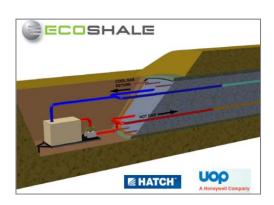
# TomCo Energy plc Oil Mining, USA



- 126 million bbl oil in surface mineable JORC Measured Resource
- 9,800 bopd production facility planned









www.tomcoenergy.uk.com

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### **TomCo Board**



### Sir Nicholas Bonsor Bt DL, Non-Executive Chairman

- Member of British Parliament from 1979 to 1997: chairman of Defence Select Committee 1992-1995 & Minister of State at the Foreign Office 1995-1997
- Currently Non-Executive Chairman, Egerton International Ltd & Metallon plc & Non-Executive Deputy Chairman of London Mining plc



- Formerly CEO of Cassidy Gold Corp & Zambezi Nickel & director of Stellar Diamonds
- Previously fund manager at JP Morgan Investment Management Inc, Citigroup Asset Management & Altima Partners LLP
- BSc(Eng) Mining, MSc(Eng) Mineral Economics from University of Witwatersrand, MBA from the University of Cape Town
- Fellow of Southern African Institute of Mining & Metallurgy & member of the Society of Mining, Metallurgy & Exploration Inc.

### Miikka Haromo, Finance Director

- Previously worked as a partner at Middle Europe Investment & as a corporate finance director at Collins Stewart & Williams de Broe (a member of ING Group)
- Set up & managed BBL Baltic States fund under the BBL/ING fund umbrella
- Masters in Finance & Applied Mathematics from Helsinki University of Technology, CFA charterholder & member of the CFA Society of the UK







# **Investment Highlights**



### Attractive relative valuation \$33m (\$0.26/boe) versus:

- Peer Group comparison (unconventional oils) \$2.19/boe
- Red Leaf Total JV implied valuation \$640m
- Internal project NPV

### High grade resource

- 126 million bbl of oil in surface mineable JORC Measured Resource
- 21.0 gallons of oil per ton of shale
- 32° to 34° API sweet oil
- 9,800 bopd
- Expected life of mine 21 years

# Innovative technology engineered by Hatch & validated by Total's investment in Red Leaf

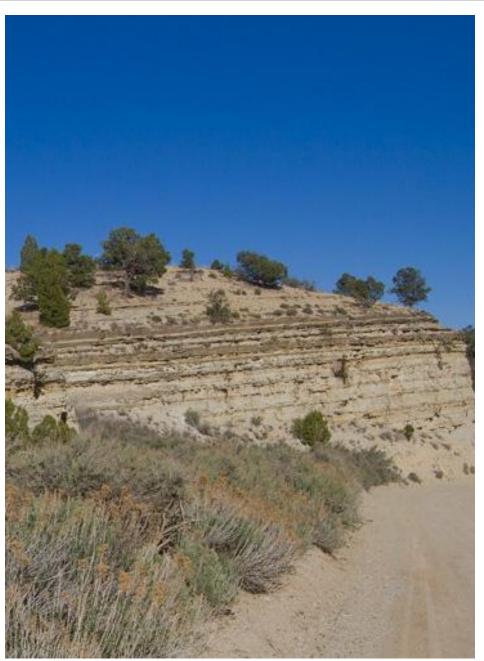
- Total expected Capex of \$263m for 9,800 bopd facility
- Expected Opex of \$37.4/bbl
- Cash flow breakeven of \$50/bbl

### Potential de-risking over next 24-months

- Red Leaf's first oil from EPS project using EcoShale™ planned for early 2014
- Technology advancement/optimisation benefits derived from Total's investment in EcoShale<sup>™</sup> technology

# Burn rate of ~\$6m to expected Red Leaf/Total JV Final Investment Decision (FID)

- · Aim to achieve full permitting of the project
- Intention to get line power on site



## Oil Production from Shale



### Company

- AIM quoted (TOM.L)
- Market Cap: £20m\*

#### Resource

- 2,919 acre (1,000 acre on Holliday Block) leases in Uintah County, Utah
- 126 million bbl of oil in surface mineable JORC Measured Resource
- 100% held Utah State leases expiring December 2024

