

PL 235

Brockham Portland & Kimmeridge Reservoirs

Addendum to the Field Development Plan

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| Task | Title | Signed | Date |
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Introduction

Angus Energy Weald Basin No3 Limited ("Angus") is the Operator of production licence PL235 located in the Weald Basin, onshore England. Licence PL235 contains the Brockham field.

The Brockham field was discovered in 1987 by BP. The principal reservoir is Upper Jurassic Portland sandstone. Since discovery, two further wells and two sidetracks were drilled between 1998 and 2007. Full production started in 2002 and cumulative production up to the point production ceased in 2016 was 36,900m³. In 2017 Angus drilled a 3rd sidetrack.

The location of the licence is shown in Figure 1

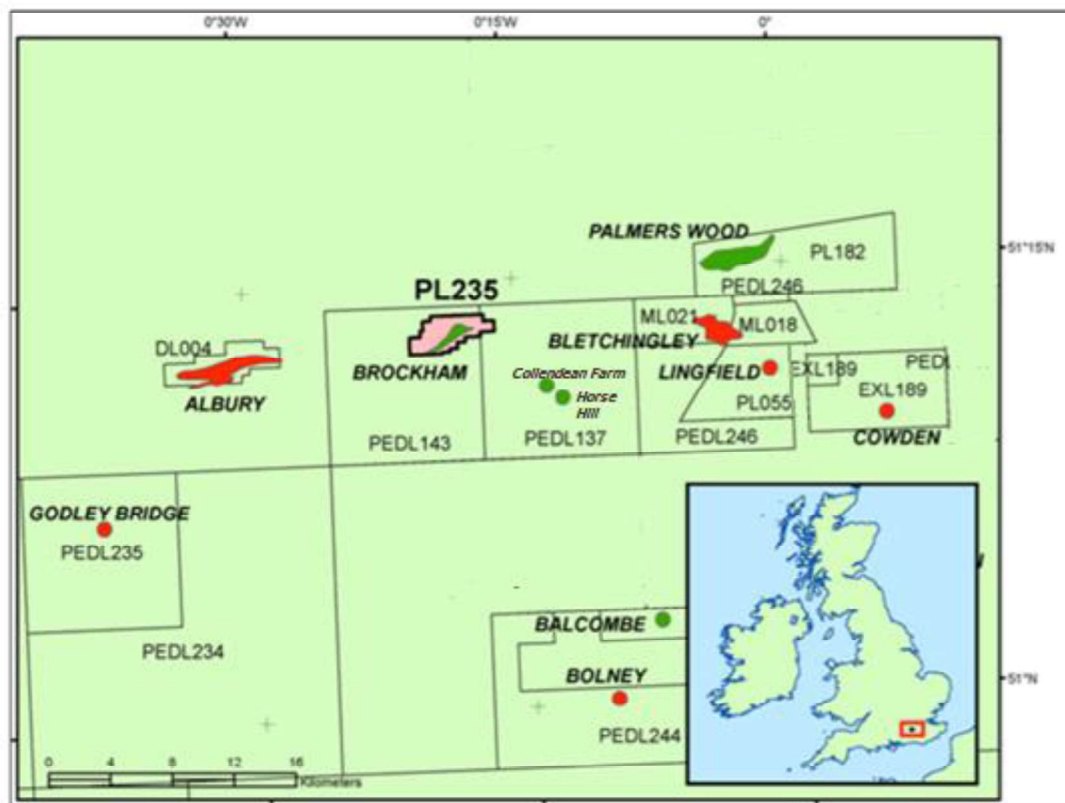


Figure 1 PL235 Location Map

Angus acquired the license from Midmar Energy (100%) in July 2012. Angus subsequently farmed out a 10% working interest to Brockham Capital Ltd. in July 2013, a 20% interest to Terrain Energy in July 2013, and a 10% working interest to Doriemus Plc. in June 2014. Angus currently holds a 60% working interest in the License and is the Operator.

Hitherto the development of the field has concentrated solely on the Portland Sandstone from well BRX2Y. The purpose of this amendment is to introduce a development plan for the Kimmeridge Reservoir, and to re commence production from the Portland reservoir from well BRX2Y. Alongside the Portland, Angus are submitting this addendum to the 2015 FDP Addendum, in order to commence the development of the novel Kimmeridge reservoir. Because this will be the first development of the Kimmeridge there are elements of uncertainty which will be addressed during the development and will be the subject of further addenda as

required in the future. Specifically, it is expected that a further revised addendum will be prepared and submitted 18 months after the commencement of Kimmeridge production. This is intended to allow one year for a production trial, 3 months to prepare a new addendum and 3 months for consideration.

It might be argued that Angus could apply for consent to carry out a typical extended well test of 90 days to evaluate the Kimmeridge however it is considered that a longer production period of at least one year would provide a better measure of the performance of this novel reservoir and Angus are confident enough to invest in the facilities necessary to do this. This addendum therefore seeks consent to carry out production for a period of 18 months to allow for data collection over one year and analysis of these results and approval of a continuing plan as stated above. However, the initial days of Kimmeridge production will include all the basic operations required for an initial well test and will establish the basic well performance parameters and enable the collecting of pressure data and fluid samples.

It is important to note that as well as producing from the Kimmeridge in BRX4Z, Angus is proposing to continue development of the Portland reservoir from BRX2Y. The well has been shut in since 2016, and Angus now sees further opportunity to produce given the likely drop in water coning around the well and the favourable economic climate.

The recent Brockham X4Z sidetrack was not in an ideal location to enable continued production from the Portland and also produce from the Kimmeridge in the same well bore. To that extent the location was a compromise. However, at the close of commercial production from the Kimmeridge it is assumed that production will be attempted from the Portland in this well.

Background and History

Brockham is situated on the northern flank of the Weald Basin along strike from the Albury and Palmers Wood fields. It is a faulted 3-way dip Jurassic closure with a Portland sandstone reservoir and is currently the only Portland production in the Weald Basin. The field recently produced 28° API oil from one wellbore in the Portland sandstone.

Brockham was originally discovered in 1987 by a consortium led by BP and was brought on production in 2002 by Midmar Energy. Midmar Energy bought out all other equity interests in 2001 to own and operate the field 100%. Midmar was the first operator to put the field on production, completing the design and installation of permanent surface facilities and expanding the site. Three production wells were drilled of which one was converted to a water injector, and one was used for production until early 2016.

The field discovery well, Brockham 1 was drilled by BP in 1987 and found oil in the Portland Sandstone at a depth of 569.8m TVDSS. Limited volumes of oil were produced during a production test in 1988 and the well was suspended.

The Brockham-X2 pilot hole and Brockham X2Z sidetrack well were drilled by SOCO and partners in 1998. Having drilled the pilot hole to the Portland Sandstone, a horizontal section of 600 meters long was then drilled in that reservoir. Only uneconomic volumes of oil with high water cut were produced on test. Brockham X2Z was then suspended.

