

# Potentially the next High Grade Manganese Project



## Ansongo Mali

Callabonna Resources Limited  
Presentation – August 2014

# Disclaimer

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The information in this report that relates to Exploration Results is based on information compiled by Michael Raetz. Mr Raetz is a director and employee of the Company. He is member of the Australian Institute of Geoscientists 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’. Mr Raetz consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

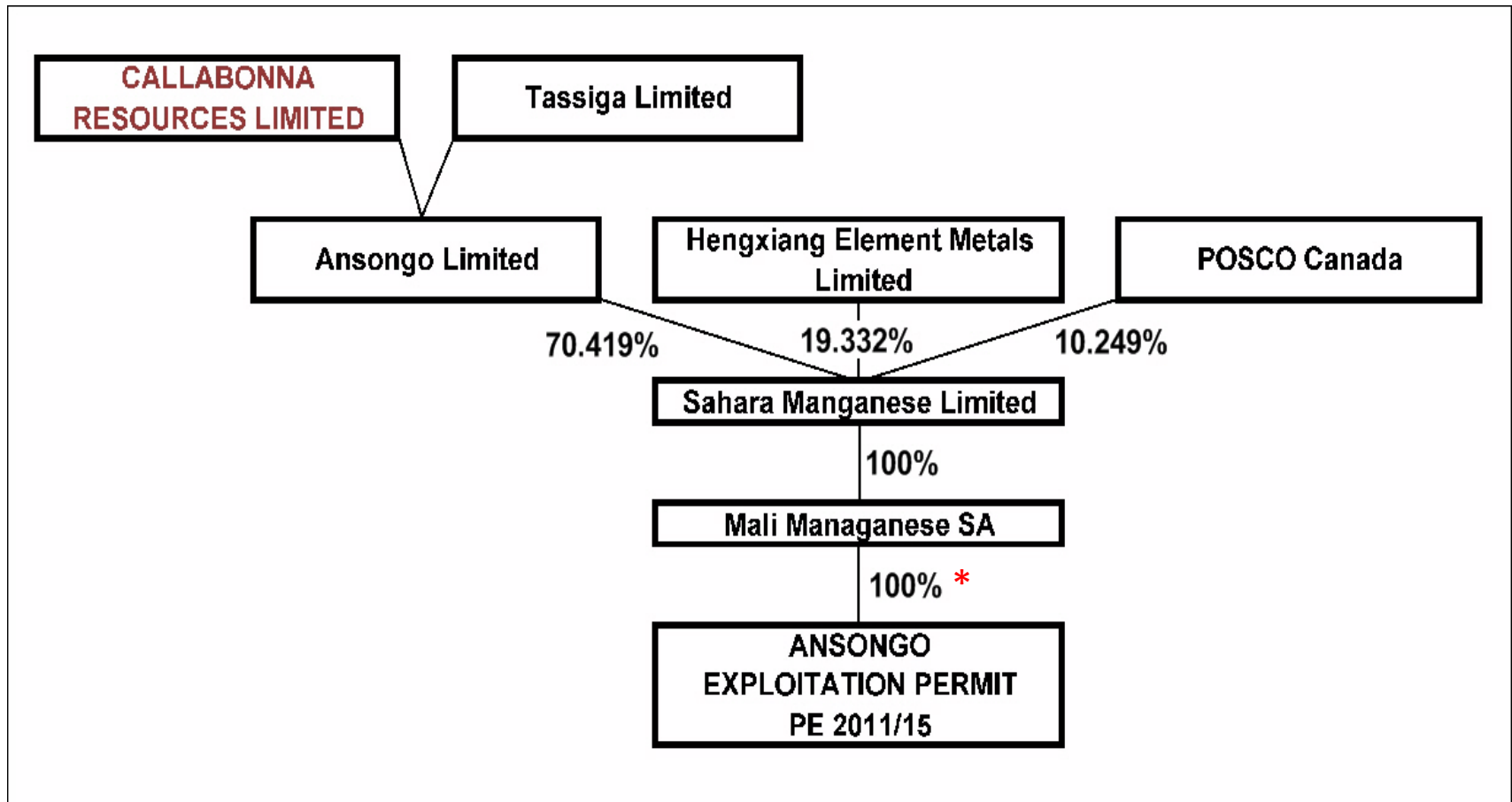
The information in this report that relates to mining is based on information compiled by Jeffrey Williams. Mr Williams is a director of the Company. He is a member of the Australian Institute of Mining and Metallurgy and has sufficient experience which is relevant to open pit mining, processing and logistics in West Africa and the type of deposit under consideration and to the activity which he is undertaking. Mr Williams consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

