

ROYAL BANK OF CANADA  
Form FWP  
September 18, 2018

RBC Capital Markets® Filed Pursuant to Rule 433  
Registration Statement No. 333-227001

Preliminary Terms  
Supplement  
Subject to Completion:  
Dated September 18,  
2018

Pricing Supplement Autocallable Contingent Coupon Barrier Notes with  
Dated September \_\_, Memory Coupon Linked to the S&P Oil & Gas  
2018 to the Product Exploration and Production Select Industry Index, due  
Prospectus Supplement October 9, 2019  
No. CCBN-2, Dated Royal Bank of Canada  
September 10, 2018, the  
Prospectus Supplement  
Dated September 7,  
2018, and the Prospectus  
Dated September 7, 2018

Royal Bank of Canada is offering Issuer Callable Contingent Coupon Barrier Notes (the “Notes”) linked to the S&P Oil & Gas Exploration and Production Select Industry Index (the “Reference Index”). The Notes are our senior unsecured obligations, will pay a quarterly Contingent Coupon at the rate and under the circumstances specified below, and will have the terms described in the documents described above, as supplemented or modified by this terms supplement.

Reference Index	Initial Level*	Trigger Level	Coupon Barrier
S&P Oil & Gas Exploration and Production Select Industry Index (“SPSIOP”)		74.75% of its Initial Level	74.75% of its Initial Level

\* The Initial Level will be the closing level of the Reference Index on the Trade Date.

The Notes do not guarantee any return of principal at maturity. Any payments on the Notes are subject to our credit risk.

Investing in the Notes involves a number of risks. See “Risk Factors” beginning on page PS-5 of the product prospectus supplement dated September 10, 2018, on page S-1 of the prospectus supplement dated September 7, 2018, and “Selected Risk Considerations” beginning on page P-7 of this terms supplement.

The Notes will not constitute deposits insured by the Canada Deposit Insurance Corporation, the U.S. Federal Deposit Insurance Corporation or any other Canadian or U.S. government agency or instrumentality. The Notes are not subject to conversion into our common shares under subsection 39.2(2.3) of the Canada Deposit Insurance Corporation Act. Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of the Notes or determined that this terms supplement is truthful or complete. Any representation to the contrary is a criminal offense.

Issuer:	Royal Bank of Canada	Stock Exchange Listing:	None
Trade Date:	September 21, 2018	Principal Amount:	\$1,000 per Note
Issue Date:	September 26, 2018	Maturity Date:	October 9, 2019
Coupon Payment Dates:	Quarterly, as set forth below	Observation Dates:	Quarterly, as set forth below
Valuation Dates:			

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	September 30, 2019, October 1, 2019, October 2, 2019, October 3, 2019 and October 4, 2019	Contingent Coupon Rate:	10% per annum (2.50% per quarter)
Initial Level:	The closing level of the Reference Index on the Trade Date.		
Final Level:	The arithmetic average of the closing level of the Reference Index on each of the Valuation Dates. If the Notes have not been previously called, and if the closing level of the Reference Index is greater than or equal to the Coupon Barrier on the applicable Observation Date (or the Final Level, in the case of the final Coupon Payment Date), we will pay the Contingent Coupon on the applicable Coupon Payment Date. You may not receive any Contingent Coupons during the term of the Notes.		
Contingent Coupon and Memory Feature:	If a Contingent Coupon is not payable on any Coupon Payment Date, it will be paid on any later Coupon Payment Date (or at maturity) on which the Contingent Coupon is then payable, together with the payment otherwise due on that later date. If the Notes are not previously called, we will pay you at maturity an amount based on the Final Level: For each \$1,000 in principal amount, \$1,000 plus the Contingent Coupon (together with any previously unpaid Contingent Coupons) at maturity, unless the Final Level is less than the Trigger Level.		
Payment at Maturity (if held to maturity):	If the Final Level is less than the Trigger Level, then the investor will receive at maturity, for each \$1,000 in principal amount, a cash payment equal to: \$1,000 + (\$1,000 x Underlying Return) Investors could lose some or all of their principal amount if the Reference Index decreases.		
Call Feature:	The Notes will be automatically called on any Coupon Payment Date (other than the final Coupon Payment Date) if the closing level of the Reference Index on the immediately preceding Observation Date is greater than or equal to the Initial Level, as described below.		
CUSIP/ISIN:	78013XH27/US78013XH270		

	Per Note	Total
Price to public	100.00%	\$
Underwriting discounts and commissions <sup>(1)</sup>	1.00%	\$
Proceeds to Royal Bank of Canada	99.00%	\$

<sup>(1)</sup> JPMorgan Chase Bank, N.A., J.P. Morgan Securities LLC and their affiliates will act as placement agents for the Notes and will receive a fee from the Issuer of \$10 per \$1,000 in principal amount of the Notes.

The initial estimated value of the Notes as of the date of this terms supplement is \$985.38 per \$1,000 in principal amount, which is less than the price to public. The final pricing supplement relating to the Notes will set forth our estimate of the initial value of the Notes as of the Trade Date, which will not be less than \$965.38 per \$1,000 in principal amount. The actual value of the Notes at any time will reflect many factors, cannot be predicted with accuracy, and may be less than this amount. We describe our determination of the initial estimated value in more detail below.

RBC Capital Markets, LLC   JPMorgan Chase Bank, N.A.   J.P. Morgan Securities LLC  
Placement Agents

Autocallable Contingent Coupon Barrier Notes with  
Memory Coupon Linked to the S&P Oil & Gas  
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SUMMARY

The information in this “Summary” section is qualified by the more detailed information set forth in this terms supplement, the product prospectus supplement, the prospectus supplement, and the prospectus.

**General:** This terms supplement relates to an offering of Autocallable Contingent Coupon Barrier Notes (the “Notes”) linked to the S&P Oil & Gas Exploration and Production Select Industry Index (the “Reference Index”).

