# AFRICA OIL CORPORATE PRESENTATION

**MAY 2015** 

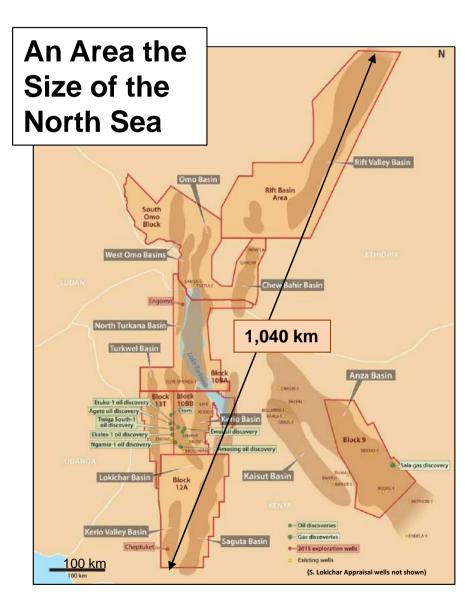
A Lundin Group Company AOI – TSX and Nasdaq Stockholm







# A Strategic Position in a World Class Oil Project Onshore East Africa



- World Class onshore oil discovery in the South Lokichar Basin in Kenya
- Discovered oil resources of over 600 MM barrels with an upside of 1.3 BN barrels\*
- Development planning underway with momentum building around regional oil export pipeline
- Low cost development, good fiscal terms and strong economics that work in current price environment
- Recent financings give AOI a strong balance sheet and a new core investor (Helios)
- New basin exploration is still an area of high growth potential but most basin opening wells have been deferred until 2016



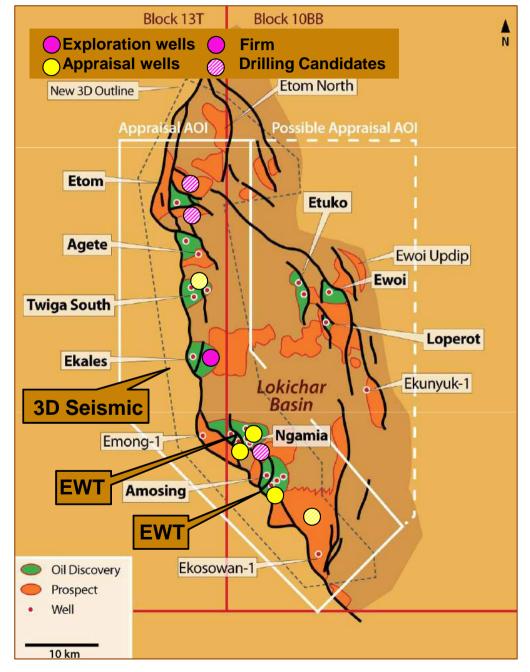
### **2015 – MOVING TOWARDS DEVELOPMENT**

## **KEY GOALS FOR 2015**

- Confirm Reservoir Quality and Deliverability
  - Primary drivers are Extended Well Tests (EWT's) and core analysis –
     both are well underway and yielding encouraging preliminary results
- Grow Resources
  - Use a combination of appraisal drilling on existing fields, improved reservoir parameters from test/core data and drilling of new prospects/ play types in proven Lokichar Basin
- Move Pipeline and Development Plans Forward
  - Work closely with host governments and partners to finalize planning for joint Kenya/Uganda export pipeline and define fiscal terms by mid-year
  - Be in position to submit Field Development Plan (FDP) by year end



## **South Lokichar Basin Highlights**

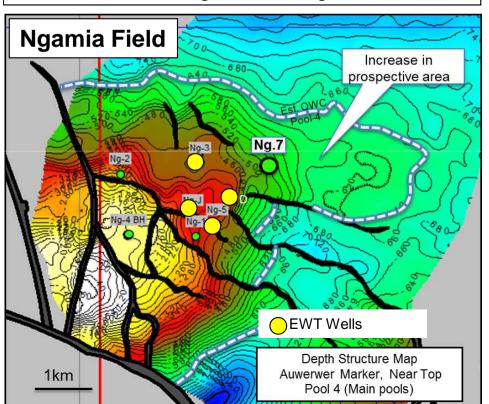


- Amosing EWT is exceeding expectations:
   Amosing-1, 2A wells flowed 5,600 and 6,000 bopd, 31-38° API
- Appraisal well drilling yielding highly positive results and resource additions are expected at Ngamia, Amosing and Ekales Fields
- Early Dean Stark Core Analysis showing positive trends in Porosity, Permeability, Water Saturation & aligning with AOC petrophysics and net pay assumptions
- 3D Seismic proving key tool mapping not only structures but also for reservoir distribution
- Identified new deeper reservoir targets currently being tested at Ekales Deep and seeing new targets in Etom area on 3D



