# AFRICA OIL CORPORATE PRESENTATION

January 2015
A Lundin Group Company
AOI – TSX and Nasdaq Stockholm







### 2014 – A Difficult Year for Africa Oil

#### Poor Overall Oil Markets

 Low oil prices, US shale dogma and poor exploration performance has driven investors to sell oil stocks to levels well below hard value of assets

### Kenya Government Issues

 Poorly timed new Capital Gains tax gives concern over government support, delays in pipeline clarity and security issues

### Financing Overhang

 Numerous alternatives being considered including farmouts, mergers and equity partners, but market remains concerned despite strong shareholder backing

### New Basin Opening Wells Below Expectations

 Despite encouragement on petroleum systems in several basins, yet to find a new basin opening well that indicates another basin as prolific as the Lokichar Basin



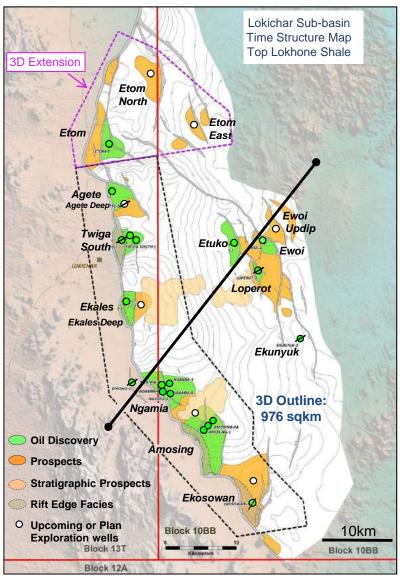
## **Company Remains Strong with Major Growth Potential**

- Lokichar Basin Resources Continue to Grow
  - Gross Contingent Resources increased by 60 % in 2014 to 600 MMBO barrels of oil with upside potential of 1.3 billion barrels of oil in existing fields\*.
- Appraisal Wells, 3D Seismic and Core Analysis Data Providing Resource Confidence
  - High quality of main reservoir sands is being supported by new drilling and analytical data,
     Extended Well Tests (EWTs) underway on two main fields to provide further confirmation.
- Development and Pipeline Plans Progressing
  - Host Governments and Uganda and Kenya Joint Ventures working towards alignment on pipeline routing and commercial structure. Good contract terms and low development / operating costs provide robust development economics even in lower oil price environment.
- World Class Exploration Potential Remains
  - Significant potential remaining in South Lokichar basin with a number of remaining identified prospects and a 72% success rate to date. Multiple new frontier basins being evaluated by drilling or seismic in the next 18 months.

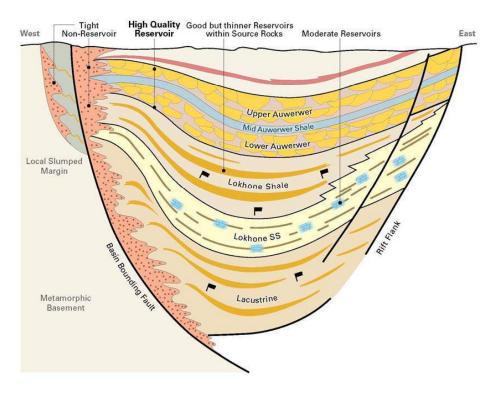
<sup>\*</sup>Please refer to Africa Oil's press release dated September 16, 2014 for details of the contingent resources by field



### 2014 Lokichar Basin Exploration/Appraisal Program



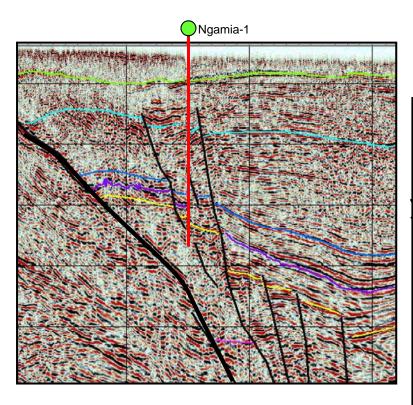
- -Southern Basin trend (Ngamia / Amosing) contains large resources and will anchor basin development
- -Numerous undrilled prospects with 72% historical success rate
- -Additional upside unconventional / tight reservoirs yet to be properly evaluated





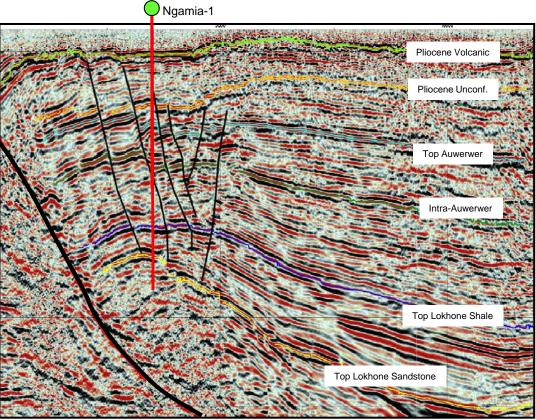
# Focus on Appraisal: Drilling with New 3D Seismic