**Issuer:** Royal Bank of Canada (“Royal Bank”)

**Issue:** Senior Global Medium-Term Notes, Series H

**Trade Date:** September 21, 2018

**Issue Date:** September 26, 2018

**Denominations:** Minimum denomination of \$1,000, and integral multiples of \$1,000 thereafter.

**Designated Currency:** U.S. Dollars

**Contingent Coupon and Memory Feature:** We will pay you a Contingent Coupon during the term of the Notes, periodically in arrears on each Coupon Payment Date, under the conditions described below:

- If the closing level of the Reference Index is greater than or equal to the Coupon Barrier on the applicable Observation Date (or in the case of the final Contingent Coupon due on the Maturity Date, the Final Level), we will pay the Contingent Coupon applicable to that Coupon Payment Date, together with any previously unpaid Contingent Coupons.
- If the closing level of the Reference Index is less than the Coupon Barrier on the applicable Observation Date, we will not pay you the Contingent Coupon applicable to that Observation Date. You will not receive any Contingent Coupon on the Maturity Date if the Final Level is less than the Coupon Barrier.

You may not receive a Contingent Coupon for one or more quarterly periods during the term of the Notes.

For the avoidance of doubt, once a previously unpaid Contingent Coupon has been paid on a later Coupon Payment Date, it will not be paid again on a subsequent date.

**Contingent Coupon Rate:** 10% per annum (2.50% per quarter).

**Observation Dates:** Quarterly on January 3, 2019, April 4, 2019 and July 5, 2019.

**Coupon Payment Dates:** The Contingent Coupon, if applicable, will be paid quarterly on January 8, 2019, April 9, 2019, July 10, 2019 and the Maturity Date.

**Record Dates:** The record date for each Coupon Payment Date will be the date one business day prior to that scheduled Coupon Payment Date; provided, however, that any Contingent Coupons payable at maturity or upon a call will be payable to the person to whom the payment at maturity or upon the call, as the case may be, will be payable.

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Automatic Call Feature:	The Notes will be automatically called on any Coupon Payment Date (other than the final Coupon Payment Date) if the closing level of the Reference Index on the immediately preceding Observation Date is greater than or equal to the Initial Level.
Payment if Called:	If the Notes are called, then, on the applicable Coupon Payment Date, for each \$1,000 principal amount, you will receive \$1,000 plus the Contingent Coupon otherwise due on that Coupon Payment Date (together with any previously unpaid Contingent Coupons).
Valuation Dates:	September 30, 2019, October 1, 2019, October 2, 2019, October 3, 2019 and October 4, 2019
Maturity Date:	October 9, 2019
Initial Level:	The closing level of the Reference Index on the Trade Date.
Final Level:	The arithmetic average of the closing level of the Reference Index on each of the Valuation Dates.
Trigger Level	74.75% of the Initial Level.
Coupon Barrier:	74.75% of the Initial Level.

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Payment at Maturity (if not previously called and held to maturity):	<p>If the Notes are not previously called, we will pay you at maturity an amount based on the Final Level:</p> <ul style="list-style-type: none"> <li>· If the Final Level is greater than or equal to the Trigger Level, we will pay you a cash payment equal to the principal amount plus the Contingent Coupon otherwise due on the Maturity Date, together with any previously unpaid Contingent Coupons.</li> <li>· If the Final Level is less than the Trigger Level, you will receive at maturity, for each \$1,000 in principal amount, a cash payment equal to:</li> </ul> <p style="margin-left: 20px;"><math>\\$1,000 + (\\$1,000 \times \text{Underlying Return})</math></p> <p>The amount of cash that you receive will be less than your principal amount, if anything, resulting in a loss that is proportionate to the decline from the Initial Level to the Final Level. Investors in the Notes could lose some or all of their investment if there has been a decline in the level of the Reference Index below the Trigger Level.</p>
Underlying Return:	<p><math>\frac{\text{Final Level} - \text{Initial Level}}{\text{Initial Level}}</math></p>
Market Disruption Events:	<p>If a market disruption event occurs or is continuing on any scheduled Valuation Date other than the final Valuation Date, the closing level of the Reference Index for that Valuation Date will equal its closing level on the next scheduled Valuation Date. For example, if a market disruption event occurs or is continuing on the first and second scheduled Valuation Dates, but not on the third scheduled Valuation Date, then the closing level of the Reference Index will also be deemed to be its closing level on the first and second scheduled Valuation Dates. If no further scheduled Valuation Dates occur after a Valuation Date on which a market disruption event occurs or is continuing or if a market disruption event occurs or is continuing on the final Valuation Date, then the applicable closing level for that Valuation Date will be determined (or, if not determinable, estimated by the calculation agent in a manner which is considered to be commercially reasonable under the circumstances) by the calculation agent on that final Valuation Date, regardless of the occurrence or continuation of a market disruption event on that day. In such an event, the calculation agent will make a good faith estimate in its sole discretion of the closing level of the Reference Index that would have prevailed in the absence of the market disruption event.</p>
Calculation Agent:	<p>RBC Capital Markets, LLC (“RBCCM”)</p>
U.S. Tax Treatment:	<p>By purchasing a Note, each holder agrees (in the absence of a change in law, an administrative determination or a judicial ruling to the contrary) to treat the Notes as a callable pre-paid cash-settled contingent income-bearing derivative contract linked to the Reference Index for U.S. federal income tax purposes. However, the U.S. federal income tax consequences of your investment in the Notes are uncertain and the Internal Revenue Service could assert that the Notes should be taxed in a manner that is different from that described in the preceding sentence. Please see the section below, “Supplemental Discussion of U.S. Federal Income Tax Consequences,” and the discussion (including the opinion of our counsel Morrison &amp; Foerster LLP) in the product prospectus supplement dated September 10, 2018 under “Supplemental Discussion of U.S. Federal Income Tax Consequences,”</p>

which apply to the Notes.

