

# **Competent Person's Report**

Conducted for

# **IGas Energy plc**

Ву

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Final

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The Directors
IGas Energy plc
7 Down Street
London W1J 7AJ
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11<sup>th</sup> July 2014

#### Dear Sirs,

In accordance with the instructions of the Directors of IGas Energy plc ("IGas", or "the Client"), Senergy (GB) Limited ("Senergy") has reviewed the interests that IGas holds in its onshore UK oil and gas producing assets including those acquired in 2013. The assets evaluated are listed overleaf and comprise producing fields in the assets. IGas has a 100% equity interest and operatorship in most licences, apart from a few small fields that are operated under a Joint Venture agreement.

Senergy was requested to provide an update to its June 2012 independent evaluation of the recoverable hydrocarbons expected for each asset categorised in accordance with the 2007 Petroleum Resources Management System prepared by the Oil and Gas Reserves Committee of the Society of Petroleum Engineers ("SPE") and reviewed and jointly sponsored by the World Petroleum Council ("WPC"), the American Association of Petroleum Geologists ("AAPG") and the Society of Petroleum Evaluation Engineers ("SPEE").

Recoverable volumes are expressed as gross and / or net technical reserves or resources. Gross reserves or resources are defined as the total estimated petroleum to be produced from the fields evaluated from 1<sup>st</sup> January 2014. Net reserves or resources are defined as that portion of the gross reserves or resources attributable to the interests owned by IGas.

Standard geological and engineering techniques accepted by the petroleum industry were used in estimating recoverable hydrocarbons. These techniques rely on engineering and geo-scientific interpretation and judgement; hence the resources included in this evaluation are estimates only and should not be construed to be exact quantities. It should be recognised that such estimates of hydrocarbon resources may increase or decrease in future if there are changes to the technical interpretation, economic criteria or regulatory requirements. As far as Senergy is aware there are no special factors that would affect the operation of the assets and which would require additional information for their proper appraisal.

The content of this update report and our estimates of reserves and resources are based on new production and cost data provided to us by IGas. Site visits have not been undertaken for this update. Senergy confirms that to our knowledge there has been no material change of circumstances or available information since the report was compiled.

Senergy acknowledges that this report may be included in its entirety, or portions of this report summarised, in documents prepared by IGas and its advisers in connection with commercial or financial activities and that such documents, together with this report, may be filed with any stock exchange and other regulatory body and may be published electronically on websites accessible by the public.

# **Executive Summary**

This report comprises an independent evaluation of the recoverable hydrocarbons for the interests IGas holds in onshore UK oil and gas assets and includes those that were acquired by IGas in 2013. The assets evaluated comprise producing and non-producing fields. IGas holds a working interest in most licences of 100% as well as having operatorship of all licences. The interest holdings of IGas are provided in **Table 1.1**. IGas also owns Coal Bed Methane ("CBM") and shale gas assets in UK licences. These assets have not been included as part of this CPR update.

The volumes reported in the summary tables are those within the licence attributable to the production share of IGas. The individual resources descriptions provide the gross whole field volumes and the volume distribution range for the resources for each opportunity. Where appropriate, gas resources have been converted to an oil equivalent using 5.8 Mscf = 1 boe.

The assets reviewed in this CPR comprise of 25 producing oil and gas fields in the Weald Basin, the East Midlands area and 2013 additions in the Weald Basin and Northeast Scotland. A further 2 non-producing fields in the Weald Basin are included.

The East Midlands area stretches from the East Midlands Shelf to the Gainsborough Trough and the Widmerpool Gulf. The reservoirs are found within the Upper and Basal successions of the Carboniferous era with Westphalian and Namurian sandstones being the main reservoir horizons.

The Weald Basin is located onshore in Southern England, north of the Isle of Wight. The earliest phase of oil migration occurred towards the end of the Lower Cretaceous, the reservoirs are sealed by the Purbeck anhydrite, the Kimmeridge Clay and the Oxford Clay for the Portland Beds, Corallian and Great Oolite reservoirs respectively. The Great Oolite interval is by far the dominant reservoir in the Weald Basin. All producing fields are mature producing assets and many have a water cut of 50% or more.

The data available for this CPR update was limited to historic oil and water production, historic and indicative future cost data, beyond the data that was already available for the Senergy December 2012 CPR. Neither seismic nor static models were provided. As such, forecasts and reserves estimates have largely been based on Decline Curve Analysis. Specifically, estimates for Contingent Resources for the assets acquired from Star Energy in 2011 are based on the RPS 2008 Report, Evaluation of the Onshore UK Assets of Star Energy. A summary of the Reserves and Contingent Resources is provided in the two tables below. A breakdown of Reserves and Contingent Resources by field is provided in **Table 1.2**.

Resources Net to IGas <sup>1</sup>					
Proved plus Probable (2P) 2C <sup>2</sup>					
Volume Oil (MMstb)	Reserves	Contingent Resources			
UK producing assets	12.48	9.42			
Total Oil (MMstb)	12.48	9.42			
Volume Gas (Bscf) <sup>3</sup>					
Gainsborough/Beckingham	2.63	N/A			
Albury	2.64	N/A			
Godley Bridge	0.00	5.60			
Singleton	0.65	N/A			
Total Gas (Bscf)	5.92	5.60			
Total Hydrocarbons (MMboe)	13.50	10.38			

Reserves Net to IGas						
Asset	Proved (1P)	Proved plus Probable plus Possible (3P)				
Volume Oil (MMstb)						
UK producing assets	7.77	12.48	17.20			
Total Oil (MMstb)	7.77	12.48	17.20			
Volume Gas (Bscf)						
Gainsborough/Beckingham	1.45	2.63	3.24			
Albury	1.58	2.64	3.02			
Singleton	0.42	0.65	1.48			
Total Gas (Bscf)	3.45	5.92	7.74			
Total Hydrocarbons (MMboe)	8.37	13.50	18.54			

The licences on a number of these fields were due to expire in the near future and if applying PRMS rules strictly, Senergy would not be able to assign Reserves to such resources. However, we have received reassurance from IGas that these licences are very likely to be extended in a straightforward manner and as such Senergy has not discounted any resources on this basis.

The produced gas is currently used to generate power for internal consumption, with a proportion at Gainsborough/Beckingham and Singleton utilised to generate electricity for sale into the UK grid. Due to power generation capacity limitations, fairly constant amounts of gas have been produced and converted to power for sale to the UK grid in the recent past. Only the gas produced for sale as power has been included in the gas Reserves.

Economic analysis was undertaken to establish the economic cut-offs for the reserves.

<sup>&</sup>lt;sup>1</sup> The proportion of gross commercial reserves, resources or value for the attributable interests of IGas.
<sup>2</sup> 2C: in a resource size distribution this is the Base case or P<sub>2</sub>, (50% probability) or Mean volume. This

<sup>&</sup>lt;sup>2</sup> 2C: in a resource size distribution this is the Base case or P<sub>50</sub> (50% probability) or Mean volume. This is defined for each asset in the body of the report.

<sup>&</sup>lt;sup>3</sup> Commercial gas reserves are calculated on the basis of the gas being used as fuel to generate power and this power being sold in the market

## **Assessment Approach and Standards Applied**

The technically recoverable volumes presented in this report are based on a review of the independent interpretations conducted on the assets.

Reserves and resources are reported at estimated economic or technical cut-off rates agreed with IGas and are otherwise derived according to the 2007 Petroleum Resources Management System prepared by the Oil and Gas Reserves Committee of the Society of Petroleum Engineers ("SPE") and reviewed and jointly sponsored by the World Petroleum Council ("WPC"), the American Association of Petroleum Geologists ("AAPG") and the Society of Petroleum Evaluation Engineers ("SPEE").

#### **Professional Qualifications**

Senergy (GB) Limited is a privately owned independent consulting company established in 1990, with offices in Aberdeen, London, Stavanger, Abu Dhabi, Kuala Lumpur, and Perth. The company specialises in petroleum reservoir engineering, geology and geophysics and petroleum economics. All of these services are supplied under an accredited ISO9001 quality assurance system. Except for the provision of professional services on a fee basis, Senergy has no commercial arrangement with any person or company involved in the interest that is the subject of this report.

J Allan Spencer is a Qualified Reserves Auditor for Senergy and was responsible for supervising this evaluation. He is a professional petroleum engineer with over 43 years of oil industry experience gained in major international companies and within Senergy. He is a member of the Energy Institute and of the Society of Petroleum Engineers.

J Allan Spencer, B.Sc. (Hons), E.I., SPE.

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Qualified Reserves Auditor For and on behalf of Senergy (GB) Limited

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Appendix 1 Certificate of Qualification of Oil and Gas Reserves Auditor

## 1 Introduction

This report was prepared by Senergy (GB) Limited (Senergy) in February 2014 at the request of the Directors of IGas. It consists of an evaluation of the interests held by IGas in onshore UK oil and gas producing assets (**Figure 1.1** and **Figure 1.2**), and includes acquisitions of the Singleton and Lybster fields in 2013. The data available for review varied depending on the asset and is noted in the body of the report for each asset.

Senergy was requested to provide an update to its independent evaluation of the recoverable hydrocarbons expected for each asset based on production to 31<sup>st</sup> December 2013. The report details the concession interests (**Table 1.1**) and the reserves and contingent resources attributable to the assets (**Table 1.2**).

# 1.1 Evaluation Methodology

Standard geological and engineering techniques accepted by the petroleum industry were used in estimating recoverable hydrocarbons. These techniques rely on engineering and geo-scientific interpretation and judgement; hence the resources included in this evaluation are estimates only and should not be construed to be exact quantities. It should be recognised that such estimates of hydrocarbon resources may increase or decrease in future if there are changes to the technical interpretation, economic criteria or regulatory requirements.

The Proved (1P), Proved plus Probable (2P) and Proved plus Probable plus Possible (3P) volume estimates have been derived using a deterministic approach for respectively a Low, Best and High future recovery estimate as explained in **Section 2**. The PRMS standards and quidelines have been applied to this evaluation.

In this report gas volumes are reported in billions of standard cubic feet (Bscf), condensate and oil volumes in millions of stock tank barrels (MMstb).

The AIM definition of Risk Factor for Contingent Resources is the estimated chance, or probability, that the volumes will be commercially extracted.

#### 1.2 Sources of Information

In conducting this review we have utilised information and interpretations supplied by IGas, comprising petroleum and water production data, geological, geophysical, engineering and other technical data and cost and commercial data presented by the operator. We have reviewed the information provided and modified assumptions where we considered this to be appropriate. We have accepted, without independent verification, the accuracy and completeness of this data.

Senergy has had access to a set of interpreted data and has not attempted a systematic review of raw data (either well logs or seismic) but has performed a critical assessment of the existing interpretation work supplied in the database. This interpretation of the assets has largely focused on previous interpretations by third parties and on Decline Curve Analysis (DCA) based on historical production data. The database available for each asset is described in more detail in the field description sections of this report.

### 1.3 Concession Details

The assets are located onshore UK (**Figure 1.1** and **Figure 1.2**). **Table 1.1** provides details of the licences held by IGas. Although a number of licences on the assets will expire before the expected end of economic field life, IGas management has assured Senergy that it is very likely that these licences will be extended or renewed by the UK authorities. We have therefore not cut-off our production profiles or revenue estimates based on licence terminations. However, we advise the investor to perform his own due diligence in this regard.

#### 1.4 Economics

Economic analysis was undertaken to establish the economic cut-offs for the reserves.

# 1.5 Requirements

In accordance with your instructions to us we confirm that:

- We are professionally qualified and a member in good standing of a self-regulatory organisation of engineers and / or geoscientists;
- We have at least five years relevant experience in the estimation, assessment and evaluation of oil and gas assets;
- We are independent of IGas, their directors, senior management and advisers;
- We will be remunerated by way of a time-based fee and not by way of a fee that is linked to the value of IGas;
- We are not a sole practitioner;
- We have the relevant and appropriate qualifications, experience and technical knowledge to appraise professionally and independently the assets, being all assets, concessions, joint ventures or other arrangements owned by IGas or proposed to be exploited or utilised by it ("Assets") and liabilities, being all liabilities, royalty payments, contractual agreements and minimum funding requirements relating to the IGas' work programme and Assets ("Liabilities").

# 1.6 Standards Applied

In compiling this report we have used the definitions and guidelines set out in the 2007 Petroleum Resources Management System prepared by the Oil and Gas Reserves Committee of the Society of Petroleum Engineers (SPE) and reviewed and jointly sponsored by the World Petroleum Council (WPC), the American Association of Petroleum Geologists (AAPG) and the Society of Petroleum Evaluation Engineers (SPEE). The results of this work have been presented in accordance with the requirements of AIM, a Market operated by the London Stock Exchange, in particular as described in the "Note for Mining and Oil and Gas Companies - June 2009".

# 1.7 No Material Change

Senergy confirms that to its knowledge there has been no material change of circumstances or available information since the report was compiled and we are not aware of any significant

matters arising from our evaluation that are not covered within this report which might be of a material nature with respect to this review.

#### 1.8 Site Visit

Site visits to the IGas operations have been conducted as part of the 2011 CPR. No site visits have been conducted for this update report.

# 1.9 Liability

All interpretations and conclusions presented herein are opinions based on inferences from geological, geophysical, engineering or other data. The report represents Senergy's best professional judgment and should not be considered a guarantee of results. The use of this material and report is at the user's own discretion and risk.

#### 1.10 Consent

We hereby consent, and have not revoked such consent to:

- the inclusion of this report, and a summary of portions of this report, in documents prepared by IGas and their advisers;
- the filing of this report with any stock exchange and other regulatory authority;
- the electronic publication of this report on websites accessible by the public, including a website of IGas; and
- the inclusion of our name in documents prepared in connection with commercial or financial activities.

The report relates specifically and solely to the subject assets and is conditional upon various assumptions that are described herein. The report must therefore, be read in its entirety. This report was provided for the sole use of IGas on a fee basis. Except with the express written consent of Senergy this report may not be reproduced or redistributed, in whole or in part, to any other person or published, in whole or in part, for any other purpose.

# 2 Technical Assessment

#### 2.1 Data Available

Production data for 27 fields to 31<sup>st</sup> December 2013 was provided on a field-by-field basis, over and above the data that was already in Senergy's possession as part of the 2011 CPR and the June 2012 Update CPR (**Reference 1**). These new data were usually provided as an average daily oil production rate for the month, a water cut and cumulative oil production volume. In some cases monthly production volumes were provided instead of average daily rates. Production data were not available for the Albury gas field.

Besides the production and injection data, the other key piece of technical information available was an independent Reserves Evaluation Report conducted by RPS in 2008 (**Reference 2**). This report has been relied on for most of the historical background and geological understanding about these fields in this CPR.

Limited documentation was available to review the sub-surface details of the fields and the uncertainties associated with them. Considering the mature nature of most of the fields, Senergy's analysis has relied on the available production performance of the fields. As such, no assessment of prospective resources could be done. Contingent Resources have been analysed based on the resources in the RPS report and on any reported developments since. No development plans were provided.

# 2.2 Methodology

Senergy has primarily based its evaluation on Production DCA. This has been done on a field basis using average daily production rates for each month. It has been assumed that effects of downtime, routine maintenance work and other such activity are, by their nature, implicit in this average production history.

The methodology followed in this DCA covers a range of production forecasts based on historical and / or recent production performance of the individual fields. This range of forecasts is categorised as Proved (1P), Proved plus Probable (2P) and Proved plus Probable plus Possible (3P) based on the level of uncertainty attached to each in accordance with the PRMS definitions. Apart from where indicated otherwise, this range has been generated using an exponential type of decline for the 1P and 2P cases, and hyperbolic decline for the 3P cases.

The production forecast profiles reported in this section are projecting 35 years and assuming 100% equity. Profiles have been provided in **Tables 2.1** through to **2.26** and result in Technical Reserves as specified in the following paragraphs. For Commercial Reserves calculations, economic or commercial cut-offs have been applied (**Table 1.2**).

Contingent resources categorised by RPS have been reviewed and commented upon. For Baxters Copse and Godley Bridge previous studies were reviewed. Upside opportunities, that cannot currently be categorised by the above range, have been identified where possible. Senergy did not develop production profiles for the Contingent Resources. Neither has Senergy added any incremental activity into the development plan and related economics to account for the development of Prospective Resources.

### 2.3 East Midland Fields

The East Midlands area stretches from the East Midlands Shelf to the Gainsborough Trough and the Widmerpool Gulf (**Figure 2.1**). The fields included in this analysis from this area are Bothamsall, Cold Hanworth, Corringham, East Glentworth, Egmanton, Gainsborough / Beckingham, Glentworth, Long Clawson, Nettleham, Rempstone, Scampton, Scampton North, Stainton, South Leverton and Welton.

The East Midlands reservoirs are found within the Upper and Basal successions of the Carboniferous era with Westphalian and Namurian sandstones being the main reservoir horizons. These are regionally extensive and represent a series of stacked fluvial channels within a deltaic environment. The traps are fault controlled and associated with the formation of the NE-SW Gainsborough Trough.

All these fields are mature producing assets with extensive production history data available. Many of the fields have wells that are producing at 50% water cut or more. There may be infill and sidetrack opportunities that still exist for some fields.

### 2.3.1 Bothamsall

Bothamsall lies in a highly faulted structure and produces from the lower Westphalian Sub-Alton and the Crawshaw sandstone. The Sub-Alton sandstone is thicker on the northern flank and gets thinner and inter-bedded with shales and mudstone in the south. It is the most prolific producing reservoir in the field. The Crawshaw sand is interpreted as a fluvial body and shows general thickening southwards.

Bothamsall was discovered in 1958 and thirteen wells were drilled to develop the field. Peak production of over 500 standard barrels of oil per day (bopd) was achieved in 1966 and since then the field has produced at a steady decline. For the past 10 to 15 years the production decline trend has flattened and water cut has steadily risen to 60%.

Currently the field produces between 30 to 40 bopd typically and is expected to continue on this trend in the near future assuming nothing changes in terms of producing wells and facility operations. The production history of the field is presented in **Figure 2.2**. Gas production data were unavailable for Bothamsall.

Until the end of December 2013, the field had produced a total of 3.144 MMbbl. There are currently no known plans of drilling any future wells.

Bothamsall is towards the latter stage of its decline and remaining potential is limited. DCA was applied to the recent production history to determine a range of forecasts. These are presented in **Table 2.1** and **Figure 2.3**. Corresponding remaining reserves are as follows:

Gross Reserves (MMbbl)	1P	2P	3P
Bothamsall	0.174	0.237	0.298

The Namurian Chatsworth Grit, which is a deeper sand, has also tested oil on this structure and may hold upside potential for this field.

#### 2.3.2 Cold Hanworth

Cold Hanworth was discovered in April 1996 and produces from the Westphalian Basal Succession sand unit. Significant fracture system exists at and around the crest of the structure which has resulted in high water production from crestal well CH-07.

The field came on production at around 350 bopd and peaked at around 500 bopd in 2003. Since then it has shown a largely steady decline with current production levels between 80 to over 100 bopd with water cuts in excess of 70%. GOR has remained quite uniform and at low levels. Field production history of the field is given in **Figure 2.4**.

Until the end of December 2013, the field had produced a total of 0.914 MMbbl of oil.

There is a chance of well failure because of increase in water production through the fracture network which could lead to a loss of current production levels. Typical oil quality is about 28° API. There are currently no known firm plans of drilling any future wells.

DCA was applied to the recent production history to determine a range of forecasts. These are presented in **Table 2.2** and **Figure 2.5**. Corresponding remaining reserves are as follows:

Gross Reserves (MMbbl)	1P	2P	3P
Cold Hanworth	0.136	0.244	0.373

# 2.3.3 Corringham

The Corringham field was discovered in 1958. Field appraisal demonstrated that the Corringham structure contained a number of possible reservoir zones within three main fault blocks. The principal producing horizons are the Silkstone and the Chatsworth reservoirs.

The field was shut-in from 1964 to 1973 due to legal issues. Infill drilling based on seismic and reservoir review sustained production levels around 60 bopd with a water cut of 11% up to the end of the 1980's.

There was a sharp rise in production in 1990 peaking up to 400 bopd with the drilling of the CR-12 well which was completed in the Lower Chatsworth reservoir and the CR-5 well which was hydraulically fractured in the Silkstone reservoir.

Since then the field has shown a steady decline in production even after re-instatement of water injection in 1997 (pressure depletion was confirmed for the Silkstone reservoir).

Currently the field produces at a rate of 45 to 60 bopd with 60% water cut. Minimal gas production data is available for this field. Production history of the field is shown in **Figure 2.6**. No firm plans of any new wells are currently known. A side-track was tentatively planned by the previous operator that could be treated as part of any Contingent Resources (associated 0.100 MMbbl).

The total oil produced from Corringham up to the end of December 2013 is 1.722 MMbbl.

DCA was applied to the recent production history to determine a range of forecasts. These are presented in **Table 2.3** and **Figure 2.7**. Corresponding remaining reserves are as follows:

Gross Reserves (MMbbl)	1P	2P	3P	Contingent Resources
Corringham	0.204	0.238	0.355	0.242

RPS assigned 0.242 MMbbl Contingent Resources to a sidetrack of CR-11 to a more crestal location close to the CR-7 well. This well has not yet been drilled and, therefore, the Contingent Resources remain unchanged.

#### 2.3.4 East Glentworth

East Glentworth is an easterly extension of the Glentworth field. The structure is a four-way dip closure rollover anticline and the hydrocarbon bearing reservoir is the Westphalian C Mexborough Formation.

The field was discovered in 1987 and production started in 1993. In 2004, East Glentworth-2 was drilled and started production at 120 bopd. Since then the field has followed a steady decline and currently produces between 30 to 40 bopd with a water cut of 40%. The GOR data is uncertain and may be due to corrections realised / applied later in the life of the field. Production history for the field is shown in **Figure 2.8**. No firm plans of any new wells in the near future are known.

Cumulative oil production to end December 2013 was 0.291 MMbbl.

DCA was applied to the recent production history to determine a range of forecasts. These are presented in **Table 2.4** and **Figure 2.9**. Corresponding remaining reserves are as follows:

Gross Reserves (MMbbl)	1P	2P	3P	Contingent Resources
East Glentworth	0.067	0.085	0.173	0.376

RPS assigned Contingent Resources of 0.3758 MMbbl to two new wells to drain extra reserves based on uncertainty in STOIIP. As no wells have been drilled in East Glentworth, the Contingent Resources are still in place.

## 2.3.5 Egmanton

The Egmanton field was discovered in 1955 and produced from the Upper Namurian and Lower Westphalian A fluvial deltaic sandstones. Production peaked in 1958 at over 900 bopd. Water flooding has been used from quite early on (started in 1960) and acid stimulation was carried out on producers in July 2005. These have resulted in arresting the production decline over time but presently the field is in its last stages of depletion.

During the last 12 months under review, field production averaged 6 bopd with the water cut reaching 80%. In total, the field has produced 3.579 MMbbl of oil until the end of December 2013. Production history of the field is presented in **Figure 2.10**. No new wells are planned considering the depletion stage of this field.

DCA was applied to the recent production history to determine a range of forecasts. These are presented in **Table 2.5** and **Figure 2.11**. Corresponding remaining reserves are as follows:

Gross Reserves (MMbbl)	1P	2P	3P
Egmanton	0.001	0.007	0.011

## 2.3.6 Gainsborough / Beckingham

The Gainsborough field was discovered in 1959 and the extension, Beckingham, in 1964. The most important reservoir intervals are the Eagle Sandstone (Westphalian B), the Donald Sandstone (Westphalian A), the Flood Sandstone (Namurian) and the Condor.

**Figure 2.12** shows a top structure map of the field. The field structure consists of an east-west oriented faulted anticline, tilted to the east. North Gainsborough has a gas cap at the eastern flank, which is structurally deeper than the crest of the structure, with an underlying oil leg. South West Gainsborough and East Beckingham are characterised by high quality reservoir and higher cumulative productions per well. West Beckingham is characterised by an east-west trending reservoir system divided by north-south trending faults.

**Figure 2.13** presents the historical production data for the field. Oil production peaked over 1,300 bopd in the early 1980's and since then has declined relatively steadily. However, intermittent production spikes are seen which are typically reminiscent of new wells coming on stream. In early 2000, decline arrested for sometime before returning to historical trend but the exact reason for this is not known. Currently, the field is producing around 185 bopd with a water cut of about 60%.

As of the end of December 2013, the field had produced a total of 12.368 MMbbl of oil.

There is free gas production from the gas cap besides associated gas production from the field. However, no gas production data is available as a reliable basis for DCA.

Onsite power generation provides power not only for operations but also for export to the GB grid. Nominal installed generating capacity is 8 MW, utilising approximately 1.6 MMscf/d of both free and associated gas. Current gas production is approximately 400 Mscf/d, of which 140 Mscf/d (0.7 MWh) is used internally and the remaining 260 Mscf/d (1.3 MWh) is exported into the GB grid.

DCA was applied to the recent production history to determine a range of forecasts. This has been done on a field level rather than on a reservoir, compartment or well level because of uncertainties in production allocation. These are presented in **Table 2.6** and **Figure 2.14**. Corresponding remaining reserves are as follows:

Gross Reserves (MMbbl)	1P	2P	3P	Contingent Resources
Gainsborough/Beckingham	0.477	0.840	1.009	0.200

The previous operator carried two tentative side tracks and assigned 0.2 MMbbl of resources, which we have retained in this CPR. These have been recognised as Contingent Resources in this work.

Gainsborough / Beckingham oil production has been above forecast due to improved well performance and this is reflected in an upward reserves revision of 0.33 MMbbl since the last review in July 2012.

For the case of gas, there is insufficient pressure data to perform any material balance and DCA is considered impractical due to the fact that the gas production rates are constrained by power generation requirements.

In the recent years, slightly over 100 MMscf per year of the produced gas has been used for gas to power generation and sold to the UK grid. Given the generation capacity limitation, the gas estimated profiles are depicted in **Table 2.7.** The table below lists the remaining gas reserves.

Gross Gas Reserves (Bscf)	1P	2P	3P
Gainsborough / Beckingham	1.45	2.63	3.24

#### 2.3.7 Glentworth

The Glentworth field was discovered in 1961. The field is a four-way dip closure and the producing reservoir is the Mexborough Rock. Following five appraisal wells, the field was shut down between 1965 and 1971. Upon recommencement of production horizontal sidetracks in 1992 and 1993 (Glentworth 1 and Glentworth 8) and new horizontal wells in 1996 and 1997 (Glentworth-10 and Glentworth-11z) yielded significant enhancements in production levels.

Currently, the field is producing typically at rates of 100 bopd with a water cut of around 40%. In total, Glentworth had produced 1.727 MMbbl of oil by the end of December 2013. Production history for the field is shown in **Figure 2.15**.

DCA was applied to the recent production history to come up with a range of forecasts. These are presented in **Table 2.8** and **Figure 2.16**. Corresponding remaining reserves are as follows:

Gross Reserves (MMbbl)	1P	2P	3P	Contingent Resources
Glentworth	0.509	0.616	0.738	0.288

RPS had assigned Contingent Resources of 288.3 Mbbl to Glentworth based on a new well drilled in the field, most probably a step-out to the south west area. As this well has not yet been drilled the Contingent Resources are still in place.

## 2.3.8 Long Clawson

The Long Clawson field was discovered in 1986 and soon peaked at over 1,000 bopd. The field declined to rates of less than 250 bopd by 1992 and has been producing at quite stable rates since then.

The field consists of reservoirs in laterally variable delta-top sand bodies within the late Namurian Rough Rock, Longshaw Grit, Chatsworth Grit and Ashover Grit. The structure is a four-way dip closure, although the trapping mechanism probably combines structural and stratigraphic elements.

After four development wells and two re-drills, the field is currently producing at about 80 bopd with a water cut of around 40%. The production history plot is presented in **Figure 2.17**. No gas production data for the field was available.

In total, the field had produced 1.342 MMbbl by the end of December 2013.

DCA has been conducted for Long Clawson and production forecasts generated covering a range of 1P, 2P and 3P cases. These are presented in **Table 2.9** and **Figure 2.18**. Corresponding remaining reserves are as follows:

Gross Reserves (MMbbl)	1P	2P	3P	Contingent Resources
Long Clawson	0.273	0.323	0.456	0.238

RPS assigned Contingent Resources of 0.238 MMbbl to this field based on a new well proposed by the operator for 2008. The operator does not have any firm plans at present for a new well in this field.

#### 2.3.9 Nettleham

The Nettleham field started production in 1984 from Westphalian sandstone. Wells NET-02, NET-04 and NET-06Z produced from the Basal Succession. Well NET-06Z was shut-in due to low oil production in 2005.

The field produces intermittently at less than 5 bopd and with a water cut of over 95%. Production history for the field is shown in **Figure 2.19**. The field was not producing at the time of this report.

In total, Nettleham had produced 1.577 MMbbl by the end of December 2013.

DCA has been conducted for Nettleham and production forecasts generated covering a range of 1P, 2P and 3P cases. These are presented in **Table 2.10** and **Figure 2.18**. Corresponding remaining Reserves are as follows:

Gross Reserves (MMbbl)	1P	2P	3P
Nettleham	0.001	0.002	0.006

## 2.3.10 Rempstone

The Rempstone field was discovered in 1991. It consists of a series of oil and gas reservoirs in a stacked sequence of laterally variable turbidite sandstones within the early Namurian Rempstone Formation. Oil is produced from the H and C sandstones. The H sand has an oil leg with a crestal gas cap and a down dip oil water contact (OWC). There is considerable uncertainty in the fluid contacts determination and hence in the oil volumes in the H sand.

In 1995, the initial wells, Rempstone-1 and -2z, were redrilled as horizontal wells and renamed as Rempstone 3 and -4, respectively. Both wells were tested by two ninety day test periods. Rempstone-1 produced 6,311 stb of oil and was completed as a C sand producer. Rempstone-2z tested 1,277 stb oil and 731 stb water during the second test but was never put on production due to mechanical problems shortly after the test.

Pressure information showed that the reservoir pressure was anomalously low in the second well (815 psia as against 920 psia in the Rempstone-1 well). The operator suggested a permeability barrier between the two wells to explain this.

Currently, Rempston-1 (or -3) produces at about 10 bopd with a water cut approaching 80%. Senergy concludes that the field is in its final stages of depletion. Production history is presented in **Figure 2.21**.

In total, Rempstone had produced 0.255 MMbbl of oil by the end of December 2013.

DCA was applied to the recent production history to determine a range of forecasts. The profiles are presented in **Table 2.11** and **Figure 2.22**. Corresponding remaining reserves are as follows:

Gross Reserves (MMbbl)	1P	2P	3P
Rempstone	0.054	0.058	0.082

#### 2.3.11 Scampton

SC-02 and SC-03 are the two producers in Scampton. The field started production in January 1996 and right away peaked at 190 bopd, but soon declined to 20 bopd. This led to field shut-down in April 1998. SC-02 came back on production in August 2001 for a period of three months before being shut-in again.

Since November 2004, SC-02 has been on production and currently produces in a slug regime with an average of around 5 bopd with water cut varying around 75%. Historical production is shown in **Figure 2.23**.

Cumulative oil production to the end of December 2013 is 0.105 MMbbl.

DCA was applied to the recent production history to determine a range of forecasts. These are presented in **Table 2.12** and **Figure 2.24**. Corresponding remaining Reserves are as follows:

Gross Reserves (MMbbl)	1P	2P	3P
Scampton	0.005	0.019	0.036

## 2.3.12 Scampton North

Scampton North started producing from February 1986. Nine wells have been drilled on the structure to date. The wells produce from several units in the Basal Succession: 1, 2b, 2c, 2d and 3b.

Peak production was achieved in February 1990 at approximately 800 bopd. As of November 2007, three wells (B02, C06 and C09) were on production. Currently the field is producing at a rate of approximately 110 bopd with a water cut increasing to 40%. Production history for the field is presented in **Figure 2.25**.

In total, the field had produced 2.042 MMbbl of oil by the end of December 2013.

DCA has been conducted for Scampton North and production forecasts generated covering a range of 1P, 2P and 3P cases. These are presented in **Table 2.13** and **Figure 2.26**. Corresponding remaining Reserves are as follows:

Gross Reserves (MMbbl)	1P	2P	3P
Scampton North	0.487	0.617	0.840

#### 2.3.13 Stainton

The Stainton field was discovered in 1984 and has been producing from well ST-01 since then. This well tested dry oil from an early Westphalian sandstone, now referred to as Unit 2 of the Basal Succession. Two appraisal wells, ST-2 and ST-3, drilled on the structure were unsuccessful, neither encountering hydrocarbons and the field has continued as a single well development.

Peak production was approximately 120 bopd in July 1987. Currently the field is producing approximately 9 bopd intermittently with a water cut of about 50%. Field production history is shown in **Figure 2.27**.

Cumulative production to end of December 2013 is 0.214 MMbbl.

DCA was applied to the recent production history to determine a range of forecasts. These are presented in **Table 2.14** and **Figure 2.28**. Corresponding remaining reserves are as follows:

Gross Reserves (MMbbl)	1P	2P	3P
Stainton	0.015	0.026	0.056

#### 2.3.14 South Leverton

The South Leverton field was discovered in 1960 with production starting in the same year and peaking in 1961 at over 200 bopd.

The field has only produced a few barrels intermittently since the start of 2011. Current production averages 4 bopd with a 75% water cut from one producer. Production history for the field is shown in **Figure 2.29**.

Cumulative production to end December 2013 was recorded at 0.508 MMbbl.

DCA was applied to the recent production history to determine a range of forecasts. These are presented in **Table 2.15** and **Figure 2.30**. Corresponding remaining reserves are as follows:

Gross Technical Reserves (MMbbl)	1P	2P	3P
South Leverton	0.001	0.002	0.015

### 2.3.15 Welton

The Welton field started production in August 1981. There have been over 60 wells drilled on the structure to date which produce from several formations; the Basal Succession consisting of several producing units, the Upper Succession consisting of the Tupton unit, the Brinsley Abdy, the Deep Soft Rock and the Deep Hard Rock.

Peak production was achieved in December 1990 at approximately 3,700 bopd. Since 1997, oil production has been declining steadily. Currently 29 wells are on production.

Currently, the field is producing around 600 bopd with a water cut of 75%. Production history for the field is shown in **Figure 2.31**.

Cumulative production to end December 2013 was recorded at 18.394 MMbbl.

DCA has been conducted and production forecasts generated covering a range of 1P, 2P and 3P cases. These are presented in **Table 2.16** and **Figure 2.32**. Corresponding remaining Reserves are as follows:

Gross Reserves (MMbbl)	1P	2P	3P
Welton	2.086	2.962	3.772

Welton oil production has been above forecast due to improved well performance and this is reflected in an upward reserves revision of 0.63 MMbbl since the last review in July 2012.

### 2.4 Weald Basin Fields

The Weald Basin is located in southeast England, north of the Isle of Wight (**Figure 2.33**) and includes the fields of Albury, Avington, Bletchingley, Goodworth, Horndean, Palmers Wood, Singleton, Storrington and Stockbridge.

The Weald Basin (**Reference 3 and 4**) forms an easterly extension to the Wessex Basin (which is considered to be restricted to the areas of thick Triassic and Lower Jurassic rocks underlying Dorset, Somerset and parts of Wiltshire). It is bounded to the north and east by the London-Brabant Massif (**Figure 2.34**) and is separated from the Central Channel Basin and the Paris Basin by a regional arch, the Portsdown-Paris Plage ridge.

The Weald Basin contains a number of clastic and carbonate reservoirs and wells therefore often have multiple objectives. Reservoirs in the Triassic, Lower, Middle and Upper Jurassic and Lower Cretaceous have been proven hydrocarbon-bearing in various parts of the Basin. Within the Triassic of the Weald Basin, only the 'Rhaetic' has so far proved productive, but there remains potential for sands of the Sherwood Sandstone Group, particularly in the west, sealed by the Mercia Mudstone Group and the Lias. The Bridport Sands of the Upper Lias are poorly developed in the Weald and there does not, in any case, appear to be an effective seal between this level, the Inferior Oolite and the Great Oolite. For this reason, although there have been interesting shows in the Inferior Oolite, the Great Oolite forms the major objective in the Middle Jurassic and is the productive horizon at Horndean, Humbly Grove, Stockbridge, and Storrington, in each case with the reservoir sealed by the overlying Oxford Clay.

