# tangiers

# Investor Presentation

September 2012

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The information in this presentation was produced by Mr Brent Villemarette who is an Executive Director of the Company and Mrs Margaret Hildick-Pytte who is the Director of Exploration for Tangiers. It has been produced for the Company, and at its request, for adoption by the Directors. Mr Villemarette and Mrs Hildick-Pytte have sufficient experience that is relevant to the style and nature of oil and gas prospects under consideration and to the activities discussed in this document. Their academic qualifications and industry memberships appear on the Company's website and both comply with the criteria for "Competence" under clauses 18-21 of the Valmin Code 2005. Terminology and standards adopted by the Society of Petroleum Engineers "Petroleum Resources Management System" have been applied in producing this document.





- Experienced Board & Management
- Highly prospective acreage in Morocco with 75% equity
- Large spread of Australian acreage with 90-100% equity
- Forward Strategy

### Board and Management



#### Ms Eve Howell - Executive Chairman

Ms Howell is an experienced explorationist, executive and company director having worked over 40 years in the oil and gas industry.

Ms Howell had previous senior roles with Woodside Energy Ltd and Apache Energy Ltd. With the former, she was Executive Vice President Northwest Shelf as well as CEO of the North West Shelf Project (Australia's largest resource project). She worked for 17 years for Apache Energy in senior roles in exploration and business development and as Managing Director.

Ms Howell holds a B.Sc in Geology & Mathematics and an MBA. She is also a Non-executive Director of ASX listed Downer EDI Ltd and Mermaid Marine Australia Ltd.

#### Mr Brent Villemarette - Executive Director

Mr Villemarette is a petroleum engineer with more than 30 years experience in the oil and gas industry globally. His experience spans a wide range of disciplines including exploration, development, operations, marketing, acquisitions and new ventures.

He also serves as COO for Transerv Energy, an ASX listed company actively engaged in developing the large undeveloped Warro tight gas field in the northern onshore Perth Basin.

Mr Villemarette has previously held roles of International Reservoir Manager for New Ventures for Apache Corporation based in Houston, Texas and Reservoir Engineering Manager for Apache Energy Limited in Perth.

#### Mr Max de Vietri – Non-Executive Director

Max is a graduate geologist with 38 years of international experience. He has been instrumental in finding and championing the evaluation of significant hydrocarbon and mineral discoveries.

He is an Officer of the National Order of Merit for the Islamic Republic of Mauritania, awarded in recognition of his inaugural efforts in starting the petroleum industry in Mauritania. Max is the Honorary Consul for the Republic of Mali in Perth, awarded in recognition for his successful efforts in establishing the country as a petroleum province.

Max has a Graduate Diploma in Business and is a Master in International Relations. He is currently completing a research doctorate in Political Science.

#### Mrs Margaret Hildick-Pytte – Director of Exploration

Mrs Hildick-Pytte has a strong geological background, both commercially and academically, including roles as Senior Geologist for INPEX and Senior Geologist and Technology Coordinator for Chevron.

Ares worked include the USA, West Africa, India, China, Philippines, Venezuela, Colombia, Papua New Guinea, North Sea, and the Barrow, Browse, Bonaparte, and Perth basins in Australia.

She is a founding member of the AAPG affiliated Society for Organic Petrology and holds a BSc and MSc in Geology. Margaret is currently undertaking a MSc in Petroleum Engineering at the University of New South Wales. Mrs Hildick-Pytte is not a Company Director

### Company Overview



#### **KEY STATISTICS AS AT 17 SEPTEMBER 2012**

ASX AIM	TPT, TPTOA, TPET
Total Ordinary Shares:	107,296,860
Total Listed Options:	44,149,645
Total Unlisted Options:	15,574,124
Number of Shareholders:	1,555
Top 20 Shareholders	36.15%
Price: (17 September 2012)	A\$0.300
Market Capitalisation:	A\$32.2M
Fully Diluted Market Capitalisation:	A\$50.1M
52 Week Low:	A\$0.27
52 Week High:	A\$0.84
<u>Top Shareholders</u> Ablett PL Peninsula Inv WA Pty Ltd Aust Global Cap Pty Ltd Peel Hunt Holdings Ltd	3.78% 3.73% 3.73% 2.20%

### Company Acreage





### Morocco

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 Offshore well density of approx 1 well/10,000 km<sup>2</sup> versus global average of 80 wells / 10,000 km<sup>2</sup>

# Morocco Tarfaya

- Located on the East Atlantic Margin offshore northwest Morocco
- 8 permits covering 15,041 km<sup>2</sup>, with water depth generally <200 m</li>
- Under-explored location with only 4 wells drilled
  - 1 well per 3,750 km<sup>2</sup>
  - 3 wells 1960s, 1 commitment well in 1985
- All wells had hydrocarbon shows
- Extensive database
- Active petroleum system within permits
- Advanced exploration plays

### **Participants**

- 75% TPT (and operator)
- 25% ONHYM (Government free carried through exploration)

