



**ENVOI**

delivering energy opportunities

Specialist A&D Services to the international  
Upstream Oil & Gas Industry

# ***'International Opportunity'***

***APPEX Global***

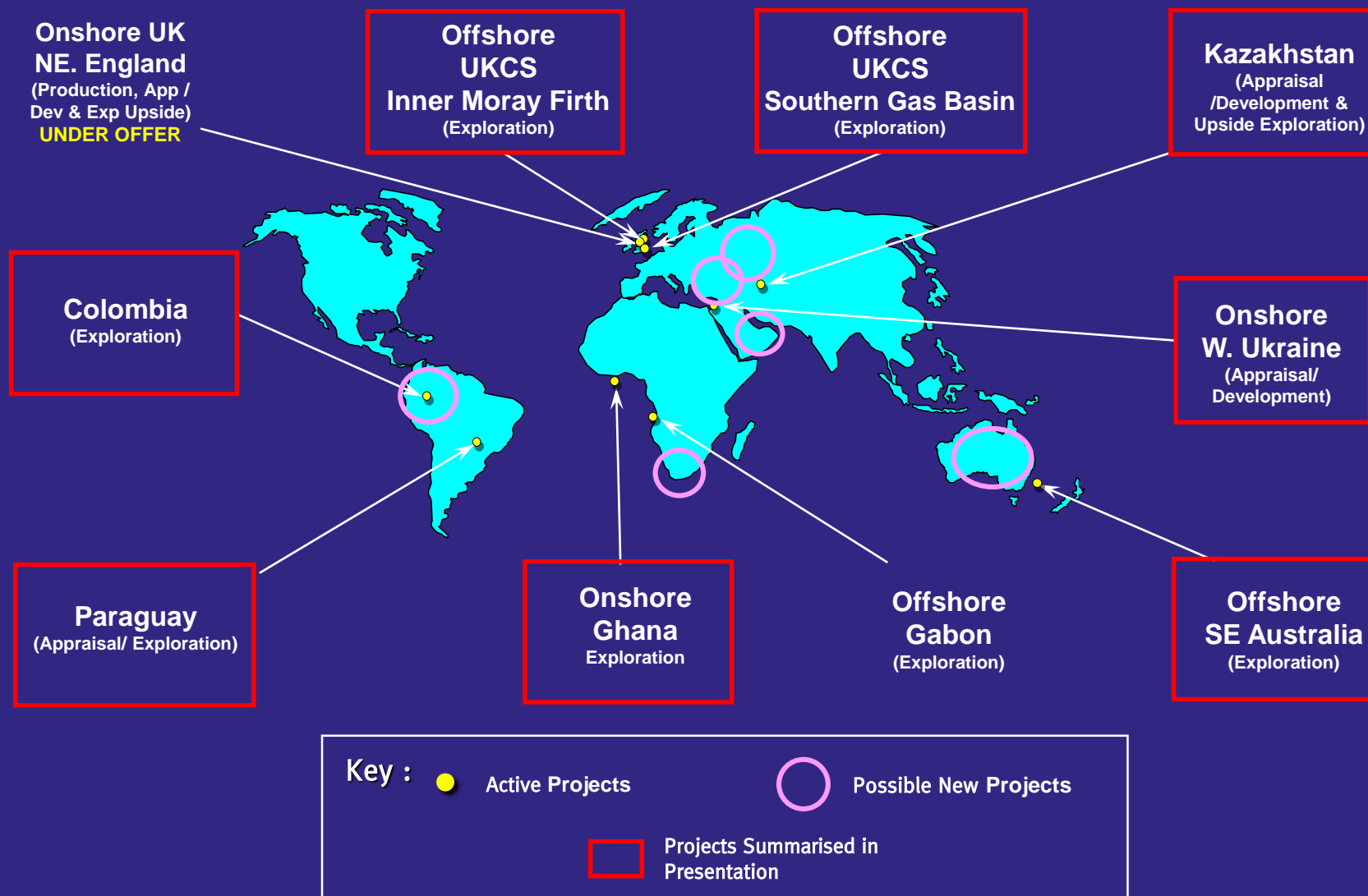
***27<sup>th</sup> February 2018***

***(London)***

Mike Lakin

# Project Locator

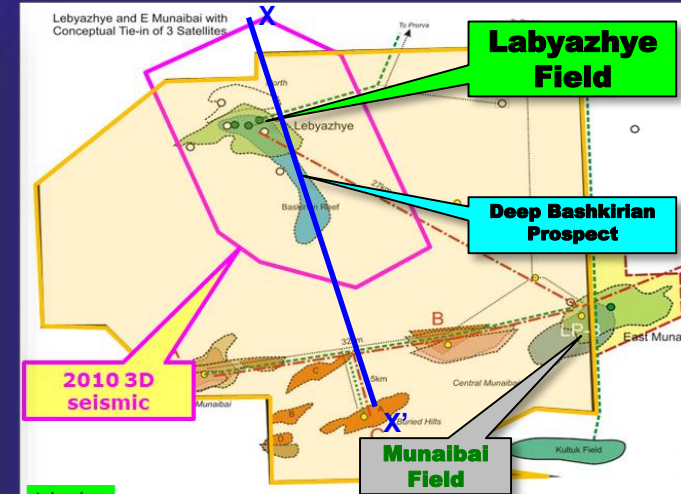
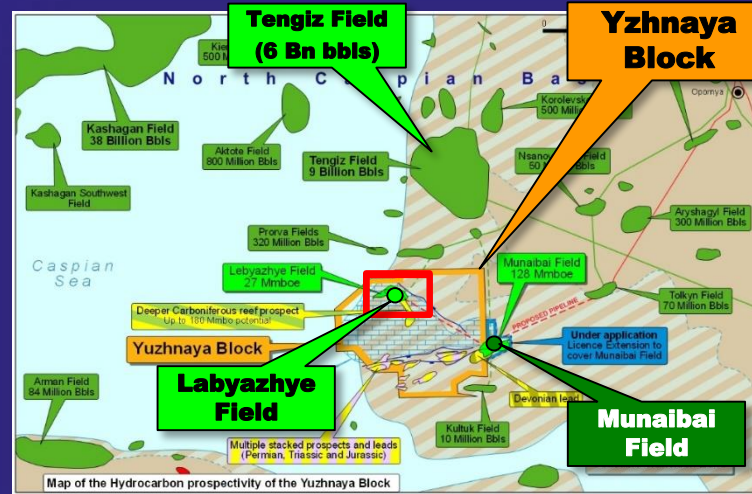
(as @ February 2018)



