





Africa's most exciting new iron ore project Company Presentation | July 2014 Roadshow



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The information in this report that relates to Exploration Results, Mineral Resources or Ore Reserves is based on information compiled by Len Kolff and Iain Macfarlane, who are members of the Australian Institute of Geoscientists. Len Kolff is a full-time employee of the Company and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which 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'. Iain Macfarlane is a full-time employee of Coffey Mining Ltd and has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which 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' Len Kolff and Iain Macfarlane consent to the inclusion in the report of the matters based on his information in the form and context in which it appears. Exploration target size potential information was prepared and first disclosed under 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.

#### Scoping Study

Full details of the Scoping Study referred to in this report were initially released to the ASX in an announcement dated 3 July 2014, and should be read in conjunction with this presentation. All material assumptions underpinning the Scoping Study, production targets and forecast financial information derived from the production targets as well as any cautionary statements and disclosures as required under the ASX Listing Rules and 2012 JORC Code are set out in the announcement dated 3 July 2014 and continue to apply and have not materially changed.

The Scoping Study referred to in this report is based on low-level technical and economic assessments, and are insufficient to support estimation of Ore Reserves or to provide assurance of an economic development case at this stage, or to provide certainty that the conclusions of the Scoping Study will be realised. In discussing 'reasonable prospects for eventual economic extraction' in Clause 20, the Code requires an assessment (albeit preliminary) in respect of all matters likely to influence the prospect of economic extraction including the approximate mining parameters by the Competent Person. While a Scoping Study may provide the basis for that assessment, the Code does not require a Scoping Study to have been completed to report a Mineral Resource.

Scoping Studies are commonly the first economic evaluation of a project undertaken and may be based on a combination of directly gathered project data together with assumptions borrowed from similar deposits or operations to the case envisaged. They are also commonly used internally by companies for comparative and planning purposes. Reporting the general results of a Scoping Study needs to be undertaken with care to ensure there is no implication that Ore Reserves have been established or that economic development is assured. In this regard it may be appropriate to indicate the Mineral Resource inputs to the Scoping Study and the processes applied, but it is not appropriate to report the diluted tonnes and grade as if they were Ore Reserves. While initial mining and processing cases may have been developed during a Scoping Study, it must not be used to allow an Ore Reserve to be developed.



### Corporate Snapshot & Executive Team

### **Capital Structure**

Shares on issue

Market Cap @ \$0.026

as at 03/07/2014

**Options** 

Cash Balance

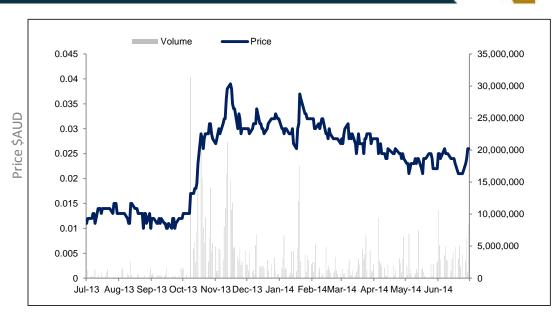
as at 20/04/2014

1,465m

\$38.1m

116.5m

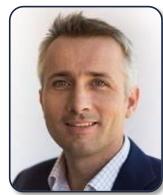
\$4.9m





# Wayne Richards Executive Chairman

- 27yrs mining, processing & project development experience
- Corporate funding & Project Development experience
- Former MD of Brockman Resources



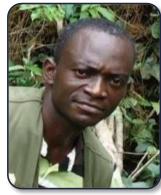
Len Kolff Managing Director

- Geologist; 16yrs experience
- 12 years at Rio Tinto; mainly West Africa
- Integral in +2Bt Simandou Fe discovery



Matthew Bowles
Non-Executive Director

- Corporate finance & M&A expertise in mining sector
- Head of Corporate Development at Gryphon Minerals Limited



Rockson Coffie
Exploration Manager

- 12 yrs experience in West Africa
- Ashanti Goldfields, Redback Mining, Hummingbird Resources
- Integral in Enchi Boin Valley and Dugbe discoveries