**The Company presently holds an equivalent 2.1% interest in the Ansongo project and is earning another 10% by spending on exploration. The Company is managing the exploration. The material terms the agreement were announced on the ASX on 6 May 2014 and the change of scale and nature of activities were ratified by shareholders on 11 July 2014. The Company is not aware of new information or data that would materially affect the information included in previous announcements referenced herein.**

# Ansongo Project Ownership Structure

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The Company's interest will be held via a shareholding in Ansongo Limited



Note: \* subject to the Mining Convention of Mali which provides the State to a 10% entitlement



# Manganese Hills on Mine Lease

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Callabonna Resources is managing exploration at the Ansongo Project



View south to "Hill D"

**Ansongo Project**



# High Potential Ansongo Project

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**Ansongo is a potential high grade manganese project**

<p>Potential to develop into a High Grade Manganese Producer</p>	<ul style="list-style-type: none"> <li>Mali Manganese SA (“MMSA”) is focused on the high-grade Ansongo manganese project in Mali, West Africa                     <ul style="list-style-type: none"> <li>Backed by experienced geology and mining team from the Company</li> <li>Bulk sampling and export of manganese oxide mineralised material in 2014 demonstrated logistics chain to end users (India, China &amp; Europe) and potential to realise a premium price</li> <li>Geologically comparable style of deposit to Tambao in Burkina Faso (Pan African Minerals)</li> </ul> </li> </ul>
<p>Features</p>	<ul style="list-style-type: none"> <li>Black manganese oxide with substantial thickness and grade of Mn &gt;40% observed in the Takavasita Hills along a strike length of 3km</li> <li>30 year exploitation license granted over 212km<sup>2</sup></li> <li>Exploration upside, 15 km of prospective trend continuing west of Takavasita defined by intermittent outcrop of manganese oxide through sand cover remains untested by drilling</li> <li>Development envisages a conventional open pit with heavy media separation</li> <li>Existing small quarrying operation with crushing plant</li> <li>Premium manganese oxide product potential based on initial bulk sampling and mineralisation characteristics</li> <li>Additional future potential. Manganese carbonate (below the Mn oxide) provides future bulk mining/blending opportunity for the electrolytic metal manganese market</li> </ul>



*Note: reference to exploration results in this slide were included in ASX announcements on 6 May, 10 June 2014 and 28 July 2014.*

# Three Year Plan

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Development in compliance with the Mali Mining Code and international best practice

- *Exploration (managed by the Company)*
  - Resource definition drilling to define mineralisation
  - Resource Model defining the boundaries of “oxide mineralisation”, “transition mineralisation” and “waste”
  - Exploration within the entire 212 square km mining lease
- *Bulk sampling including export of samples*
  - Export the existing sample piles of around 10,000 tonnes
  - Addition to sampling piles from roads cut on the “Hill D” area
  - Streamline transport logistics
  - Assessment of existing plant
- *Development based on a future scoping study*
  - New pit designs and a revised mine plan
  - Plant modification to include Dense Media Separation \*

Note: \* Dense Media Separation is a wet method of upgrading ores by floating off the lighter waste in a type of “heavy liquid” made from suspended ferro-silicon particles