Secondary Market:	RBCCM (or one of its affiliates), though not obligated to do so, may maintain a secondary market in the Notes after the Issue Date. The amount that you may receive upon sale of your Notes prior to maturity may be less than the principal amount.
Listing:	The Notes will not be listed on any securities exchange.
Settlement:	DTC global (including through its indirect participants Euroclear and Clearstream, Luxembourg as described under “Description of Debt Securities—Ownership and Book-Entry Issuance” in the prospectus dated September 7, 2018).
Terms Incorporated in the Master Note:	All of the terms appearing above the item captioned “Secondary Market” on the cover page and pages P-2 and P-3 of this terms supplement and the terms appearing under the caption “General Terms of the Notes” in the product prospectus supplement dated September 10, 2018, as modified by this terms supplement.

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#### ADDITIONAL TERMS OF YOUR NOTES

You should read this terms supplement together with the prospectus dated September 7, 2018, as supplemented by the prospectus supplement dated September 7, 2018 and the product prospectus supplement dated September 10, 2018, relating to our Senior Global Medium-Term Notes, Series H, of which these Notes are a part. Capitalized terms used but not defined in this terms supplement will have the meanings given to them in the product prospectus supplement. In the event of any conflict, this terms supplement will control. The Notes vary from the terms described in the product prospectus supplement in several important ways. You should read this terms supplement carefully.

This terms supplement, together with the documents listed below, contains the terms of the Notes and supersedes all prior or contemporaneous oral statements as well as any other written materials including preliminary or indicative pricing terms, correspondence, trade ideas, structures for implementation, sample structures, brochures or other educational materials of ours. You should carefully consider, among other things, the matters set forth in “Risk Factors” in the prospectus supplement dated September 7, 2018 and in the product prospectus supplement dated September 10, 2018, as the Notes involve risks not associated with conventional debt securities. We urge you to consult your investment, legal, tax, accounting and other advisors before you invest in the Notes. You may access these documents on the Securities and Exchange Commission (the “SEC”) website at [www.sec.gov](http://www.sec.gov) as follows (or if that address has changed, by reviewing our filings for the relevant date on the SEC website):

Prospectus dated September 7, 2018:

<https://www.sec.gov/Archives/edgar/data/1000275/000121465918005973/196181424b3.htm>

Prospectus Supplement dated September 7, 2018:

<https://www.sec.gov/Archives/edgar/data/1000275/000121465918005975/f97180424b3.htm>

Product Prospectus Supplement dated September 10, 2018:

<https://www.sec.gov/Archives/edgar/data/1000275/000114036118038089/form424b5.htm>

Our Central Index Key, or CIK, on the SEC website is 1000275. As used in this terms supplement, “we,” “us,” or “our” refers to Royal Bank of Canada.

Royal Bank of Canada has filed a registration statement (including a product prospectus supplement, a prospectus supplement, and a prospectus) with the SEC for the offering to which this terms supplement relates. Before you invest, you should read those documents and the other documents relating to this offering that we have filed with the SEC for more complete information about us and this offering. You may obtain these documents without cost by visiting EDGAR on the SEC website at [www.sec.gov](http://www.sec.gov). Alternatively, Royal Bank of Canada, any agent or any dealer participating in this offering will arrange to send you the product prospectus supplement, the prospectus supplement and the prospectus if you so request by calling toll-free at 1-877-688-2301.

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#### HYPOTHETICAL EXAMPLES

The table set out below is included for illustration purposes only. The table illustrates the Payment at Maturity of the Notes (excluding the final Contingent Coupons, if payable) for a hypothetical range of performance for the Reference Index, assuming the following terms and that the Notes are not called prior to maturity:

Hypothetical Initial Level:	1,000.00*
Hypothetical Trigger Level:	747.50, which is 74.75% of the hypothetical Initial Level
Hypothetical Coupon Barrier:	747.50, which is 74.75% of the hypothetical Initial Level
Contingent Coupon Rate:	10.00% per annum (or 2.50% per quarter)
Contingent Coupon Amount:	\$25 per quarter
Principal Amount:	\$1,000 per Note

\* The hypothetical Initial Level of 1,000.00 used in the examples below has been chosen for illustrative purposes only and does not represent the actual Initial Level. The actual Initial Level will be set forth on the cover page of the final pricing supplement relating to the Notes.

Hypothetical Final Levels are shown in the first column on the left. The second column shows the Payment at Maturity for a range of Final Levels. The third column shows the amount of cash to be paid on the Notes per \$1,000 in principal amount. If the Notes are called prior to maturity, the hypothetical examples below will not be relevant, and you will receive on the applicable Coupon Payment Date, for each \$1,000 principal amount, \$1,000 plus the Contingent Coupons otherwise due on the Notes (if payable).

Hypothetical Final Level	Payment at Maturity as Percentage of Principal Amount	Cash Payment Amount per \$1,000 in Principal Amount
1,300.00	100.00%	\$1,000.00*
1,200.00	100.00%	\$1,000.00*
1,100.00	100.00%	\$1,000.00*
1,000.00	100.00%	\$1,000.00*
900.00	100.00%	\$1,000.00*
800.00	100.00%	\$1,000.00*
747.50	100.00%	\$1,000.00*
747.40	74.74%	\$747.40
799.90	79.99%	\$799.90
700.00	70.00%	\$700.00
600.00	60.00%	\$600.00
500.00	50.00%	\$500.00
400.00	40.00%	\$400.00
250.00	25.00%	\$250.00



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0.00

0.00%

\$0.00

\*Excludes the final Contingent Coupon (and any previously unpaid Contingent Coupons), if payable.

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Hypothetical Examples of Amounts Payable at Maturity

The following hypothetical examples illustrate how the payments at maturity set forth in the table above are calculated, assuming the Notes have not been called.