## **Extended Well Tests (EWT's)**

- 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 1Q/2Q & Ngamia 2Q/3Q



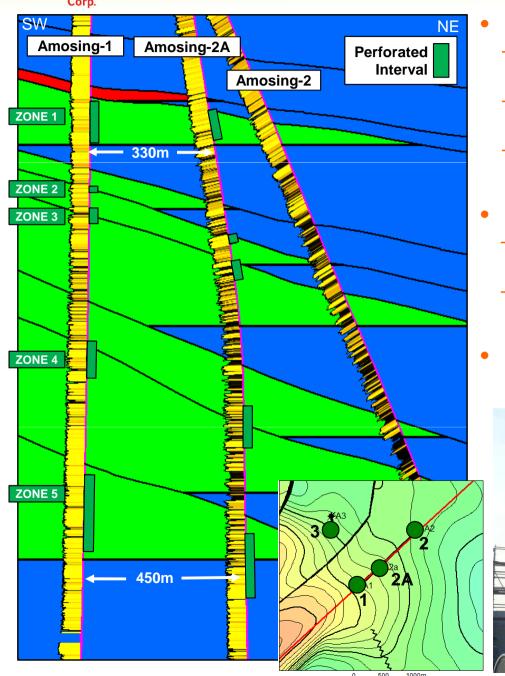
EWT results in conjunction with core programs, will permit reduction of recovery factor uncertainty and refinement of reservoir development plan

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

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



## Initial Amosing EWT results exceed expectations

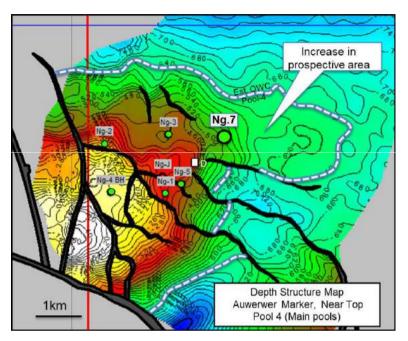


- Strong initial clean-up flow tests:
  - High productivity zones produced 31-38°API dry oil under natural flow
  - Amosing-1 flowed at combined rate of 5,600 bopd form 5 zones
  - Amosing-2A flowed at combined rate of 6,000 bopd from 4 zones
- Pressure data shows connectivity between wells:
  - EWT clean-up tests show pressure connectivity in upper 3 zones
  - MDT pressure data shows connectivity between the Amosing-1, 2, 2A & 3 wells in multiple zones
- Remaining program is long term production & water injection tests results 2Q

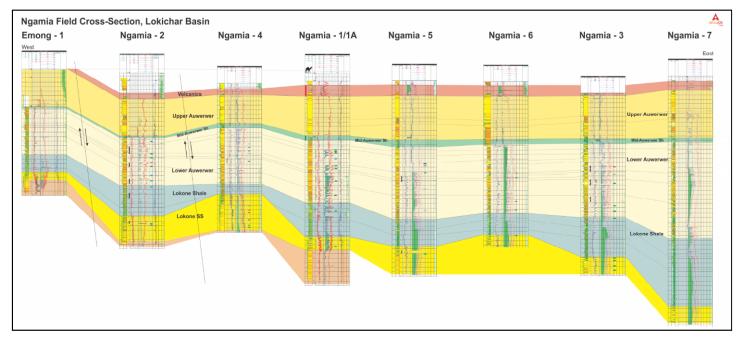




# Ngamia Field appraisal program demonstrates reservoir continuity

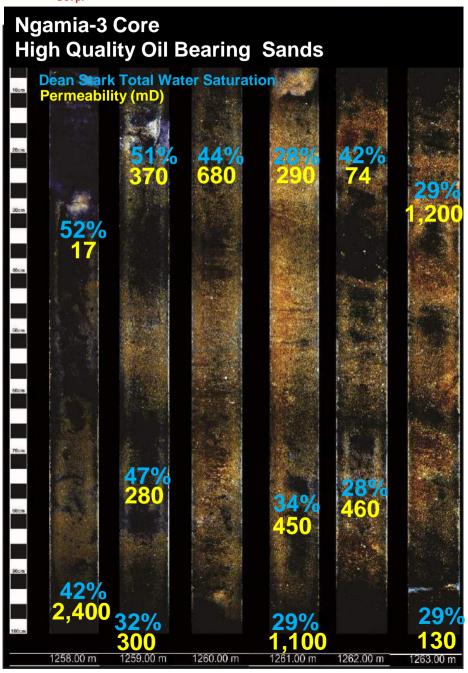


- Ngamia-7 extends field limits to East; up to 132 metres of net oil pay in Auwerwer, Intra-Lokone and Lokone reservoirs
- Ngamia 1, 3, 5, 6, 7 are all high net pay wells in pressure communication
- Lateral continuity between gross reservoir units