Corallian production was established in the 1960s from Bletchingley gas field. The discovery at Palmers Wood established the Corallian sand as a major reservoir. Both Corallian reservoirs are ultimately sealed by the overlying thick Kimmeridgian shale sequence. The Portland Sand has proved productive of gas at Godley Bridge, where the Purbeck anhydrite forms an excellent seal, and sands within the overlying Purbeck sequence form a gas reservoir at Albury. (Butler, M. 1990).

The Great Oolite interval is by far the dominant reservoir in the Weald Basin. The reservoir quality increases from east to west due to facies variation and more favourable diagenetic history. The reservoir quality is highly variable due to different phases of cementation and the best reservoir characteristics occur in well-sorted, Oolitic and skeletal grainstones and relatively clean pack-stones with porosities up to 20 per cent or more. In addition to cementation, depositional environment is also important and generally the Jurassic reservoirs exhibit better reservoir quality at the margins of the Weald Basin. All of the Jurassic oils in the Weald Basin are light crudes with API gravities in the range of 35 to 42°.

All these fields are mature producing assets, most with extensive production history data available. Many of the fields have wells that are producing at 50% water cut or more. There may be in-fill and sidetrack opportunities that still exist for some fields.

# 2.4.1 Albury

Production data was not available for the Albury gas field. Therefore, this analysis has relied on previous and current operator studies.

In February 1994, the AL-01 well tested at 500 Mscf/d at a FWHP of 841 psia with an AOF of some 1.7 MMscf/d. The Albury gas field has produced from this single well since then to an onsite electricity generation facility at an average yearly rate of between 240 and 460 Mscf/d. As of 11<sup>th</sup> October 2007, Albury had produced 1.571 Bscf at an annual average rate of approximately 320 Mscf/d over 2007.

Initial pressure for the field was measured at 1,066 psia which depleted to 789 psia in October 2007. The gas is 97.5% Methane with small amounts of  $CO_2$  and  $N_2$  and has a gas gravity of 0.57. Very little water has been produced from the Albury field. As of last production, Flowing Wellhead Pressure (FWP) was ca. 600 psia with a delivery pressure to the generator of 29 psia.

A GIIP of 5.5 Bscf is indicated from the historical P/Z plot (**Figure 2.35**). Ultimate recoverable reserves would depend on the well abandonment pressure and the production rate rather than the licensing terms.

IGas have prepared a field development plan on a gas to LNG project from a single well (AL-01). The 2P case estimates production of 1.2 MMscf/d for 6.2 years with a total recovery of 2.6 Bscf. Facilities Capex is £7.3 million starting in 2Q 2014 with first LNG offtake 18 months later. Planning permission has been granted for the project and long lead time items are being purchased.

The gas profiles are presented in **Table 2.17**. Corresponding remaining reserves are as follows:

Gross Gas Reserves (Bscf)	1P	2P	3P
Albury	1.58	2.64	3.02

# 2.4.2 Avington

Avington is located in the western part of the Weald Basin. The field has two main reservoir areas, the 'Hanging Wall' Area, located in the down-faulted side of the 'Mid Field' fault and the 'Foot Wall' Area, located on the up thrown side of the fault.

The Winchester-1 well drilled in 1959-60 found oil shows in the Cornbrash and Great Oolite reservoirs. The Avington-1 well drilled in 1987 in the northern 'Footwall' fault block encountered a 30.5 m oil column as indicated by log and core data. However, the well was not tested. The AV-2 well was drilled in 2003 into the southern 'Hanging Wall' anticline.

Avington-2z was drilled as a horizontal sidetrack from the AV-2 pilot hole. It initially flowed 38° API oil at rates of up to 700 bopd with no water production. However, on subsequent extended well testing (between October 2003 and May 2005) using jet pumps, the dry oil zone was lost (oil rate down to 25 bopd) and very high water production was encountered which remained around 80 to 90% even after stimulation attempts.

Although disappointing, this early well performance after 6 months of 35 bopd and 90% water cut is similar to some of the poorer producing wells in the Great Oolite reservoir in the Weald Basin.

The Avington-3 well drilled in 2006 and encountered high water saturations. A sidetrack from this well, AV-3z was drilled in 2007 and produced 600 bopd on extended well test (EWT).

Avington has been on production since August 2007. The field started off with oil rates of over 500 bopd as seen in the EWT wells. However, it soon dropped drastically with increase in water production. The field remained shut in for most of 2008 and was brought back on production in 2009 with oil rates of over 150 bopd. Since then the field has produced continuously but at much lower oil rates. Currently, it produces at around 70 bopd with over 80% water cut. Production history of the field is presented in **Figure 2.36**.

In total, Avington had produced 0.198 MMbbl of oil up to the end of December 2013.

RPS had assumed a phased approach for Avington development considering the good results seen on well tests. The Phase 1 production based on a three well development was attributed to 'Reserves' category while the Phase 2 production based on a seven well development was assigned to Contingent Resource.

It becomes evident from post 2007 field production performance that the good reservoir deliverability is because of the fracture network presence. This gives some oil flush production initially but imminently leads to considerable increase in water production which comes in very quickly through these fractures.

A DCA was performed to generate a range (1P, 2P and 3P) production forecasts. These are presented in **Table 2.18** and **Figure 2.37**. Corresponding remaining reserves are as follows:

Reserves (MMbbl)	1P	2P	3P	Contingent Resources
Avington Gross	0.040	0.063	0.125	5.800
Avington – Net (50%)	0.020	0.032	0.063	2.900

RPS based their Contingent Resources on the Phase 2 development strategy which included seven wells with higher than usual productivity levels. RPS also reported a range of STOIIP for Avington; 25.33 MMbbl (1P), 59.09 MMbbl (2P) and 110.31 MMbbl (3P). Based on this estimate, the field has produced less than 1% of even the 1P STOIIP. Therefore, there exists considerable upside in Avington for the right development strategy which can utilise the fracture network to the benefit of oil production. In this context, RPS Contingent Resources estimates could still hold valid. Although Senergy has not performed its own analysis, it has assumed the RPS volumetric estimates and the uncertainty that may be associated with it.

#### 2.4.3 Baxters Copse

The Baxters Copse field is located in the Weald Basin, Southeast England. IGas acquired a 50% interest in Baxters Copse and operatorship in early 2013. In common with the other fields, the main reservoir interval is the Middle Jurassic Great Oolite carbonate which includes the overlying Forest Marble Formation. At this location the overlying Cornbrash Formation is non reservoir. The Great Oolite comprises mainly oolitic, skeletal and oncolitic limestones with detrital clays being common in places. The depositional model is that of a high energy shallow water shelf where shoals of oolitic grainstones are deposited. The shelf has migrated from NE to SW over an area of 150 miles wide. On a regional scale, porosities in the Great

Oolite are moderately high in the range 15 - 24%. In the Baxters Copse field, however, porosities tend to be lower, with an average of about 10%, due to the more argillaceous nature of the facies when compared to the neighbouring Singleton field.

The Baxters Copse 1 well was drilled in 1983 as an exploration of the Baxters Copse structure. The primary objective was the Great Oolite (including the Forest Marble) with secondary objectives of the Portland Sandstone and Inferior Oolite Limestone. Only the Great Oolite tested oil. (**Reference 5**).

The well Baxters Copse-1 was first tested for a few days in October 1983. This was followed by a four month test from January to March 1984. Stabilised oil rates were low at  $\sim$ 20 bopd which, after acid stimulation, declined from an initial rate of 200 to 30 bopd with an associated increase in water cut from 50 – 70%.

Deterministic volumetric estimates based on Petrel models indicate a most likely STOIIP of 51.9 MMbbl. Preliminary development plans are for one vertical well and up to three horizontal wells. Nearby analogue fields of Singleton and Storrington indicate recovery factors of 6 to 12% depending primarily on aquifer support. Senergy considers this range of recovery factors reasonable to estimate the Baxter Copse Contingent Resources.

The Baxters Copse oil Contingent Resources are as follows:

Gross Contingent Resources (MMbbl)	1C	2C	3C
Baxters Copse	3.114	4.671	6.228
Baxters Copse – Net (50%)	1.557	2.336	3.114

# 2.4.4 Bletchingley

Bletchingley is the most recent field to come on production. It started producing oil in July 2009. It started off with an oil rate of about 200 bopd and produced stably before peaking to over 300 bopd in September 2010. It has since then declined back to 200 bopd and currently produces around that level with very little water production.

Historically three wells were drilled in the Bletchingley field in the sixties. One of these tested 10 MMscf/d of gas. The previous operator took control of the field in the late 1990's to develop the gas resources for power generation. The appraisal well, Bletchingley 5, however, struck oil in the Corallian Sandstone reservoir and tested at 250 bopd. A second appraisal well produced only 30 bopd on test before it was hydraulically fractured to increase the production rate to 150 bopd. The field has shown little decline in pressure. Current production averages 150 bopd with a 5% water cut. Production history for the field is presented in **Figure 2.38**.

By the end of December 2013, the field had produced a total oil of 0.324 MMbbl.

The previous operator planned to drill another two wells in the field, Bletchingley-7 and Bletchingley-8. IGas has not included Bletchingley-7 and Bletchingley-8 in its current plans and related resource volumes have therefore not been included in this CPR.

A DCA was performed to generate a (1P, 2P, 3P) range of forecasts. These are presented in **Table 2.19** and **Figure 2.39**. Corresponding remaining reserves are as follows:

Gross Reserves (MMbbl)	1P	2P	3P	Contingent Resources
Bletchingley	0.184	0.311	0.473	0.6

Contingent Resources of 0.6 MMbbl were assigned to two potentially new wells. There is a possibility of upside potential in the area between Bletchingley and Palmers Wood which needs further investigation. Also, there is proven gas potential in the field which needs further appraisal and development, before this can be quantified.

## 2.4.5 Godley Bridge

The Godley Bridge gas field was discovered in 1982 by Conoco with the well Godley Bridge1. The discovery well proved economic gas presence and a minor amount of condensate from Upper Jurassic Portland Sandstones. The trap is a broad east-west trending anticline of Tertiary age. It was formed as a result of the gentle reactivation of a Lower Cretaceous-aged normal fault to the north.

The field was subsequently appraised to the west by Godley Bridge-2 in 1987. Unfortunately the well was dry penetrating the sand too far downdip in a saddle between the field and a second culmination to the west. Conoco drilled Alford-1 on trend to the east on a separate closure in 1986. This well was dry, but it is believed it was not drilled on a valid closure, but rather on a structural nose. Both appraisal wells confirmed the presence of the good quality Portland Sandstone reservoir.

In addition to the gas in the Portland, the well also encountered gas in the Great Oolite and Inferior Oolite Limestones. Reservoir quality in these intervals was poor and test rates were low.

The Godley Bridge-1 well tested gas with 5-30 ppm  $H_2S$  at rates of 1.44 MMscf/d from the uppermost zone of the Portland Sandstone. Volumetric methods have been used to estimate GIIP with a minimum, mid-case and maximum of 4-9-17.6 bcf. Indicative recovery factors have been used to estimate recoverable volumes as shown in the table below.

The Godley Bridge gas Contingent Resources are estimated as follows:

Gross Contingent Resources (Bscf)	1C	2C	3C
Godley Bridge - Gas	2.2	5.6	12.3

#### 2.4.6 Goodworth

The Goodworth field was discovered in 1987 but did not start production until the end of 1997 after drilling a horizontal side track from the discovery well. A new, longer well along the same path was drilled in 2000 after the original side track well built up internal restriction.

Initially, the field peaked in excess of 100 bopd but currently produces at approximately 40 bopd with a water cut of 60%. The production history of the field is presented in **Figure 2.40**.

At the end of December 2013, Goodworth had produced a total of 0.210 MMbbl of oil.

DCA was applied to the recent production history to determine a range of forecasts. These are presented in **Table 2.20** and **Figure 2.41**. Corresponding remaining reserves are as follows:

Gross Reserves (MMbbl)	1P	2P	3P
Goodworth	0.114	0.160	0.196

The Goodworth field is a Great Oolite reservoir consisting of an east-west trending horst which effectively divides the field into three main blocks. The first block is also subdivided into two sub blocks by a north-south fault. All the wells drilled so far on the structure have been re-entries of the same well bore and it is our understanding that none of the other fault blocks have been penetrated. There could be upside potential in these un-penetrated fault blocks which might be defined and quantified with more certainty resulting from more field appraisal.

#### 2.4.7 Horndean

The Horndean field is located on an east-west trend on the south-western flank of the Weald Basin. The field has been producing since November 1987 and a total of seven wells, including horizontal sidetracks, have been drilled into the Great Oolite structure to date. Production peaked at 670 bopd in June 1993 after the drilling of well HNC-02 (as a horizontal sidetrack from the HNC-01 well).

Presently, the field produces approximately 160 bopd with a water cut of 25%. Production history of the field is shown in **Figure 2.42**.

In total, Horndean had produced 2.362 MMbbl of oil by the end of December 2013.

DCA of the recent production history has been performed and production forecast range generated for 1P, 2P and 3P cases. These are presented in **Table 2.21** and **Figure 2.43**. Corresponding remaining reserves are as follows:

Reserves (MMbbl)	1P	2P	3P
Horndean – Gross	0.717	0.856	1.143
Horndean - Net (90%)	0.639	0.763	1.019

Horndean oil production has been above forecast due to improved well performance and this is reflected in an upward reserves revision of 0.39 MMbbl since the last review in July 2012.

#### 2.4.8 Palmers Wood

Discovered in 1983, the Palmers Wood field has had ten exploration, appraisal and injection wells drilled on the Corallian Sandstone structure to date. The field achieved peak production in 1991 at a rate of 1,400 bopd.

Presently, the field produces at rates around 60 bopd with a water cut of 90%. Well failure may be looming because of high water cuts. Production history for the field is shown in **Figure 2.44**.

Cumulative production to end December 2013 was recorded at 3.414 MMbbl.

DCA was applied to the recent production history to determine a range of forecasts. These are presented in **Table 2.22** and **Figure 2.45**. Corresponding remaining reserves are as follows:

Gross Reserves (MMbbl)	1P	2P	3P
Palmers Wood	0.052	0.071	0.161

## 2.4.9 Singleton

The Singleton field is located near the village of Singleton, West Sussex, north of Chichester. It is contained wholly within production license PL240. IGas acquired the Singleton field in early 2013.

The field was discovered in 1989 by the Singleton-1 well (Regenses Group) in the northern fault block. Following a successful initial well test, a second well was drilled in March 1990 to test the southerly fault block, proving equally successful. Initial flow rates for these wells were 185 and 194 bopd, respectively. Further wells have been drilled in both blocks as part of the development plan.

The Singleton structure is an E-W elongated faulted horst and is part of the major E-W trend of closed structures, being a continuation of the Horndean trend. The northerly reservoir is itself affected by synthetic and antithetic faults which subdivide the field into northern and southern fault blocks.

The reservoir at Singleton comprises the Great Oolite and overlying Cornbrash and Forest Marble Formations. The Great Oolite is comprised of a massive prograding Oolite shoals deposited on a broad carbonate ramp. As in other fields in the Weald Basin, the reservoir can be divided into three major units, with occasional interbedded shaly horizons representing transgressive events and forming vertical permeability barriers (Trueman, 2003).

Currently, the field is producing around 400 bopd with a water cut of 22%. Production history for the field is shown in **Figure 2.46**.

In total, the field had produced 4.564 MMbbl by the end of December 2013.

DCA was applied to the recent production history to determine a range of Proved Developed production forecasts. A reservoir static and dynamic simulation study of the Singleton Field

South block (**Reference 6**) was used to prepare Proved Undeveloped production profiles for a new South block well budgeted for 2017. **Reference 7**, the North block simulation study, and recent South block simulation work was used to estimate recovery from two additional wells planned in 5-8 years time. The Reserves profiles are presented in **Table 2.23** and **Figure 2.47**. Corresponding remaining Reserves are as follows:

Gross Oil Reserves (MMbbl)	1P	2P	3P
Singleton, Developed	0.932	1.447	2.648
Singleton, Undeveloped	0.425	1.504	1.773
Singleton, Total	1.357	2.951	4.421

A proportion of the associated gas production is used in gas to power generation and the electricity sold to the UK grid. DCA is not considered practical due to the fact that the gas production rates are constrained by power generation capacity.

In the recent years, slightly over 50 MMscf per year of the produced gas has been used for gas to power generation and sold to the UK grid. Given the generation capacity limitation, the gas estimated profiles are depicted in **Table 2.24**. The table below lists the remaining gas reserves.

Gross Gas Reserves (Bscf)	1P	2P	3P
Singleton	0.42	0.65	1.48

Reservoir static and dynamic simulation studies have been completed for the Singleton Field North and South blocks (**References 6 and 7**). The results of these studies have been used to estimate Contingent Resources which are detailed below:

Gross Contingent Resources (MMbbl)	1C	2C	3C
Singleton	0.00	2.24	4.04

### 2.4.10 Storrington

The Storrington field consists of an east-west trending tilted fault block. The reservoir is the Great Oolite Formation that can be sub-divided from top down into the Upper Oolite, the Hoddington Member and the Middle and Lower Oolites. In addition there is minor net pay in the overlying Forest Marble / Cornbrash.

The field has been producing since May 1998. A peak production rate of 600 bopd declined to approximately 80 bopd by October 2001. Well ST-01 was acid stimulated during 2001 resulting in an increase of 400 bopd in production. Installation of multiphase pumps in January 2004 again increased production by 90 bopd. Since then, the field has returned to a steeper oil rate decline.

Currently, the field is producing around 40 bopd with a water cut of 90%. Production history for the field is shown in **Figure 2.48**.

In total, the field had produced 1.179 MMbbl by the end of December 2013.

DCA was applied to the recent production history to determine a range of forecasts. These are presented in **Table 2.25** and **Figure 2.49**. Corresponding remaining Reserves are as follows:

Gross Reserves (MMbbl)	1P	2P	3P
Storrington	0.016	0.030	0.133

## 2.4.11 Stockbridge

The Stockbridge field was discovered in 1984. A total of twenty two wells have been drilled on the structure to date, some have been re-drills of existing wells.

The field structure is a low relief anticline with the reservoir comprising of limestone of the Middle Jurassic Great Oolite Group. The reservoir depth is about 3,300 ft tvdss at the crest to 3,450 ft tvdss at the flanks. A long transition zone precludes exact location of an oil water contact. The bulk of the porosity is intra-granular rather than inter-granular and isolated within voids. Permeabilities are generally low due to small pore throat sizes and poor grain interconnectivity. However, fractures in the vicinity of faults may enhance permeability. As a consequence of all of these, significant uncertainty in the field volume remains. A 2013 CGG Robertson study (**Reference 8**) reported a STOIIP of 79 MMbbl based on an updated simulation model.

Owing to the nature of the porosity and the high capillary pressures in the field, much of the formation has high water saturation and wells tend to make water from the beginning of production. The exceptions are those wells that have depleted an extensive fracture system yielding high rates for a couple of years (e.g., STK-3z, STK-9). However, good production is soon followed by increased water cut reflecting ingress of oil from the matrix into a fracture system that has started to conduct water.

In order to boost production, various drilling techniques have been tried to minimise formation damage and maximise deliverability. These have mainly centred on targeted horizontal drilling and under-balanced drilling. Results have varied depending on the degree of fracturing encountered and the degree of damage and stimulation that occurred at the well bore.

A water injection pilot scheme was started in 1998 by converting well STK-16 to a water injection well. It has continued as an injector since then. STK-18 was drilled in 2001 following indication of further reserves in the north of the field. In 2006, the well STK-20 was drilled and intersected an oil saturated fracture network. It produced ca. 80 Mstb of dry oil over 3 months before increasing to ca. 90% water cut.

Currently the field production is averaging 450 bopd with a water cut of 90%. Historical production from the field is presented in **Figure 2.50**.

By the end of December 2013, Stockbridge had produced a total of 8.487 MMbbl of oil.

DCA has been performed and a production forecast range generated for 1P, 2P and 3P cases. These are presented in **Table 2.26** and **Figure 2.51**. Corresponding remaining Reserves are as follows:

Gross Reserves (MMbbl)	1P	2P	3P
Stockbridge	0.727	1.582	2.056

Stockbridge oil production has been below forecast due to poorer than anticipated well performance from the field and also to one well being offline during 2013. A downward revision of -0.98 MMbbl has been applied to the reserves as a result.

# 2.5 Inner Moray Firth

IGas acquired the Lybster field via the acquisition of Caithness Oil Limited in the later part of 2013.

## 2.5.1 Lybster

The Lybster field is located in Block 11/24, approximately 3 km off the east coast of Scotland, and close to 20 km north-west of the Beatrice field. It was discovered in 1996 by well 11/24-1, operated by Premier Oil plc. The well found oil and a gas in Middle Jurassic, Callovian aged Beatrice Formation A and B Sands.

The reservoir sands are relatively thin, but have good reservoir quality with porosity and permeability up to 22% and 2 Darcy, respectively. The reservoir is a four dip closure cross cut by NNE to SSW trending normal faults, and it has been interpreted as shallow marine, with a gradual transgression towards the top of the Beatrice A Sand, leading to a progressive reduction in reservoir quality (**Reference 9**).

The primary source in the field is provided by the organic-rich shales of the Upper Jurassic Kimmeridge Clay Formation. Additional contributions come from the shales of the Middle-Upper Jurassic Heather Formation, the shales and coals of the Brora Coal Formation and from Devonian lacustrine shales. Charging of the traps is the result of lateral migration through carrier beds from the deeper parts of the Beatrice Sub-basin.

Presently, the one well produces intermittently due to wax deposition in the tubing at rates averaging 90 bopd with a water cut last reported at 70%. Production history for the field is shown in **Figure 2.52**.

Cumulative production to end December 2013 was recorded at 0.078 MMbbl.

DCA was applied to the recent production history to determine a range of forecasts. These are presented in **Table 2.27** and **Figure 2.53**. Corresponding remaining reserves are as follows:

Gross Reserves (MMbbl)	1P	2P	3P
Lybster	0.166	0.295	0.455

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# 4 Nomenclature

Variable	Meaning	Units
2D	Two dimensional	
3D	Three dimensional	
AAPG	American Association of Petroleum Geologists	
Admission	Process of admission of an entity to a Stock Market.	
API	American Petroleum Institute	
AOF	Absolute Open Flow	
AVO	Amplitude versus offset or amplitude variation with offset is often used as a direct hydrocarbon indicator.	
Best Estimate	An estimate representing the best technical assessment of projected volumes. Often associated with a central, P50 or mean value.	
BHFP	Bottom hole flowing pressure	psi
BHSIP	Bottom hole shut in pressure	psi
bbls/d	Barrels per day	
BCU	Base Cretaceous Unconformity	
bopd	Barrels of oil per day	
BPU	Base Permian Unconformity	
Bscf	Billions of standard cubic feet	
Bwpd	Barrels of water per day	
СВМ	Coal Bed Methane	
CGR	Condensate gas ratio	
Ср	Centipoise	
CNG	Compressed Natural Gas	
CO <sub>2</sub>	Carbon dioxide	
COS	Exploration or geological chance of success. The probability, typically expressed as a percentage that a given outcome will occur.	
CPI	Computer-processed interpretation	
D	Day	
DCA	Decline Curve Analysis	
DST	Drill stem test	
EMV	Expected Monetary Value	
EWT	Extended well test	
º F / º C	Degrees Fahrenheit / Centigrade	
FDP	Field Development Programme	
FWHP	Flowing wellhead pressure	psi
FWL	Free water level	
FWP	Flowing Wellhead Pressure	
GDT	Gas Down To	ft or m
GIIP	Gas Initially In Place	
GR	Gamma ray	api

GOR	Gas Oil Ratio	
GRV	Gross Rock Volume	
GWC	Gas-water contact	
Н	Thickness	ft or m
HIIP	Hydrocarbons Initially in Place	
IOR	Improved oil recovery	
К	Permeability	mD
k <sub>a</sub>	Air permeability	mD
Kh	Permeability-thickness	mDft
k MT	Thousands of metric tonnes	
Kw	Water Permeability	mD
Lead	A feature identified on seismic data that has the potential to become a prospect. Usually a Lead is associated with poorer quality or limited 2D seismic data.	
LKG	Lowest Known Gas	ft or m
LPG	Liquified Petroleum Gas	Tonnes
Ма	Millenia	
Mbal	Material Balance. A means of assessing HIIP.	
Md	Measured depth	ft or m
mD	Millidarcies	
Mdrkb	Measured Depth Rotary Kelly Bushing	ft or m
Mdbrt	Measured depth Below Rotary Table	ft or m
Mean	The arithmetic average of a set of values	
MJ/Sm <sup>3</sup>	Mega Joules per standard metre cubed.	
MM	Million	
MMbo	Million barrels oil	
MMboe	Millions of barrels of oil equivalent	
MMscf/d	Million standard cubic feet per day	
MMstb	Millions of barrels of stock tank oil	
N-D	Neuron-Density	
N/G	Net to Gross	
NPV	Net present value	
NUI	Normally unmanned installation	
OBM	Oil based mud	
ODT	Oil down to	
OPII	Orient Petroleum International Inc	
OWC	Oil water contact	
PDO	Plan of Development and Operation	
PEF	Photoelectric effect	
P <sub>res</sub>	Reservoir pressure	psi
PRMS	Petroleum Resources Management System	
Ppg	pounds per gallon	
Ppm	parts per million	
Producing	Related to development projects (eg wells and platforms):	

	Active facilities, currently involved in the extraction (production) of hydrocarbons from discovered reservoirs.	
Prospective Resources	Prospective Resources are those quantities of petroleum estimated, as of a given date, to be potentially recoverable from undiscovered accumulations by application of future development projects. Prospective Resources have both an associated chance of discovery and a chance of development. Prospective Resources are further subdivided in accordance with the level of certainty associated with recoverable estimates assuming their discovery and development and may be subclassified based on project maturity.	
Proved	Proved Reserves are those quantities of petroleum, which, by analysis of geoscience and engineering data, can be estimated with reasonable certainty to be commercially recoverable, from a given date forward, from known reservoirs and under defined economic conditions, operating methods, and government regulations. If deterministic methods are used, the term reasonable certainty is intended to express a high degree of confidence that the quantities will be recovered. If probabilistic methods are used, there should be at least a 90% probability that the quantities actually recovered will equal or exceed the estimate.	
Proved plus Probable	Probable Reserves are those additional Reserves which analysis of geoscience and engineering data indicate are less likely to be recovered than Proved Reserves but more certain to be recovered than Possible Reserves. It is equally likely that actual remaining quantities recovered will be greater than or less than the sum of the estimated Proved plus Probable Reserves (2P). In this context, when probabilistic methods are used, there should be at least a 50% probability that the actual quantities recovered will equal or exceed the 2P estimate.	
Proved plus Probable plus Possible	Possible Reserves are those additional reserves which analysis of geo-science and engineering data suggest are less likely to be recoverable than Probable Reserves. The total quantities ultimately recovered from the project have a low probability to exceed the sum of Proved plus Probable plus Possible (3P) Reserves, which is equivalent to the high estimate scenario. In this context, when probabilistic methods are used, there should be at least a 10% probability that the actual quantities recovered will equal or exceed the 3P estimate.	
psia	Absolute pressure in pounds per square inch	
PVT	Pressure Volume Temperature: Measurement of the variation in petroleum properties as the stated parameters is varied.	
P/Z	Reservoir pressure (P) divided by the compressibility factor (Z), which plotted against cumulative gas volume produced provides a simplified material balance analysis for gas fields.	
Reserves	Reserves are those quantities of petroleum anticipated to be commercially recoverable by application of development projects to known accumulations from a given date forward under defined conditions. Reserves must further satisfy four criteria: they must be discovered,	

	recoverable, commercial, and remaining (as of the evaluation date) based on the development project(s) applied. Reserves are further categorized in accordance with the level of certainty associated with the estimates and may be sub-classified based on project maturity and/or characterized by development and production status.	
RFT	Repeat formation tester	
Rw	Water resistivity	
scf	Standard cubic foot	
So	Oil saturation	
SP	Spontaneous potential	
SPE	Society of Petroleum Engineers	
SPEE	Society of Petroleum Evaluation Engineers	
SSV	Surface safety valve	
SSSV	Surface and subsurface safety valve	
stb/d	Stock tank barrels per day	
STOIIP	Stock tank oil initially in place	
Sw	Water saturation	ratio
TD	Total depth	ft or m
TWT	Two way time	
tvdbrt	True vertical depth below rotary table	ft or m
tvdss	True vertical depth sub sea	ft or m
VoK	Average velocity function for depth conversion of time based seismic data, where Vo is the initial velocity and k provides information on the increase or decrease in velocity with depth. V0+k therefore provides a method of depth conversion using a linear velocity field, increasing or decreasing with depth for each geological zone.	
WGC	Welton Gathering Centre	
WGR	Water gas ratio	
WHP	Wellhead pressure	psi
WPC	World Petroleum Council	
WUT	Water up to	

# **Appendix 1** Certificate of Qualification of Oil and Gas Reserves Auditor

I, J. ALLAN SPENCER, HEREBY CERTIFY:

- 1. THAT I am a Professional Petroleum Engineer in the United Kingdom, resident in Guildford, England.
- 2. THAT I graduated from the University of Strathclyde, Glasgow, Scotland with a Bachelor of Science degree with Honours in Electrical Engineering in 1970.
- 3. THAT I have been employed in the Petroleum industry since graduating. During that time I have been directly involved in petrophysical evaluation, well testing and analysis, production operations, field development, petroleum and reservoir engineering, economic evaluation, reserves estimation, reporting and auditing. I served as BP Corporate Reserves Coordinator from 1990 to 1999. I served as a Society of Petroleum Engineers (SPE) Oil and Gas Reserves Committee Member 1996 2000, and Chairman 1998 1999.
- 4. THAT I am a member of the Energy Institute, London, England and of the Society of Petroleum Engineers, Richardson, Texas, U.S.A.
- 5. THAT I am currently working for Senergy (GB) Limited, a subsurface consultancy with experience of Reserves Estimation and Reserves Auditing. Senergy (GB) Limited prepared a CPR report of IGas Energy plc's onshore UK oil and gas producing assets, effective 1<sup>st</sup> January 2014.
- 6. THAT the parameters and assumptions employed by Senergy (GB) Limited were examined by me and adopted as representative and appropriate in establishing the IGas Energy plc onshore oil and gas producing Reserves at 1<sup>st</sup> January 2014.
- 7. THAT the aforementioned report was not based on a personal field examination of IGas Energy plc's fields; however as such an examination was not deemed necessary in view of the information available from IGas Energy plc and public sources.
- 8. THAT I have not received, nor do I expect to receive, any direct or indirect interest in the holdings evaluated, or in the securities of the company.
- 9. THAT I have not examined the chain of title for the property evaluated but have relied on descriptions furnished by the client.

Allan Spence

J Allan Spencer, B.Sc. (Hons), E.I., SPE.