#### **Key results - Scoping Study for Stage 1 development of a 2.5 Mtpa project Initial Mine Life** 14 years Stage1A (Year 1&2) 1.0 Mtpa **Production Profile** Stage 1B (Year 3) 2.0 Mtpa Stage 1B (Year 4-14 incl) 2.5 Mtpa Capital Cost to initial Stage 1A Production (incl. 20% Contingency) US\$52.9M US\$2.5B Revenue (@FOB price of US\$87/Dmt – Pre-Tax) US\$40.60 per tonne Operating Costs (LOM avg. Cash Costs - FOB) Net Present Value (NPV @8% DCF, post Royalties @ 4.5%) US\$435M Internal Rate of Return (IRR) – Pre-Tax 55.8% Total Project Capital cost US\$280M (mine, logistics and port incl. 20% Contingency) (Staged across 4 years of production) 15 months Timeline to initial production (from approval of Mining Licence) 64 - 68% Fe **Product Quality** "Mofe Creek Premium Fines"



# Scoping Study - Key Findings : CAPEX and OPEX

CAPEX Summary for Stages 1A and 1B			
Area	Stage 1A (US\$ M)	Stage 1B (US\$ M)	
Mine & Associated Infrastructure	\$2.2	\$2.2	
Processing Facilities Stage 1A	\$32.2	\$34.6	
Haul Road	\$0.8	\$34.3	
Port Development	\$0.0	\$64.1	
Support Infrastructure	\$4.3	\$34.0	
Total Direct Costs	\$39.5	\$169.2	
EPCM @ 14% of Direct Costs	\$5.5	\$23.7	
Contingency (20% of Direct Costs)	\$7.9	\$33.9	
Total Indirect Costs	\$13.4	\$57.6	
Total Estimated Cost	\$52.9	\$226.8	

OPEX Summary for Stages 1A and 1B		
Operating costs – average over Life of Mine (US\$)	Stage 1A (US\$ M)	Stage 1B (US\$ M)
Mining	\$5.4/t	\$14.0/t
Processing	\$20.0/t	\$12.7/t
Road Transport	\$10.2/t	\$3.4/t
Port	\$4.8/t	\$9.5/t
G&A	\$1.9/t	\$0.9/t
TOTAL OPEX	\$42.30/t	\$40.50/t

# Scoping Study - Key Findings - Low Capex for Staged Production

Production Profile	
Stage 1A (Year 1&2)	1 Mtpa
Stage 1B (Year 3)	2.0 Mtpa
Stage 1B (Year 4-14 incl)	2.5 Mtpa
Life of Mine (LOM)	14 years (including 10 years of steady state operation at 2.5 Mtpa)
Strip Ratio	0.52:1 (waste to ore) average LOM
Final product grade	64-68% Fe - Premium Fines Product

Operating cash costs – FOB Liberia Coast - average over Life of Mine (US\$)		
Mining	\$13.44/t	
Processing	\$13.19/t	
Road Transport	\$ 3.82/t	
Port Logistics	\$9.19/t	
G&A	\$ 0.96/t	
TOTAL OPEX	\$40.60¢/t	

#### Stage 1A: Commence production at 1.0Mtpa – trucking and/or barging to Monrovia:

- Start up capital (inc. EPCM @14% and 20% Contingency) = US\$53M
- Quality product (+65% Fe) premium pricing to 62%FE
- 1st stage of beneficiation plant installed
- Total OPEX \$42.30 lowest cost quartile

#### **Stage 1B: Expand Production to 2.5Mtpa**

- Design and construct private haul road from mine to new coastal port location
- Migrate logistics solution for Stage 1A to 1B, once road and port completed
- > Expand 1st stage beneficiation plant to an output capacity of 2.5 Mtpa (of final product)
- Staged development to 2.5 Mtpa over 4 years using cash flow, and/or debt or strategic funding
- ➤ Design and construct barging/transhipment facility at coastal location with capacity of >2.5 Mtpa\*\*\*
- Potential for increased tonnage and/or Life of Mine from new drilling program commencing July, scoping study based only on current resource