# Project Update – August 2014

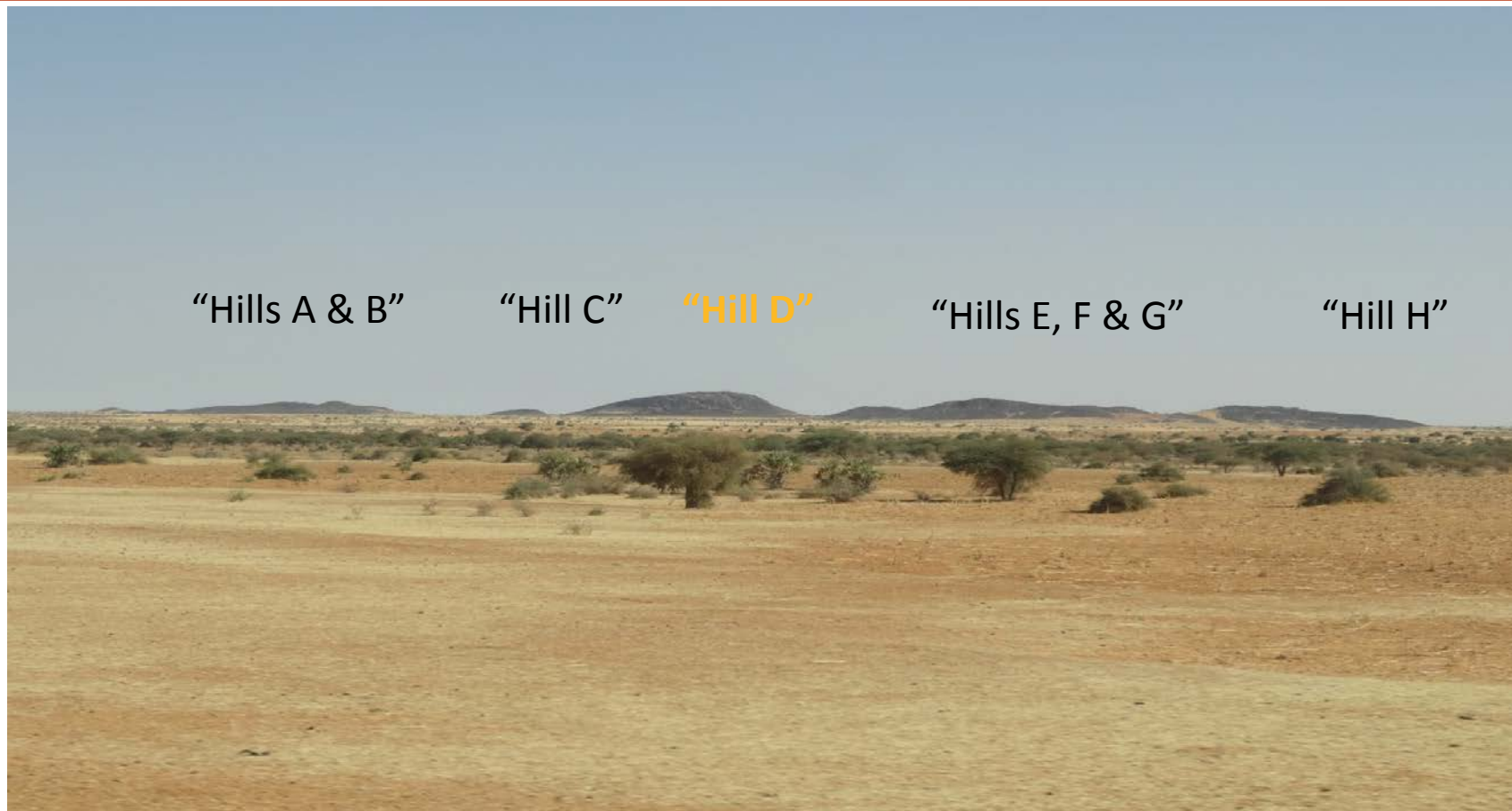
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Highlights	<ul style="list-style-type: none"><li>• Bulk sample to smelters shipped in April 2014</li><li>• ASX Listed Callabonna Resources appointed Manager in June 2014</li><li>• Ready to lift Force Majeure so project can re-commence</li><li>• Site works to commence in September 2014</li><li>• 40 – 60 hole definition drilling</li><li>• Additional bulk sample collection from access road works</li></ul>
Exploration and Development	<ul style="list-style-type: none"><li>• Work is set to recommence with the appointment of the Company as manager. The Company intends to invest AUD 3.5 million in the project, commencing with a 40-60 drill hole program to better define the boundaries between “oxide mineralisation”, “transitional mineralisation” and “fresh rock”</li><li>• Additional oxide mineralisation from cutting of access roads around “Hill D” will be added to the bulk sample piles and exported</li><li>• A 280 tonne bulk sample has been sent to India for smelting and another 5 tonnes will be sent to a suitable laboratory for a dense media separation (DMS) test</li><li>• The plant will be refurbished subject to an assessment of damage and design changes based on metallurgical tests</li></ul>
Assessment of Existing Plant	

# Callabonna Resources is Exploring Ansongo \*

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\* Agreement announced on 6 May 2014, approved by shareholders on 11 July 2014



View east from from Niger River to “Hill D” central in the eight manganese bearing Takavasita Hills extending over 3km

