Developing the World’s First Primary Scandium Mining Project

November 2016
Corporate Overview
Cautionary Notes

Forward-looking Statements
This presentation contains certain statements that may be deemed “forward-looking statements”. All statements in this release, other than statements of historical fact, that address future production, reserve potential, exploration drilling, exploitation activities and events or developments that the Company expects to occur, are forward-looking statements. Forward-looking statements are statements that are not historical facts and are generally, but not always, identified by the words “objective”, “targeting”, “targeted”, “to follow”, “intends”, “anticipation”, “potential”, “plan”, “expect” and similar expressions, or that events or conditions “will”, “would”, “may”, “could” or “should” occur. Information inferred from the interpretation of drilling results and information concerning mineral resource estimates may also be deemed to be forward-looking statements, as it constitutes a prediction of what might be found to be present when and if a project is actually developed. Although the Company believes the expectations expressed in such forward-looking statements are based on reasonable assumptions, such statements are not guarantees of future performance and actual results may differ materially from those in the forward-looking statements. Factors that could cause the actual results to differ materially from those in forward-looking statements include market prices, exploitation and exploration successes, continued availability of capital and financing, and general economic, market or business conditions. Investors are cautioned that any such statements are not guarantees of future performance and actual results or developments may differ materially from those projected in the forward-looking statements. Forward-looking statements are based on the beliefs, estimates and opinions of the Company’s management on the date the statements are made. The Company undertakes no obligation to update these forward-looking statements in the event that management’s beliefs, estimates or opinions, or other factors, should change.

Preliminary Economic Assessment
The PEA was originally issued on October 24, 2014, and then amended on May 20, 2015 with no change to the project economics or resource estimate. The PEA, which is available on SEDAR at www.SEDAR.com, is entitled Amended Technical Report and Preliminary Economic Assessment on the Nyngan Scandium Project, NSW, Australia, with an amended and restated issue date of May 20, 2015 and an effective date of October 10, 2014. The PEA is preliminary in nature and should not be considered to be a pre-feasibility study or feasibility study, as the economics and technical viability of the Project have not been demonstrated at this time. While this PEA does not consider or include any Inferred Mineral Resources, it remains a preliminary analysis that is not sufficient to enable Project Resources to be categorized as Mineral Reserves. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. There is no certainty that all or any part of the mineral resource will be converted into Mineral Reserves. Furthermore, there is no certainty that the results of the PEA will be realized.

Resource Estimate
This document uses the term “resources”, “measured resources” and “indicated resources”. United States investors are advised that, while such terms are recognized and required by Canadian securities laws, the United States Securities and Exchange Commission (the “SEC”) does not recognize them. Under United States standards, mineralization may not be classified as a “reserve” unless the determination has been made that the mineralization could be economically and legally produced or extracted at the time the reserve determination is made. United States investors are cautioned not to assume that all or any part of measured or indicated resources will ever be converted into reserves. Disclosure of “contained kilograms” is permitted disclosure under Canadian regulations; however, the SEC normally only permits issuers to report “resources” as in place tonnage and grade without reference to unit measures. Accordingly, information concerning descriptions of mineralization and resources contained in this release may not be comparable to information made public by United States companies subject to the reporting and disclosure requirements of the SEC. National Instrument 43-101 Standards of Disclosure for Mineral Projects (“NI 43-101”) is a rule developed by the Canadian Securities Administrators, which established standards for all public disclosure an issuer makes of scientific and technical information concerning mineral projects. All resource estimates contained in this circular have been prepared in accordance with NI 43-101 and the Canadian Institute of Mining, Metallurgy and Petroleum Classification System.

Qualified Person
Mr. Willem Duyvesteyn, MSc, AIME, CIM, a Director of Scandium International and a “qualified person” within the definition of that term in NI 43-101, has approved the technical information contained in this news release.
Objective: World’s first primary scandium producer in 2018

- **Nyngan Scandium Project** in NSW, Australia (80%).
- **Definitive Feasibility Study** results \(^1\) (May ‘16).
  - Financial Results - 33% IRR, $225M NPV (8%\(i\)), constant $, after-tax,
  - Build Cost – US$87M,
  - Scandia Production target – 38,500 kg/year.
- **Surface mineable resource, excellent infrastructure & jurisdiction.**
- **Experienced management, flowsheet defined/tested.**
- **Timetable and milestones to production** \(^2\).
  - Development Consent received, Mining Lease est- Q4 2016,
  - Seeking project funding in Q1 2017,
  - Construction start date –subject to finance.
- **First offtake agreement signed**: 7,500 kg/year (3 years, renewable).
  - Working to generate additional offtakes with knowledgeable customers.

