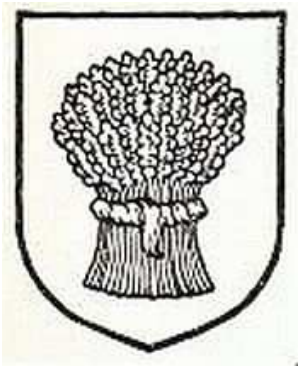
Wednesday, June 1, 2016



HALLGARTEN & COMPANY

Initiating Coverage

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Scandium International Mining (TSX: SCY)
Strategy: LONG

Key Metrics			
Price (CAD)	$ 0.16		
12-Month Target Price (CAD)	$ 0.60		
Upside to Target	275%		
High-low (12 mth)	$0.075 - $0.23		
Market Cap (CAD mn)	$ 36.0		
Shares Outstanding (millions)	225.00		
Fully diluted shares O/S	248.00		
Management & Associates	30%		
	2015	**2016e**	**2017e**
Consensus EPS		n/a	n/a
Hallgarten EPS		($0.01)	($0.002)
Actual EPS	($0.01)		
P/E	n/a	n/a	n/a

Scandium International

On the Scandium Motherlode

- + One might call the Nyngan project the "Bayan Obo of Scandium" as the latest resource estimate increased by 40% to 16.9 million tonnes, grading 235ppm Sc, at a 100ppm cut-off in the measured and indicated categories
- + A Reserve totaling 1.43 million tonnes, grading 409ppm Sc was established on the limonite part of the resource
- + Recently published Definitive Feasibility Study estimates CapEx at a low US$87mn
- + DFS projects NPV (at 10%) of US$177 million and IRR is 33.1%, (NPV at 8% is US$225 million)
- + Cash costs of US$557 per kg of Scandium Oxide, with DFS utilizing US$2,000 per kg pricing while current price is somewhere around US$5,000 per kg
- + Oxide product volume averages 37,690 kg per year, over 20 years, giving revenues of over US$75mn per annum and operating revenues (EBITDA) of around US$50mn per annum
- + Strong potential for expansion of demand based upon increased availability at current or lower prices – applications follow supply
- ✘ Financing environment remains challenging
- ✘ With five Scandium hunters (two serious and three wannabes) already in the race, we would not want to see more players appear on the scene

Build it and They Will Come

Scandium is one of the lesser talked of technology metals but one that is getting increasing focus and mention. This is despite the fact that the supply situation is dire with literally only a few tons of product hitting the market per annum and even that is as a by-product of the refining and processing of other metals. The applications for the element are known, particularly in aluminium alloys, solid oxide fuel cells and lighting but it's just that manufacturers will not tool up for the metal if they cannot be guaranteed greater (reliable) supply.

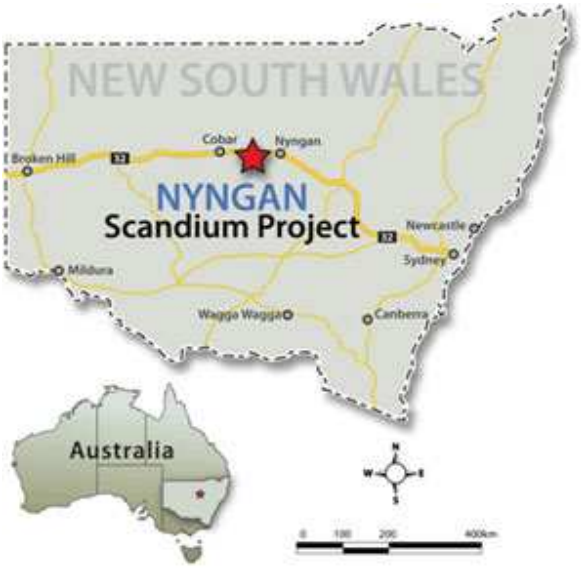
In 2014 when we first brought Scandium to the attention of investors, one of the names we mentioned was EMC Metals (then EMC.to) with its mixed basket of assets. Since then the company has sharpened its focus, changing its name to Scandium International Mining (SCY.to) and advancing its project to Definitive Feasibility stage while gaining a potential offtaker.

Previously, EMC's interest had been in Tungsten, but in 2013 it vended those assets and restyled itself as a specialty metals mining group with its operational focus is on scandium project holdings, specifically the Nyngan Scandium project (and the neighbouring Honeybugle property) in Australia. The NSW laterite clay belt offers a unique production advantage. The Nyngan deposit is large and the grades are rather stunning. Nyngan might be described as the "Bayan Obo of Scandium".

The company also holds the Tørdal Scandium project in Norway.

Nyngan

The Nyngan scandium resource is located approximately 500 kilometers northwest of Sydney, Australia. It has in its time been trawled over by such substantial (now disappeared) players as Selection Trust, North Broken Hill and Anaconda. The property consists of three exploration licenses encompassing over 9,000 hectares, and is accessible via a 25 km sealed road from the local town of Nyngan.



The Geology

The general area is dominated by Cainozoic alluvium of the Bogan River floodplain (part of the Murray-Darling River Basin) with minor colluvium and outcrop. The Gilgai intrusive complex underlies the Nyngan property, covered by 8 to 40 m of alluvial material, and is almost certainly the source of the scandium, nickel, cobalt and precious metals in the regolith. The Gilgai complex is an Alaskan type ultramafic complex, crudely concentrically zoned, and made up of a range of rock types including hornblende monzonite, hornblendite, pyroxenite, olivine pyroxenite to dunite/peridotite and is believed to be of Ordovician age. The intrusives are included within the "Fifield Platinum Province".

