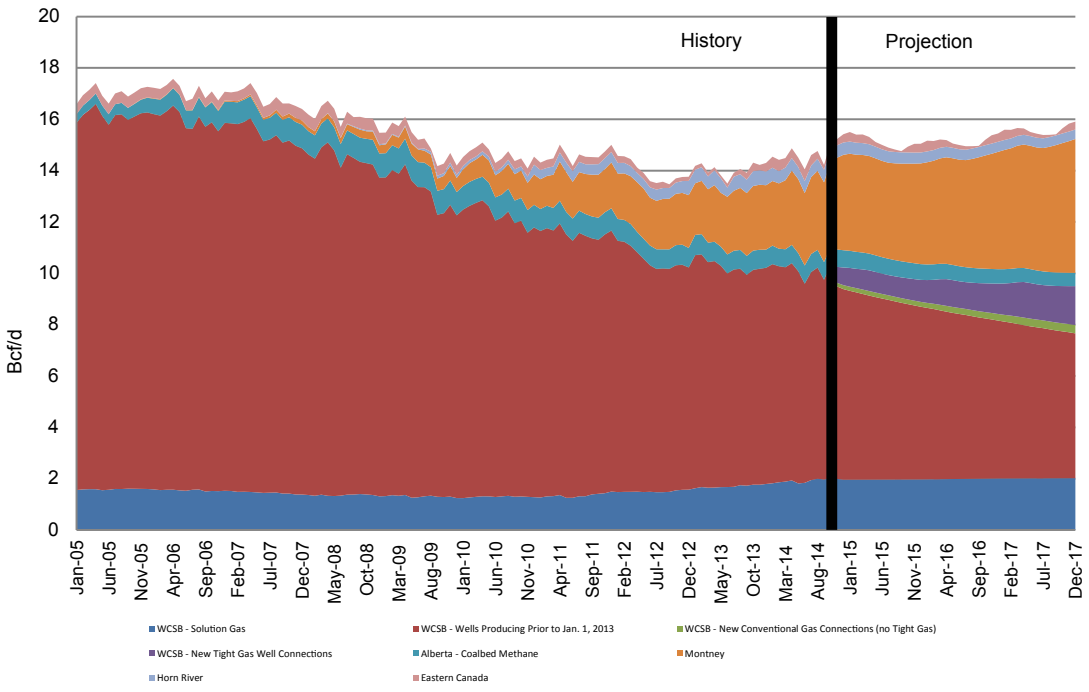
C.2 – Canadian Gas Deliverability by Area/Resource – Higher Price Case										
Area/Resource	Historical				Projected					
	2013*		2014		2015		2016		2017	
	$10^6m^3/d$	MMcf/d	$10^6m^3/d$	MMcf/d	$10^6m^3/d$	MMcf/d	$10^6m^3/d$	MMcf/d	$10^6m^3/d$	MMcf/d
00 - Alberta CBM	21.11	745	19.67	694	18.11	639	16.56	585	15.19	536
HSC Portion	15.50	547	14.44	510	13.16	465	11.93	421	10.85	383
Mannville Portion	1.94	69	1.74	61	1.60	57	1.45	51	1.31	46
Other CBM Portion	3.67	129	3.49	123	3.35	118	3.18	112	3.03	107
01 - Southern Alberta	27.69	977	26.18	924	24.79	875	22.77	804	20.99	741
Solution Gas	2.34	83	2.57	91	2.69	95	2.74	97	2.80	99
Tight Portion	17.76	627	16.48	582	15.48	546	13.99	494	12.65	447
02 - Southwest Alberta	5.41	191	5.25	185	5.06	178	4.80	169	4.46	157
Solution Gas	0.70	25	0.85	30	1.01	36	1.13	40	1.14	40
Tight Portion	1.62	57	1.51	53	1.36	48	1.23	43	1.11	39
03 - Southern Foothills	4.10	145	3.62	128	3.07	109	2.93	104	2.80	99
Solution Gas	0.13	4	0.14	5	0.15	5	0.15	5	0.15	5
04 - Eastern Alberta	12.58	444	12.20	431	11.96	422	11.41	403	10.83	382
Solution Gas	4.46	157	4.65	164	4.77	169	4.86	172	4.85	171
Tight Portion	0.32	11	0.29	10	0.28	10	0.27	9	0.25	9
Duvernay Shale Portion	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
05 - Central Alberta	15.20	537	14.49	511	14.07	497	13.51	477	13.05	461
Solution Gas	3.71	131	3.65	129	3.67	130	3.74	132	3.81	134
Tight Portion	1.31	46	1.32	47	1.44	51	1.46	52	1.53	54
Duvernay Shale Portion	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
06 - West Central Alberta	45.53	1 607	48.51	1 712	50.67	1 789	50.98	1 800	52.51	1 854
Solution Gas	12.90	456	13.72	484	14.00	494	14.34	506	14.59	515
Tight Portion	16.66	588	18.88	667	21.19	748	21.86	772	23.52	830
Duvernay Shale Portion	0.14	5	0.28	10	0.30	11	0.33	12	0.37	13
07 - Central Foothills	18.86	666	17.37	613	16.17	571	15.36	542	14.64	517
Solution Gas	0.36	13	0.43	15	0.39	14	0.40	14	0.40	14
Montney Tight Portion	0.16	6	0.08	3	0.08	3	0.07	2	0.06	2
Other Tight Portion	1.18	41	0.98	35	0.86	30	0.79	28	0.73	26
Duvernay Shale Portion	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
08 - Kaybob	19.65	694	21.00	741	21.83	770	21.93	774	22.48	794
Solution Gas	5.91	209	7.00	247	7.39	261	7.53	266	7.66	270
Montney Tight Portion	1.65	58	2.15	76	2.82	99	3.06	108	3.49	123
Other Tight Portion	6.34	224	6.04	213	5.67	200	5.23	185	4.88	172
Duvernay Shale Portion	0.52	18	1.24	44	1.78	63	2.13	75	2.63	93
09 - Alberta Deep Basin	66.32	2 341	71.58	2 527	79.01	2 789	83.22	2 938	90.43	3 192
Solution Gas	2.46	87	3.26	115	3.32	117	3.38	119	3.40	120
Montney Tight Portion	5.43	192	9.94	351	15.27	539	19.07	673	23.75	838
Other Tight Portion	51.75	1 827	52.10	1 839	54.15	1 912	54.27	1 916	56.37	1 990
Duvernay Shale Portion	0.13	5	0.32	11	0.54	19	0.66	23	0.82	29
10 - Northeast Alberta	8.42	297	8.12	287	7.94	280	7.72	272	7.59	268
Solution Gas	2.26	80	2.33	82	2.28	81	2.25	79	2.29	81
11 - Peace River	22.24	785	25.31	893	25.90	914	25.92	915	26.62	940
Solution Gas	5.19	183	7.03	248	7.16	253	7.34	259	7.52	265
Montney Tight Portion	8.85	312	10.87	384	12.01	424	12.39	437	13.36	472
Other Tight Portion	1.70	60	1.46	51	1.30	46	1.17	41	1.07	38
Duvernay Shale Portion	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
12 - Northwest Alberta	7.29	257	6.65	235	6.22	220	5.72	202	5.46	193
Solution Gas	2.70	95	2.43	86	2.22	78	1.97	69	1.94	69
Duvernay Shale Portion	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
13 - BC Deep Basin	15.57	550	14.83	523	15.51	548	15.68	554	16.45	581
Montney Portion	7.22	255	7.53	266	8.81	311	9.37	331	10.37	366
Other Tight Portion	4.89	173	4.17	147	3.97	140	3.78	133	3.67	130
14 - Fort St. John	49.75	1 756	57.29	2 022	65.14	2 300	69.75	2 462	77.61	2 740
Solution Gas	0.90	32	1.10	39	1.08	38	1.07	38	1.07	38
Montney Portion	34.69	1 225	43.96	1 552	54.49	1 923	60.06	2 120	68.70	2 425
15 - Northeast BC	25.39	896	23.38	826	21.57	761	19.67	695	18.38	649
Solution Gas	0.14	5	0.13	5	0.13	5	0.13	5	0.13	5
Tight Portion	6.29	222	5.80	205	5.35	189	5.00	177	4.77	168
Cordova Shale Portion	0.93	33	0.76	27	0.61	22	0.53	19	0.46	16
Horn River Shale Portion	14.98	529	13.66	482	12.71	449	11.50	406	10.71	378
16 - BC Foothills	15.20	536	18.08	638	21.97	775	22.83	806	24.87	878
Montney Tight Portion	6.84	242	10.78	381	14.29	505	15.85	560	18.47	652

