

# **The Potash Developer**

High-Grade Potash with Outstanding Exploration and Mining Opportunities

Sept 2014 ASX: ELM

# **Sintoukola Potash Project Location**

- The project is situated in the Kouilou Province of the Republic of Congo, 56km's North of the of the port city of Pointe Noire
- Exploration licence comprises 1,436.5km<sup>2</sup> including:
- the Kola Sylvinite Deposit and Mine Lease in the north east of the licence
- the Dougou Carnallitite Deposit in the south central section of the licence
- The Yangala Sylvinite Deposit immediately west of Dougou





# **Dougou Exploration Strategy and Kola Project Capital Optimisation**

The Company is focusing on the following aims/objectives:

### • Accelerate exploration plan at Dougou and on broader licence area to unlock shareholder value

- <u>Recently announced Dougou Inferred Mineral Resource</u>\* of <u>1.29 billion tonnes of carnallitite grading</u> <u>21.72% KCI (13.71% K<sub>2</sub>O)</u> is the focus of current exploration – three hole infill and resource extension drilling programme nearing completion
- **Scoping study** for a potential low capital cost solution mine planned for Q1 2015
- Further drilling planned to target high-grade Hangingwall Seam Sylvinite ('HWSS') at Yangala
- Yangala Sylvinite Prospect one of several prospects identified for HWSS potential
- Phased implementation at Kola through ongoing review and optimisation of the existing PFS to be completed Q4 2014
  - Aimed at reducing initial capital and increasing fundability
  - Interim studies underway leading to optimal feasibility study costs
  - Pursue infrastructure carve-outs to reduce capital funding requirement

Strategic World Class Potash Project



\* ELM Announcement 9 July 2014

## **Business Plan Designed To Deliver Value**

- Action plan to unlock potential value on the Dougou Deposit

   recently delivered an Inferred Mineral Resource of <u>1.29 billion</u>
   <u>tonnes</u> @ 21.72% KCl (13.7% K<sub>2</sub>O)\* with infill and extension
   drilling ongoing in preparation for scoping study
- Kola Project capital expenditure study aimed at reducing initial infrastructure capex by 30-40% in progress
- Reduction of feasibility study costs underway initial work indicates significant savings possible and BFS to start Q1/2 2014
- Accelerating search for suitable strategic partner to secure project finance
- Review of all cost centres completed and significant cost reductions taking place – reducing the Company "burn rate" by 40% to 50% with rationalisation ongoing
- Ancillary and technical staff complement reducing to an appropriate level



Drill Rig



**Project Camp** 

Strategic World Class Potash Project



\* ELM Announcement 9 July 2014

## Sintoukola: is a Top Tier Potash Asset

Potash Development Assets Ranked by Grade and Deposit Depth



Strategic World Class Potash Project



Source: Company Reports, NI 43-101 Technical Report, Sep. 17, 2012;

# Executive

### **Directors**

<b>Sam Middlemas</b> <i>Chairman</i>	<ul> <li>Chartered Accountant with over 20 years mining experience, extensive corporate and management expertise</li> </ul>
John Sanders	<ul> <li>32 years experience in mining and exploration in Africa. Served as General Manager of Elemental Minerals 2009 to 2012, currently MD and CEO July 2014 to Present</li> </ul>
Director	<ul> <li>Previously VP Exploration for UraMin Inc. and CEO of Niger Uranium, Regional east and west Africa Exploration Manager Anglogold Ashanti</li> </ul>
<b>Leonard math</b> Non-exec Director	<ul> <li>Chartered Accountant with over 10 years experience in mining, Manager Corporate Services with GDA Corporate, previously with Delloite, currently also Company Secretary for Elemental Minerals</li> </ul>
<b>Julien Babey</b> MD, Sintoukola Potash SA	<ul> <li>Experienced General Manager in energy and mining industry</li> <li>Former CEO of AREVA Mongolia</li> </ul>