The area is very flat and sparsely covered as can be seen from this image.

The Nyngan scandium resource is centred over the more mafic phases of the zoned Gilgai ultramafic complex and is located in a highly weathered zone, where the weathering profile can extend to a depth of more than 65m at the northern margin of the resource. This highly weathered zone exhibits a fairly typical laterite profile is developed at the prospect with:

- Hematitic clay
- Limonitic clay
- Saprolitic clay
- Weathered bedrock
- Fresh bedrock

The bulk of the Nyngan scandium resource is located within a limonitic and saprolitic tertiary age laterite profile, covered by approximately 12 to 25m of Cainozoic alluvium.

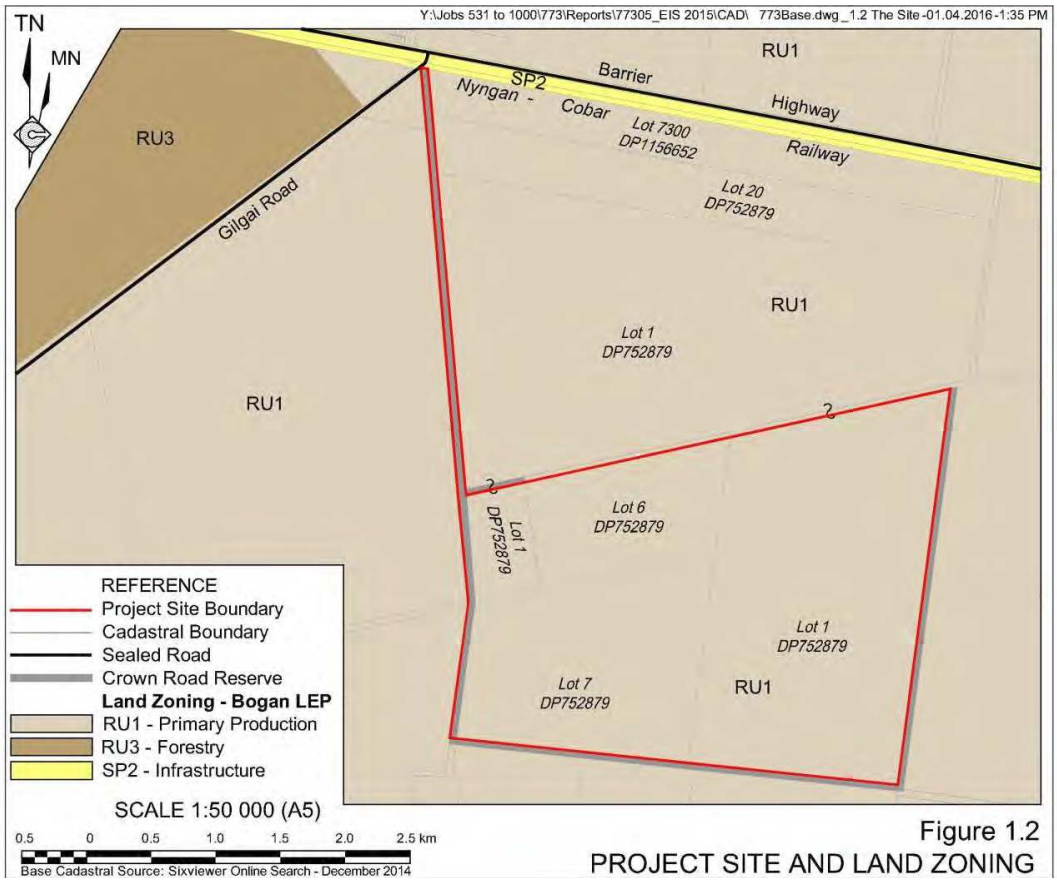


Figure 1.2
PROJECT SITE AND LAND ZONING

Resource & Reserves

The original resource was established on the Nyngan property in 2010. That resource was based on 2005 and 2006 drill programs conducted and supervised by Jervois Mining Ltd., consisting of 72 aircore holes

in to the laterite body supplemented by assays of sample pulps from seven historic holes, to delineate a scandium resource.

In 2014 and 2015, EMC Metals drilled an additional 33 aircore holes and three diamond core holes to validate the resource and provide superior sample material for further assessment. Scandium Intl also drilled six geotechnical core holes in the general resource area, four of which passed through the laterite profile and provided assays and data for specific gravity calculations.

The revised NI 43-101 Measured and Indicated scandium resource now totals 16.9 million tonnes at an average grade of 235ppm scandium, from all scandium-bearing sources including hematite, limonite, saprolite and some bedrock resource material. The updated resource retains the same economic cut-off value of 100ppm as was used in the earlier resource estimate.

Nyngan Scandium Resource

(cut-off of 100 ppm Sc)	Current Resource		Previous Resource	
Category	**Tonnage**	**Grade Sc**	**Tonnage**	**Grade Sc**
Measured Resource	5,690,000	256	2,718,000	274
Indicated Resource	11,230,000	225	9,294,000	258
Total Resource	16,920,000	235	12,012,000	261

Another result of the DFS was the publication of the first Reserve on a portion of the resource, associated specifically with that portion of the limonite resource. The DFS utilizes 1.4334 million tonnes of limonite resource over 20 years, almost all in the Measured Resource category, and that portion of the overall resource has generated the Reserve figure.

