

ROYAL BANK OF CANADA
Form FWP
June 22, 2018

ISSUER FREE WRITING PROSPECTUS

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Dated June 22, 2018

Royal Bank of Canada Trigger Autocallable Contingent Yield Notes

\$ Notes Linked to the SPDR® S&P® Oil & Gas Exploration & Production ETF due on or about June 30, 2020

Investment Description

Trigger Autocallable Contingent Yield Notes (the “Notes”) are unsecured and unsubordinated debt securities issued by Royal Bank of Canada linked to the performance of the shares of the SPDR® S&P® Oil & Gas Exploration & Production ETF (the “Underlying”). We will pay a quarterly Contingent Coupon payment if the closing price of the Underlying on the applicable Coupon Observation Date is equal to or greater than the Coupon Barrier. Otherwise, no coupon will be paid for that quarter. We will automatically call the Notes early if the closing price of the Underlying on any Call Observation Date (beginning after six months) is equal to or greater than the Initial Price. If the Notes are called, we will pay you the principal amount of your Notes plus the Contingent Coupon for that quarter and no further amounts will be owed to you under the Notes. If the Notes are not called prior to maturity and the Final Price of the Underlying is equal to or greater than the Downside Threshold (which is the same price as the Coupon Barrier), we will pay you a cash payment at maturity equal to the principal amount of your Notes plus the Contingent Coupon for the final quarter. If the Final Price of the Underlying is less than the Downside Threshold, we will pay you less than the full principal amount, if anything, resulting in a loss on your initial investment that is proportionate to the negative performance of the Underlying over the term of the Notes, and you may lose up to 100% of your initial investment. Investing in the Notes involves significant risks. You may lose some or all of your principal amount. The contingent repayment of principal only applies if you hold the Notes until maturity. Generally, the higher the Contingent Coupon Rate on the Notes, the greater the risk of loss on the Notes. Any payment on the Notes, including any repayment of principal, is subject to our creditworthiness. If we were to default on our payment obligations, you may not receive any amounts owed to you under the Notes and you could lose your entire investment. The Notes will not be listed on any securities exchange.

Features Key Dates¹

Contingent Coupon — We will pay a quarterly Contingent Coupon payment if the closing price of the Underlying on the applicable Coupon Observation Date is equal to or greater than the Coupon Barrier. Otherwise, no coupon will be paid for the quarter.

Automatically Callable — We will automatically call the Notes and pay you the principal amount of your Notes plus the Contingent Coupon otherwise due for the applicable quarter if the closing price of the Underlying on any quarterly Call Observation Date (beginning after six months) is greater than or equal to the Initial Price. If the Notes are not called, investors will have the potential for downside equity market risk at maturity.

Contingent Repayment of Principal at Maturity — If by maturity the Notes have not been called and the price of the Underlying does not close below the Downside Threshold on the Final Valuation Date, we will repay your principal amount per Note at maturity. If the price of the Underlying closes below the Downside Threshold on the Final Valuation Date, we will pay less than the principal amount, if anything, resulting in a loss on your initial investment that is proportionate to the decline in the price of the Underlying from the Trade Date to the Final Valuation Date.

The contingent repayment of principal only applies if you hold the Notes until maturity. Any payment on the Notes, including any repayment of principal, is subject to our creditworthiness.

Trade Date¹ June 27, 2018

Settlement Date¹ June 29, 2018

Coupon Observation Dates² Quarterly (see page 6)

Call Observation Dates ²	Quarterly (callable after six months) (see page 6)
Final Valuation Date ²	June 25, 2020
Maturity Date ²	June 30, 2020

Expected. In the event that we make any change to the expected Trade Date and settlement date, the Coupon
¹ Observation Dates, the Call Observation Dates, the Final Valuation Date and/or the maturity date will be changed so
that the stated term of the Notes remains approximately the same.

² Subject to postponement if a market disruption event occurs and as described under “General Terms of the
² Securities—Payment at Maturity” in the accompanying product prospectus supplement no. UBS-TPAOS-2.

NOTICE TO INVESTORS: THE NOTES ARE SIGNIFICANTLY RISKIER THAN CONVENTIONAL DEBT INSTRUMENTS. WE ARE NOT NECESSARILY OBLIGATED TO REPAY THE FULL PRINCIPAL AMOUNT OF THE NOTES AT MATURITY, AND THE NOTES CAN HAVE DOWNSIDE MARKET RISK SIMILAR TO THE UNDERLYING. THIS MARKET RISK IS IN ADDITION TO THE CREDIT RISK INHERENT IN PURCHASING OUR DEBT OBLIGATION. YOU SHOULD NOT PURCHASE THE NOTES IF YOU DO NOT UNDERSTAND OR ARE NOT COMFORTABLE WITH THE SIGNIFICANT RISKS INVOLVED IN INVESTING IN THE NOTES.