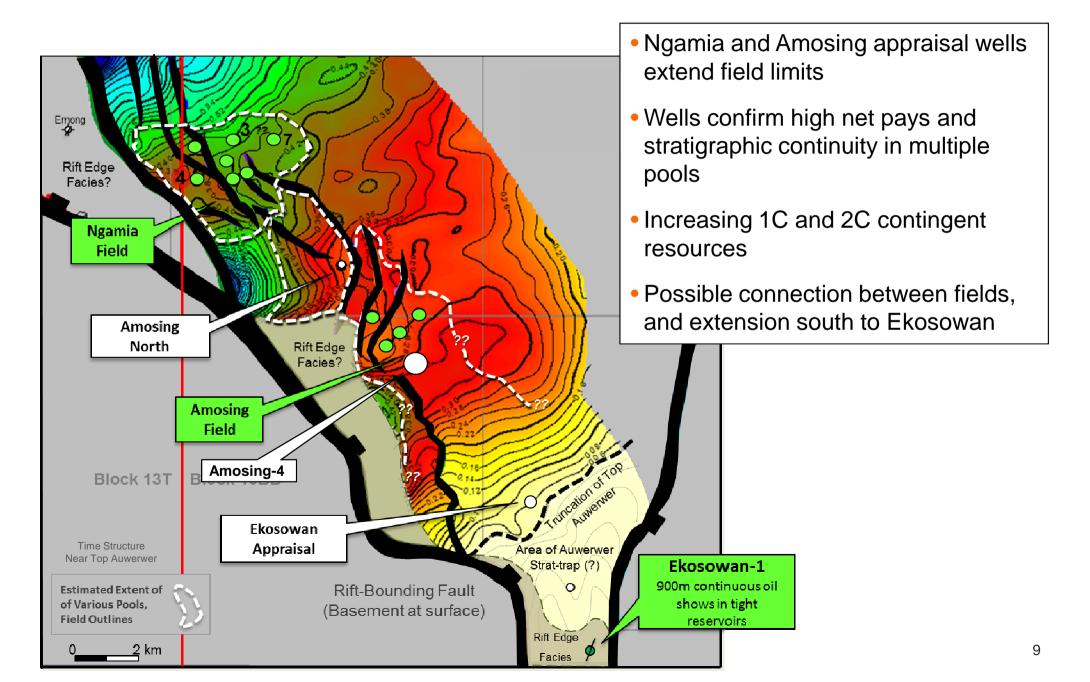
# Early Special Core Analysis results support resource assumptions



- Over 1100m of 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 in the resource estimates
  - Initial Dean-Stark data from oil column supports water saturation assumption
  - Relative permeability experiments indicate >60% RF at core plug scale



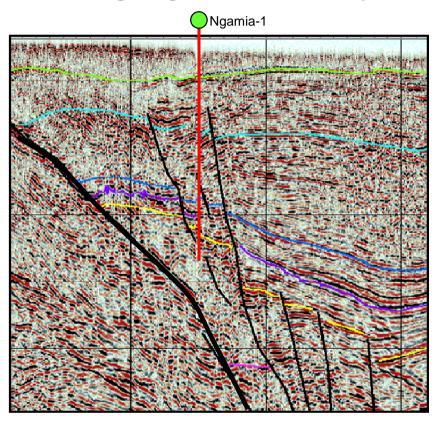
# Appraisal Drilling is Extending Ngamia & Amosing Field Limits





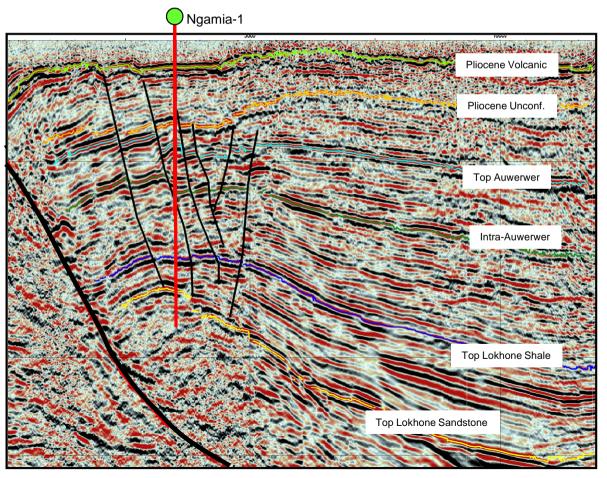
## **Appraisal Drilling with New 3D Seismic**

