

SALTFLEETBY
GAS FIELD.

**UK onshore acquisition** 

**June 2019** 



# SALTFLEETBY GAS FIELD



### Stable gas/condensate production from large onshore field...

**Two Existing Sites with Production Facilities Installed** 

#### **EAST MIDLANDS**

The Saltfleetby Gas Field is located onshore UK at the western extent of the Humber Basin, in the **PEDL005 licence area.** 

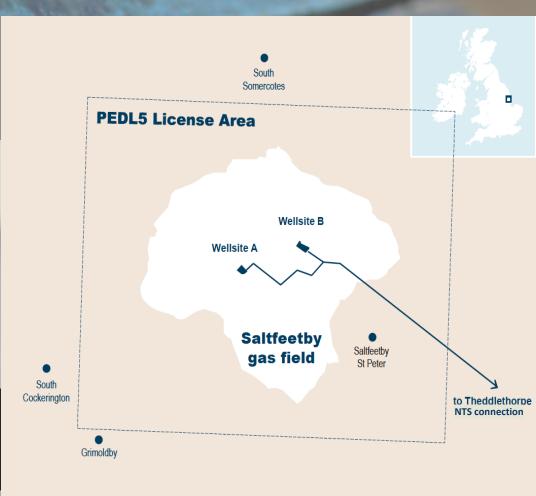
# PRODUCING GAS TO POWER HOMES & BUSINESSES ACROSS THE UK

Before gas was extracted from Saltfleetby, it was the largest onshore gas field in the UK.

Recent stable production rates suggest field life should be able to be extended into the future.

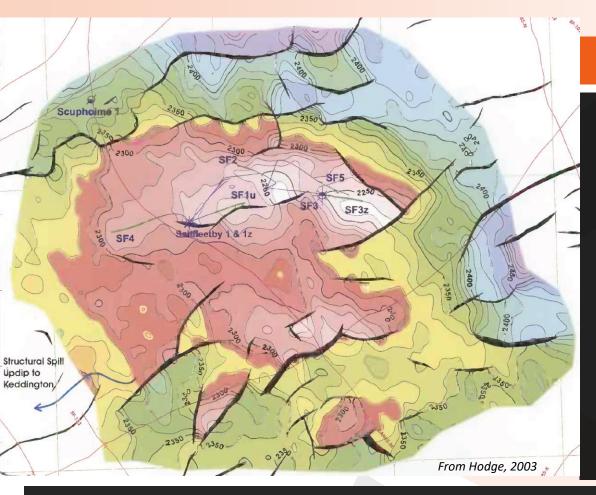
#### **LOCAL FACILITIES**

**NTS Theddlethorpe -** Connection to the National Grid is just 10km away, via a short pipeline already in place.



### **SALTFLEETBY - Structure**





### **Potential Upside**

#### **Untapped Fault Blocks within structure**

- 8 wells already drilled with 7 completed and licensed for production – near horizontals (2 with full core available)
- Proven reservoir comparable with other established oilfields in East Midlands Basin.
   Multiple sources of hydrocarbons including Westphalian coals and organic rich basinal mudstones
- 3D seismic block acquired in 1997-98 with reprocessing in 2003 – high degree of confidence in structural mapping of the field
- Faulting evident leaving good chance of further prospectivity in untapped blocks providing new drilling opportunities

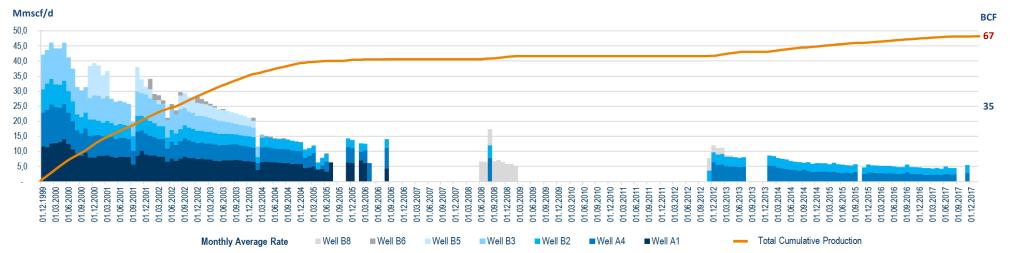
### **Further Prospectivity**

Potential further upside in structures to the South and North West – drilling opportunities

# **SALTFLEETBY - Production**



### Saltfleetby field gas production



#### **HISTORY OF SUCCESS**

- Commercial discovery was made in 1996 after re-entering an exploration well drilled in 1986
- The field was put on stream in December 1999 producing from Early Westphalian sandstones at a depth of 2300m
- In total 8 wells and several sidetracks have been drilled since production first commenced
- Full delineation of field from 3D seismic mapping indicated an in-place estimate of 114 BCF\* of gas