# <u>'Predrill' 2D Seismic Interpretation through</u> <u>Ngamia-1 Discovery</u>



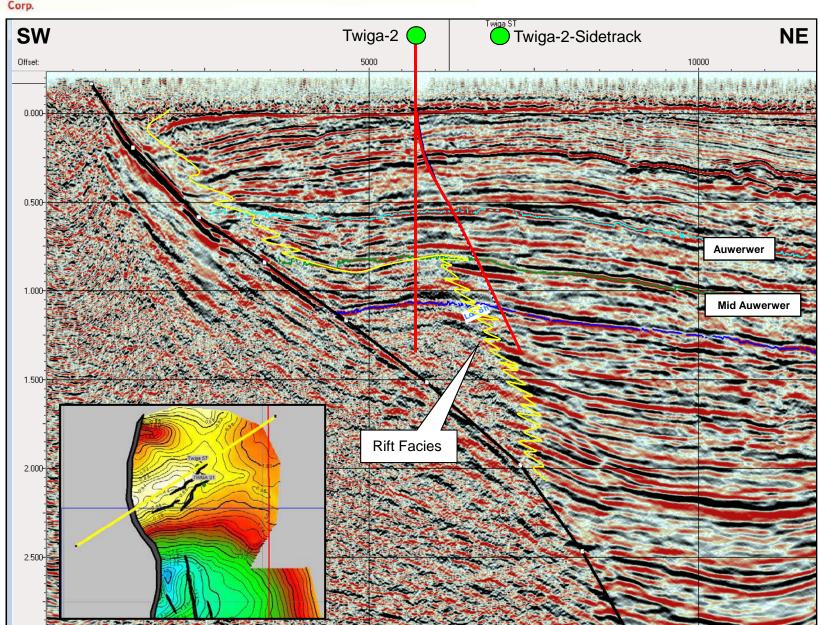
#### **New 3D Seismic Line through Ngamia-1:**

- Pronounced anticlinal form at depth
- Better imaging of crestal faulting
- Better definition & mapping of pools





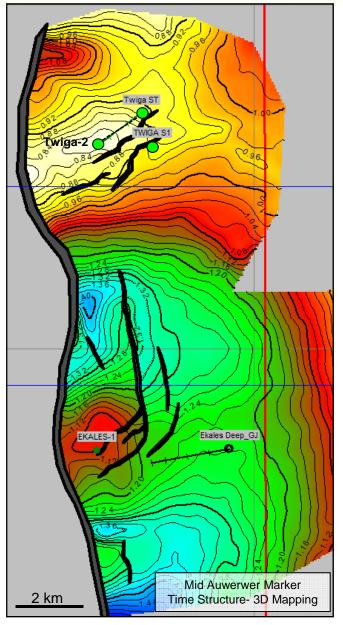
# Twiga 2 and Sidetrack Projected into 3D

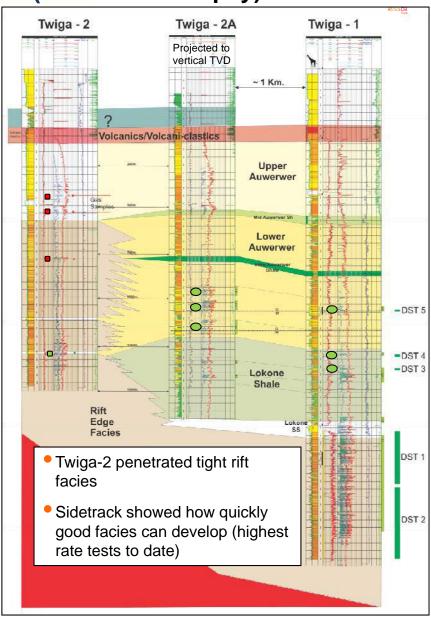




2014 Highlights: Twiga-2 and 2A Sidetrack

(13 to 115m net pay)

