An investment combining the potential for Annualised Returns of up to 20%, potential market triggered redemption every 3 mths, and linked to Oil and Mining Companies.

Product Summary

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product</td>
<td>Phoenix Autocallable Notes linked to a selection of Oil and Mining Stocks (the 'Notes').</td>
</tr>
<tr>
<td>Issuer</td>
<td>Royal Bank of Canada, rated as Aa3 (Moody's), AA (Fitch), AA- (S&amp;P).</td>
</tr>
<tr>
<td>Underlyings ('Stocks')</td>
<td>RIO TINTO PLC (RIO LN Equity), BP PLC (BP LN Equity), ALPNA NA RES RSC INC (ANR UN Equity), CHESAP ENERGY CORP (CHK UN Equity).</td>
</tr>
<tr>
<td>Key Dates</td>
<td>Initial Valuation Date: 21 February 2013 Issue Date: 21 March 2013 Final Valuation Date: 21 February 2018 Maturity Date: 28 February 2018</td>
</tr>
<tr>
<td>Investment Term</td>
<td>5 Years</td>
</tr>
<tr>
<td>Bonus Payment</td>
<td>If ALL Underlyings are at or above 75% of their initial level on each quarterly Observation Date, then the investor receives a 5% Bonus Payment²</td>
</tr>
<tr>
<td>Autocall Periods</td>
<td>Quarterly – if on any quarterly Observation Date ALL Underlyings are equal to or greater than 100% of their Initial Level, the note is automatically redeemed early by the Issuer and the investors receive 100% of initial capital, plus the relevant 5% Bonus Payment for that period.</td>
</tr>
<tr>
<td>Capital Buffer</td>
<td>Capital is at risk if there is a fall of more than 50% in any Underlying. The performance is measured by comparing the Initial Valuation Level vs. the Final Valuation Level. If this performance measures a fall of more than 50% then investors receive the performance of the least Performing Underlying at Maturity.</td>
</tr>
<tr>
<td>Subscription Period</td>
<td>[TBD]</td>
</tr>
<tr>
<td>ISIN Code</td>
<td>USD: XS0896921300 GBP: XS0896921482 EUR: XS0896921649</td>
</tr>
</tbody>
</table>

Key Features

- 19 opportunities for market linked early redemption, every 3 months (100% trigger)
- Potential for returns (up to 20% p.a.), in exchange for a defined level of risk – max return 100% over 5 years.
- Potential income of 5% quarterly², paid as long as ALL Underlyings are at or above 75% of Initial Valuation Levels, observed on each quarterly Observation Date,
- Defensive outlook – strong capital buffer, no loss of capital as long as no Underlying has fallen below 50% of its Initial Valuation Level (European Barrier).

Potential Bonus Payments

1. The Key Features table above is intended to provide a broad objective overview of the product attributes. The measures used are purely illustrative and RBC makes no representation to the suitability of the Notes for individual investors.
2. Risk measure is defined as a scale of 1 (lowest risk) to 6 (highest). Where 100% capital protection at maturity is rated 1, and 60-100% Capital protection at Maturity is rated 2, <60% Capital Protection or >40% Capital Buffer with European observation is rated 3, >40% Capital Buffer with American observation is rated 4, Delta-one payoffs are rated 5, and Leveraged exposure is rated 6. This risk measure is purely indicative and RBC makes no representation to the suitability of the Notes for individual investors.
3. Potential Return is calculated as the maximum potential annualised return.
4. Comparative Return is the equivalent maturity Swap rates per Bloomberg on 25/02/2013.

Please bear in mind that investors are exposed to the credit risk of the Issuer. The Notes are not capital protected and investors may receive back less than the original amount invested. The value of the investment can go down as well as up and investors can potentially lose all of their investment. Any secondary market provided by Royal Bank of Canada is subject to change and may be stopped without notice and investors may therefore be unable to sell or redeem the Notes until their maturity. If the Notes are redeemed early they may be redeemed at a level less than the amount originally invested.

1 : Full product details are available in the Termsheet, which is available on request
2 : As long as issuer does not default
**Investment Description**

The RBC Drillers and Miners Phoenix Notes are designed for investors seeking potential growth returns (up to 20% p.a.) compared to low deposit rates. The Selected Stocks are all linked to the mining or oil sectors.