**Ansongo Project**

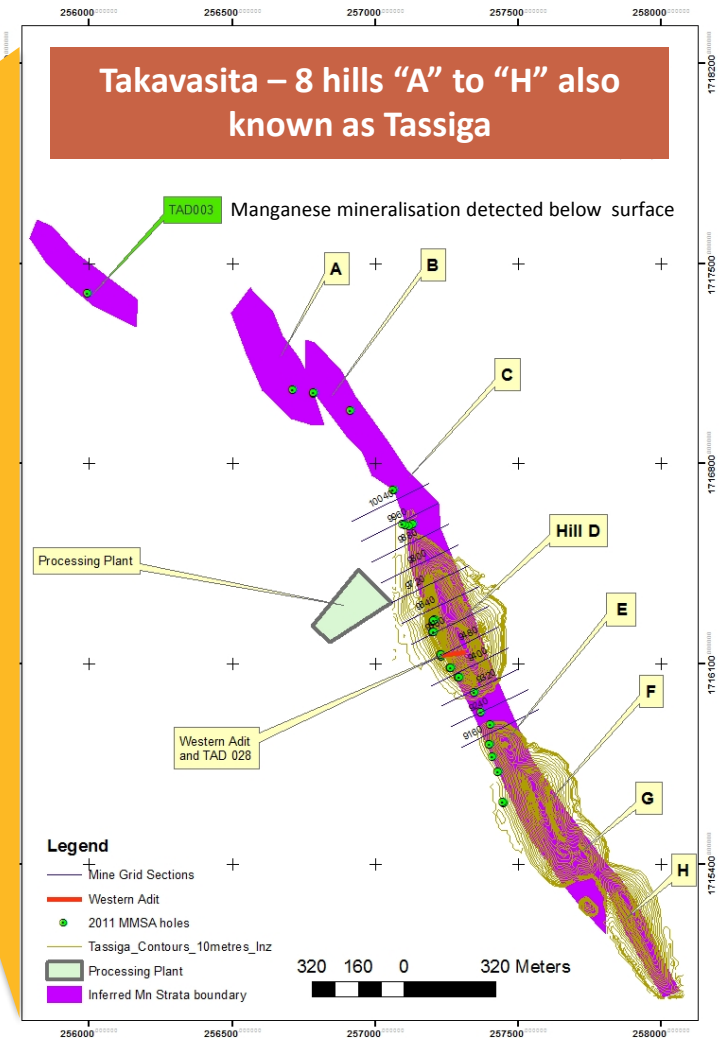


# Location of Manganese Bearing Hills

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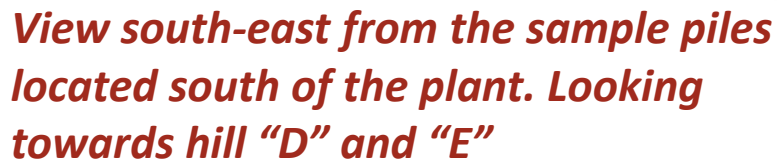


*The Takavasita manganese-bearing hills form about 3.5km of a 20km long trend. There is also potential for finding manganese under the sand. Black manganese oxide hills formed 20-30 million years ago and some were later covered when the Sahara desert blew over the country*



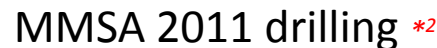
Note: reference to exploration results in this slide were included in ASX announcements on 6 May 2014 and 10 June 2014

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*Notes:*

- \*1 280 tonne bulk sample - see details elsewhere in this presentation
- \*2 Core lost in 2012 disturbance and only semi quantitative NITON XRF data available
- \*3 MMSA 2011 mapping and interpretation