C.2 – Canadian Gas Deliverability by Area/Resource – Higher Price Case										
Area/Resource	Historical				Projected					
	2013*		2014		2015		2016		2017	
	$10^6m^3/d$	MMcf/d	$10^6m^3/d$	MMcf/d	$10^6m^3/d$	MMcf/d	$10^6m^3/d$	MMcf/d	$10^6m^3/d$	MMcf/d
17 - Southwest Saskatchewan	6.23	220	6.03	213	5.49	194	5.01	177	4.58	162
Solution Gas	0.35	12	0.51	18	0.54	19	0.53	19	0.53	19
Tight Portion	5.79	204	5.46	193	4.96	175	4.48	158	4.05	143
18 - West Saskatchewan	4.14	146	4.54	160	4.51	159	4.37	154	4.24	150
Solution Gas	2.41	85	2.89	102	3.08	109	3.05	108	3.01	106
19 - East Saskatchewan	1.35	48	1.74	62	1.84	65	1.82	64	1.80	64
Solution Gas	1.34	47	1.74	62	1.84	65	1.82	64	1.80	64
22 - Yukon and North West Territories	0.34	12	0.30	11	0.25	9	0.19	7	0.13	5
Total Conventional (no tight, no solution gas)	**125.85**	**4 443**	**115.99**	**4 095**	**107.53**	**3 796**	**100.61**	**3 552**	**95.03**	**3 355**
Total Tight	**180.45**	**6 370**	**199.80**	**7 053**	**223.77**	**7 899**	**233.40**	**8 239**	**252.80**	**8 924**
Montney Portion	**64.84**	**2289.02**	**85.31**	**3011.41**	**107.77**	**3804.25**	**119.87**	**4231.65**	**138.19**	**4878.28**
Total Solution Gas	**48.27**	**1703.81**	**54.43**	**1921.44**	**55.72**	**1966.83**	**56.44**	**1992.41**	**57.10**	**2015.52**
Total CBM	**21.11**	**745**	**19.67**	**694**	**18.11**	**639**	**16.56**	**585**	**15.19**	**536**
Total Shale	**16.70**	**589**	**16.26**	**574**	**15.95**	**563**	**15.15**	**535**	**14.99**	**529**
Total WCSB	**392.38**	**13 851**	**406.15**	**14 337**	**421.09**	**14 865**	**422.16**	**14 903**	**435.11**	**15 360**
Atlantic Canada	5.16	182	9.38	331	6.45	228	6.38	225	6.09	215
Other Canada	0.35	12	0.30	10	0.28	10	0.26	9	0.24	9
Total Canada	**397.89**	**14 046**	**415.83**	**14 679**	**427.82**	**15 102**	**428.81**	**15 137**	**441.44**	**15 583**