Example 1: The level of the Reference Index increases by 25% from the Initial Level of 1,000.00 to the Final Level of 1,250.00. Because the Final Level is greater than the Trigger Level and Coupon Barrier, the investor receives at maturity, in addition to the final Contingent Coupon (and any previously unpaid Contingent Coupons) otherwise due on the Notes, a cash payment of \$1,000 per Note, despite the 25% appreciation in the level of the Reference Index.

Example 2: The level of the Reference Index decreases by 15% from the Initial Level of 1,000.00 to the Final Level of 850.00. Because the Final Level is greater than the Trigger Level and Coupon Barrier, the investor receives at maturity, in addition to the final Contingent Coupon (and any previously unpaid Contingent Coupons) otherwise due on the Notes, a cash payment of \$1,000 per Note, despite the 15% decline in the level of the Reference Index.

Example 3: The level of the Reference Index decreases by 50% from the Initial Level of 1,000.00 to the Final Level of 500.00, which is less than the Trigger Level. Because the Final Level is less than the Trigger Level and Coupon Barrier, the final Contingent Coupon will not be payable on the Maturity Date, and we will pay only \$500.00 for each \$1,000 in the principal amount of the Notes, calculated as follows:

Principal Amount + (Principal Amount x Underlying Return)  
= \$1,000 + (\$1,000 x -50.00%) = \$1,000 - \$500.00 = \$500.00

\* \* \*

The Payments at Maturity shown above are entirely hypothetical; they are based on levels of the Reference Index that may not be achieved on the Valuation Dates and on assumptions that may prove to be erroneous. The actual market value of your Notes on the Maturity Date or at any other time, including any time you may wish to sell your Notes, may bear little relation to the hypothetical Payments at Maturity shown above, and those amounts should not be viewed as an indication of the financial return on an investment in the Notes or on an investment in the securities included in the Reference Index.

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#### SELECTED RISK CONSIDERATIONS

An investment in the Notes involves significant risks. Investing in the Notes is not equivalent to investing directly in the Reference Index. These risks are explained in more detail in the section “Risk Factors” in the product prospectus supplement. In addition to the risks described in the prospectus supplement and the product prospectus supplement, you should consider the following:

**Principal at Risk** — Investors in the Notes could lose all or a substantial portion of their principal amount if there is a decline in the level of the Reference Index between the Trade Date and the Valuation Dates. If the Notes are not called and the Final Level is less than the Trigger Level, the amount of cash that you receive at maturity will represent a loss of your principal that is proportionate to the decline in the closing level of the Reference Index from the Trade Date to the Valuation Dates. Any Contingent Coupons received on the Notes prior to the Maturity Date may not be sufficient to compensate for any such loss.

**The Notes Are Subject to an Automatic Call** — The Notes may be automatically called on any Coupon Payment Date other than the final Coupon Payment Date. If the Notes are so called, then, on the applicable Coupon Payment Date, for each \$1,000 in principal amount, you will receive \$1,000 plus the Contingent Coupon otherwise due on the applicable Coupon Payment Date (together with any previously unpaid Contingent Coupons). You will not receive any Contingent Coupons after that payment. You may be unable to reinvest your proceeds from the call in an investment with a return that is as high as the return on the Notes would have been if they had not been called.

**You May Not Receive Any Contingent Coupons** — We will not necessarily make any coupon payments on the Notes. If the closing level of the Reference Index on an Observation Date (or in the case of the final Contingent Coupon, the Final Level) is less than the Coupon Barrier, we will not pay you the applicable Contingent Coupon. If the closing level of the Reference Index is less than the Coupon Barrier on each of the Observation Dates, and if the Final Level is less than the Coupon Barrier, we will not pay you any Contingent Coupons during the term of, and you will not receive a positive return on your Notes. Generally, this non-payment of the Contingent Coupon coincides with a period of greater risk of principal loss on your Notes. Accordingly, if we do not pay the Contingent Coupon on the Maturity Date, you will also incur a loss of principal, because the Final Level will be less than the Trigger Level. Notwithstanding the memory feature described above, there can be no assurance that any unpaid Contingent Coupon will become payable during the term of the Notes.

**The Call Feature and the Contingent Coupon Feature Limit Your Potential Return** — The return potential of the Notes is limited to the pre-specified Contingent Coupon Rate, regardless of the appreciation of the Reference Index. In addition, the total return on the Notes will vary based on the number of Observation Dates on which the Contingent Coupon becomes payable prior to maturity or an automatic call. Further, if the Notes are automatically called, you will not receive any Contingent Coupons or any other payment in respect of any Observation Dates after the applicable Coupon Payment Date. Since the Notes could be called as early as the first Coupon Payment Date, the total return on the Notes could be minimal. If the Notes are not called, you may be subject to the full downside performance of the Reference Index even though your potential return is limited to the Contingent Coupon Rate. As a result, the return on an investment in the Notes could be less than the return on a direct investment in securities included in the Reference Index.

**Your Return May Be Lower than the Return on a Conventional Debt Security of Comparable Maturity** — The return that you will receive on the Notes, which could be negative, may be less than the return you could earn on other investments. Even if your return is positive, your return may be less than the return you would earn if you bought a conventional senior interest bearing debt security of Royal Bank.

**Payments on the Notes Are Subject to Our Credit Risk, and Changes in Our Credit Ratings Are Expected to Affect the Market Value of the Notes** — The Notes are our senior unsecured debt securities. As a result, your receipt of any Contingent Coupons, if payable, and the amount due on any relevant payment date is dependent upon our ability to

repay its obligations on the applicable payment dates. This will be the case even if the level of the Reference Index increases after the Trade Date. No assurance can be given as to what our financial condition will be at any time during the term of the Notes.

**There May Not Be an Active Trading Market for the Notes-Sales in the Secondary Market May Result in Significant Losses** — There may be little or no secondary market for the Notes. The Notes will not be listed on any securities exchange. RBCCM and our other affiliates may make a market for the Notes; however, they are not required to do so. RBCCM or any other affiliate of ours may stop any market-making activities at any time. Even if a secondary market for the Notes develops, it may not provide significant liquidity or trade at prices advantageous to you. We expect that transaction costs in any secondary

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market would be high. As a result, the difference between bid and asked prices for your Notes in any secondary market could be substantial.