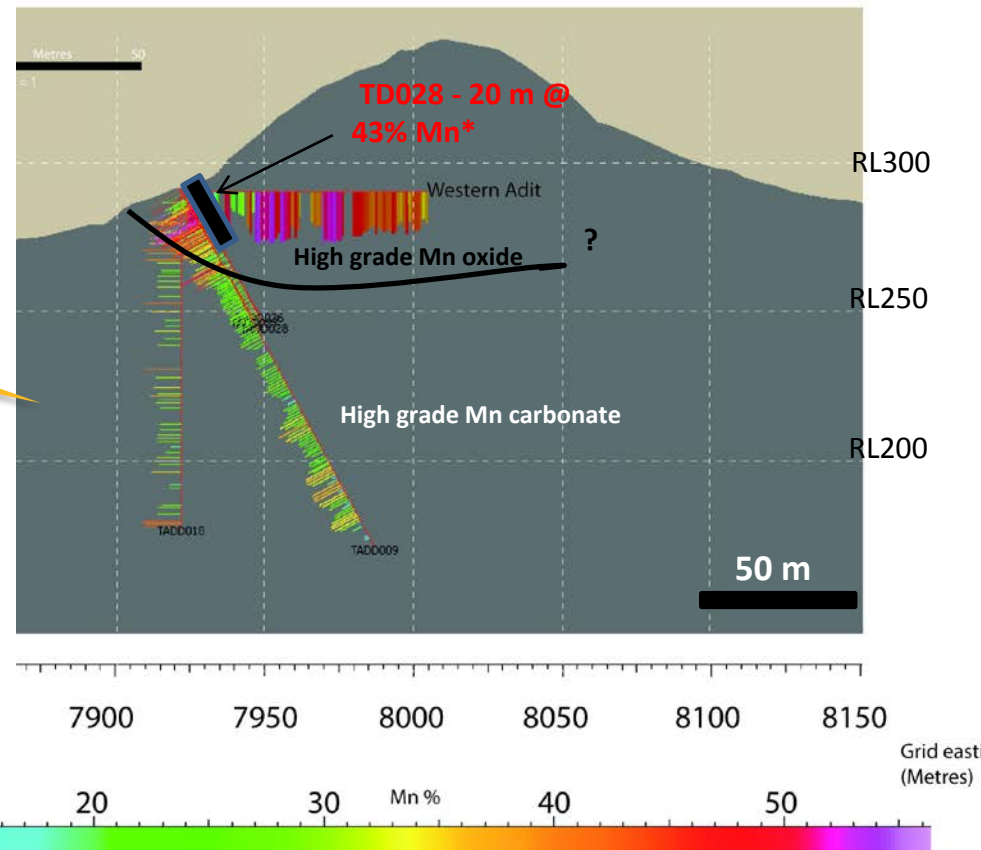
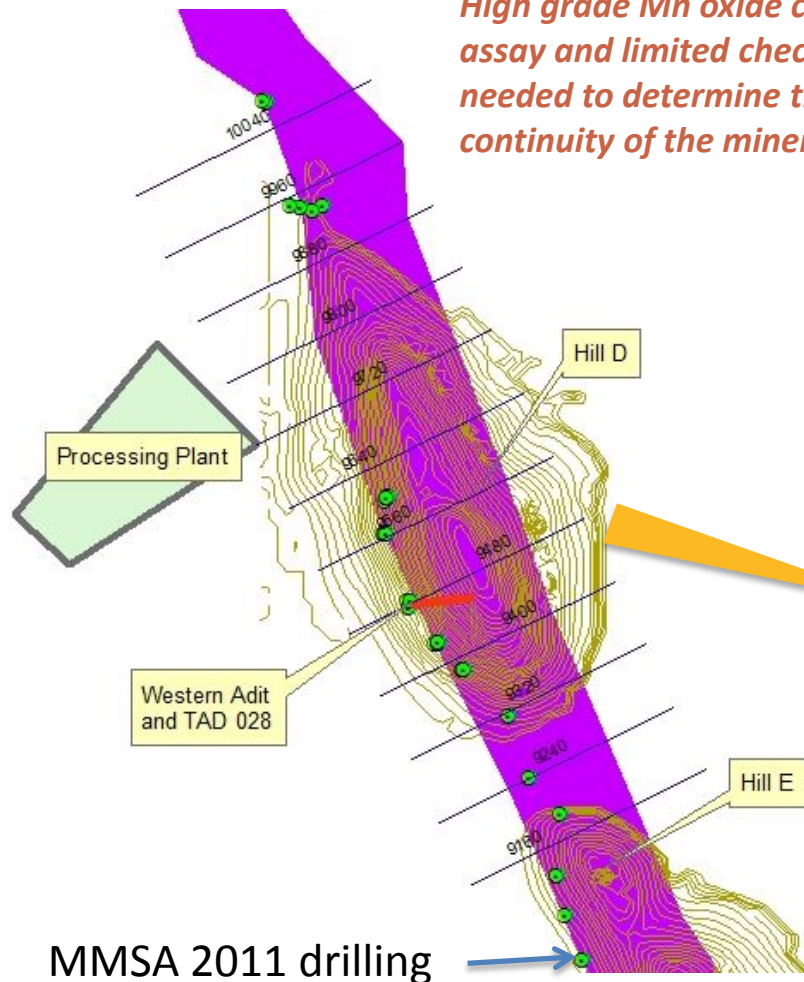


# High grade manganese confirmed at “Hill D”

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*High grade Mn oxide confirmed by semi quantitative assay and limited check assays, but more drilling is needed to determine the full width, depth, grade and continuity of the mineralisation*