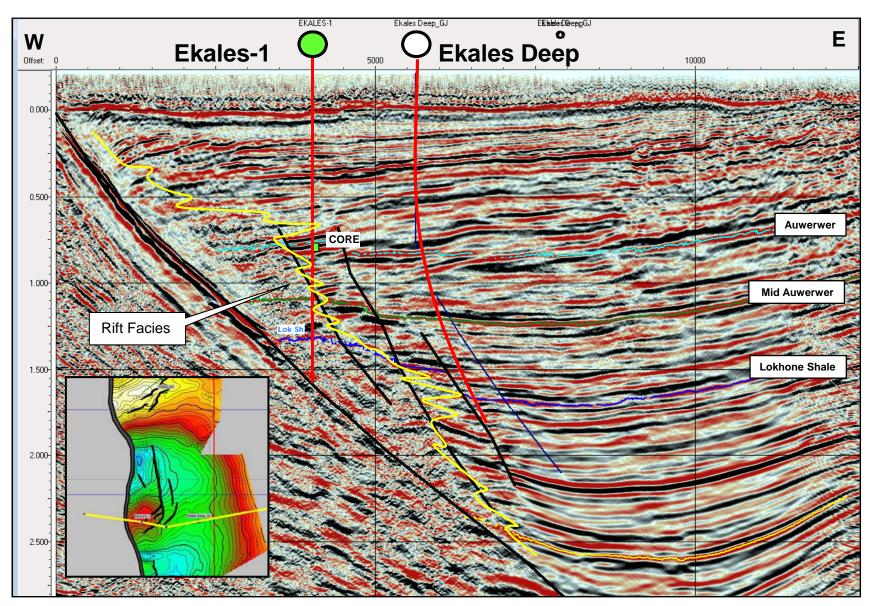






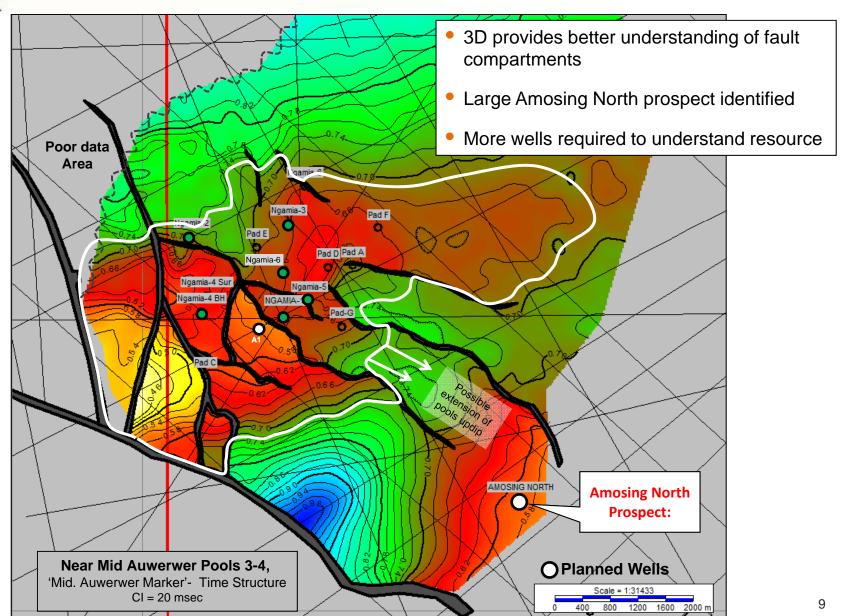
# **Ekales Deep Prospect**

(Update slide)



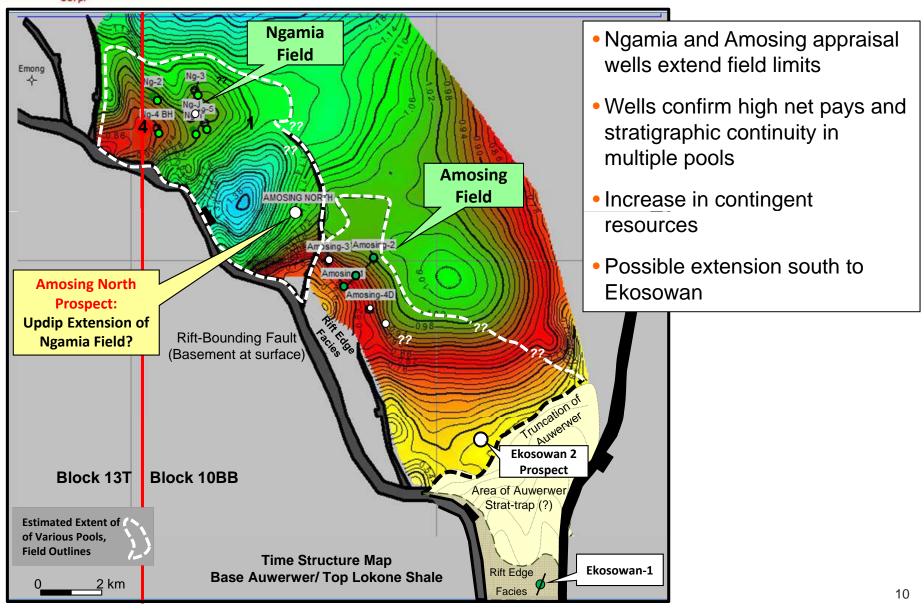


# Ngamia Field structure based on new 3D Seismic





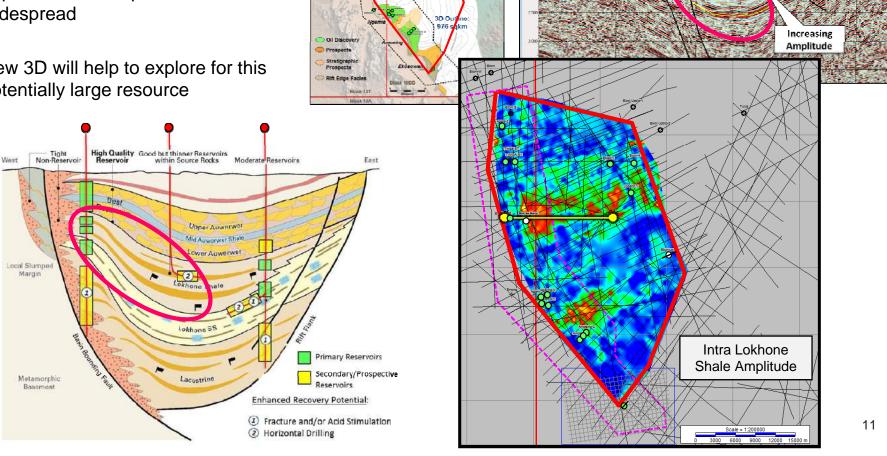
# Appraisal Focus: Ngamia, Amosing & North Amosing Prospect





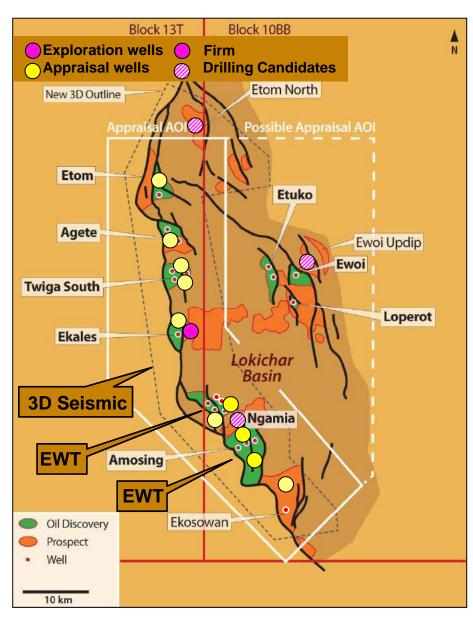
## Other Prospective Resources in the S. Lokichar Basin: Storm deposits within rich lacustrine source rocks