**Owning the Notes Is Not the Same as Owning the Securities Represented by the Reference Index** — The return on your Notes is unlikely to reflect the return you would realize if you actually owned the securities represented by the Reference Index. For instance, you will not receive or be entitled to receive any dividend payments or other distributions on those securities during the term of your Notes. As an owner of the Notes, you will not have voting rights or any other rights that holders of the Reference Index may have. Furthermore, the Reference Index may appreciate substantially during the term of the Notes, while your potential return will be limited to the applicable Contingent Coupon payments.

**The Initial Estimated Value of the Notes Will Be Less than the Price to the Public** — The initial estimated value set forth on the cover page and that will be set forth in the final pricing supplement for the Notes does not represent a minimum price at which we, RBCCM or any of our affiliates would be willing to purchase the Notes in any secondary market (if any exists) at any time. If you attempt to sell the Notes prior to maturity, their market value may be lower than the price you paid for them and the initial estimated value. This is due to, among other things, changes in the levels of the Reference Index, the borrowing rate we pay to issue securities of this kind, and the inclusion in the price to the public of the underwriting discount and the estimated costs relating to our hedging of the Notes. These factors, together with various credit, market and economic factors over the term of the Notes, are expected to reduce the price at which you may be able to sell the Notes in any secondary market and will affect the value of the Notes in complex and unpredictable ways. Assuming no change in market conditions or any other relevant factors, the price, if any, at which you may be able to sell your Notes prior to maturity may be less than your original purchase price, as any such sale price would not be expected to include the underwriting discount and the hedging costs relating to the Notes. In addition to bid-ask spreads, the value of the Notes determined by RBCCM for any secondary market price is expected to be based on the secondary rate rather than the internal funding rate used to price the Notes and determine the initial estimated value. As a result, the secondary price will be less than if the internal funding rate was used. The Notes are not designed to be short-term trading instruments. Accordingly, you should be able and willing to hold your Notes to maturity.

**The Initial Estimated Value of the Notes on the Cover Page of this Terms Supplement and that We Will Provide in the Final Pricing Supplement Are Estimates Only, Calculated as of the Time the Terms of the Notes Are Set** — The initial estimated value of the Notes will be based on the value of our obligation to make the payments on the Notes, together with the mid-market value of the derivative embedded in the terms of the Notes. See “Structuring the Notes” below. Our estimates are based on a variety of assumptions, including our credit spreads, expectations as to dividends, interest rates and volatility, and the expected term of the Notes. These assumptions are based on certain forecasts about future events, which may prove to be incorrect. Other entities may value the Notes or similar securities at a price that is significantly different than we do.

The value of the Notes at any time after the Trade Date will vary based on many factors, including changes in market conditions, and cannot be predicted with accuracy. As a result, the actual value you would receive if you sold the Notes in any secondary market, if any, should be expected to differ materially from the initial estimated value of your Notes.

**Inconsistent Research** — Royal Bank or its affiliates may issue research reports on securities that are, or may become, components of the Reference Index. We may also publish research from time to time on financial markets and other matters that may influence the level of the Reference Index or the value of the Notes, or express opinions or provide recommendations that may be inconsistent with purchasing or holding the Notes or with the investment view implicit in the Notes or the Reference Index. You should make your own independent investigation of the merits of investing in the Notes and the Reference Index.

**The Stocks Included in the Reference Asset Are Concentrated in One Sector** — All of the stocks included in the Reference Asset are issued by companies in the oil and gas exploration and production sector. As a result, the stocks that will determine the performance of the Notes are concentrated in one sector. Although an investment in the Notes will not give holders any ownership or other direct interests in the stocks underlying the Reference Asset, the return on an investment in the Notes will be subject to certain risks associated with a direct equity investment in companies in this sector, including those discussed below. Accordingly, by investing in the Notes, you will not benefit from the diversification which could result from an investment linked to companies that operate in multiple sectors.

**The Stocks of Companies in the Oil and Gas Sector Are Subject to Swift Price Fluctuations** — The issuers of the stocks included in the Reference Asset develop and produce, among other things, crude oil and natural gas, and provide, among other things, drilling services and other services related to oil and gas production and distribution. Stock prices for these types of companies are affected by supply and demand both for their specific product or service and for oil and gas products in general. The price of oil and gas, exploration and production spending, government regulation, world events and economic conditions will likewise affect the performance of these companies. The stock prices of companies in this sector could be subject to wide fluctuations in response to a variety of factors, including the ability of the OPEC to set and maintain production levels and

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pricing, the level of production in non-OPEC countries, the demand for oil and gas, which is negatively impacted by economic downturns, the policies of various governments regarding exploration and development of oil and gas reserves, advances in exploration and development technology and the political environment of oil-producing regions. Correspondingly, the stocks of companies in this sector are subject to swift price fluctuations caused by events relating to international politics, energy conservation, the success of exploration projects and tax and other governmental regulatory policies. Weak demand for the companies' products or services or for oil and gas products and services in general, as well as negative developments in these other areas, would adversely impact the value of the stocks included in the Reference Asset and, therefore, the level of the Reference Asset and the value of the Notes.

Market Disruption Events and Adjustments — The payment at maturity, each Observation Date and Valuation Dates are subject to adjustment as described in the product prospectus supplement. For a description of what constitutes a market disruption event as well as the consequences of that market disruption event, see “General Terms of the Notes—Market Disruption Events” in the product prospectus supplement.