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1. DFS economics calculated using 155 ppm Sc cut-off grade, US$2,000/kg Sc price and A$1:US$0.70 exchange rate.  
2. Subject to financing. See Cautionary Notes.
Corporate Structure

Share structure and stock information as at November 18, 2016

Capitalization

Outstanding shares (I/O and F/D)  225 million / 248 million
Insider/management ownership  30%
Cash (Q3 financials)  US$0.4 million
Debt on balance sheet  none

Stock Information

TSX: SCY
Current price (Nov. 18)  C$0.26
Current market cap  C$51 million
52 week high / low  C$0.26 / $0.08
Average 3 month trading volume  300,000 shares/day
Where Can Scandium Be Used Today?

• Scandium improves aluminum alloys.
  – Refines grain structure (strength), while preserving desired material properties,
  – Better properties make better alloy for:
    • Transportation uses (weight savings),
    • Marine applications (corrosion),
    • Thin wall extrusions (flow rates), and
    • Lower cost structures (weldability).

• Scandium is a superior heat stabilizer in solid oxide fuel cells (SOFCs).

• Scandium has uses in lighting, lasers and chemical catalyst applications.
What Does The Scandium Market Look like Today?

Scandium users waiting for reliable supply and viable pricing

• Scandium’s benefits are known and understood, but global supply is only a fraction of latent demand.
  – Sellers make scandium as a byproduct from other mineral processing operations, or waste stockpiles,
  – Limited supply means inadequate volume for wide-scale adoption, and
  – Virtually all sources are located in Russia and China.

• Increased supply, from reliable sources, at reasonable cost will be the catalyst for a dramatic increase in scandium interest and usages.

New South Wales, Australia hosts a game-changing discovery of high-grade laterite primary scandium resources for development.
Nyngan Scandium Project

Primary scandium deposit with expansion potential

- **NI 43-101 Measured & Indicated resource**
  - Measured: 5.7Mt @ 256 ppm Sc/t.
  - Indicated: 11.2Mt @ 225 ppm Sc/t.

- **Excellent location – 500km west of Sydney.**
  - 7,000 acre EL – 800 acres surface ownership,
  - Australia is mining-friendly, politically stable,
  - Good local infrastructure (water/power/staff),
  - Easy access, 5km from all-weather sealed road,
  - Shallow, flat, surface-mineable resource.

- **Significant upside potential.**
  - DFS outlines 20 year mine life using less than 10% of M&I resources.
  - Potential to expand mine output, extend mine life, or both.

1. Resource estimate completed by Mining One, effective date using a 100 ppm Sc cut-off grade, as described in the NI 43-101 technical report with an effective date of April 15, 2016. Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. See Cautionary Notes – Resource Estimate.
## 2016 DFS Results

Select financial and operating results from 2016 DFS

<table>
<thead>
<tr>
<th>Summary</th>
<th>Ni 43-101 DFS Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nyngan Scandium Project Key Project Parameters</td>
<td></td>
</tr>
<tr>
<td>Capital Cost Estimate (US$ M)</td>
<td>$87.1</td>
</tr>
<tr>
<td>Average Plant Feed Grade (ppm Sc)</td>
<td>409</td>
</tr>
<tr>
<td>Resource Processed (tpy)</td>
<td>71,820</td>
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<tr>
<td>Mill Recovery (%)</td>
<td>83.7%</td>
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<tr>
<td>Oxide Production (kg per year)</td>
<td>37,690</td>
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<tr>
<td>Scandium Oxide (Scandia) Product Grade</td>
<td>98-99.9%</td>
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<tr>
<td>Annual Cash Operating Cost (US$ M)</td>
<td>$21.0</td>
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<tr>
<td>Unit Cash Cost (US$/kg Oxide)</td>
<td>$557</td>
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<tr>
<td>Oxide Price Assumption (US$/kg)</td>
<td>$2,000</td>
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<tr>
<td>Annual Revenue (US$ millions)</td>
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<tr>
<td>Annual EBITDA (US$ millions)</td>
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<tr>
<td>NPV (10%) (After Tax)</td>
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<tr>
<td>NPV (8%) (After Tax)</td>
<td>$225.4</td>
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<tr>
<td>IRR (%) (After Tax)</td>
<td>33.1%</td>
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<tr>
<td>Payback (years)</td>
<td>3.3</td>
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</tbody>
</table>