## 'Predrill' 2D Seismic Interpretation through Ngamia-1 Discovery:



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

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



## Twiga Field Appraisal based on 3D Seismic

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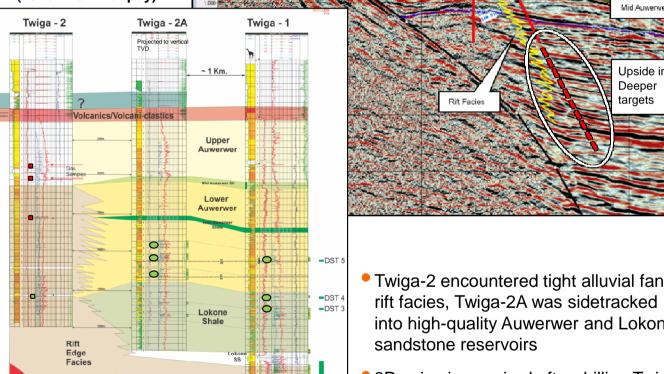


No pressure data was acquired

in Twiga 2A due to hole conditions

Drilling, LWD and cased hole log data strongly support reservoir continuity and pressure communication between Twiga 2A and Twiga 1.

**Basement** 



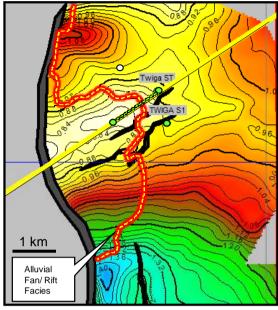
DST

DST 2

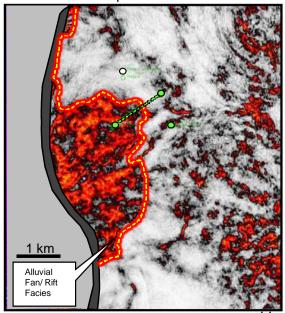
Twiga-2-Sidetrack SW

- Twiga-2 encountered tight alluvial fan rift facies, Twiga-2A was sidetracked into high-quality Auwerwer and Lokone
- 3D seismic acquired after drilling Twiga wells 1, 2 & 2A shows clear definition of rift facies and upside in deeper targets
- Lack of rift facies on north side of field indicates larger potential resources

Time Structure near Top Auwerwer Pool-1



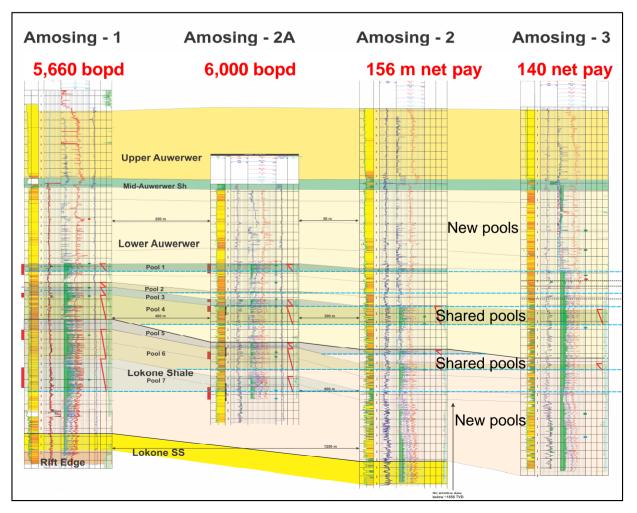
3D-Seismic Coherency near Top Auwerwer Pool-1

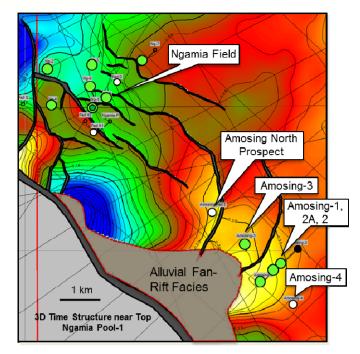


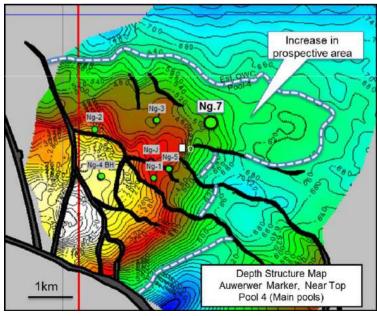


## **Amosing 3 and 4, Ngamia-7 Extend Field Areas**

- Amosing 3 encountered 140m of net pay, main pools are in pressure communication with Amosing 1, 2, 2A
- Ngamia-7 extends field limits, up to 132 metres of net pay in Auwerwer, Intra-Lokone and Lokone reservoirs