An Extended Well Test (EWT) was carried out at Brockham-1 from January to May 2001. The well produced 140bopd with about 50bbl water on beam pump. A total of 9,287 bbl of oil was produced. Brockham X2Z was used as a disposal well for the produced formation water. No significant decline in the production rate was observed during the test.

The existing reservoir at Brockham is the Upper Jurassic Portland Sandstone. Oil is present within a 3-meter thick zone in the uppermost section of the sandstone. Within this zone

reservoir quality is good exhibiting average porosity of 25% and 200mD permeability. The trap is a faulted 3-way dip closure to the north, west and east. Top seal is provided by the Purbeck anhydrite with lateral a cross fault seal created by the juxtaposition of Portland against the Purbeck anhydrite and shales to the south.

Recent work in the Brockham X4Z well has indicated that contingent resources also exist within the Kimmeridge clay section. This formation has a total thickness of around 380m and has three limestone intervals of [REDACTED] which should be capable of production as demonstrated by the nearby Horse Hill well test. Furthermore, there is evidence of natural fracturing within some of the shale sections and these may also contribute.

The history of drilling on the field is as follows:

| History of Wells and Sidetracks at Brockham Field | | | | | | | |
|---|--------------|---------------|--------|--------|-----------|-----------|--------------------------------|
| NUMBER | NAME | OPERATOR | East | North | SPUD | COMPLETED | Notes |
| LR/24-X4Z | BROCKHAM X4Z | ANGUS ENERGY | 518853 | 148650 | 20-Jan-17 | 27-Jan-17 | Sidetrack of X4 |
| LR/24-X4 | BROCKHAM X4 | KEY PETROLEUM | 518853 | 148650 | 24-Jul-07 | 11-Aug-07 | Production well |
| LR/24-X3 | BROCKHAM X3 | MIDMAR | 518832 | 148653 | 14-Jul-07 | 18-Jul-07 | Sidetrack of 1 water injection |
| LR/24-X2Y | BROCKHAM X2Y | MIDMAR ENERGY | 518850 | 148660 | 31-Oct-03 | 01-Nov-03 | Sidetrack of X2 |
| LR/24-X2Z | BROCKHAM X2Z | SOCO | 518850 | 148660 | 12-May-98 | 22-May-98 | Sidetrack of X2 |
| LR/24-X2 | BROCKHAM X2 | SOCO | 518850 | 148660 | 26-Apr-98 | 12-May-98 | Production well |
| LR/24- 3 | BROCKHAM 1 | BP | 518832 | 148653 | 15-Aug-87 | 11-Oct-87 | Exploration well |

Table 1 Drilling History of the Brockham Field

The redundant sidetracks and hole sections have now been abandoned, and the current wells on the field are tabulated below.

| Current Wells | | | |
|---------------|--------------|------------------|------------|
| Number | Name | Purpose | Formation |
| LR/24-X3 | Brockham X3 | Water injection | Portland |
| LR/24-X2Y | Brockham X2Y | Shut in producer | Portland |
| LR/24-X4Z | Brockham X4Z | Future Producer | Kimmeridge |

Table 2 Current Well status in the Brockham Field

| Abandoned Sidetracks | | | |
|----------------------|--------------|----------------------------|----------|
| Number | Name | Purpose | Zones |
| LR/24-X4 | Brockham X4 | Former production zone | Portland |
| LR/24-X2Z | Brockham X2Z | Former production zone | Portland |
| LR/24-X2 | Brockham X2 | Former production zone | Portland |
| LR/24-1 | Brockham 1 | Exploration well deep zone | Various |

Table 3 Abandoned sidetracks in the Brockham Field

Note it is now intended to produce Brockham X2Y so the status of that well will now revert to producing.

FIELD DESCRIPTION

Geology and Geophysics – The Portland & Kimmeridge Reservoirs

The geology of the Portland Sandstone (from which oil will be produced from BRX2Y) has been described at length in past documentation (e.g. April 2015 FDP Addendum). Information on the Kimmeridge is limited and based solely on the Brockham 1 well and the Brockham X4Z sidetrack. A detailed description of the Kimmeridge reservoir is presented below.

Seismic Coverage is limited over the field as shown in the map below.

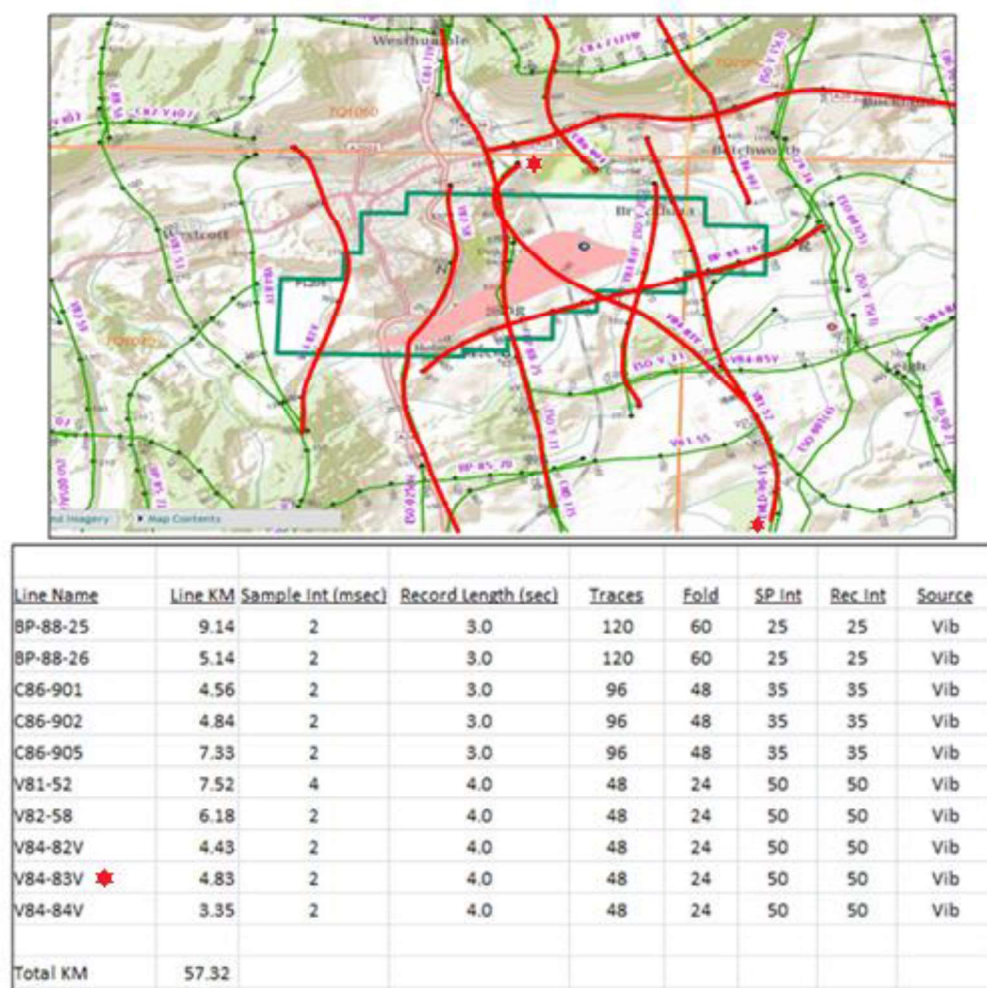


Figure 2 Map of seismic coverage over the licence. (Note excludes some sections of lines outside of the licence)

Both the Brockham 1 and Brockham X4Z wells do not coincide with seismic lines however it is possible to project the Brockham 1 well onto the V84-83V North South line (see figure 2 & 3). The section below shows that despite the offset, both the thicker micrite limestone intervals can be picked reliably on the seismic line and appear to extend throughout the mapped area.