Nyngan - Mineral Reserve

Category	**Tonnage**	**Grade Sc**
Proven Reserve	794,514	394
Probable Reserve	641,915	429
Total Reserve	1,436,429	409

PEA/PFS

In October 2014, the company published its Technical Report on the Feasibility on Nyngan prepared by the engineering firm of Larpro Pty Ltd, of Brisbane. The main mining assumptions were that a portion of limonite-only resource, in one particular area of the overall resource, would provide a 20-year mining pit sufficient to supply the processing facility at a rate of 75,000 tpa, at an average grade of 371ppm Scandium. The results of that PEA are shown in a comparative table on the next page. It is important to

note that the estimates utilized an AUD/USD foreign exchange rate of US$0.90 even though the rate subsequently dived to nearly US0.70.

The PEA premised a conventional flow sheet, employing high pressure acid leach (HPAL) and solvent extraction (SX) techniques, which were modeled and validated from METSIM modeling and bench scale/pilot scale metallurgical test work.

Nyngan - Project Metrics

	DFS - 2016	PEA
Capital Cost Estimate (US$mn)	$87.10	$77.40
Average Plant Feed Grade (ppm Sc)	409	371
Resource Processed (tpy)	71,820	75,000
Mill Recovery (%)	83.70%	84.30%
Oxide Production (per annum)	37,690 kgs	35,975kgs
Scandium Oxide (Scandia) Product Grade	98-99.9%	97-99.0%
Annual Cash Operating Cost (US$ M)	$21.00	$22.90
Unit Cash Cost (US$/kg Oxide)	$557	$636
Oxide Price Assumption (US$/kg)	$2,000	$2,000
Annual Revenue (US$ millions)	$75.40	$72.00
Annual EBITDA (US$ millions)	$49.50	$47.70
NPV (10%i) (After Tax)	$177.50	$176.60
NPV (8%i) (After Tax)	$225.40	$217.80
IRR (%) (After Tax)	33.10%	40.60%
Payback	3.3 years	2.5 years

The Definitive Feasibility Study

In April of 2016, the company published its long awaited DFS. This document was important not only in that it updated the previous PEA but in that it is the only DFS on a primary Scandium property that we know of and thus gave the market an in-depth view of how such a project might evolve and its implications in costings and potential addition of supply to Scandium Oxide to the global marketplace.

The well-known Australian consulting firm, Lycopodium Limited, (ASX:LYL) led the feasibility study from their Brisbane office with supporting input from Mining One of Melbourne, Knight Piésold of Brisbane, Altrius Engineering Services of Brisbane, and Rangott Mineral Exploration Pty Ltd of Orange (the major town in proximity to the deposit.

The DFS outlines that the likely capex is US$87.14mn, most of which is related to processing costs and infrastructure, as detailed at the right.

Nyngan - DFS Capex

Mining Capital	
Pre-Stripping Cost	$1.72
Vehicles/Site Equipment	$1.26
Mining Subtotal	$2.98
Processing Plant Capital	
Process Plant Mechanicals	$40.96
Site Infrastructure	$25.95
Construction Costs	$3.91
EPCM Costs	$10.41
Owners Costs	$2.93
Process Plant Subtotal	$84.16
Total Project Capital Cost	$87.14

Mining & Processing

The Nyngan deposit is surface-mineable, with an overall strip ratio approximating 3.4:1. The mine plan is limited to a 20-year duration, with the plan utilising less than 12% of the total measured and indicated resource contained in the resource model. There will be two pits with the depths being 50 m and 45 m for the western and eastern pit respectively.

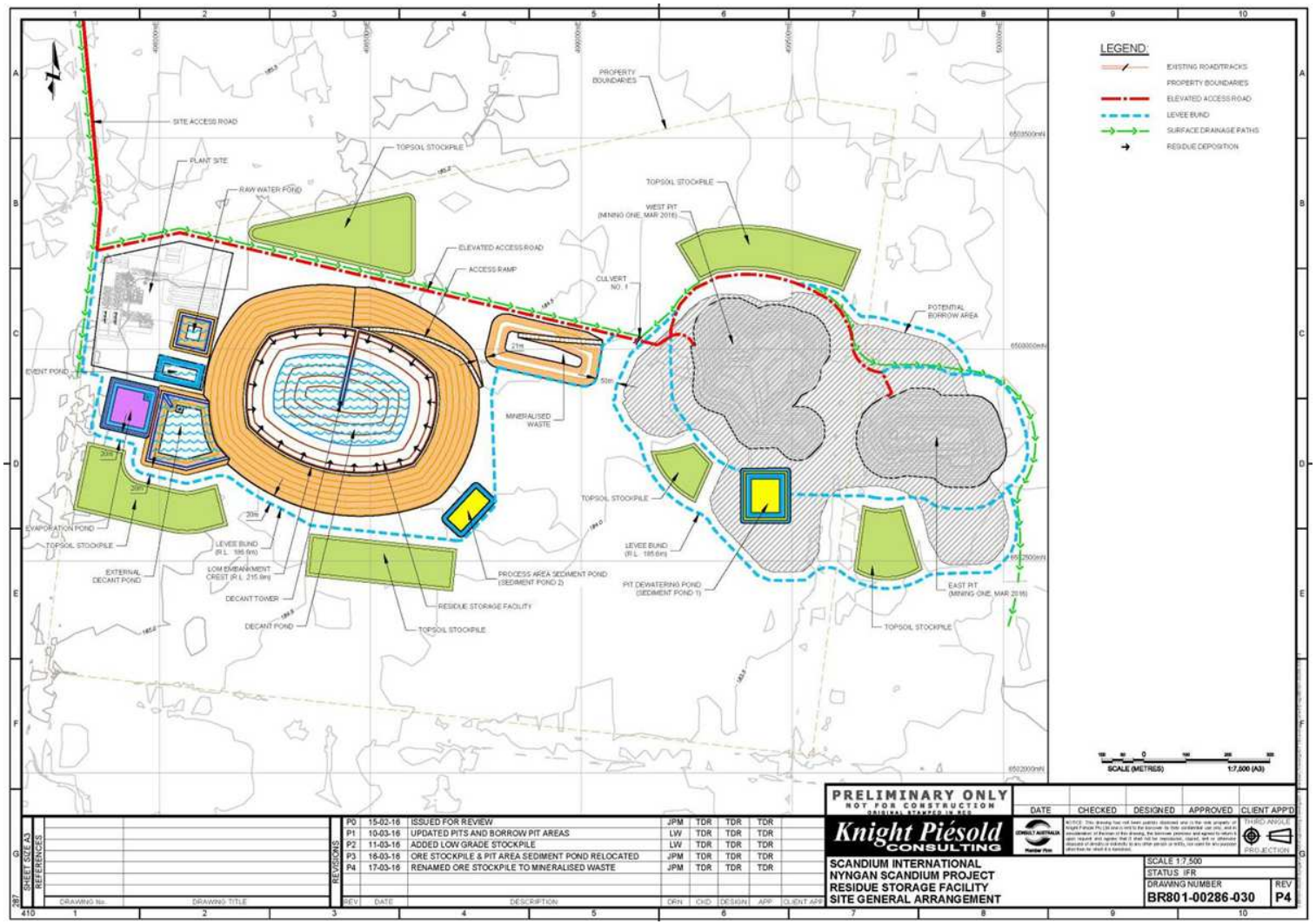
The mine plan targets delivery of only limonite resource to the processing facility, the processing route designed in this Feasibility Study is tailored for limonite-only production, at a 75,000 tpa ore feed rate.