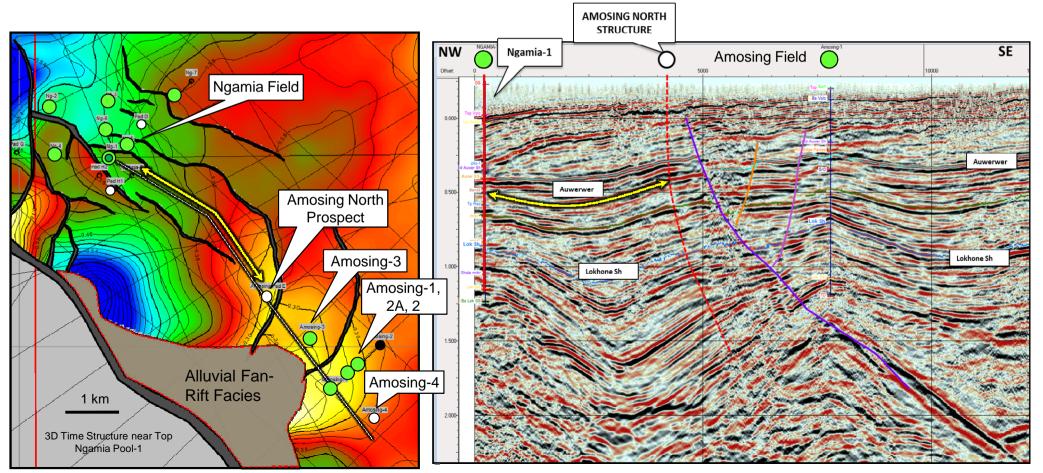






# Amosing North Prospect: Test for connection between Ngamia & Amosing Fields

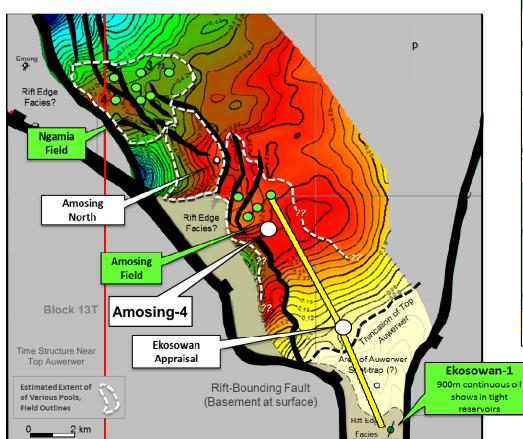
- 3D seismic confirms stratigraphic continuity of Auwerwer sandstones between Ngamia Field and Amosing North Prospect
- Amosing North will test extension of Ngamia Pools and possible connection to Amosing Field

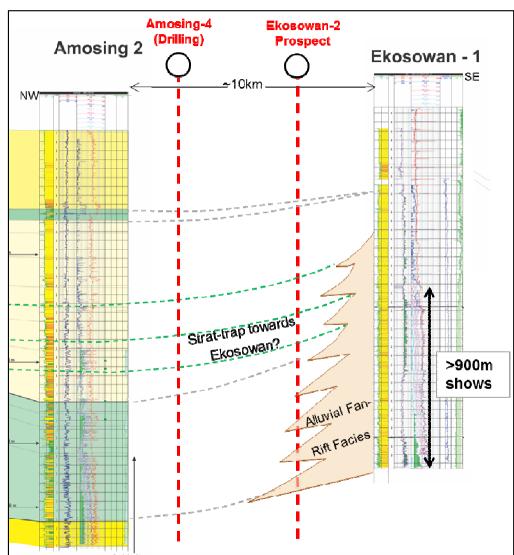




## **Amosing-4 and Ekosowan-2 Appraisal**

- Stratigraphic trap is likely between Amosing Field and Ekosowan-1
- Ekosowan-1 encountered ~900m of oil shows in tight alluvial fan facies
- Amosing-4 is currently drilling, and may extend pool limits towards Ekosowan