“Hill D” area cross Section  
9480 North



MMSA 2011 drilling

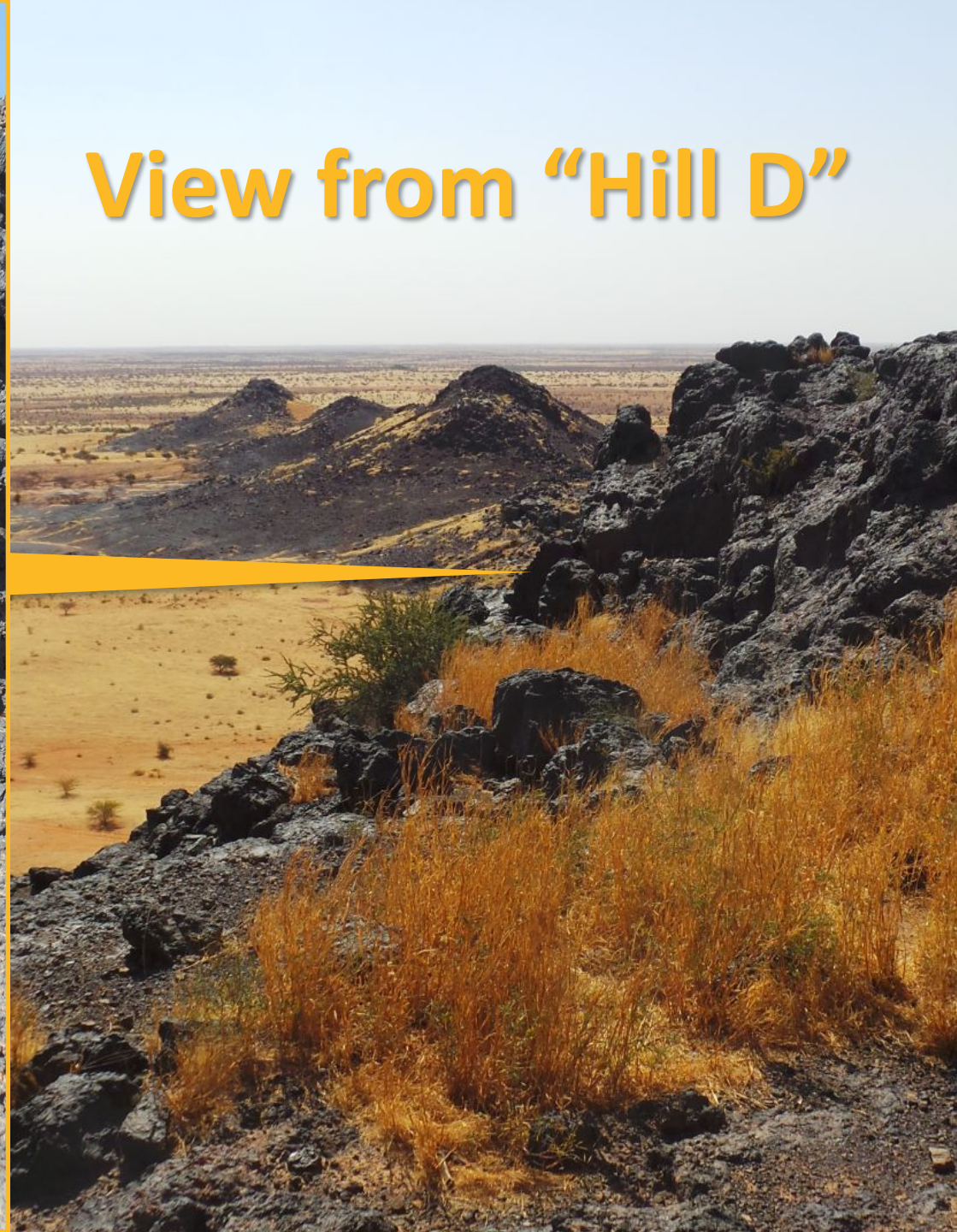
Note: \* Check assay see details elsewhere in this presentation

Note: reference to exploration results in this slide were included in ASX announcements on 6 May and 10 June 2014



# View from “Hill D”

Black Mn oxide







“Hills A&B”

“Hill C”

View north from “Hill D”



# Check Assays on core

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## Assays on core confirmed high Mn grade

Part of Hole TA028\* was independently analyzed by an independent laboratory\*\* with the following results for drill core samples from the depth of 0 – 20 meters:

ALS BK13137624 Report			ME-XRF26s	ME-XRF26s	ME-XRF26s	ME-XRF26s	ME-XRF26s
Sample	TD28	Depth	Al2O3	Fe2O3	MnO	P2O5	SiO2
Number	Samples	Metres	%	%	%	%	%
MC001	TD28(1)	0-0.50	4.65	1.99	66.20	0.14	6.53
MC002	TD28(2)	0.50-2.50	2.80	1.40	70.75	0.17	1.55
MC003	TD28(3)	2.50-3.10	15.98	5.48	37.36	0.17	20.39
MC004	TD28(4)	3.10-4.58	12.98	5.68	41.44	0.17	19.79
MC005	TD28(5)	4.58-5.35	13.78	4.71	44.90	0.22	15.41
MC006	TD28(6)	5.35-7.00	14.32	4.92	51.10	0.29	7.67
MC007	TD28(7)	7.00-8.25	3.36	1.81	73.05	0.44	1.44
MC008	TD28(8)	8.25-9.30	4.03	2.44	71.26	0.26	0.83
MC009	TD28(9)	9.30-10.50	17.20	4.14	41.08	0.13	16.41
MC010	TD28(10)	10.50-11.50	5.94	4.62	66.12	0.13	2.78
MC011	TD28(11)	11.50-12.23	8.88	5.01	58.84	0.16	5.60
MC012	TD28(13)	12.23-13.35	9.12	5.34	56.53	0.15	6.91
MC013	TD28(13)	13.35-14.43	7.87	5.28	58.09	0.18	5.55
MC014	TD28(14)	14.43-15.50	15.24	6.53	32.87	0.18	31.05
MC015	TD28(15)	15.50-16.6	12.38	5.72	47.35	0.10	16.53
MC016	TD28(16)	16.60-17.40	15.10	5.13	43.20	0.08	20.00
MC017	TD28(17)	17.40-18.40	7.83	3.29	61.79	0.14	4.20
MC018	TD28(18)	18.40-18.90	4.23	3.74	46.78	0.10	29.24
MC019	TD28(19)	18.90-20.38	6.20	3.06	58.82	0.09	11.86
Weighted Average			9.40	4.10	55.04	0.18	10.70

Note: \* TD028 is located at N31UTM-WGS84, 257233E 1716135N 290m elevation, drilled at -60 Az85, TD51.15m. Samples were chipped from core, crushed and ground into Niton XRF pressed powder cups.  
 \*\* ALS Report number BK 13137624, 14 August 2013. Independent check assays of fines from pressed powder cups.

- Weighted average assay for the top 20m were 55% MnO (43% Mn), 4.1% Fe2O3, 11% SiO2, 10% Al2O3, and 0.2% P2O5 (0.1% P). Of the 19 samples 9 were intensely black oxide with significantly lower SiO2, Al2O3, Fe2O3 and much higher manganese (highlighted)
- These check assays correlate closely (within 3%) of Niton XRF results for high manganese values. Lower Mn has a poorer correlation with Niton as do impurities
- The locally very high SiO2 and Al2O3 values in the ore body may be removed by a very efficient and inexpensive upgrade on site before shipping
- Al2O3, which is mainly clay, can be washed out through a standard washing and scrubbing process, while SiO2, being much lighter than Mn, can be separated by Dense Media Separation or 'jigging plants', utilizing the difference in specific gravity.

Note: reference to exploration results in this slide were included in ASX announcements on 6 May, 10 June 2014 and 28 July 2014

# Bulk Sample Returns 36% Manganese

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## 280 tonne Bulk Sample returns 36% manganese

The unbeneficiated (untreated) bulk sample assay of 36% is very encouraging. Note that the 280 tonne sample was taken from 10,000 tonnes of crushed and screened manganese stockpiles not beneficiated in any way.

- *The certified assay result on unloading in India was\**
  - 36% manganese
  - 4.6% iron (Fe)
  - 18% silica (SiO<sub>2</sub>)
  - 9.8% Alumina (Al<sub>2</sub>O<sub>3</sub>)
  - 0.1% Phosphate (P)
- 98% lump manganese between 1cm and 10cm



Manganese sample piles from road construction into the deposit

The Company believes a lower silica product can be achieved by Dense Media Separation

The Company will send a 5 tonne sample for Dense Media Separation testing

Note: \* Bureau Veritas Inspectorate certificate dated 18.07.2014 with result discussed in the ASX announcement made on 28 July 2014.