rates are annual averages
*matched to 2013 actual production for Jan-Oct

FIGURE C.2

Outlook for Canadian Gas Deliverability – Higher Price Case



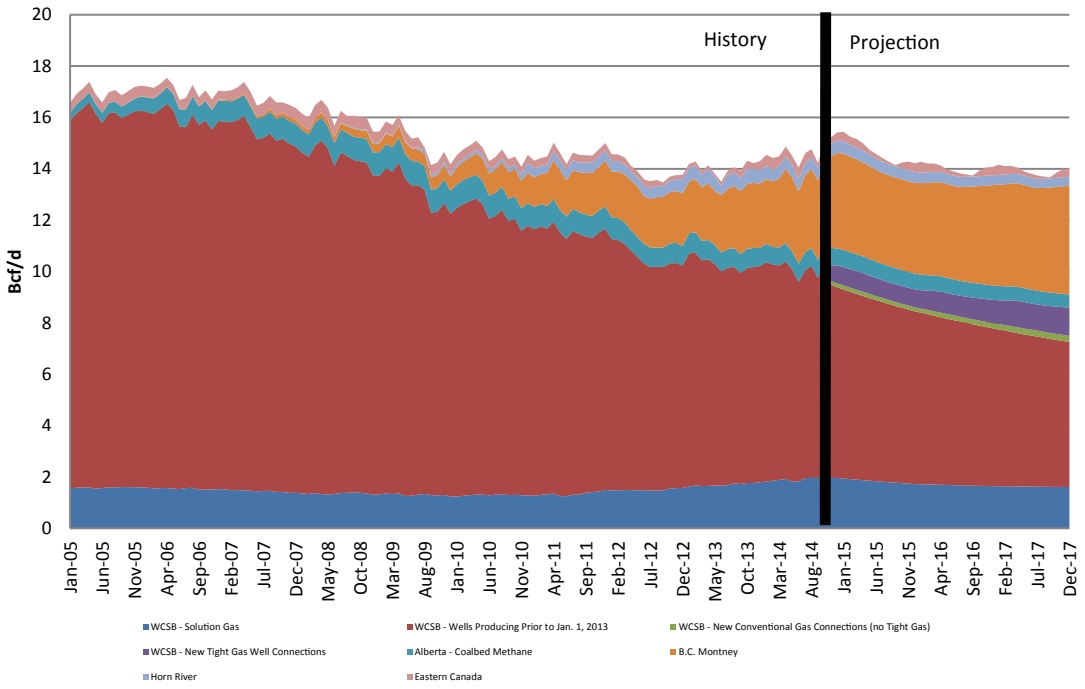
C.3 – Canadian Gas Deliverability by Area/Resource – Lower Price Case										
Area/Resource	Historical				Projected					
	2013*		2014		2015		2016		2017	
	$10^6m^3/d$	MMcf/d	$10^6m^3/d$	MMcf/d	$10^6m^3/d$	MMcf/d	$10^6m^3/d$	MMcf/d	$10^6m^3/d$	MMcf/d
00 - Alberta CBM	21.11	745	19.67	694	18.10	639	16.53	583	15.13	534
HSC Portion	15.50	547	14.44	510	13.15	464	11.89	420	10.80	381
Mannville Portion	1.94	69	1.74	61	1.60	57	1.45	51	1.31	46
Other CBM Portion	3.67	129	3.49	123	3.35	118	3.18	112	3.03	107
01 - Southern Alberta	27.69	977	26.18	924	24.71	872	22.55	796	20.68	730
Solution Gas	2.34	83	2.57	91	2.62	93	2.55	90	2.53	89
Tight Portion	17.76	627	16.48	582	15.47	546	13.99	494	12.65	447
02 - Southwest Alberta	5.41	191	5.25	185	4.94	174	4.52	160	4.14	146
Solution Gas	0.70	25	0.85	30	0.89	31	0.86	30	0.82	29
Tight Portion	1.62	57	1.51	53	1.36	48	1.23	43	1.11	39
03 - Southern Foothills	4.10	145	3.62	128	3.07	108	2.93	103	2.79	98
Solution Gas	0.13	4	0.14	5	0.15	5	0.14	5	0.14	5
04 - Eastern Alberta	12.58	444	12.20	431	11.74	415	10.77	380	9.98	352
Solution Gas	4.46	157	4.65	164	4.56	161	4.24	150	4.03	142
Tight Portion	0.32	11	0.29	10	0.28	10	0.27	9	0.25	9
Duvernay Shale Portion	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
05 - Central Alberta	15.20	537	14.49	511	13.87	490	13.02	459	12.40	438
Solution Gas	3.71	131	3.65	129	3.51	124	3.33	118	3.29	116
Tight Portion	1.31	46	1.32	47	1.41	50	1.39	49	1.41	50
Duvernay Shale Portion	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
06 - West Central Alberta	45.53	1 607	48.51	1 712	48.31	1 706	45.63	1 611	45.44	1 604
Solution Gas	12.90	456	13.72	484	12.54	443	11.30	399	11.15	394
Tight Portion	16.66	588	18.88	667	20.50	724	20.07	708	20.68	730
Duvernay Shale Portion	0.14	5	0.28	10	0.29	10	0.29	10	0.31	11
07 - Central Foothills	18.86	666	17.37	613	16.15	570	15.30	540	14.56	514
Solution Gas	0.36	13	0.43	15	0.38	13	0.37	13	0.37	13
Montney Tight Portion	0.16	6	0.08	3	0.08	3	0.07	2	0.06	2
Other Tight Portion	1.18	41	0.98	35	0.86	30	0.79	28	0.73	26