# 1. Onshore Western Kazakhstan

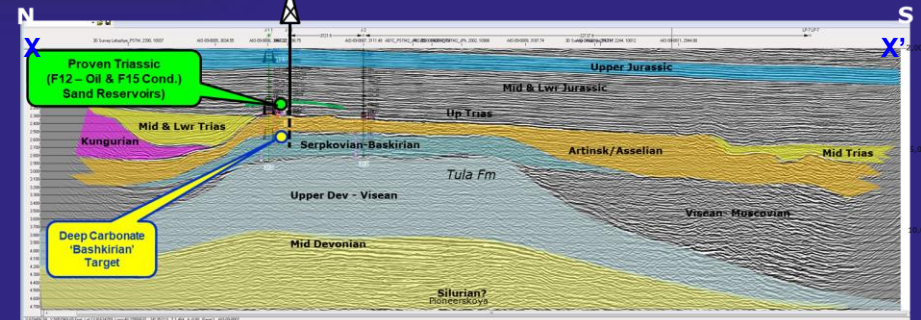
## Yuzhnaya Block – Mangystau Producing Province

Development of existing field with large Exploration Upside



### Lucent Petroleum (100% Interest & Operator)

- Region's hydrocarbon potential proven by numerous fields including 6 billion bbl Tengiz field immediately to north of Yuzhnaya Acreage.
- Opportunity to participate in Development & Deep exploration of Labyazhye field in Lucent's Yuzhnaya Block
- Development of other Munaibai field on Block already funded and in process of development drilling (started Q3 ~ 2017)
- Prospectivity**
  - Initial development of Labyazhye field's existing 27 MMboe Triassic reserves to be exploited by initial re-entry of existing 4 wells (2018)
  - Two subsequent horizontal wells through Triassic during 2018/19
  - Deepening of L-14X well to penetrate large undrilled Carboniferous Reef Play potential with Est. 150+ MMboe additional resource potential.
- Opportunity**
  - Earn up to 50% equity by funding the three planned phases of Labyazhye field development & deep exploration ~ Est. US\$ 24.5 million
  - Phase II & III development funded by Phase I re-entry

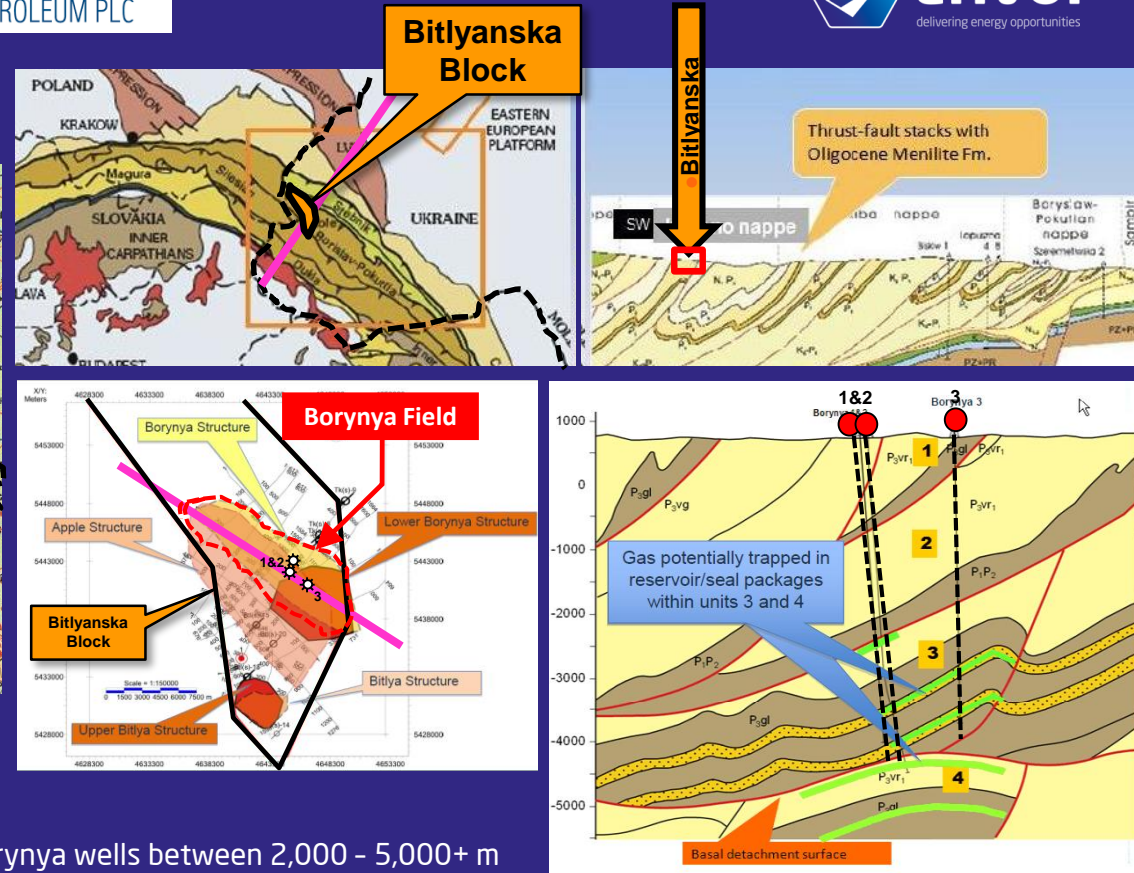
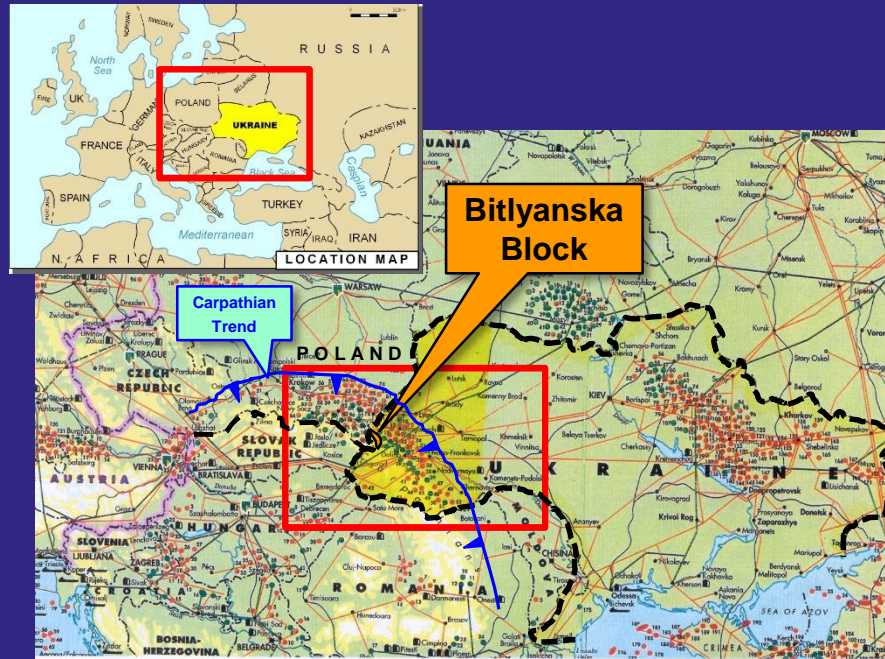