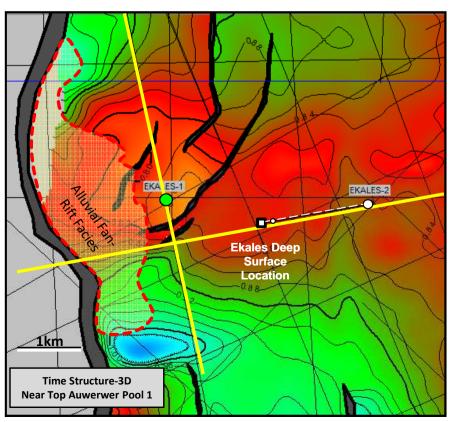


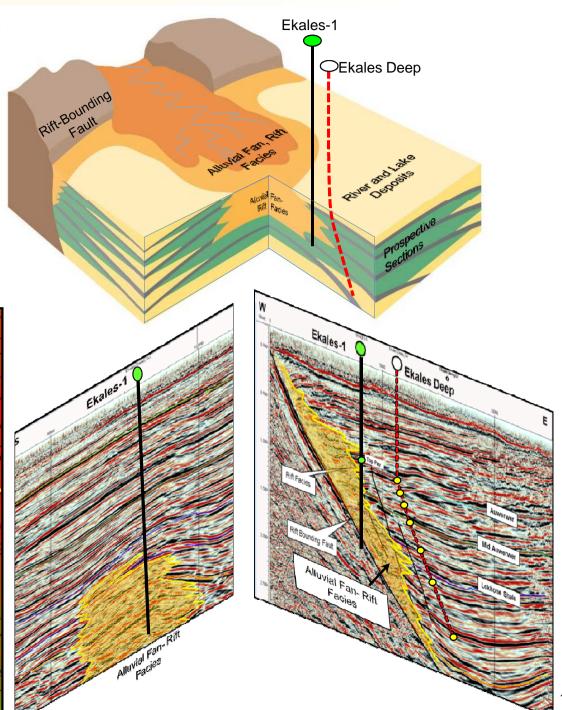




## **Ekales Appraisal**

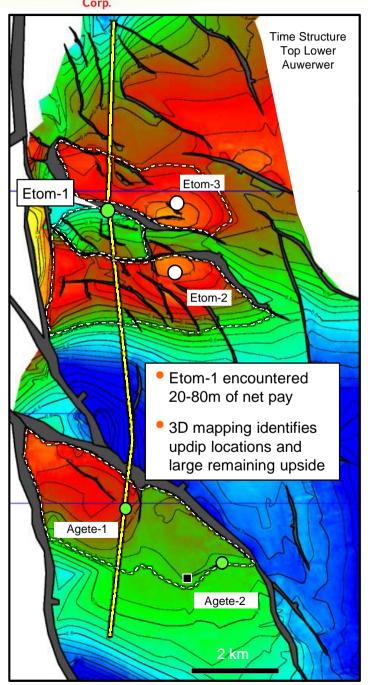
- Ekales Deep (Ekales-2) tested thicker reservoir development away from rift bounding fault
- Extends eastern field limit; 50-70 metres potential net pay in Auwerwer reservoir
- Ekales Deep results being evaluated

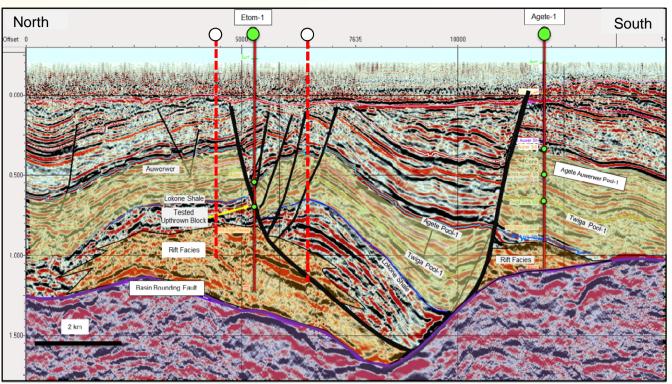




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3D Seismic Identifies Etom Appraisal Upside





- New 3D seismic shows the Etom-1 well was drilled in a structurally-low graben
- Two well-defined drill-ready prospects identified on either side
- Very thick reservoir section (400 meters +) with oil recovered and oil staining throughout demonstrates working petroleum system



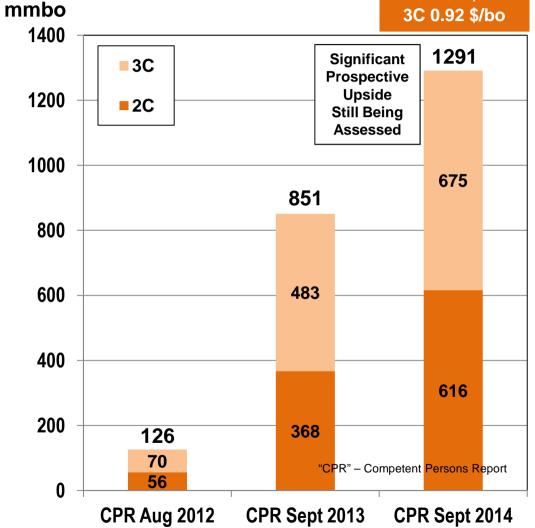
### South Lokichar Basin - World Class Discovered Resource Base