YOU SHOULD CAREFULLY CONSIDER THE RISKS DESCRIBED UNDER “KEY RISKS” BEGINNING ON PAGE 7 OF THIS FREE WRITING PROSPECTUS, UNDER “RISK FACTORS” BEGINNING ON PAGE PS-5 OF THE PRODUCT PROSPECTUS SUPPLEMENT NO. UBS-TPAOS-2 AND UNDER “RISK FACTORS” BEGINNING ON PAGE S-1 OF THE PROSPECTUS SUPPLEMENT BEFORE PURCHASING ANY NOTES. EVENTS RELATING TO ANY OF THOSE RISKS, OR OTHER RISKS AND UNCERTAINTIES, COULD ADVERSELY AFFECT THE MARKET VALUE OF, AND THE RETURN ON, YOUR NOTES. YOU MAY LOSE SOME OR ALL OF YOUR INITIAL INVESTMENT IN THE NOTES.

Note Offering

We are offering Trigger Autocallable Contingent Yield Notes linked to the shares of the SPDR[®] S&P[®] Oil & Gas Exploration & Production ETF. The Contingent Coupon Rate, Initial Price, Coupon Barrier and Downside Threshold for the Notes will be determined on the Trade Date. The Notes will be issued in minimum denominations of \$10.00, and integral multiples of \$10.00 in excess thereof, with a minimum investment of \$1,000.00. The indicative Contingent Coupon Rate range for the Notes is listed below.

Underlying	Contingent Coupon Rate	Initial Price	Downside Threshold	Coupon Barrier	CUSIP	ISIN
Shares of the SPDR [®] S&P [®] Oil & Gas Exploration & Production ETF (“XOP”)	9% to 10% per annum		70% of the Initial Price	70% of the Initial Price	78014G237US	78014G2378

See “Additional Information About Royal Bank of Canada and the Notes” in this free writing prospectus. The Notes will have the terms specified in the prospectus dated January 8, 2016, the prospectus supplement dated January 8, 2016, product prospectus supplement no. UBS-TPAOS-2 dated January 20, 2016 and this free writing prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of the Notes or passed upon the accuracy or the adequacy of this free writing prospectus or the accompanying prospectus, prospectus supplement and product prospectus supplement no. UBS-TPAOS-2. Any representation to the contrary is a criminal offense.

Offering of the Notes	Price to Public		Fees and Commissions ⁽¹⁾ Us		Proceeds to	
	Total	Per Note	Total	Per Note	Total	Per Note
Notes linked to the shares of the SPDR [®] S&P [®] Oil & Gas Exploration & Production ETF (“XOP”)		\$10.00		\$0.15		\$9.85

⁽¹⁾ UBS Financial Services Inc., which we refer to as UBS, will receive a commission that will depend on market conditions on the Trade Date. In no event will the commission received by UBS exceed \$0.15 per \$10.00 principal

amount of the Notes. See “Supplemental Plan of Distribution (Conflicts of Interest)” below.

The initial estimated value of the Notes as of the date of this document is \$9.7857 per \$10 in principal amount, which is less than the price to public. The 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 more than \$0.20 less than this 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 under “Key Risks,” “Supplemental Plan of Distribution (Conflicts of Interest)” and “Structuring the Notes” below.

The Notes will not constitute deposits insured under the Canada Deposit Insurance Corporation Act or by the United States Federal Deposit Insurance Corporation or any other Canadian or United States government agency or instrumentality.

UBS Financial Services Inc. RBC Capital Markets, LLC

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Additional Information About Royal Bank of Canada and the Notes

Royal Bank of Canada has filed a registration statement (including a prospectus) with the Securities and Exchange Commission, or SEC, for the offering to which this free writing prospectus relates. Before you invest, you should read the prospectus in that registration statement and the other documents relating to this offering that Royal Bank of Canada has filed with the SEC for more complete information about Royal Bank of Canada and this offering. You may obtain these documents without cost by visiting EDGAR on the SEC website at www.sec.gov. Alternatively, Royal Bank of Canada, any agent or any dealer participating in this offering will arrange to send you the prospectus, the prospectus supplement, product prospectus supplement no. UBS-TPAOS-2 and this free writing prospectus if you so request by calling toll-free 1-877-688-2301.