# 2. Western Ukraine

Bitlyanska Licence (Carpathians)

CADOGAN  
PETROLEUM PLC



## • Bitlyanska Block Cadogan 95% + Operator

- Appraisal / Development of existing discovery in W. Ukraine

## • Prospectivity

- Stacked gas bearing Tertiary pay sands defined by three Borynya wells between 2,000 - 5,000+ m
  - Early Bor-2 well believed to have blown out and later tested one interval 14mmcf/d.
  - Bor-3 drilled by Cadogan hit high pressures beyond rig safety after short 4.5 mmcf/d flow on test
  - Est. 2P = 0.8 Mmboe + 3P = 1.2 Mmboe + P50 Contingent = 12.5 MMboe
- Also, Bitlya Field (Est. 1.4+ MMboe Total Resource potential)
- Shallow Voychenska Prospect (twin of depleted field) Est. 18+ MMboe total resource potential

## • Work Programme:

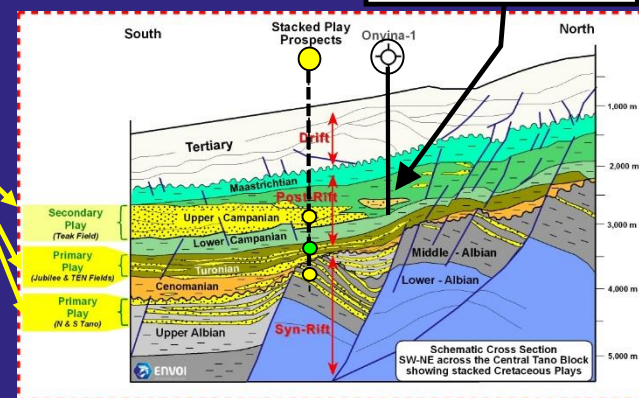
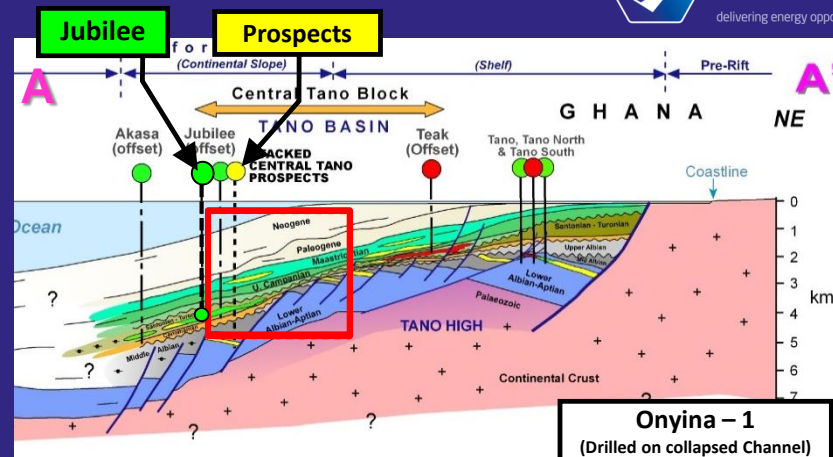
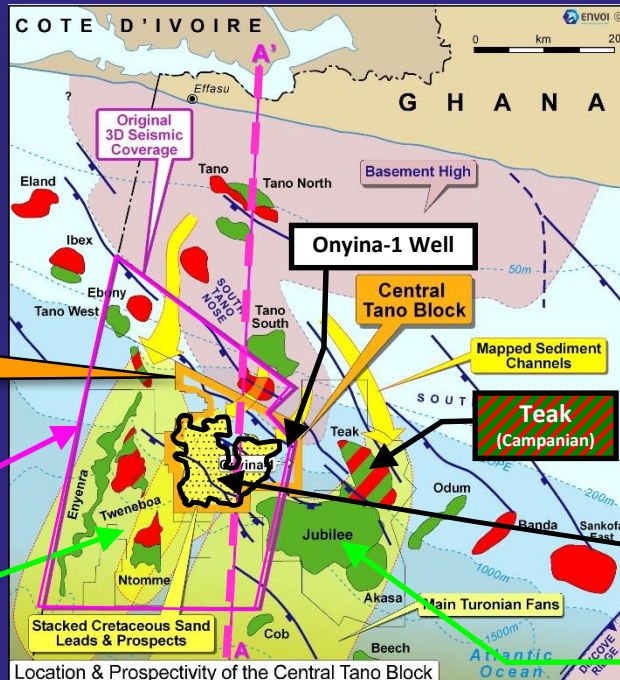
- Drill Shallow well & flow test prospect twined to depleted field (2018)
- Re-enter & test Bor-3 well with appropriately equipped Rig
- Drilled new Borynya appraisal well

## • Terms: Earn-in by funding planned exploration & appraisal drilling programme before Licence expires end 2019 (Combined US\$ 11 million gross)

- Recent reduction in Government royalties from 29% to 12% makes very positive impact on economics & with pipeline only 15 km away

# 3. Offshore Ghana

## Central Tano Block (Transform Margin Slope)



### Central Block AMNI 90% + Operator (GNPC 10% Partner)

- Acquired highly prospective 279 km<sup>2</sup> Central Tano Block on trend between large Cretaceous Jubilee, Teak & TEN Field complex after statutory Tullow relinquishment
- Awarded 2014: 7 year Term in 3 Exploration Phases (Phase I requires 2 x exploration wells)

### Prospectivity

- Cretaceous petroleum play system on transform margin slope proven by existing fields updip of massive charge & fetch area and unique reservoir development associated with Tano High. Only well in block (Onyina-1) now known to have tested a collapsed channel preventing migration
- Stacked Play Target Potential: Primary stratigraphic Turonian (proven in Jubilee & TEN Fields) & Campanian (Teak Field) Plays, with additional structural Albian Play proven back on shelf with large undrilled (rotated fault block) prospects mapped in Central Tano Block
- 6 drillable prospects (each capable of est. 90 - 400+ MMboe recoverable) + 11 additional leads also mapped to date.
- 4 stacked play drilling locations defined + total combined mean recoverable resource potential of acreage = est. 1.5 Bnboe