1. DFS completed with an effective date of April 15, 2016.
Conventional Mining & Processing

**Mining is simple, processing is key**

- Scandium International’s process flow sheet is based on proven technology and extensive independent test work.
  - Test work results conducted on Nyngan property resource material.
- Scandium extraction process involves conventional metals separation techniques (pressure acid leach/SX).
  - Standard laterite extraction processes,
  - Relatively small scale at 240 tpd (75,000 tpy).
- Single product resource simplifies processing flow sheet / cost.
- Independent test work has confirmed recoveries / product specs.
- U.S. patent applications filed on key process steps.
Aluminum Industry Facts

• Most abundant metallic element.
• Bauxite-primary source mineral.
  – Australia, Brazil, China, Jamaica.
• Bauxite converts to alumina, converts to aluminum.
  – First step employs pressure/temp,
  – Second stem is electrolytic.
• Total world consumption- 74Mt.
  – Value today-$130Bn/year.
  – +50% from China/Russia.
• Recycling huge.
  – 75% of all Al still in use today,
  – 30% of N. American demand, and
  – Recycling cost = 5% of new.

Source: Aluminum industry Association “Aluminum 101”
• **Transport (27%) - the largest segment.**
  - Alloy performance critical,
  - Fuel costs are a key factor.
  - Mostly 2, 3 & 7 series
• **Construction (25%) - the second largest.**
  - Alloy type based on mfg. process, finish reqmt’s, corrosion and strength
  - Mostly 6 series.
• **Packaging (16%) - is next.**
  - Properties before strength
  - Cost sensitive, growth area.
  - Mostly 1, 3 & 5 series.
Scandium Use Will Be Linked to Aluminum

Major Al alloy markets already established and waiting for scandium

- **Trade in aluminum is huge, global, growing.**
  - Largest traded metal value after iron ore,
  - Historic growth rate of 4%, larger in OECD, and
  - Most is alloyed with other metals for strength.

- **Aircraft use Al alloys, and want the best.**
  - Sc improves both performance and design, and
  - Alloy properties drive choice - not cost.

- **Auto sector a major growth area.**
  - Application in drive-trains extensive now,
  - Increased usage in chassis, body panels, and
  - Properties will drive selective applications.

- **CO\textsubscript{2} lifecycle, fuel savings targets, and recycle argue for AL alloys.**
  - CAFÉ and CO\textsubscript{2} standards will drive auto light metals adoption, Europe 1\textsuperscript{st}, and
  - Aircraft design already seeks lightweighting advantage for efficiency.

Growth in aluminum’s markets – coupled with rising intensity of use in the transportation segment, signal positive trends for alloys---especially better alloys.
Aluminum Use in Aircraft

Design Requirements Drive Alloy Selection

- **Alloy choice is based on design requirements.**
  - Strength is the start point,
  - Operating environment dictates requirements,
  - Properties influence cost, both production & service.
- **Fabrication Losses Significant.**
  - Buy/Fly ratio is 4:1,
  - Machining losses high,
  - Al purchase estimate for all commercial aircraft is 350 ktpa.
- **High End Alloys Preferred.**
  - 7 series (7050) – 60%.
  - 2 series (2024) - 40%.
  - Lithium additions use growing.

Aircraft markets are a 100 tpy scandium oxide market opportunity, (assuming 60% recycle of manufacturing losses and 25% substitution)
Alloy Strength Comparison

Yield Strength Comparison - Aluminum Alloy by Series (wrought)

- **Best Scandium Strength Push**

NOTE: Yield strength numbers reflect max heat/strain treatments, all Mpa.