# Kola Project

# **Elemental's Flagship Asset**

# Kola – Elemental's Flagship Project - Excellent Progress

- Lowest-quartile industry capex and opex costs
- High-grade, shallow sylvinite
- Positioned in close proximity to the coast
- Located close to the key Brazilian and Asian markets
- Measured and Indicated Mineral Resource of 573 Mt @ 20.92% K2O (33.14% KCI)\*
- PFS completed in September 2012 (SRK, CSA, AMEC, Egis, AAE)\*
  - PFS capital costs = \$1.85bn\* (aim of current optimization process is to reduce this capex)
  - PFS operating costs = \$79/t\* (aim of current optimization process is to reduce this opex)
  - At Sep 2012 prices: NPV10% = \$2.97bn, IRR = 29%\*
- Mining licences awarded 2013
- ESIA approved by regulators in 2013
- Infrastructure footprint land rezoning finalised
- In preparation for the feasibility study an <u>optimisation</u> <u>exercise is underway aiming to reduce capex, redundancy and</u> <u>by phasing the project implementation</u>

Strategic World Class Potash Project







\* Source: NI 43-101 Technical Report

# Kola – Lower Capital Cost Phased Implementation Approach

- Kola Phased Implementation Scoping Study started in July 2014 and performed by AMEC, AAE and led by SRK.
   Objectives/aims are:
- Reduce initial capital expenditure by:
  - <u>Constructing a 1mtpa process plant initially</u>, with a second 1mtpa plant constructed in year 1 of production
  - Deferring infrastructure such as the marine facilities (trucking product for export through Pointe Noire) and the gas pipeline
  - Phasing the mine access construction
  - Phasing of other infrastructure such as earthworks, roads, buildings, water supply and accommodation facilities
- Further reduce initial capital by engaging with infrastructure suppliers to fund and own non-core infrastructure, thereby converting capital to an operating cost including:
  - Overland conveyor belt
  - Mining equipment and underground conveyor belts
  - Power line
  - Gas line
- An overall reduction in initial capital
  - Incorporate results of value engineering phase = steady state opex reduction of 10-15%
  - Results expected in early Q4 2014
  - Provides the base case project configuration for the Feasibility Study



# Kola Project Benchmarking- Excellent Credentials

	HFR Javier	Urakali	Belaruskali	Canada Low Cost	Mosaic	Allana	MagIndustri es	Elemental Sintoukola
Depth	315-800m	~450m	~500m	~1000m	250-1600m	150-500m	~650m	264m
ROM grade (K <sub>2</sub> 0)	12.9%	16.8%	11-12%	18-23%	18-26%	17%	11%	20%
Site Opex (US\$/t)	110	60	-	50	125	65	110	79
Environ/Soci al/Sustaining (US\$/t)	15	30	-	20	45	20	4	10
SG&A (US\$/t)	13	25	-	15	32	7	In site opex	in site opex
Royalty and Resource tax (US\$/t)		-	-	20	15	15	16	14
Site cost and overhead (US\$/t)	138	115	-	105	217	107	130	103
Transport to port (km)	300	2 200	700	~1800	~1800	580	20	0
Shipping to Brazil (km)	9 100	12 400	12 000	15 700	15 700	4500 (to India)	6300	6300
Rail/trucking costs (US\$/t)	22	43	21	35-65	35	28	In site opex	in site opex
Ship loading (US\$/t)	5	5	5	5	5	2	In site opex	in site opex
Shipping to Brazil (US\$/t)	17	30	29	45	45	10 (to India)	12	12
All in Cost (US\$/t CFR Brazil)	181	193	-	205	302	147	142	117
Brazil CFR Price spot (US\$/t)	350	350	350	350	350	340 (in India)	350	350

Strategic World Class Potash Project Source: Company Reports, GMP, NI 43-101 Technical Report, Sep. 17, 2012;