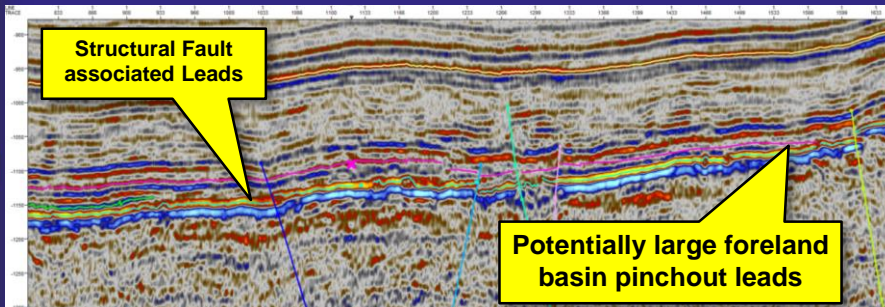
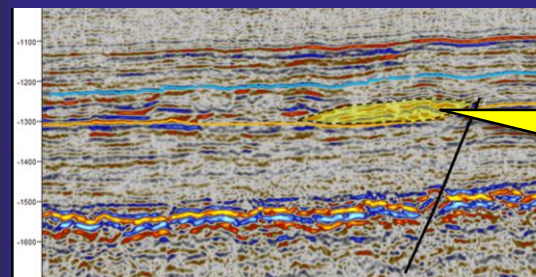
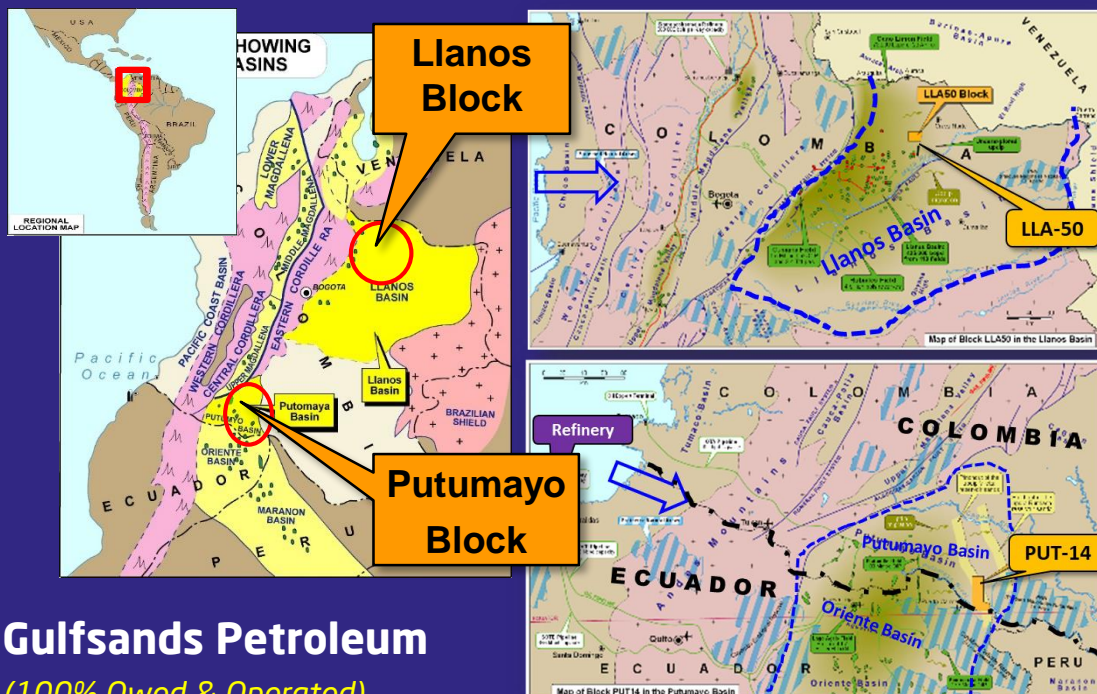
### Work Programme: Drill 2 exploration wells 2018 /19 (Est. US\$ 30 Million / well each)

### Terms: Earn part of AMNI's 90% interest by funding 2 well drilling programme (est. total Gross cost US\$ ~60 million) + contribution to past costs



# 4. Colombia

## Two Blocks - Llanos & Putumayo Basins



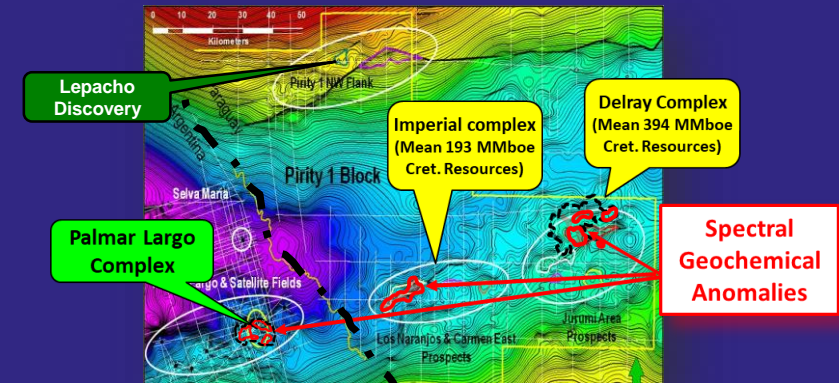
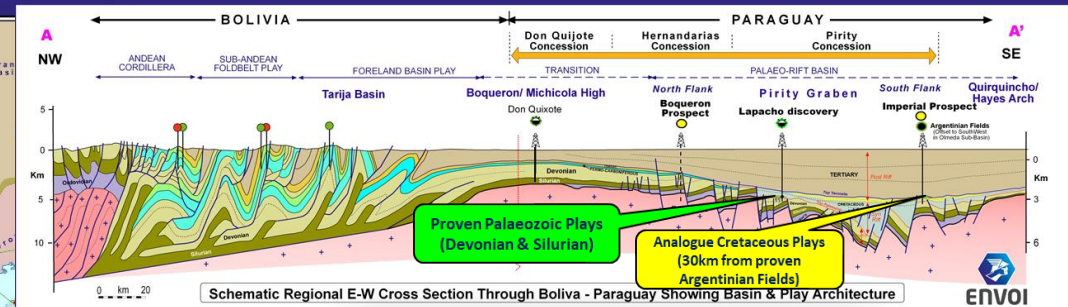
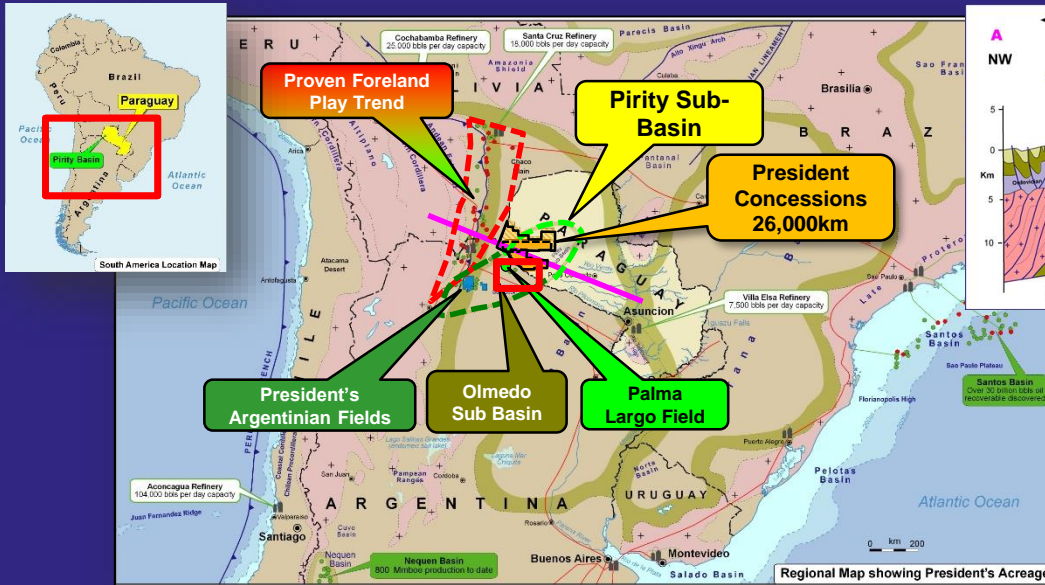
## Gulfsands Petroleum