### Pre Feasibility Study to commence immediately

<sup>\*\*\*</sup>Note: Both the haul road and transhipment facility will have outflow capacity exceeding a nominal rate of 2.5Mtpa

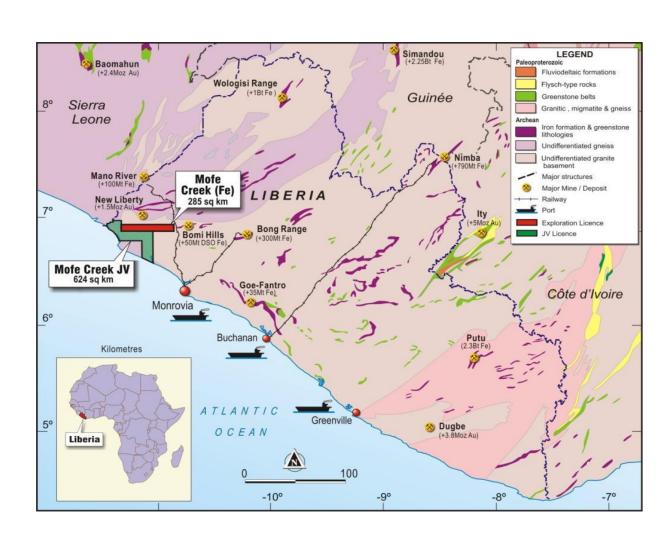
#### **Pre-Feasibility Study to commence July 2014**

- Complete a third drilling program (commencing July) to expand and improve the mineralisation classification – from initial Maiden Resource (*Refer ASX release 31 March* 2014)
- Develop a long term mine, processing and logistics solution, for > 2.5 Mtpa in accordance with forecast future resource drilling success:
  - Road haulage vs light rail trade-off study;
  - Finalisation of coastal port location site, design capacity and expandability for receipt of increased tonnes and/or additional users
- Advance engineering design and metallurgical testing → to PFS level
- Fast track the Mineral Development Agreement ("MDA") Program
- Progress the Environmental and Social Impact Assessment ("ESIA") process
- Commence the operation of a pilot plant and bulk pilot mining programs for early engagement on site



### LIBERIA: Underexplored and Highly Prospective Country

- Historically largest exporter of iron ore in Africa; 5th largest in the world in 1970's
- Ten years of political stability and economic reform
- Modern mining code; English speaking
- Iron Ore Royalty 4.5%
- Corporate Tax 30%
- 285km2 EL granted (100% TAW)
- Strike continuity secured under JV
- Multiple iron ore projects operational or being developed