- Twiga South wells tested oil at high rates from these sandstones within source rocks (rates up to 3270 bopd -10,000+ flow rates unconstrained)
- These apparent turbidite or storm deposits could be prolific and widespread
- New 3D will help to explore for this potentially large resource





# South Lokichar Basin – Exploration & Appraisal Plans



- Aggressive Exploration & Appraisal Plans Simultaneous with Development Planning
- Development planning focussed on Auwerwer discoveries along western basin bounding fault
- Delivered To Date:
  - 11 exploration wells resulting in 8 significant discoveries 72% success rate
  - 10 appraisal wells
  - Over 20 DST's conducted
  - 951 sq km 3D survey completed
  - 1100m whole core
- To be delivered over the next 12 months:
  - Multiple exploration & appraisal wells
  - EWT's at Amosing & Ngamia
  - Routine & special core analysis
  - Integrated subsurface interpretation
- Aimed at supporting Field Development Plan ("FDP") submission to Government end 2015



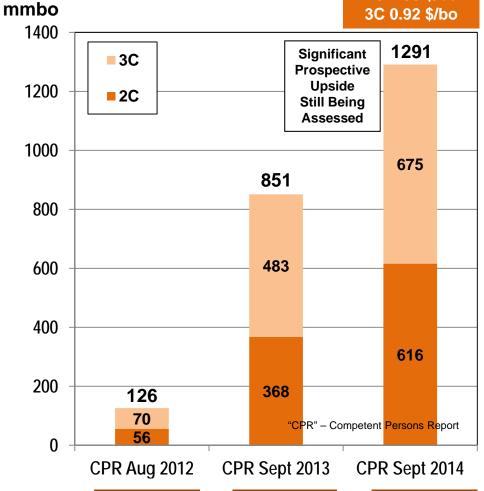
### South Lokichar Basin - World Class Discovered Resource Base

(Based on CPR reports dated Aug 2012, Sept 2013 & Sept 2014)

# Gross Contingent Resources<sup>1,2</sup> (Excluding Prospective Resources Upside)

Net Finding Cost to Date: 2C 1.93 \$/bo 3C 0.92 \$/bo

7 Fields



3 Fields

- Recent wells and 3D seismic results indicate:
  - Significantly improved subsurface definition and ability to map rift margin facies
  - Significant downdip potential to the east
  - Additional prospectivity not identified on 2D seismic
- 3D seismic maps over Ngamia indicate increased area of closure – but more fault compartments that will need to be tested with wells
- Key uncertainties are areal net pay distribution and connectivity, Sw and RF
- These uncertainties will be assessed through the ongoing EWT, Special Core Analysis and Appraisal well programs

Field

<sup>1</sup> This summary chart was prepared by Company management for the convenience of readers.

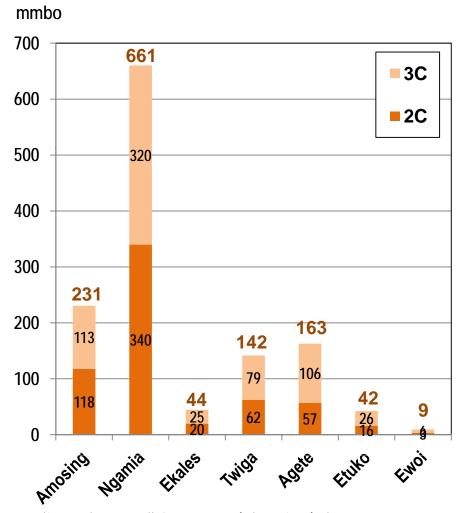
<sup>2</sup> Please refer to the Company's press releases dated August 22, 2012, September 3, 2013 & September 16, 2014 for details of the contingent resources.



# South Lokichar Basin – Development Focussed on Western Basin Bounding Fault Auwerwer Discoveries

#### **Gross Contingent Resources**<sup>1,2</sup>

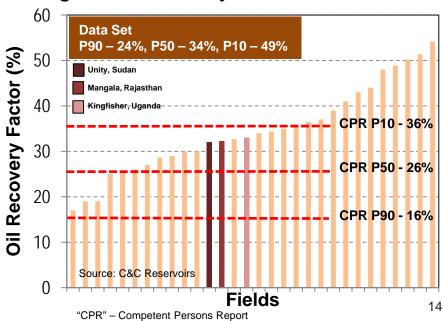
(Excluding Prospective Resources Upside)



- 1 This summary chart was prepared by Company management for the convenience of readers.
- 2 Please refer to the Company's press releases dated September 16, 2014 for details of the contingent resources.