# Logistics - Regional Infrastructure Solutions

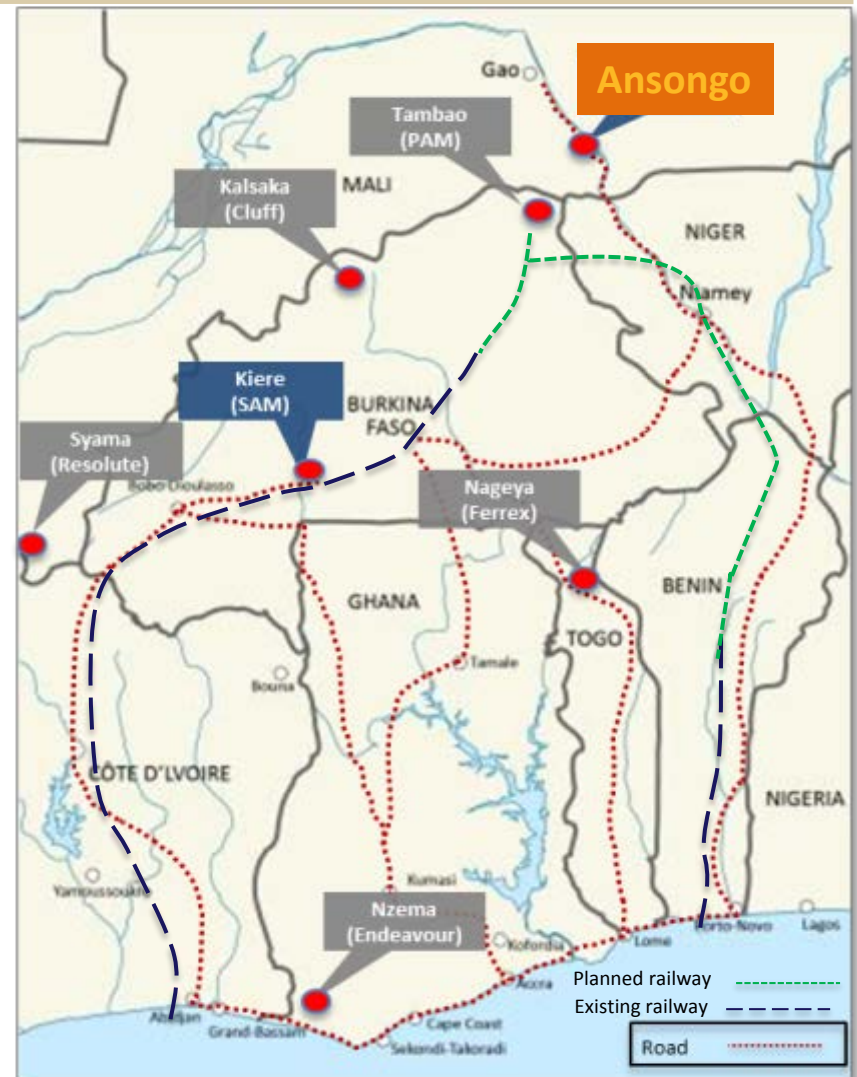
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## Road & Rail Infrastructure

- Close proximity to major road networks in West Africa
- **Road distance: 1,371km** distance to Lome port from Ansongo
- **Rail:** Ansongo project is about 80 kms from the proposed West African rail network extension to the Tambao Mine (PAN AFRICAN MINERALS): construction of a spur line of 238km of rail from the Tambao mine site to the existing railway at Kaya in 2014/2015
- **Dry Port** in Niamey with back loading to the coast under consideration



Paved road conditions directly from Ansongo deposit (pic. taken in Oct. 2013)





# Logistics - Port Infrastructure & Ocean Freight

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## Logistics solution in place leveraging existing infrastructure

### Port Operations

- Access to four main ports
  - Lome (Togo) and Abidjan (Cote d'Ivoire) are expected key ports for export
  - Tema (Ghana) and Cotonou (Benin) offer alternatives
- Each port offers container and bulk shipment alternatives
  - Containers enable small shipments for premium pricing to small mills
  - Ability to bulk-ship up to 50,000 tonnes per vessel
  - Possible regional synergies with neighboring projects

### Ocean Freight

- Ocean freight ex Lome
  - To Port Klang, Malaysia: USD 450.- per 20' FCL or USD 16.67 / ton
  - To Qinzhou, China: USD 560.- per 20' container or USD 20.75 / ton.
- All prices as per international shipping lines, valid October 2013.
- 1 x 20' FCL container can load 27 metric tons.

Lome Port with location of Mali Manganese yard and bulk ship berth



## The Company's Management Team, Responsibilities and Consultants

- *Mining*
  - Jeff Williams – director of the Company will oversee the development and financing of Ansongo. Jeff is an experienced mining engineer who has been responsible for two large developments in West Africa, Sabodala gold mine and Grande Cote mineral sands when he was managing director of Mineral Deposits. Jeff is also CEO of World Titanium developing a mineral sands project in Madagascar
- *Exploration*
  - Michael Raetz – director of the Company will be responsible for exploration. He has over 40 years experience in exploration and mining geology, having served 30 years with BHP Billiton Minerals.
  - Phillip Harman – chairman of the Company and also a former BHP Billiton Minerals executive and chief geophysicist
- *Consultants*
  - Mining Plus – international specialist in open pit mining and resource definition engaged by the Company
  - M-Consult – specialist geological teams operating in Mali engaged by the Company

# ANSONGO MALI

POTENTIALLY THE NEXT SIGNIFICANT MANGANESE PROJECT !

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