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#### INFORMATION REGARDING THE REFERENCE INDEX

All disclosures contained in this terms supplement regarding the Reference Index, including, without limitation, its make-up, method of calculation, and changes in their components, have been derived from publicly available sources. The information reflects the policies of, and is subject to change by, Standard & Poor's Financial Services LLC ("S&P"). The sponsor has no obligation to continue to publish, and may discontinue publication of, the Reference Index. The consequences of an index sponsor discontinuing publication of the Reference Index are discussed in the section of the product prospectus supplement entitled "General Terms of the Notes—Unavailability of the Level of a Reference Index." Neither we nor RBCCM accepts any responsibility for the calculation, maintenance or publication of the Reference Index or any successor index.

We obtained the information regarding the historical performance of the Reference Index set forth below from Bloomberg Financial Markets.

The Index is an equally-weighted index that is designed to measure the performance of the oil and gas exploration and production sub-industry portion of the S&P Total Market Index ("S&P TMI"), an index that measures the performance of the U.S. equity market. The S&P TMI includes all U.S. common equities listed on the NYSE (including NYSE Arca), the NYSE American, the Nasdaq Global Select Market, and the Nasdaq Capital Market. Each of the component stocks in the Reference Index is a constituent company within the oil and gas exploration and production sub-industry portion of the S&P TMI.

To be eligible for inclusion in the Reference Index, companies must be in the S&P TMI, and must be included in the relevant Global Industry Classification Standard (GICS) sub-industry. The GICS was developed to establish a global standard for categorizing companies into sectors and industries. In addition, companies must satisfy one of the two following combined size and liquidity criteria:

1. float-adjusted market capitalization above US\$500 million and float-adjusted liquidity ratio above 90%; or
2. float-adjusted market capitalization above US\$400 million and float-adjusted liquidity ratio above 150%.

All U.S. companies satisfying these requirements are included in the Reference Index. The total number of companies in the Reference Index should be at least 35. If there are fewer than 35 stocks, stocks from a supplementary list of highly correlated sub-industries that meet the market capitalization and liquidity thresholds above are included in order of their float-adjusted market capitalization to reach 35 constituents. Minimum market capitalization requirements may be relaxed to ensure there are at least 22 companies in the Reference Index as of each rebalancing effective date.

Eligibility factors include:

**Market Capitalization:** Float-adjusted market capitalization should be at least US\$400 million for inclusion in the Reference Index. Existing index components must have a float-adjusted market capitalization of US\$300 million to remain in the Reference Index at each rebalancing.

**Liquidity:** The liquidity measurement used is a liquidity ratio, defined as dollar value traded over the previous 12-months divided by the float-adjusted market capitalization as of the Reference Index rebalancing reference date. Stocks having a float-adjusted market capitalization above US\$500 million must have a liquidity ratio greater than 90% to be eligible for addition to the Reference Index. Stocks having a float-adjusted market capitalization between US\$400 and US\$500 million must have a liquidity ratio greater than 150% to be eligible for addition to the Reference Index. Existing index constituents must have a liquidity ratio greater than 50% to remain in the Reference Index at the quarterly rebalancing. The length of time to evaluate liquidity is reduced to the available trading period for IPOs or spin-offs that do not have 12 months of trading history.

**Domicile:** U.S. companies only.

**Takeover Restrictions:** At the discretion of the index sponsor, constituents with shareholder ownership restrictions defined in company organizational documents may be deemed ineligible for inclusion in the Reference Index.



Ownership restrictions preventing entities from replicating the index weight of a company may be excluded from the eligible universe or removed from the Reference Index.

Turnover: The Index sponsor has indicated that turnover in index membership should be avoided when possible. At times a company may appear to temporarily violate one or more of the addition criteria. However, the addition criteria are for addition to the Reference Index, not for continued membership. As a result, an index constituent that appears to violate the criteria for addition to the Reference Index will not be deleted unless ongoing conditions warrant a change in the composition of the Reference Index.

Additional information relating to the Reference Index, including its method of calculation, may be found on the S&P website. Please note that information included on that website is not included or incorporated by reference in this document.

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The Notes are not sponsored, endorsed, sold, or promoted by S&P Dow Jones Indices LLC, Dow Jones, S&P, any of their respective affiliates (collectively, "S&P Dow Jones Indices"). S&P Dow Jones Indices make no representation or warranty, express or implied, to the holders of the Notes or any member of the public regarding the advisability of investing in securities generally or in the Notes particularly or the ability of the Reference Asset to track general market performance. S&P Dow Jones Indices' only relationship to us with respect to the Reference Asset is the licensing of the Reference Asset and certain trademarks, service marks and/or trade names of S&P Dow Jones Indices and/or its third party licensors. The Index is determined, composed and calculated by S&P Dow Jones Indices without regard to us or the Notes. S&P Dow Jones Indices have no obligation to take our needs or the needs of the holders of the Notes into consideration in determining, composing or calculating the Reference Asset. S&P Dow Jones Indices are not responsible for and have not participated in the determination of the prices, and amount of the Notes or the timing of the issuance or sale of the Notes or in the determination or calculation of the equation by which the Notes are to be converted into cash. S&P Dow Jones Indices have no obligation or liability in connection with the administration, marketing or trading of the Notes. There is no assurance that investment products based on the Reference Asset will accurately track index performance or provide positive investment returns. S&P Dow Jones Indices LLC is not an investment advisor. Inclusion of a security within the Reference Asset is not a recommendation by S&P Dow Jones Indices to buy, sell, or hold such security, nor is it considered to be investment advice. Notwithstanding the foregoing, CME Group Inc. and its affiliates may independently issue and/or sponsor financial products unrelated to the Notes currently being issued by us, but which may be similar to and competitive with the Notes. In addition, CME Group Inc. and its affiliates may trade financial products which are linked to the performance of the Reference Asset. It is possible that this trading activity will affect the value of the Reference Asset and the Notes.