Duvernay Shale Portion	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
08 - Kaybob	19.65	694	21.00	741	21.29	752	20.49	723	20.36	719
Solution Gas	5.91	209	7.00	247	7.20	254	6.95	245	6.85	242
Montney Tight Portion	1.65	58	2.15	76	2.66	94	2.66	94	2.89	102
Other Tight Portion	6.34	224	6.04	213	5.63	199	5.13	181	4.74	167
Duvernay Shale Portion	0.52	18	1.24	44	1.65	58	1.78	63	2.08	74
09 - Alberta Deep Basin	66.32	2 341	71.58	2 527	76.00	2 683	75.71	2 673	78.75	2 780
Solution Gas	2.46	87	3.26	115	3.24	114	3.12	110	3.03	107
Montney Tight Portion	5.43	192	9.94	351	14.02	495	15.93	562	18.87	666
Other Tight Portion	51.75	1 827	52.10	1 839	52.66	1 859	50.60	1 786	50.61	1 787
Duvernay Shale Portion	0.13	5	0.32	11	0.49	17	0.55	19	0.65	23
10 - Northeast Alberta	8.42	297	8.12	287	7.64	270	7.08	250	6.83	241
Solution Gas	2.26	80	2.33	82	2.01	71	1.67	59	1.62	57
11 - Peace River	22.24	785	25.31	893	24.80	875	23.32	823	22.89	808
Solution Gas	5.19	183	7.03	248	6.63	234	6.07	214	5.75	203
Montney Tight Portion	8.85	312	10.87	384	11.47	405	11.11	392	11.47	405
Other Tight Portion	1.70	60	1.46	51	1.29	46	1.16	41	1.05	37
Duvernay Shale Portion	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
12 - Northwest Alberta	7.29	257	6.65	235	5.84	206	5.08	179	4.69	166
Solution Gas	2.70	95	2.43	86	1.84	65	1.33	47	1.18	42
Duvernay Shale Portion	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0
13 - BC Deep Basin	15.57	550	14.83	523	14.99	529	14.40	509	14.51	512
Montney Portion	7.22	255	7.53	266	8.38	296	8.30	293	8.74	309
Other Tight Portion	4.89	173	4.17	147	3.91	138	3.63	128	3.46	122
14 - Fort St. John	49.75	1 756	57.29	2 022	62.34	2 201	62.37	2 202	66.07	2 332
Solution Gas	0.90	32	1.10	39	1.07	38	0.99	35	0.88	31
Montney Portion	34.69	1 225	43.96	1 552	51.75	1 827	52.89	1 867	57.54	2 031
15 - Northeast BC	25.39	896	23.38	826	21.34	753	19.13	675	17.54	619
Solution Gas	0.14	5	0.13	5	0.13	5	0.12	4	0.11	4
Tight Portion	6.29	222	5.80	205	5.25	185	4.80	170	4.48	158
Cordova Shale Portion	0.93	33	0.76	27	0.61	22	0.53	19	0.46	16
Horn River Shale Portion	14.98	529	13.66	482	12.60	445	11.21	396	10.25	362
16 - BC Foothills	15.20	536	18.08	638	21.26	750	20.76	733	21.62	763
Montney Tight Portion	6.84	242	10.78	381	13.61	480	13.85	489	15.32	541