You may revoke your offer to purchase the Notes at any time prior to the time at which we accept such offer by notifying the applicable agent. We reserve the right to change the terms of, or reject any offer to purchase, the Notes prior to their issuance. In the event of any changes to the terms of the Notes, we will notify you and you will be asked to accept such changes in connection with your purchase. You may also choose to reject such changes, in which case we may reject your offer to purchase.

You should read this free writing prospectus together with the prospectus dated January 8, 2016, as supplemented by the prospectus supplement dated January 8, 2016, relating to our senior global medium-term notes, Series G, of which these Notes are a part, and the more detailed information contained in product prospectus supplement no.

UBS-TPAOS-2 dated January 20, 2016. This free writing prospectus, together with the documents listed below, contains the terms of the Notes and supersedes all other 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, fact sheets, brochures or other educational materials of ours. You should carefully consider, among other things, the matters set forth in "Risk Factors" in the accompanying product prospectus supplement no. UBS-TPAOS-2, as the Notes involve risks not associated with conventional debt securities.

If the terms discussed in this free writing prospectus differ from those discussed in the product prospectus supplement no. UBS-TPAOS-2, the prospectus supplement, or the prospectus, the terms discussed herein will control. Please note in particular that several defined terms in the product prospectus supplement are replaced in this document with different terms:

..instead of "Starting Price" in the product prospectus supplement, the term "Initial Price" is used in this document;

..instead of "Ending Price" in the product prospectus supplement, the term "Final Price" is used in this document;

..instead of "Trigger Price" in the product prospectus supplement, the term "Downside Threshold" is used in this document;

..instead of "Underlying Equity" in the product prospectus supplement, the term "Underlying" is used in this document; and

..instead of "final Observation Date" in the product prospectus supplement, the term "Final Valuation Date" is used in this document.

You may access these on the SEC website at www.sec.gov as follows (or if such address has changed, by reviewing our filing for the relevant date on the SEC website):

..Product prospectus supplement no. UBS-TPAOS-2 dated January 20, 2016:

<https://www.sec.gov/Archives/edgar/data/1000275/000114036116048191/form424b5.htm>

..Prospectus supplement dated January 8, 2016:

<http://www.sec.gov/Archives/edgar/data/1000275/000121465916008811/p14150424b3.htm>

..Prospectus dated January 8, 2016:

<http://www.sec.gov/Archives/edgar/data/1000275/000121465916008810/j18160424b3.htm>

As used in this free writing prospectus, "we," "us" or "our" refers to Royal Bank of Canada.

Investor Suitability

The Notes may be suitable for you if, among other considerations:

.. You fully understand the risks inherent in an investment in the Notes, including the risk of loss of your entire initial investment.

.. You can tolerate a loss of all or a substantial portion of your investment and are willing to make an investment that may have the same downside market risk as an investment in the Underlying.

.. You believe the closing price of the Underlying will be equal to or greater than the Coupon Barrier on most or all of the Coupon Observation Dates (including the Final Valuation Date).

You would be willing to invest in the Notes if the Contingent Coupon Rate were set to the bottom end of the range specified on the cover page of this free writing prospectus (the actual Contingent Coupon Rate will be determined on the Trade Date).

.. You do not seek guaranteed current income from this investment and are willing to forgo the dividends paid on the equity securities held by the Underlying.

.. You can tolerate fluctuations in the price of the Notes prior to maturity that may be similar to or exceed the downside price fluctuations of the Underlying.

You are willing to invest in Notes for which there may be little or no secondary market and you accept that the secondary market will depend in large part on the price, if any, at which RBC Capital Markets, LLC, which we refer to as "RBCCM," is willing to purchase the Notes.

.. You are willing to invest in the Notes based on the Downside Threshold and Coupon Barrier specified on the cover page of this free writing prospectus

.. You understand and accept the risks associated with the Underlying.

.. You are willing to invest in securities that may be called early and you are otherwise willing to hold such securities to maturity.

.. You are willing to assume our credit risk for all payments under the Notes, and understand that if we default on our obligations, you may not receive any amounts due to you, including any repayment of principal.

The Notes may not be suitable for you if, among other considerations:

.. You do not fully understand the risks inherent in an investment in the Notes, including the risk of loss of your entire initial investment.

.. You cannot tolerate a loss on your investment and require an investment designed to provide a full return of principal at maturity.

.. You are not willing to make an investment that may have the same downside market risk as an investment in the Underlying.

You believe that the price of the Underlying will decline during the term of the Notes and is likely to close below the Coupon Barrier on most or all of the Coupon Observation Dates and below the Downside Threshold on the Final Valuation Date.