S&P DOW JONES INDICES DO NOT GUARANTEE THE ADEQUACY, ACCURACY, TIMELINESS AND/OR THE COMPLETENESS OF THE REFERENCE INDEX OR ANY DATA RELATED THERETO OR ANY COMMUNICATION, INCLUDING BUT NOT LIMITED TO, ORAL OR WRITTEN COMMUNICATION (INCLUDING ELECTRONIC COMMUNICATIONS) WITH RESPECT THERETO. S&P DOW JONES INDICES SHALL NOT BE SUBJECT TO ANY DAMAGES OR LIABILITY FOR ANY ERRORS, OMISSIONS, OR DELAYS THEREIN. S&P DOW JONES INDICES MAKE NO EXPRESS OR IMPLIED WARRANTIES, AND EXPRESSLY DISCLAIMS ALL WARRANTIES, OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE OR AS TO RESULTS TO BE OBTAINED BY US, HOLDERS OF THE NOTES, OR ANY OTHER PERSON OR ENTITY FROM THE USE OF THE REFERENCE INDEX OR WITH RESPECT TO ANY DATA RELATED THERETO. WITHOUT LIMITING ANY OF THE FOREGOING, IN NO EVENT WHATSOEVER SHALL S&P DOW JONES INDICES BE LIABLE FOR ANY INDIRECT, SPECIAL, INCIDENTAL, PUNITIVE, OR CONSEQUENTIAL DAMAGES INCLUDING BUT NOT LIMITED TO, LOSS OF PROFITS, TRADING LOSSES, LOST TIME OR GOODWILL, EVEN IF THEY HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, WHETHER IN CONTRACT, TORT, STRICT LIABILITY, OR OTHERWISE. THERE ARE NO THIRD PARTY BENEFICIARIES OF ANY AGREEMENTS OR ARRANGEMENTS BETWEEN S&P DOW JONES INDICES AND US, OTHER THAN THE LICENSORS OF S&P DOW JONES INDICES.



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Historical Information

Below is a table setting forth the intra-day high, intra-day low and period-end closing levels of the Reference Index, based on information provided by Bloomberg Financial Markets. The information provided in the table is for the period from January 1, 2008 through September 17, 2018.

Period-Start Date	Period-End Date	High Intra-Day Level of the Reference Index	Low Intra-Day Level of the Reference Index	Period-End Closing Level of the Reference Index
1/1/2008	3/31/2008	8,390.96	6,342.28	8,059.69
4/1/2008	6/30/2008	10,736.57	7,977.75	10,512.50
7/1/2008	9/30/2008	10,956.05	6,119.70	6,735.70
10/1/2008	12/30/2008	6,735.70	3,421.59	4,379.91
1/1/2009	3/31/2009	5,182.01	3,441.67	4,028.98
4/1/2009	6/30/2009	5,693.90	3,924.27	4,739.29
7/1/2009	9/30/2009	6,011.52	4,174.95	5,788.22
10/1/2009	12/29/2009	6,614.28	5,425.32	6,258.12
1/1/2010	3/31/2010	6,674.74	5,716.83	6,305.00
4/1/2010	6/30/2010	6,878.23	5,538.84	5,839.73
7/1/2010	9/30/2010	6,426.34	5,599.63	6,321.30
10/1/2010	12/30/2010	7,945.96	6,277.81	7,883.34
1/1/2011	3/31/2011	9,786.50	7,825.78	9,703.90
4/1/2011	6/30/2011	9,891.67	8,122.61	8,844.06
7/1/2011	9/30/2011	9,865.04	6,452.66	6,452.82
10/1/2011	12/30/2011	8,671.89	5,675.37	7,934.69
1/1/2012	3/30/2012	9,315.60	7,877.33	8,581.00
4/1/2012	6/29/2012	8,782.59	6,651.56	7,594.48
7/1/2012	9/28/2012	8,988.54	7,226.25	8,395.79
10/1/2012	12/31/2012	8,655.95	7,533.24	8,183.36
1/1/2013	3/28/2013	9,494.57	8,183.36	9,173.92
4/1/2013	6/28/2013	9,580.02	8,198.75	8,843.20
7/1/2013	9/30/2013	10,119.35	8,851.17	10,003.49
10/1/2013	12/31/2013	11,202.98	9,746.86	10,400.37
1/1/2014	3/31/2014	10,919.96	9,673.20	10,896.20
4/1/2014	6/30/2014	12,751.78	10,740.82	12,490.67
7/1/2014	9/30/2014	12,545.51	10,374.39	10,454.42
10/1/2014	12/31/2014	10,573.85	6,357.56	7,271.25
1/1/2015	3/31/2015	8,217.89	6,331.11	7,501.35
4/1/2015	6/30/2015	8,528.09	7,025.94	7,100.87
7/1/2015	9/30/2015	7,104.36	4,823.97	5,001.12
10/1/2015	12/31/2015	6,212.91	4,310.33	4,601.66
1/1/2016	3/31/2016	4,820.87	3,359.43	4,622.51
4/1/2016	6/30/2016	5,812.13	4,421.68	5,297.27
7/1/2016	9/30/2016	5,962.06	4,905.70	5,854.80
10/1/2016	12/30/2016	6,817.43	5,196.31	6,308.60
1/1/2017	3/31/2017	6,497.38	5,270.23	5,700.61
4/1/2017	6/30/2017	5,880.21	4,551.94	4,857.15

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7/1/2017	9/29/2017	5,283.40	4,400.55	5,191.83
10/1/2017	12/29/2017	5,760.28	4,821.74	5,673.53
1/1/2018	3/29/2018	6,118.66	4,719.29	5,365.69
4/1/2018	6/29/2018	6,804.83	5,079.81	6,555.08
7/1/2018	9/17/2018	6,918.53	5,902.02	6,268.00

PAST PERFORMANCE IS NOT INDICATIVE OF FUTURE RESULTS.

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The graph below illustrates the performance of the Reference Index from January 1, 2008 to September 17, 2018. The red line represents a hypothetical Trigger Level and Coupon Barrier of 4,685.33, which is equal to 74.75% of 6,268.00, which was its closing level on September 17, 2018. The actual Coupon Barrier and Trigger Level will be based on the closing level of the Reference Index on the Trade Date.