At a daily process plant feed rate of 240 tpd, the strategy is to campaign mine and stockpile the mined material several times during the year, rather than attempt to maintain and operate an even smaller mining fleet throughout the year. It is envisaged that 25,000 to 30,000 tonnes of scandium-bearing material will be mined during each campaign. The mining strategy will minimise stockpile quantities by only mining the required ore quantities during each mining campaign. On this basis, the required ROM capacity is relatively small, at 50,000 t maximum.

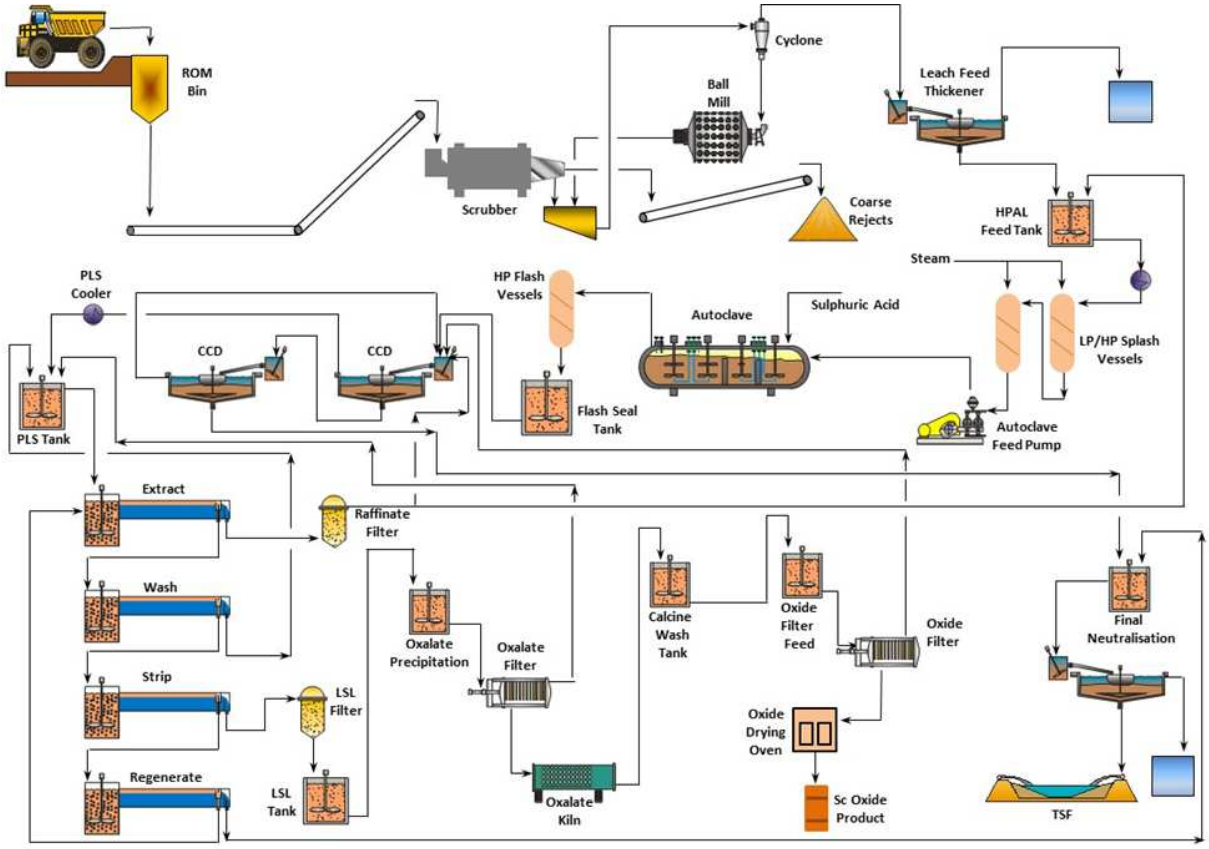
The High Pressure Acid Leach (HPAL) test work, solvent extraction and precipitation programs conducted in 2015 have resulted in an evolution of the flowsheet compared to that developed by other researchers in the following areas:

- The extraction phase could be conducted successfully on HPAL discharge liquor
- Stripping was easily conducted with a low acid strip solution
- High purity scandium oxalate could be precipitated from the solvent extraction loaded strip liquor
- Calcined scandium oxide, approaching 99.9% purity can be produced using the process flowsheet that has been developed with 83.7% scandium recovery of scandium in feed to final product

Solvent extraction of scandium occurs by contacting the Pregnant Leach Solution with an organic phase containing a primary amine (Primene JM-T) dissolved in a kerosene (Shellsol D70) in three counter current extraction stages. A scandium sulphate complex ion leaves the aqueous phase and loads onto the amine. The organic phase is then washed with a dilute sulphuric acid scrub solution.


LEGEND:
EXISTING ROAD/TRACKS
PROPERTY BOUNDARIES
ELEVATED ACCESS ROAD
LEVEE BUND
SURFACE DRAINAGE PATHS
RESIDUE DEPOSITION
PROPERTY BOUNDARIES
SITE ACCESS ROAD
PLANT SITE
RAW WATER POND
TOPSOIL STOCKPILE
ELEVATED ACCESS ROAD
ACCESS RAMP
CULVERT NO. 1
WEST PIT (MINING ONE, MAR 2016)
POTENTIAL BORROW AREA
MINERALISED WASTE
EVENT POND
EVAPORATION POND
TOPSOIL STOCKPILE
LEVEE BUND (R.L. 186.6m)
EXTERNAL DECANT POND
LOW EMBANKMENT CREST (R.L. 215.6m)
DECANT TOWER
DECANT POND
PROCESS AREA SEDIMENT POND (SEDIMENT POND 2)
RESIDUE STORAGE FACILITY
PIT DEWATERING POND (SEDIMENT POND 1)
EAST PIT (MINING ONE, MAR 2016)
SCALE (METRES)
1:7,500 (A3)
PRELIMINARY ONLY
NOT FOR CONSTRUCTION
Knight Piésold CONSULTING
SCANDIUM INTERNATIONAL
NYNGAN SCANDIUM PROJECT
RESIDUE STORAGE FACILITY
SITE GENERAL ARRANGEMENT
SCALE 1:7,500
STATUS IFR
DRAWING NUMBER
BR801-00286-030
REV
P4
P0 15-02-16 ISSUED FOR REVIEW
P1 10-03-16 UPDATED PITS AND BORROW PIT AREAS
P2 11-03-16 ADDED LOW GRADE STOCKPILE
P3 16-03-16 ORE STOCKPILE & PIT AREA SEDIMENT POND RELOCATED
P4 17-03-16 RENAMED ORE STOCKPILE TO MINERALISED WASTE

The scandium oxalate precipitate is filtered in a plate and frame filter press. The scandium oxalate is added to rotating kiln furnace and calcined to scandium oxide at 900°C, before being washed with deionised water and filtered. The scandium oxide is then dried and dispatched in small security drums.



Once at nameplate capacity, the processing plant is forecast to produce between 36,600 and 42,000 kilograms of scandium oxide product per year, averaging 37,690 kilograms/year over the 20 year feasibility study production period. Oxide product will be produced on-site at grades between 98% and 99.9%, as Sc2O3, and will be offered at grades that meet various customer requirements, suitably packaged for direct sales to end users.

The ALCERECO Deal

In late March 2015 the company announced that it had signed MOU and Scandium Offtake Agreements with ALCERECO Inc. of Kingston, Ontario. The goal was to form a strategic alliance to develop markets and applications for aluminum alloys containing scandium. The MOU covers areas of joint cooperation and development of aluminum alloys that contain and are enhanced by the addition of Scandium, while the offtake agreement governs sales terms of the Scandium Oxide product (scandia) produced from

Nyngan. The offtake agreement outlines standard sale terms on 7,500 kg of scandia per annum, for a term of three years beginning in 2017 (which can be extended) the agreement contains both fixed and variable pricing components, which are subject to confidentiality.

We have encountered ALCERECO before due to its symbiotic relationship with Focus Metals the graphite explorer. ALCERECO is a Canadian private company, and a wholly-owned subsidiary of Ottawa-based Grafoid Inc., a global leader in diverse graphene application development. The company operates out of the Grafoid Global Technology Centre in Kingston, Ontario that was originally founded by Alcan Aluminum in the 1940's. Thus ALCERECO has a direct genealogy back to one of the world's major labs for innovations in aluminium alloying and applications.

ALCERECO has been evolving since being founded by some former scientists of Alcan as an advanced materials development company that provides services and specialty processing capabilities to companies innovating in a diverse range of markets, including aerospace, automotive, electronics and consumer/sporting goods.

The scientists at work with a range of materials and processes for the development of aluminum-scandium alloys, specialty ceramics, composites and graphene enhanced materials. The company has a particular focus on lightweight materials capable of delivering greater strength, functionality and exceptional performance.