11<sup>th</sup> July 2014



#### **IGas Licence Interests**

Licence	Fields	IGas Interest	Operator
	EAST MIDLANDS		
ML3	Egmanton	100%	yes
ML 4 (1)	Gainsborough	100%	yes
ML 4 (2)	Beckingham	100%	yes
ML 4 (3)	Corringham / Glentworth	100%	yes
ML 6	Bothamsall	100%	yes
ML 7	South Leverton	100%	yes
PL 178	West Beckingham	100%	yes
PL 179 (a)	East Glentworth	100%	yes
PL 220 (c)	Long Clawson	100%	yes
PL 220 (d)	Rempstone	100%	yes
	WELTON		
AL 009	Dunholme	100%	yes
PEDL 06	Cold Hanworth	100%	yes
PL 179-B	Welton, Nettleham, Scampton North, Stainton	100%	yes
PL 199-1	Nettleham (Whisby)	100%	yes
	WEALD		
PL240	Singleton	100.00%	yes
PEDL233	Baxters Copse / Burton Down	50.00%	yes
PL 205	Storrington	100.00%	yes
PL 211	Horndean	90.00%	yes
DL 004	Albury	100.00%	yes
PL 182	Palmers Wood	100.00%	yes
ML 18	Bletchingley	100.00%	yes
ML 21	Bletchingley	100.00%	yes
DL 002	Folly Farm	100.00%	yes
PEDL 021	Goodworth	100.00%	yes
PEDL 070	Avington	50%	yes
PL 233	Hill Farm	100%	yes
PL 249	Larkwhistle Farm	100%	yes
PEDL 235	Godley Bridge	100%	yes
	INNER MORAY FIRTH		
PEDL 158	Lybster	100%	yes

Source: IGas Energy plc





#### **Gross and Net Reserves & Resources**

Oil Gross Reserves (MMbbl)	1P	2P	3P	Contingent Resources
Bothamsall	0.174	0.237	0.298	N/A
Cold Hanworth	0.136	0.244	0.373	N/A
Corringham	0.204	0.238	0.355	0.242
East Glentworth	0.067	0.085	0.173	0.376
Egmanton	0.001	0.007	0.011	N/A
Gainsborough/Beckingham	0.477	0.840	1.009	0.200
Glentworth	0.509	0.616	0.738	0.288
Long Clawson	0.273	0.323	0.456	0.238
Nettleham	0.001	0.002	0.006	N/A
Rempstone	0.054	0.058	0.082	N/A
Scampton	0.005	0.019	0.036	N/A
Scampton North	0.487	0.617	0.840	N/A
Stainton	0.015	0.026	0.056	N/A
South Leverton	0.001	0.002	0.015	N/A
Welton	2.086	2.962	3.772	N/A
Avington	0.040	0.063	0.125	5.800
Baxters Copse				4.671
Bletchingley	0.184	0.311	0.473	0.600
Goodworth	0.114	0.160	0.196	N/A
Horndean	0.717	0.856	1.143	N/A
Palmers Wood	0.052	0.071	0.161	N/A
Singleton	1.357	2.951	4.421	2.238
Storrington	0.016	0.030	0.133	N/A
Stockbridge	0.727	1.582	2.056	N/A
Lybster	0.166	0.295	0.455	N/A
TOTAL OIL (MMbbl)	7.86	12.60	17.38	14.65
Net Total Oil Reserves (MMbbl)	7.77	12.48	17.20	9.42

Gas Gross Reserves (Bscf)	1P	2P	3P	Contingent Resources
Gainsborough/Beckingham	1.45	2.63	3.24	N/A
Albury	1.58	2.64	3.02	N/A
Godley Bridge				5.600
Singleton	0.42	0.65	1.48	N/A
TOTAL GAS (Bscf)	3.45	5.92	7.74	5.60
Net Total Gas Reserves (MMboe)	0.59	1.02	1.34	0.97
Gross Total Oil and Gas Reserves (MMboe)	8.46	13.62	18.72	15.62
Net Total Oil and Gas Reserves (MMboe)	8.37	13.50	18.54	10.38





#### **Profiles - Bothamsall**

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
1H2014	5.361	5.36	29.4	5.839	5.84	32.0	6.277	6.28	34.4
2H2014	5.311	10.67	29.1	5.834	11.67	31.9	6.292	12.57	34.5
1H2015	5.092	15.76	27.9	5.640	17.31	30.9	6.103	18.67	33.4
2H2015	5.044	20.81	27.6	5.635	22.95	30.9	6.118	24.79	33.5
1H2016	4.862	25.67	26.6	5.478	28.43	30.0	5.968	30.76	32.7
2H2016	4.790	30.46	26.2	5.443	33.87	29.8	5.951	36.71	32.6
1H2017	4.592	35.05	25.1	5.262	39.13	28.8	5.775	42.48	31.6
2H2017	4.549	39.60	24.9	5.257	44.39	28.8	5.791	48.28	31.7
1H2018	4.361	43.96	23.9	5.083	49.47	27.8	5.620	53.90	30.8
2H2018	4.321	48.28	23.7	5.078	54.55	27.8	5.638	59.53	30.9
1H2019	4.142	52.43	22.7	4.910	59.46	26.9	5.472	65.01	30.0
2H2019	4.104	56.53	22.5	4.905	64.36	26.9	5.490	70.50	30.1
1H2020	3.955	60.48	21.7	4.768	69.13	26.1	5.360	75.86	29.3
2H2020	3.897	64.38	21.3	4.738	73.87	25.9	5.348	81.20	29.3
1H2021	3.736	68.12	20.5	4.580	78.45	25.1	5.193	86.40	28.4
2H2021	3.701	71.82	20.3	4.576	83.03	25.1	5.212	91.61	28.5
1H2022	3.548	75.37	19.4	4.424	87.45	24.2	5.062	96.67	27.7
2H2022	3.515	78.88	19.2	4.420	91.87	24.2	5.081	101.75	27.8
1H2023	3.370	82.25	18.5	4.274	96.14	23.4	4.935	106.69	27.0
2H2023	3.338	85.59	18.3	4.270	100.41	23.4	4.954	111.64	27.1
1H2024	3.218	88.81	17.6	4.151	104.57	22.7	4.840	116.48	26.5
2H2024	3.170	91.98	17.4	4.124	108.69	22.6	4.832	121.31	26.5
1H2025	3.039	95.02	16.6	3.987	112.68	21.8	4.695	126.01	25.7
2H2025	3.011	98.03	16.5	3.984	116.66	21.8	4.715	130.72	25.8
1H2026	2.886	100.91	15.8	3.851	120.51	21.1	4.582	135.30	25.1
2H2026	2.859	103.77	15.7	3.848	124.36	21.1	4.602	139.91	25.2
1H2027	2.741	106.51	15.0	3.720	128.08	20.4	4.473	144.38	24.5
2H2027	2.716	109.23	14.9	3.717	131.80	20.4	4.493	148.87	24.6
1H2028	2.618	111.85	14.3	3.613	135.41	19.8	4.392	153.26	24.0
2H2028	2.579	114.43	14.1	3.590	139.00	19.7	4.388	157.65	24.0
1H2029	2.472	116.90	13.5	3.471	142.47	19.0	4.266	161.92	23.4
2H2029	2.449	119.35	13.4	3.468	145.94	19.0	4.286	166.20	23.5
1H2030	2.348	121.70	12.9	3.353	149.29	18.4	4.168	170.37	22.8
2H2030	2.326	124.02	12.7	3.350	152.64	18.3	4.188	174.56	22.9
1H2031	2.230	126.25	12.2	3.238	155.88	17.7	4.073	178.63	22.3

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		1P	1P	1P	2P	2P	2P	3P	3P	3P
		MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
	2H2031	2.209	128.46	12.1	3.235	159.11	17.7	4.094	182.73	22.4
	1H2O32	2.130	130.59	11.7	3.145	162.26	17.2	4.003	186.73	21.9
	2H2032	2.098	132.69	11.5	3.125	165.38	17.1	4.002	190.73	21.9
	1H2033	2.011	134.70	11.0	3.021	168.41	16.5	3.893	194.63	21.3
	2H2033	1.993	136.69	10.9	3.019	171.42	16.5	3.913	198.54	21.4
	1H2034	1.910	138.60	10.5	2.918	174.34	16.0	3.807	202.35	20.8
	2H2034	1.892	140.49	10.4	2.916	177.26	16.0	3.828	206.17	21.0
	1H2035	1.814	142.31	9.9	2.819	180.08	15.4	3.724	209.90	20.4
	2H2035	1.797	144.11	9.8	2.816	182.89	15.4	3.745	213.64	20.5
	1H2036	1.732	145.84	9.5	2.738	185.63	15.0	3.664	217.31	20.1
	2H2036	1.707	147.54	9.3	2.720	188.35	14.9	3.665	220.97	20.1
	1H2037	1.636	149.18	9.0	2.630	190.98	14.4	3.567	224.54	19.5
	2H2037	1.621	150.80	8.9	2.628	193.61	14.4	3.587	228.13	19.6
	1H2038	1.554	152.36	8.5	2.540	196.15	13.9	3.491	231.62	19.1
	2H2038	1.539	153.89	8.4	2.538	198.69	13.9	3.512	235.13	19.2
	1H2039	1.476	155.37	8.1	2.454	201.14	13.4	3.419	238.55	18.7
	2H2039	1.462	156.83	8.0	2.452	203.59	13.4	3.439	241.99	18.8
	1H2040	1.409	158.24	7.7	2.383	205.98	13.0	3.367	245.35	18.4
	2H2040	1.388	159.63	7.6	2.368	208.34	13.0	3.368	248.72	18.4
	1H2041	1.331	160.96	7.3	2.289	210.63	12.5	3.280	252.00	18.0
	2H2041	1.319	162.28	7.2	2.287	212.92	12.5	3.300	255.30	18.1
	1H2042	1.264	163.54	6.9	2.211	215.13	12.1	3.213	258.51	17.6
	2H2042	1.252	164.80	6.9	2.209	217.34	12.1	3.234	261.75	17.7
	1H2043	1.201	166.00	6.6	2.136	219.48	11.7	3.149	264.90	17.2
	2H2043	1.189	167.19	6.5	2.134	221.61	11.7	3.169	268.07	17.4
	1H2044	1.146	168.33	6.3	2.075	223.69	11.4	3.104	271.17	17.0
	2H2044	1.129	169.46	6.2	2.061	225.75	11.3	3.107	274.28	17.0
	1H2045	1.083	170.54	5.9	1.993	227.74	10.9	3.026	277.30	16.6
	2H2045	1.073	171.62	5.9	1.991	229.73	10.9	3.046	280.35	16.7
	1H2046	1.028	172.64	5.6	1.925	231.66	10.5	2.967	283.32	16.2
	2H2046	1.019	173.66	5.6	1.923	233.58	10.5	2.987	286.30	16.4
	1H2047				1.859	235.44	10.2	2.910	289.21	15.9
	2H2047				1.858	237.30	10.2	2.930	292.14	16.0
	1H2048							2.870	295.01	15.7
	2H2048							2.874	297.89	15.7





# **Profiles - Cold Hanworth**

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
1H2014	15.436	15.44	84.5	18.816	18.82	103.0	19.139	19.14	104.8
2H2014	14.062	29.50	77.0	17.701	36.52	96.9	18.057	37.20	98.9
1H2015	12.396	41.89	67.9	16.114	52.63	88.2	16.528	53.72	90.5
2H2015	11.293	53.19	61.8	15.159	67.79	83.0	15.674	69.40	85.8
1H2016	10.008	63.20	54.8	13.873	81.66	76.0	14.494	83.89	79.4
2H2016	9.064	72.26	49.6	12.977	94.64	71.1	13.730	97.62	75.2
1H2017	7.991	80.25	43.8	11.813	106.45	64.7	12.682	110.30	69.4
2H2017	7.280	87.53	39.9	11.113	117.57	60.9	12.130	122.43	66.4
1H2018	6.417	93.95	35.1	10.117	127.68	55.4	11.246	133.68	61.6
2H2018	5.846	99.79	32.0	9.517	137.20	52.1	10.794	144.47	59.1
1H2019	5.154	104.95	28.2	8.664	145.86	47.4	10.041	154.52	55.0
2H2019	4.695	109.64	25.7	8.151	154.02	44.6	9.667	164.18	52.9
1H2020	4.161	113.80	22.8	7.459	161.47	40.8	9.068	173.25	49.7
2H2020	3.768	117.57	20.6	6.977	168.45	38.2	8.706	181.96	47.7
1H2021	3.322	120.89	18.2	6.351	174.80	34.8	8.144	190.10	44.6
2H2021	3.026	123.92	16.6	5.975	180.78	32.7	7.883	197.98	43.2
1H2022	2.668	126.59	14.6	5.439	186.22	29.8	7.392	205.38	40.5
2H2022	2.431	129.02	13.3	5.117	191.33	28.0	7.171	212.55	39.3
1H2023	2.143	131.16	11.7	4.658	195.99	25.5	6.740	219.29	36.9
2H2023	1.952	133.11	10.7	4.382	200.37	24.0	6.552	225.84	35.9
1H2024	1.730	134.84	9.5	4.010	204.38	22.0	6.203	232.04	34.0
2H2024	1.567	136.41	8.6	3.751	208.13	20.5	6.008	238.05	32.9
1H2025				3.415	211.55	18.7	5.668	243.72	31.0
2H2025				3.213	214.76	17.6	5.531	249.25	30.3
1H2026				2.925	217.69	16.0	5.226	254.47	28.6
2H2026				2.751	220.44	15.1	5.108	259.58	28.0
1H2027				2.505	222.94	13.7	4.834	264.42	26.5
2H2027				2.356	225.30	12.9	4.732	269.15	25.9
1H2028				2.156	227.46	11.8	4.509	273.66	24.7
2H2028				2.017	229.47	11.0	4.395	278.05	24.1
1H2029				1.836	231.31	10.1	4.171	282.22	22.8
2H2029				1.727	233.04	9.5	4.094	286.32	22.4
1H2030				1.572	234.61	8.6	3.890	290.21	21.3
2H2030				1.479	236.09	8.1	3.822	294.03	20.9
1H2031				1.347	237.43	7.4	3.636	297.67	19.9

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	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
2H2031				1.267	238.70	6.9	3.577	301.24	19.6
1H2032				1.159	239.86	6.3	3.425	304.67	18.8
2H2032				1.084	240.94	5.9	3.354	308.02	18.4
1H2033				0.987	241.93	5.4	3.197	311.22	17.5
2H2033				0.929	242.86	5.1	3.152	314.37	17.3
1H2034				0.845	243.70	4.6	3.007	317.38	16.5
2H2034				0.795	244.50	4.4	2.967	320.34	16.2
1H2035							2.834	323.18	15.5
2H2035							2.798	325.98	15.3
1H2036							2.690	328.67	14.7
2H2036							2.643	331.31	14.5
1H2037							2.529	333.84	13.8
2H2037							2.501	336.34	13.7
1H2038							2.394	338.73	13.1
2H2038							2.370	341.10	13.0
1H2039							2.271	343.37	12.4
2H2039							2.249	345.62	12.3
1H2040							2.168	347.79	11.9
2H2040							2.137	349.93	11.7
1H2041							2.050	351.98	11.2
2H2041							2.033	354.01	11.1
1H2042							1.951	355.96	10.7
2H2042							1.936	357.90	10.6
1H2043							1.860	359.76	10.2
2H2043							1.847	361.61	10.1
1H2044							1.784	363.39	9.8
2H2044							1.763	365.15	9.7
1H2045							1.695	366.85	9.3
2H2045							1.685	368.53	9.2
1H2046							1.621	370.15	8.9
2H2046							1.612	371.77	8.8
1H2047							1.551	373.32	8.5
2H2047									
1H2048									
2H2048									





# **Profiles - Corringham**

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
1H2014	8.864	8.86	48.5	9.281	9.28	50.8	10.060	10.06	55.1
2H2014	8.641	17.51	47.3	9.094	18.38	49.8	9.934	19.99	54.4
1H2015	8.151	25.66	44.6	8.623	27.00	47.2	9.497	29.49	52.0
2H2015	7.945	33.60	43.5	8.449	35.45	46.3	9.386	38.88	51.4
1H2016	7.535	41.14	41.3	8.055	43.50	44.1	9.029	47.91	49.4
2H2016	7.304	48.44	40.0	7.849	51.35	43.0	8.880	56.79	48.6
1H2017	6.889	55.33	37.7	7.442	58.79	40.8	8.502	65.29	46.6
2H2017	6.716	62.05	36.8	7.292	66.09	39.9	8.415	73.70	46.1
1H2018	6.335	68.38	34.7	6.914	73.00	37.9	8.063	81.77	44.2
2H2018	6.175	74.56	33.8	6.775	79.77	37.1	7.986	89.75	43.7
1H2019	5.825	80.38	31.9	6.424	86.20	35.2	7.657	97.41	41.9
2H2019	5.678	86.06	31.1	6.295	92.49	34.5	7.589	105.00	41.6
1H2020	5.385	91.44	29.5	6.001	98.49	32.9	7.321	112.32	40.1
2H2020	5.219	96.66	28.6	5.847	104.34	32.0	7.220	119.54	39.5
1H2021	4.923	101.59	27.0	5.544	109.89	30.4	6.931	126.47	38.0
2H2021	4.799	106.38	26.3	5.433	115.32	29.7	6.878	133.35	37.7
1H2022	4.527	110.91	24.8	5.151	120.47	28.2	6.607	139.96	36.2
2H2022	4.413	115.32	24.2	5.048	125.52	27.6	6.560	146.52	35.9
1H2023	4.162	119.49	22.8	4.786	130.30	26.2	6.304	152.82	34.5
2H2023	4.057	123.54	22.2	4.690	134.99	25.7	6.263	159.08	34.3
1H2024	3.848	127.39	21.1	4.471	139.46	24.5	6.055	165.14	33.2
2H2024	3.730	131.12	20.4	4.356	143.82	23.9	5.985	171.12	32.8
1H2025	3.518	134.64	19.3	4.131	147.95	22.6	5.758	176.88	31.5
2H2025	3.430	138.07	18.8	4.048	152.00	22.2	5.726	182.61	31.4
1H2026	3.235	141.30	17.7	3.838	155.84	21.0	5.512	188.12	30.2
2H2026	3.153	144.46	17.3	3.761	159.60	20.6	5.484	193.60	30.0
1H2027	2.975	147.43	16.3	3.566	163.16	19.5	5.281	198.88	28.9
2H2027	2.900	150.33	15.9	3.494	166.66	19.1	5.256	204.14	28.8
1H2028	2.750	153.08	15.1	3.331	169.99	18.2	5.092	209.23	27.9
2H2028	2.665	155.75	14.6	3.246	173.24	17.8	5.042	214.27	27.6
1H2029	2.514	158.26	13.8	3.077	176.31	16.8	4.860	219.13	26.6
2H2029	2.451	160.71	13.4	3.016	179.33	16.5	4.842	223.98	26.5
1H2030	2.312	163.02	12.7	2.859	182.19	15.7	4.668	228.64	25.6
2H2030	2.254	165.28	12.3	2.802	184.99	15.3	4.653	233.30	25.5
1H2031	2.126	167.40	11.6	2.657	187.65	14.5	4.488	237.78	24.6

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
2H2031	2.072	169.48	11.3	2.603	190.25	14.3	4.474	242.26	24.5
1H2032	1.965	171.44	10.8	2.482	192.73	13.6	4.341	246.60	23.8
2H2032	1.905	173.35	10.4	2.418	195.15	13.2	4.306	250.91	23.6
1H2033	1.797	175.14	9.8	2.293	197.44	12.6	4.156	255.06	22.8
2H2033	1.751	176.89	9.6	2.247	199.69	12.3	4.147	259.21	22.7
1H2034	1.652	178.55	9.0	2.130	201.82	11.7	4.005	263.21	21.9
2H2034	1.610	180.16	8.8	2.087	203.91	11.4	3.997	267.21	21.9
1H2035	1.519	181.68	8.3	1.979	205.89	10.8	3.861	271.07	21.1
2H2035	1.481	183.16	8.1	1.939	207.82	10.6	3.855	274.93	21.1
1H2036	1.404	184.56	7.7	1.849	209.67	10.1	3.745	278.67	20.5
2H2036	1.361	185.92	7.5	1.802	211.48	9.9	3.720	282.39	20.4
1H2037	1.284	187.21	7.0	1.708	213.18	9.4	3.595	285.99	19.7
2H2037	1.252	188.46	6.9	1.674	214.86	9.2	3.592	289.58	19.7
1H2038	1.181	189.64	6.5	1.587	216.44	8.7	3.473	293.05	19.0
2H2038	1.151	190.79	6.3	1.555	218.00	8.5	3.471	296.52	19.0
1H2039	1.086	191.88	5.9	1.475	219.47	8.1	3.357	299.88	18.4
2H2039	1.058	192.93	5.8	1.445	220.92	7.9	3.355	303.23	18.4
1H2040	1.004	193.94	5.5	1.377	222.30	7.5	3.264	306.50	17.9
2H2040	0.973	194.91	5.3	1.342	223.64	7.3	3.245	309.74	17.8
1H2041	0.918	195.83	5.0	1.273	224.91	7.0	3.141	312.88	17.2
2H2041	0.894	196.72	4.9	1.247	226.16	6.8	3.141	316.03	17.2
1H2042	0.844	197.57	4.6	1.182	227.34	6.5	3.041	319.07	16.7
2H2042	0.822	198.39	4.5	1.159	228.50	6.3	3.042	322.11	16.7
1H2043	0.776	199.16	4.2	1.099	229.60	6.0	2.945	325.05	16.1
2H2043	0.756	199.92	4.1	1.076	230.67	5.9	2.947	328.00	16.1
1H2044	0.717	200.64	3.9	1.026	231.70	5.6	2.870	330.87	15.7
2H2044	0.695	201.33	3.8	1.000	232.70	5.5	2.857	333.73	15.6
1H2045	0.656	201.99	3.6	0.948	233.65	5.2	2.767	336.49	15.2
2H2045	0.639	202.63	3.5	0.929	234.58	5.1	2.770	339.26	15.2
1H2046	0.603	203.23	3.3	0.881	235.46	4.8	2.684	341.95	14.7
2H2046	0.588	203.82	3.2	0.863	236.32	4.7	2.688	344.64	14.7
1H2047				0.818	237.14	4.5	2.605	347.24	14.3
2H2047				0.802	237.94	4.4	2.609	349.85	14.3
1H2048							2.543	352.39	13.9
2H2048							2.534	354.93	13.9





#### **Profiles - East Glentworth**

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
1H2014	5.727	5.73	31.4	5.977	5.98	32.7	6.195	6.20	33.9
2H2014	5.346	11.07	29.3	5.661	11.64	31.0	6.024	12.22	33.0
1H2015	4.829	15.90	26.4	5.188	16.83	28.4	5.674	17.89	31.1
2H2015	4.508	20.41	24.7	4.914	21.74	26.9	5.528	23.42	30.3
1H2016	4.094	24.50	22.4	4.527	26.27	24.8	5.244	28.67	28.7
2H2016	3.799	28.30	20.8	4.264	30.53	23.3	5.089	33.75	27.9
1H2017	3.432	31.74	18.8	3.908	34.44	21.4	4.810	38.56	26.3
2H2017	3.204	34.94	17.5	3.701	38.14	20.3	4.702	43.27	25.7
1H2018	2.894	37.83	15.8	3.392	41.53	18.6	4.451	47.72	24.4
2H2018	2.701	40.53	14.8	3.213	44.75	17.6	4.357	52.07	23.9
1H2019	2.440	42.97	13.4	2.944	47.69	16.1	4.130	56.20	22.6
2H2019	2.278	45.25	12.5	2.789	50.48	15.3	4.049	60.25	22.2
1H2020	2.068	47.32	11.3	2.569	53.05	14.1	3.864	64.12	21.2
2H2020	1.920	49.24	10.5	2.420	55.47	13.3	3.771	67.89	20.6
1H2021	1.734	50.97	9.5	2.218	57.69	12.1	3.584	71.47	19.6
2H2021	1.619	52.59	8.9	2.100	59.79	11.5	3.522	74.99	19.3
1H2022	1.462	54.06	8.0	1.925	61.71	10.5	3.351	78.35	18.3
2H2022	1.365	55.42	7.5	1.823	63.53	10.0	3.297	81.64	18.1
1H2023	1.233	56.65	6.8	1.671	65.20	9.1	3.140	84.78	17.2
2H2023	1.151	57.80	6.3	1.583	66.79	8.7	3.093	87.88	16.9
1H2024	1.045	58.85	5.7	1.458	68.25	8.0	2.965	90.84	16.2
2H2024	0.970	59.82	5.3	1.373	69.62	7.5	2.906	93.75	15.9
1H2025	0.876	60.70	4.8	1.258	70.88	6.9	2.773	96.52	15.2
2H2025	0.818	61.51	4.5	1.192	72.07	6.5	2.737	99.26	15.0
1H2026	0.739	62.25	4.0	1.092	73.16	6.0	2.614	101.87	14.3
2H2026	0.690	62.94	3.8	1.035	74.20	5.7	2.581	104.45	14.1
1H2027	0.623	63.57	3.4	0.948	75.14	5.2	2.468	106.92	13.5
2H2027	0.581	64.15	3.2	0.898	76.04	4.9	2.439	109.36	13.4
1H2028	0.528	64.67	2.9	0.827	76.87	4.5	2.346	111.70	12.8
2H2028	0.490	65.16	2.7	0.779	77.65	4.3	2.308	114.01	12.6
1H2029	0.443	65.61	2.4	0.714	78.36	3.9	2.210	116.22	12.1
2H2029	0.413	66.02	2.3	0.676	79.04	3.7	2.187	118.41	12.0
1H2030	0.373	66.39	2.0	0.620	79.66	3.4	2.096	120.51	11.5
2H2030	0.348	66.74	1.9	0.587	80.24	3.2	2.076	122.58	11.4
1H2031				0.538	80.78	2.9	1.990	124.57	10.9

	45	45	45	25	25	25	25	25	25
	1P MBBLS	1P MBBLS	1P	2P MBBLS	2P MBBLS	2P	3P MBBLS	3P MBBLS	3P
2H2031	INIBBE2	INIBBE2	bopd	0.510	81.29	bopd 2.8	1.973	126.54	bopd 10.8
1H2032				0.310	81.76	2.6	1.903	128.45	10.8
2H2032				0.470	82.20	2.4	1.877	130.32	
1H2033				0.442	82.61	2.4	1.802	132.13	10.3 9.9
2H2033				0.405	82.99	2.2	1.788	133.91	9.9
1H2034				0.352	83.35	1.9	1.718	135.63	9.8
2H2034				0.333	83.68	1.8	1.718	137.34	9.4
									9.3
1H2035 2H2035				0.305	83.98	1.7	1.639	138.98	
2H2U35 1H2U36				0.289	84.27	1.6	1.628	140.61	8.9
2H2036				0.267 0.251	84.54 84.79	1.5 1.4	1.575 1.556	142.18 143.74	8.6 8.5
1H2037				0.231	04.79	1.4	1.497	145.74	8.2
2H2037							1.497	145.23	8.2
1H2038							1.433	148.16	7.8
2H2038							1.435	149.58	7.8
1H2039							1.373	150.95	7.5
2H2039							1.367	152.32	7.5
1H2040							1.324	153.65	7.2
2H2040							1.311	154.96	7.2
1H2041							1.264	156.22	6.9
2H2041							1.259	157.48	6.9
1H2041							1.214	158.69	6.6
2H2042							1.210	159.90	6.6
1H2043							1.167	161.07	6.4
2H2043							1.164	162.23	6.4
1H2044							1.129	163.36	6.2
2H2044							1.120	164.48	6.1
1H2045							1.081	165.56	5.9
2H2045							1.079	166.64	5.9
1H2046							1.042	167.69	5.7
2H2046							1.042	168.73	5.7
1H2047							1.004	169.73	5.5
2H2047							1.003	170.73	5.5
1H2048							0.974	171.71	5.3
2H2048							0.968	172.67	5.3



# **Profiles - Egmanton**

		ı		ı					
	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
1H2014	0.526	0.53	2.9	0.701	0.70	3.8	0.736	0.74	4.0
2H2014	0.500	1.03	2.7	0.667	1.37	3.7	0.701	1.44	3.8
1H2015				0.615	1.983	3.4	0.648	2.09	3.5
2H2015				0.585	2.568	3.2	0.619	2.70	3.4
1H2016				0.542	3.110	3.0	0.577	3.28	3.2
2H2016				0.513	3.623	2.8	0.550	3.83	3.0
1H2017				0.472	4.095	2.6	0.510	4.34	2.8
2H2017				0.450	4.545	2.5	0.491	4.83	2.7
1H2018				0.414	4.959	2.3	0.457	5.29	2.5
2H2018				0.394	5.353	2.2	0.440	5.73	2.4
1H2019				0.363	5.716	2.0	0.411	6.14	2.3
2H2019				0.346	6.062	1.9	0.397	6.54	2.2
1H2020				0.320	6.382	1.8	0.373	6.91	2.0
2H2020				0.303	6.685	1.7	0.359	7.27	2.0
1H2021							0.336	7.61	1.8
2H2021							0.326	7.93	1.8
1H2022							0.306	8.24	1.7
2H2022							0.297	8.53	1.6
1H2023							0.280	8.81	1.5
2H2023							0.272	9.09	1.5
1H2024							0.258	9.34	1.4
2H2024							0.250	9.59	1.4
1H2025							0.235	9.83	1.3
2H2025							0.230	10.06	1.3
1H2026							0.217	10.28	1.2
2H2026							0.212	10.49	1.2
1H2027							0.200	10.69	1.1
2H2027							0.196	10.88	1.1
1H2028							0.187	11.07	1.0
2H2028									
1H2029									
2H2029									
1H2030									
2H2030									
1H2031									





# **Profiles - Gainsborough/Beckingham**

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
1H2014	30.260	30.26	165.7	33.052	33.05	181.0	33.375	33.38	182.8
2H2014	29.041	59.30	159.0	32.373	65.43	177.3	32.642	66.02	178.7
1H2015	26.970	86.27	147.7	30.682	96.11	168.0	30.914	96.93	169.3
2H2015	25.884	112.16	141.7	30.051	126.16	164.6	30.278	127.21	165.8
1H2016	24.167	136.32	132.3	28.636	154.79	156.8	28.871	156.08	158.1
2H2016	23.062	159.38	126.3	27.890	182.68	152.7	28.156	184.24	154.2
1H2017	21.417	180.80	117.3	26.433	209.12	144.7	26.737	210.97	146.4
2H2017	20.555	201.36	112.6	25.890	235.01	141.8	26.255	237.23	143.8
1H2018	19.088	220.44	104.5	24.537	259.54	134.4	24.962	262.19	136.7
2H2018	18.320	238.76	100.3	24.033	283.58	131.6	24.540	286.73	134.4
1H2019	17.013	255.78	93.2	22.777	306.35	124.7	23.358	310.09	127.9
2H2019	16.328	272.11	89.4	22.309	328.66	122.2	22.988	333.08	125.9
1H2020	15.245	287.35	83.5	21.258	349.92	116.4	22.022	355.10	120.6
2H2020	14.548	301.90	79.7	20.705	370.63	113.4	21.575	376.67	118.1
1H2021	13.510	315.41	74.0	19.623	390.25	107.4	20.577	397.25	112.7
2H2021	12.966	328.37	71.0	19.220	409.47	105.2	20.291	417.54	111.1
1H2022	12.041	340.42	65.9	18.216	427.69	99.7	19.371	436.91	106.1
2H2022	11.556	351.97	63.3	17.841	445.53	97.7	19.119	456.03	104.7
1H2023	10.732	362.70	58.8	16.909	462.44	92.6	18.268	474.30	100.0
2H2023	10.300	373.00	56.4	16.562	479.00	90.7	18.045	492.34	98.8
1H2024	9.616	382.62	52.7	15.782	494.78	86.4	17.350	509.69	95.0
2H2024	9.177	391.80	50.3	15.371	510.15	84.2	17.057	526.75	93.4
1H2025	8.522	400.32	46.7	14.568	524.72	79.8	16.324	543.08	89.4
2H2025	8.179	408.50	44.8	14.268	538.99	78.1	16.151	559.23	88.4
1H2026	7.596	416.09	41.6	13.523	552.51	74.0	15.468	574.69	84.7
2H2026	7.290	423.38	39.9	13.245	565.75	72.5	15.314	590.01	83.9
1H2027	6.770	430.15	37.1	12.553	578.31	68.7	14.677	604.69	80.4
2H2027	6.497	436.65	35.6	12.295	590.60	67.3	14.541	619.23	79.6
1H2028	6.066	442.72	33.2	11.716	602.32	64.2	14.021	633.25	76.8
2H2028	5.789	448.51	31.7	11.411	613.73	62.5	13.823	647.07	75.7
1H2029	5.376	453.88	29.4	10.815	624.54	59.2	13.265	660.34	72.6
2H2029	5.159	459.04	28.2	10.593	635.14	58.0	13.159	673.49	72.1
1H2030	4.791	463.83	26.2	10.039	645.18	55.0	12.636	686.13	69.2
2H2030	4.599	468.43	25.2	9.833	655.01	53.8	12.542	698.67	68.7
1H2031	4.271	472.70	23.4	9.319	664.33	51.0	12.050	710.72	66.0

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
2H2031	4.099	476.80	22.4	9.128	673.46	50.0	11.967	722.69	65.5
1H2032				8.698	682.15	47.6	11.566	734.26	63.3
2H2032				8.471	690.63	46.4	11.429	745.68	62.6
1H2033				8.029	698.65	44.0	10.992	756.68	60.2
2H2033				7.864	706.52	43.1	10.928	767.60	59.8
1H2034				7.453	713.97	40.8	10.516	778.12	57.6
2H2034				7.300	721.27	40.0	10.459	788.58	57.3
1H2035				6.918	728.19	37.9	10.069	798.65	55.1
2H2035				6.776	734.97	37.1	10.020	808.67	54.9
1H2036				6.457	741.42	35.4	9.704	818.37	53.1
2H2036				6.289	747.71	34.4	9.607	827.98	52.6
1H2037				5.960	753.67	32.6	9.257	837.24	50.7
2H2037				5.838	759.51	32.0	9.220	846.46	50.5
1H2038				5.533	765.04	30.3	8.888	855.34	48.7
2H2038				5.419	770.46	29.7	8.856	864.20	48.5
1H2039				5.136	775.60	28.1	8.540	872.74	46.8
2H2039				5.030	780.63	27.5	8.513	881.25	46.6
1H2040				4.793	785.42	26.2	8.257	889.51	45.2
2H2040				4.669	790.09	25.6	8.188	897.70	44.8
1H2041				4.425	794.51	24.2	7.902	905.60	43.3
2H2041				4.334	798.85	23.7	7.883	913.48	43.2
1H2042				4.107	802.96	22.5	7.610	921.09	41.7
2H2042				4.023	806.98	22.0	7.594	928.69	41.6
1H2043				3.813	810.79	20.9	7.334	936.02	40.2
2H2043				3.734	814.53	20.4	7.321	943.34	40.1
1H2044				3.559	818.08	19.5	7.112	950.45	38.9
2H2044				3.466	821.55	19.0	7.062	957.52	38.7
1H2045				3.285	824.84	18.0	6.825	964.34	37.4
2H2045				3.217	828.05	17.6	6.817	971.16	37.3
1H2046				3.049	831.10	16.7	6.590	977.75	36.1
2H2046				2.987	834.09	16.4	6.584	984.33	36.1
1H2047			_	2.831	836.92	15.5	6.367	990.70	34.9
2H2047				2.772	839.69	15.2	6.364	997.06	34.8
1H2048							6.189	1003.25	33.9
2H2048							6.153	1009.41	33.7





#### **Gas Profiles Gainsborough/Beckingham**

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	Bscf	Bscf	MMscf/d	Bscf	Bscf	MMscf/d	Bscf	Bscf	MMscf/d
1H2014	0.050	0.05	0.27	0.050	0.05	0.27	0.050	0.05	0.27
2H2014	0.050	0.10	0.27	0.050	0.10	0.27	0.050	0.10	0.27
1H2015	0.050	0.15	0.27	0.050	0.15	0.27	0.050	0.15	0.27
2H2015	0.050	0.20	0.27	0.050	0.20	0.27	0.050	0.20	0.27
1H2016	0.050	0.25	0.27	0.050	0.25	0.27	0.050	0.25	0.27
2H2016	0.050	0.30	0.27	0.050	0.30	0.27	0.050	0.30	0.27
1H2017	0.050	0.35	0.27	0.050	0.35	0.27	0.050	0.35	0.27
2H2017	0.050	0.40	0.27	0.050	0.40	0.27	0.050	0.40	0.27
1H2018	0.050	0.45	0.27	0.050	0.45	0.27	0.050	0.45	0.27
2H2018	0.050	0.50	0.27	0.050	0.50	0.27	0.050	0.50	0.27
1H2019	0.050	0.55	0.27	0.050	0.55	0.27	0.050	0.55	0.27
2H2019	0.050	0.60	0.27	0.050	0.60	0.27	0.050	0.60	0.27
1H2020	0.050	0.65	0.27	0.050	0.65	0.27	0.050	0.65	0.27
2H2020	0.050	0.70	0.27	0.050	0.70	0.27	0.050	0.70	0.27
1H2021	0.050	0.75	0.27	0.050	0.75	0.27	0.050	0.75	0.27
2H2021	0.050	0.80	0.27	0.050	0.80	0.27	0.050	0.80	0.27
1H2022	0.050	0.85	0.27	0.050	0.85	0.27	0.050	0.85	0.27
2H2022	0.050	0.90	0.27	0.050	0.90	0.27	0.050	0.90	0.27
1H2023	0.050	0.95	0.27	0.050	0.95	0.27	0.050	0.95	0.27
2H2023	0.050	1.00	0.27	0.050	1.00	0.27	0.050	1.00	0.27
1H2024	0.050	1.05	0.27	0.050	1.05	0.27	0.050	1.05	0.27
2H2024	0.048	1.10	0.26	0.050	1.10	0.27	0.050	1.10	0.27
1H2025	0.044	1.14	0.24	0.050	1.15	0.27	0.050	1.15	0.27
2H2025	0.043	1.19	0.23	0.050	1.20	0.27	0.050	1.20	0.27
1H2026	0.039	1.22	0.22	0.050	1.25	0.27	0.050	1.25	0.27
2H2026	0.038	1.26	0.21	0.050	1.30	0.27	0.050	1.30	0.27
1H2027	0.035	1.30	0.19	0.050	1.35	0.27	0.050	1.35	0.27
2H2027	0.034	1.33	0.18	0.050	1.40	0.27	0.050	1.40	0.27
1H2028	0.032	1.36	0.17	0.050	1.45	0.27	0.050	1.45	0.27
2H2028	0.030	1.39	0.16	0.050	1.50	0.27	0.050	1.50	0.27
1H2029	0.028	1.42	0.15	0.050	1.55	0.27	0.050	1.55	0.27
2H2029	0.027	1.45	0.15	0.050	1.60	0.27	0.050	1.60	0.27
1H2030				0.050	1.65	0.27	0.050	1.65	0.27
2H2030				0.050	1.70	0.27	0.050	1.70	0.27
1H2031				0.048	1.75	0.27	0.050	1.75	0.27