### **Production**

- Process Technology partner www.RedLeafinc.com
- Surface mined shale placed in EcoShale™ production capsule
  - low energy usage compared to other alternatives
  - concurrent capsule production planned
- 9,800 bopd production facility planned
- Red Leaf own an analogous neighbouring property and have signed a development JV with Total
- TomCo has an exclusive license with Red Leaf in respect of current leases, allows access to all technical reports and know-how
  - TomCo intend to follow Red Leaf directly into production, expecting to benefit through reduced time and cost by using Red Leaf experience





# Oil shale process comparison



### **RETORTS**

- **Surface mining**
- Surface retort facilities





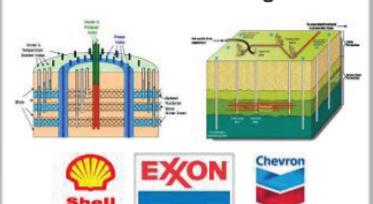






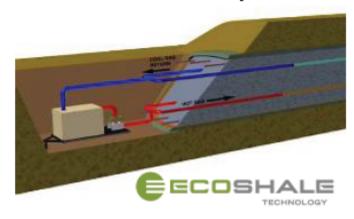
### <u>IN-SITU</u>

- Oil shale in place
- Sub-surface retorting



# **IN-CAPSULE**

- **Surface mining**
- Sub-surface retort process



#### **Pros**

Rapid pyrolysis

### Cons

- Low quality oil
- Emissions
- Water usage
- Low production capacity
- Project lead time

#### **Pros**

 Potential for high production capacity

### Cons

- Potential aguifer contamination
- Water usage
- None successfully tested
- Project lead time
- Pre-commercial production

### **Pros**

- · High quality oil
- Energy efficient
- Low water requirement
- Protects aguifers
- Rapid reclamation
- Lower emissions

#### Cons

• Pre-commercial production

# Green River Oil Shale Formation, USA



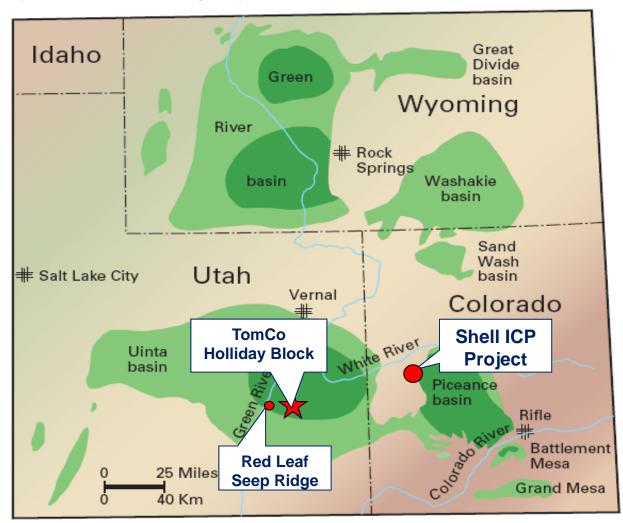
# Green River Formation estimated ~1.5 trillion barrels oil in place Richest layer is the *Mahogany Zone*

#### **TomCo**

- JORC Measured Resource of 126m bbl within Mahogany Zone on TomCo's 1,000 acre Holliday Block
- 21.0 gallons of oil per ton of shale
- Low Life-Of-Mine stripping ratio of 0.9

### **Red Leaf**

- Seep Ridge (15 miles from TomCo)
- EcoShale<sup>™</sup> developed for the region
- Pilot plant completed (some condensate trapped in insulation)
- First production from EPS planned for early 2014
- 90 to 119m bbl resource\*
- 19.9 gallons of oil per ton of shale\*



<sup>\*</sup> Source: Red Leaf Resources

# Red Leaf/Total JV



Total will pay 80% of the first \$400m spent to commercially develop Red Leaf's existing surface mineable Utah assets for a 50% participating interest