1 Series (99% Al)
- Without Scandium: 50
- With Scandium: 260

2 Series (Cu)
- Without Scandium: 200
- With Scandium: 220

3 Series (Mn)
- Without Scandium: 80
- With Scandium: +300

4 Series (Si)
- Without Scandium: 100
- With Scandium: +500

5 Series (Mg)
- Without Scandium: 220
- With Scandium: 450

6 Series (Si-Mg)
- Without Scandium: 400
- With Scandium: +500

7 Series (Zn-Mg-Cu)
- Without Scandium: 50
- With Scandium: 450

8 Series (Li)
Strength and material properties drive price over cost

Great Properties & Significantly Improved Strength

Alloy Cost/kg Comparison

1xxx w/ scandium

5xxx w/ scandium

2xxx

6xxx

7xxx

8xxx

$2.50

$7.00 +0.1% Sc

$11.00 +0.2% Sc

$5.00 +0.1% Sc

$9.50 +0.2% Sc

$13.00

$6.00

$2.50

$7.50

$35.00
Alloy choice based on end product requirements
- Yield strength is key design parameter-defines how the part is designed
- Material properties affect manufacturing cost- define how part is made
- Operating environment dictates material property requirements
- Material properties have biggest influence on manufacturing cost

Alloy pricing premiums based more on properties than strength
- Strength typically diminishes other desirable properties
- Big premium for retaining properties and achieving +300Mpa strength

The 5 Series alloy has by far the best material properties, close to straight aluminum, but shows poor strength. Scandium adds more strength/kg to this series than any other, while ENHANCING other properties.
Aircraft designers in constant search for performance gains. Weight reduction (with no performance loss) is a key goal.

- Weight loss improves range, payload capacity and economy,
- One kilo of weight savings in an aircraft = $60 pa fuel saving ($1/gal),
- AlMgSc alloy payback is < 1 year (10% weight reduction assumption).

Aircraft materials costs are secondary to performance.

- Single aisle plane (US$100M) contains about US$300k in Al alloy,
- Designers predict 15-20% lower weight + lower mfg. cost using AlMgSc,
- Maximum scandium additions would cost $200-300k. (50kg/$100k).

Alloy cost is often not the driver in other industries as well.

- Bicycle frame (hi-end) – alloy @ <1% cost – Sc addition = 1.5%,
- Automobile parts – properties will drive selective adoption.

Scandium-enhanced alloys bring a combination of superior properties, strength and total build cost advantage that isn’t available today.
• Scandium-aluminum alloys can be expected to roll back substitution from magnesium alloys and carbon fiber.
  – A better 5 Series alloy will definitely be cost competitive,
  – Al alloys are easier to apply to conventional manufacturing processes,
  – Much more field serviceable, repairable, and tougher in rough service.

• 5 Series+Sc will take market share from 2 & 6 Series in many applications.
  – Strength superior, with no heat treatment, good fatigue resistance,
  – Weldability is a game-changer, with no strength loss,
  – Good machining, ductility, better finishing properties.

Scandium transforms AlMgSc (5 series) alloy into the highest performing alloy choice for many demanding applications, immediately.
Initial Offtake Agreement

Memorandum of understanding with ALCERECO.

- Al Alloy R&D group in Ontario (ex Novelis/Alcan),
- Capabilities in alloy formulation, with scandium,
- Excellent laboratory facilities in place, with capability to make test alloys, shapes/forms,
- Strategic alliance to develop markets, based on a deep understanding of Al-Sc alloy applications.

Initial offtake agreement signed in March 2015.

- 7,500 kg of scandium oxide annually,
- Three-year deal, subject to renewal.

Developing marketing channels now

Multiple markets emerging
Interest in additional offtake agreements
Milestones to Final Investment Decision

Milestones to FID/Project Financing

Definitive Feasibility Study-Filed on SEDAR
✓ Lycopodium/others completed a +15%/-5% independent report,
✓ Latest drilling produced a larger resource, and a reserve estimate,
✓ Flowsheet recommendations fully addressed.

Environmental Impact Statement (EIS).
✓ EIS filed, multi-agency adequacy review completed, June 2016,
✓ EIS public exhibition completed, July 2016. No objections.

Mining Lease (ML) from NSW government.
✓ Application filed, August 2016,
✓ Ministerial Development Consent received, November 2016,
  • Mining lease grant anticipated soon, earliest year end 2016.

  • Based on financing completion-early 2017.
Why Scandium International?

Near-term production → first to market

- Experienced team.
- Published DFS\(^1\), finance-grade.
- Single product focus, simple mine.
- Flow sheet defined & fully tested.
- Capital cost <US$90M – realistic.
- Australia is mining/customer friendly.
- NSW lateritic belt – game changer.
- Near term to production - 2018\(^2\) start.
- Big resource - clear expansion potential\(^1\)
- First offtake agreement signed\(^3\).

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It’s not how light you make it……it’s how you make it light.

www.ScandiumMining.com