(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

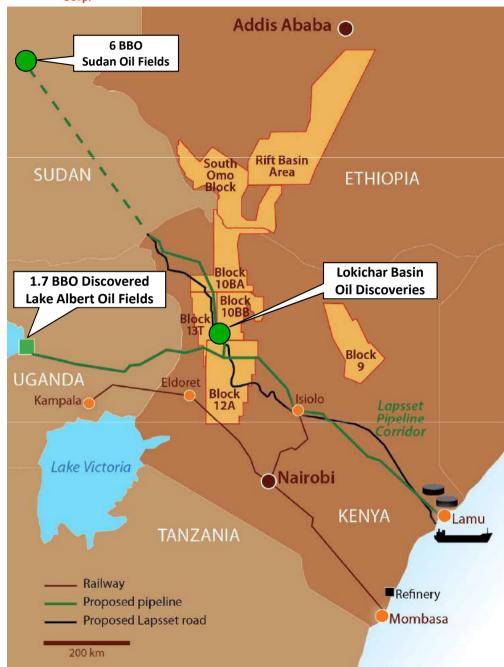
1 Field

<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.



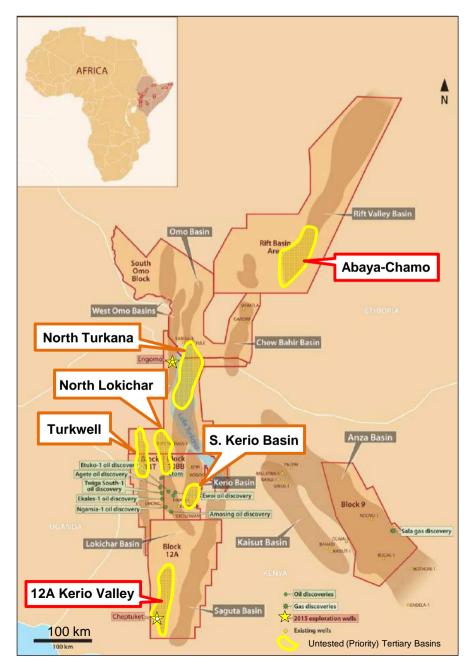
## East Africa regional oil export pipeline status



- Kenya & Uganda Governments committed to regional crude oil pipeline from Uganda through Kenya
- Governments of Kenya and Uganda appointed technical pipeline advisor and in process of appointing commercial advisor
- Kenya and Uganda upstream partners working together on pipeline solution
- Pipeline Pre-FEED, routing and environmental screening studies substantially progressed
- Commercial discussions underway
- Way forward on pipeline expected to be matured mid 2015



## **Exploration Update**

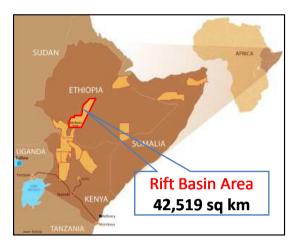


- Large exploration acreage position:
  - 110,000 sqkm gross within Tertiary Rift Play of Kenya & Ethiopia
- Reduced capital spend in 2015, but active exploration integrating well and seismic data acquired to date
- 2015 Drilling:
  - Engomo-1: P&A with no significant shows
  - Block 12A: Planning for first exploratory well late 2015- 2016
- 2015 Seismic:
  - Started acquisition of 2D seismic in Rift Basin Area
  - Integrating recently acquire seismic through acreage position
- 2015 Subsurface work to focus on untested basins: North Turkana, North Lokichar, Turkwell, South Kerio

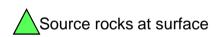


### Rift Basin Area Block

### On trend, extremely large, completely unexplored



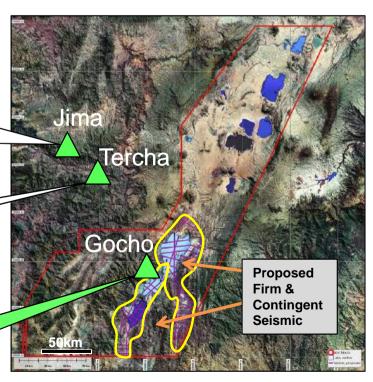
- Frontier area, no existing seismic data or wells
- Possible extension of Tertiary Rift Play
- Completed 37,000 sq km FTG survey
- Fieldwork confirmed source rocks within block
- Recording started for 400-800 km 2D seismic program