# Elemental on the Potash Cost Curve (estimated FOB cost)





# **Kola Study and Implementation schedule**

2014 Q2 Q3 Q4 2015 Q2 Q3 Q4 2016 Q2 Q3 Q4 2017 Q2 Q3 Q4 2018 Q2 Q3 Q4 2019 Q2 Q3 Q4 2020 Q2 Q3 Q4 2021 Q2 Q3 Q4 2022



# Kola PFS Mineral Reserves & Mineral Resource Estimate\*

#### Mineral Reserve for sylvinite mineralization only at a 10% K<sub>2</sub>O cut-off grade

Proven			Probable			Total			
	Tonnes(Mt)	%K <sub>2</sub> O	%KCl	Tonnes(Mt)	%K <sub>2</sub> O	%KCl	Tonnes(Mt)	%K <sub>2</sub> O	%KCl
	87.9	20.0	31.7	63.8	20.0	31.7	151.7	20.0	31.7

#### Mineral Resource estimate for sylvinite mineralization only at a 10% K<sub>2</sub>O cut-off grade <sup>(1)</sup>

	Measured			Indicated			Inferred			
	Tonnes(Mt)	%K <sub>2</sub> O	%KCl	Tonnes(Mt)	%K <sub>2</sub> O	%KCl	Tonnes(Mt)	%K <sub>2</sub> O	%KCl	
HWS	-	-	-	-	-	-	47	34.8	55.0	
Upper Seam	171	22.5	35.5	159	22.0	34.89	96	21.8	34.5	
Lower Seam	93	19.2	30.4	150	19.1	30.17	107	19.1	30.3	
Footwall Seam							225	17.6	27.9	
Total	264	21.3	33.7	309	20.6	32.61	475	20.4	32.3	

### Mineral Resource estimate for <u>sylvinite and carnallitite</u> mineralization at a 10% K<sub>2</sub>O cut-off grade <sup>(1)</sup>

	Measured			Indicated			Inferred		
	Tonnes(Mt)	%K <sub>2</sub> O	%KCl	Tonnes(Mt)	%K <sub>2</sub> O	%KCl	Tonnes(Mt)	%K <sub>2</sub> O	%KCl
HWS							47	34.8	55.0
Upper Seam	245	19.5	30.9	310	17.8	28.1	278	16.3	25.8
Lower Seam	313	13.3	21.0	448	13.7	21.8	398	13.1	20.8
Footwall Seam						3/100	225	17.6	27.9
Total	559	16.0	25.4	758	15.4	24.4	948	16.2	25.6

\*Source: NI 43-101 Technical Report, Sintoukola Potash Project, Sep. 17, 2012, 1. Includes resources upgraded to P&P reserves



# Access to Key Strategic Markets in Brazil and Asia

- Elemental is well positioned to export its potash product to Brazil, the world's key importer of potash
  - Brazil imports 90% of its domestic potash consumption
- Potential for robust margins given premium pricing due to the company's targeted granular product mix, low cash costs and favourable ocean freight rates from Pointe Noire to Brazil
  - Pointe Noire is 4,931 nautical miles closer to Santos, Brazil than Vancouver
- Elemental's production also represents a large, attractive potash source for the Asian market



- Further, Africa was estimated to consume ~900Ktpa of potash in 2012; split approx. equally between (i) the established markets of South Africa and North Africa, and (ii) the rest of Africa (less developed and underpenetrated)
- The likely huge growth in demand across Africa represents significant upside that is not featured in the current economics

Strategic World Class Potash Project

ierals limited





# **Exploration Outside Kola Mine Lease**

**Dougou Deposit and beyond** 

# **Exploration Plan - Dougou, Yangala and beyond**

### **Dual Exploration Plan:**

- 1. Advance the Dougou Carnallitite Deposit to scoping level in Q1 2015
- 2. Explore for more high grade Hangingwall Seam Sylvinite at the newly defined Yangala Prospect
- The has company already delivered a large Inferred Resource at Dougou last quarter
- Kola and Dougou deposits occupy less than 15% of the exploration permit
- Remainder of permit underlain by Loeme Evaporite Formation which is the host of the potash seams.
- Exploration guided by historic potash intersections and seismic data