The Portland top structure map based on the above seismic coverage is shown in Figure 4. However, since Angus does not consider that the Kimmeridge reservoir is likely to be structurally controlled, a top structure map at the top Kimmeridge is not provided.

To understand the arrangement of the various current and abandoned wells and sidetracks, an expanded section of the top structure map is provided showing the well paths in Figure 5.

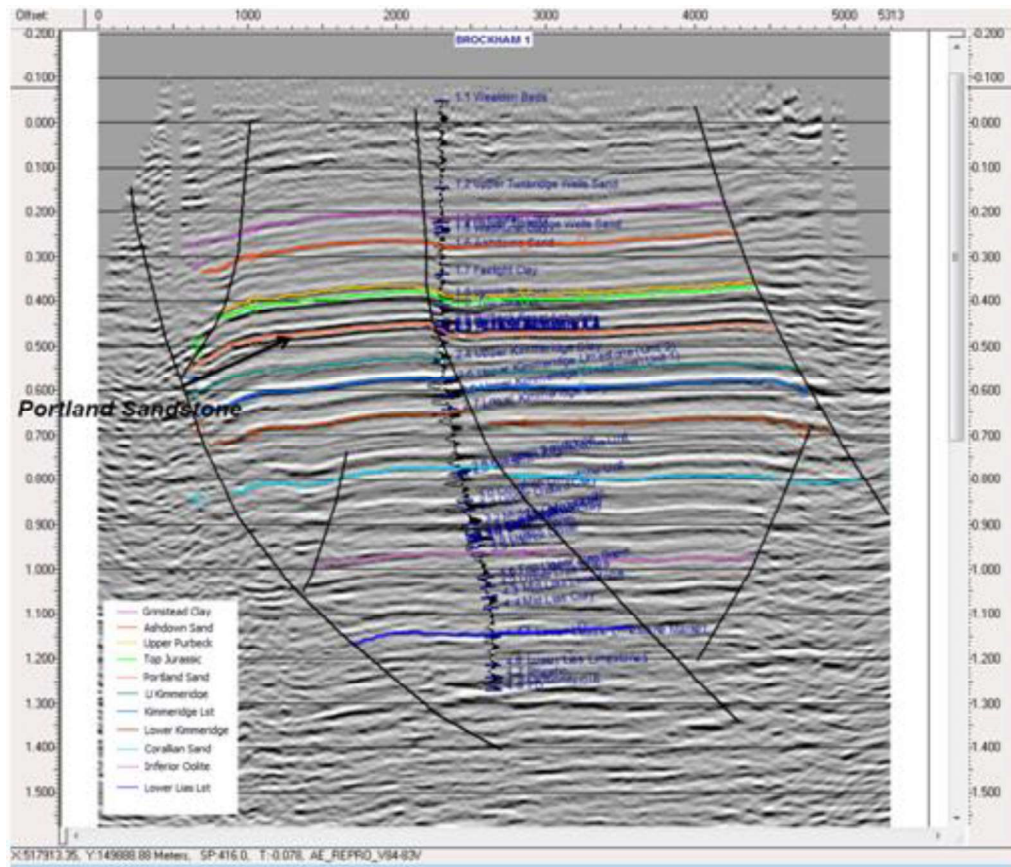


Figure 3 A portion of Seismic line V84-83V showing well Brockham 1 projected on to the line

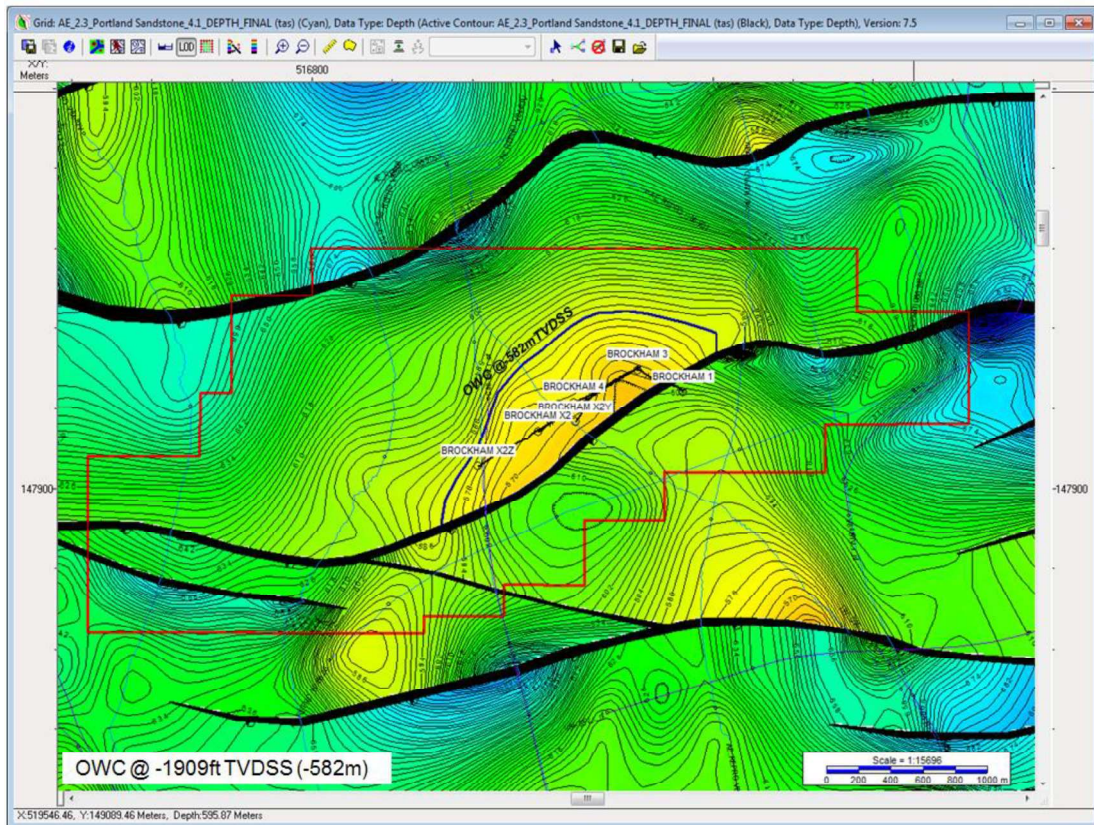
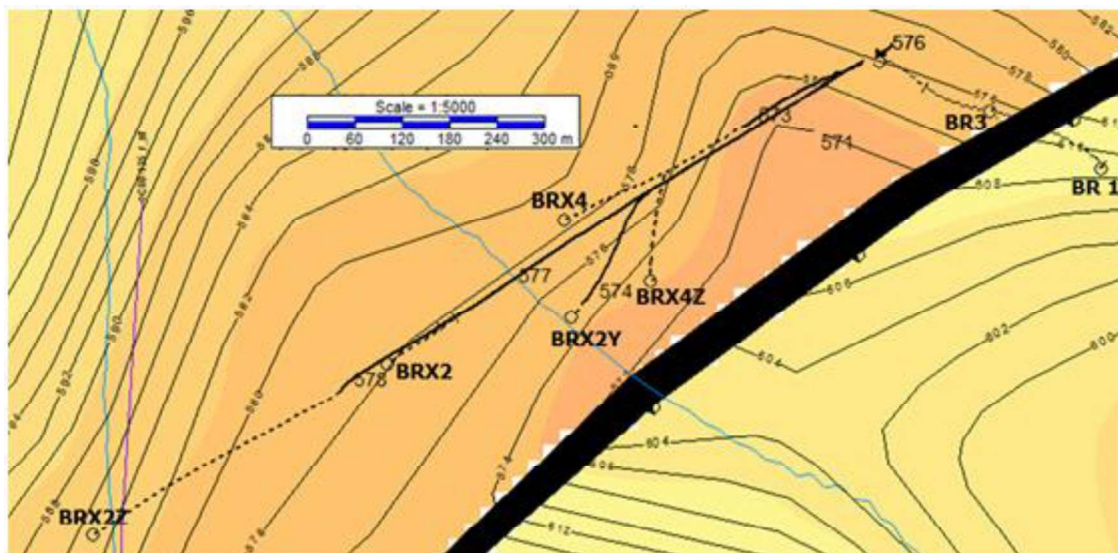