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	Bscf	Bscf	MMscf/d	Bscf	Bscf	MMscf/d	Bscf	Bscf	MMscf/d
2H2031				0.047	1.80	0.26	0.050	1.80	0.27
1H2032				0.045	1.84	0.25	0.050	1.85	0.27
2H2032				0.044	1.89	0.24	0.050	1.90	0.27
1H2033				0.042	1.93	0.23	0.050	1.95	0.27
2H2033				0.041	1.97	0.22	0.050	2.00	0.27
1H2034				0.039	2.01	0.21	0.050	2.05	0.27
2H2034				0.038	2.05	0.21	0.050	2.10	0.27
1H2035				0.036	2.08	0.20	0.050	2.15	0.27
2H2035				0.035	2.12	0.19	0.050	2.20	0.27
1H2036				0.034	2.15	0.18	0.050	2.25	0.27
2H2036				0.033	2.18	0.18	0.050	2.30	0.27
1H2037				0.031	2.21	0.17	0.048	2.35	0.26
2H2037				0.030	2.24	0.17	0.048	2.40	0.26
1H2038				0.029	2.27	0.16	0.046	2.44	0.25
2H2038				0.028	2.30	0.15	0.046	2.49	0.25
1H2039				0.027	2.33	0.15	0.044	2.53	0.24
2H2039				0.026	2.35	0.14	0.044	2.58	0.24
1H2040				0.025	2.38	0.14	0.043	2.62	0.24
2H2040				0.024	2.40	0.13	0.043	2.66	0.23
1H2041				0.023	2.43	0.13	0.041	2.71	0.22
2H2041				0.023	2.45	0.12	0.041	2.75	0.22
1H2042				0.021	2.47	0.12	0.040	2.79	0.22
2H2042				0.021	2.49	0.11	0.039	2.83	0.22
1H2043				0.020	2.51	0.11	0.038	2.86	0.21
2H2043				0.019	2.53	0.11	0.038	2.90	0.21
1H2044				0.019	2.55	0.10	0.037	2.94	0.20
2H2044				0.018	2.57	0.10	0.037	2.98	0.20
1H2045				0.017	2.58	0.09	0.035	3.01	0.19
2H2045				0.017	2.60	0.09	0.035	3.05	0.19
1H2046				0.016	2.62	0.09	0.034	3.08	0.19
2H2046				0.016	2.63	0.09	0.034	3.11	0.19
1H2047							0.033	3.15	0.18
2H2047							0.033	3.18	0.18
1H2048							0.032	3.21	0.18
2H2048							0.032	3.24	0.18





#### **Profiles - Glentworth**

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
1H2014	17.145	17.15	93.9	17.928	17.93	98.2	17.953	17.95	98.3
2H2014	16.921	34.07	92.7	17.796	35.72	97.4	17.875	35.83	97.9
1H2015	16.159	50.23	88.5	17.093	52.82	93.6	17.224	53.05	94.3
2H2015	15.948	66.17	87.3	16.967	69.78	92.9	17.156	70.21	93.9
1H2016	15.313	81.49	83.8	16.386	86.17	89.7	16.629	86.84	91.1
2H2016	15.028	96.51	82.3	16.174	102.34	88.6	16.478	103.32	90.2
1H2017	14.352	110.87	78.6	15.535	117.88	85.1	15.892	119.21	87.0
2H2017	14.164	125.03	77.6	15.421	133.30	84.4	15.842	135.05	86.7
1H2018	13.527	138.56	74.1	14.812	148.11	81.1	15.284	150.33	83.7
2H2018	13.350	151.91	73.1	14.702	162.81	80.5	15.241	165.57	83.5
1H2019	12.749	164.66	69.8	14.122	176.94	77.3	14.710	180.28	80.5
2H2019	12.582	177.24	68.9	14.017	190.95	76.8	14.674	194.96	80.4
1H2020	12.081	189.32	66.2	13.537	204.49	74.1	14.245	209.20	78.0
2H2020	11.857	201.18	64.9	13.363	217.85	73.2	14.137	223.34	77.4
1H2021	11.323	212.50	62.0	12.835	230.69	70.3	13.653	236.99	74.8
2H2021	11.175	223.67	61.2	12.740	243.43	69.8	13.630	250.62	74.6
1H2022	10.672	234.35	58.4	12.237	255.67	67.0	13.168	263.79	72.1
2H2022	10.532	244.88	57.7	12.147	267.81	66.5	13.149	276.94	72.0
1H2023	10.058	254.94	55.1	11.667	279.48	63.9	12.708	289.65	69.6
2H2023	9.927	264.86	54.4	11.581	291.06	63.4	12.694	302.34	69.5
1H2024	9.532	274.40	52.2	11.184	302.24	61.2	12.339	314.68	67.6
2H2024	9.354	283.75	51.2	11.040	313.28	60.5	12.261	326.94	67.1
1H2025	8.933	292.68	48.9	10.604	323.89	58.1	11.857	338.80	64.9
2H2025	8.816	301.50	48.3	10.526	334.41	57.6	11.851	350.65	64.9
1H2026	8.420	309.92	46.1	10.110	344.52	55.4	11.463	362.11	62.8
2H2026	8.310	318.23	45.5	10.035	354.56	54.9	11.460	373.57	62.8
1H2027	7.936	326.16	43.5	9.639	364.20	52.8	11.089	384.66	60.7
2H2027	7.832	334.00	42.9	9.568	373.77	52.4	11.089	395.75	60.7
1H2028	7.520	341.52	41.2	9.240	383.01	50.6	10.791	406.54	59.1
2H2028	7.380	348.90	40.4	9.121	392.13	49.9	10.735	417.28	58.8
1H2029	7.048	355.94	38.6	8.761	400.89	48.0	10.392	427.67	56.9
2H2029	6.956	362.90	38.1	8.696	409.58	47.6	10.398	438.07	56.9
1H2030	6.643	369.54	36.4	8.353	417.94	45.7	10.069	448.14	55.1
2H2030	6.556	376.10	35.9	8.291	426.23	45.4	10.077	458.21	55.2
1H2031	6.261	382.36	34.3	7.964	434.19	43.6	9.760	467.97	53.4

	1P	1P	1P	2P	2P	2P	3P	3P	3P
-	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
2H2031	6.179	388.54	33.8	7.905	442.10	43.3	9.771	477.74	53.5
1H2032	5.933	394.47	32.5	7.634	449.73	41.8	9.518	487.26	52.1
2H2032	5.823	400.30	31.9	7.536	457.27	41.3	9.477	496.74	51.9
1H2033	5.561	405.86	30.5	7.238	464.51	39.6	9.184	505.92	50.3
2H2033	5.488	411.34	30.1	7.185	471.69	39.3	9.198	515.12	50.4
1H2034	5.241	416.59	28.7	6.901	478.59	37.8	8.915	524.04	48.8
2H2034	5.172	421.76	28.3	6.850	485.44	37.5	8.930	532.97	48.9
1H2035	4.939	426.70	27.0	6.579	492.02	36.0	8.657	541.62	47.4
2H2035	4.875	431.57	26.7	6.531	498.55	35.8	8.674	550.30	47.5
1H2036	4.681	436.25	25.6	6.307	504.86	34.5	8.457	558.75	46.3
2H2036	4.594	440.85	25.2	6.226	511.08	34.1	8.428	567.18	46.1
1H2037	4.387	445.23	24.0	5.980	517.06	32.7	8.174	575.36	44.8
2H2037	4.330	449.56	23.7	5.936	523.00	32.5	8.193	583.55	44.9
1H2038	4.135	453.70	22.6	5.701	528.70	31.2	7.948	591.50	43.5
2H2038	4.081	457.78	22.3	5.659	534.36	31.0	7.968	599.47	43.6
1H2039	3.897	461.68	21.3	5.436	539.80	29.8	7.731	607.20	42.3
2H2039	3.846	465.52	21.1	5.396	545.19	29.5	7.752	614.95	42.4
1H2040	3.693	469.22	20.2	5.211	550.40	28.5	7.564	622.51	41.4
2H2040	3.624	472.84	19.8	5.144	555.55	28.2	7.544	630.06	41.3
1H2041	3.461	476.30	19.0	4.940	560.49	27.0	7.322	637.38	40.1
2H2041	3.416	479.72	18.7	4.904	565.39	26.9	7.345	644.72	40.2
1H2042	3.262	482.98	17.9	4.710	570.10	25.8	7.130	651.85	39.0
2H2042	3.219	486.20	17.6	4.676	574.78	25.6	7.154	659.01	39.2
1H2043	3.075	489.27	16.8	4.491	579.27	24.6	6.946	665.95	38.0
2H2043	3.034	492.31	16.6	4.458	583.73	24.4	6.970	672.92	38.2
1H2044	2.914	495.22	16.0	4.305	588.03	23.6	6.806	679.73	37.3
2H2044	2.859	498.08	15.7	4.250	592.28	23.3	6.792	686.52	37.2
1H2045	2.731	500.81	15.0	4.082	596.36	22.4	6.597	693.12	36.1
2H2045	2.695	503.51	14.8	4.052	600.42	22.2	6.622	699.74	36.3
1H2046	2.574	506.08	14.1	3.892	604.31	21.3	6.433	706.17	35.2
2H2046	2.540	508.62	13.9	3.863	608.17	21.2	6.458	712.63	35.4
1H2047				3.710	611.88	20.3	6.274	718.91	34.4
2H2047				3.683	615.56	20.2	6.300	725.21	34.5
1H2048							6.156	731.36	33.7
2H2048							6.148	737.51	33.7





#### **Profiles - Long Clawson**

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
1H2014	12.569	12.57	68.8	13.212	13.21	72.3	13.265	13.27	72.6
2H2014	12.215	24.78	66.9	12.916	26.13	70.7	13.079	26.34	71.6
1H2015	11.488	36.27	62.9	12.219	38.35	66.9	12.484	38.83	68.4
2H2015	11.164	47.44	61.1	11.945	50.29	65.4	12.319	51.15	67.5
1H2016	10.556	57.99	57.8	11.361	61.65	62.2	11.833	62.98	64.8
2H2016	10.202	68.19	55.9	11.045	72.70	60.5	11.622	74.60	63.6
1H2017	9.594	77.79	52.5	10.448	83.15	57.2	11.112	85.71	60.8
2H2017	9.324	87.11	51.1	10.214	93.36	55.9	10.984	96.70	60.1
1H2018	8.769	95.88	48.0	9.663	103.02	52.9	10.510	107.21	57.5
2H2018	8.522	104.40	46.7	9.446	112.47	51.7	10.397	117.61	56.9
1H2019	8.015	112.42	43.9	8.936	121.41	48.9	9.956	127.56	54.5
2H2019	7.789	120.21	42.7	8.736	130.14	47.8	9.856	137.42	54.0
1H2020	7.365	127.57	40.3	8.309	138.45	45.5	9.496	146.91	52.0
2H2020	7.117	134.69	39.0	8.078	146.53	44.2	9.355	156.27	51.2
1H2021	6.694	141.38	36.7	7.641	154.17	41.8	8.971	165.24	49.1
2H2021	6.505	147.89	35.6	7.470	161.64	40.9	8.892	174.13	48.7
1H2022	6.118	154.01	33.5	7.067	168.71	38.7	8.532	182.66	46.7
2H2022	5.946	159.95	32.6	6.909	175.62	37.8	8.463	191.13	46.3
1H2023	5.592	165.54	30.6	6.535	182.15	35.8	8.125	199.25	44.5
2H2023	5.434	170.98	29.8	6.389	188.54	35.0	8.064	207.32	44.2
1H2024	5.138	176.12	28.1	6.077	194.62	33.3	7.789	215.10	42.7
2H2024	4.966	181.08	27.2	5.907	200.52	32.3	7.692	222.80	42.1
1H2025	4.670	185.75	25.6	5.588	206.11	30.6	7.393	230.19	40.5
2H2025	4.539	190.29	24.9	5.463	211.57	29.9	7.346	237.54	40.2
1H2026	4.268	194.56	23.4	5.168	216.74	28.3	7.064	244.60	38.7
2H2026	4.148	198.71	22.7	5.053	221.80	27.7	7.023	251.62	38.5
1H2027	3.901	202.61	21.4	4.780	226.58	26.2	6.757	258.38	37.0
2H2027	3.791	206.40	20.8	4.673	231.25	25.6	6.720	265.10	36.8
1H2028	3.585	209.98	19.6	4.444	235.69	24.3	6.504	271.60	35.6
2H2028	3.464	213.45	19.0	4.320	240.01	23.7	6.436	278.04	35.2
1H2029	3.258	216.71	17.8	4.087	244.10	22.4	6.198	284.24	33.9
2H2029	3.166	219.87	17.3	3.996	248.10	21.9	6.170	290.41	33.8
1H2030	2.978	222.85	16.3	3.780	251.88	20.7	5.945	296.35	32.6
2H2030	2.894	225.74	15.8	3.695	255.57	20.2	5.921	302.27	32.4
1H2031	2.722	228.47	14.9	3.496	259.07	19.1	5.707	307.98	31.2

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
2H2031	2.645	231.11	14.5	3.417	262.48	18.7	5.686	313.67	31.1
1H2032	2.501	233.61	13.7	3.250	265.73	17.8	5.513	319.18	30.2
2H2032	2.417	236.03	13.2	3.160	268.89	17.3	5.464	324.64	29.9
1H2033	2.273	238.30	12.4	2.989	271.88	16.4	5.271	329.91	28.9
2H2033	2.209	240.51	12.1	2.922	274.80	16.0	5.256	335.17	28.8
1H2034	2.078	242.59	11.4	2.764	277.57	15.1	5.072	340.24	27.8
2H2034	2.019	244.61	11.1	2.702	280.27	14.8	5.059	345.30	27.7
1H2035	1.899	246.51	10.4	2.556	282.83	14.0	4.884	350.19	26.7
2H2035	1.845	248.35	10.1	2.499	285.33	13.7	4.873	355.06	26.7
1H2036	1.745	250.10	9.6	2.377	287.70	13.0	4.732	359.79	25.9
2H2036	1.686	251.78	9.2	2.311	290.01	12.7	4.697	364.49	25.7
1H2037	1.586	253.37	8.7	2.186	292.20	12.0	4.538	369.03	24.8
2H2037	1.541	254.91	8.4	2.137	294.34	11.7	4.531	373.56	24.8
1H2038	1.449	256.36	7.9	2.022	296.36	11.1	4.378	377.93	24.0
2H2038	1.409	257.77	7.7	1.976	298.33	10.8	4.373	382.31	23.9
1H2039	1.325	259.09	7.3	1.870	300.20	10.2	4.227	386.53	23.1
2H2039	1.288	260.38	7.1	1.828	302.03	10.0	4.223	390.76	23.1
1H2040	1.217	261.60	6.7	1.738	303.77	9.5	4.106	394.86	22.5
2H2040	1.177	262.78	6.4	1.690	305.46	9.3	4.081	398.94	22.3
1H2041	1.106	263.88	6.1	1.599	307.06	8.8	3.947	402.89	21.6
2H2041	1.075	264.96	5.9	1.563	308.62	8.6	3.946	406.84	21.6
1H2042	1.011	265.97	5.5	1.479	310.10	8.1	3.818	410.66	20.9
2H2042	0.983	266.95	5.4	1.445	311.55	7.9	3.817	414.47	20.9
1H2043	0.924	267.87	5.1	1.367	312.91	7.5	3.694	418.17	20.2
2H2043	0.898	268.77	4.9	1.337	314.25	7.3	3.695	421.86	20.2
1H2044	0.849	269.62	4.6	1.271	315.52	7.0	3.597	425.46	19.7
2H2044	0.821	270.44	4.5	1.236	316.76	6.8	3.578	429.04	19.6
1H2045	0.772	271.21	4.2	1.169	317.93	6.4	3.465	432.50	19.0
2H2045	0.750	271.96	4.1	1.143	319.07	6.3	3.467	435.97	19.0
1H2046	0.706	272.67	3.9	1.081	320.15	5.9	3.358	439.33	18.4
2H2046	0.686	273.36	3.8	1.057	321.21	5.8	3.361	442.69	18.4
1H2047			_	1.000	322.21	5.5	3.256	445.94	17.8
2H2047				0.978	323.19	5.4	3.260	449.20	17.9
1H2048							3.176	452.38	17.4
2H2048							3.163	455.54	17.3



#### **Profiles - Nettleham**

1P										
TH2014										
2H2014				-			-			•
1H2015										
2H2015	-	0.469	1.00	2.6						
1H2016	1H2015				0.482		2.6		1.89	3.1
2H2016	2H2015				0.443	2.06	2.4	0.520		
1H2017										
2H2017										
1H2018	1H2017									2.1
2H2018	2H2017									1.9
1H2019	1H2018							0.311	4.34	1.7
2H2019	2H2018							0.286	4.63	1.6
1H2020       0.210       5.33       1.1         2H2020       0.192       5.52       1.1         1H2021       0.192       5.52       1.1         2H2021       0.192       5.52       1.1         1H2022       0.210       5.52       1.1         2H2022       0.210       0.210       5.52       1.1         1H2022       0.210       0.210       0.210       5.52       1.1         1H2022       0.210	1H2019							0.255	4.88	1.4
2H2020       0.192       5.52       1.1         1H2021       0.192       5.52       1.1         2H2021       0.192       5.52       1.1         1H2022       0.192       5.52       1.1         1H2022       0.192       5.52       1.1         1H2022       0.192       5.52       1.1         2H2022       0.192       0	2H2019							0.235	5.12	1.3
1H2021       2H2021         1H2022       3         2H2023       3         2H2023       3         1H2024       3         2H2024       3         1H2025       3         2H2025       3         1H2026       3         2H2026       3         1H2027       3         2H2027       3         1H2028       3         2H2029       3         1H2030       3         2H2030       3	1H2020							0.210	5.33	1.1
2H2021       1H2022         2H2022       1H2023         2H2023       1H2024         2H2024       1H2025         2H2025       1H2026         2H2026       1H2027         2H2027       1H2028         2H2028       1H2029         2H2029       1H2030         2H2030       1H2030         2H2030       1H2030	2H2020							0.192	5.52	1.1
1H2022       2H2022         1H2023       3         2H2023       4         1H2024       4         2H2024       4         1H2025       4         2H2025       4         1H2026       4         2H2026       4         1H2027       4         2H2027       4         1H2028       4         2H2028       4         1H2029       4         2H2030       4	1H2021									
2H2022       1H2023         2H2023       1H2024         1H2024       1H2025         2H2025       1H2025         1H2026       1H2026         2H2027       1H2027         1H2028       1H2028         2H2029       1H2030         2H2030       1H2030	2H2021									
1H2023       1H2024         2H2024       1H2025         2H2025       1H2026         2H2026       1H2027         2H2027       1H2028         2H2028       1H2029         2H2029       1H2030         2H2030       1H2030	1H2022									
2H2023       1H2024         2H2024       1H2025         1H2025       1H2025         2H2026       1H2026         2H2027       1H2027         2H2028       1H2028         2H2029       1H2030         2H2030       1H2030	2H2022									
1H2024       2H2024         1H2025       3         2H2025       3         1H2026       3         2H2026       3         1H2027       3         2H2027       3         1H2028       3         2H2028       3         1H2029       3         2H2030       3	1H2023									
2H2024       1H2025         2H2025       1H2026         2H2026       1H2027         2H2027       1H2027         2H2028       1H2028         2H2029       1H2030         2H2030       1H2030	2H2023									
1H2025       1H2025         2H2026       1H2026         2H2026       1H2027         2H2027       1H2028         2H2028       1H2029         2H2029       1H2030         2H2030       1H2030	1H2024									
2H2025       1H2026       2H2026       1H2027       2H2027       1H2028       2H2028       1H2029       2H2029       1H2030       2H2030	2H2024									
1H2026       2H2026         2H2027       3H2027         2H2027       3H2028         2H2028       3H2029         2H2029       3H2030         2H2030       3H2030	1H2025									
2H2026       1H2027       2H2027       1H2028       2H2028       1H2029       2H2029       1H2030       2H2030	2H2025									
1H2027 2H2027 1H2028 2H2028 1H2029 2H2029 1H2030 2H2030	1H2026									
2H2027  1H2028  2H2028  1H2029  2H2029  1H2030  2H2030	2H2026									
1H2028       2H2028       1H2029       2H2029       1H2030       2H2030	1H2027									
2H2028       1H2029       2H2029       1H2030       2H2030	2H2027									
1H2029	1H2028									
2H2029	2H2028									
1H2030 2H2030	1H2029									
2H2030	2H2029									
2H2030	1H2030									
	2H2030									





# **Profiles - Rempstone**

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
1H2014	1.697	1.70	9.3	1.823	1.82	10.0	1.991	1.99	10.9
2H2014	1.679	3.38	9.2	1.804	3.63	9.9	1.982	3.97	10.9
1H2015	1.608	4.98	8.8	1.728	5.36	9.5	1.911	5.88	10.5
2H2015	1.592	6.58	8.7	1.710	7.07	9.4	1.904	7.79	10.4
1H2016	1.533	8.11	8.4	1.647	8.71	9.0	1.846	9.63	10.1
2H2016	1.509	9.62	8.3	1.621	10.33	8.9	1.829	11.46	10.0
1H2017	1.445	11.06	7.9	1.552	11.89	8.5	1.764	13.23	9.7
2H2017	1.430	12.49	7.8	1.536	13.42	8.4	1.759	14.99	9.6
1H2018	1.369	13.86	7.5	1.471	14.89	8.1	1.698	16.68	9.3
2H2018	1.355	15.22	7.4	1.456	16.35	8.0	1.693	18.38	9.3
1H2019	1.298	16.52	7.1	1.394	17.74	7.6	1.635	20.01	9.0
2H2019	1.285	17.80	7.0	1.380	19.12	7.6	1.631	21.64	8.9
1H2020	1.237	19.04	6.8	1.329	20.45	7.3	1.584	23.23	8.7
2H2020	1.217	20.25	6.7	1.308	21.76	7.2	1.572	24.80	8.6
1H2021	1.166	21.42	6.4	1.252	23.01	6.9	1.518	26.32	8.3
2H2021	1.154	22.57	6.3	1.240	24.25	6.8	1.516	27.83	8.3
1H2022	1.105	23.68	6.1	1.187	25.44	6.5	1.465	29.30	8.0
2H2022	1.094	24.77	6.0	1.175	26.61	6.4	1.463	30.76	8.0
1H2023	1.047	25.82	5.7	1.125	27.74	6.2	1.414	32.18	7.7
2H2023	1.037	26.86	5.7	1.114	28.85	6.1	1.413	33.59	7.7
1H2024	0.998	27.86	5.5	1.072	29.92	5.9	1.374	34.96	7.5
2H2024	0.982	28.84	5.4	1.055	30.98	5.8	1.365	36.33	7.5
1H2025	0.941	29.78	5.2	1.011	31.99	5.5	1.320	37.65	7.2
2H2025	0.931	30.71	5.1	1.000	32.99	5.5	1.320	38.97	7.2
1H2026	0.892	31.60	4.9	0.958	33.95	5.2	1.277	40.24	7.0
2H2026	0.883	32.48	4.8	0.948	34.90	5.2	1.277	41.52	7.0
1H2027	0.845	33.33	4.6	0.908	35.80	5.0	1.236	42.76	6.8
2H2027	0.836	34.17	4.6	0.899	36.70	4.9	1.236	43.99	6.8
1H2028	0.805	34.97	4.4	0.865	37.57	4.7	1.203	45.20	6.6
2H2028	0.793	35.76	4.3	0.852	38.42	4.7	1.197	46.39	6.6
1H2029	0.759	36.52	4.2	0.816	39.24	4.5	1.159	47.55	6.3
2H2029	0.751	37.27	4.1	0.807	40.04	4.4	1.159	48.71	6.3
1H2030	0.720	37.99	3.9	0.773	40.82	4.2	1.123	49.83	6.1
2H2030	0.712	38.71	3.9	0.765	41.58	4.2	1.124	50.96	6.2
1H2031	0.682	39.39	3.7	0.733	42.31	4.0	1.089	52.05	6.0

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
2H2031	0.675	40.06	3.7	0.725	43.04	4.0	1.090	53.14	6.0
1H2032	0.650	40.71	3.6	0.698	43.74	3.8	1.062	54.20	5.8
2H2032	0.640	41.35	3.5	0.687	44.42	3.8	1.058	55.26	5.8
1H2033	0.613	41.97	3.4	0.658	45.08	3.6	1.025	56.28	5.6
2H2033	0.606	42.57	3.3	0.651	45.73	3.6	1.027	57.31	5.6
1H2034	0.581	43.15	3.2	0.624	46.36	3.4	0.995	58.30	5.4
2H2034	0.575	43.73	3.1	0.617	46.97	3.4	0.997	59.30	5.5
1H2035	0.550	44.28	3.0	0.591	47.57	3.2	0.967	60.27	5.3
2H2035	0.545	44.82	3.0	0.585	48.15	3.2	0.969	61.24	5.3
1H2036	0.524	45.35	2.9	0.563	48.71	3.1	0.945	62.18	5.2
2H2036	0.516	45.86	2.8	0.555	49.27	3.0	0.941	63.12	5.2
1H2037	0.494	46.36	2.7	0.531	49.80	2.9	0.913	64.04	5.0
2H2037	0.489	46.85	2.7	0.526	50.33	2.9	0.915	64.95	5.0
1H2038	0.469	47.31	2.6	0.503	50.83	2.8	0.888	65.84	4.9
2H2038	0.464	47.78	2.5	0.498	51.33	2.7	0.890	66.73	4.9
1H2039	0.444	48.22	2.4	0.477	51.80	2.6	0.864	67.59	4.7
2H2039	0.440	48.66	2.4	0.472	52.28	2.6	0.866	68.46	4.7
1H2040	0.423	49.09	2.3	0.455	52.73	2.5	0.846	69.31	4.6
2H2040	0.417	49.50	2.3	0.448	53.18	2.5	0.843	70.15	4.6
1H2041	0.399	49.90	2.2	0.429	53.61	2.3	0.819	70.97	4.5
2H2041	0.395	50.30	2.2	0.424	54.03	2.3	0.821	71.79	4.5
1H2042	0.378	50.67	2.1	0.406	54.44	2.2	0.797	72.59	4.4
2H2042	0.374	51.05	2.0	0.402	54.84	2.2	0.800	73.39	4.4
1H2043	0.358	51.41	2.0	0.385	55.22	2.1	0.777	74.16	4.3
2H2043	0.355	51.76	1.9	0.381	55.61	2.1	0.780	74.94	4.3
1H2044	0.342	52.10	1.9	0.367	55.97	2.0	0.761	75.70	4.2
2H2044	0.336	52.44	1.8	0.361	56.33	2.0	0.760	76.46	4.2
1H2045	0.322	52.76	1.8	0.346	56.68	1.9	0.738	77.20	4.0
2H2045	0.319	53.08	1.7	0.342	57.02	1.9	0.741	77.94	4.1
1H2046	0.305	53.39	1.7	0.328	57.35	1.8	0.720	78.66	3.9
2H2046	0.302	53.69	1.7	0.324	57.67	1.8	0.723	79.39	4.0
1H2047				0.311	57.98	1.7	0.702	80.09	3.8
2H2047				0.308	58.29	1.7	0.705	80.79	3.9
1H2048							0.689	81.48	3.8
2H2048							0.688	82.17	3.8





# **Profiles - Scampton**

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
1H2014	0.726	0.73	4.0	1.628	1.63	8.9	1.750	1.75	9.6
2H2014	0.686	1.41	3.8	1.531	3.16	8.4	1.665	3.42	9.1
1H2015	0.626	2.04	3.4	1.392	4.55	7.6	1.535	4.95	8.4
2H2015	0.591	2.63	3.2	1.309	5.86	7.2	1.467	6.42	8.0
1H2016	0.543	3.17	3.0	1.197	7.06	6.6	1.365	7.78	7.5
2H2016	0.510	3.68	2.8	1.119	8.18	6.1	1.301	9.08	7.1
1H2017	0.466	4.15	2.6	1.018	9.19	5.6	1.209	10.29	6.6
2H2017	0.440	4.59	2.4	0.957	10.15	5.2	1.163	11.46	6.4
1H2018	0.402	4.99	2.2	0.870	11.02	4.8	1.084	12.54	5.9
2H2018	0.379	5.37	2.1	0.818	11.84	4.5	1.045	13.58	5.7
1H2019				0.744	12.58	4.1	0.977	14.56	5.3
2H2019				0.700	13.28	3.8	0.945	15.51	5.2
1H2020				0.640	13.92	3.5	0.890	16.40	4.9
2H2020				0.598	14.52	3.3	0.858	17.25	4.7
1H2021				0.544	15.07	3.0	0.806	18.06	4.4
2H2021				0.511	15.58	2.8	0.783	18.84	4.3
1H2022				0.465	16.04	2.5	0.736	19.58	4.0
2H2022				0.437	16.48	2.4	0.717	20.30	3.9
1H2023				0.398	16.88	2.2	0.676	20.97	3.7
2H2023				0.374	17.25	2.0	0.659	21.63	3.6
1H2024				0.342	17.59	1.9	0.626	22.26	3.4
2H2024				0.320	17.91	1.8	0.608	22.87	3.3
1H2025				0.291	18.20	1.6	0.575	23.44	3.1
2H2025				0.273	18.48	1.5	0.562	24.00	3.1
1H2026				0.249	18.73	1.4	0.533	24.54	2.9
2H2026				0.234	18.96	1.3	0.522	25.06	2.9
1H2027				0.213	19.17	1.2	0.495	25.55	2.7
2H2027				0.200	19.37	1.1	0.486	26.04	2.7
1H2028				0.123	19.50	0.7	0.464	26.50	2.5
2H2028				0.123	19.50	0.7	0.453	26.96	2.5
1H2029							0.431	27.39	2.4
2H2029							0.424	27.81	2.3
1H2030							0.403	28.21	2.2
2H2030							0.397	28.61	2.2
1H2031							0.378	28.99	2.1

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
2H2031							0.373	29.36	2.0
1H2032							0.358	29.72	2.0
2H2032							0.351	30.07	1.9
1H2033							0.335	30.41	1.8
2H2033							0.331	30.74	1.8
1H2034							0.316	31.05	1.7
2H2034							0.312	31.36	1.7
1H2035							0.298	31.66	1.6
2H2035							0.295	31.96	1.6
1H2036							0.284	32.24	1.6
2H2036							0.279	32.52	1.5
1H2037							0.268	32.79	1.5
2H2037							0.265	33.05	1.5
1H2038							0.254	33.31	1.4
2H2038							0.252	33.56	1.4
1H2039							0.241	33.80	1.3
2H2039							0.239	34.04	1.3
1H2040							0.231	34.27	1.3
2H2040							0.228	34.50	1.2
1H2041							0.219	34.72	1.2
2H2041							0.217	34.93	1.2
1H2042							0.209	35.14	1.1
2H2042							0.207	35.35	1.1
1H2043							0.199	35.55	1.1
2H2043							0.198	35.75	1.1
1H2044							0.192	35.94	1.1
2H2044							0.189	36.13	1.0
1H2045							0.152	36.28	0.8
2H2045									
1H2046									
2H2046									
1H2047									
2H2047									
1H2048									
2H2048									





# **Profiles - Scampton North**

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
1H2014	18.830	18.83	103.1	19.641	19.64	107.5	20.867	20.87	114.3
2H2014	18.466	37.30	101.1	19.424	39.07	106.4	20.754	41.62	113.6
1H2015	17.523	54.82	96.0	18.588	57.65	101.8	19.979	61.60	109.4
2H2015	17.184	72.00	94.1	18.383	76.04	100.7	19.880	81.48	108.9
1H2016	16.395	88.40	89.8	17.688	93.72	96.9	19.251	100.73	105.4
2H2016	15.988	104.39	87.5	17.395	111.12	95.2	19.058	119.79	104.4
1H2017	15.171	119.56	83.1	16.647	127.77	91.2	18.363	138.15	100.6
2H2017	14.878	134.44	81.5	16.463	144.23	90.1	18.288	156.44	100.1
1H2018	14.118	148.55	77.3	15.755	159.98	86.3	17.629	174.07	96.5
2H2018	13.845	162.40	75.8	15.581	175.57	85.3	17.564	191.63	96.2
1H2019	13.138	175.54	71.9	14.911	190.48	81.6	16.937	208.57	92.7
2H2019	12.884	188.42	70.5	14.746	205.22	80.7	16.882	225.45	92.4
1H2020	12.292	200.71	67.3	14.189	219.41	77.7	16.375	241.83	89.7
2H2020	11.987	212.70	65.6	13.954	233.37	76.4	16.237	258.06	88.9
1H2021	11.375	224.07	62.3	13.353	246.72	73.1	15.670	273.73	85.8
2H2021	11.155	235.23	61.1	13.206	259.92	72.3	15.631	289.37	85.6
1H2022	10.585	245.81	58.0	12.638	272.56	69.2	15.090	304.46	82.6
2H2022	10.380	256.19	56.8	12.498	285.06	68.4	15.057	319.51	82.4
1H2023	9.850	266.04	53.9	11.961	297.02	65.5	14.541	334.05	79.6
2H2023	9.660	275.70	52.9	11.829	308.85	64.8	14.515	348.57	79.5
1H2024	9.216	284.92	50.5	11.381	320.23	62.3	14.099	362.67	77.2
2H2024	8.987	293.91	49.2	11.193	331.42	61.3	14.000	376.67	76.7
1H2025	8.528	302.44	46.7	10.712	342.14	58.7	13.529	390.20	74.1
2H2025	8.363	310.80	45.8	10.593	352.73	58.0	13.513	403.71	74.0
1H2026	7.936	318.73	43.5	10.138	362.87	55.5	13.062	416.77	71.5
2H2026	7.783	326.52	42.6	10.026	372.89	54.9	13.051	429.82	71.5
1H2027	7.385	333.90	40.4	9.594	382.49	52.5	12.620	442.44	69.1
2H2027	7.243	341.15	39.7	9.489	391.98	52.0	12.612	455.05	69.1
1H2028	6.910	348.06	37.8	9.130	401.11	50.0	12.266	467.32	67.2
2H2028	6.738	354.79	36.9	8.979	410.09	49.2	12.194	479.51	66.8
1H2029	6.394	361.19	35.0	8.592	418.68	47.0	11.798	491.31	64.6
2H2029	6.271	367.46	34.3	8.498	427.18	46.5	11.798	503.11	64.6
1H2030	5.950	373.41	32.6	8.132	435.31	44.5	11.418	514.53	62.5
2H2030	5.835	379.24	32.0	8.042	443.35	44.0	11.420	525.95	62.5
1H2031	5.537	384.78	30.3	7.696	451.05	42.1	11.055	537.00	60.5

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
2H2031	5.430	390.21	29.7	7.611	458.66	41.7	11.061	548.06	60.6
1H2032	5.181	395.39	28.4	7.324	465.98	40.1	10.769	558.83	59.0
2H2032	5.052	400.44	27.7	7.202	473.18	39.4	10.717	569.55	58.7
1H2033	4.794	405.24	26.3	6.893	480.08	37.7	10.379	579.93	56.8
2H2033	4.701	409.94	25.7	6.816	486.89	37.3	10.390	590.32	56.9
1H2034	4.461	414.40	24.4	6.523	493.41	35.7	10.065	600.38	55.1
2H2034	4.375	418.77	24.0	6.451	499.87	35.3	10.077	610.46	55.2
1H2035	4.152	422.93	22.7	6.174	506.04	33.8	9.765	620.23	53.5
2H2035	4.071	427.00	22.3	6.105	512.14	33.4	9.779	630.01	53.5
1H2036	3.884	430.88	21.3	5.875	518.02	32.2	9.530	639.54	52.2
2H2036	3.788	434.67	20.7	5.777	523.80	31.6	9.493	649.03	52.0
1H2037	3.594	438.26	19.7	5.529	529.33	30.3	9.202	658.23	50.4
2H2037	3.525	441.79	19.3	5.468	534.79	29.9	9.220	667.45	50.5
1H2038	3.345	445.13	18.3	5.233	540.03	28.7	8.939	676.39	48.9
2H2038	3.280	448.41	18.0	5.175	545.20	28.3	8.958	685.35	49.1
1H2039	3.113	451.53	17.0	4.952	550.15	27.1	8.688	694.04	47.6
2H2039	3.053	454.58	16.7	4.898	555.05	26.8	8.708	702.74	47.7
1H2040	2.912	457.49	15.9	4.712	559.76	25.8	8.493	711.24	46.5
2H2040	2.840	460.33	15.6	4.634	564.40	25.4	8.467	719.70	46.4
1H2041	2.695	463.03	14.8	4.435	568.83	24.3	8.214	727.92	45.0
2H2041	2.643	465.67	14.5	4.386	573.22	24.0	8.237	736.15	45.1
1H2042	2.508	468.18	13.7	4.197	577.42	23.0	7.992	744.15	43.8
2H2042	2.459	470.64	13.5	4.151	581.57	22.7	8.016	752.16	43.9
1H2043	2.334	472.97	12.8	3.972	585.54	21.7	7.779	759.94	42.6
2H2043	2.289	475.26	12.5	3.929	589.47	21.5	7.803	767.74	42.7
1H2044	2.184	477.44	12.0	3.780	593.25	20.7	7.616	775.36	41.7
2H2044	2.129	479.57	11.7	3.718	596.97	20.4	7.599	782.96	41.6
1H2045	2.021	481.59	11.1	3.558	600.52	19.5	7.378	790.34	40.4
2H2045	1.982	483.58	10.9	3.518	604.04	19.3	7.403	797.74	40.5
1H2046	1.880	485.46	10.3	3.367	607.41	18.4	7.188	804.93	39.4
2H2046	1.844	487.30	10.1	3.330	610.74	18.2	7.214	812.14	39.5
1H2047				3.187	613.93	17.5	7.006	819.15	38.4
2H2047				3.151	617.08	17.3	7.033	826.18	38.5
1H2048							6.869	833.05	37.6
2H2048							6.858	839.91	37.6