- Appraisal plans aimed at resource progression from 3C to 2C to 1C
- Analogues suggest that high recovery factors (RF's) are achievable:
  - CPR assumed RF range 16% (P90), 26% (P50) & 36% (P10)
  - Appraisal program aimed at narrowing range of uncertainty around contingent resources and confirming a RF at upper end of current range

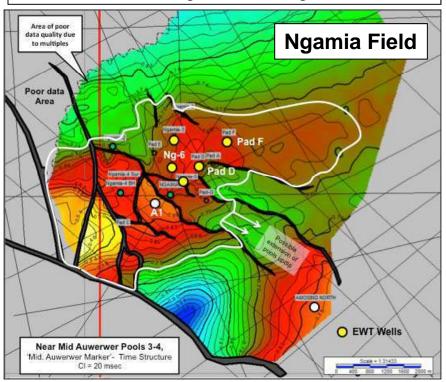
#### **Analogue Field Recovery Factors**





#### **Extended Well Tests**

- EWT's at Amosing & Ngamia will test reservoir connectivity at the proposed development well spacing in multiple reservoir horizons
- Hydraulically-controlled selective completions will permit independent tests of completed intervals without well intervention
- EWT plan involves 2 wells at Amosing and 3 wells at Ngamia
- Results Amosing end 1Q & Ngamia end 2Q



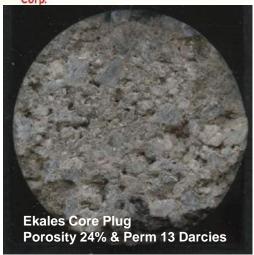
EWT results in conjunction with core programs, will permit reduction of recovery factor uncertainty and refinement of reservoir development plan

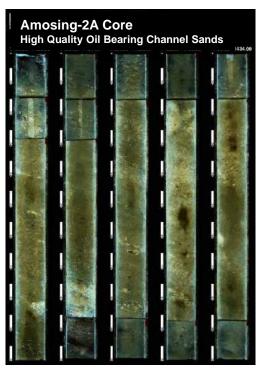
#### **Expected outcome of EWT's:**

- Confirm sand connectivity within reservoir pools
- Determine connected hydrocarbon volumes during extended flows periods
- Test level of communication between pools
- Measure long-term well productivity
- Quantify risk of sand production
- Measure average reservoir permeability across large distances
- Test water injectivity using heated water



## **Special Core Analysis**

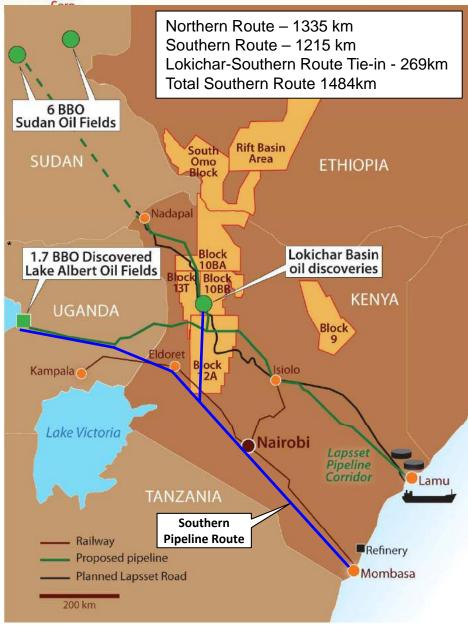




- Over 1100m of whole core from South Lokichar wells.
- Extensive program of routine and special core analysis ongoing which will provide results from from 1Q onwards
- Majority of core acquired using synthetic oil based muds which will allow in-situ water saturation determination
- Key elements of program will include:
  - Dean-Stark analysis in-situ water saturation determination
  - Capillary pressure measurements water saturation & height of transition zone
  - Relative permeability experiments recovery efficiency
  - Allow calibration of wireline logs to core for field wide interpretation
- Positive early results:
  - Capillary pressure data indicates Sw of 25%-50% for 1md to 1000md rock – compares favourably to 33% assumed by GCA
  - Relative permeability experiments indicate >60% RF at core plug scale



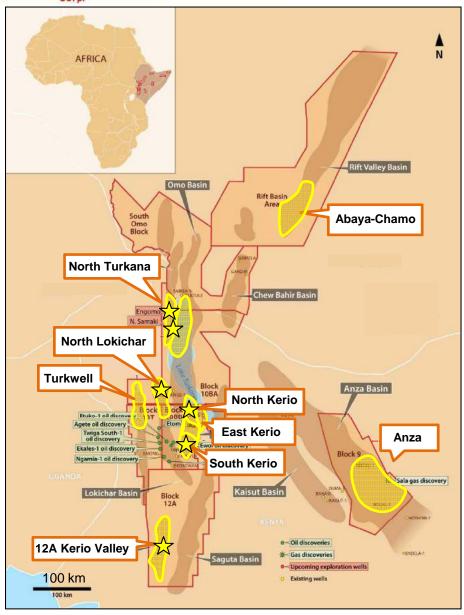
## East Africa regional oil export pipeline status



- Kenya & Uganda Governments agree regional crude oil pipeline from Uganda through Kenya
- Concluded pipeline cooperation agreement between Kenyan & Ugandan Joint Ventures and are aligned on objectives
- Two potential routes 1) Northern/Lapsset &2) Southern along existing products line
- Concept work on pipeline and offshore loading complete
- Pipeline Pre-FEED substantially progressed
- Pipeline routing and environmental screening completed
- Governments have appointed a Technical Advisor (Toyota Tsusho/ILF) to opine on route by April 2015
- Governments to appoint a Commercial Advisor 1Q 2015
- Way forward on pipeline expected to be matured mid 2015



# **New Basin Exploration, Next 12-18 months**



### **☆** Currently planned wells

- ★ North Kerio- Epir (Drilling)
- ★ North Turkana- Engomo Spud Dec. 2014
- ★ North Turkana- North Samaki Spud Q1,2015
- North Lokichar-Tausi spud Q1, 2015
- ★ South Kerio- Spud first well Q3, 2015
- ★ 12A Kerio Valley- First well mid 2015