C.3 – Canadian Gas Deliverability by Area/Resource – Lower Price Case										
Area/Resource	Historical				Projected					
	2013*		2014		2015		2016		2017	
	$10^6m^3/d$	MMcf/d	$10^6m^3/d$	MMcf/d	$10^6m^3/d$	MMcf/d	$10^6m^3/d$	MMcf/d	$10^6m^3/d$	MMcf/d
17 - Southwest Saskatchewan	6.23	220	6.03	213	5.45	193	4.93	174	4.47	158
Solution Gas	0.35	12	0.51	18	0.50	18	0.45	16	0.42	15
Tight Portion	5.79	204	5.46	193	4.96	175	4.48	158	4.05	143
18 - West Saskatchewan	4.14	146	4.54	160	4.28	151	3.88	137	3.63	128
Solution Gas	2.41	85	2.89	102	2.86	101	2.58	91	2.43	86
19 - East Saskatchewan	1.35	48	1.74	62	1.71	60	1.54	55	1.45	51
Solution Gas	1.34	47	1.74	62	1.71	60	1.54	55	1.45	51
22 - Yukon and North West Territories	0.34	12	0.30	11	0.25	9	0.19	7	0.13	5
Total Conventional (no tight, no solution gas)	**125.85**	**4 443**	**115.99**	**4 095**	**106.99**	**3 777**	**99.28**	**3 505**	**92.98**	**3 282**
Total Tight	**180.45**	**6 370**	**199.80**	**7 053**	**215.54**	**7 609**	**212.35**	**7 496**	**220.13**	**7 771**
Montney Portion	**64.84**	**2289.02**	**85.31**	**3011.41**	**101.96**	**3599.46**	**104.81**	**3699.86**	**114.90**	**4055.97**
Total Solution Gas	**48.27**	**1703.81**	**54.43**	**1921.44**	**51.82**	**1829.30**	**47.63**	**1681.38**	**46.07**	**1626.25**
Total CBM	**21.11**	**745**	**19.67**	**694**	**18.10**	**639**	**16.53**	**583**	**15.13**	**534**
Total Shale	**16.70**	**589**	**16.26**	**574**	**15.64**	**552**	**14.35**	**507**	**13.74**	**485**
Total WCSB	**392.38**	**13 851**	**406.15**	**14 337**	**408.09**	**14 406**	**390.14**	**13 772**	**388.06**	**13 699**
Atlantic Canada	5.16	182	9.38	331	6.45	228	6.38	225	6.09	215
Other Canada	0.35	12	0.30	10	0.28	10	0.26	9	0.24	9
Total Canada	**397.89**	**14 046**	**415.83**	**14 679**	**414.83**	**14 644**	**396.78**	**14 007**	**394.40**	**13 923**