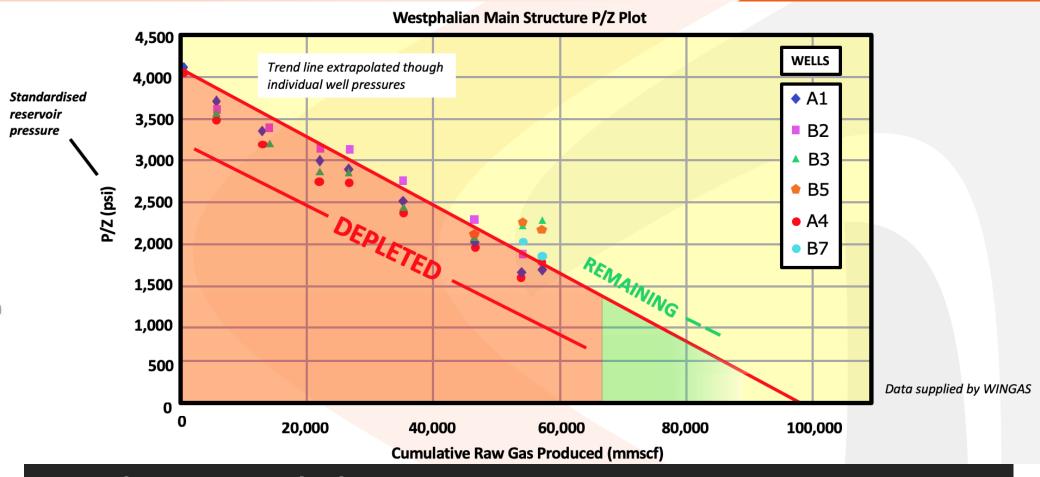
(Source: \*Hodge, T. "The Saltfleetby Field, block L 47/16, licence PEDL 005, onshore UK." *Geological Society, London, Memoirs* 20.1 (2003): 911-919.

### **FUTURE POTENTIAL**

- According to a Field Development Plan prepared for submission to the OGA in 2016, an estimate of an additional **12.7 BCF should be recoverable** from 2 remaining wells in production
- Last producing from 2 wells at approximately **5mmscf/d** when production shut in end of 2017
- 67 BCF of dry gas already produced from Westphalian reservoir with an additional 1.1mmbls of gas condensate
- In Angus' view, with additional workovers and sidetracks, along with optimisation of compression, ultimate recovery could be increased further

# **SALTFLEETBY - Production**



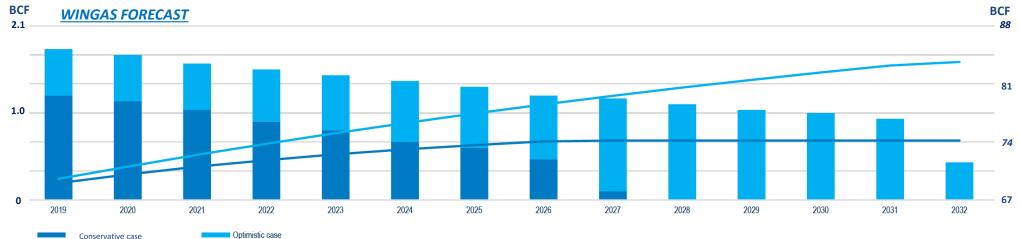


### **Reservoir Pressure Monitoring**

Individual well pressure data suggests that a substantial amount of remaining gas should be recoverable. Angus have considered two future production profiles based on past production trends (see next slide). These indicated that **10 -18 BCF** of gas could be recoverable over a 10 -12 year period. Additionally **100,000-180,000 bbls of gas condensate** would also be recoverable. \*Ultimate recovery will be dependant on future gas price economics and reservoir performance

# SALTFLEETBY - Forecast





### **PRODUCTION FORECAST**

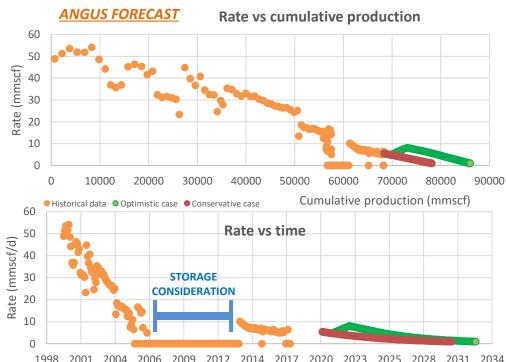
Cumulative production

 WINGAS forecast scenario similarly in line with Angus' internal analysis from historical production data.

Cumulative production

- Conservative scenario assumes unconstrained production with 2 wells running. Decline rate (c. 15%) based on historical production.
- Optimistic case assumes workover activity and bringing new wells online shortly after production start up. Decline rate based on historical production with this number of wells prior to consideration of field for gas storage.
- Under the conservative scenario, the field appears capable of producing 10 BCF over the next 10 years. The optimistic case indicates a production of 18 BCF over 12 years.