You would be unwilling to invest in the Notes if the Contingent Coupon Rate were set to the bottom end of the range specified on the cover page of this free writing prospectus (the actual Contingent Coupon Rate will be determined on the Trade Date).

.. You seek an investment that participates in the full appreciation in the price of the Underlying or that has unlimited return potential.

.. You cannot tolerate fluctuations in the price of the Notes prior to maturity that may be similar to or exceed the downside price fluctuations of the Underlying.

.. You are unwilling to invest in the Notes based on the Downside Threshold and Coupon Barrier specified on the cover page of this free writing prospectus.

.. You do not understand or accept the risks associated with the Underlying.

.. You seek guaranteed current income from this investment or prefer to receive the dividends paid on the Underlying.

You are unable or unwilling to hold securities that may be called early, or you are otherwise unable or unwilling to hold such securities to maturity or you seek an investment for which there will be an active secondary market for the Notes.

.. You are not willing to assume our credit risk for all payments under the Notes, including any repayment of principal.

The suitability considerations identified above are not exhaustive. Whether or not the Notes are a suitable investment for you will depend on your individual circumstances, and you should reach an investment decision only after you and your investment, legal, tax, accounting, and other advisers have carefully considered the suitability of an investment in the Notes in light of your particular circumstances. You should also review carefully the “Key Risks” below and “Risk Factors” in the accompanying product prospectus supplement no. UBS-TPAOS-2 for risks related to an investment in the Notes. In addition, you should review carefully the section below, “Information About the Underlying,” for more information about the Underlying.

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Indicative Terms of the Notes¹

Issuer:	Royal Bank of Canada
Principal Amount per Note:	\$10.00 per Note
Term: ²	Approximately 2 years, if not previously called
Underlying:	The shares of the SPDR® S&P® Oil & Gas Exploration & Production ETF
Closing Price:	On any trading day, the last reported sale price of the Underlying on the principal national securities exchange in the U.S. on which it is listed for trading, as determined by the calculation agent.
Initial Price:	The closing price of the Underlying on the Trade Date.
Final Price:	The closing price of the Underlying on the Final Valuation Date. If the closing price of the Underlying is equal to or greater than the Coupon Barrier on any Coupon Observation Date, we will pay you the Contingent Coupon applicable to that Coupon Observation Date.
Contingent Coupon:	If the closing price of the Underlying is less than the Coupon Barrier on any Coupon Observation Date, the Contingent Coupon applicable to that Coupon Observation Date will not accrue or be payable and we will not make any payment to you on the relevant Contingent Coupon Payment Date. The Contingent Coupon will be a fixed amount based upon equal quarterly installments at the Contingent Coupon Rate, which will be a per annum rate as set forth below.
Contingent Coupon payments on the Notes are not guaranteed. We will not pay you the Contingent Coupon for any Coupon Observation Date on which the closing price of the Underlying is less than the Coupon Barrier.	
Contingent Coupon Rate:	9% to 10% per annum (or 2.25% to 2.50% per quarter) (to be determined on the Trade Date)
Coupon Barrier:	70% of the Initial Price (as may be adjusted in the case of certain adjustment events as described under “General Terms of the Securities—Anti-dilution Adjustments” in the product prospectus supplement). The Coupon Barrier equals the Downside Threshold.
Downside Threshold:	70% of the Initial Price (as may be adjusted in the case of certain adjustment events as described under “General Terms of the Securities—Anti-dilution Adjustments” in the product prospectus supplement). The Downside Threshold equals the Coupon Barrier.
Automatic Call Feature:	The Notes will be called automatically if the closing price of the Underlying on any Call Observation Date (beginning after six months) (set forth on page 6) is greater than or equal to the Initial Price. If the Notes are called, we will pay you on the

¹ Terms used in this free writing prospectus, but not defined herein, shall have the meanings ascribed to them in the product prospectus supplement.

² In the event we make any change to the expected Trade Date and settlement date, the final Observation Date and maturity date will be changed to ensure that the stated term of the Notes remains approximately the same.

corresponding coupon payment date (which will be the “Call Settlement Date”) a cash payment per Note equal to the principal amount per Note plus the applicable Contingent Coupon payment otherwise due on that day (the “Call Settlement Amount”). No further amounts will be owed to you under the Notes.

Payment at Maturity: If the Notes are not called and the Final Price is equal to or greater than the Downside Threshold and the Coupon Barrier, we will pay you a cash payment per Note on the maturity date equal to \$10.00 plus the Contingent Coupon otherwise due on the maturity date.