(100% Owned & Operated)

- Opportunities for early entry & operatorship in two highly prospective Concessions up-dip and on trend with existing fields in proven-producing, prolific foreland basin plays.
- Llanos Basin Block:**
  - Potentially stacked Tertiary sand play potential in under explored foreland margin play, on-strike with discoveries & up-dip of producing fields
  - Structural leads identified on good quality 1980's 2D seismic (needs infill data and modern processing to upgrade leads to drillable prospects)
- Putumayo Basin Block:**
  - Stacked Cretaceous sand play potential undrilled on foreland basin margin acreage up-dip & on-strike with proven - producing fields west in Colombia & south in Ecuador
  - Sparse but good quality 2D seismic data shows potential for both subtle structural leads but large stratigraphic pinch-out play potential
- Opportunity**
  - PUT-14 and LLA-50 have estimated base case STOIIPs of 217 MMbo and 46 MMbo respectively.
  - Excellent fiscal terms with low X factors generate base case NPV10s of c.US\$ 385 million (PUT-14) & c.US\$ 150-200 million (LLA-50) respectively.
  - Earn majority interest & operatorship by funding infill 2D seismic surveys and one exploration well in each block (Est. Gross costs US\$ 34 million) during remaining Phase I exploration terms: PUT-14 reset to expire 2021 & LLA-50 extension expected beyond early 2018

# 5. Paraguay

## Pirity Basin



## President Energy (100% Owned & Operated)

### Overview:

- Opportunity to participate in 4 Concessions (26,000 km<sup>2</sup>) basin controlling acreage including discovery, appraisal, exploitation & forward exploration of entire prospective area of Paraguayan Pirity Sub Basin & extension of proven Argentinian (Olmedo Sub Basin).
- Proven Palaeozoic & Cretaceous Play fairways identified by President's G&G with recent geochem study support, including Lapacho discovery & existing fields on-trend in Argentina including Parma Largo (only 30km from nearest prospect in Paraguay)
- Currently mapped prospects & leads on offer combined total 10+ Tcf Gas potential in Palaeozoic & 500+ MMbo in Cretaceous plays.

### Play Potential:

- PALAEOZOIC PLAY: Lepacho Discovery well proved gas & oil in tight but fractured Devonian & Silurian reservoirs that now requires proof of deliverability with re-drill and testing to unlock huge reserves
- CRETACEOUS PLAY: undrilled extension of quality Cretaceous play defined by new 3D & coincidental geochemical anomalies

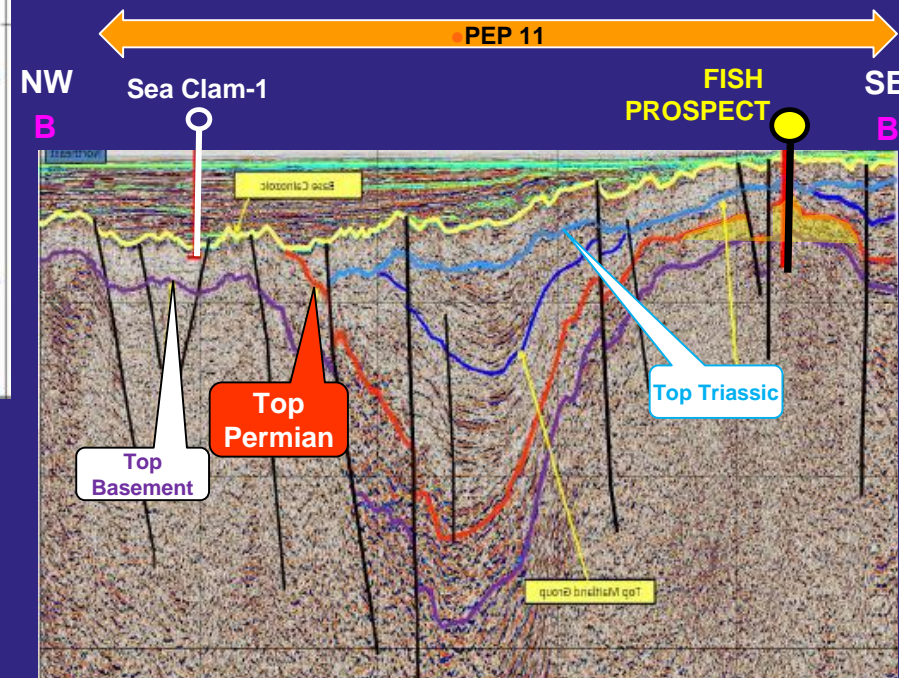
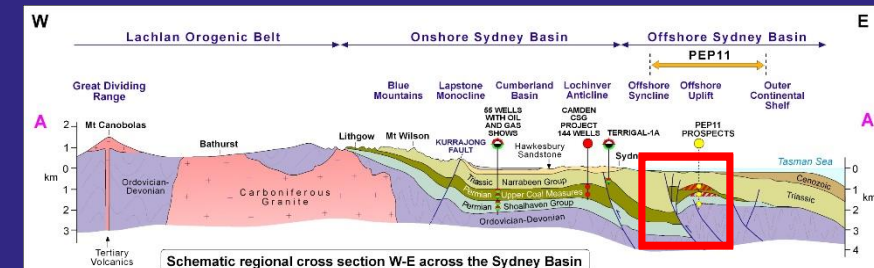
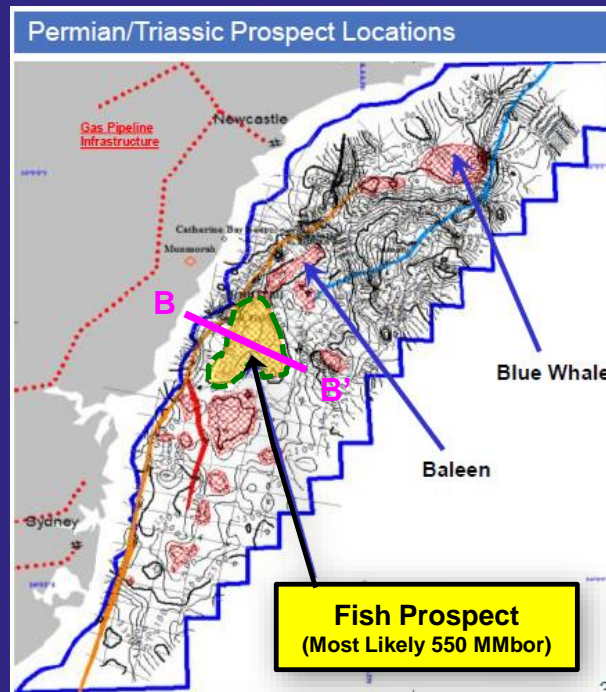
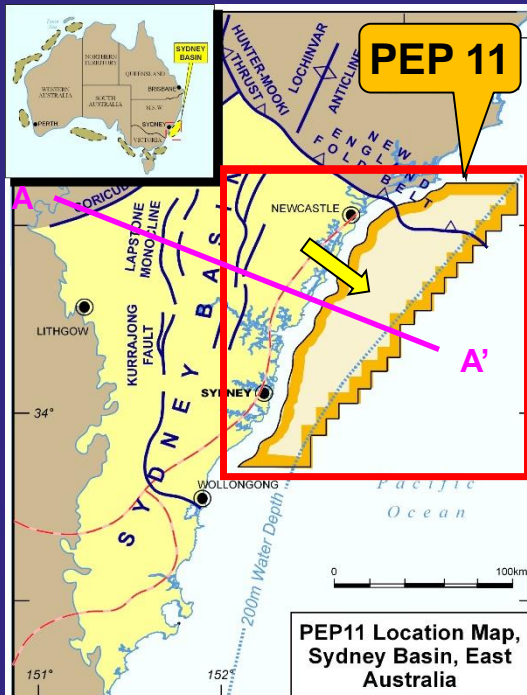
### Opportunity