Eocene-Miocene shales & lignites TOC's up to 16% overmature (Ro>1.5)

> Eocene-Miocene oil shales TOC's up to 59% immature (Ro = .33)

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

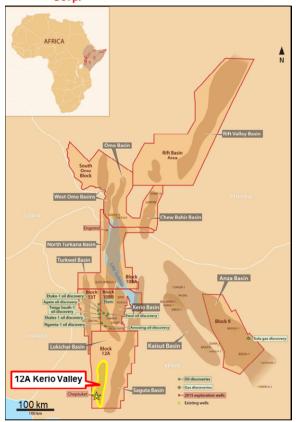




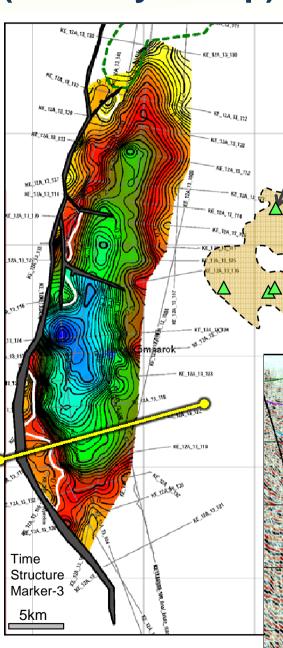




# Block 12A- Kerio Cheptuket (formerly Lekep) Prospect



- Completed 741 km 2D seismic
- Excellent oil prone Miocene source rocks in outcrop
- More difficult seismic imaging compared to other basins; older formations?
- Cheptuket-1 planned spud late 2015/2016



### **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

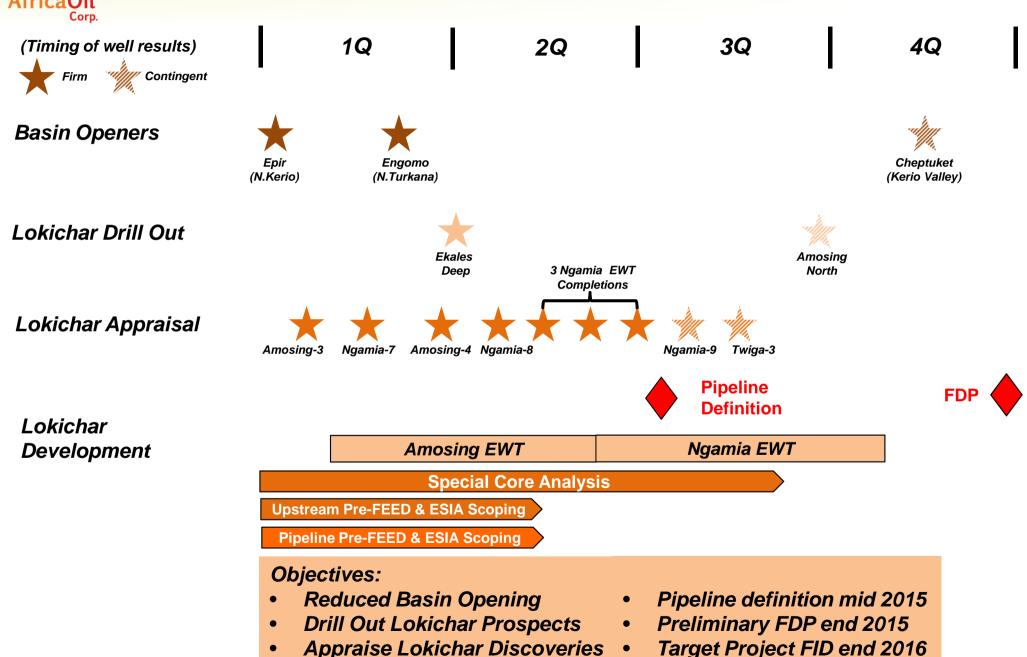
Cheptuket Prospect

Poi shales?



## What you will see in 2015

Complete EWT's





## **Summary**

- 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
- Gross Contingent Resources increased by 60 % in 2014 to over 600 MMBO barrels of oil with upside potential of 1.3 billion barrels of oil in existing fields\*
- Program in 2015 is focused on further growing resources, providing better reservoir certainty and moving development project forward – Early results highly encouraging
- New basin exploration is still considered an area of high growth potential but most basin opening wells have been deferred until 2016
- Recent financings give AOI a strong balance sheet 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.