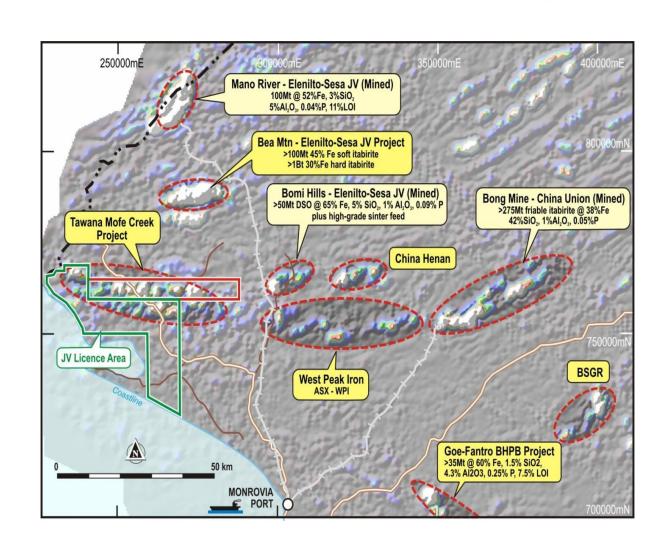


100% of JV iron ore rights

### LOCATION: Mofe Creek - Located in Proven Iron Ore District

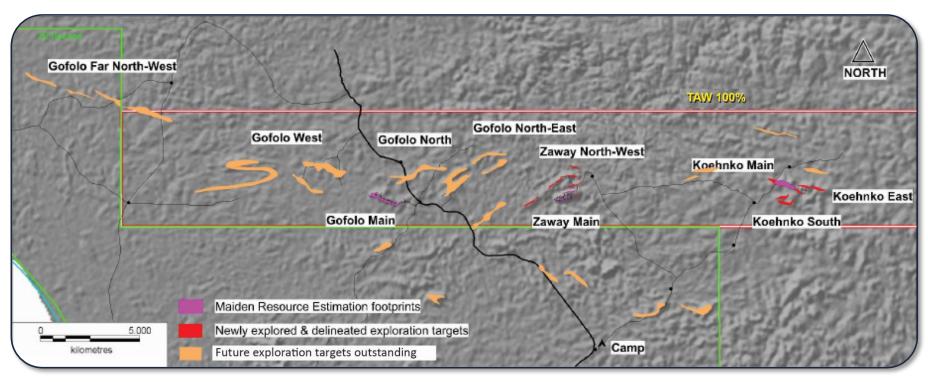
### **Projects Proximal to Mofe Creek**

- WISCO (formerly China Union) (Bong Mine): Mine, rail & port fully operational,
- Sesa Goa/Vedanta: (Western Cluster –Bomi Hills, Mano River, Bea Mountain): DFS level
- Aureus Mining: currently building Liberia's first commercial gold mine
- Arcelor Mittal (Nimba Liberia):
   Mine, rail & port fully operational
- Severstal (Putu Liberia): PFS complete





### LOCATION: Exploration Targets & Deposit Locations



Total Exploration Target Size Potential*	Potential Range	Potential Avg. Grade	Potential Contaminants
Friable Itabirite	90-230 Mt	40-45% Fe	31% SiO <sub>2</sub> , 5% Al <sub>2</sub> O <sub>3</sub> , 0.05% P, 4% LOI
Mixed Friable Itabirite/Amphibolite	270-440 Mt	25-35% Fe	40% SiO <sub>2</sub> , 11% Al <sub>2</sub> O <sub>3</sub> , 0.04% P, 7% LOI, 0.2% TiO <sub>2</sub>
GLOBAL	>500 Mt*		

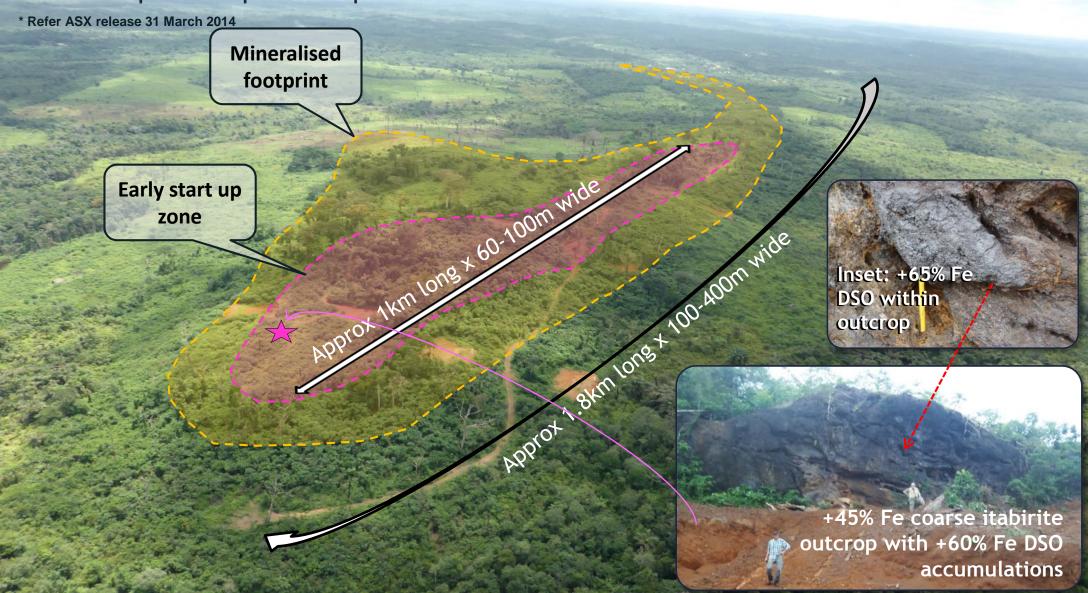
<sup>\*</sup> This information was prepared and first disclosed under JORC Code 2004. It has not been updated since to comply with the JORC Code 2012 on the basis that the information has not materially changed since it was last reported. The potential quantity and grade of the Exploration Target is conceptual in nature. There has been insufficient exploration to estimate a Mineral Resource and it is uncertain if further exploration will results in the estimate of a Mineral Resource.