- Minimum 2 wells to test prime 'look-a-like' Cretaceous analogue prospect and a Palaeozoic well to follow-up the Lapacho discovery before Oct 2018 with a view to converting exploration to exploitation Licences.
- Earn up to 50% interest in Paraguayan portfolio by funding, as a minimum, the planned Cretaceous & Palaeozoic two well drilling programme (Est. combined costs US\$ 25 million) which is sub ground floor based on US\$ 100 million past costs



# 6. Offshore SE Australia

## PEP 11 (Sydney Basin)



## Advent Energy Limited

85% Operator + 15% Bounty Oil

### Prospectivity

- Totally undrilled offshore Permian Play where palaeo-deposition model shows thicker sands developed compared to stratigraphy proven onshore
- 10+ Leads defined on existing 2D seismic
- Primary FISH Prospect est. 2.6 TCF resource potential (~472 Mmbl equiv.)
- Prospects all coincident with surface seeps and sea bed pock-marks with gas anomalies seen on seismic
- Excellent economic value potential due to very energy hungry East Coast gas market just off coast to Sydney (~ US\$ 13 / mcf gas price)

### Work Programme:

- 200 km 2D Infill seismic programme in progress to fulfil current 1st Exploration Term
- 2<sup>nd</sup> Exploration Term (4 years): 500km<sup>2</sup> 3D broadband seismic survey + Exploration well before August 2019 (est. cost £9 million dry hole)

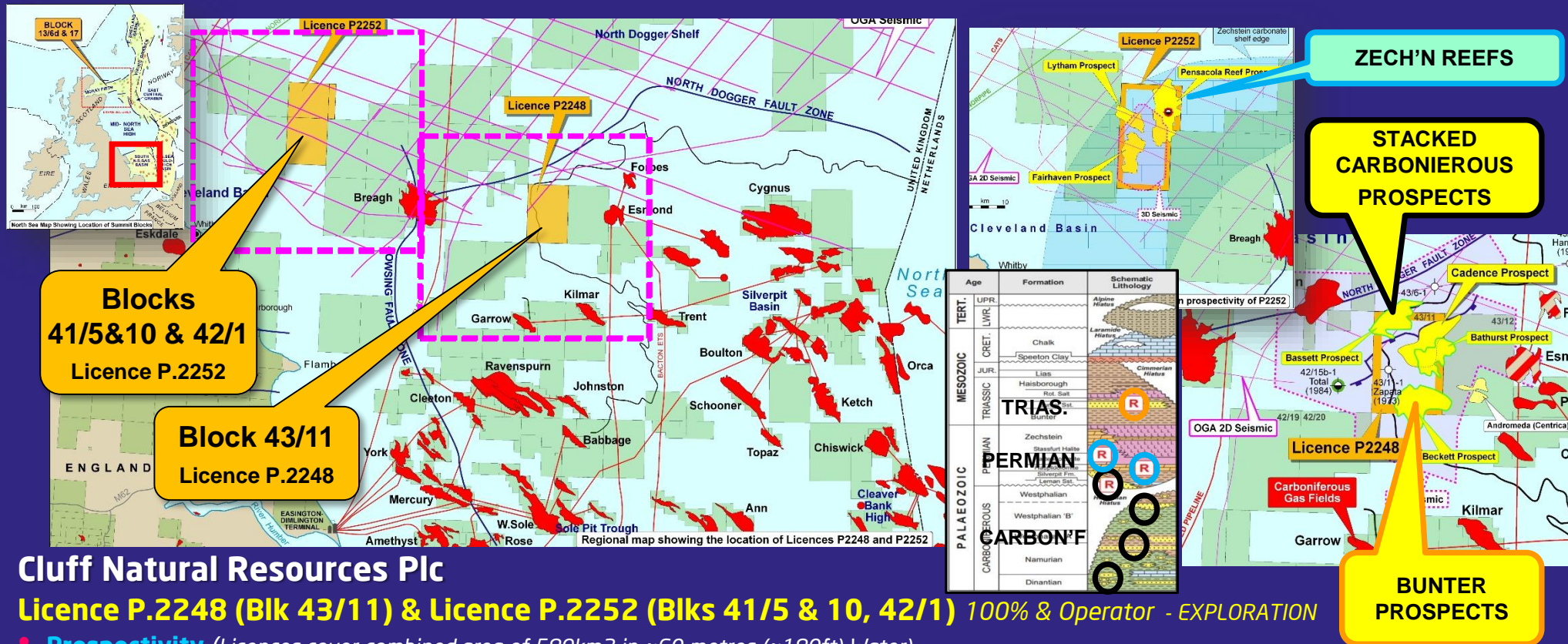
### Terms

- Earn material interest by funding 2<sup>nd</sup> Term 3D seismic + Exploration well (Combined Est. US\$ 25 million cost).