Figure 4 the Top Structure map of the Portland Reservoir



Trajectories of the Brockham Wells and Sidetracks

Figure 5 Expanded portion of the Portland structural map showing the well paths (existing and abandoned)

New Reservoir – The Kimmeridge

The geology of the Kimmeridge clay is interesting. The shales were laid down in deep but not oceanic sea in warm conditions. The organic rich shales (3-4%) are quite variable which comprise mainly illite and kaolinite with minor, randomly interstratified illite-smectite, mixed layer clays. The clay minerals are mainly detrital except in silty strata of Late Tithonian age, which contain abundant pore-filling kaolinite aggregates. The clays are cyclic in nature each cycle being of the order of a few metres. This is now visible in the new image log data. The exact origin of the cyclicity is not fully understood but is manifest in variable clay layers often with some highly organic rich layers and calcareous or even limestone layers. The variation is reflected in considerable differences in hardness between the relatively soft clays to hard dolomitised and sometimes ferroan limestone intervals. On a macro scale the cycles are grouped into intervals sections where calcareous intervals are relatively rare to intervals where the limestone intervals predominate there are three such large cycles in the Kimmeridge section as a whole.

The critical question for the Kimmeridge reservoir is the presence or otherwise of natural fracturing. A secondary but nonetheless critical issue is the extent of communication in the natural fracture system and hence the volume available for production from each well and the appropriate well spacing to be employed. This can only be resolved by long term production.

The Kimmeridge was first drilled in the Brockham 1 discovery well when some 375m of claystone was drilled with three significant micritic limestone intervals. The zone was not tested at the time because there were no shows and no obvious hydrocarbon indications on the logs. Recent evaluation of this interval in the nearby Horse Hill-1 discovery achieved significant production from these zones. In the Brockham X4Z sidetrack the Kimmeridge was examined with a view to future production and found to be similar to the intervals present in Horse Hill (see correlation panel below Figure 6).

In Brockham X4Z the Kimmeridge was slightly thicker than in Brockham X1 around 380m and had the same three limestone intervals seen in Horse Hill and Brockham X1, further offset well data from the nearby Collendean Farm 1 well, showed a similar, though thicker section suggesting the formation properties are persistent over a large area. Indeed, examination of outcrops in Dorset suggests the general features of the Kimmeridge are very extensive (see image of section below, Figure 7).