#### **Profiles - Stainton**

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
1H2014	1.359	1.36	7.4	1.568	1.57	8.6	1.754	1.75	9.6
2H2014	1.277	2.64	7.0	1.510	3.08	8.3	1.721	3.48	9.4
1H2015	1.161	3.80	6.4	1.407	4.49	7.7	1.635	5.11	9.0
2H2015	1.091	4.89	6.0	1.354	5.84	7.4	1.606	6.72	8.8
1H2016	0.998	5.89	5.5	1.268	7.11	6.9	1.535	8.25	8.4
2H2016	0.932	6.82	5.1	1.214	8.32	6.6	1.502	9.75	8.2
1H2017	0.848	7.67	4.6	1.131	9.45	6.2	1.430	11.18	7.8
2H2017	0.797	8.46	4.4	1.089	10.54	6.0	1.407	12.59	7.7
1H2018	0.724	9.19	4.0	1.015	11.56	5.6	1.341	13.93	7.3
2H2018	0.681	9.87	3.7	0.977	12.53	5.3	1.322	15.25	7.2
1H2019	0.619	10.49	3.4	0.910	13.44	5.0	1.261	16.51	6.9
2H2019	0.582	11.07	3.2	0.876	14.32	4.8	1.244	17.76	6.8
1H2020	0.532	11.60	2.9	0.821	15.14	4.5	1.194	18.95	6.5
2H2020	0.497	12.10	2.7	0.786	15.93	4.3	1.173	20.13	6.4
1H2021	0.452	12.55	2.5	0.732	16.66	4.0	1.121	21.25	6.1
2H2021	0.424	12.97	2.3	0.705	17.36	3.9	1.107	22.35	6.1
1H2022	0.386	13.36	2.1	0.657	18.02	3.6	1.059	23.41	5.8
2H2022	0.363	13.72	2.0	0.632	18.65	3.5	1.047	24.46	5.7
1H2023	0.330	14.05	1.8	0.589	19.24	3.2	1.003	25.46	5.5
2H2023	0.310	14.36	1.7	0.567	19.81	3.1	0.992	26.45	5.4
1H2024	0.283	14.65	1.5	0.531	20.34	2.9	0.956	27.41	5.2
2H2024	0.265	14.91	1.5	0.509	20.85	2.8	0.941	28.35	5.2
1H2025				0.474	21.32	2.6	0.902	29.25	4.9
2H2025				0.456	21.78	2.5	0.894	30.15	4.9
1H2026				0.425	22.20	2.3	0.857	31.00	4.7
2H2026				0.409	22.61	2.2	0.850	31.85	4.7
1H2027				0.381	22.99	2.1	0.816	32.67	4.5
2H2027				0.367	23.36	2.0	0.810	33.48	4.4
1H2028				0.344	23.70	1.9	0.782	34.26	4.3
2H2028				0.329	24.03	1.8	0.772	35.03	4.2
1H2029				0.307	24.34	1.7	0.742	35.78	4.1
2H2029				0.295	24.64	1.6	0.737	36.51	4.0
1H2030				0.275	24.91	1.5	0.708	37.22	3.9
2H2030				0.265	25.18	1.5	0.704	37.93	3.9
1H2031				0.247	25.42	1.4	0.677	38.60	3.7

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
2H2031				0.238	25.66	1.3	0.673	39.28	3.7
1H2032				0.223	25.88	1.2	0.651	39.93	3.6
2H2032				0.213	26.10	1.2	0.644	40.57	3.5
1H2033				0.199	26.30	1.1	0.620	41.19	3.4
2H2033				0.191	26.49	1.0	0.618	41.81	3.4
1H2034				0.191	26.49	1.0	0.595	42.40	3.3
2H2034				0.191	26.49	1.0	0.592	43.00	3.2
1H2035							0.571	43.57	3.1
2H2035							0.569	44.14	3.1
1H2036							0.551	44.69	3.0
2H2036							0.546	45.23	3.0
1H2037							0.527	45.76	2.9
2H2037							0.525	46.28	2.9
1H2038							0.507	46.79	2.8
2H2038							0.505	47.30	2.8
1H2039							0.488	47.78	2.7
2H2039							0.487	48.27	2.7
1H2040							0.472	48.74	2.6
2H2040							0.469	49.21	2.6
1H2041							0.453	49.67	2.5
2H2041							0.452	50.12	2.5
1H2042							0.437	50.55	2.4
2H2042							0.436	50.99	2.4
1H2043							0.422	51.41	2.3
2H2043							0.421	51.83	2.3
1H2044							0.409	52.24	2.2
2H2044							0.407	52.65	2.2
1H2045							0.393	53.04	2.2
2H2045							0.393	53.44	2.2
1H2046							0.380	53.82	2.1
2H2046							0.380	54.20	2.1
1H2047							0.368	54.56	2.0
2H2047							0.368	54.93	2.0
1H2048							0.358	55.29	2.0
2H2048							0.356	55.65	1.9





#### **Profiles - South Leverton**

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
1H2014	0.346	0.35	1.9	0.623	0.62	3.4	0.709	0.71	3.9
2H2014	0.317	0.66	1.7	0.574	1.20	3.1	0.691	1.40	3.8
1H2015				0.512	1.71	2.8	0.652	2.05	3.6
2H2015				0.471	2.18	2.6	0.636	2.69	3.5
1H2016							0.604	3.29	3.3
2H2016							0.587	3.88	3.2
1H2017							0.555	4.43	3.0
2H2017							0.543	4.98	3.0
1H2018							0.514	5.49	2.8
2H2018							0.503	5.99	2.8
1H2019							0.476	6.47	2.6
2H2019							0.466	6.94	2.6
1H2020							0.444	7.38	2.4
2H2020							0.433	7.81	2.4
1H2021							0.411	8.22	2.3
2H2021							0.403	8.63	2.2
1H2022							0.383	9.01	2.1
2H2022							0.376	9.39	2.1
1H2023							0.357	9.74	2.0
2H2023							0.351	10.09	1.9
1H2024							0.335	10.43	1.8
2H2024							0.328	10.76	1.8
1H2025							0.312	11.07	1.7
2H2025							0.307	11.38	1.7
1H2026							0.292	11.67	1.6
2H2026							0.288	11.96	1.6
1H2027							0.274	12.23	1.5
2H2027							0.270	12.50	1.5
1H2028							0.259	12.76	1.4
2H2028							0.253	13.01	1.4
1H2029			_				0.242	13.25	1.3
2H2029							0.238	13.49	1.3
1H2030							0.228	13.72	1.2
2H2030							0.224	13.94	1.2
1H2031							0.214	14.16	1.2

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
2H2031							0.212	14.37	1.2
1H2032							0.203	14.57	1.1
2H2032							0.200	14.77	1.1
1H2033							0.191	14.96	1.0
2H2033							0.189	15.15	1.0
1H2034									
2H2034									
1H2035									
2H2035									
1H2036									
2H2036									
1H2037									
2H2037									
1H2038									
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1H2041									
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1H2042									
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1H2043									
2H2043									
1H2044									
2H2044									
1H2045									
2H2045									
1H2046									
2H2046									
1H2047									
2H2047									
1H2048									
2H2048									





#### **Profiles - Welton**

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
1H2014	100.754	100.75	551.7	105.271	105.27	576.4	115.679	115.68	633.4
2H2014	97.628	198.38	534.6	103.605	208.88	567.3	113.691	229.37	622.5
1H2015	91.538	289.92	501.2	98.667	307.54	540.3	108.183	337.55	592.4
2H2015	88.697	378.62	485.7	97.106	404.65	531.7	106.441	443.99	582.8
1H2016	83.613	462.23	457.8	92.981	497.63	509.1	101.944	545.94	558.2
2H2016	80.562	542.79	441.1	90.999	588.63	498.3	99.846	645.78	546.7
1H2017	75.537	618.33	413.6	86.662	675.29	474.5	95.206	740.99	521.3
2H2017	73.193	691.52	400.8	85.290	760.58	467.0	93.861	834.85	514.0
1H2018	68.627	760.15	375.8	81.226	841.81	444.8	89.583	924.43	490.5
2H2018	66.497	826.65	364.1	79.940	921.75	437.7	88.399	1012.83	484.0
1H2019	62.349	889.00	341.4	76.130	997.88	416.9	84.445	1097.28	462.4
2H2019	60.414	949.41	330.8	74.926	1072.80	410.3	83.399	1180.68	456.7
1H2020	56.951	1006.36	311.8	71.743	1144.55	392.8	80.170	1260.85	439.0
2H2020	54.873	1061.23	300.5	70.213	1214.76	384.5	78.801	1339.65	431.5
1H2021	51.451	1112.68	281.7	66.867	1281.63	366.1	75.399	1415.05	412.9
2H2021	49.854	1162.54	273.0	65.809	1347.44	360.4	74.583	1489.63	408.4
1H2022	46.744	1209.28	256.0	62.672	1410.11	343.2	71.416	1561.05	391.1
2H2022	45.293	1254.58	248.0	61.681	1471.79	337.7	70.695	1631.74	387.1
1H2023	42.468	1297.04	232.5	58.741	1530.53	321.6	67.742	1699.48	370.9
2H2023	41.150	1338.19	225.3	57.812	1588.34	316.6	67.104	1766.59	367.4
1H2024	38.791	1376.98	212.4	55.356	1643.70	303.1	64.694	1831.28	354.2
2H2024	37.376	1414.36	204.7	54.175	1697.87	296.6	63.770	1895.05	349.2
1H2025	35.045	1449.41	191.9	51.594	1749.47	282.5	61.186	1956.24	335.0
2H2025	33.957	1483.36	185.9	50.777	1800.24	278.0	60.687	2016.92	332.3
1H2026	31.839	1515.20	174.3	48.357	1848.60	264.8	58.263	2075.19	319.0
2H2026	30.851	1546.05	168.9	47.592	1896.19	260.6	57.823	2133.01	316.6
1H2027	28.926	1574.98	158.4	45.324	1941.52	248.2	55.545	2188.56	304.1
2H2027	28.029	1603.01	153.5	44.606	1986.12	244.2	55.156	2243.71	302.0
1H2028	26.422	1629.43	144.7	42.712	2028.83	233.9	53.302	2297.01	291.9
2H2028	25.458	1654.89	139.4	41.801	2070.64	228.9	52.664	2349.68	288.4
1H2029	23.870	1678.76	130.7	39.809	2110.44	218.0	50.644	2400.32	277.3
2H2029	23.129	1701.89	126.6	39.179	2149.62	214.5	50.342	2450.66	275.7
1H2030	21.686	1723.57	118.7	37.312	2186.94	204.3	48.436	2499.10	265.2
2H2030	21.013	1744.59	115.1	36.721	2223.66	201.1	48.171	2547.27	263.8
1H2031	19.703	1764.29	107.9	34.971	2258.63	191.5	46.369	2593.64	253.9

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
2H2031	19.091	1783.38	104.5	34.418	2293.05	188.5	46.137	2639.78	252.6
1H2032	17.997	1801.38	98.5	32.956	2326.00	180.5	44.675	2684.45	244.6
2H2032	17.340	1818.72	94.9	32.253	2358.25	176.6	44.225	2728.68	242.2
1H2033	16.259	1834.98	89.0	30.716	2388.97	168.2	42.609	2771.29	233.3
2H2033	15.754	1850.73	86.3	30.230	2419.20	165.5	42.433	2813.72	232.4
1H2034	14.771	1865.50	80.9	28.789	2447.99	157.6	40.900	2854.62	224.0
2H2034	14.313	1879.81	78.4	28.334	2476.32	155.1	40.748	2895.37	223.1
1H2035	13.420	1893.23	73.5	26.983	2503.31	147.8	39.292	2934.66	215.2
2H2035	13.004	1906.24	71.2	26.556	2529.86	145.4	39.162	2973.82	214.4
1H2036	12.258	1918.50	67.1	25.428	2555.29	139.2	37.984	3011.80	208.0
2H2036	11.811	1930.31	64.7	24.886	2580.18	136.3	37.663	3049.47	206.2
1H2037	11.074	1941.38	60.6	23.700	2603.88	129.8	36.345	3085.81	199.0
2H2037	10.731	1952.11	58.8	23.325	2627.20	127.7	36.251	3122.06	198.5
1H2038	10.061	1962.17	55.1	22.213	2649.41	121.6	34.995	3157.06	191.6
2H2038	9.749	1971.92	53.4	21.862	2671.28	119.7	34.918	3191.98	191.2
1H2039	9.141	1981.06	50.1	20.820	2692.10	114.0	33.720	3225.70	184.6
2H2039	8.857	1989.92	48.5	20.490	2712.59	112.2	33.657	3259.35	184.3
1H2040	8.349	1998.27	45.7	19.620	2732.21	107.4	32.691	3292.04	179.0
2H2040	8.045	2006.31	44.1	19.202	2751.41	105.1	32.460	3324.50	177.7
1H2041	7.543	2013.86	41.3	18.286	2769.69	100.1	31.367	3355.87	171.8
2H2041	7.309	2021.17	40.0	17.997	2787.69	98.5	31.328	3387.20	171.5
1H2042	6.853	2028.02	37.5	17.139	2804.83	93.8	30.283	3417.48	165.8
2H2042	6.640	2034.66	36.4	16.868	2821.70	92.4	30.255	3447.74	165.7
1H2043	6.226	2040.88	34.1	16.064	2837.76	88.0	29.254	3476.99	160.2
2H2043	6.033	2046.92	33.0	15.810	2853.57	86.6	29.236	3506.23	160.1
1H2044	5.687	2052.60	31.1	15.138	2868.71	82.9	28.432	3534.66	155.7
2H2044	5.480	2058.08	30.0	14.816	2883.53	81.1	28.265	3562.92	154.8
1H2045	5.138	2063.22	28.1	14.110	2897.64	77.3	27.346	3590.27	149.7
2H2045	4.978	2068.20	27.3	13.886	2911.52	76.0	27.344	3617.61	149.7
1H2046	4.668	2072.87	25.6	13.225	2924.75	72.4	26.462	3644.08	144.9
2H2046	4.523	2077.39	24.8	13.015	2937.76	71.3	26.468	3670.54	144.9
1H2047	4.241	2081.63	23.2	12.395	2950.16	67.9	25.620	3696.16	140.3
2H2047	4.109	2085.74	22.5	12.199	2962.36	66.8	25.632	3721.80	140.4
1H2048							24.954	3746.75	136.6
2H2048							24.834	3771.58	136.0



# **Gas Profiles Albury**

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	Bscf	Bscf	MMscf/d	Bscf	Bscf	MMscf/d	Bscf	Bscf	MMscf/d
1H2014	0.000	0.00	0.00	0.000	0.00	0.00	0.000	0.00	0.00
2H2014	0.000	0.00	0.00	0.000	0.00	0.00	0.000	0.00	0.00
1H2015	0.000	0.00	0.00	0.000	0.00	0.00	0.000	0.00	0.00
2H2015	0.000	0.00	0.00	0.000	0.00	0.00	0.000	0.00	0.00
1H2016	0.219	0.22	1.20	0.219	0.22	1.20	0.219	0.22	1.20
2H2016	0.219	0.44	1.20	0.219	0.44	1.20	0.219	0.44	1.20
1H2017	0.219	0.66	1.20	0.219	0.66	1.20	0.219	0.66	1.20
2H2017	0.219	0.88	1.20	0.219	0.88	1.20	0.219	0.88	1.20
1H2018	0.219	1.10	1.20	0.219	1.10	1.20	0.219	1.10	1.20
2H2018	0.219	1.31	1.20	0.219	1.31	1.20	0.219	1.31	1.20
1H2019	0.219	1.53	1.20	0.219	1.53	1.20	0.219	1.53	1.20
2H2019	0.046	1.58	0.25	0.219	1.75	1.20	0.219	1.75	1.20
1H2020				0.219	1.97	1.20	0.219	1.97	1.20
2H2020				0.219	2.19	1.20	0.219	2.19	1.20
1H2021				0.219	2.41	1.20	0.219	2.41	1.20
2H2021				0.183	2.59	1.00	0.219	2.63	1.20
1H2022				0.047	2.64	0.26	0.219	2.85	1.20
2H2022							0.170	3.02	0.93
1H2023									
2H2023									
1H2024									
2H2024									
1H2025									
2H2025									
1H2026									
2H2026									
1H2027									
2H2027									
1H2028									
2H2028									
1H2029									
2H2029									
1H2O30									
2H2030									
1H2031									



# **Profiles - Avington**

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
1H2014	10.734	10.73	58.8	10.948	10.95	59.9	11.213	11.21	61.4
2H2014	8.317	19.05	45.5	9.283	20.23	50.8	10.045	21.26	55.0
1H2015	6.234	25.29	34.1	7.616	27.85	41.7	8.773	30.03	48.0
2H2015	4.830	30.12	26.4	6.458	34.31	35.4	7.972	38.00	43.7
1H2016	3.638	33.75	19.9	5.325	39.63	29.2	7.088	45.09	38.8
2H2016	2.801	36.55	15.3	4.488	44.12	24.6	6.476	51.57	35.5
1H2017	2.100	38.65	11.5	3.683	47.80	20.2	5.787	57.35	31.7
2H2017	1.627	40.28	8.9	3.123	50.92	17.1	5.368	62.72	29.4
1H2018				2.562	53.49	14.0	4.838	67.56	26.5
2H2018				2.172	55.66	11.9	4.522	72.08	24.8
1H2019				1.782	57.44	9.8	4.104	76.19	22.5
2H2019				1.511	58.95	8.3	3.861	80.05	21.1
1H2020				1.246	60.20	6.8	3.544	83.59	19.4
2H2020				1.050	61.25	5.7	3.334	86.93	18.3
1H2021				0.862	62.11	4.7	3.060	89.99	16.8
2H2021				0.731	62.84	4.0	2.909	92.89	15.9
1H2022							2.682	95.58	14.7
2H2022							2.560	98.14	14.0
1H2023							2.370	100.51	13.0
2H2023							2.271	102.78	12.4
1H2024							2.120	104.90	11.6
2H2024							2.027	106.92	11.1
1H2025							1.889	108.81	10.3
2H2025							1.821	110.63	10.0
1H2026							1.702	112.34	9.3
2H2026							1.645	113.98	9.0
1H2027							1.541	115.52	8.4
2H2027							1.493	117.02	8.2
1H2028							1.410	118.43	7.7
2H2028							1.361	119.79	7.5
1H2029							1.281	121.07	7.0
2H2029							1.246	122.31	6.8
1H2030							1.175	123.49	6.4
2H2030							1.145	124.63	6.3
1H2031									





# **Profiles - Bletchingley**

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
1H2014	22.886	22.89	125.3	24.591	24.59	134.7	24.790	24.79	135.7
2H2014	20.860	43.75	114.2	23.186	47.78	127.0	23.302	48.09	127.6
1H2015	18.399	62.15	100.7	21.154	68.93	115.8	21.256	69.35	116.4
2H2015	16.771	78.92	91.8	19.945	88.88	109.2	20.094	89.44	110.0
1H2016	14.869	93.79	81.4	18.294	107.17	100.2	18.526	107.97	101.4
2H2016	13.475	107.26	73.8	17.150	124.32	93.9	17.499	125.47	95.8
1H2017	11.885	119.15	65.1	15.647	139.97	85.7	16.122	141.59	88.3
2H2017	10.833	129.98	59.3	14.752	154.72	80.8	15.382	156.97	84.2
1H2018	9.555	139.53	52.3	13.459	168.18	73.7	14.229	171.20	77.9
2H2018	8.709	148.24	47.7	12.690	180.87	69.5	13.627	184.83	74.6
1H2019	7.681	155.92	42.1	11.578	192.45	63.4	12.650	197.48	69.3
2H2019	7.002	162.93	38.3	10.916	203.36	59.8	12.156	209.63	66.6
1H2020	6.208	169.13	34.0	10.012	213.37	54.8	11.381	221.01	62.3
2H2020	5.626	174.76	30.8	9.386	222.76	51.4	10.908	231.92	59.7
1H2021	4.962	179.72	27.2	8.564	231.32	46.9	10.187	242.11	55.8
2H2021	4.523	184.24	24.8	8.074	239.40	44.2	9.845	251.95	53.9
1H2022				7.367	246.77	40.3	9.218	261.17	50.5
2H2022				6.946	253.71	38.0	8.931	270.10	48.9
1H2023				6.337	260.05	34.7	8.381	278.48	45.9
2H2023				5.975	266.02	32.7	8.138	286.62	44.6
1H2024				5.480	271.50	30.0	7.695	294.32	42.1
2H2024				5.137	276.64	28.1	7.444	301.76	40.8
1H2025				4.687	281.33	25.7	7.015	308.78	38.4
2H2025				4.419	285.75	24.2	6.837	315.61	37.4
1H2026				4.032	289.78	22.1	6.454	322.07	35.3
2H2026				3.801	293.58	20.8	6.302	328.37	34.5
1H2027				3.468	297.05	19.0	5.958	334.33	32.6
2H2027				3.270	300.32	17.9	5.827	340.15	31.9
1H2028				2.999	303.32	16.4	5.547	345.70	30.4
2H2028				2.812	306.13	15.4	5.402	351.10	29.6
1H2029				2.565	308.69	14.0	5.123	356.23	28.1
2H2029				2.419	311.11	13.2	5.024	361.25	27.5
1H2030						_	4.770	366.02	26.1
2H2030							4.683	370.70	25.6
1H2031							4.452	375.16	24.4

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
2H2031						·	4.377	379.53	24.0
1H2032							4.188	383.72	22.9
2H2032							4.098	387.82	22.4
1H2033							3.905	391.72	21.4
2H2033							3.846	395.57	21.1
1H2034							3.668	399.24	20.1
2H2034							3.617	402.85	19.8
1H2035							3.453	406.31	18.9
2H2035							3.407	409.71	18.7
1H2036							3.273	412.99	17.9
2H2036							3.215	416.20	17.6
1H2037							3.074	419.28	16.8
2H2037							3.039	422.32	16.6
1H2038							2.908	425.22	15.9
2H2038							2.877	428.10	15.8
1H2039							2.755	430.86	15.1
2H2039							2.728	433.58	14.9
1H2040							2.628	436.21	14.4
2H2040							2.590	438.80	14.2
1H2041							2.483	441.28	13.6
2H2041							2.462	443.75	13.5
1H2042							2.362	446.11	12.9
2H2042							2.343	448.45	12.8
1H2043							2.250	450.70	12.3
2H2043							2.233	452.93	12.2
1H2044							2.157	455.09	11.8
2H2044							2.130	457.22	11.7
1H2045							2.048	459.27	11.2
2H2045							2.035	461.30	11.1
1H2046							1.957	463.26	10.7
2H2046							1.945	465.21	10.7
1H2047							1.872	467.08	10.3
2H2047							1.862	468.94	10.2
1H2048							1.802	470.74	9.9
2H2048							1.783	472.53	9.8





#### **Profiles - Goodworth**

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
1H2014	3.748	3.75	20.5	4.739	4.74	25.9	5.357	5.36	29.3
2H2014	3.704	7.45	20.3	4.701	9.44	25.7	5.302	10.66	29.0
1H2015	3.541	10.99	19.4	4.512	13.95	24.7	5.078	15.74	27.8
2H2015	3.499	14.49	19.2	4.476	18.43	24.5	5.029	20.77	27.5
1H2016	3.364	17.86	18.4	4.320	22.75	23.7	4.847	25.61	26.5
2H2016	3.306	21.16	18.1	4.262	27.01	23.3	4.776	30.39	26.2
1H2017	3.161	24.32	17.3	4.091	31.10	22.4	4.581	34.97	25.1
2H2017	3.123	27.45	17.1	4.058	35.16	22.2	4.543	39.51	24.9
1H2018	2.986	30.43	16.4	3.896	39.06	21.3	4.360	43.87	23.9
2H2018	2.951	33.38	16.2	3.865	42.92	21.2	4.326	48.20	23.7
1H2019	2.822	36.21	15.5	3.710	46.63	20.3	4.154	52.35	22.7
2H2019	2.788	38.99	15.3	3.680	50.31	20.2	4.124	56.48	22.6
1H2020	2.680	41.67	14.7	3.552	53.86	19.4	3.984	60.46	21.8
2H2020	2.634	44.31	14.4	3.504	57.37	19.2	3.936	64.40	21.6
1H2021	2.518	46.83	13.8	3.363	60.73	18.4	3.784	68.18	20.7
2H2021	2.489	49.31	13.6	3.337	64.07	18.3	3.760	71.94	20.6
1H2022	2.379	51.69	13.0	3.203	67.27	17.5	3.617	75.56	19.8
2H2022	2.351	54.04	12.9	3.177	70.45	17.4	3.597	79.16	19.7
1H2023	2.248	56.29	12.3	3.050	73.50	16.7	3.461	82.62	19.0
2H2023	2.221	58.51	12.2	3.025	76.52	16.6	3.443	86.06	18.9
1H2024	2.136	60.65	11.7	2.920	79.44	16.0	3.333	89.39	18.3
2H2024	2.099	62.75	11.5	2.881	82.32	15.8	3.299	92.69	18.1
1H2025	2.007	64.76	11.0	2.765	85.09	15.1	3.178	95.87	17.4
2H2025	1.983	66.74	10.9	2.743	87.83	15.0	3.164	99.03	17.3
1H2026	1.896	68.63	10.4	2.633	90.46	14.4	3.049	102.08	16.7
2H2026	1.873	70.51	10.3	2.612	93.08	14.3	3.037	105.12	16.6
1H2027	1.791	72.30	9.8	2.507	95.58	13.7	2.928	108.05	16.0
2H2027	1.770	74.07	9.7	2.487	98.07	13.6	2.918	110.97	16.0
1H2028	1.702	75.77	9.3	2.401	100.47	13.1	2.830	113.80	15.5
2H2028	1.672	77.44	9.2	2.368	102.84	13.0	2.805	116.60	15.4
1H2029	1.599	79.04	8.8	2.273	105.11	12.4	2.707	119.31	14.8
2H2029	1.580	80.62	8.7	2.255	107.37	12.3	2.699	122.01	14.8
1H2030	1.511	82.13	8.3	2.165	109.53	11.9	2.605	124.61	14.3
2H2030	1.493	83.63	8.2	2.147	111.68	11.8	2.599	127.21	14.2
1H2031	1.427	85.05	7.8	2.061	113.74	11.3	2.509	129.72	13.7

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
2H2031	1.410	86.46	7.7	2.045	115.78	11.2	2.504	132.22	13.7
1H2032	1.356	87.82	7.4	1.974	117.76	10.8	2.432	134.66	13.3
2H2032	1.332	89.15	7.3	1.947	119.71	10.7	2.415	137.07	13.2
1H2033	1.274	90.42	7.0	1.869	121.57	10.2	2.333	139.40	12.8
2H2033	1.259	91.68	6.9	1.854	123.43	10.2	2.330	141.73	12.8
1H2034	1.204	92.89	6.6	1.780	125.21	9.7	2.252	143.99	12.3
2H2034	1.189	94.08	6.5	1.765	126.97	9.7	2.249	146.23	12.3
1H2035	1.137	95.21	6.2	1.695	128.67	9.3	2.175	148.41	11.9
2H2035	1.124	96.34	6.2	1.681	130.35	9.2	2.173	150.58	11.9
1H2036	1.080	97.42	5.9	1.623	131.97	8.9	2.113	152.70	11.6
2H2036	1.062	98.48	5.8	1.601	133.57	8.8	2.100	154.80	11.5
1H2037	1.015	99.49	5.6	1.536	135.11	8.4	2.032	156.83	11.1
2H2037	1.003	100.50	5.5	1.524	136.63	8.3	2.031	158.86	11.1
1H2038	0.959	101.46	5.3	1.463	138.10	8.0	1.965	160.82	10.8
2H2038	0.948	102.40	5.2	1.451	139.55	7.9	1.966	162.79	10.8
1H2039	0.906	103.31	5.0	1.393	140.94	7.6	1.902	164.69	10.4
2H2039	0.895	104.21	4.9	1.382	142.32	7.6	1.903	166.59	10.4
1H2040	0.861	105.07	4.7	1.334	143.66	7.3	1.852	168.45	10.1
2H2040	0.846	105.91	4.6	1.316	144.97	7.2	1.843	170.29	10.1
1H2041	0.809	106.72	4.4	1.263	146.24	6.9	1.785	172.07	9.8
2H2041	0.799	107.52	4.4	1.253	147.49	6.9	1.787	173.86	9.8
1H2042	0.764	108.28	4.2	1.203	148.69	6.6	1.730	175.59	9.5
2H2042	0.755	109.04	4.1	1.193	149.88	6.5	1.732	177.32	9.5
1H2043	0.722	109.76	4.0	1.145	151.03	6.3	1.678	179.00	9.2
2H2043	0.713	110.47	3.9	1.136	152.17	6.2	1.681	180.68	9.2
1H2044	0.686	111.16	3.8	1.097	153.26	6.0	1.637	182.32	9.0
2H2044	0.674	111.83	3.7	1.082	154.34	5.9	1.631	183.95	8.9
1H2045	0.644	112.48	3.5	1.038	155.38	5.7	1.581	185.53	8.7
2H2045	0.637	113.12	3.5	1.030	156.41	5.6	1.584	187.12	8.7
1H2046	0.609	113.72	3.3	0.989	157.40	5.4	1.535	188.65	8.4
2H2046	0.602	114.33	3.3	0.981	158.38	5.4	1.538	190.19	8.4
1H2047				0.942	159.32	5.2	1.492	191.68	8.2
2H2047				0.934	160.26	5.1	1.495	193.18	8.2
1H2048							1.458	194.63	8.0
2H2048							1.453	196.09	8.0





#### **Profiles - Horndean**

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
1H2014	27.564	27.56	150.9	28.540	28.54	156.3	29.163	29.16	159.7
2H2014	27.036	54.60	148.0	28.168	56.71	154.2	28.967	58.13	158.6
1H2015	25.662	80.26	140.5	26.902	83.61	147.3	27.848	85.98	152.5
2H2015	25.171	105.43	137.8	26.551	110.16	145.4	27.675	113.65	151.5
1H2016	24.021	129.45	131.5	25.496	135.66	139.6	26.765	140.42	146.6
2H2016	23.430	152.88	128.3	25.023	160.68	137.0	26.464	166.88	144.9
1H2017	22.238	175.12	121.8	23.898	184.58	130.9	25.468	192.35	139.5
2H2017	21.813	196.94	119.4	23.587	208.17	129.2	25.334	217.68	138.7
1H2018	20.704	217.64	113.4	22.527	230.69	123.4	24.392	242.08	133.6
2H2018	20.308	237.95	111.2	22.233	252.93	121.7	24.275	266.35	132.9
1H2019	19.275	257.22	105.5	21.234	274.16	116.3	23.383	289.73	128.0
2H2019	18.907	276.13	103.5	20.957	295.12	114.8	23.281	313.02	127.5
1H2020	18.043	294.17	98.8	20.124	315.24	110.2	22.557	335.57	123.5
2H2020	17.599	311.77	96.4	19.751	334.99	108.2	22.344	357.92	122.3
1H2021	16.704	328.48	91.5	18.863	353.85	103.3	21.541	379.46	118.0
2H2021	16.385	344.86	89.7	18.617	372.47	101.9	21.465	400.92	117.5
1H2022	15.552	360.41	85.2	17.780	390.25	97.4	20.702	421.62	113.4
2H2022	15.254	375.67	83.5	17.549	407.80	96.1	20.637	442.26	113.0
1H2023	14.479	390.15	79.3	16.760	424.56	91.8	19.911	462.17	109.0
2H2023	14.202	404.35	77.8	16.541	441.10	90.6	19.856	482.03	108.7
1H2024	13.553	417.90	74.2	15.884	456.99	87.0	19.269	501.30	105.5
2H2024	13.219	431.12	72.4	15.589	472.57	85.4	19.117	520.41	104.7
1H2025	12.547	443.67	68.7	14.889	487.46	81.5	18.457	538.87	101.1
2H2025	12.307	455.97	67.4	14.695	502.16	80.5	18.420	557.29	100.9
1H2026	11.681	467.65	64.0	14.034	516.19	76.8	17.790	575.08	97.4
2H2026	11.458	479.11	62.7	13.851	530.04	75.8	17.760	592.84	97.2
1H2027	10.875	489.99	59.5	13.229	543.27	72.4	17.159	610.00	94.0
2H2027	10.667	500.65	58.4	13.056	556.33	71.5	17.135	627.14	93.8
1H2028	10.180	510.83	55.7	12.537	568.87	68.6	16.651	643.79	91.2
2H2028	9.929	520.76	54.4	12.305	581.17	67.4	16.541	660.33	90.6
1H2029	9.425	530.19	51.6	11.752	592.92	64.4	15.991	676.32	87.6
2H2029	9.244	539.43	50.6	11.599	604.52	63.5	15.979	692.30	87.5
1H2030	8.774	548.21	48.0	11.077	615.60	60.7	15.452	707.75	84.6
2H2030	8.607	556.81	47.1	10.933	626.53	59.9	15.445	723.19	84.6
1H2031	8.169	564.98	44.7	10.441	636.97	57.2	14.940	738.13	81.8

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
2H2031	8.013	573.00	43.9	10.305	647.28	56.4	14.937	753.07	81.8
1H2032	7.647	580.64	41.9	9.896	657.17	54.2	14.532	767.60	79.6
2H2032	7.458	588.10	40.8	9.712	666.89	53.2	14.453	782.06	79.1
1H2033	7.079	595.18	38.8	9.276	676.16	50.8	13.988	796.04	76.6
2H2033	6.944	602.12	38.0	9.155	685.32	50.1	13.993	810.04	76.6
1H2034	6.591	608.71	36.1	8.743	694.06	47.9	13.547	823.58	74.2
2H2034	6.465	615.18	35.4	8.629	702.69	47.2	13.555	837.14	74.2
1H2035	6.136	621.32	33.6	8.241	710.93	45.1	13.126	850.27	71.9
2H2035	6.019	627.33	33.0	8.134	719.06	44.5	13.137	863.40	71.9
1H2036	5.744	633.08	31.5	7.811	726.87	42.8	12.794	876.20	70.1
2H2036	5.602	638.68	30.7	7.666	734.54	42.0	12.737	888.93	69.7
1H2037	5.317	644.00	29.1	7.321	741.86	40.1	12.340	901.27	67.6
2H2037	5.216	649.21	28.6	7.226	749.09	39.6	12.356	913.63	67.7
1H2038	4.951	654.16	27.1	6.901	755.99	37.8	11.973	925.60	65.6
2H2038	4.856	659.02	26.6	6.811	762.80	37.3	11.992	937.59	65.7
1H2039	4.609	663.63	25.2	6.505	769.30	35.6	11.623	949.22	63.6
2H2039	4.521	668.15	24.8	6.420	775.72	35.2	11.643	960.86	63.8
1H2040	4.314	672.46	23.6	6.165	781.89	33.8	11.350	972.21	62.1
2H2040	4.208	676.67	23.0	6.051	787.94	33.1	11.309	983.52	61.9
1H2041	3.994	680.67	21.9	5.779	793.72	31.6	10.966	994.49	60.0
2H2041	3.918	684.58	21.5	5.703	799.42	31.2	10.990	1005.48	60.2
1H2042	3.719	688.30	20.4	5.447	804.87	29.8	10.659	1016.13	58.4
2H2042	3.647	691.95	20.0	5.376	810.25	29.4	10.684	1026.82	58.5
1H2043	3.462	695.41	19.0	5.134	815.38	28.1	10.364	1037.18	56.8
2H2043	3.396	698.81	18.6	5.068	820.45	27.8	10.391	1047.57	56.9
1H2044	3.241	702.05	17.7	4.866	825.31	26.6	10.137	1057.71	55.5
2H2044	3.161	705.21	17.3	4.776	830.09	26.2	10.108	1067.82	55.3
1H2045	3.000	708.21	16.4	4.561	834.65	25.0	9.809	1077.63	53.7
2H2045	2.943	711.15	16.1	4.502	839.15	24.7	9.838	1087.47	53.9
1H2046	2.793	713.95	15.3	4.299	843.45	23.5	9.549	1097.01	52.3
2H2046	2.740	716.69	15.0	4.243	847.69	23.2	9.579	1106.59	52.5
1H2047				4.053	851.75	22.2	9.299	1115.89	50.9
2H2047				4.000	855.75	21.9	9.330	1125.22	51.1
1H2048							9.108	1134.33	49.9
2H2048							9.089	1143.42	49.8