The Notes are a Phoenix Autocall structure which will return a Bonus amount of 5% each quarter if all stocks are above their bonus barrier (75% of initial level). The max return over the term of the notes is 100% over 5 years plus return of capital.

The Notes ‘Autocall’ or early redeem on the first Quarterly Observation Date that all the Stocks are recorded as being at or above 100% of their Initial Levels. On early redemption the Notes return 100% of capital plus the relevant 5% Bonus payment.

Even if the Notes do not early redeem, they contain a valuable protection feature for the investor. The Notes will return 100% of capital invested as long as none of the Stocks at the Final Valuation Date have fallen by more than 50% from their Initial Valuation Levels. Capital is at risk if any Stock has fallen by more than 50% at the Final Valuation Date. If there such a fall the Final Redemption Amount will be equivalent to the performance of the least performing stock and some or all capital will be lost.

**Scenario Analysis**

<table>
<thead>
<tr>
<th>Performance of least Performing Stock at Final Valuation Date (Final/Initial performance)</th>
<th>Redemption at Maturity</th>
</tr>
</thead>
<tbody>
<tr>
<td>110%</td>
<td>105%</td>
</tr>
<tr>
<td>100%</td>
<td>105%</td>
</tr>
<tr>
<td>75%</td>
<td>105%</td>
</tr>
<tr>
<td>50%</td>
<td>100%</td>
</tr>
<tr>
<td>40%</td>
<td>40%</td>
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<tr>
<td>15%</td>
<td>15%</td>
</tr>
<tr>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

‘Capital Buffer’

**Payoff Illustration : Autocall Mechanism & Bonus Coupons**

1. ‘WO’ means the least Performing Stock.

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Timeline

**Quarter 1**

Product early redeems at 105%

- WO1 ≥ 100%
- 75% ≤ WO1 < 100%
- WO1 < 75%

Pays 5% Coupon, Product continues

No Payments, Product continues

**Quarter 2**

Product early redeems at 105%

- WO1 ≥ 100%
- 75% ≤ WO1 < 100%
- WO1 < 75%

Pays 5% Coupon, Product continues

No Payments, Product continues

**Maturity**

Product redeems at 105%

- WO1 ≥ 75%
- 50% ≤ WO1 < 75%
- WO1 < 50%

Product redeems at 100%

**Early Redemption:**

100% + 5%

**Final Redemption:**

100% + Final Coupon if applicable

Capital Loss. Final Redemption Amount will be equivalent to the performance of the least performing Underlying, calculated as: Final Level\_\text{wo}/Initial Level\_\text{wo}.
Underlyings

**RIO TINTO PLC**
Rio Tinto PLC is an international mining company. The Company has interests in mining for aluminum, borax, coal, copper, gold, iron ore, lead, silver, tin, uranium, zinc, titanium dioxide feedstock, diamonds, talc and zircon. Dually-listed company with RIO AU.

Source: Bloomberg @ 25.02.2013

**BP PLC**
BP plc is an oil and petrochemicals company. The Company explores for and produces oil and natural gas, refines, markets, and supplies petroleum products, generates solar energy, and manufactures and markets chemicals. BP’s chemicals include terephthalic acid, acetic acid, acrylonitrile, ethylene and polyethylene.

Source: Bloomberg @ 25.02.2013

**ALPHA NATURAL RESOURCES INC**
Alpha Natural Resources, Inc. extracts, processes, and markets steam and metallurgical coal. The Company conducts operations from surface and underground mines located in the northern and central Appalachian regions and Colorado, all located in the United States. Alpha Natural Resources markets its coal to electric utilities, steel and other industrial producers.

Source: Bloomberg @ 25.02.2013

**CHESAPEAKE ENERGY CORP**
Chesapeake Energy Corporation produces oil and natural gas. The Company’s operations are focused on discovering, developing and acquiring conventional and unconventional natural gas reserves onshore in the United States.

Source: Bloomberg @ 25.02.2013
Top 10 Global Bank by Market Capitalisation

- Top 10 bank by market capitalisation globally (c. US$74 billion)(1)
- Exceptional credit ratings: Aa3 Moody’s / AA Fitch / AA-S&P
- Tier 1 Capital Ratio of 13.2%(2)
- US$800 billion of assets(2)
- 74,000 employees and 15 million clients in 55 countries(2)

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(1) Bloomberg as at 5.07.2012 (2) RBC as at Jul’12