 The JV will invest \$200m in an Early Production System (EPS) to prove the commercial scalability of Red Leaf's EcoShale™ process before the FID on the remaining \$200m

Total also invested a further \$25m in Red Leaf common stock as part of Red Leaf's \$100m raise

TomCo invested \$5m in Red Leaf common stock as part of Red Leaf's \$100m raise

 Such Red Leaf financing to be used for its 20% cost share in the JV & for other corporate purposes

Total's commitment of \$320m for its 50% participation in Red Leaf's Utah assets gives third party validation for the potential of EcoShale™

Total currently has the exclusive right amongst majors to use Red Leaf technology



# Planned Commercial Capsule Characteristics



### Expected EcoShale<sup>™</sup> capsule characteristics:

- Capsule dimension 900ft L x 500ft W x 153ft H
- Capsule heated to 725°F (385°C) by circulating air at 900°F (482°C)
- 210-day heating cycle
- First oil at Day-100
- Peak oil at Day-150
- Low grade shale to be used as insulation
- Total production per capsule 686,000 bbl
- 9,800 bopd average production rate
- Annual production 3.58 million bbl (~5.2 capsules)
- EPS capsule is expected to be 75% of commercial capsule



# **Holliday Block – Key Metrics**



### **TAXES & ROYALTIES**

Federal tax	35%
State tax	5%
Utah State tax refund (75% for 20 years)	
Red Leaf royalty	6%

 Production royalty (SITLA): 5% increasing after 5 years by up to 1% pa; 12.5% max; first 200,000 barrels per annum royalty free

### **Expected CAPEX and OPEX**

<ul> <li>Start-up</li> </ul>	Capex	(infrastructure	& 3 cap	sules)	\$263m
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Ongoing Opex:

<ul> <li>Mining, stacking and construction</li> </ul>	\$12.4 / bbl
Transportation	\$9.0 / bbl
Oil collection	\$5.2 / bbl
• Input fuels	\$5.8 / bbl
• Other	\$5.0 / bbl
•TOTAL	\$37.4 / bbl

# Expected TomCo\* & Red Leaf operational outlook



	2012			2013			2014				2015					
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
JORC upgrade to Probable Reserve from Measured Resource																
Permitting applications lodged for large mining and water discharge																
DOGM approval Notice of Intention to Commence Large Mining Operations																
DWQ approval Groundwater Discharge Permit																
Red Leaf/Total JV EPS construction, site mining & commissioning																
Red Leaf/Total JV EPS heating cycle & commercial production																
TomCo Holliday Block full development fund raising																
Red Leaf/Total JV submit plan for continuous commercial development																

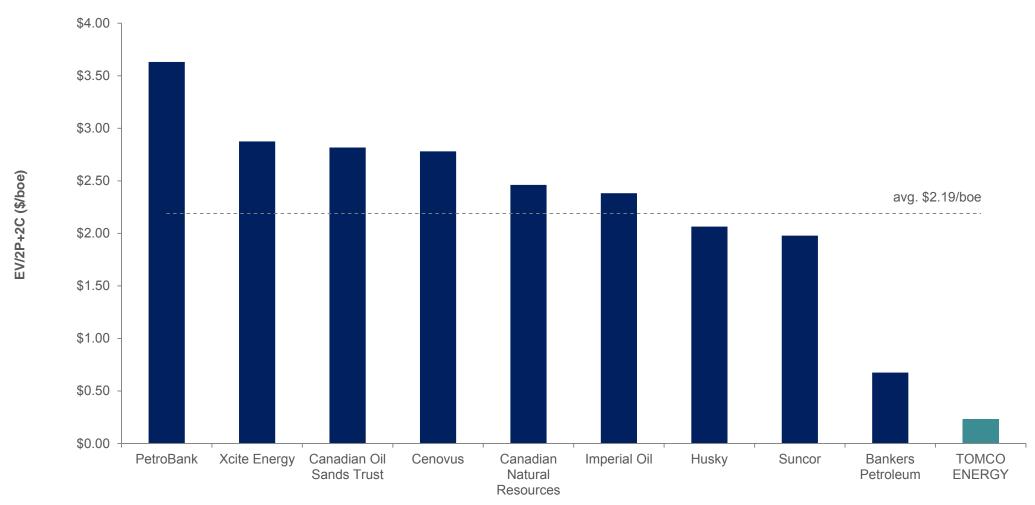
Source: TomCo Energy & Questerre Energy

<sup>\*</sup> TomCo's strategy is to follow Red Leaf into production, TomCo's timetable is therefore dependent on the progress of Red Leaf