Turkwell- Acquiring infill seismic

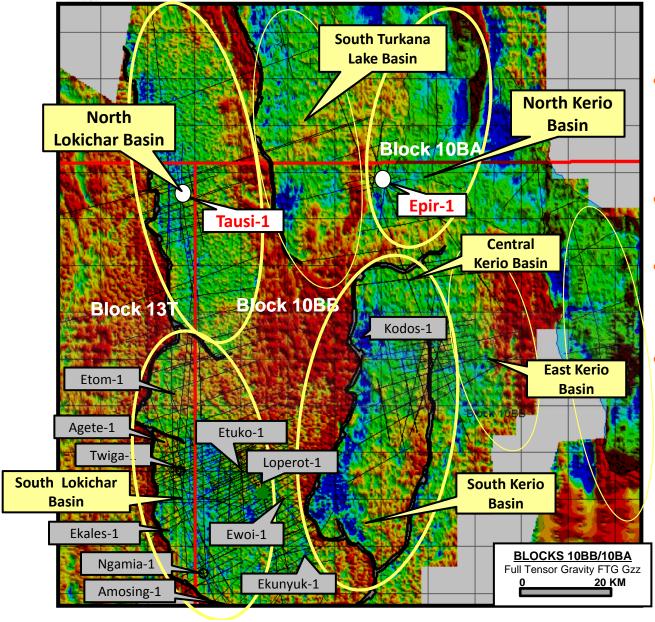
East Kerio- Acquired infill seismic

**Anza**- Evaluating appraisal options

Abaya-Chamo- Acquiring 800km 2D



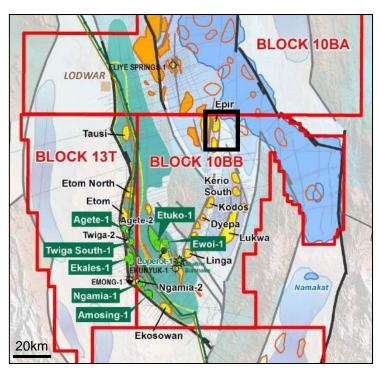
# Comparison of Basins based on Full Tensor Gravity (FTG) Surveys



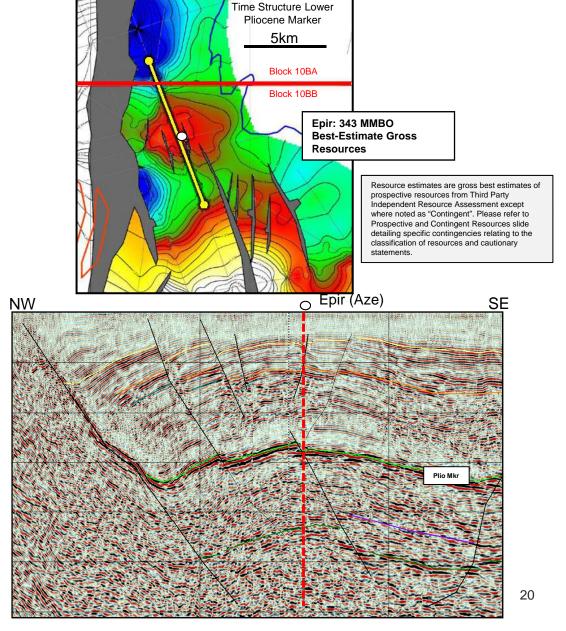
- North Lokichar Basin & North Kerio Basins are similar in size to South Lokichar
- Similar basin style: asymmetric half-graben
- Similar style of traps: structures downthrown to rift-bounding fault
- Epir-1 and Tausi-1 will test both new basins within the next 6 months



# Block 10BB- North Kerio Basin Epir Prospect (formerly Aze)

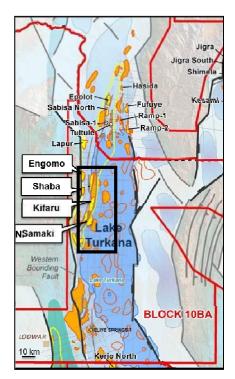


- Epir -1 (Drilling ahead with Shows)
- Possible basin-opener (North Kerio)
- Large 4-way anticlinal closure
- Several follow-on prospects mapped
- Tests a new sub-basin
- Primary risk: presence of source rock

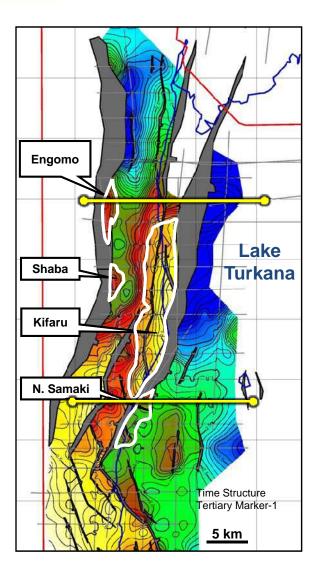


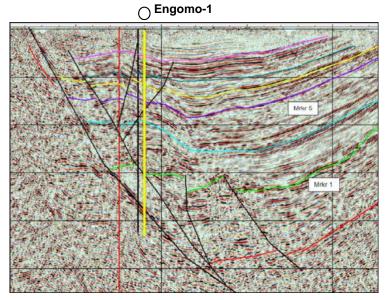


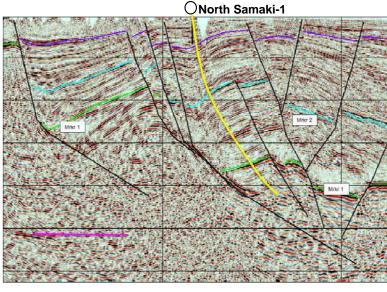
# Block 10BA- North Turkana Basin Engomo & North Samaki Prospects