Scandium – Rare Metal Not Rare Earth

When the Rare Earth boom was in full flight the universe was dictated to be the Lanthanide series plus Yttrium PLUS Scandium. This was generous of the promoters as Scandium was scarcely seen in their mineralisations so they were essentially giving a free plug for someone else's product. However it was rather a safe bet as no-one we can recall was making any claims to having a Scandium resource. The element was regarded as something that was produced "somewhere in Russia" and thus not something to easily wrap one's brain around let alone get one's hands on a deposit. The truth was it was not a Rare Earth but it was definitely rare.

With the global trade estimated to be around 10-15 tonnes of oxide (or is it metal? The USGS does not specify) per annum, it was not something to hold one's breath over. Intriguingly though we even heard Scandium described as a "spice metal", which was a new one for us!

Usage

The main application of scandium, by weight, is as a grain-refining agent in aluminium-scandium alloys for minor aerospace industry components. The positive effects of scandium on aluminium alloys were discovered in the 1970s. These alloys, composed of as little as 0.5% scandium, make a significant difference in strength. It can be added to most of the standard alloy grades to improve tensile strength, corrosion resistance, weldability and heat working tolerances. It reduces temperature creep in alloys, and combines particularly well with magnesium and zirconium to add unique enhancements to alloy

performance. Scandium does not reduce electrical conductivity in aluminum alloys to the extent other alloy combinations suffer degradation.

Scandium-stabilized zirconia (ScSZ - usually 9 mol%Sc2O3 – 9ScSZ) enjoys a growing market demand for use as a high-efficiency electrolyte in solid oxide fuel cells (SOFCs), including those of the leading commercial supplier, Bloom Energy. The SOFC business is a fast emerging application, albeit still small, accounting for half or more (in some estimations) of the current world Scandium consumption. These natural gas powered electrical generation systems are highly efficient, reliable, clean, and completely independent of traditional electrical grid systems.

One area that intrigues us is the Sc_2O_3 that is used annually in the United States to make high-intensity discharge lamps. Scandium iodide, along with sodium iodide, when added to a modified form of mercury-vapor lamp, produces a form of metal halide lamp. This lamp is a white light source with high color rendering index that sufficiently resembles sunlight to allow good color-reproduction with TV cameras. The USGS estimates that around 80 kg of scandium is used in metal halide lamps/light bulbs globally per year. This would seem to be an application where a greater, more reliable supply of the metal might result in a significant expansion in usage, particularly into more household applications. We could also see potential in sports arena lighting.

Scandium also has uses in sports equipment, guns and dental inputs. Some of its applications though can be substituted with Titanium.

Production

Scandium is distributed sparsely and occurs in trace amounts in many minerals. Rare minerals from Scandinavia and Madagascar such as thortveitite, euxenite, and gadolinite are the only known concentrated sources of this element. Thortveitite can contain up to 45% of scandium in the form of scandium oxide.

Scandium is present in many of the deposits of rare earth and uranium compounds, but it is extracted from these ores in only a few mines worldwide. Because of the low availability and the difficulties in the preparation of metallic scandium, which was first achieved in 1937, it took until the 1970s before applications for scandium were developed.

According to the USGS's very outdated commentary (from 2003) only three mines produced scandium:

- the uranium and iron mines in Zhovti Vody in Ukraine,
- the rare earth mines in Bayan Obo, China
- the apatite mines in the Kola peninsula, Russia

In each case, scandium was a byproduct from the extraction of other elements. It should be noted that the Kola peninsula mines were the main source of product for Molycorp's Silmet facility in Estonia and

also that these mines are now in terminal decline (if not already shuttered). Scandium was also encountered at the Crystal Mountain fluorite mine in Montana where it was in tailings.

The USGS has estimated that global scandium consumption was less than 10 tons per year in 2013. However, as this metal is one of the least intermediated metals around (i.e. most of its trade is directly between end-users and the "producers", one has to wonder how reliable the USGS numbers are. We have knowledgeable parties who put demand at three times that level.

Much credibility is given to the USGS in many metals but with regards to Scandium we must confess to taking its projections with more than a grain of scepticism. Some critics claim its numbers have been "off" for at least a decade, if not longer. In the 2005-10 period it was claiming that the market was 2-10 tpa. Recently this was upped to 15 tonnes after it became clear that Bloom (the SOFC developer) was making their own Sc2O3 in China and at Crystal Mountain out of tailings (apparently now exhausted) and probably accounted for around eight tonnes based on SOFC output. This was imported as electrical parts (zirconium wafers/tape already doped with Sc oxide). The doped tape was therefore not captured in the US import statistics informing the US government's 'world-wide estimate'.

Even now the exact oxide-equivalent consumption remains murky with a best guesstimate, limited by available supply, of 15-20tpa, or more.