# 7. Offshore UK - Southern Gas Basin

Licences. 2248 & P.2252



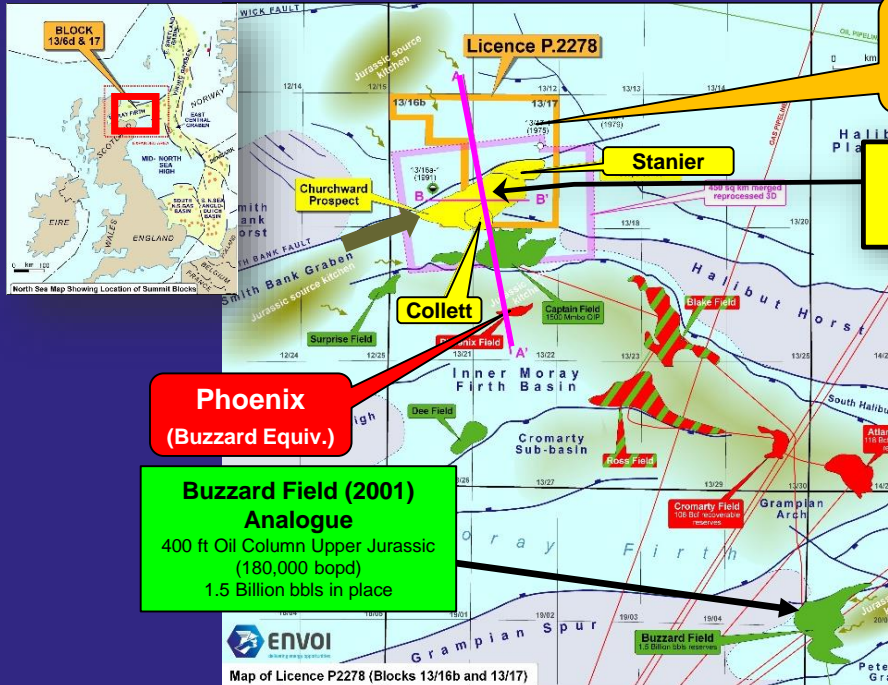
## Cluff Natural Resources Plc

**Licence P.2248 (Blk 43/11) & Licence P.2252 (Blks 41/5 & 10, 42/1) 100% & Operator - EXPLORATION**

- **Prospectivity** (Licences cover combined area of 589km<sup>2</sup> in ~60 metres (~180ft) Water)
  - Total combined resource potential Est.2.4 Tcf (P50) mapped in three plays with new prospects unlocked by reprocessed 3D between proven fields
  - **P2252** - 3 X prospects defined by 3D in Zechstein Reef play
    - Pensacola prospect already penetrated by well & encountered 300ft fractured dolomite pay but never tested due to near total fluid losses
    - Est. 168 Bcf Resource with NPV of £ 690 million as defined by independent (Xodus) CPR
  - **P2248** - Primary Stacked Carboniferous Sand prospects with secondary Triassic Bunter Prospects)
    - Candence is largest Carboniferous Prospect with Est. P50 resource potential of 929 Bcf recoverable
    - Bassett is largest of three Bunter prospects, which has Est.128 Bcf P50 resource potential exhibiting amplitude anomalies.
- **Work Programme:**
  - Existing Licence Extensions to end October 2018 with 'Drill or Drop' required in follow-on Licence Terms (infill seismic also proposed in P2248)
- **Terms**
  - Earn material interest by commitment to fund one exploration well in each follow-on Licence Period (Est £ 6 million in P2248 & £ 8-10 million in P2252).

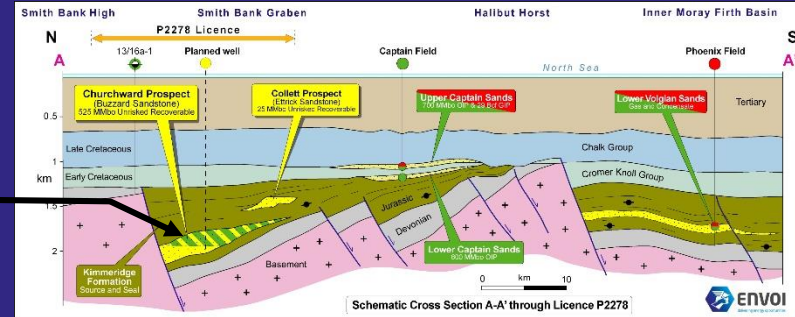
# 8. Offshore UK - Inner Moray Firth

P. 2278 (Blocks 13/16b & 17)



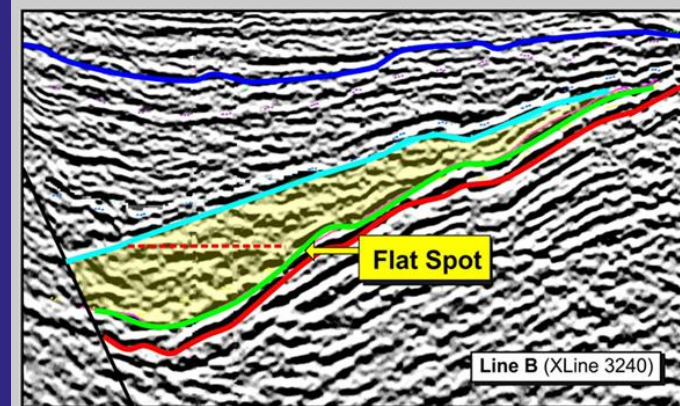
**Block 13/16b & 17**  
Licence P.2278  
Churchward Prospect

**Churchward Prospect**  
(Most Likely 550 MMbbl)



SUMMARY OF THE PETROLEUM GEOLOGY OF BLOCKS 13/16b & 17, SMITHBANK GRABEN

AGE	FORMATION GROUP	SCHEMATIC LITHOLOGY	PETROLEUM GEOLOGY	HYDROCARBON OCCURRENCE
CRETACEOUS	UPPER	CHALK GROUP		
	ROBBY			
	VALHALL			
JURASSIC	UPPER	KIMMERIDGE		
	HEATHER			
	MIDDLE			



'IMF-SLB-2014 MultiClient'