- Large prospects, different play types, <u>drillable from land</u>
- Two separate sub-basins to be tested
- 'Bright spots' seen in new offshore seismic
- Engomo-1 Spud in Dec. 2014 followed by North Samaki-1

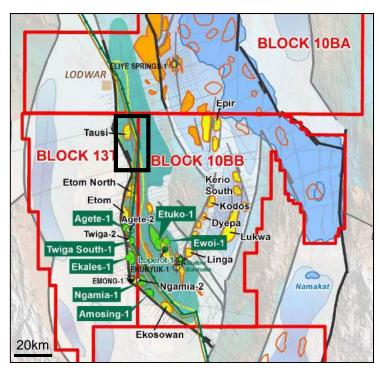




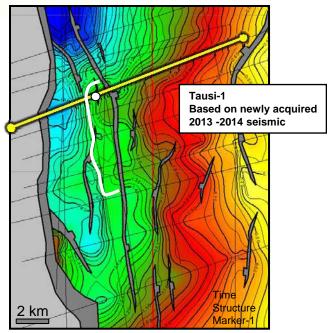


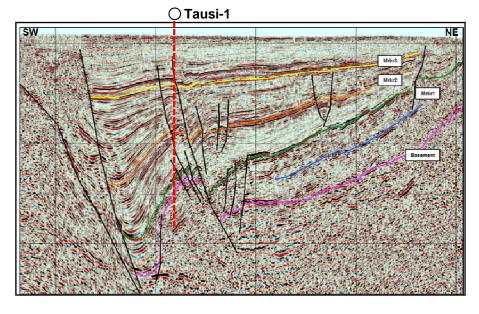


# Block 13T- North Lokichar Basin Tausi Prospect



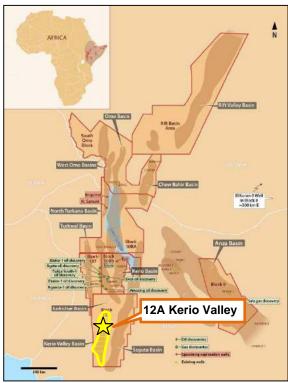
- Immediately north of the South Lokichar producing trend
- Younger 'fill' than South Lokichar but also expected to share same Miocene sequence
- Spud in Q1, 2015



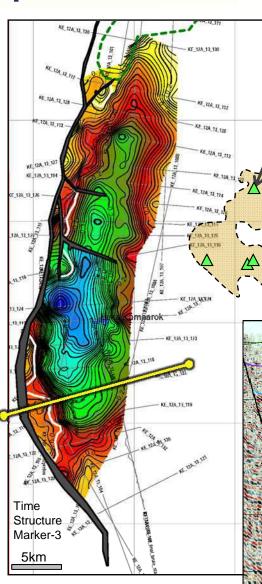




# Block 12A- Kerio Valley Lekep Prospect



- Completed 741 km 2D seismic
- Excellent oil prone Miocene source rocks in outcrop
- More difficult seismic imaging compared to other basins; older formations?
- Lekep-1 to Spud Q3, 2015



#### **Miocene Poi Shales in Outcrop:**

- 8 of 16 samples show good to very good source quality with TOC's ≥3%
- Type I lacustrine oil prone source rocks
- Early oil-generation window with good generation potential
- Sufficient depths of burial based on basin modelling

Poi shales?

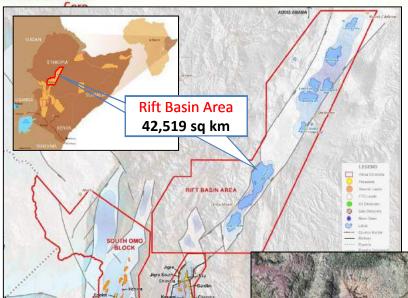
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# AfricaOil

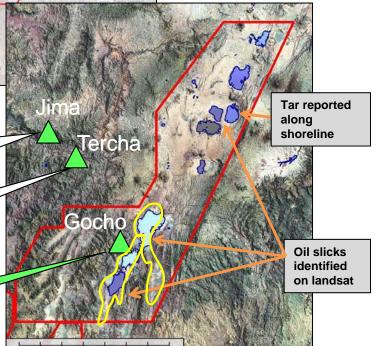
50km

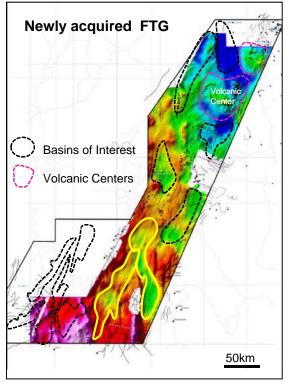
### Rift Basin Area Block

On trend, extremely large, completely unexplored



- Extension of Tertiary Rift Trend
- Frontier area, no existing seismic data or wells
- Completed 37,000 sq km FTG survey
- Fieldwork confirmed nearby source rocks
- Mobilizing for ~800 km 2D Seismic Survey





Miocene black shales
TOC's: 5-7%
Early mature for oil (Ro = .6-.8)

Eocene-Miocene oil shales TOC's up to 59%

immature (Ro = .33)

Source rocks at surface

Eocene-Miocene shales & lignites

TOC's up to 16%

overmature (Ro>1.5)