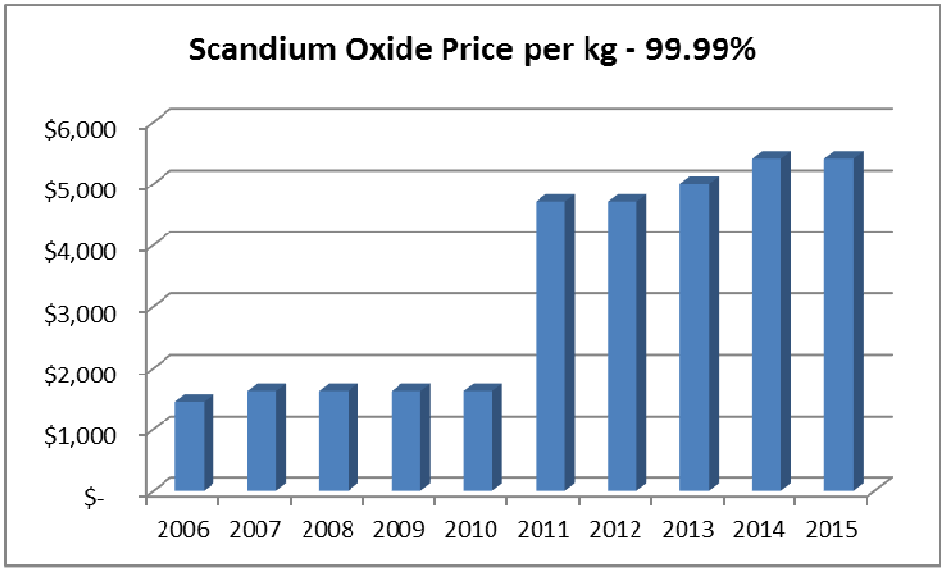
Prices & Marketing

The current price of the metal is another murky area (like so many of the minor specialty metals) with indications that Scandium Oxide trades at over US$5,000 per kg. This compares with $1,620 per kg as recently as 2010.

Pricing in the metal is somewhat of a "nod, nod, wink, wink" process. One Scandium watcher we spoke to commented that he thought that "$900/kg was a low-wrong number in 2009, and $5,200/kg is a high-wrong number in 2016".

It is important to note that at $2,000/kg oxide pricing, there is US$66 of scandium in one kg of Al-Sc 2% master alloy. There is no reason that Al-Sc master alloy margins should be more than a few dollars premium to other varietals. Today, according to the USGS, master alloy sells for over $200/kg, and in 2009 it was $70/kg. The accuracy of USGS numbers on master alloy is also queried in some circles, as current quotes for master alloy are US$150/kg out of China and US$175/kg out of Russia. Inherent in that though are quality issues with regard to Chinese product relative to the Russian material.

Another issue of note is the grade differences in the quotes between 99% and 99.99%. Electrical uses will need 99.9%. Master alloy producers will be content with 98%, and they probably could do with 95% if they adjusted their mixing and dross management techniques. Most material will go into alloys.



Scandium International commissioned an independent marketing study on the ten-year supply/demand outlook for scandium, and likely pricing trends over the period 2016 to 2026. While this document is treated as confidential (and it has no intention of releasing the document to the public) it gave Lycopodium access and they reviewed the contained price forecast and supply/demand projections and confirmed that it was consistent with the sales and marketing objectives presented in this DFS.

Chicken & Egg

The absence of reliable, secure, stable and long term production has limited commercial applications of scandium. Despite this low level of use, scandium offers significant benefits. The potential for substantial expansion in usage and demand clearly exists and to an extent it is one of those “rare” metals stories where the supply could potentially generate the demand rather than the other way around. The most obvious areas where this might happen are in lighting systems, SOFCs and aluminium alloys.

In some ways a good analogy might be Europium. Its application in colour televisions spurred a surge in REE mining (ironically at Mountain Pass) which then made the “rarer” REEs more abundant, lowering the price but moreover accentuating the supply which meant that new applications arose or were employed that spurred the whole evolution of the permanent magnet and laser usages of the other metals.

It is not too difficult to imagine that greater production will firstly spur the master alloy applications, followed by an expansion in the SOFC demand, lighting and then “new” applications. In aircraft alone the aluminium alloy demand might totally consume all the extra product that Nyngan brings to market.

Scandium in the Light of the REE experience

The contrasts with the evolution of the REE space are poignant and worth highlighting. Scandium is practically a zero value market today, though with the potential, within maybe a 15-year timeframe, to be a $1bn per annum market. The REE market in its heyday was a $3bn market (spread across a whole series of elements), was largely unprofitable, controlled by China and not clear it was ever headed for a double--let alone a profitable double.

Scandium can be processed at minesite to a 99% product ready to sell to customers, whereas REE's needed a large and costly separation/refining processes that threatened to distance the miner from his end customer in most cases, making the miner a mere quarrymaster.

The basket of products that come with virtually every REE deposit presents a level of complexity on pricing, markets and profitability by element that was (and still is) hard for investors to understand. With the REE space having 16 elements with multiple different end market demand and growth levels, was all the more boggling.

The REE businesses are bulk mining businesses, and they need scale/volume in both mining and processing operations to show ROI's, therefore they morphed into gargantuan capex consumers. They also proved to be tough to scale back to levels that matched the size of the companies trying to develop them. Scandium is comparison can be developed discretely in “right-sized” mines and processing complexes.

Board & Management

The board is a heavyweight one with a strong leaning towards “big” company experience with a strong component of ex-BHP people in the mix.

George Putnam is the President, CEO and Director. He has extensive mining industry experience, having worked for over 20 years for BHP (now BHP-Billiton) and GE/Utah International. While at BHP, he held division Chief Financial Officer roles in the petroleum refining business and in BHP Manganese. He is the former CFO for QGX Ltd., a TSX-listed exploration company. He also currently serves on the Advisory Board of Hana Mining Ltd. (HMG.v), a Canadian explorer actively developing a sediment-host copper-silver property in Africa.

The Chairman is **William B. Harris** and has been a director of Golden Predator Mines Inc. and Energy Metals Corporation, a Chairman and Executive Committee member of the American Fiber Manufacturers Association, and the former President and CEO of Hoechst Fibers Worldwide where he managed an operation with annual turnover in excess of $5bn, with 21,000 employees and production locations in 14 different countries. Within Hoechst AG, he was Chairman of Grupo Celanese S.A., in Mexico with sales in excess of $1bn, management roles at Celanese Canada.