### **Favourable Fiscal Terms**

- Not a PSC environment
- Corporate Tax
  - 10 year holiday on each discovery
- Royalty
  - Oil 10%
  - Gas 5%



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\*Diagrams produced by the Company

# Tarfaya Regional Stratigraphy and Play Types tangiers

- Contains all elements necessary for successful exploration (source, trap, seal, migration, reservoir)
- Working petroleum system seen throughout permit, oil seeps and onshore oil shale mine
- 4 four-way closure prospects in Jurassic carbonate play fairway (e.g Trident, Assaka)
- Cretaceous deltaic sandstones
- Triassic aeolian (dune) sandstones





- Multiple leads in the Lower Cretaceous intervals (eg Apollo, Hercules)
- Early assessment indicates the Cretaceous may contain similar prospective resources as the Jurassic
- Jurassic carbonate play fairway de-risked by Cap Juby oil discovery to the west of Tangiers Block
- Tertiary clastic leads identified

# Tarfaya Multiple Hydrocarbon Indicators



- Onshore
   Cretaceous oil shale mine
- Prolific Upper
   Cretaceous oil
   shale present in
   entire block
- Oil stains and gas kicks in historical wells Jurassic oil stain in MO-8 well, 38.5 degree API
- Cap Juby discovery

### Tarfaya Extensive Seismic Database



- Extensive seismic data coverage to mature prospects and leads
- 19,494 km of existing 2D seismic data (2,828 km reprocessed in 2011)
- 580 km<sup>2</sup> of 2006 vintage 3D seismic (reprocessed in 2011) covers La Dam Prospect
- Just completed 2012 3D acquisition of 680 km<sup>2</sup> over Trident, TMA and Assaka Prospects

# Tarfaya Jurassic Prospects





04TS-178 final pstm stack SE NW all the second Assaka & Trident Prospects Chaotic Zone; Karsted Reef Lithofacies Ipper Jurassi erriasian 1 **Back Reef Shoals** immeridgian Middle Jurassic Bathonian 5 Bathonian 1 ower Jurassi arcian 7 TMA Prospect Downlap Surface Fore Reef and Shoal Lithofacies

Prospects – In Place and Prospective Resources (MMbbls) *				
	Unrisked STOIIP (MMbbls)		Unrisked Recoverable Oil (MMbbls)	
Prospect	P50	P10	P50	P10
Trident	2,115	5,273	423	2,109
ТМА	956	3,262	191	1,305
Assaka	718	1,990	144	796
La Dam – U to M Jurassic	545	1,874	109	749
Arithmetic Total	4,335	12,399	867	4,959

#### Leads - In Place and Prospective Resources (MMbbls)

	Unrisked STOIIP (MMbbls)		Unrisked Recoverable Oil (MMbbls)	
Prospect	P50	P10	P50	P10
La Dam MJ5	84	210	17	84
La Dam LJ2	90	203	18	81
Arithmetic Total	174	413	35	165

\* Independently assessed by Netherland, Sewell and Associates

### Tarfaya Upper Jurassic - Assaka

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- Upper Jurassic Kimmeridgian-5 Horizon
- Fore reef and reef core underneath Assaka horizon
- 4-way dip closure with areal extent of 132-302 km<sup>2</sup>
- Target Depth 2700-2800m
- No wells penetrate prospect



# Tarfaya Middle Jurassic - Trident Prospect



- Middle Jurassic Bathonian-5 Horizon
- Reef or grainstone shoals
- 4-way dip closure with areal extent of 293-704 km<sup>2</sup>
- Target Depth 3000-3600m
- MO-4 outside of P50 closure area



### Tarfaya Lower Jurassic - TMA Prospect

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TMA Prospect

- Lower Jurassic Toarcian-7 Horizon
- Reef Core directly underneath Assaka
- 4-way dip closure with areal extent of 135-794 km<sup>2</sup>
- Target Depth 3900-4600m
- No wells penetrate prospect

Lower Jurassi

**Downlap Surface** 

### Tarfaya Jurassic – La Dam Prospect



- 3 Reservoirs, Upper, Middle and Lower Jurassic
- Structure and stratigraphic traps, areal extent of 8-69 km<sup>2</sup>
- Target Depth 3000-5500m
- No wells penetrate prospect





### Australian Assets



- TPT operates 90% WA-442-P and NT/P81 Exploration Permits ~250 km southwest of Darwin LNG hub-multiple drill ready prospects
- TPT operates 100% NT/P83 North of Bathurst Island/Coburn Peninsula new block acquired in August, 2012
- TPT operates 100% ATP-587 in Eromanga Basin, Queensland



### Australia WA-442-P, NT/P81

Strategically located in the Southern Bonaparte Basin offshore Australia, 250 km southwest of Darwin - the Northern Australian gas and LNG hub.