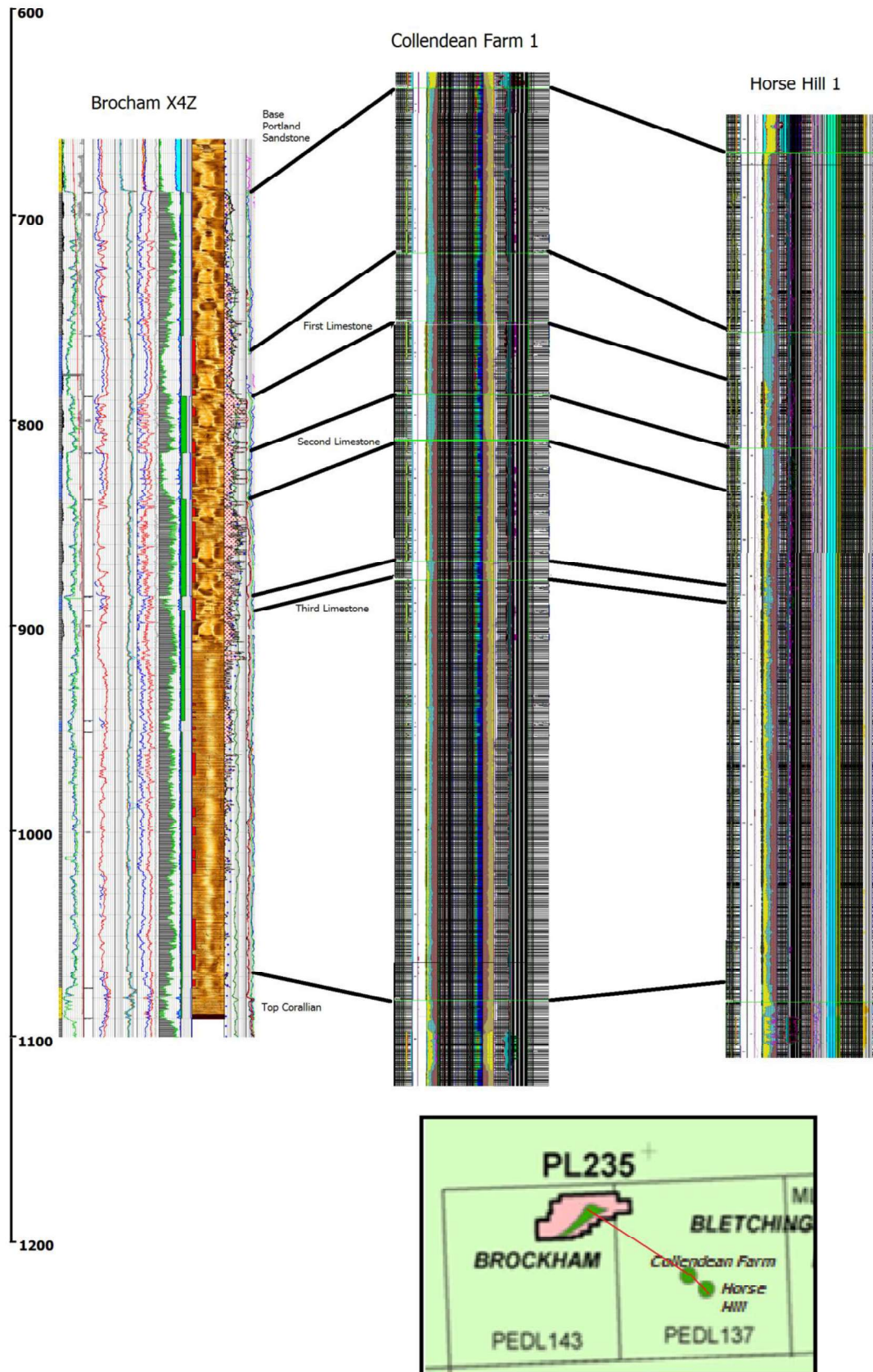


Figure 6 Correlation between Brockham X4Z Collendean Farm 1 and Horse Hill 1

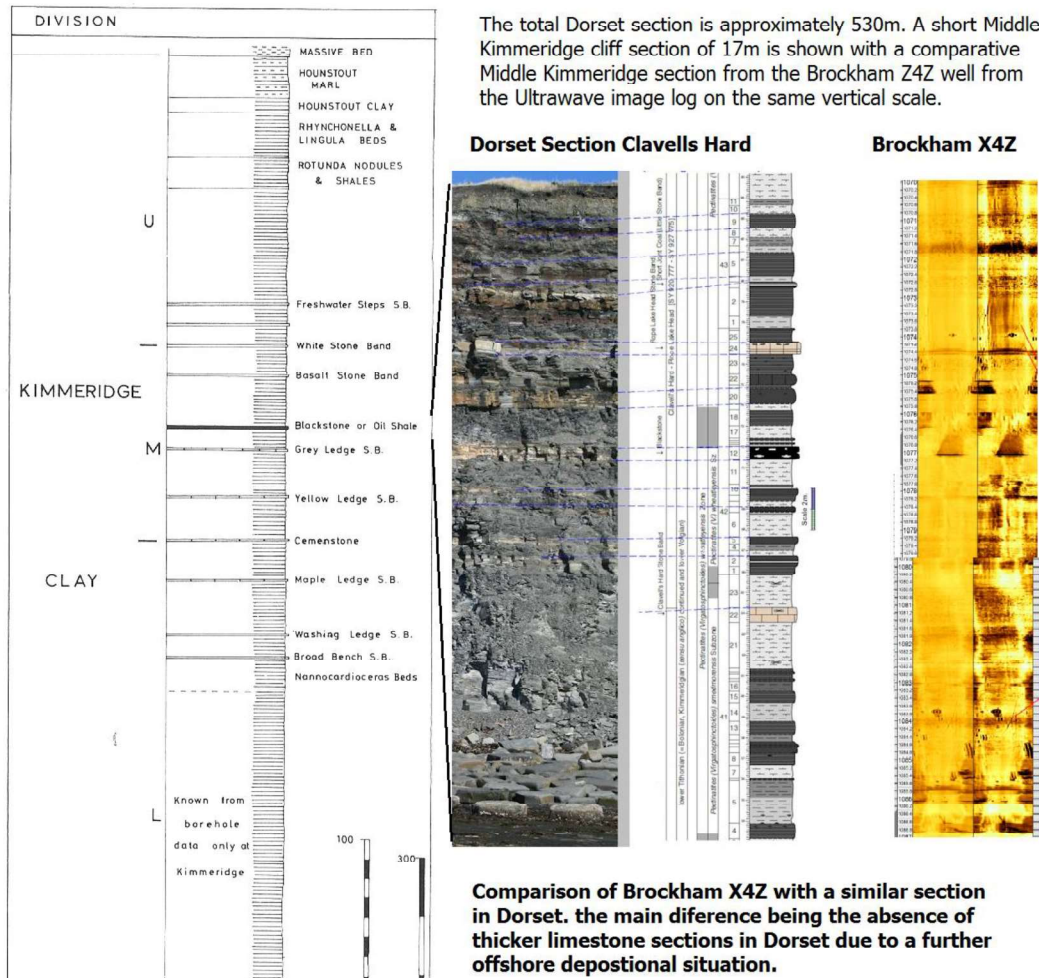


Figure 7 Comparison of an interbedded shale limestone sequence in the middle Kimmeridge clay with a similar section in outcrop.

The Kimmeridge reservoirs are expected to be unconventional in the sense that they relate to the direct production of shale oil and the presence of oil is considered not to be limited to structural closures and is ubiquitous throughout the Kimmeridge shale. However, the ability to produce the oil without the need for hydraulic fracturing via the fractured limestone intervals renders the approach to production similar to conventional fields. These accumulations are known as hybrid reservoirs.

There remains the question of whether the Kimmeridge Limestones are water wet off structure. Although Angus have not received the Horse Hill well test data, discussion with the operator has indicated that the two well tests conducted in the two limestones behaved as a single reservoir. It is conceivable this was due to poor cementing, but it was believed that it was the result of a continuous oil filled fracture system between the two test intervals.

It also remains to be seen whether the naturally fractured limestones are present throughout the weald basin and whether they are fractured everywhere. The presence of similar limestone sections across the three wells above and elsewhere suggests the limestones are extensive over a large area. Since fracturing will be most intense where stresses are highest (near faulting and wherever dips change rapidly in highs or lows) there is likely to be variation, but fractures would not be confined to structural highs.

It is worth noting that the fractures in the limestones are caused by stress but further opened by the dolomitisation processes. Field examples in Dorset (see figure 8) show intense

fracturing of both the limestones and the shale intervals as observed in the image log in Brockham X4Z (see discussion below).



Figure 8 Typical example of naturally fractured Kimmeridge dolomitised limestone in outcrop with fractures on a 30cm spacing and enhanced during dolomitisation.

Angus have traded the Horse Hill 1 well log data. Angus understand [REDACTED]

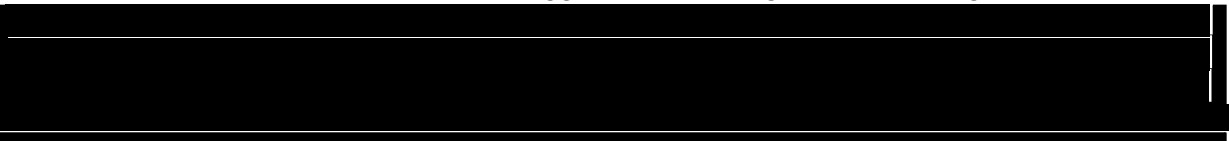
Although Angus do not have the test details the tests appear to support the concept of the limestones being part of an extensive ubiquitous oil system consistent with an unconventional but hybrid reservoir. The key question which is not answered by short term testing is whether the fracture system is extensive. The short-term tests in Horse Hill do not provide evidence to answer this question.