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#### SUPPLEMENTAL DISCUSSION OF U.S. FEDERAL INCOME TAX CONSEQUENCES

The following disclosure supplements, and to the extent inconsistent supersedes, the discussion in the product prospectus supplement dated September 10, 2018 under “Supplemental Discussion of U.S. Federal Income Tax Consequences.”

Under Section 871(m) of the Code, a “dividend equivalent” payment is treated as a dividend from sources within the United States. Such payments generally would be subject to a 30% U.S. withholding tax if paid to a non-U.S. holder. Under U.S. Treasury Department regulations, payments (including deemed payments) with respect to equity-linked instruments (“ELIs”) that are “specified ELIs” may be treated as dividend equivalents if such specified ELIs reference an interest in an “underlying security,” which is generally any interest in an entity taxable as a corporation for U.S. federal income tax purposes if a payment with respect to such interest could give rise to a U.S. source dividend. However, the IRS has issued guidance that states that the U.S. Treasury Department and the IRS intend to amend the effective dates of the U.S. Treasury Department regulations to provide that withholding on dividend equivalent payments will not apply to specified ELIs that are not delta-one instruments and that are issued before January 1, 2019. Based on our determination that the Notes are not delta-one instruments, non-U.S. holders should not be subject to withholding on dividend equivalent payments, if any, under the Notes. However, it is possible that the Notes could be treated as deemed reissued for U.S. federal income tax purposes upon the occurrence of certain events affecting the Reference Index or the Notes (for example, upon the Reference Index rebalancing), and following such occurrence the Notes could be treated as subject to withholding on dividend equivalent payments. Non-U.S. holders that enter, or have entered, into other transactions in respect of the Reference Index or the Notes should consult their tax advisors as to the application of the dividend equivalent withholding tax in the context of the Notes and their other transactions. If any payments are treated as dividend equivalents subject to withholding, we (or the applicable withholding agent) would be entitled to withhold taxes without being required to pay any additional amounts with respect to amounts so withheld.

#### SUPPLEMENTAL PLAN OF DISTRIBUTION (CONFLICTS OF INTEREST)

JPMorgan Chase Bank, N.A., J.P. Morgan Securities LLC and its affiliates will act as placement agents for the Notes and will receive a fee from the Issuer of \$10.00 per \$1,000 in principal amount of the Notes.

In addition, RBCCM or another of its affiliates or agents may use this document in market-making transactions after the initial sale of the Notes, but is under no obligation to do so and may discontinue any market-making activities at any time without notice.

We expect that delivery of the Notes will be made against payment for the Notes on or about September 26, 2018, which is the third (3rd) business day following the Trade Date (this settlement cycle being referred to as “T+3”). See “Plan of Distribution” in the prospectus dated September 7, 2018. For additional information as to the relationship between us and RBCCM, please see the section “Plan of Distribution—Conflicts of Interest” in the prospectus dated September 7, 2018.

We will deliver the Notes on a date that is greater than two business days following the Trade Date. Under Rule 15c6-1 under the Exchange Act, trades in the secondary market generally are required to settle in two business days, unless the parties to any such trade expressly agree otherwise. Accordingly, purchasers who wish to trade the Notes more than two business days prior to the original issue date will be required to specify alternative settlement arrangements to prevent a failed settlement.

The value of the Notes shown on your account statement may be based on RBCCM’s estimate of the value of the Notes if RBCCM or another of our affiliates were to make a market in the Notes (which it is not obligated to do). That estimate will be based upon the price that RBCCM may pay for the Notes in light of then prevailing market conditions, our creditworthiness and transaction costs. For a period of approximately six months after the issue date of

the Notes, the value of the Notes that may be shown on your account statement may be higher than RBCCM's estimated value of the Notes at that time. This is because the estimated value of the Notes will not include the underwriting discount and our hedging costs and profits; however, the value of the Notes shown on your account statement during that period may be a higher amount, reflecting the addition of RBCCM's underwriting discount and our estimated costs and profits from hedging the Notes. This excess is expected to decrease over time until the end of this period. After this period, if RBCCM repurchases your Notes, it expects to do so at prices that reflect their estimated value.

#### STRUCTURING THE NOTES

The Notes are our debt securities, the return on which is linked to the performance of the Reference Index. As is the case for all of our debt securities, including our structured notes, the economic terms of the Notes reflect our actual or perceived creditworthiness at the time of pricing. In addition, because structured notes result in increased operational, funding and liability management costs to us, we typically borrow the funds under these Notes at a rate that is more favorable to us than the rate that we might pay for a conventional fixed or floating rate debt security of comparable maturity. Using this relatively lower implied borrowing rate rather than the secondary market rate, is a factor that is likely to reduce the initial estimated value of the Notes at the time their terms are set. Unlike the estimated value included in this terms supplement or in the final pricing supplement, any value of the Notes determined for purposes of a secondary market transaction may be based on a different funding rate, which may result in a lower value for the Notes than if our initial internal funding rate were used.



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In order to satisfy our payment obligations under the Notes, we may choose to enter into certain hedging arrangements (which may include call options, put options or other derivatives) on the issue date with RBCCM or one of our other subsidiaries. The terms of these hedging arrangements take into account a number of factors, including our creditworthiness, interest rate movements, the volatility of the Reference Index, and the tenor of the Notes. The economic terms of the Notes and their initial estimated value depend in part on the terms of these hedging arrangements.

The lower implied borrowing rate is a factor that reduces the economic terms of the Notes to you. The initial offering price of the Notes also reflects the underwriting commission and our estimated hedging costs. These factors result in the initial estimated value for the Notes on the Trade Date being less than their public offering price. See “Selected Risk Considerations—The Initial Estimated Value of the Notes Will Be Less than the Price to the Public” above.