#### **Profiles - Palmers Wood**

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
1H2014	8.957	8.96	49.0	9.496	9.50	52.0	9.578	9.58	52.4
2H2014	8.234	17.19	45.1	8.759	18.26	48.0	9.004	18.58	49.3
1H2015	7.323	24.51	40.1	7.818	26.07	42.8	8.205	26.79	44.9
2H2015	6.732	31.25	36.9	7.212	33.29	39.5	7.741	34.53	42.4
1H2016	6.019	37.27	33.0	6.471	39.76	35.4	7.115	41.64	39.0
2H2016	5.501	42.77	30.1	5.935	45.69	32.5	6.695	48.34	36.7
1H2017	4.892	47.66	26.8	5.297	50.99	29.0	6.141	54.48	33.6
2H2017	4.497	52.16	24.6	4.886	55.87	26.8	5.829	60.31	31.9
1H2018				4.362	60.24	23.9	5.361	65.67	29.4
2H2018				4.023	64.26	22.0	5.102	70.77	27.9
1H2019				3.591	67.85	19.7	4.705	75.48	25.8
2H2019				3.313	71.16	18.1	4.490	79.97	24.6
1H2020							4.172	84.14	22.8
2H2020							3.968	88.11	21.7
1H2021							3.676	91.78	20.1
2H2021							3.523	95.31	19.3
1H2022							3.271	98.58	17.9
2H2022							3.141	101.72	17.2
1H2023							2.922	104.64	16.0
2H2023							2.811	107.45	15.4
1H2024							2.634	110.08	14.4
2H2024							2.525	112.61	13.8
1H2025							2.357	114.97	12.9
2H2025							2.275	117.24	12.5
1H2026							2.127	119.37	11.6
2H2026							2.057	121.43	11.3
1H2027							1.926	123.35	10.5
2H2027							1.865	125.22	10.2
1H2028							1.758	126.97	9.6
2H2028							1.696	128.67	9.3
1H2029							1.592	130.26	8.7
2H2029							1.546	131.81	8.5
1H2030			_			_	1.453	133.26	8.0
2H2030							1.413	134.67	7.7
1H2031							1.330	136.00	7.3

	4.0	4.0	4.0	20	20	20	20	20	20
	1P MBBLS	1P	1P	2P	2P	2P	3P MBBLS	3P	3P
2H2031	INIBBE2	MBBLS	bopd	MBBLS	MBBLS	bopd	1.294	MBBLS 137.30	bopd 7.1
							1.294		6.7
1H2032								138.52	
2H2032 1H2033							1.188 1.121	139.71	6.5 6.1
								140.83	
2H2033							1.093	141.93	6.0
1H2034							1.032	142.96	5.7
2H2034							1.008	143.97	5.5
1H2035							0.953	144.92	5.2
2H2035							0.931	145.85	5.1
1H2036							0.886	146.74	4.9
2H2036							0.862	147.60	4.7
1H2037							0.816	148.41	4.5
2H2037							0.799	149.21	4.4
1H2038							0.757	149.97	4.1
2H2038							0.742	150.71	4.1
1H2039							0.704	151.42	3.9
2H2039							0.690	152.11	3.8
1H2040							0.659	152.77	3.6
2H2040							0.643	153.41	3.5
1H2041							0.611	154.02	3.3
2H2041							0.600	154.62	3.3
1H2042							0.570	155.19	3.1
2H2042							0.560	155.75	3.1
1H2043							0.533	156.28	2.9
2H2043							0.524	156.81	2.9
1H2044							0.502	157.31	2.7
2H2044							0.491	157.80	2.7
1H2045							0.468	158.27	2.6
2H2045							0.461	158.73	2.5
1H2046							0.439	159.17	2.4
2H2046							0.433	159.60	2.4
1H2047							0.413	160.01	2.3
2H2047							0.407	160.42	2.2
1H2048							0.390	160.81	2.1
2H2048							0.383	161.19	2.1





# **Profiles - Singleton**

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
1H2014	82.209	82.21	450.2	85.880	85.88	470.3	88.724	88.72	485.8
2H2014	76.302	158.51	417.8	82.192	168.07	450.1	86.695	175.42	474.7
1H2015	68.528	227.04	375.2	76.117	244.19	416.8	82.035	257.45	449.2
2H2015	63.604	290.64	348.3	72.848	317.04	398.9	80.279	337.73	439.6
1H2016	57.425	348.07	314.4	67.825	384.86	371.4	76.487	414.22	418.8
2H2016	52.993	401.06	290.2	64.545	449.41	353.4	74.536	488.76	408.1
1H2017	52.269	453.33	286.2	64.449	513.86	352.9	75.402	564.16	412.9
2H2017	75.343	528.67	412.6	88.376	602.23	483.9	100.570	664.73	550.7
1H2018	68.728	597.40	376.3	90.278	692.51	494.3	103.236	767.96	565.3
2H2018	63.908	661.31	349.9	93.251	785.76	510.6	107.918	875.88	590.9
1H2019	58.319	719.63	319.3	100.007	885.77	547.6	116.136	992.02	635.9
2H2019	54.231	773.86	297.0	96.126	981.89	526.4	114.040	1106.06	624.5
1H2020	49.653	823.51	271.9	90.515	1072.41	495.6	109.423	1215.48	599.2
2H2020	46.026	869.54	252.0	86.552	1158.96	473.9	106.252	1321.73	581.8
1H2021	42.033	911.57	230.2	88.871	1247.83	486.6	108.720	1430.45	595.3
2H2021	39.090	950.66	214.0	92.631	1340.46	507.2	113.137	1543.59	619.5
1H2022	35.713	986.37	195.6	96.356	1436.82	527.6	116.840	1660.43	639.8
2H2022	33.213	1019.59	181.9	93.570	1530.39	512.4	114.475	1774.91	626.8
1H2023	30.356	1049.94	166.2	87.985	1618.37	481.8	109.065	1883.97	597.2
2H2023	28.233	1078.18	154.6	83.565	1701.94	457.6	105.477	1989.45	577.6
1H2024	25.884	1104.06	141.7	78.790	1780.73	431.4	100.809	2090.26	552.0
2H2024	24.003	1128.06	131.4	74.846	1855.57	409.8	97.350	2187.61	533.1
1H2025	21.954	1150.02	120.2	70.353	1925.93	385.2	92.878	2280.48	508.6
2H2025	20.421	1170.44	111.8	66.792	1992.72	365.7	90.008	2370.49	492.9
1H2026	18.686	1189.12	102.3	62.711	2055.43	343.4	85.931	2456.42	470.5
2H2026	17.381	1206.51	95.2	59.505	2114.93	325.8	83.359	2539.78	456.4
1H2027	15.910	1222.42	87.1	55.780	2170.71	305.4	79.634	2619.42	436.1
2H2027	14.801	1237.22	81.0	52.737	2223.45	288.8	77.329	2696.74	423.4
1H2028	13.587	1250.80	74.4	49.381	2272.83	270.4	74.118	2770.86	405.8
2H2028	12.605	1263.41	69.0	46.580	2319.41	255.1	71.845	2842.71	393.4
1H2029	11.547	1274.95	63.2	43.487	2362.90	238.1	68.720	2911.43	376.3
2H2029	10.743	1285.70	58.8	41.076	2403.97	224.9	66.859	2978.29	366.1
1H2030	9.845	1295.54	53.9	38.387	2442.36	210.2	63.989	3042.28	350.4
2H2030	9.160	1304.70	50.2	36.299	2478.66	198.8	62.316	3104.59	341.2
1H2031	8.397	1313.10	46.0	33.939	2512.60	185.8	59.675	3164.27	326.8

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
2H2031	7.813	1320.91	42.8	32.037	2544.64	175.4	58.169	3222.44	318.5
1H2032	7.182	1328.09	39.3	29.969	2574.61	164.1	55.898	3278.33	306.1
2H2032	6.665	1334.76	36.5	28.240	2602.85	154.6	54.375	3332.71	297.7
1H2033	6.115	1340.87	33.5	26.373	2629.22	144.4	52.126	3384.83	285.4
2H2033	5.690	1346.56	31.2	24.927	2654.15	136.5	50.904	3435.74	278.7
1H2034	5.223	1351.79	28.6	23.304	2677.45	127.6	48.825	3484.56	267.3
2H2034	4.860	1356.65	26.6	22.066	2699.52	120.8	47.722	3532.28	261.3
1H2035				20.688	2720.20	113.3	45.796	3578.08	250.8
2H2035				19.609	2739.81	107.4	44.801	3622.88	245.3
1H2036				18.394	2758.21	100.7	43.151	3666.03	236.3
2H2036				17.214	2775.42	94.3	42.113	3708.14	230.6
1H2037				15.974	2791.40	87.5	40.451	3748.60	221.5
2H2037				15.004	2806.40	82.2	39.640	3788.24	217.1
1H2038				13.927	2820.33	76.3	38.095	3826.33	208.6
2H2038				13.063	2833.39	71.5	37.361	3863.69	204.6
1H2039				12.103	2845.49	66.3	35.921	3899.61	196.7
2H2039				11.359	2856.85	62.2	35.257	3934.87	193.1
1H2040				10.569	2867.42	57.9	34.029	3968.90	186.3
2H2040				9.927	2877.35	54.4	33.311	4002.21	182.4
1H2041				8.275	2885.62	45.3	32.053	4034.26	175.5
2H2041				7.857	2893.48	43.0	31.511	4065.77	172.5
1H2042				7.385	2900.86	40.4	30.334	4096.11	166.1
2H2042				7.035	2907.90	38.5	29.844	4125.95	163.4
1H2043				6.627	2914.53	36.3	28.741	4154.69	157.4
2H2043				6.337	2920.86	34.7	28.298	4182.99	155.0
1H2044				5.992	2926.85	32.8	26.402	4209.39	144.6
2H2044				5.716	2932.57	31.3	25.965	4235.36	142.2
1H2045				5.392	2937.96	29.5	25.055	4260.41	137.2
2H2045				5.138	2943.10	28.1	24.751	4285.16	135.5
1H2046				3.034	2946.13	16.6	23.890	4309.05	130.8
2H2046				2.881	2949.01	15.8	23.613	4332.67	129.3
1H2047				2.240	2951.25	12.3	22.797	4355.46	124.8
2H2047							22.545	4378.01	123.5
1H2048							21.859	4399.87	119.7
2H2048							21.542	4421.41	118.0





# **Gas Profiles Singleton**

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	Bscf	Bscf	MMscf/d	Bscf	Bscf	MMscf/d	Bscf	Bscf	MMscf/d
1H2014	0.025	0.03	0.14	0.025	0.03	0.14	0.025	0.03	0.14
2H2014	0.025	0.05	0.14	0.025	0.05	0.14	0.025	0.05	0.14
1H2015	0.025	0.08	0.14	0.025	0.08	0.14	0.025	0.08	0.14
2H2015	0.025	0.10	0.14	0.025	0.10	0.14	0.025	0.10	0.14
1H2016	0.025	0.13	0.14	0.025	0.13	0.14	0.025	0.13	0.14
2H2016	0.025	0.15	0.14	0.025	0.15	0.14	0.025	0.15	0.14
1H2017	0.025	0.18	0.14	0.025	0.18	0.14	0.025	0.18	0.14
2H2017	0.025	0.20	0.14	0.025	0.20	0.14	0.025	0.20	0.14
1H2018	0.025	0.23	0.14	0.025	0.23	0.14	0.025	0.23	0.14
2H2018	0.025	0.25	0.14	0.025	0.25	0.14	0.025	0.25	0.14
1H2019	0.025	0.28	0.14	0.025	0.28	0.14	0.025	0.28	0.14
2H2019	0.025	0.30	0.14	0.025	0.30	0.14	0.025	0.30	0.14
1H2020	0.025	0.33	0.14	0.025	0.33	0.14	0.025	0.33	0.14
2H2020	0.025	0.35	0.14	0.025	0.35	0.14	0.025	0.35	0.14
1H2021	0.025	0.38	0.14	0.025	0.38	0.14	0.025	0.38	0.14
2H2021	0.025	0.40	0.14	0.025	0.40	0.14	0.025	0.40	0.14
1H2022	0.025	0.43	0.14	0.025	0.43	0.14	0.025	0.43	0.14
2H2022	0.025	0.45	0.14	0.025	0.45	0.14	0.025	0.45	0.14
1H2023				0.025	0.48	0.14	0.025	0.48	0.14
2H2023				0.025	0.50	0.14	0.025	0.50	0.14
1H2024				0.025	0.53	0.14	0.025	0.53	0.14
2H2024				0.025	0.55	0.14	0.025	0.55	0.14
1H2025				0.025	0.58	0.14	0.025	0.58	0.14
2H2025				0.025	0.60	0.14	0.025	0.60	0.14
1H2026				0.025	0.63	0.14	0.025	0.63	0.14
2H2026				0.025	0.65	0.14	0.025	0.65	0.14
1H2027				0.025	0.68	0.14	0.025	0.68	0.14
2H2027				0.025	0.70	0.14	0.025	0.70	0.14
1H2028							0.025	0.73	0.14
2H2028							0.025	0.75	0.14
1H2029							0.025	0.78	0.14
2H2029							0.025	0.80	0.14
1H2030							0.025	0.83	0.14
2H2030							0.025	0.85	0.14
1H2031							0.025	0.88	0.14

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	Bscf	Bscf	MMscf/d	Bscf	Bscf	MMscf/d	Bscf	Bscf	MMscf/d
2H2031							0.025	0.90	0.14
1H2032							0.025	0.93	0.14
2H2032							0.025	0.95	0.14
1H2033							0.025	0.98	0.14
2H2033							0.025	1.00	0.14
1H2034							0.025	1.03	0.14
2H2034							0.025	1.05	0.14
1H2035							0.025	1.08	0.14
2H2035							0.025	1.10	0.14
1H2036							0.025	1.13	0.14
2H2036							0.025	1.15	0.14
1H2037							0.025	1.18	0.14
2H2037							0.025	1.20	0.14
1H2038							0.025	1.23	0.14
2H2038							0.025	1.25	0.14
1H2039							0.025	1.28	0.14
2H2039							0.025	1.30	0.14
1H2040							0.025	1.33	0.14
2H2040							0.025	1.35	0.14
1H2041							0.025	1.38	0.14
2H2041							0.025	1.40	0.14
1H2042							0.025	1.43	0.14
2H2042							0.025	1.45	0.14
1H2043							0.025	1.48	0.14
2H2043							0.025	1.50	0.14
1H2044							0.024	1.52	0.13
2H2044							0.023	1.55	0.13
1H2045							0.023	1.57	0.12
2H2045							0.022	1.59	0.12
1H2046									
2H2046									
1H2047									
2H2047									
1H2048									
2H2048									





# **Profiles - Storrington**

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
1H2014	4.996	5.00	27.4	6.459	6.46	35.4	7.123	7.12	39.0
2H2014	4.284	9.28	23.5	5.474	11.93	30.0	6.678	13.80	36.6
1H2015	3.554	12.83	19.5	4.489	16.42	24.6	6.077	19.88	33.3
2H2015	3.047	15.88	16.7	3.804	20.23	20.8	5.732	25.61	31.4
1H2016				3.135	23.36	17.2	5.274	30.88	28.9
2H2016				2.641	26.00	14.5	4.972	35.86	27.2
1H2017				2.166	28.17	11.9	4.573	40.43	25.0
2H2017				1.836	30.00	10.1	4.356	44.79	23.9
1H2018							4.023	48.81	22.0
2H2018							3.847	52.66	21.1
1H2019							3.566	56.22	19.5
2H2019							3.422	59.64	18.7
1H2020							3.200	62.84	17.5
2H2020							3.063	65.91	16.8
1H2021							2.858	68.76	15.6
2H2021							2.759	71.52	15.1
1H2022							2.581	74.10	14.1
2H2022							2.498	76.60	13.7
1H2023							2.342	78.94	12.8
2H2023							2.272	81.22	12.4
1H2024							2.146	83.36	11.8
2H2024							2.075	85.44	11.4
1H2025							1.954	87.39	10.7
2H2025							1.903	89.29	10.4
1H2026							1.795	91.09	9.8
2H2026							1.751	92.84	9.6
1H2027							1.655	94.50	9.1
2H2027							1.617	96.11	8.9
1H2028							1.539	97.65	8.4
2H2028							1.498	99.15	8.2
1H2029							1.419	100.57	7.8
2H2029							1.391	101.96	7.6
1H2030							1.320	103.28	7.2
2H2030							1.296	104.58	7.1
1H2031							1.231	105.81	6.7

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
2H2031							1.210	107.02	6.6
1H2032							1.157	108.17	6.3
2H2032							1.132	109.31	6.2
1H2033							1.078	110.38	5.9
2H2033							1.061	111.44	5.8
1H2034							1.012	112.46	5.5
2H2034							0.997	113.45	5.5
1H2035							0.952	114.41	5.2
2H2035							0.939	115.34	5.1
1H2036							0.901	116.25	4.9
2H2036							0.885	117.13	4.8
1H2037							0.846	117.98	4.6
2H2037							0.836	118.81	4.6
1H2038							0.800	119.61	4.4
2H2038							0.791	120.40	4.3
1H2039							0.757	121.16	4.1
2H2039							0.750	121.91	4.1
1H2040							0.722	122.63	4.0
2H2040							0.711	123.34	3.9
1H2041							0.682	124.03	3.7
2H2041							0.676	124.70	3.7
1H2042							0.648	125.35	3.5
2H2042							0.643	125.99	3.5
1H2043							0.617	126.61	3.4
2H2043							0.612	127.22	3.4
1H2044							0.591	127.81	3.2
2H2044							0.584	128.40	3.2
1H2045							0.561	128.96	3.1
2H2045							0.557	129.51	3.0
1H2046							0.536	130.05	2.9
2H2046							0.533	130.58	2.9
1H2047							0.513	131.10	2.8
2H2047							0.510	131.61	2.8
1H2048							0.493	132.10	2.7
2H2048							0.488	132.59	2.7





#### **Profiles - Stockbridge**

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
1H2014	65.962	65.96	361.2	70.850	70.85	388.0	77.900	77.90	426.6
2H2014	61.594	127.56	337.3	68.937	139.79	377.5	75.438	153.34	413.1
1H2015	55.654	183.21	304.7	64.907	204.69	355.4	70.773	224.11	387.5
2H2015	51.969	235.18	284.6	63.155	267.85	345.8	68.691	292.80	376.1
1H2016	47.205	282.38	258.5	59.783	327.63	327.4	64.931	357.73	355.5
2H2016	43.827	326.21	240.0	57.843	385.48	316.7	62.795	420.53	343.8
1H2017	39.600	365.81	216.8	54.461	439.94	298.2	59.155	479.68	323.9
2H2017	36.978	402.79	202.5	52.991	492.93	290.2	57.641	537.32	315.6
1H2018	33.412	436.20	183.0	49.893	542.82	273.2	54.396	591.72	297.9
2H2018	31.200	467.40	170.8	48.546	591.37	265.8	53.095	644.82	290.7
1H2019	28.191	495.59	154.4	45.708	637.07	250.3	50.190	695.01	274.8
2H2019	26.324	521.92	144.1	44.474	681.55	243.5	49.067	744.07	268.7
1H2020	23.911	545.83	130.9	42.100	723.65	230.5	46.705	790.78	255.7
2H2020	22.200	568.03	121.6	40.733	764.38	223.0	45.472	836.25	249.0
1H2021	20.059	588.09	109.8	38.352	802.73	210.0	43.110	879.36	236.1
2H2021	18.731	606.82	102.6	37.317	840.05	204.3	42.265	921.62	231.4
1H2022	16.924	623.74	92.7	35.135	875.19	192.4	40.123	961.75	219.7
2H2022	15.804	639.55	86.5	34.186	909.37	187.2	39.387	1001.13	215.7
1H2023	14.280	653.83	78.2	32.187	941.56	176.2	37.436	1038.57	205.0
2H2023	13.334	667.16	73.0	31.319	972.88	171.5	36.793	1075.36	201.5
1H2024	12.112	679.27	66.3	29.647	1002.52	162.3	35.200	1110.56	192.7
2H2024	11.245	690.52	61.6	28.685	1031.21	157.1	34.440	1145.00	188.6
1H2025	10.161	700.68	55.6	27.008	1058.22	147.9	32.807	1177.81	179.6
2H2025	9.488	710.17	52.0	26.278	1084.50	143.9	32.312	1210.12	176.9
1H2026	8.573	718.74	46.9	24.742	1109.24	135.5	30.811	1240.93	168.7
2H2026	8.005	726.74	43.8	24.074	1133.31	131.8	30.375	1271.31	166.3
1H2027				22.667	1155.98	124.1	28.991	1300.30	158.7
2H2027				22.055	1178.03	120.8	28.608	1328.91	156.6
1H2028				20.877	1198.91	114.3	27.477	1356.38	150.5
2H2028				20.200	1219.11	110.6	26.986	1383.37	147.8
1H2029				19.019	1238.13	104.1	25.800	1409.17	141.3
2H2029				18.505	1256.63	101.3	25.502	1434.67	139.6
1H2030				17.423	1274.06	95.4	24.401	1459.07	133.6
2H2030				16.953	1291.01	92.8	24.137	1483.21	132.2
1H2031				15.962	1306.97	87.4	23.112	1506.32	126.6

	1P	1P	1P	2P	2P	2P	3P	3P	3P
	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
2H2031				15.531	1322.50	85.0	22.879	1529.20	125.3
1H2032				14.702	1337.21	80.5	22.042	1551.24	120.7
2H2032				14.225	1351.43	77.9	21.713	1572.96	118.9
1H2033				13.393	1364.82	73.3	20.820	1593.78	114.0
2H2033				13.032	1377.86	71.4	20.638	1614.41	113.0
1H2034				12.270	1390.13	67.2	19.801	1634.22	108.4
2H2034				11.938	1402.06	65.4	19.640	1653.86	107.5
1H2035				11.240	1413.30	61.5	18.855	1672.71	103.2
2H2035				10.937	1424.24	59.9	18.713	1691.42	102.5
1H2036				10.353	1434.59	56.7	18.074	1709.50	99.0
2H2036				10.017	1444.61	54.9	17.848	1727.35	97.7
1H2037				9.432	1454.04	51.6	17.154	1744.50	93.9
2H2037				9.177	1463.22	50.3	17.043	1761.54	93.3
1H2038				8.640	1471.86	47.3	16.390	1777.93	89.7
2H2038				8.407	1480.27	46.0	16.292	1794.22	89.2
1H2039				7.916	1488.18	43.3	15.675	1809.90	85.8
2H2039				7.702	1495.88	42.2	15.589	1825.49	85.4
1H2040				7.291	1503.18	39.9	15.088	1840.58	82.6
2H2040				7.054	1510.23	38.6	14.929	1855.51	81.7
1H2041				6.642	1516.87	36.4	14.378	1869.88	78.7
2H2041				6.462	1523.33	35.4	14.312	1884.20	78.4
1H2042				6.085	1529.42	33.3	13.789	1897.98	75.5
2H2042				5.920	1535.34	32.4	13.733	1911.72	75.2
1H2043				5.574	1540.91	30.5	13.236	1924.95	72.5
2H2043				5.424	1546.34	29.7	13.187	1938.14	72.2
1H2044				5.134	1551.47	28.1	12.786	1950.93	70.0
2H2044				4.968	1556.44	27.2	12.673	1963.60	69.4
1H2045				4.677	1561.12	25.6	12.224	1975.82	66.9
2H2045				4.551	1565.67	24.9	12.189	1988.01	66.7
1H2046				4.285	1569.95	23.5	11.762	1999.77	64.4
2H2046				4.169	1574.12	22.8	11.732	2011.51	64.2
1H2047				3.925	1578.05	21.5	11.326	2022.83	62.0
2H2047				3.819	1581.86	20.9	11.301	2034.13	61.9
1H2048							10.972	2045.11	60.1
2H2048							10.891	2056.00	59.6



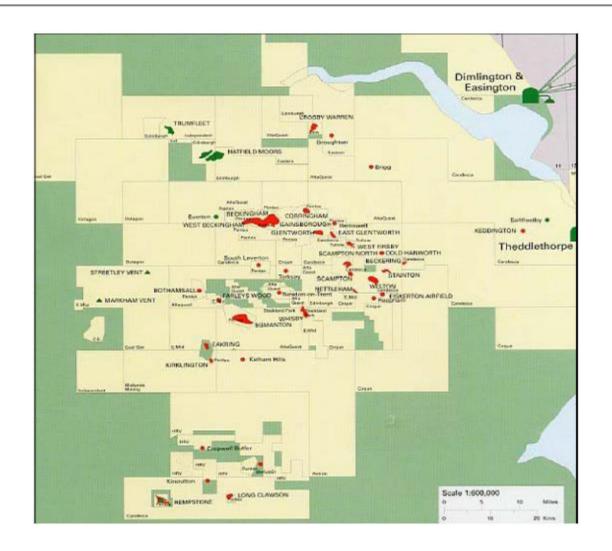


# **Profiles - Lybster**

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	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
1H2014	13.951	13.95	76.4	15.899	15.90	87.1	17.648	17.65	96.6
2H2014	13.150	27.10	72.0	15.385	31.28	84.2	17.061	34.71	93.4
1H2015	11.994	39.10	65.7	14.407	45.69	78.9	15.978	50.69	87.5
2H2015	11.306	50.40	61.9	13.942	59.63	76.3	15.483	66.17	84.8
1H2016	10.367	60.77	56.8	13.126	72.76	71.9	14.613	80.78	80.0
2H2016	9.717	70.49	53.2	12.630	85.39	69.2	14.112	94.90	77.3
1H2017	8.863	79.35	48.5	11.827	97.22	64.8	13.275	108.17	72.7
2H2017	8.354	87.70	45.7	11.446	108.66	62.7	12.918	121.09	70.7
1H2018	7.620	95.32	41.7	10.718	119.38	58.7	12.175	133.26	66.7
2H2018	7.182	102.50	39.3	10.372	129.75	56.8	11.869	145.13	65.0
1H2019	6.551	109.06	35.9	9.712	139.46	53.2	11.206	156.34	61.4
2H2019	6.175	115.23	33.8	9.399	148.86	51.5	10.943	167.28	59.9
1H2020	5.662	120.89	31.0	8.849	157.71	48.5	10.405	177.69	57.0
2H2020	5.307	126.20	29.1	8.515	166.23	46.6	10.119	187.81	55.4
1H2021	4.841	131.04	26.5	7.973	174.20	43.7	9.584	197.39	52.5
2H2021	4.563	135.60	25.0	7.716	181.92	42.3	9.387	206.78	51.4
1H2022	4.162	139.77	22.8	7.225	189.14	39.6	8.903	215.68	48.8
2H2022	3.923	143.69	21.5	6.992	196.13	38.3	8.732	224.41	47.8
1H2023	3.578	147.27	19.6	6.547	202.68	35.8	8.292	232.70	45.4
2H2023	3.373	150.64	18.5	6.336	209.02	34.7	8.142	240.85	44.6
1H2024	3.093	153.73	16.9	5.965	214.98	32.7	7.784	248.63	42.6
2H2024	2.899	156.63	15.9	5.740	220.72	31.4	7.610	256.24	41.7
1H2025	2.644	159.28	14.5	5.375	226.10	29.4	7.243	263.48	39.7
2H2025	2.492	161.77	13.6	5.202	231.30	28.5	7.129	270.61	39.0
1H2026	2.273	164.04	12.4	4.871	236.17	26.7	6.792	277.40	37.2
2H2026	2.143	166.18	11.7	4.714	240.88	25.8	6.692	284.10	36.6
1H2027				4.414	245.30	24.2	6.382	290.48	34.9
2H2027				4.271	249.57	23.4	6.294	296.77	34.5
1H2028				4.021	253.59	22.0	6.041	302.81	33.1
2H2028				3.870	257.46	21.2	5.930	308.74	32.5
1H2029				3.624	261.08	19.8	5.666	314.41	31.0
2H2029				3.507	264.59	19.2	5.597	320.01	30.6
1H2030				3.284	267.87	18.0	5.352	325.36	29.3
2H2030				3.178	271.05	17.4	5.291	330.65	29.0
1H2031				2.976	274.03	16.3	5.064	335.71	27.7

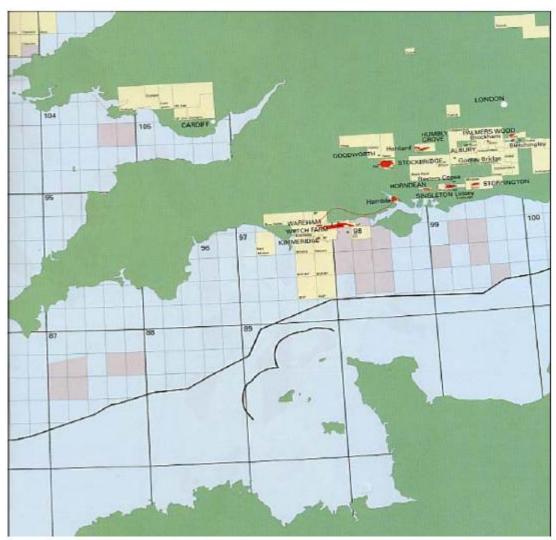
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	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd	MBBLS	MBBLS	bopd
2H2031			•	2.879	276.91	15.8	5.010	340.72	27.4
1H2032				2.711	279.62	14.8	4.825	345.55	26.4
2H2032				2.609	282.23	14.3	4.750	350.30	26.0
1H2033				2.443	284.67	13.4	4.553	354.85	24.9
2H2033				2.364	287.03	12.9	4.511	359.36	24.7
1H2034				2.214	289.25	12.1	4.326	363.69	23.7
2H2034				2.142	291.39	11.7	4.289	367.98	23.5
1H2035				2.006	293.40	11.0	4.116	372.09	22.5
2H2035				1.941	295.34	10.6	4.083	376.18	22.4
1H2036							3.942	380.12	21.6
2H2036							3.891	384.01	21.3
1H2037							3.738	387.75	20.5
2H2037							3.712	391.46	20.3
1H2038							3.569	395.03	19.5
2H2038							3.546	398.57	19.4
1H2039							3.411	401.98	18.7
2H2039							3.391	405.38	18.6
1H2040							3.281	408.66	18.0
2H2040							3.245	411.90	17.8
1H2041							3.124	415.03	17.1
2H2041							3.109	418.13	17.0
1H2042							2.994	421.13	16.4
2H2042							2.981	424.11	16.3
1H2043							2.872	426.98	15.7
2H2043							2.861	429.84	15.7
1H2044							2.773	432.62	15.2
2H2044							2.748	435.36	15.0
1H2045							2.650	438.01	14.5
2H2045							2.641	440.65	14.5
1H2046							2.548	443.20	14.0
2H2046							2.541	445.74	13.9
1H2047							2.452	448.20	13.4
2H2047							2.446	450.64	13.4
1H2048							2.375	453.02	13.0
2H2048							2.356	455.37	12.9

#### **Location Map – East Midlands Assets**



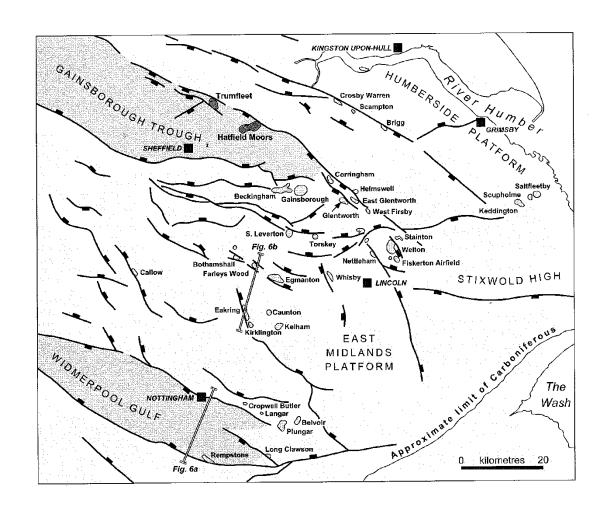
Source: IGas Energy plc

#### **Location Map – Weald Basin Assets**



Source: IGas Energy plc

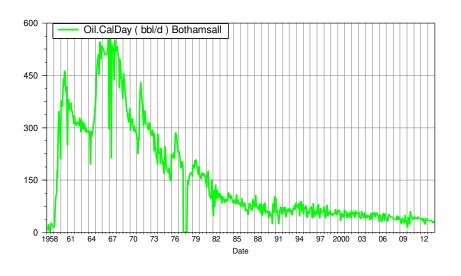
#### **East Midland Fields**

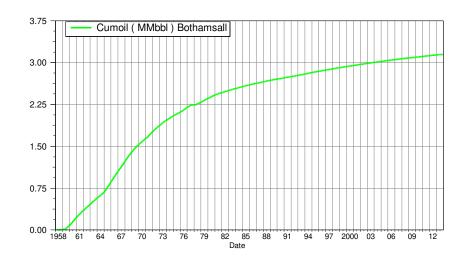


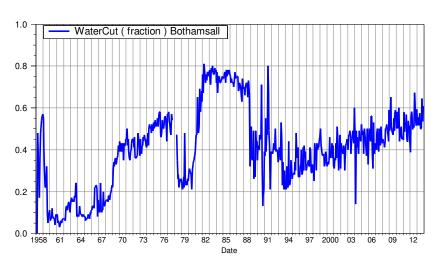
Source: Geological Society Memoir 20, Figure 18 on Page 30