The proposed long-term production of Brockham X4Z with an initial test period and long-term data gathering is intended to answer all the above questions about the extent and degree of communication of the natural fracture system through both the limestones and the shales.

Given the evidence so far and the questions remaining the main objective of the next stage of data acquisition must be to establish the extent of the natural fracture system and the effective drainage area of the well. A short-term test or even an extended well test may not answer these questions. Therefore, the operator considers it appropriate to move straight into production in these zones but will subject the production to more comprehensive monitoring as the performance of the well will add greatly to the understanding of the production mechanism in this formation.

Brockham X4Z interpretation and Kimmeridge Properties

The new BrockhamX4Z sidetrack was logged while drilling. The MWD logs have now been

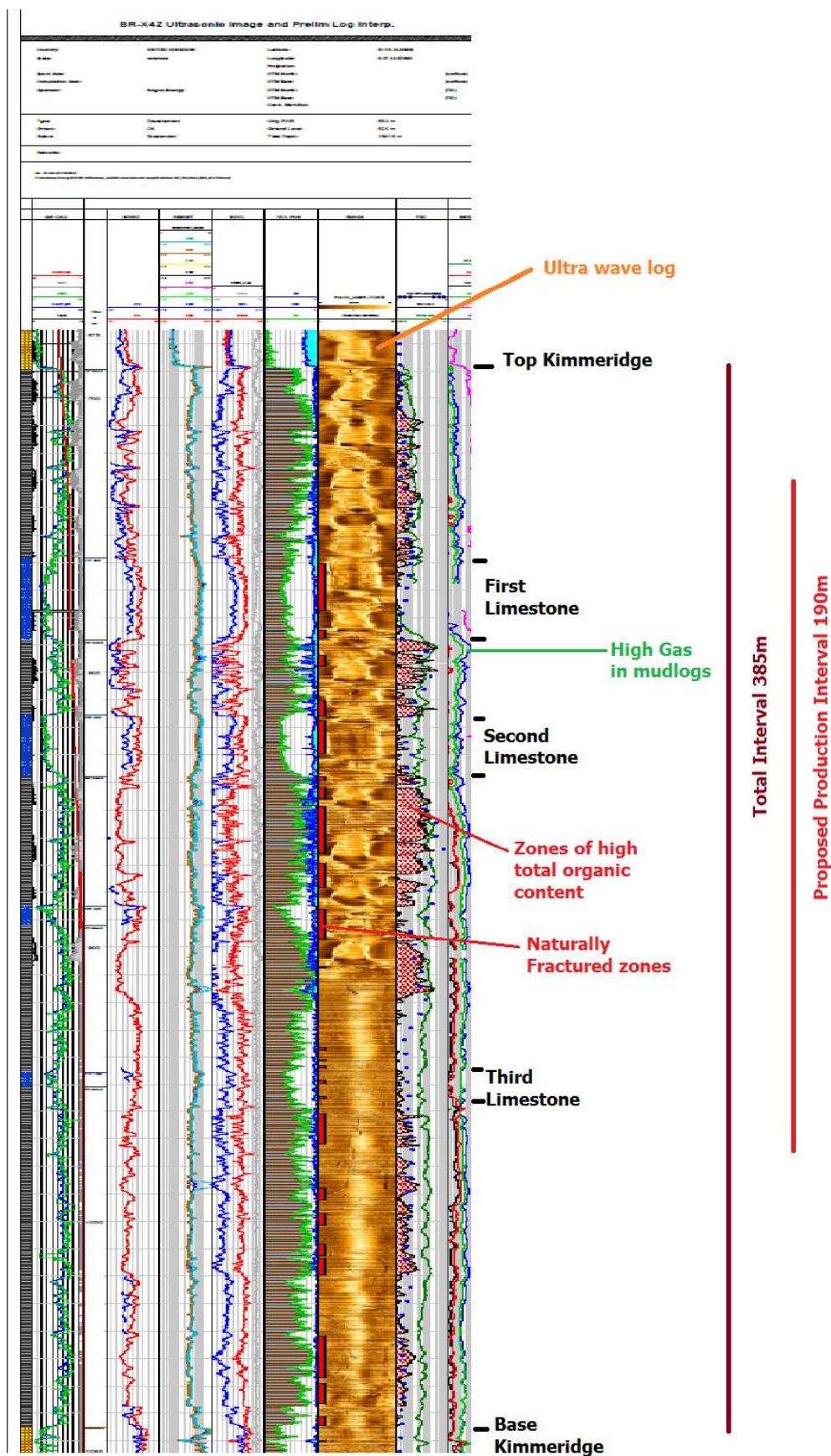


As discussed above, Angus Energy consider that the Kimmeridge formations (both shale and limestone) form an unconventional hybrid reservoir. Estimates have been made for low medium and high resources per well drainage area assuming an unconventional reservoir. It is thought inappropriate to attempt a full PRMS resources estimate at this stage since the range of each variable is still speculative. It should also be noted that until the production test provides evidence of commercial production Angus are considering these volumes to be contingent resources rather than reserves.

Angus do not consider it possible at this stage to prepare an alternative estimate based on structural closure for the Kimmeridge. This possibility is seen as remote but also insufficient information is available. To enable a structural closure based resources estimation, evidence of an oil water contact or spill point would normally be needed. At present we do not have any evidence of an oil water contact in the Kimmeridge. Since the two wells that penetrate the Kimmeridge (Brockham 1 and Brockham X4Z) have similar thickness of Kimmeridge formation, 375 and 380m respectively, an estimate based on oil down to (ODT) would cover a large proportion of the licence area.

Accordingly, in Angus's view the reserves estimation should be approached using techniques appropriate to unconventional reservoirs. Specifically, by assuming the Kimmeridge is a hybrid unconventional reservoir in that the oil present in the shale can be produced via a natural fracture system in a limestone interval within the shale. Production may also be possible directly from the fracture system in the shale section and in thin interbedded limestones and shales. The Kimmeridge appears analogous to formations such as the Bakken shale in North America and the Bashenov in Western Siberia. Indeed, the Bashenov is almost the direct equivalent of the Kimmeridge in that it is of Tithonian age and provides a major source rock for the West Siberian basin in much the same way that the Kimmeridge is a major source rock in the North Sea basin. See table 4 below.

The main difference is that whilst the Bakken has one significant limestone interval in a shale of between 10 to 40m thickness, the Kimmeridge has three limestone intervals in a total interval of some 380m. The Bashenov has a similar total thickness to the Bakken with usually two limestone or hard silicate cemented intervals. Where mature the Kimmeridge is potentially better than these analogues. The successful development of the Bakken and the ongoing development of the Bashenov and other similar analogue formations suggests the Kimmeridge is an attractive and in some ways better prospect.