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If the Notes are not called and the Final Price is less than the Downside Threshold, we will pay you a cash payment on the maturity date of less than the principal amount, if anything, resulting in a loss on your initial investment that is proportionate to the negative Underlying Return, equal to:
 $\$10.00 + (\$10.00 \times \text{Underlying Return})$

Underlying Final Price – Initial Price
Return: Initial Price

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Investment Timeline

Trade Date:	The Initial Price of the Underlying is observed. The Downside Threshold and Coupon Barrier are determined. The Contingent Coupon Rate is set.
Quarterly (beginning after six months):	<p>If the closing price of the Underlying is equal to or greater than the Coupon Barrier on any Coupon Observation Date, we will pay you a Contingent Coupon payment on the applicable coupon payment date.</p> <p>The Notes will be called if the closing price of the Underlying on any Call Observation Date (beginning after six months) is equal to or greater than the Initial Price. If the Notes are called, we will pay you a cash payment per Note equal to \$10 plus the Contingent Coupon otherwise due on that date.</p>
Maturity Date:	<p>The Final Price of the Underlying is observed on the Final Valuation Date.</p> <p>If the Notes have not been called and the Final Price is equal to or greater than the Downside Threshold (and the Coupon Barrier), we will repay the principal amount equal to \$10 per Note plus the Contingent Coupon otherwise due on the maturity date.</p> <p>If the Notes have not been called and the Final Price is less than the Downside Threshold, we will pay less than the principal amount, if anything, resulting in a loss on your initial investment proportionate to the decline of the Underlying, for an amount equal to:</p> <p>$\\$10 + (\\$10 \times \text{Underlying Return})$ per Note</p>

INVESTING IN THE NOTES INVOLVES SIGNIFICANT RISKS. YOU MAY LOSE SOME OR ALL OF YOUR PRINCIPAL AMOUNT. ANY PAYMENT ON THE NOTES, INCLUDING ANY REPAYMENT OF PRINCIPAL, IS SUBJECT TO OUR CREDITWORTHINESS. IF WE WERE TO DEFAULT ON OUR PAYMENT OBLIGATIONS, YOU MAY NOT RECEIVE ANY AMOUNTS OWED TO YOU UNDER THE NOTES AND YOU COULD LOSE YOUR ENTIRE INVESTMENT.

Coupon Observation Dates and Coupon Payment Dates*

Coupon Observation Dates	Coupon Payment Dates
September 27, 2018	October 1, 2018
December 27, 2018 ⁽¹⁾	December 31, 2018 ⁽²⁾
March 27, 2019 ⁽¹⁾	March 29, 2019 ⁽²⁾
June 27, 2019 ⁽¹⁾	July 1, 2019 ⁽²⁾
September 27, 2019 ⁽¹⁾	October 1, 2019 ⁽²⁾
December 27, 2019 ⁽¹⁾	December 31, 2019 ⁽²⁾
March 27, 2020 ⁽¹⁾	March 31, 2020 ⁽²⁾
June 25, 2020 ⁽³⁾	June 30, 2020 ⁽⁴⁾

(1) These Coupon Observation Dates are also Call Observation Dates.

(2) These Coupon Payment Dates are also Call Settlement Dates.

(3) This is also the Final Valuation Date.

(4) This is also the maturity date.

* Expected. Subject to postponement if a market disruption event occurs as described under “General Terms of the Securities—Payment at Maturity” in the accompanying product prospectus supplement no. UBS-TPAOS-2.

Key Risks

An investment in the Notes involves significant risks. Investing in the Notes is not equivalent to investing directly in the Underlying. These risks are explained in more detail in the “Risk Factors” section of the accompanying product prospectus supplement no. UBS-TPAOS-2. We also urge you to consult your investment, legal, tax, accounting and other advisors before investing in the Notes.

Risks Relating to the Notes Generally

Risk of Loss at Maturity — The Notes differ from ordinary debt securities in that we will not necessarily repay the full principal amount of the Notes at maturity. If the Notes are not called, we will repay you the principal amount of your Notes in cash only if the Final Price of the Underlying is greater than or equal to the Downside Threshold, and will only make that payment at maturity. If the Notes are not called and the Final Price is less than the Downside Threshold, you will lose some or all of your initial investment in an amount proportionate to the decline in the price of the Underlying.

The Contingent Repayment of Principal Applies Only at Maturity — If the Notes are not automatically called, you should be willing to hold your Notes to maturity. If you are able to sell your Notes prior to maturity in the secondary market, if any, you may have to do so at a loss relative to your initial investment, even if the price of the Underlying is above the Downside Threshold.