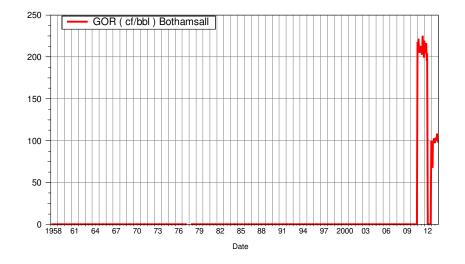


# **Bothamsall Production History**

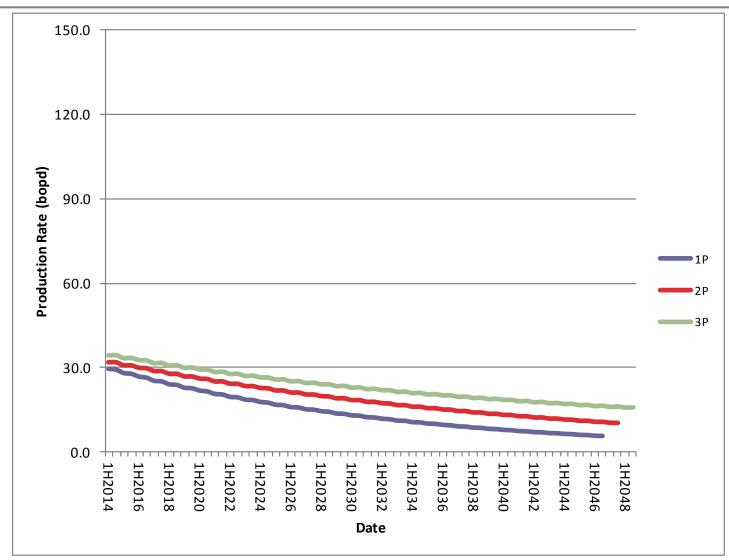








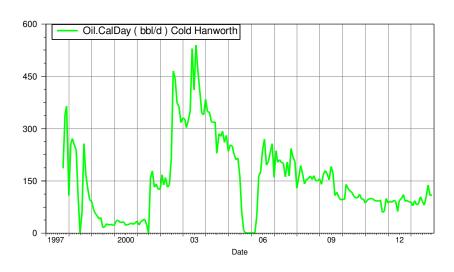
### **Bothamsall Forecast**

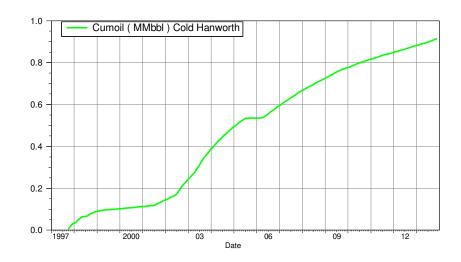


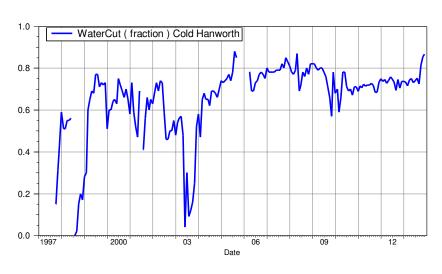


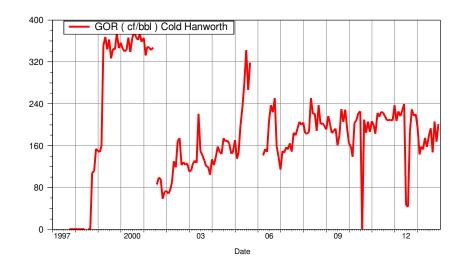


# **Cold Hanworth Production History**



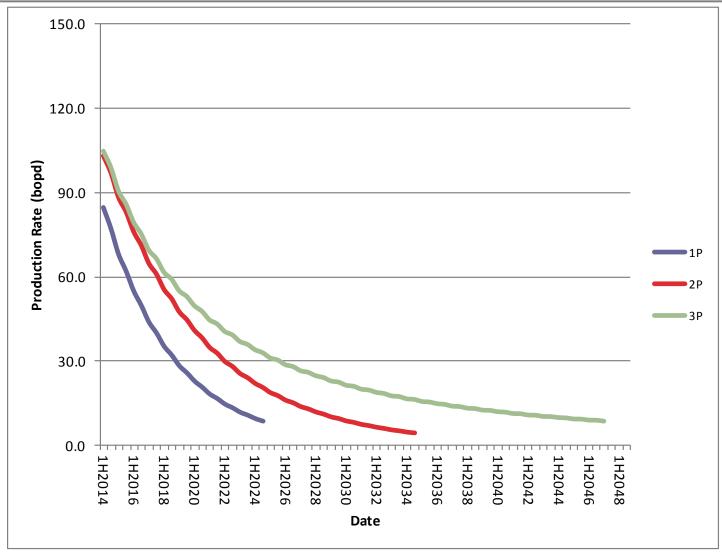






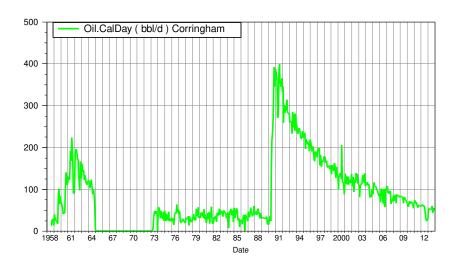


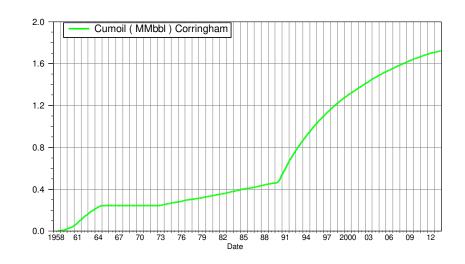
### **Cold Hanworth Forecast**

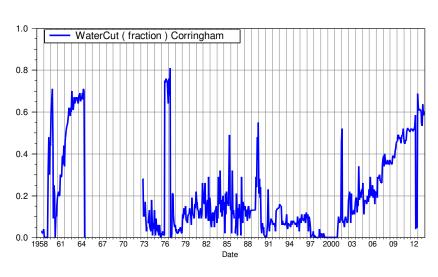


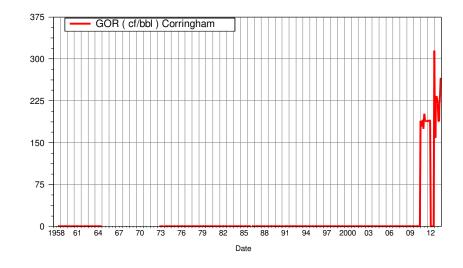


# **Corringham Production History**



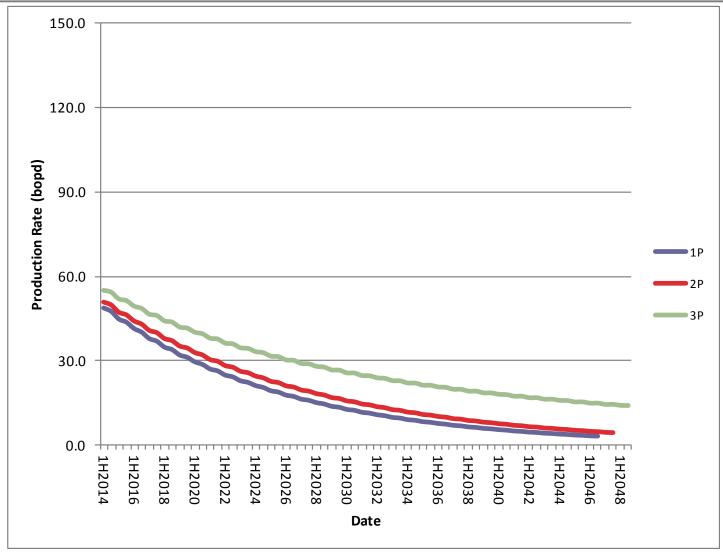






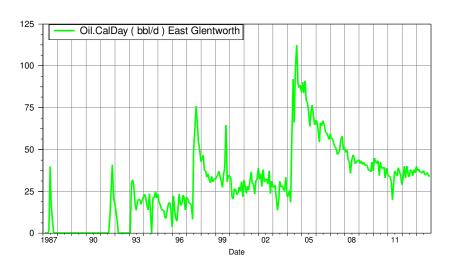


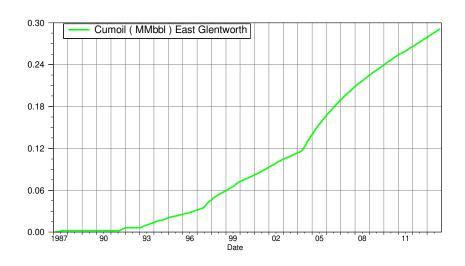
# **Corringham Forecast**

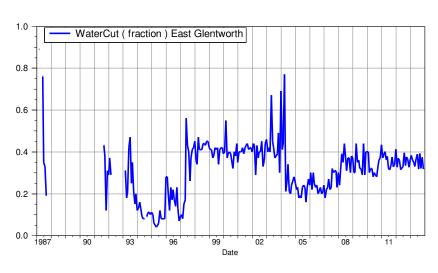


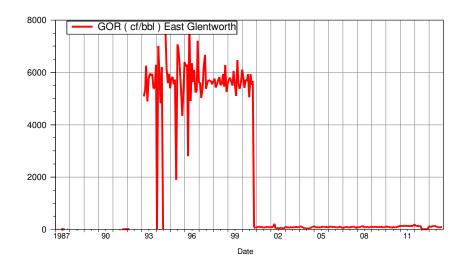


# **East Glentworth Production History**



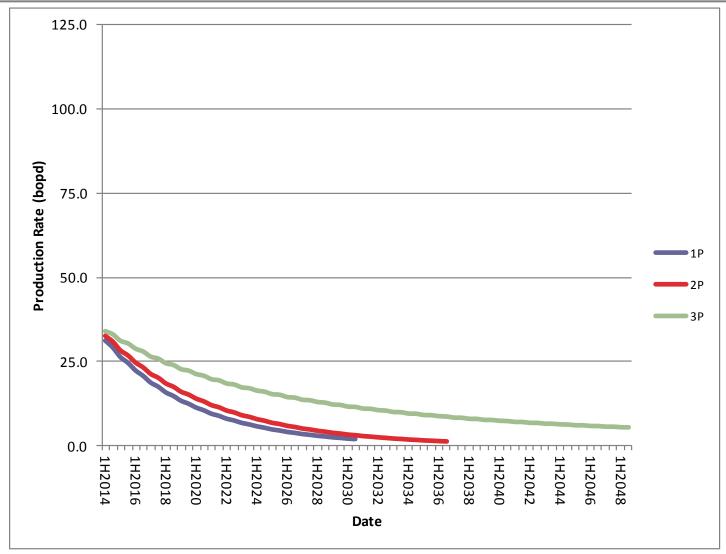






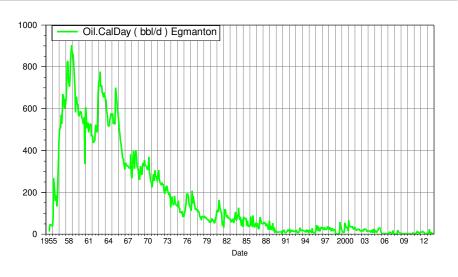


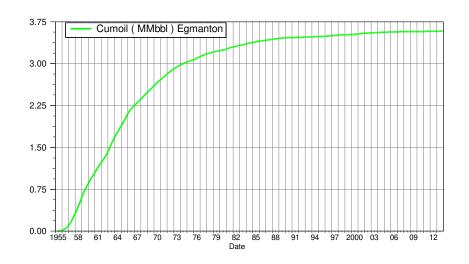
### **East Glentworth Forecast**

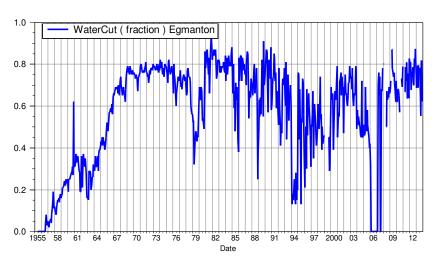


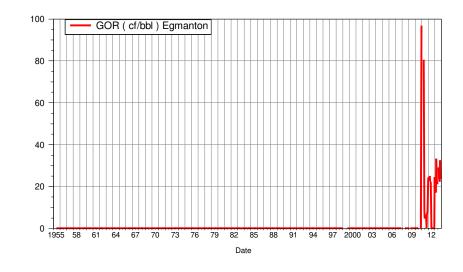


# **Egmanton Production History**

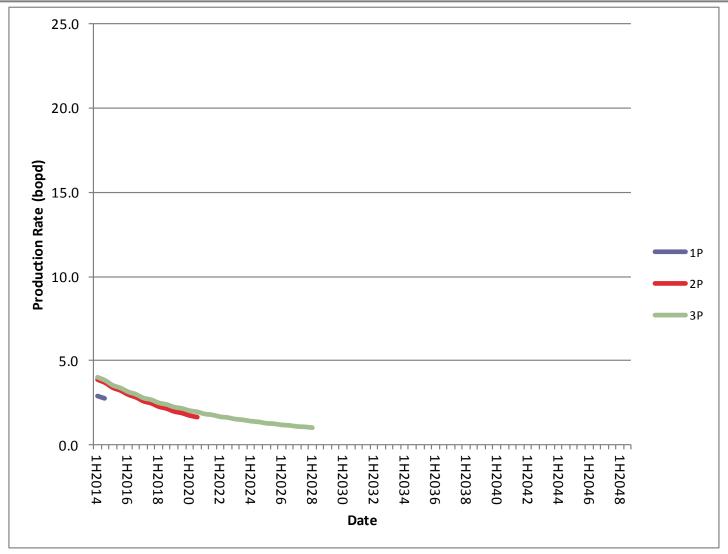




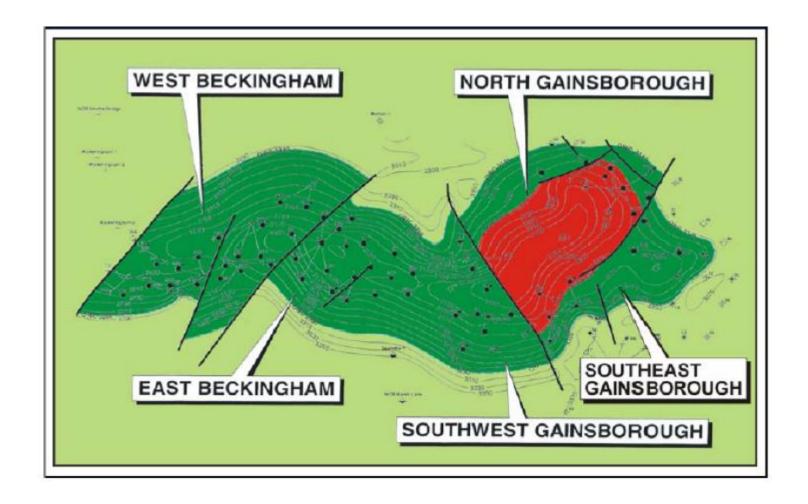




# **Egmanton Forecast**



### **Gainsborough / Beckingham Top Eagle Sandstone Depth Map**

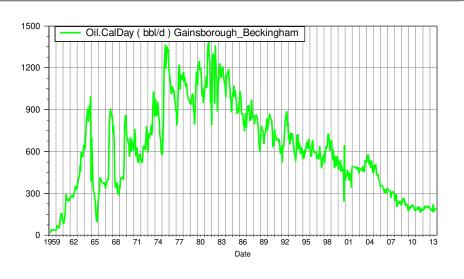


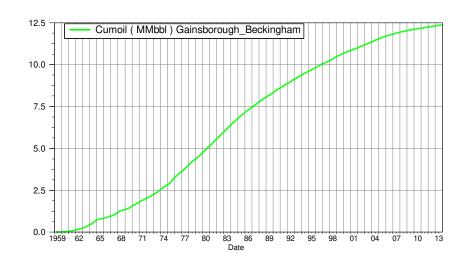
Source: RPS Reserves Report, Feb. 2008

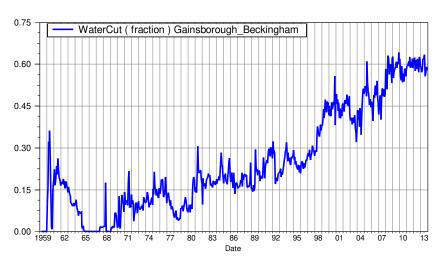


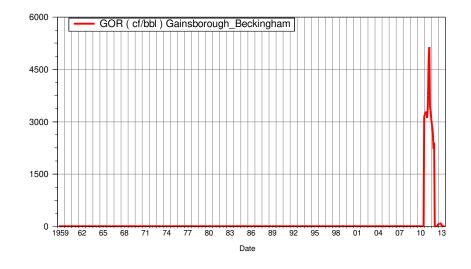


### **Gainsborough / Beckingham Production History**

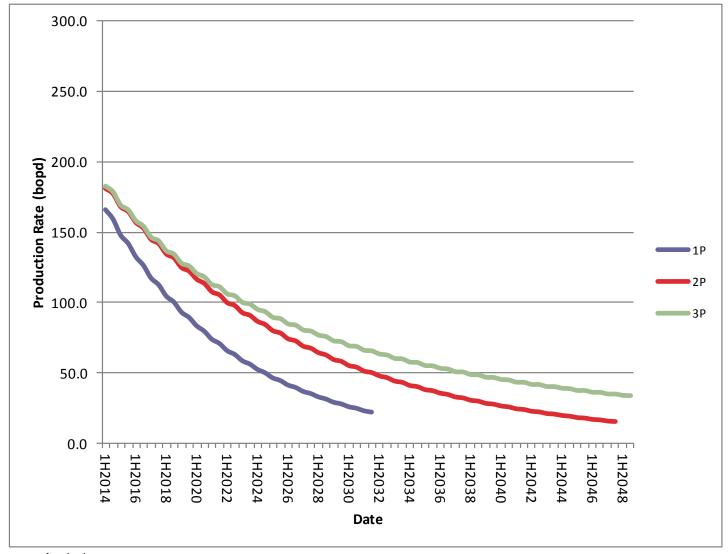






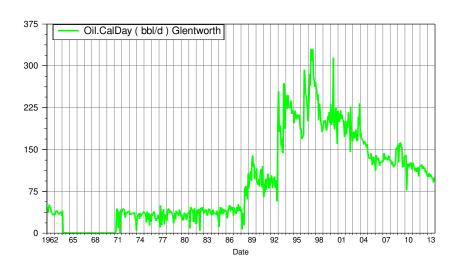


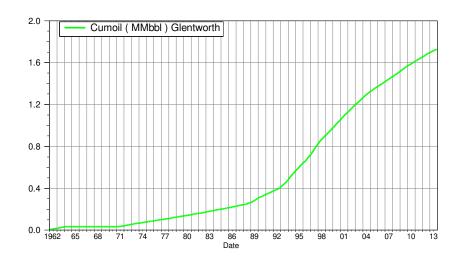
### **Gainsborough / Beckingham Forecast**