Strategic World Class Potash Project

nerals limitec

# **Dougou – Carnallitite Mineral Resource**

- Maiden Inferred Mineral Resource of 1.29 billion tonnes with an average grade of 21.72% KCl (13.71% K2O)\* including 520 Mt in the Hangingwall Seam grading 24.58% KCl (15.52% K2O)
- Hosted by 3 sub-horizontal/gently dipping seams of apparent excellent continuity and thickness, between 400 an 600 metres depth.
- Scoping study planned for completion in Q1 2015 aimed at establishing the fundamentals of the project which may
  point to key advantages for extraction by solution mining

Seam	Million Tonnes	Density (g/cm3)	% KCl	Ave Thickness (m)
Hangingwall Seam	520	1.61	24.58	8.35
Upper Seam	399	1.68	20.68	7.25
Lower Seam	366	1.72	18.81	6.51
TOTAL	1,285	1.66	21.72	7.48

- This Mineral Resource Estimate is effective as of 20<sup>th</sup> June 2014.
- 2. Delineated exclusion zones and a further 15% of the tonnage have been removed from the Estimate.
- A minimum thickness cut-off of 2 metres was applied.
- 4. Table entries are rounded to the second significant figure.
- Mineral Resources are not Mineral Reserves and do not have demonstrated economic viability. The estimate of Mineral Resources may be materially affected by environmental, permitting, legal, marketing, or other relevant issues.
- Confidence in the estimate of Inferred Mineral Resources is not sufficient to allow the results of the application of technical and economic parameters to be used for detailed planning in Pre-Feasibility or Feasibility Studies.

Strategic World Class Potash Project





\* ELM Announcement 9 July 2014

# **Dougou – Carnallitite Mineral Resource**

 Grade, thickness, very low insoluble content, apparent continuity, flat/gentle dip, simple mineralogy and favorable footwall and hangingwall conditions may provide key advantages for extraction by solution mining



Typical Hangingwall Seam carnallitite intersection



## **Dougou Resource – Carnallitite Open in Most Directions**

- Current 3-borehole drilling programme aimed at extending/adding confidence commenced July 2014
- Elemental is currently internally investigating the viability of a low capex carnallite solution mine at Dougou
- Planned to complete a scoping study with an external consultant in Q1 2015
- The Resource is open in most directions and occupies a small portion of the wider area considered prospective. All historic drill holes within the prospective zone contain the Hanging Wall Seam





## **Dougou and Yanagala Exploration and Development Plan**

- Complete a scoping study in Q1 2015 for a Dougou carnallite solution project, aimed at clearly defining the fundamentals of the Dougou Deposit
- For Yangala and beyond, complete interpretation of seismic data to define areas of greatest potential to host Hangingwall Seam Sylvinite
- Drill 4-5 exploration holes to test the Yangala Sylvinite Prospect.
- Objective to advance the area sufficiently to apply for a Mining License within 24 months

Hangingwall Seam Carnallitite Averages 8.35 m grading 24.58% KCl\*1







# **Yangala Sylvinite Prospect**

- 10 by 7 km intra-basin 'high', appears to be very similar to Kola in setting, possible that wider areas of Hangingwall Seam sylvinite present and may be converted to sylvinite \*1
- Elementals borehole ED\_01 is on edge of this area and contained Hangingwall Seam sylvinite: 4.47 metres @ 57.7% KCl (36.4% K<sub>2</sub>O)\*<sup>2</sup> 4-5 drill holes planned to test the large area to the west of this.