Log Interpretation Across the Kimmeridge Interval

Figure 9 Interpretation of the Brockham X4Z Kimmeridge section

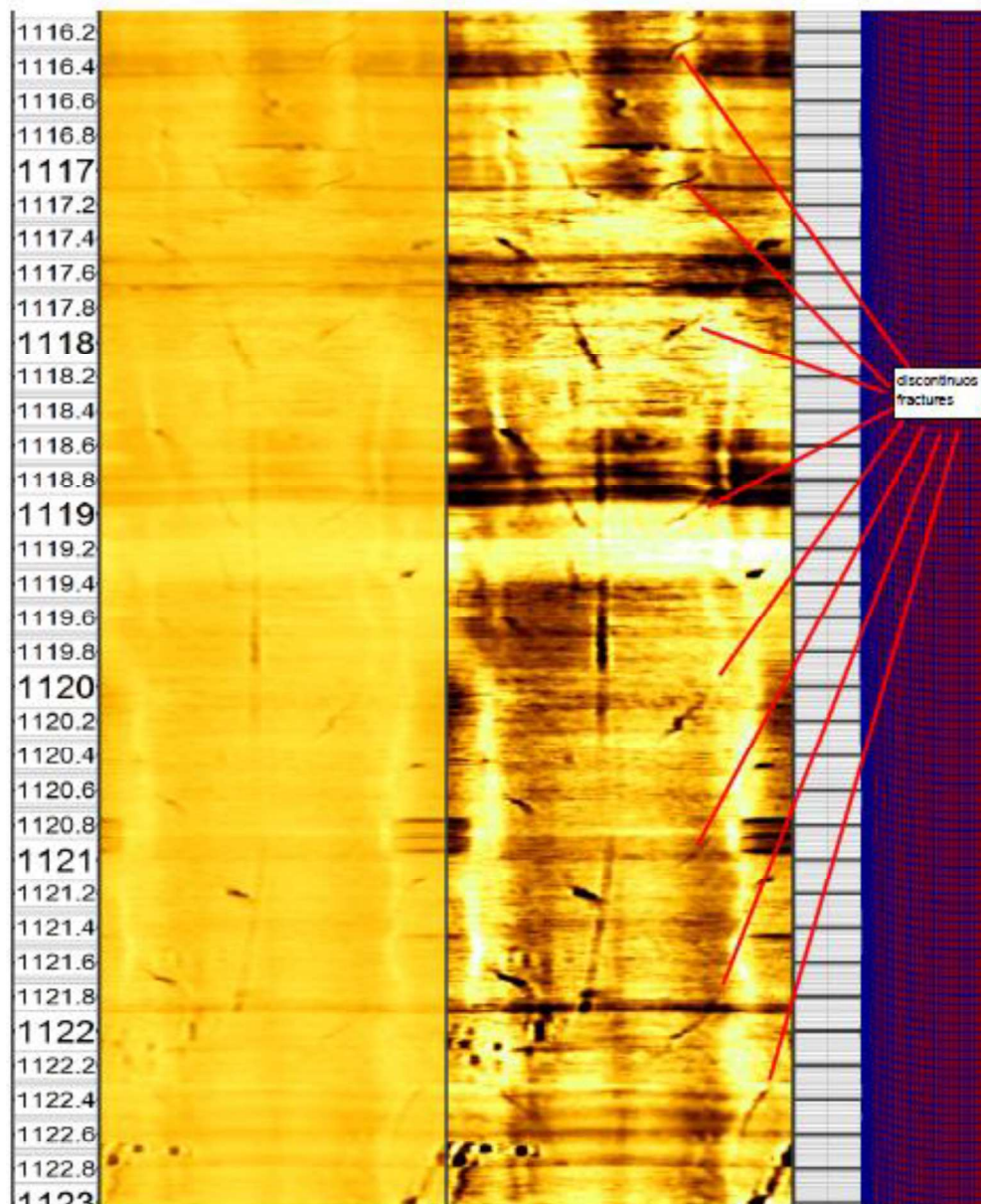
| Properties | Kimmeridge | Bakken | Bashenov |
|------------|------------|--------|----------|
| | | | |

Table 4 Comparison of Kimmeridge with Analogue Reservoirs

Estimation of contingent resources for the Kimmeridge is problematic as with all hybrid reservoirs of this sort. In the absence of a structural closure, estimates must be by area and qualified by estimates of likely well drainage areas. It is in order to answer questions such as this that consent for production for 18 months is sought. There are also considerable uncertainties to do with the extent of the natural fracture system and the degree to which the natural fracture system in the limestones can drain the adjacent shales above and below. The ultimate recovery factor is therefore speculative at this stage, but a conservative assumption has been made. However, as can be seen from the comparison above the Kimmeridge is likely to have performance substantially better than comparable hybrid reservoirs.

In order to try to understand the nature of the natural fracture system Angus made use of a novel borehole imaging tool - the Weatherford Ultra log (see figure 10). Analysis of this shows the fracture system is extensive both in the limestones and the shales between above and below the limestones. Furthermore, the image log provides an “outcrop like” view of the logged section. Where thin interbedded limestones and shales appear on the conventional logs as a calcareous shale the image log reveals this to be a series of thin interbedded shales and limestones with extensive fracturing in both the thin limestone and the shale beds between. This fracture system could be important in the drainage system of the well. The natural fracture system will avoid the need for hydraulic fracturing and is a key advantage of the Kimmeridge. A section of the image log is provided below to illustrate the identification of natural fractures.

Further work is envisaged to consider the likely extent of the natural fracture system in the area. To estimate resources ranges for each value have been used where possible. These are based on log interpretation.



Section of Ultrawave image log (between upper and middle limestone) with interbedded shales and limestones. The interval shows numerous small fractures and one large fracture and occasional vugs. The fractures also appear to cross from shales (darker intervals) into limestones lighter sections.

Figure 10 Use of the image log to identify natural fracturing

Hydrocarbons Initially In Place and Contingent Resources

Portland Sandstone

Oil in place and reserves estimates have previously been provided for the Portland Sandstones and no revisions are proposed at this stage. The last independent reserves and contingent resources estimate for the Portland Sandstone was prepared in December 2016 for the AIM listing. The end 2016 numbers are reproduced below Table 5.

| Oil Reserves | W.I. | Gross Volumes | | | Net to Angus | | |
|-------------------------|------------------|-----------------|----|----|--------------|----|----|
| ('000 bbl) | | 1P ⁴ | 2P | 3P | 1P | 2P | 3P |
| Brockham Field (PL 235) | 55% ⁵ | 69 | 82 | 92 | 38 | 45 | 51 |

| Oil Contingent Resources | W.I. | Gross Volumes | | | Net to Angus | | | RF |
|--------------------------|------|-----------------|-----|-----|--------------|-----|-----|-----|
| ('000 bbl) | | 1C ⁷ | 2C | 3C | 1C | 2C | 3C | |
| Brockham Field (PL 235) | 55% | 89 | 237 | 283 | 49 | 130 | 156 | 75% |

RF = Risk Factor

Table 5 Reserves and resources Brockham Portland reservoir as of Dec 2016

As part of the this FDP Addendum Angus proposes to re commence production from the Portland Sandstone from well BRX2Y. The sidetrack was drilled and completed as a producer in 2003.