You May Not Receive any Contingent Coupons — Royal Bank of Canada will not necessarily make periodic Contingent Coupon payments on the Notes. If the closing price of the Underlying on a Coupon Observation Date is less than the Coupon Barrier, we will not pay you the Contingent Coupon applicable to that Coupon Observation Date. If the closing price of the Underlying is less than the Coupon Barrier on each of the Coupon Observation Dates, 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 incur a loss of principal, because the Final Price will be less than the Downside Threshold.

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 Underlying. In addition, the total return on the Notes will vary based on the number of Call Observation Dates on which the Contingent Coupon becomes payable prior to maturity or an automatic call. Further, if the Notes are called due to the automatic call feature, you will not receive any Contingent Coupons or any other payment in respect of any Call Observation Dates after the applicable Call Settlement Date. Since the Notes could be called as early as the first Call Observation 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 Underlying even though your potential return is limited to the Contingent Coupon Rate. Generally, the longer the Notes are outstanding, the less likely it is that they will be automatically called due to the decline in the price of the Underlying and the shorter time remaining for the price of the Underlying to recover. As a result, the return on an investment in the Notes could be less than the return on a direct investment in the Underlying or on a similar security that allows you to participate in the appreciation of the price of the Underlying.

The Contingent Coupon Rate Per Annum Payable on the Notes Will Reflect in Part the Volatility of the Underlying, and May Not Be Sufficient to Compensate You for the Risk of Loss at Maturity — “Volatility” refers to the frequency and magnitude of changes in the price of the Underlying. The greater the volatility of the Underlying, the more likely it is that the price of that equity could close below the Downside Threshold on the Final Valuation Date. This risk will generally be reflected in a higher Contingent Coupon Rate for the Notes than the rate payable on our conventional debt securities with a comparable term. However, while the Contingent Coupon Rate will be set on the Trade Date, the Underlying’s volatility can change significantly over the term of the Notes, and may increase. The price of the Underlying could fall sharply as of the Final Valuation Date, which could result in a significant loss of your principal.

The Notes Are Subject to Reinvestment Risk — The Notes will be called automatically if the closing price of the Underlying is equal to or greater than the Initial Price on any Call Observation Date. In the event that the Notes are called prior to maturity, there is no guarantee that you will be able to reinvest the proceeds from an investment in the Notes at a comparable rate of return for a similar level of risk. To the extent you are able to reinvest your proceeds in an investment comparable to the Notes, you will incur transaction costs and the original issue price for such an

investment is likely to include certain built in costs such as dealer discounts and hedging costs.

The Notes Are Subject to Our Credit Risk — The Notes are subject to our credit risk, and our credit ratings and credit spreads may adversely affect the market value of the Notes. Investors are dependent on our ability to pay all amounts due on the Notes, and therefore investors are subject to our credit risk and to changes in the market's view of our creditworthiness. Any decline in our credit ratings or increase in the credit spreads charged by the market for taking our credit risk is likely to adversely affect the value of the Notes. If we were to default on our payment obligations, you may not receive any amounts owed to you under the Notes and you could lose your entire investment.

The Initial Estimated Value of the Notes Will Be Less than the Price to the Public — The initial estimated value for the Notes that is set forth on the cover page of this document, and that will be set forth in the final pricing supplement for the Notes, will be less than the public offering price you pay for the Notes and does not represent a minimum price at which we, RBCCM or any of our other 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 price of the Underlying, the borrowing rate we pay to issue securities of this kind, and the inclusion in the price to public of the underwriting discount, and our estimated profit and the 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 the price to public, as any such sale price would not be expected to include the underwriting discount and our estimated profit and the costs relating to our hedging of the Notes. In addition, any price at which you may sell the Notes is likely to reflect customary bid-ask spreads for similar trades. In addition to bid-ask spreads, the value of the Notes determined for any secondary market price is expected to be based on a secondary market rate rather than the internal borrowing rate used to price the Notes and determine the initial estimated value. As a result, the secondary market price will be less than if the internal borrowing 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.

Our Initial Estimated Value of the Notes Is an Estimate Only, Calculated as of the Time the Terms of the Notes Are Set — The initial estimated value of the Notes is 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 estimate is 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 and the amount that may be paid at maturity.

Owning the Notes Is Not the Same as Owning the Underlying or the Stocks Comprising the Underlying or the Underlying's Underlying Index — The return on your Notes may not reflect the return you would realize if you actually owned the Underlying or stocks included in the Underlying or the Underlying's underlying index. As a holder of the Notes, you will not have voting rights or rights to receive dividends or other distributions or other rights that holders of the Underlying or these stocks would have, and any such dividends will not be incorporated in the determination of the Underlying Return.