- TPT operates with 90%
   WI and 3 key plays
- Turtle / Barnett
  - Oil discoveries in 1984-85
- Milligans Fan significant prospective oil potential
- Nova / Super Nova
  - Large gas prone structures with multi TCF potential
- Prospective resources estimate and CPR completed by ISIS for Nova and Milligans leads





# Australia WA-442-P, NT/P81 Turtle-Barnett

- Turtle and Barnett oil fields discovered in 1984/85 and appraised in 1989
- Multiple oil bearing reservoirs intersected on the Turtle Barnett structures
- Produced 750-920 BOPD (38° API) on drill stem test
- Development concepts being considered
- **Turtle Field** MESSNER LEAD **Barnett Field** Turtle 2 Turtle 2 2 MMBO in high productivity sands Keyling Fr updip Barnett-1 48 MMBC IF OWC at spill point (-907m 19 MMBO 12 MMBO on DST OD 6 MMBO 55 MMBO (38 MMB of this of Kuriyippi Fm **19 MMBO** proposed Barnett-4 23 MMBO - possil flexed sweet snot) OWC at 1787m Pt Springs Fm Total 194MMB STOIP Potential - Proven Reservoir and Resources (Deterministic STOOIP) Based upon mean low So reservoir parameters (except Barnett-4 based Keyling and flexed Lower Treachery sweet spot)



# WA-442-P, NT/P81 Milligans Fan Oil Play

- Competent Persons Report completed on Milligans Fan oil by ISIS Petroleum Consultants.
- **14 identified leads**, 8 structural traps and 6 combination structural/stratigraphic in nature.
- The Milligans Formation drilled in offshore wells confirm an **active petroleum system;** oil in Turtle-2 and oil and gas in Barnett-2.
- Gross mean unrisked oil in place (STOIIP) of **683 million bbl oil** with a high case of 1.489 **billion bbl** oil in place.
- Gross mean unrisked Prospective Resources of 218 million barrels of oil with the high side case of 505 million barrels of oil.





# WA-442-P NT/P81 Nova Prospect







- Mean gross undiscovered unrisked gas initially in place of 6.93 TCF with an mean unrisked gross prospective gas resource of 3.46 TCF.
- Reservoir:
  - Late Devonian Early Carboniferous Bonaparte Fm sandstones and carbonates
- Trap:
  - 3-way dip and fault structure within a tilted fault block; southwest-dipping reservoirs sealed by Early Carboniferous shales. Areal extent of 470 km<sup>2</sup> with 2,800 m max. vertical relief
- Seal:
  - Combination of Intra-Bonaparte Fm shales and Early Carboniferous shales above unconformity and across northeast bounding fault
- Target Depths:
  - 3,250 3,600 m

### WA-442-P and NT/P81 Seismic Program



- Comprehensive regional and detailed 2D seismic coverage across WA-442-P and NT/81
- 9,200 km of 2D and 600 km<sup>2</sup> of 3D both in and adjacent to WA-442-P & NT/P81
- Tangiers has reprocessed 3,126 km
   2D and 64 km<sup>2</sup> 3D
- Additional 3D program currently being planned to cover all of Nova and to capture Milligans leads

# Australia NT/P83

- Tangiers won NT/P 83 Exploration Permit in August, 2012
- Prospectivity is in Palaeozoic to Mesozoic sediments
- Water depth is less than 200m
- Acreage is surrounded by wells with oil and gas shows
- Large Evans Shoals and Abadi Gas fields to northwest of block
- Initial plan is to run 500 line km of seismic over prospective area





### Proposed Activities



	Future Planned Activities		
Morocco	<ul> <li>Finalise</li> <li>Tarfaya Seismic processing</li> <li>Maturing of Cretaceous leads Apollo, Hermes, Hercules and additional leads; AVO work</li> <li>Farm-out (Macquarie Capital (Europe) Ltd appointed)</li> </ul>	<ul> <li>Plan well campaigns</li> <li>Map new top Jurassic prospects</li> <li>Possible 3D acquisition</li> <li>2 wells</li> </ul>	
Australia	<ul> <li>Finalise</li> <li>Seismic acquisition program</li> <li>Mapping of Messner &amp; Milligans Leads; AVO work</li> <li>Mapping additional deep horizons</li> </ul>	<ul> <li>Farm-out (ISIS Petroleum appointed)</li> <li>Plan seismic and well campaigns</li> <li>3D acquisition</li> <li>2 wells</li> </ul>	
New Project Generation	Evaluation of onshore and shallow water African basins		

# **Forward Strategy**



- Build on existing assets and continue to expand our portfolio
- Focus on Africa (specifically shallowwater and onshore)
- Seek both oil and gas opportunities
- Identify reputable operators for joint ventures

### Corporate Information



#### **Registered Office**

Level 6, 5 Mill Street, Perth WA 6850

#### **Postal Address**

PO Box 7198, Cloisters Square, Perth WA 6850 Telephone: +61 8 9485 0990 Facsimile: +61 8 9322 7211

Web: <u>www.tangierspetroleum.com</u>

#### **Share Registry**

ASX: Computershare Investor Services Pty Ltd

ASX: TPT, TPTOA

AIM: Computershare Investor Services PLC

AIM: TPET

#### Joint AIM Brokers

Shore Capital Stockbrokers Limited

Old Park Lane Capital plc

#### Nominated Advisor RFC Ambrian Limited



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