**Azinor Catalyst Ltd** (c/o Aimwell Limited)

100% & Operator - EXPLORATION

## Prospectivity

- Undrilled margin of graben (proven by existing discoveries) containing 2 Jurassic & 1 Cretaceous prospects defined on first ever combined reprocessed 3D datasets
- Primary Churchward Prospect:** Very Large Jurassic closure and 'look-a-like' to producing Buzzard field in analogue graben to south
- Most Likely 525+ MMbbl Buzzard Sst target resource potential (2+ Billion Upside potential)
- Top and bottom closure anomalies on seismic including possible 'flat spot' which is coincident with possible fault related spill point
- Follow-on: Collett Prospect (Ettrick Sst) ~ 25 - 110 MMbbl + Stanier Prospect (Scapa-Punt Sst) ~ 140 - 1,000+ MMbbl

## Work Programme:

- Exploration well in 2018 (est. cost £9 million dry hole)

## Terms

- Earn material interest by funding Churchward exploration well



# MORE INFORMATION: Synopsis & Updates (Pre-CA)



Project P181

## Offshore Senegal

**Sangomar, Rufisque &  
Sangomar Deep Offshore  
Blocks**



Synopsis (May 2010) &  
Project Update (April 2012)

*Farmed Out  
March 2013*

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around oil, and the  
Miocene play  
Late Cretaceous

Senegal acreage  
oil discovered in  
Africa) oil found in  
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Shelf Prospect

Shelf Prospect

Shelf Prospect



**FAR Limited PROJECT UPDATE  
(APRIL 2012)**

**OFFSHORE SENEGAL OPPORTUNITY**  
Significant working interest available in highly prospective  
Cretaceous play prior to drilling the first of several very large 3D  
defined prospects on trend with proven NW African margin



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Mbo. The southernmost  
its own right which has  
km<sup>2</sup> and was estimated  
total of 500 million bbls  
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Shelf Prospect

Shelf Prospect

Shelf Prospect

First Australian Resources Ltd (FAR) officially entered the Second Renewal Period of their  
in February 2012, consisting of the Sangomar, Sangomar Deep and Rufisque Blocks. FAR is  
the drilling of a well during the next two years to test one of the several large 3D defined prospects  
likely estimated to contain potential of up to 700 million bbls P50 recoverable resources.

Following Australian Independent Flow Energy in November 2011, FAR has combined assets on three  
res and an experienced technical and management team. They now plan to accelerate the drilling  
of experienced new partner with offshore operator experience.

FAR's three Blocks cover a large (7,400 km<sup>2</sup>) area within the highly prospective, but largely undrilled,  
MSGB (Mauritania-Senegal-Guinea Bissau) Basin. The Blocks lie between the proven Cretaceous and  
inways in Mauritania to the north and the Dome Flores heavy oil discovery, reported to contain one  
e south. The Sinapa oil discovery is located just across the border to the south in Guinea Bissau.  
te north, and Turonian and Albo-Aptian marine shale source rocks to the north and south, and  
are interpreted and predicted offshore Senegal.

Increased industry interest in the region's potential over the last few years is  
further evidenced by the recent 'acreage grab', including entry of the Majors. As a  
result there is very little, if any, open acreage left over the most prospective parts of  
the basin. This includes, in particular, the Cretaceous play potential, after the  
significant successes along the coast of Africa to the south through offshore  
Sierra Leone, Cote d'Ivoire and Ghana. The large 2,500 km<sup>2</sup> 3D spec survey  
currently underway in the southern part of the MSGB Basin, offshore The  
Gambia, is further evidence of the growing interest and activity in the region.

**Play Elements & Prospectiveity:** The key  
elements to the play offshore  
Senegal in FAR's acreage  
have been defined by the  
technical work on the project  
to date and can be summarised:

- **Proven Hydrocarbon System with Traps:** The evidence clearly indicates that a working hydrocarbon system is present in the Block area along with multiple structural carbonate traps on the shelf edge, as well as large stratigraphic traps within the three distinct fans systems on the slope (see adjacent interpretation). These traps, which are estimated capable of holding several hundred million barrels of reserves, are all mapped on the 2,000 km<sup>2</sup> of modern 3D seismic which covers FAR's acreage. In the South Channel Fan prospect alone (ref. adjacent section), the upper slope fans have a footprint of over 30km<sup>2</sup>, with an estimated potential of 500 million barrels of oil in place.
- **Amplitude Anomalies:** Detailed amplitude analysis of the 3D has also highlighted numerous anomalies associated with the three main channel fan prospects. These exhibit amplitude cut-offs and clearly support their detachment

Summary of interpretation). These traps, which are estimated capable of holding several hundred million barrels of reserves, are all mapped on the 2,000 km<sup>2</sup> of modern 3D seismic which covers FAR's acreage. In the South Channel Fan prospect alone (ref. adjacent section), the upper slope fans have a footprint of over 30km<sup>2</sup>, with an estimated potential of 500 million barrels of oil in place.

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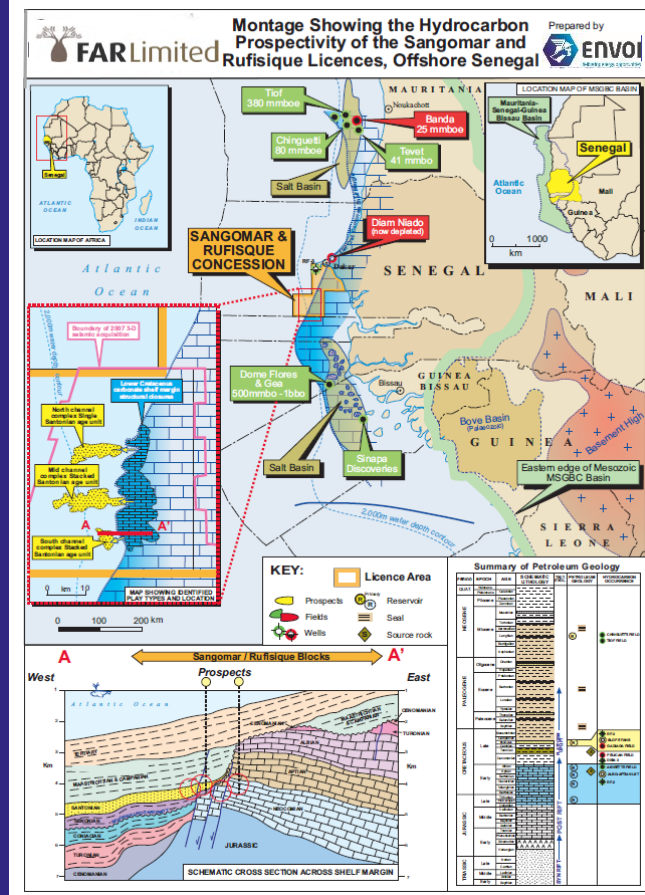
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*Includes Full Colour Montage:*



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