Willem Duyvesteyn, is the Chief Technology Officer and a director. He has more than 40 years of experience in the extractive industries. He is the founder and former CEO of TTS, which was acquired by Scandium International in 2009. Prior to forming TTS, he was Vice President and General Manager Minerals Technology for BHP for more than 10 years. Prior to BHP, he was associated with the famed AMAX Inc., as director of Laterite Nickel projects where he led various multi-million dollar development programs for nickel technology. While employed with Anglo American he was a member of the team that developed the large-scale copper solvent extraction technology.

Warren K. Davis is a non-executive director. He has held senior roles in both minerals and engineering industries. He currently provides consulting services for Parsons Brinckerhoff Power and ClearFuels Technology, Inc. His previous positions include roles with Black & Veach (15 years), the Bechtel Group (three years), and General Electric Company (10 years). He also worked for Utah International Inc. (seven years) in the minerals industry, specifically in acquisitions and strategy.

Barry Davies is a non-executive director. He is a mining engineer with over 30 years in the minerals industry. For more than 20 years, he worked with the BHP Group as Vice President, Strategic Planning and Development for BHP Minerals, Australia.

James R. Rothwell is a non-executive director and has been Chairman of Shore Gold Inc. and Kensington Resources Ltd., a director for Motapa Diamonds Inc. and President, CEO and Director of Inca Pacific Resources and Dia Met Minerals Ltd. He previously served for 27 years with Utah International and BHP in a number of business roles in the US, Canada, Brazil and Australia. His operational experience at BHP included thermal coal, iron ore, coking coal, manganese, diamonds, and the leadership of the BHP Minerals marketing effort worldwide.

Andrew Greig is a non-executive director. He has 35 years of experience in the mining and natural resource industry with Bechtel, the engineering, construction and project management company. At Bechtel, he was Global Manager of Human Resources. He served on the Bechtel Board as a director and was President of the Mining and Metals Global Business Unit.

Tørdal - The Second Project

Scandium has the roots of its discovery in Scandinavia so it's natural that deposits should exist there. Not surprisingly, the company therefore has its follow-on project, Tørdal, in southern Norway. The 100% controlled property is quite large, covering 90 sq km, and consists of numerous mineralized pegmatite dykes. The company mapped over 300 of them on the property in 2012-13. In the company's opinion, the property has potential for numerous mineral targets that include scandium, yttrium, tantalum, niobium, beryllium, zirconium, titanium, lithium, REE's and tin. Surface soil sample results, announced in August 2011, suggested scandium targets in the Heftetjern region, including one sample assaying 217 ppm scandium. Further results of the 2012 summer exploration program were promising, as the company reported hand-held XRF readings on pegmatite samples in numerous areas that ranged from 500ppm to 1,500ppm. The company is considering reactivating the exploration effort in the near

future (over this summer). This remains though a secondary focus as SCY has clearly positioned Nyngan as the initial scandium project for development.

Risks

It is important to highlight some of the risks in any such venture. At least with its location in the well-known and long established mining jurisdiction of NSW, it is unlikely that any problems should present themselves on that front. However, one should consider:

- Financing difficulties
- Price fluctuations in what is an opaque market
- Failure of demand to match rising production (i.e. build it and no-one comes)
- Excessive number of competing projects could crowd the scene and hog capital

The chief advantage that Scandium International has in minimizing these risks is that it is so far advanced compared to other potential players, while its bite-sized capex makes it eminently more buildable than some of the other contenders.

Conclusion

Scandium International has clearly found itself an interesting niche in a very rare and yet very useful technology metal. Added to this is the fact that Nyngan is a truly ideal deposit.

Now the DFS has come off the presses, the investment community can see that the capex is on the right side of achievable helped by the infrastructure and jurisdictional advantages of being located in central New South Wales.

While the project's rated production is higher than the perceived global consumption, that global consumption number is suspect and more likely to be upwardly revised than to be an over-estimation. The dynamic of "build it and they will come" also seems to have promise here with Scandium having a potential for expanded demand if only end-users could be sure they can get all they need if they tool up for greater production of lamps, bicycles, auto parts, wheels, aircraft, high speed trains----whatever wants a lightweight high performing metal alloy, ideally already being made from aluminum.

Certainly Nyngan moving into operation might also drive down prices making the metal more accessible to potential users with the potential to create a virtuous cycle of affordability and enhanced supply driving widened applications. Beyond all this it creates a market for a specialty metal, in a safe Western jurisdiction, over which the Chinese do not have a stranglehold.

In the absence of other comps in this metal another way to look at the Nyngan scandium project is as an equivalent to a one ounce/tonne gold project. One tonne of 400 ppm (g/t) elemental Sc = US$1,200 revenue, assuming a US$2,000/kg sales price for oxide, equates to an ounce of gold at US$1,200/oz.

The challenge now will be financing, with the most likely scenario being an offtaker stepping up to ensure that they get first dibs on the product flow from the mine upon completion.

We are initiating a **Long** position in the Model Mining Portfolio with a 12-month target price of CAD60cts.

Important disclosures

I, Christopher Ecclestone, hereby certify that the views expressed in this research report accurately reflect my personal views about the subject securities and issuers. I also certify that no part of my compensation was, is, or will be, directly or indirectly, related to the specific recommendations or view expressed in this research report.

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