\*Ultimate recovery may extend beyond that period, and will be dependent on future gas price economics and reservoir performance



# SALTFLEETBY – Economics



VALUE	CONSERVATIVE (10YR)	OPTIMISTIC (12Y)			
Gas volume (mmscf)	10000	18000			
Gas volume (mm therms)	100	180			
Gross value gas (£M)	50.03	90.54			
Condensate volume (kbls)	100	180			
Gross value condensate (£M) Value condensate = £38/bbl	3.80	6.84			
Angus net share (51%)	£27.4 M	£49.6 M			

ESTIMATED OPERATING COSTS		COST		
<b>Fixed OPEX</b> including staff, contractors, rent, maintenance, security, insurance and licence fees		£1,000,000/annum		
Variable OPEX Including:	Condensate trucking	£8.40/bbl		
	NTS Transmission costs	£38,000/month		
	Water disposal	£49.00/bbl		

<sup>\*</sup>NTS Entry & Commodity charges estimated at £38k/month based on rate of 5.5mmscf/d

NET CASHFLOW (£M)	2020 H2	Y2	Y3	Y4	Y5	Y6 (2025)
CONSERVATIVE	1.8	3.7	3.0	2.4	1.9	1.5
OPTIMISTIC	1.8	4.2	6.2	6.1	4.9	3.8



### **ECONOMIC FORECAST**

- Previous fixed OPEX totaled £1.8M in the year 2018. Angus aims to reduce these costs to approximately £1M by cutting overheads and streamlining the operating process.
- Average natural gas prices over a 10 year period have been used to calculate wholesale value of remaining gas reserves.
- Even under a conservative scenario the total net cash generated over the 10 year field life is £17.6 million.
- The optimistic scenario assumes total net cash generated over the 12 year field life is £36.5 million.

\*These projections are not inclusive of tax or capex requirement

# SALTFLEETBY - Forward Plan



# Theddlethorpe Gas Terminal (TGT) closed in 2018...

#### **SELF-CONTAINED**

Processing was previously carried out by a third party at TGT. Angus will now install in-house processing facilities including compression and dew-point control on site at the Saltfleetby Gas Field.

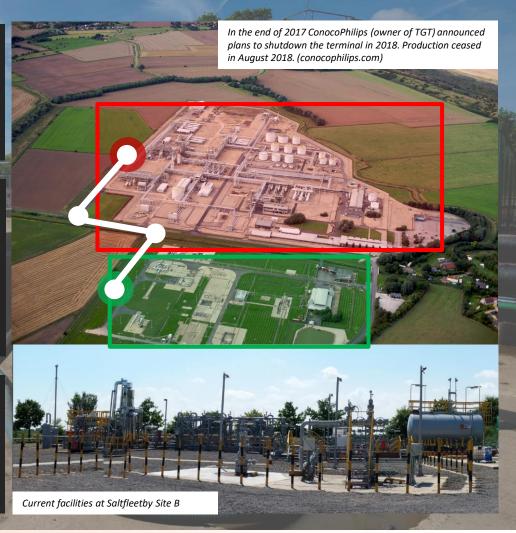
#### PIPELINE TO THEDDLETHORPE

The gas will be treated so that its characteristics fulfill the specifications for the National Grid system which supplies domestic and industrial consumers.

The gas is then transported via pipeline to the National Grid entry point at NTS Theddlethorpe.

#### **NEW CONNECTION**

Minor additional work in the form of a new 10 inch flowline diversion (<1000m) is required. Preliminary discussions with the NTS have taken place – hope to find mutually beneficial agreement in near future.



# SALTFLEETBY - Timeline

\*Timeline estimates are based on Angus' own projections



Start gas production followed by field expansion and new drills

**JUNE 2019** JANUARY 2020 **JANUARY 2021 JULY 2020 NOVEMBER 2020 STUDIES & DESIGN Including NTS connection processes and feasibility PLANNING & APPROVALS Including OGA and HSE approval processes** PROCUREMENT AND CONSTRUCTION **PRODUCTION TARGET** Including pipeline and site facilities Target start up for MAY - AUGUST 2020 **WORKOVER PERIOD Including design and operations FIELD EXPANSION** 

# SALTFLEETBY – Summary



#### **ANGUS ACTION POINTS**

The field presents an opportunity for field rehabilitation and further development. To recommence production we believe the following would be required:

- Reconnection to the National Grid via existing connection point at NTS Theddlethorpe discussions are already underway with the NTS and Angus view this as a reasonably straightforward process
- A short pipeline extension (<1000m) to bypass the old terminal and feed directly into the connection point
- Installation of new hydrocarbon and water dewpoint control. Compression to enable export into the pipeline at reduced wellhead pressures

Once production is successfully restarted there are a number of factors which we believe offer economic upside:

- Past operating costs were high but even at those rates would generate a profit at current gas prices We
  expect to significantly reduce operating costs (OPEX) by reducing overheads which would further extend field
  life and ultimate recovery
- There are low risk drilling opportunities. With many parts of the field left undrilled nearby infill drilling is relatively low risk

#### Abandonment provisions:

A £2.5 million abandonment provision for the Angus share has already been made. Angus has commissioned a plug and abandonment cost estimate which is below this figure