The Policies of the Underlying's Investment Adviser Could Affect the Amount Payable on the Notes and Their Market Value — The policies of the Underlying's investment adviser concerning the management of the Underlying, additions, deletions or substitutions of the securities held by the Underlying could affect the market price of shares of the Underlying and, therefore, the amounts payable on the Notes and the market value of the Notes prior to maturity. The amount payable on the Notes and their market value could also be affected if the Underlying investment adviser changes these policies, for example, by changing the manner in which it manages the Underlying, or if the Underlying investment adviser discontinues or suspends maintenance of the Underlying, in which case it may become difficult to determine the market value of the Notes. The Underlying's investment adviser has no connection to the offering of the Notes and has no obligations to you as an investor in the Notes in making its decisions regarding the Underlying.

The Correlation Between the Performance of the Underlying and the Performance of the Underlying Index May Be Imperfect — The performance of the Underlying is linked principally to the performance of the Underlying Index. However, because of the potential discrepancies identified in more detail in the product prospectus supplement, the return on the Underlying may correlate imperfectly with the return on the Underlying Index. Further, the performance of the Underlying may not exactly replicate the performance of the Underlying Index, because the Underlying will reflect transaction costs and fees that are not included in the calculation of the Underlying Index. During periods of market volatility, securities included in the Underlying Index may be unavailable in the secondary market, market participants may be unable to calculate accurately the net asset value per share of the Underlying and the liquidity of the Underlying may be adversely affected. This kind of market volatility may also disrupt the ability of market participants to create and redeem shares of the Underlying. Further, market volatility may adversely affect, sometimes materially, the prices at which market participants are willing to buy and sell shares of the Underlying. As a result, under these circumstances, the market value of shares of the Underlying may vary substantially from the net asset value per share of the Underlying. For all of the foregoing reasons, the performance of the Underlying may not correlate with the performance of its Underlying Index as well as the net asset value per share of the Underlying, which could materially and adversely affect the value of the Notes in the secondary market and/or reduce your payment at maturity.

Historical Prices of the Underlying Should Not Be Taken as an Indication of its Future Prices During the Term of the Notes — The trading prices of the Underlying will determine the value of the Notes at any given time. However, it is impossible to predict whether the price of the Underlying will rise or fall, trading prices of the common stocks held by the Underlying will be influenced by complex and interrelated political, economic, financial and other factors that can affect the issuers of those stocks, and therefore, the price of the Underlying.

There Can Be No Assurance that the Investment View Implicit in the Notes Will Be Successful — It is impossible to predict whether and the extent to which the price of the Underlying will rise or fall. The closing price of the Underlying will be influenced by complex and interrelated political, economic, financial and other factors that affect the Underlying. You should be willing to accept the downside risks of owning equities in general and the Underlying in particular, and the risk of losing some or all of your initial investment.

The Underlying and its Underlying Index Are Different — The performance of the Underlying may not exactly replicate the performance of the underlying index, because the Underlying will reflect transaction costs and fees that are not included in the calculation of the underlying index. It is also possible that the performance of the Underlying

may not fully replicate or may in certain circumstances diverge significantly from the performance of the underlying index due to the temporary unavailability of certain securities in the secondary market, the performance of any derivative instruments contained in the Underlying or due to other circumstances. The Underlying may use futures contracts, options, swap agreements, currency forwards and repurchase agreements in seeking performance that corresponds to the underlying index and in managing cash flows.

During periods of market volatility, securities underlying the Underlying may be unavailable in the secondary market, market participants may be unable to calculate accurately the net asset value per share of the Underlying and the liquidity of the Underlying may be adversely affected. This kind of market volatility may also disrupt the ability of market participants to create and redeem shares of the Underlying. Further, market volatility may adversely affect, sometimes materially, the prices at which market participants are willing to buy and sell shares of the Underlying. As a result, under these circumstances, the market value of shares of the Underlying may vary substantially from the net asset value per share of the Underlying. For all of the foregoing reasons, the performance of the Underlying may not correlate with the performance of its underlying index as well as the net asset value per share of the Underlying, which could materially and adversely affect the value of the Notes in the secondary market and/or reduce your payment at maturity.

Management Risk — The Underlying is not managed according to traditional methods of “active” investment management, which involve the buying and selling of securities based on economic, financial and market analysis and investment judgment. Instead, the Underlying, utilizing a “passive” or indexing investment approach, attempts to approximate the investment performance of its underlying index by investing in a portfolio of securities that generally replicate the underlying index. Therefore, unless a specific security is removed from the underlying index, the Underlying generally would not sell a security because the security’s issuer was in financial trouble. In addition, the Underlying is subject to the risk that the investment strategy of the Underlying’s investment advisor may not produce the intended results.