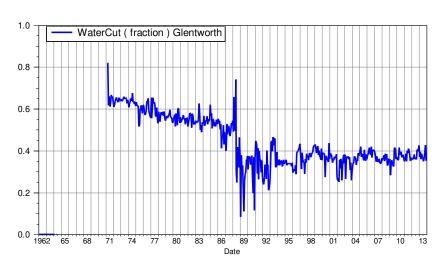


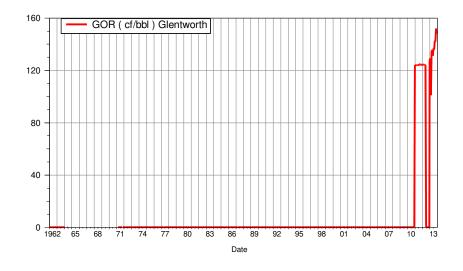


# **Glentworth Production History**



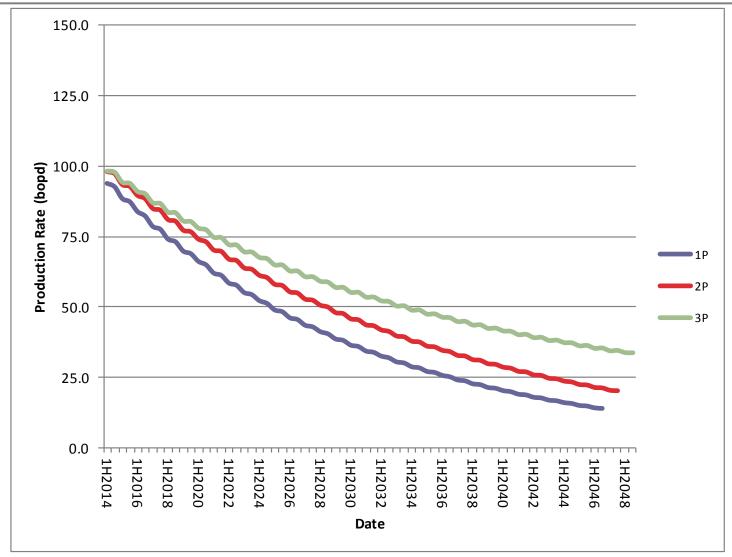






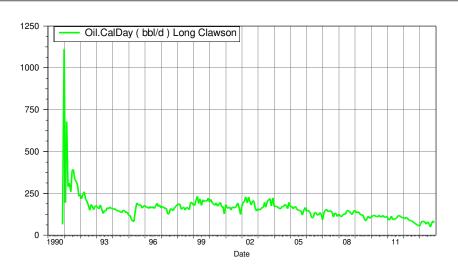


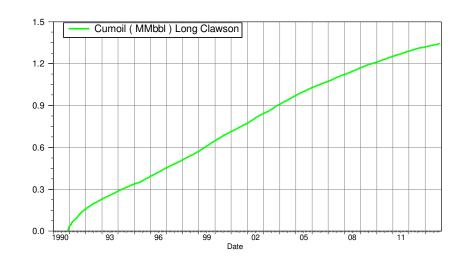
### **Glentworth Forecast**

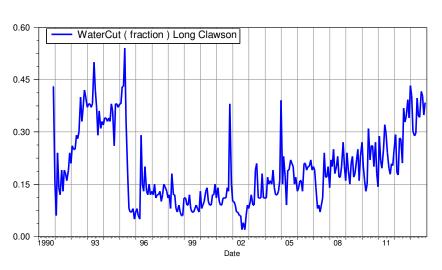


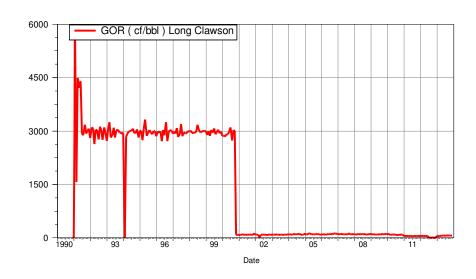


# **Long Clawson Production History**

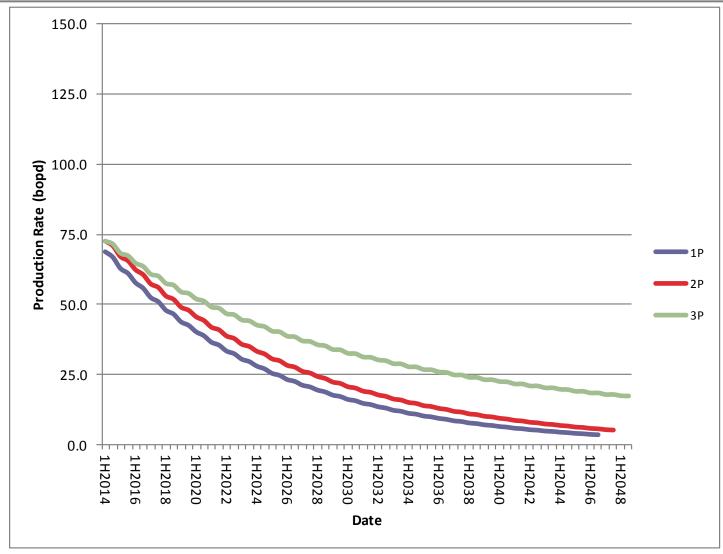






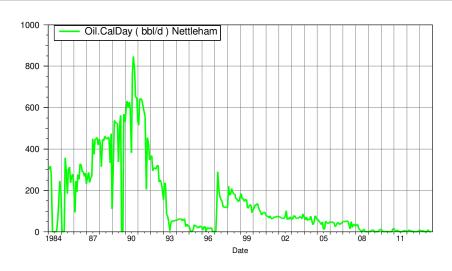


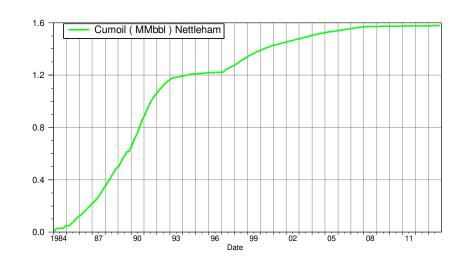
# **Long Clawson Forecast**

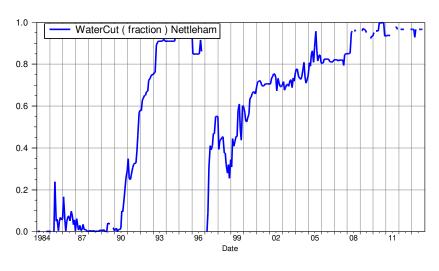


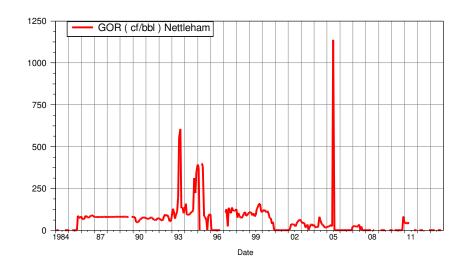


# **Nettleham Production History**

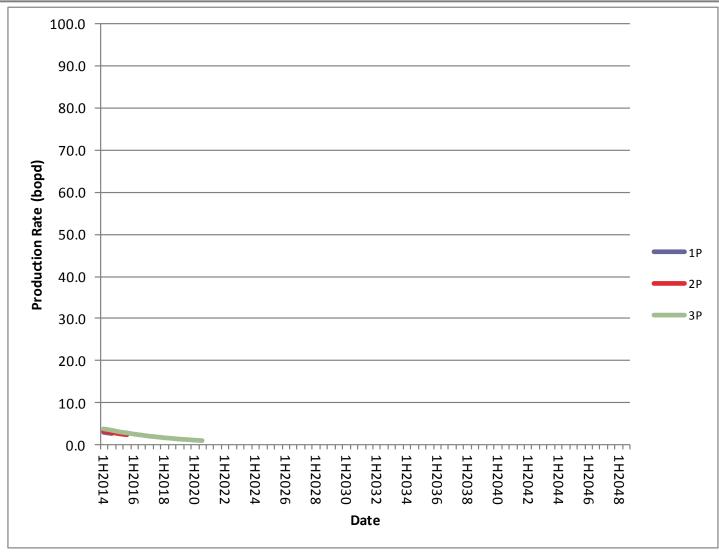








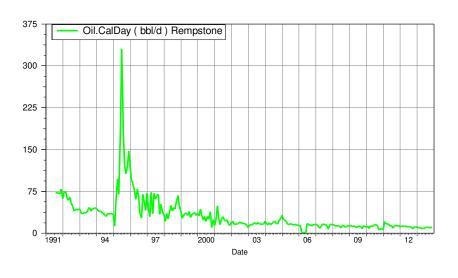
### **Nettleham Forecast**

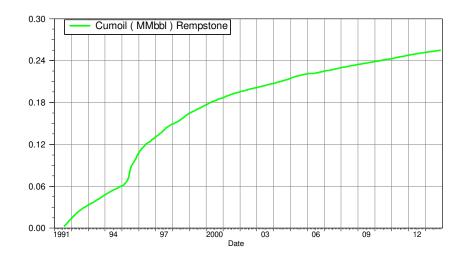


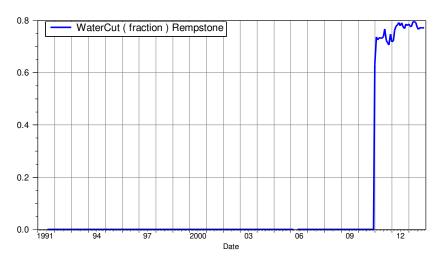


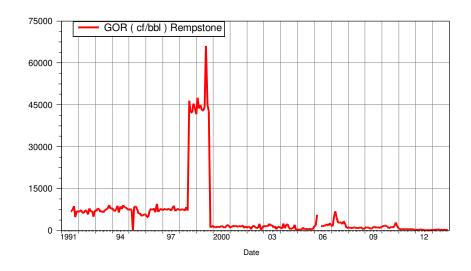


# **Rempstone Production History**

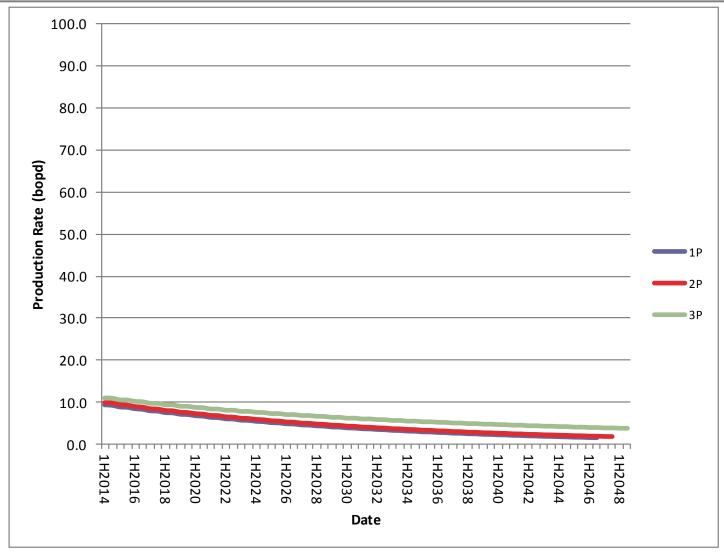








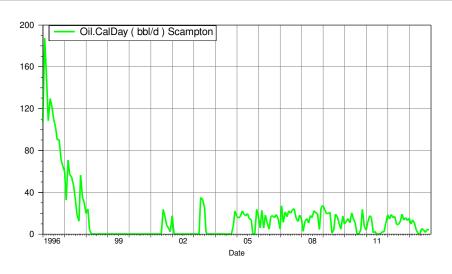
### **Rempstone Forecast**

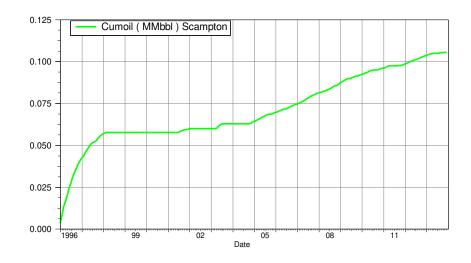


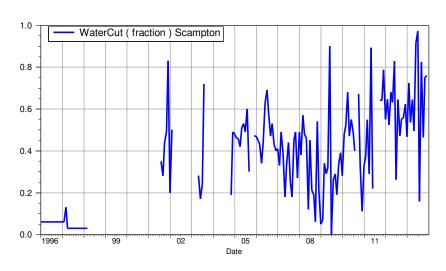


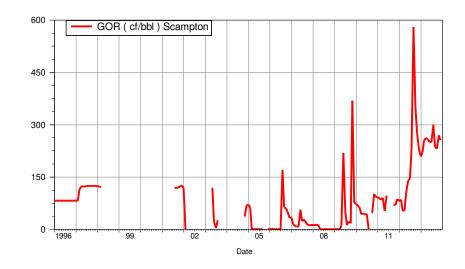


# **Scampton Production History**

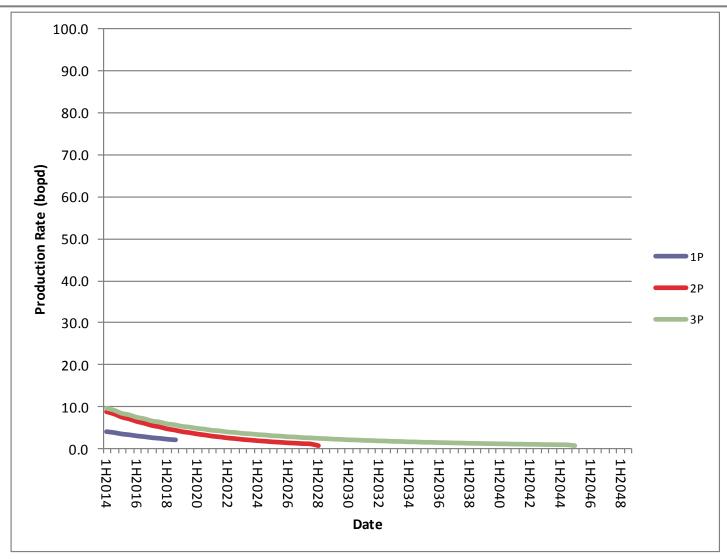








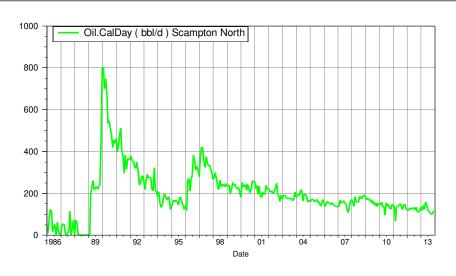
### **Scampton Forecast**

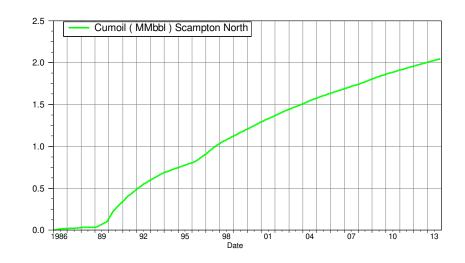


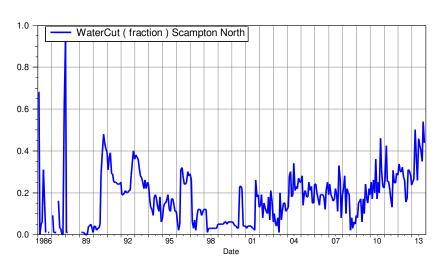


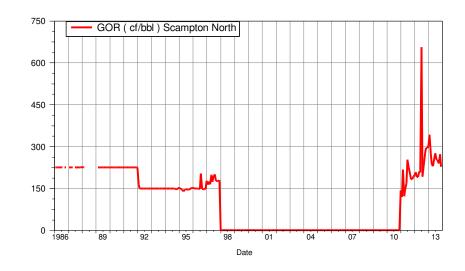


# **Scampton North Production History**

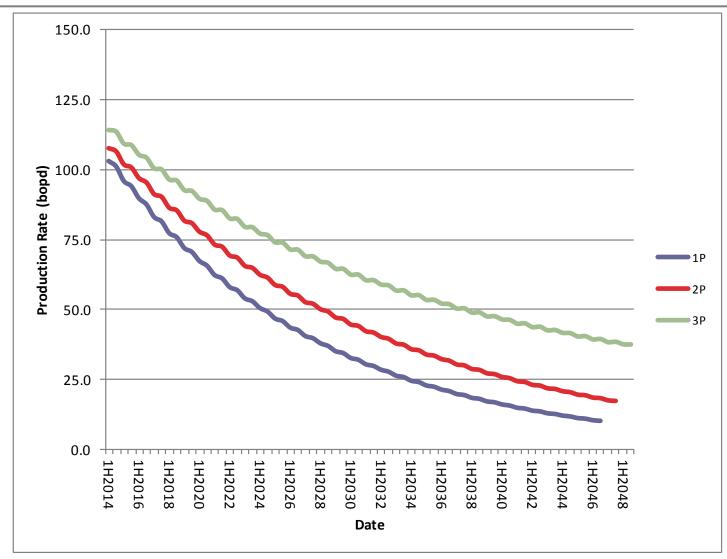






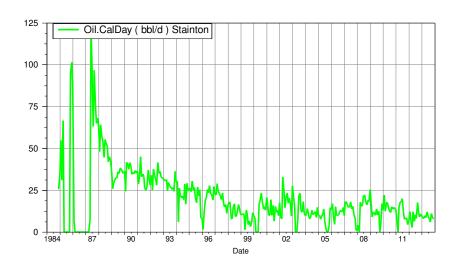


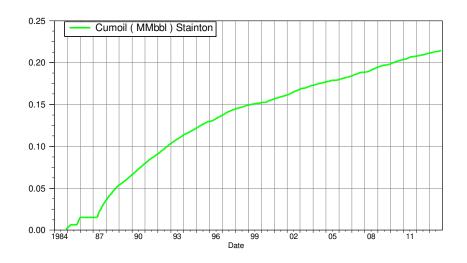
# **Scampton North Forecast**

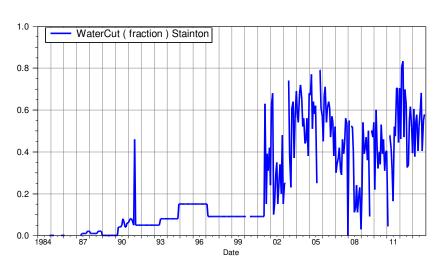


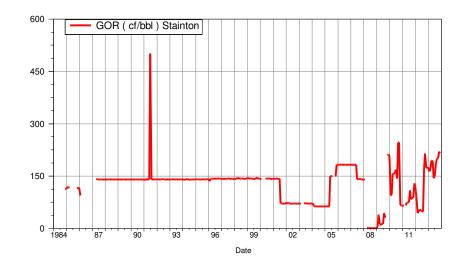


# **Stainton Production History**

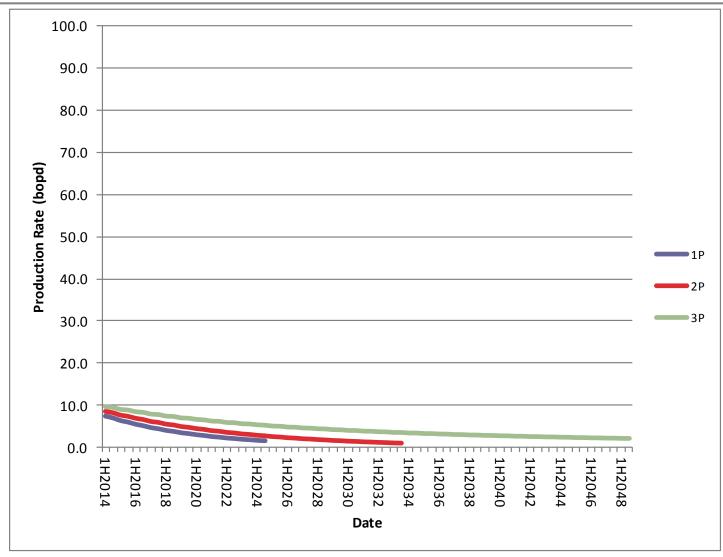






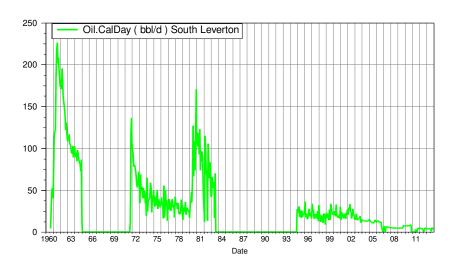


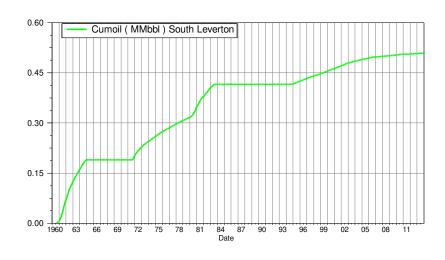
### **Stainton Forecast**

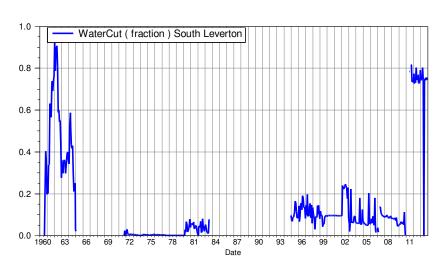


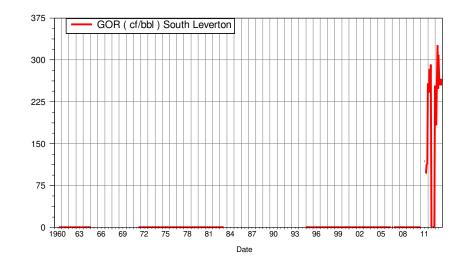


### **South Leverton Production History**

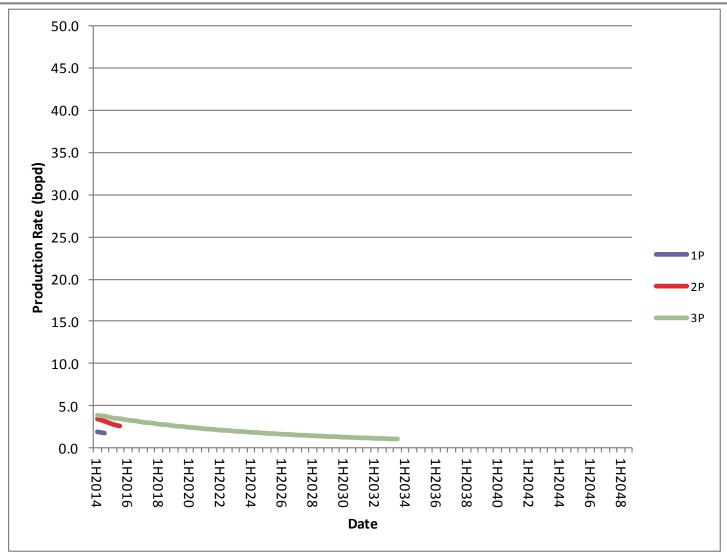






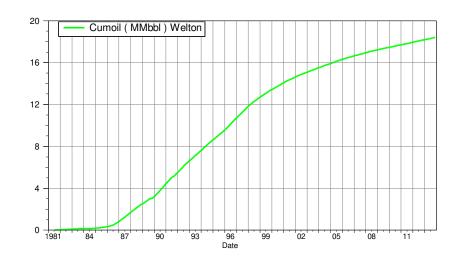


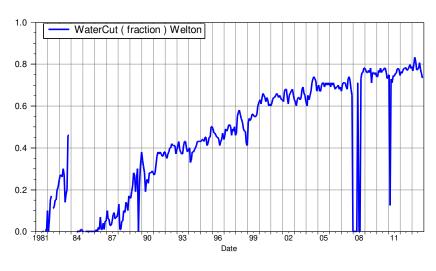
### **South Leverton Forecast**

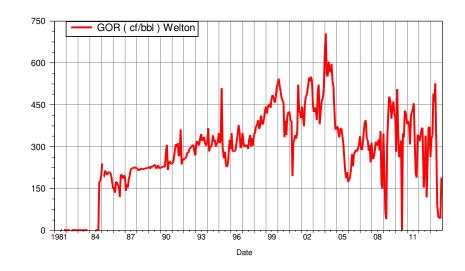


# **Welton Production History**

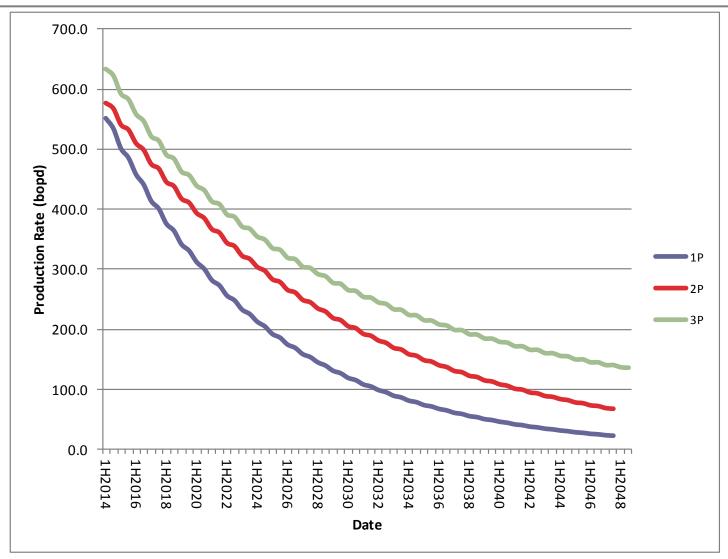




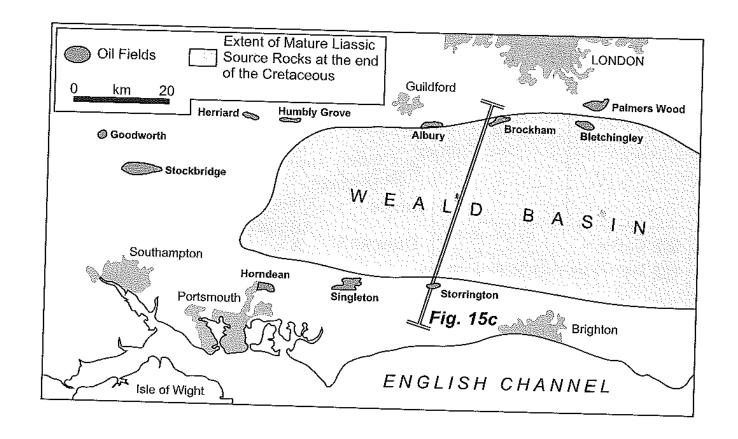




### **Welton Forecast**

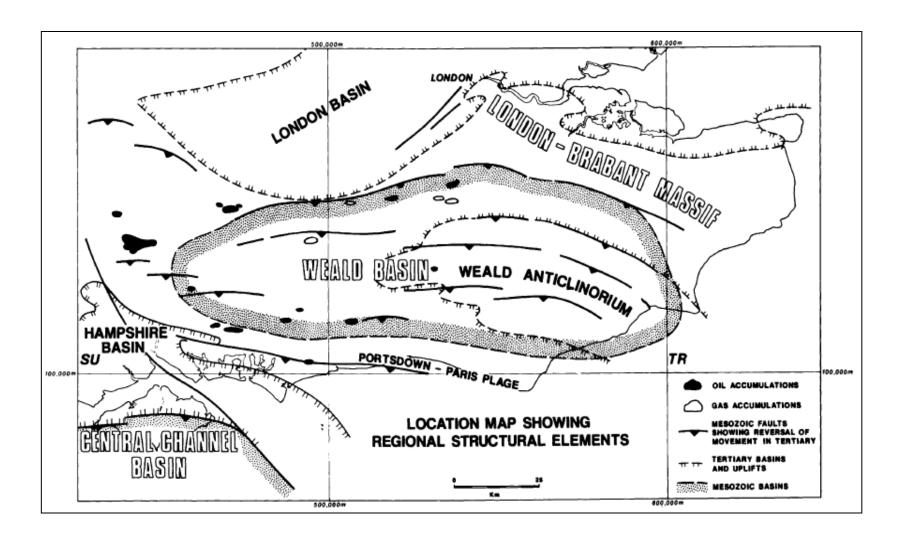


### **Weald Basin Fields**



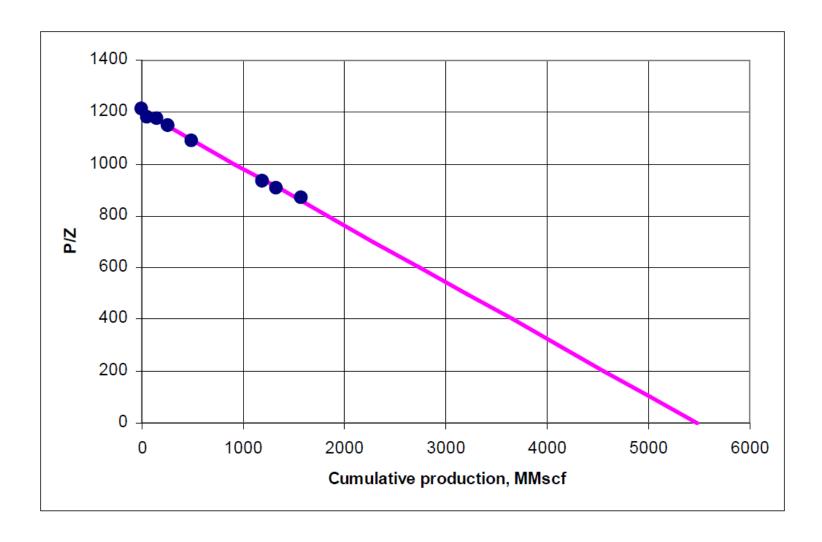
Source: Geological Society Memoir 20, Figure 34 on Page 41

#### **Weald Basin Main Structural Elements**



Source: Geological Society (Reference 3)

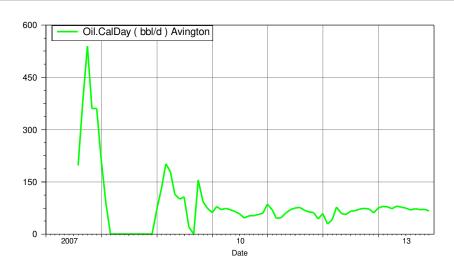
# **Albury Material Balance**



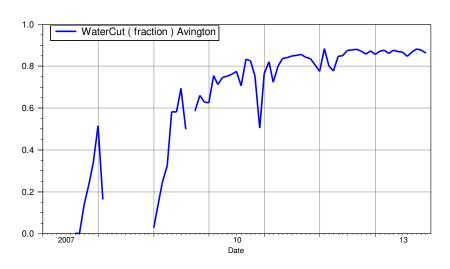
Source: Figure 64, RPS Reserves Report 2008

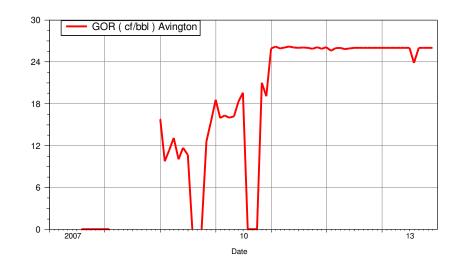


# **Avington Production History**

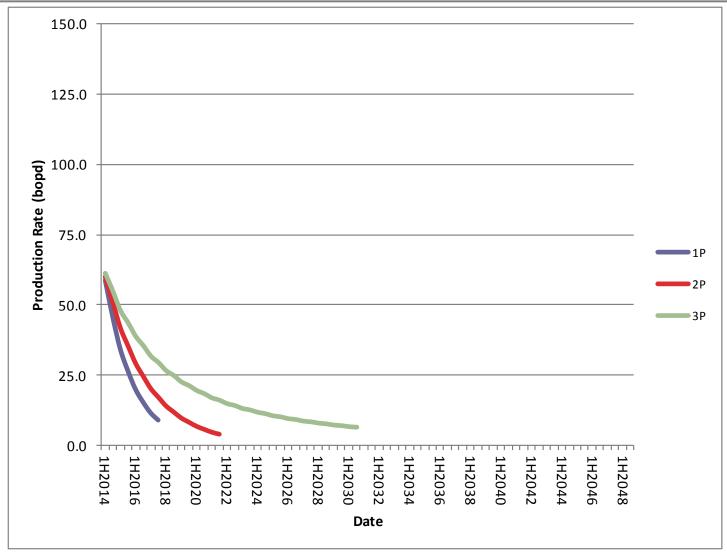








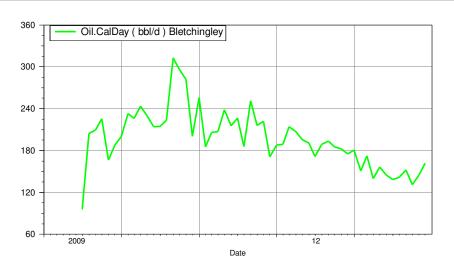
# **Avington Forecast**

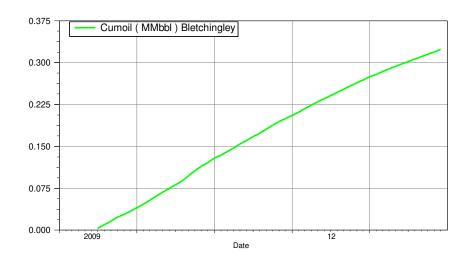


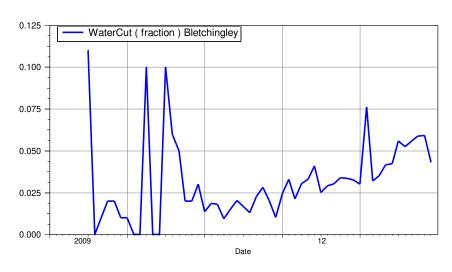




### **Bletchingley Production History**

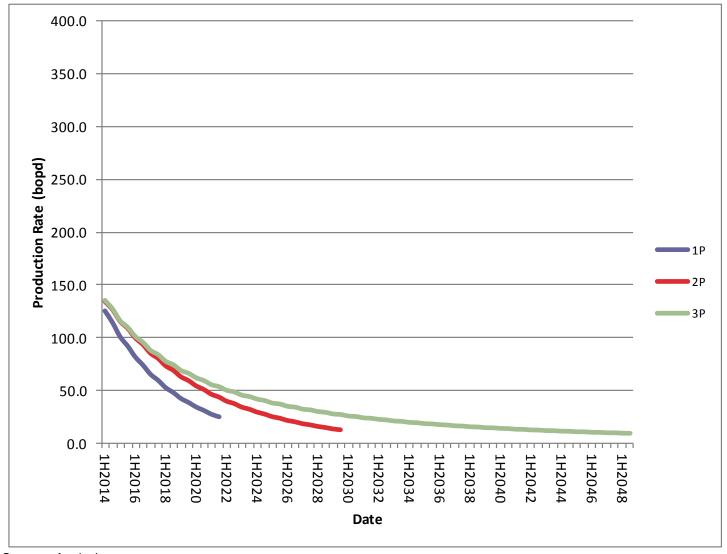








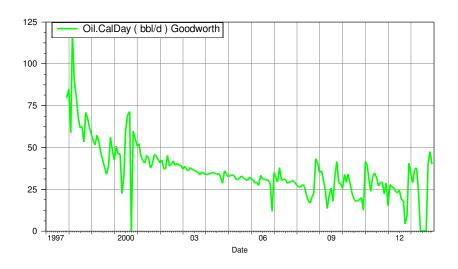
### **Bletchingley Forecast**

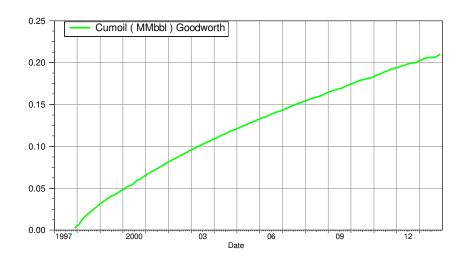


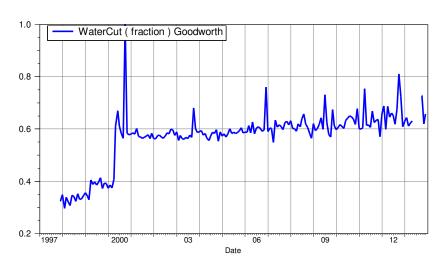


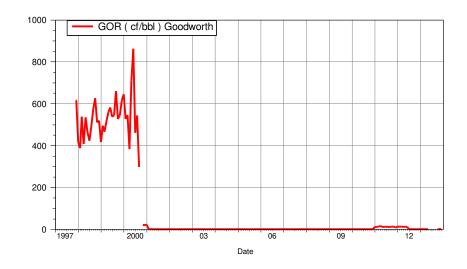


### **Goodworth Production History**

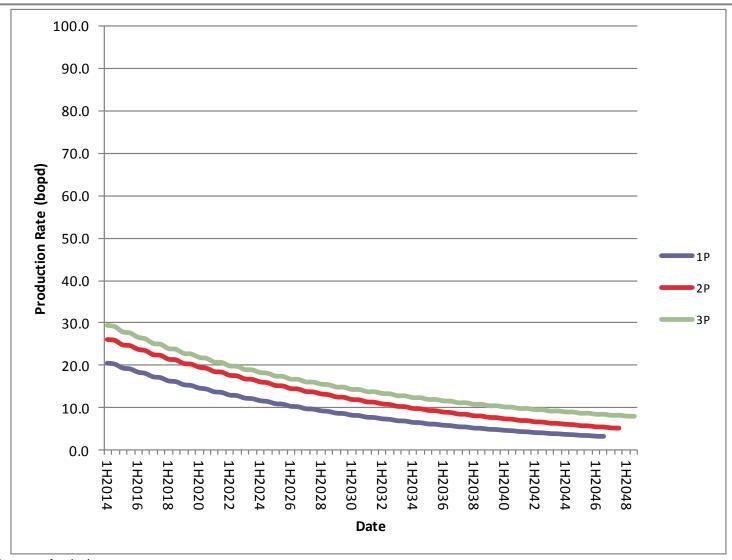






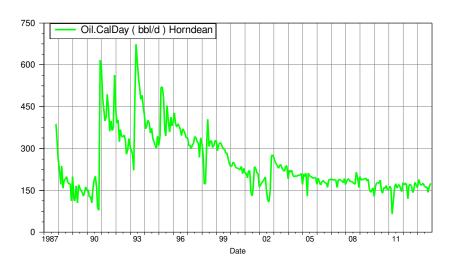


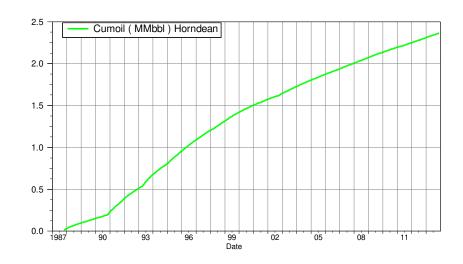
#### **Goodworth Forecast**

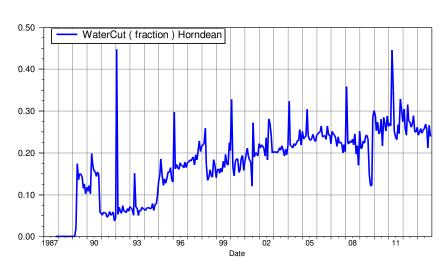


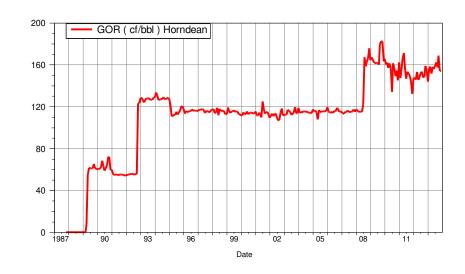


### **Horndean Production History**



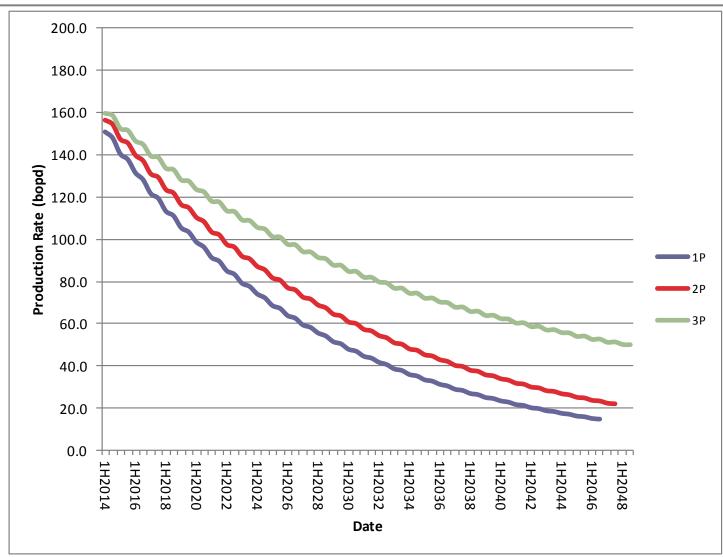








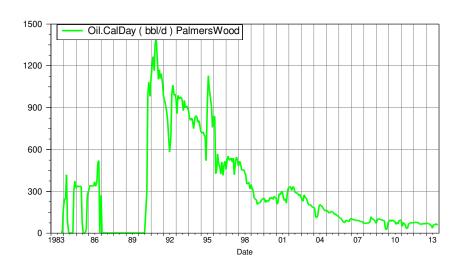
### **Horndean Forecast**

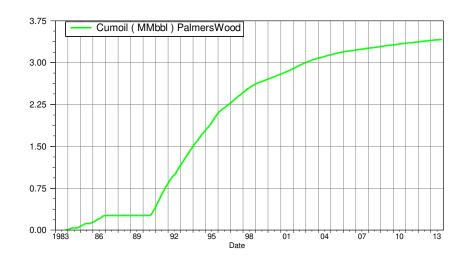


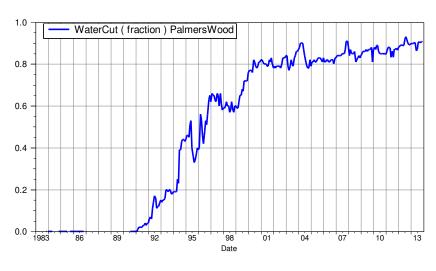




### **Palmers Wood Production History**

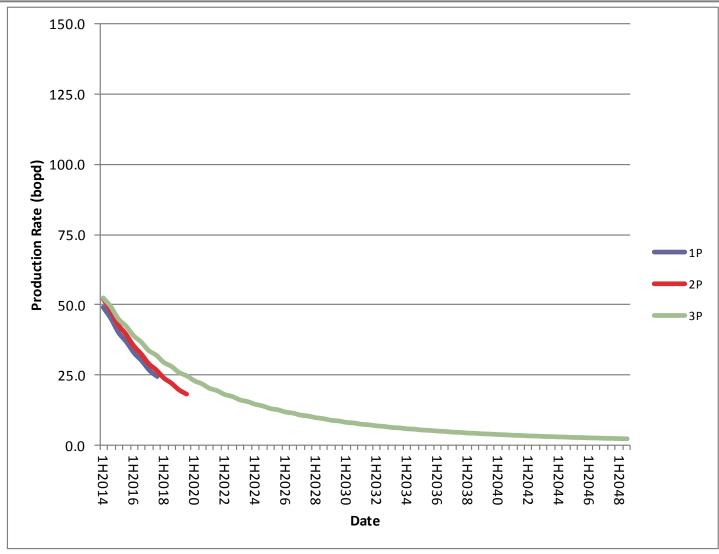








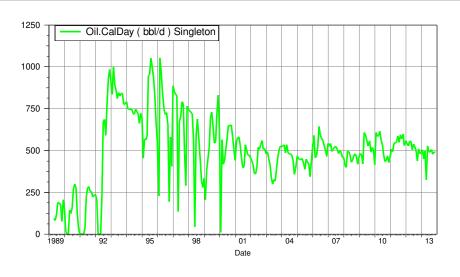
### **Palmers Wood Forecast**

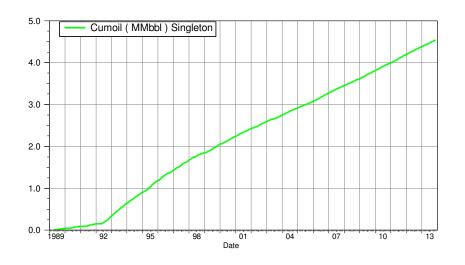


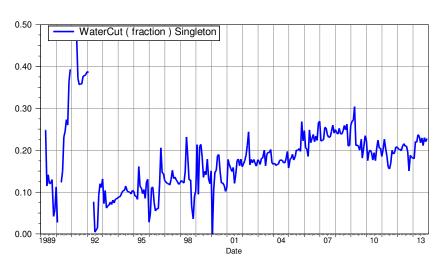


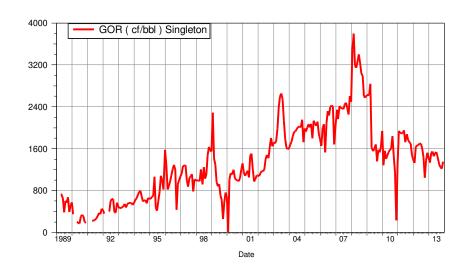


### **Singleton Production History**

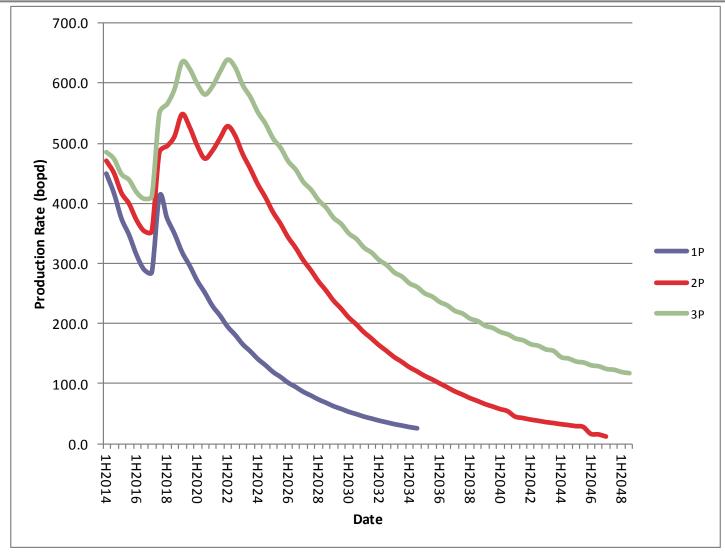








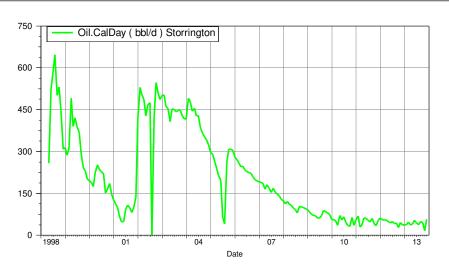
### **Singleton Forecast**

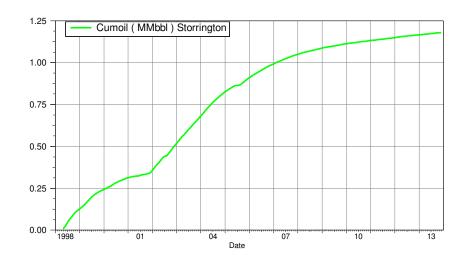


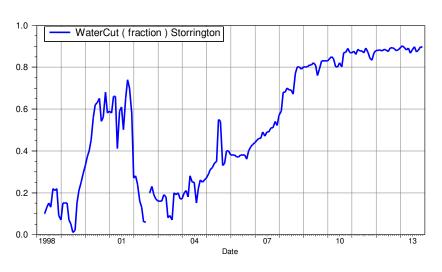




### **Storrington Production History**

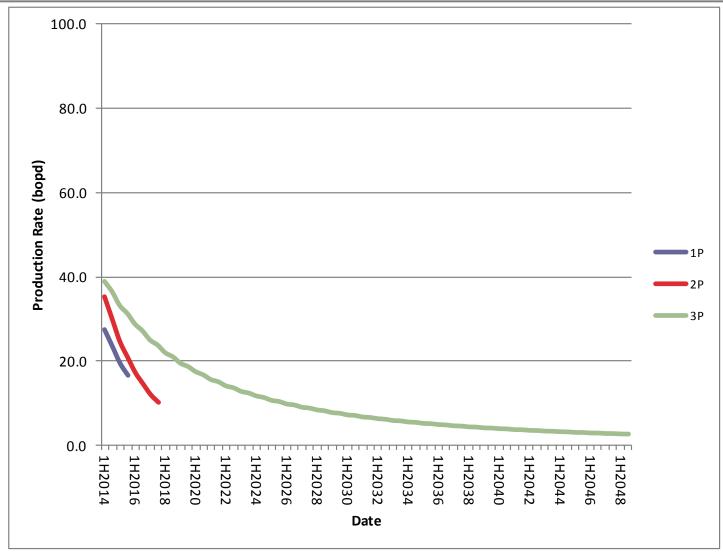






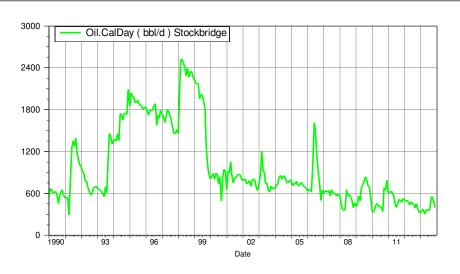


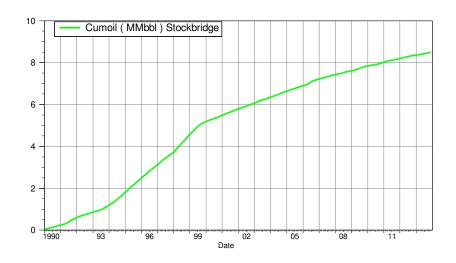
# **Storrington Forecast**

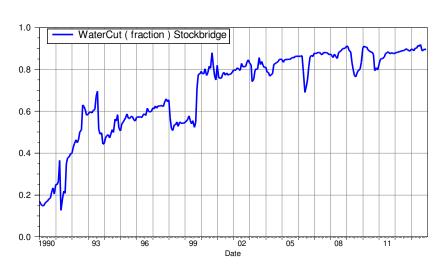


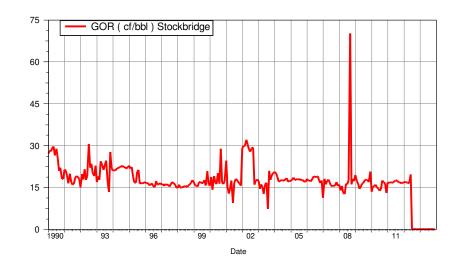


### **Stockbridge Production History**

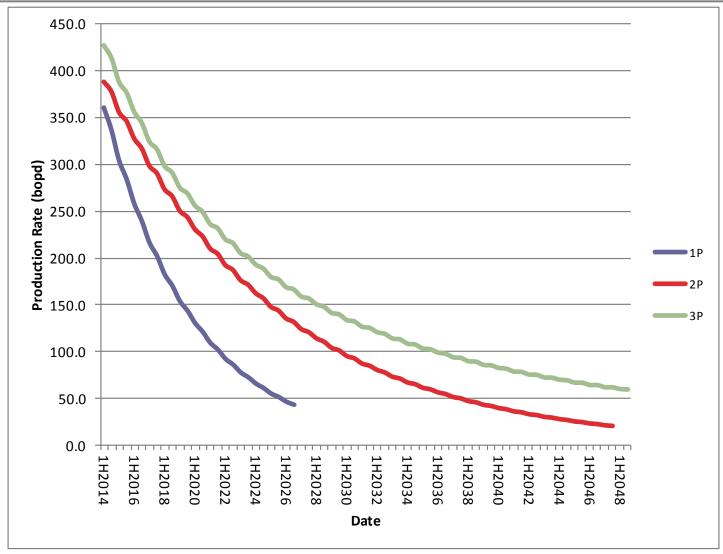








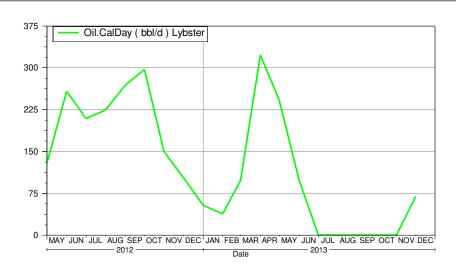
# Stockbridge Forecast

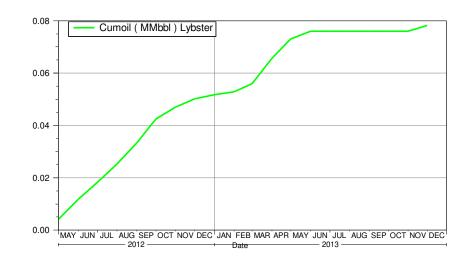


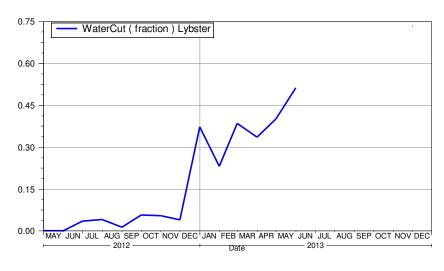


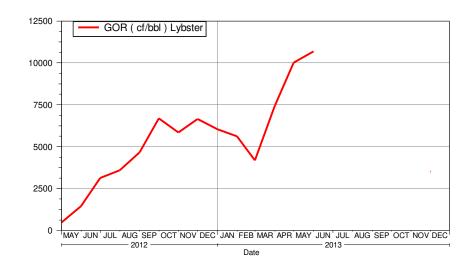


# **Lybster Production History**









# **Lybster Forecast**