The potential quantity and grade of an exploration target is conceptual in nature. There has been insufficient exploration to determine a mineral resources and there is no certainty that further exploration work will result in the determination of mineral resources. Refer ASX announcement of 18 March 2013 for further details.



### LOCATION: 'Gofolo Main' Deposit - Early Start-up Potential

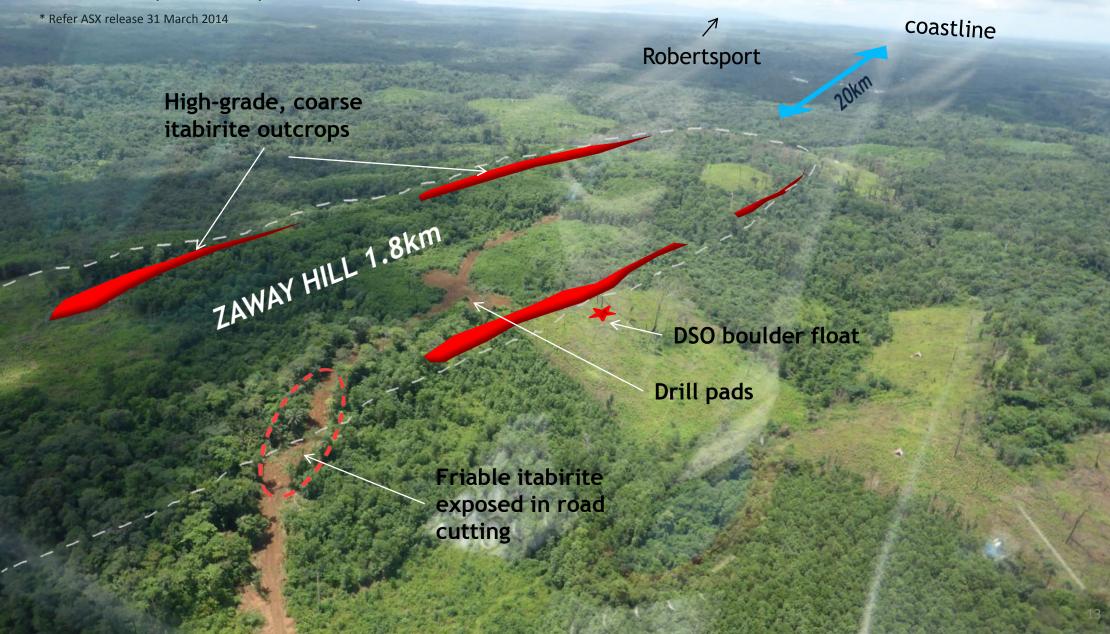
- Maiden Resource Estimate of 23.4MT @ 32.5% Fe (Inferred) plus 10.2MT @ 36.5% Fe (Indicated) at Gofolo Main Deposit
- One of 18 potential deposits on Exploration Licence





## LOCATION: 'Zaway' Target Overview

- Maiden Resource Estimate of 6.3MT @ 33.7% Fe (Inferred) plus 6MT @ 33.4% Fe (Indicated) at Zaway Main Deposit
- One of 18 potential deposits on Exploration Licence