The Stocks Included in the Underlying Index Are Concentrated in One Sector — All of the stocks included in the XOP’s underlying index 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 underlying index, which the Underlying seeks to replicate, are concentrated in one sector. Although an investment in the Notes will not give holders any ownership or other direct interests in the stocks comprising the underlying index, the return on an investment in the Notes will be subject to certain risks associated with a direct equity investment in companies in the oil and gas exploration and production sector. 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.

Risks Associated with the Energy Sector — The Underlying invests in companies that develop and produce crude oil and natural gas and provide drilling and other energy resources production and distribution related services. Stock prices for these types of companies are affected by supply and demand both for their specific product or service and for energy products and services 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 oil service companies 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 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, securities of companies in the energy field are subject to swift price and supply 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 energy products and services in general, as well as negative developments in these other areas, would adversely impact the performance of the Underlying.

Lack of Liquidity — The Notes will not be listed on any securities exchange. RBCCM intends to offer to purchase the Notes in the secondary market, but is not required to do so. Even if there is a secondary market, it may not provide enough liquidity to allow you to trade or sell the Notes easily. Because other dealers are not likely to make a secondary market for the Notes, the price at which you may be able to trade your Notes is likely to depend on the price, if any, at which RBCCM is willing to buy the Notes.

Potential Conflicts — We and our affiliates play a variety of roles in connection with the issuance of the Notes, including hedging our obligations under the Notes. In performing these duties, the economic interests of the calculation agent and other affiliates of ours are potentially adverse to your interests as an investor in the Notes.

Potentially Inconsistent Research, Opinions or Recommendations by RBCCM, UBS or Their Affiliates — RBCCM, UBS, or their affiliates may publish research, express opinions or provide recommendations as to the Underlying that are inconsistent with investing in or holding the Notes, and which may be revised at any time. Any such research, opinions or recommendations could affect the value of the Underlying, and therefore, the market value of the Notes.

Uncertain Tax Treatment — Significant aspects of the tax treatment of an investment in the Notes are uncertain. You should consult your tax adviser about your tax situation.

Potential Royal Bank of Canada and UBS Impact on Price — Trading or transactions by Royal Bank of Canada, UBS or our respective affiliates in the Underlying, or in futures, options, exchange-traded funds or other derivative products on the Underlying or the Underlying Index may adversely affect the market value of the Underlying, the closing price of the Underlying, and, therefore, the market value of the Notes.

The Terms of the Notes at Issuance and Their Market Value Prior to Maturity Will Be Influenced by Many Unpredictable Factors — Many economic and market factors will influence the terms of the Notes at issuance and their value prior to maturity. These factors are similar in some ways to those that could affect the value of a combination of instruments that might be used to replicate the payments on the Notes, including a combination of a bond with one or more options or other derivative instruments. For the market value of the Notes, we expect that, generally, the price of the Underlying on any day will affect the value of the Notes more than any other single factor. However, you should not expect the value of the Notes in the secondary market to vary in proportion to changes in the price of the Underlying. The value of the Notes will be affected by a number of other factors that may either offset or magnify each other, including:

• the price of the Underlying;

• the actual and expected volatility of the price of the Underlying;

• the time remaining to maturity of the Notes;

• the dividend rates on the securities held by the Underlying;

• interest and yield rates in the market generally, as well as in each of the markets of the securities held by the Underlying;

• a variety of economic, financial, political, regulatory or judicial events;

• the occurrence of certain events with respect to the Underlying that may or may not require an adjustment to the terms of the Notes; and

our creditworthiness, including actual or anticipated downgrades in our credit ratings.

Some or all of these factors will influence the terms of the Notes at issuance as well as the price you will receive if you choose to sell the Notes prior to maturity. The impact of any of the factors set forth above may enhance or offset some or all of any change resulting from another factor or factors. You may have to sell the Notes at a substantial discount from the principal amount if, for example, the price of the Underlying is at, below or not sufficiently above, its Downside Threshold.

The Anti-Dilution Protection for the Underlying Is Limited — The calculation agent will make adjustments to the Initial Price, Downside Threshold and Coupon Barrier for certain events affecting the shares of the Underlying.

However, the calculation agent will not be required to make an adjustment in response to all events that could affect the Underlying. If an event occurs that does not require the calculation agent to make an adjustment, the value of the Notes and the payments on the Notes may be materially and adversely affected.