### What you will see in 2015

(Timing of well results) Contingent 4Q 2014

1Q 2015

2Q 2015

3Q 2015

4Q 2015

**Basin Openers** 











Lokichar Drill Out

Lokichar Appraisal

Lokichar Development















Ngamia EWT





10BB Appr-X

**Amosing** 









Ekosowan-2

**Special Core Analysis** 

**Amosing EWT** 

**Upstream Pre-FEED & ESIA Scoping** 

**Pipeline Pre-FEED & ESIA Scoping** 

#### Objectives:

- **Basin Opening**
- **Drill Out Lokichar Prospects**
- **Appraise Lokichar Discoveries**
- Complete EWT's

- Pipeline definition mid 2015
- FDP submission end 2015
- Target Project FID end 2016



## **Summary**

- Recent share price performance not indicative of company valuation but driven more by external market conditions
- South Lokichar project still remains one of the top new oil developments in the world with sound fundamentals in terms of resources, reservoir quality, economics and upside
- Program in 2015 is focused on further growing resources, providing better reservoir certainty and moving development project forward
- Exploration still the key area of high growth and multiple new basins are planned to be evaluated by drilling and seismic in the next 18 months
- Numerous alternatives for longer term funding are currently being pursued and industry interest remains very high, even in the current low price environment



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## **Prospective and Contingent Resources**

There is no certainty that any discovered resources referred to in this presentation will be commercially viable to produce. There is no certainty that any portion of the undiscovered resources will be discovered, there is no certainty that it will be commercially viable to produce any portion of the resources.

#### Risks associated with discovering oil:

The estimation of prospective resource volumes for high-risk and poorly calibrated basins can be subject to large variation from the introduction of new information. The estimates presented herein are based on all of the information available at the effective date of the resource estimate. New data or information is likely to have a material effect on the resource assessment values. Since the effective date of the resource estimates provided, the Company has continued to actively explore, with multiple 2D seismic crews operational and several exploration wells drilled. While discoveries have been made at Ngamia-1, Twiga South-1, and Etuko-1 in the Lokichar basin of the Tertiary rift in Kenya, there is no certainty that any additional resources will be discovered. Once discovered, there is no certainty that the discovery will be commercially viable to produce any portion of the resources. Given that most of the resources in the portfolio are in leads that require additional data to fully define their potential it is likely that significant changes to the resource estimates will occur with the incorporation of additional data and information.

#### Risk Associated with the Estimates:

In the event of a discovery, basic reservoir parameters, such as porosity, net hydrocarbon pay thickness, fluid composition and water saturation, may vary from those assumed by the Company's independent third party resource evaluator affecting the volume of hydrocarbon estimated to be present. Other factors such as the reservoir pressure, density and viscosity of the oil and solution gas/oil ratio will affect the volume of oil that can be recovered. Additional reservoir parameters such as permeability, the presence or absence of water drive and the specific mineralogy of the reservoir rock may affect the efficiency of the recovery process. Recovery of the resources may also be affected by well performance, reliability of production and process facilities, the availability and quality of source water for enhanced recovery processes and availability of fuel gas. There is no certainty that certain mineral interests are not affected by ownership considerations that have not yet come to light.

#### Substantial Capital Requirements:

Africa Oil expects to make substantial capital expenditures for exploration, development and production of oil and gas reserves in the future. The Company's ability to access the equity or debt markets may be affected by any prolonged market instability. The inability to access the equity or debt markets for sufficient capital, at acceptable terms and within required time frames, could have a material adverse effect on the Company's financial condition, results of operations and prospects.

#### Ability to Execute Exploration and Development Program:

It may not always be possible for Africa Oil to execute its exploration and development strategies in the manner in which the Company considers optimal. Execution of exploration and development strategies is dependent upon the political and security climate in the host countries where the Company operates and agreement amongst the Company joint venture partners. The Company's exploration and development programs in East Africa may involve the need to obtain approvals from relevant authorities who may require conditions to be satisfied or the exercise of discretion by the relevant authorities. It may not be possible for such conditions to be satisfied.

#### Absence of a Formal Development Plan including Required Funding:

There is no certainty the Company will prepare and have approved a development plan for any portion of the contingent resources or that the Company will be successful in funding any development should such a plan be prepared. General market conditions, the sufficiency of such a development plan and the outlook regarding oil and gas prices are some factors that will influence the availability of funding or the Company's ability to attract oil and gas industry partners to participate in the project.

#### Access to Infrastructure:

Currently there is limited local infrastructure for the production and distribution of oil and gas in the countries in which Africa Oil operates. Export infrastructure to enable other markets to be accessed has not yet been developed and is contingent on numerous factors including, but not limited to, sufficient reserves being discovered to reach a commercial threshold to justify the construction of export pipelines and agreement amongst various government agencies regulating the transportation and sale of oil and gas. Africa Oil is working with its joint venture partners and government authorities to evaluate the commercial potential and technical feasibility of discoveries made to date and potential future discoveries.

#### Additional Risks:

Additional risks associated with the estimate of the prospective and contingent resources include risks associated with the oil and gas industry generally (i.e. financing; operational risks in exploration, development and production; delays or changes in plans with respect to exploration or development projects or capital expenditures; the uncertainty of estimates and projections related to production; costs and expenses; health, safety, security and environmental risks; and the uncertainty of resource estimates), drilling equipment availability and efficiency, the ability to attract and retain key personnel, the risk of commodity price and foreign exchange rate fluctuations, the uncertainty associated with dealing with governments and obtaining regulatory approvals, and the risk associated with international activities.