# **Relative Valuation**



### Global unconventional oil multiples EV / (2P + 2C) boe



Source: Bloomberg, Company accounts

08-Oct-12

# **Corporate Information**



Share Price: 1.25p (31-Oct-12)

Market Capitalisation: £20m (\$33m)

3-Month Average Daily Liquidity: £38k (30-Oct-12)

Shares:

Issued & Outstanding 1,621,049,218
Fully Diluted 1,686,473,996

% Holding Kenglo One 492,920,548 30.4% Dominic Redfern & Sarah Cooke 167,250,000 10.3% 132,250,000 8.2% Mark Donegan Altima Global Special Situations Fund 84,500,000 5.2% **Douglas Wright** 57,192,382 3.5% 686,936,288 Others 42.4% **Total** 1,621,049,218 100.0%

# Contacts



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# Appendices



# What is Oil Shale?



# Fine grained sedimentary rock rich in organic matter known as kerogen

- Kerogen formed from decaying organic material by heat and pressure in environment similar to conventional oil
- Different from shale oil (i.e. where greater depth, pressure and geologic time has already converted kerogen in the shale to oil)

# 2.8 trillion barrels in place worldwide with 2.1 trillion located in the United States

1.5 trillion barrels located in Utah, Colorado and Wyoming

### Heating in absence of air to produce oil from kerogen

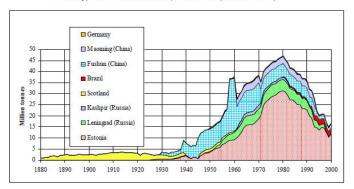
- Produces natural gas, hydrogen, condensate, oil and spent shale
- Either done on surface or subsurface

### Processes to extract oil from shale are well established

- Dates back to the 10<sup>th</sup> Century
- Currently in commercial use in Estonia, China and Brazil



Figure 3.2 Oil shale mined from deposits in Brazil, China, Estonia, Germany, Russia and Scotland, 1880-2000 (Source: USGS)



Source: Red Leaf Resources

# **EcoShale – Mine plan**

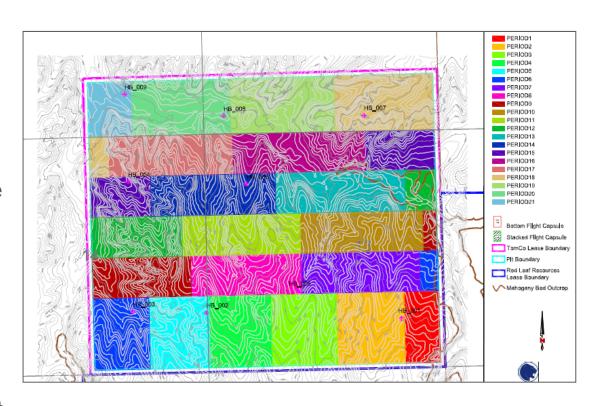


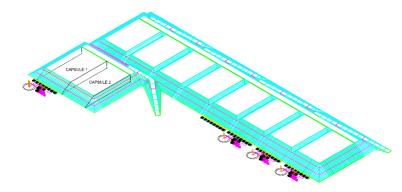
### **Strip Mining Process**

- Preliminary site preparation
- Overburden is stripped, sorted and stockpiled for construction material (design requires overburden)
- Stripped site used for capsule construction
- Designed to minimize handling and distance ore is moved

### **Capsule Construction ~5.2 per year**

- 3 capsules in heating and production phases at all times
- Level production profile
- Capsule functions as its own waste containment





# Seep Ridge Pilot Plant