rates are annual averages
*matched to 2013 actual production for Jan-Oct

FIGURE C.3

Outlook for Canadian Gas Deliverability – Lower Price Case

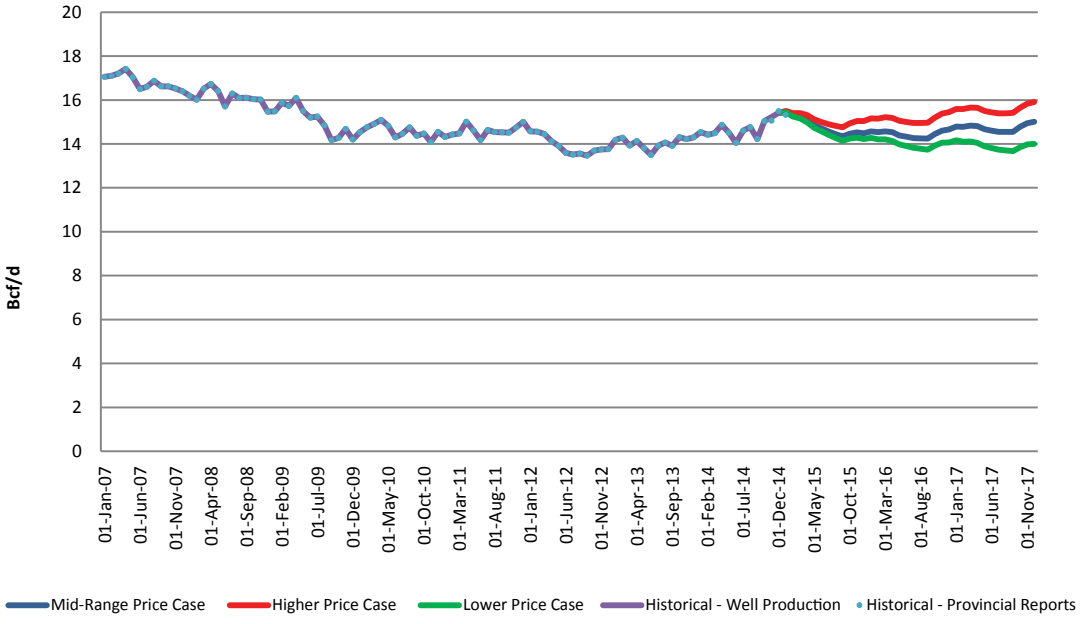


APPENDIX D

Total Canadian Deliverability Comparison by Case

FIGURE D.1

Total Canadian Deliverability Comparison by Case



APPENDIX E

Average Annual Canadian Deliverability and Demand

E.1 – Average Annual Canadian Deliverability and Demand

	2014		2015		2016		2017	
	$10^6m^3/d$	Bcf/d	$10^6m^3/d$	Bcf/d	$10^6m^3/d$	Bcf/d	$10^6m^3/d$	Bcf/d
Canadian Deliverability, Mid-Range Case	416	14.7	419	14.8	409	14.4	417	14.7
Total Canadian Demand [a]	254	9.0	259	9.1	267	9.4	275	9.7
Western Canada Demand	151	5.3	154	5.4	159	5.6	166	5.8
Eastern Canada Demand	103	3.6	105	3.7	108	3.8	110	3.9

[a] Demand is equal to total primary natural gas demand less natural gas used in gas mining and processing.