### LITHOLOGY: High-Grade Friable Itabirite - Simple Processing

- 30-60% Fe (in-situ) friable itabirite with low contaminants
- Exceptionally coarse-grained, recrystallised itabirite
- Oxidised high-grade itabirite from surface
- Soft, easily-mined mineralisation, "free dig"







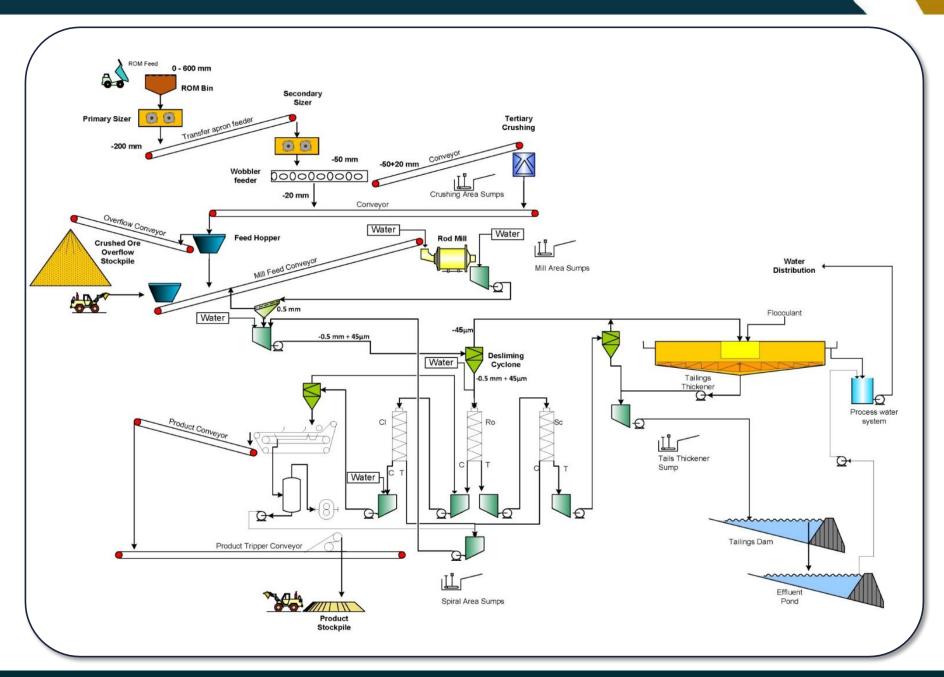


#### Beneficiation flow sheet confirmed:

- Potential simple gravity separation process constituting crushing, screens, cyclones and spirals
- Proven technology low technical risk and high equipment availability
- Potential low capital, operating and energy costs due to simplicity of flow sheet and low working indices for crushing
- No grinding required crushing and comminution to 0.5 -1.0mm sizing
- Modularisation and mobile plant design minimal on-site construction
- Potential +65%Fe Premium iron-ore product suitable for direct Sinter feed European and/or Asian markets
- Scoping Study completed in July 2014



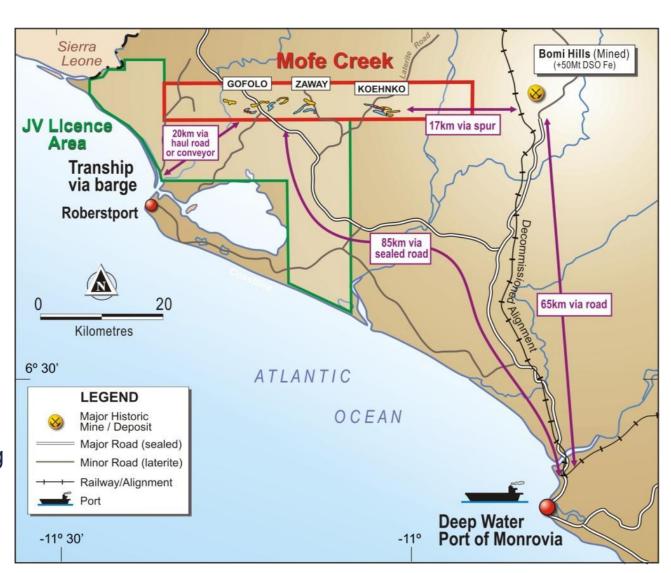
# LITHOLOGY: Conceptual Process Flowsheet