Elevation, thinning and 'roll' of the Salt Sequence related to a horst and normal faulting associated with the regional mid-slope 'hinge line'

Strategic World Class Potash Project \*1 ELM Announcement 9 July 2014 \*2 Announcement 4 September 2012



# **Forty Kilometer Zone of Sylvinite Prospectivity**

- Interpretation of recently acquired oil-industry seismic data\* underway.
   Preliminary findings:
- Hinge/tilt Zone: 3-10 kms width and over 40 kilometres in length. Where broader it forms extensive intra-basin 'highs' such as Yangala Prospect. Increased potential for sylvinite in the hinge zone
- Pillowed Zone: 30 km long zone within which there are salt-pillows. Untested possibility that the stratigraphic thinning associated with the pillowing promotes sylvinite mineralisation



Strategic World Class Potash Project

inerals limited



# **Financial Overview**

## **Capitalisation Summary**

Exchange Listing: ASX		A\$
Share Price	(A\$/share)	0.20
52 Week High / Low	(A\$/share)	0.35 / 0.16
Shares Outstanding	(m)	315
Options (unlisted)	(m)	19.7
Market Capitalisation	(A\$m)	63.1
Cash & Cash Equivalents (31 Jul '14)	(A\$m)	~1.0

## Major Shareholders

Name	Holding
Harlequin*	19.17%
EMC*	10.58%
Dingyi	7.17%
Genesis Investment	5.69%
Тор 20	67.2%

### **Recent Share Price**



# **Use Of Proceeds**

	Use of Proceeds - USD 000's		
	Period: - Oct14 to Sep15 (12 Months)	Amount	%
1	Drilling & Exploration Activities*	4 150.0	51 <b>.9</b> %
2	Study Related Activities	500.0	6.3%
3	In-Country Project Operations	1 750.0	21.9%
4	Corporate Costs	1 600.0	20.0%
		8 000.0	
	*Exploration activities will be dependant on future drilling results		



# Disclaimer

This presentation contains statements that are "forward-looking". Generally, the words "expect," "potential", "intend," "estimate," "will" and similar expressions identify forward-looking statements. By their very nature, forward-looking statements are subject to known and unknown risks and uncertainties that may cause our actual results, performance or achievements, to differ materially from those expressed or implied in any of our forward-looking statements, which are not guarantees of future performance. Statements in this presentation regarding the Company's business or proposed business, which are not historical facts, are "forward looking" statements that involve risks and uncertainties, such as resource estimates and statements that describe the Company's future plans, objectives or goals, including words to the effect that the Company or management expects a stated condition or result to occur. Since forward-looking statements address future events and conditions, by their very nature, they involve inherent risks and uncertainties. Actual results in each case could differ materially from those currently anticipated in such statements. Investors are cautioned not to place undue reliance on forward-looking statements, which speak only as of the date they are made.

#### **Competent Person Statement:**

The information in this report that relates to Exploration Targets, Exploration Results and Mineral Resources outside of the Kola deposit is based on information compiled by Mr. Andrew Pedley, Elemental's Chief Geologist and a full-time employee of the Company. Mr. Pedley is a member of the South African Council for Natural Scientific Professions (SACNASP) being a registered Professional Natural Scientist in the field of Geological Science. Mr. Pedley has sufficient experience that is relevant to the style of mineralisation and type of deposit under consideration and to the activity he is undertaking to qualify as a Competent Person, as defined in the 2012 Edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves" (the JORC Code). Mr. Pedley consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

The information in this presentation that relates to Exploration Targets, Exploration Results, Mineral Resources for the Kola deposit was prepared and first disclosed under the JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported. This information relating to the Sintoukola Project and Kola deposit was extracted from a Technical Report entitled "NI 43-101 Technical Report, Sintoukola Potash Project, Republic of Congo" dated September 17, 2012 with an effective date of September 17, 2012 (the "Technical Report") which is available on the Company's website (www.elemental minerals.com). The Company confirms that the form and context in which the Competent Person's findings are presented have not been materially modified from the original market announcement.

Further information respecting Elemental's Sintoukola Potash Project and the PFS is contained ins available on the Company's website.





# Low-Cost, High-Grade Potash Project

John Sanders Managing Director Elemental Minerals Ltd Email: john.sanders@elementalminerals.com Office: +27 11 469 9140 Direct: +27 11 469 9144 Mobile: +27 82 445 5291