### LOGISTICS: Multiple Transport Options

- Project strategically located with low capital infrastructure potential, due to coastal location and multiple transport options
- Light rail system to coastal port location considered in Scoping Study
- Construction of a dedicated haul road from mine to coastal port location considered in Scoping Study
- Transhipment and barging assessments considered in Scoping Study
- Direct ship loading via a new wharf, considered in Scoping Study





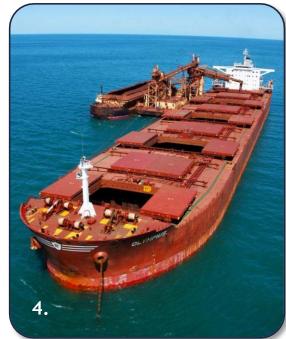
# LOGISTICS: Stages 1 and 2 Infrastructure and Logistics





- Direct access to port via fully sealed road
- Existing operational deep-water port facility in Monrovia
- 3. Indicative coastal barging/transhipment location
- Indicative transhipment operation off Liberian coast







### LOGISTICS: Post STAGE 1 Development- Mofe Creek Project

Pre-Feasibility Study to consider and further design a three-staged, Project development for >2-5Mtpa, including:

- The construction and commissioning of an additional 1 x 2.5Mtpa (production output) beneficiation plant(s) at Gofolo Main deposit and/or Koehnko & Zaway deposits
- Determination of the optimal transportation solution from mine to coastal port location:
  - Trucking final product from mine to coastal port location, stockpile then barge/tranship to ship (anchored off-shore)
  - Rail final product from mine to coastal port location, stockpile then barge/tranship to ship (anchored off-shore)
  - Convey the final product from mine to coastal location, stockpile then barge/tranship ore to ships (anchored off-shore)
- Monitor potential 3rd party developments and potential rail line to port or river/coastal location



# Project Milestones - Continuing to Deliver

2014 - Significant value accretive Milestones/news flow	Status
Metallurgical test-work on diamond core samples	✓
Maiden Resource Estimate announced	✓
Baseline Environmental/social overview for Scoping Study completed	✓
Conceptual Process Flowsheet Design formulated	✓
Negotiations on access to Monrovia Port Infrastructure	Underway
PFS Drilling Program and Resource Extension Upgrade commencement	July 2014
Scoping Study completion	✓
Commencement of Pre-Feasibility study	July 2014
Commence Mineral Development Application (MDA)	July 2014
Environmental and Social Impact Assessment (ESIA) commenced	Q3 CY2014
PFS Resource Drilling program complete	Q4 CY2014
Completion of Pre-Feasibility study	Q1 CY2015

#### **Tawana – Future producer**

#### PFS commencing July 2014

# Secure 3<sup>rd</sup> Party Access Agreements

#### **MDA Submission**

# **Environmental, Social** and Community Studies

### **Project Funding and Offtake**

- Build upon the Company's excellent Scoping Study findings, to position Tawana Resources as a future iron ore producer
- Commence a Pre-Feasibility Study this month and fast-track the development of a potential 2.5 Mtpa of final product project
- Intention is to secure 'third party' infrastructure agreements with existing producers or developing iron ore companies within the region
- Commence Mineral Development Agreement (MDA) for the Project this month
- Commence environmental, social and community baseline studies for all current and future potential operating scenarios in Q3 CY2014
- Develop the optimal business model for future project ownership and financing, including potential 'off-take' agreements

### Africa's most exciting new iron ore project





















#### **Tawana Resources NL**

288 Churchill Avenue, Subiaco Western Australia 6008 Tel: (08) 9287 4333 | www.tawana.com.au ASX:TAW