Kimmeridge Formation

The nature of the Kimmeridge reservoir presents challenges in the estimation of resources. The approach used is discussed below by considering each key parameter.

Net Reservoir Thickness

The gross reservoir thickness in well Brockham 1 was 375m in Brockham X4Z it was 380m, a difference of 1.3% over a distance of around 450m. It is reasonable to assume this thickness over the licence area. Based on the electric logs, total organic content and gas readings, a section of approximately 190m (See Figure 9 Above) is considered most likely to achieve commercial production. Two gross producing thickness cases have been considered. A low case is based on the gross thickness of the intervals seen to have natural fracturing present within the 190m proposed perforated interval. These are flagged red in the interpreted log above. The upper case assumes a gross thickness corresponding to the proposed perforated interval. Thus, the upper case gross thickness would be 380m, the middle case gross thickness 190m and the lower case gross thickness 105m. To ensure a conservative estimate, a range of net to gross ratios (70% high case 50% mid case and 40% low case) has been applied to all the gross thickness cases.

Porosity

Estimation of porosity is problematic as there are two components: the matrix porosity and the fracture porosity. Two cases have been considered, firstly with porosities based on the entire Kimmeridge interval and secondly based on the above assumption of a 190m production interval where the porosity for only that interval is appropriate. The values for the matrix are estimated from the logs and summarised below in Table 6. The fracture porosity is assumed to be present throughout the production interval since where fractures are not observed at the well they are likely to be present nearby. An additional [REDACTED] porosity has been added to the matrix values to reflect the fracture porosity for low to high cases. The high maximum porosities are from the thin organic matter layers/streaks within the limestones. These values are suspect but the higher resolution kerogen correction to the porosity did not result in a significant reduction. These values only marginally affect the average porosity values since there are only a limited number.

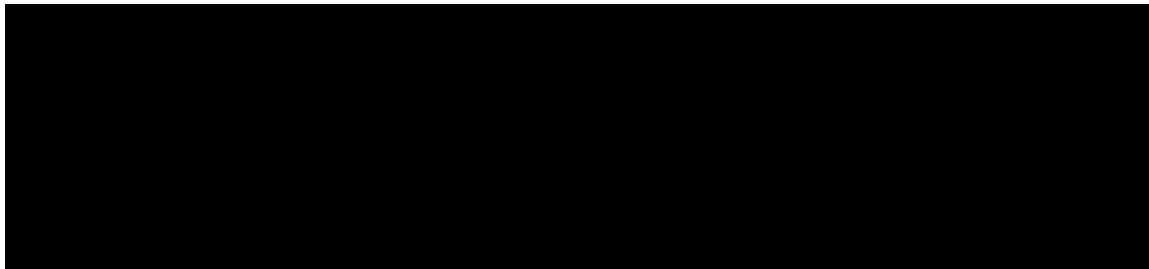


Table 6 Log analysis estimates of porosity and saturation

Saturation

Oil saturation is also a problematic parameter. In the matrix, given low porosities and assuming the rock is water wet then water bound to the surface in small pore spaces will tend to increase water saturation but is essentially immobile water. Water saturation estimation in the limestones is particularly difficult and even using the most optimistic equations, tends to result in oil saturations around [REDACTED]. It is reasonable to assume that the oil seen in the Horse Hill 1 test was from the fractures in the tested limestone intervals and probably between them. It is reasonable to assume that log-based estimates of oil saturations are generally not seeing oil in fractures. To allow for all the above uncertainty but to avoid over optimism a low case average saturation value of [REDACTED] has been used and a high case of [REDACTED].

The remaining area of uncertainty is with regard to the typical drainage area of a single well. In the analogue of the Bakken shale, the average drainage area is [REDACTED] though this rendered possible by stimulation and horizontal wells, but it also relates to a much thinner reservoir. [REDACTED] acres equates to around [REDACTED] or a drainage radius of [REDACTED]. To be conservative and to reflect the fact that the well is not stimulated a range from a high value of [REDACTED] to a low value [REDACTED] has been used.

Hydrocarbon Properties

The limited information provided to Angus by the operators of Horse Hill has provided key information on the likely Kimmeridge hydrocarbon properties. The Horse Hill oil appears to have been the same in both tests and has the following properties:

API gravity [REDACTED] degrees
Viscosity [REDACTED]
Density [REDACTED]
GOR [REDACTED]

Based on oil properties seen in Horse Hill 1 a value of Bo of [REDACTED] has been used.

Using the above ranges of values, a range of low medium and high OIIP estimates for the Kimmeridge are tabulated below. Recoverable resources per well are estimated using a recovery factor of [REDACTED] high case, [REDACTED] mid case and [REDACTED] low case, for primary recovery only. These values are typical contingent resources within the anticipated drainage radius for a single well. Based on the area of the licence If the required well spacing was similar to the Bakken around [REDACTED] would be required.

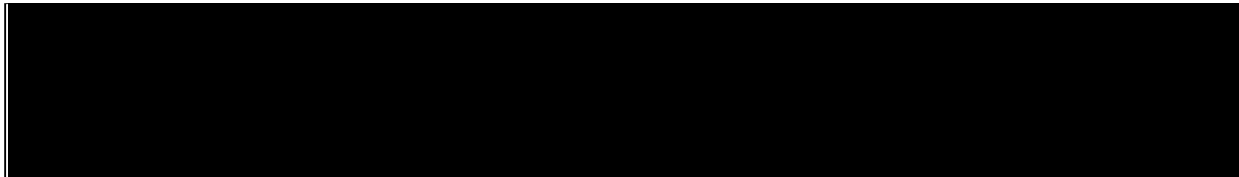


Table 7 Estimates of OIIP and contingent resources for the Kimmeridge reservoir on a typical well basis

Based on the above, the resources of the Kimmeridge from primary recovery for the licence area of 8.9 km² would range from [REDACTED] low case, [REDACTED] mid case to [REDACTED] high case. Obviously, these resources are based on a hypothetical development of the entire licence area which is not contemplated at present.

Well Status and Operations

Portland reservoir

There are currently three wells in the Brockham field (See table 3 above): Brockham X4Z, the Brockham X2Y producer (from which production will re commence), and the Brockham X3 water injection well which is also currently inactive. Further production from the Portland is now planned to be undertaken from BRX2Y. A graph of past production from the Portland reservoir is provided in figure 11 below. It must be noted that some past operators have not kept totally reliable records, so the production history provided is the best that can be achieved given the data quality. Total Cumulative production to date is 36900m³ or 232100bbls. The remaining reserves and resources are detailed above in Table 5 above. The Portland contains 27.5 API oil with an estimate initial oil viscosity of 11cp in the reservoir.

When the previous addendum to the field development plan was submitted in April 2015 a future production forecast was provided for the Portland Sandstone reservoir. In this addendum a forecast is provided for the proposed Brockham X2Y production, since plans have not yet been developed for the further development of the Portland reservoir which would involve additional drilling.

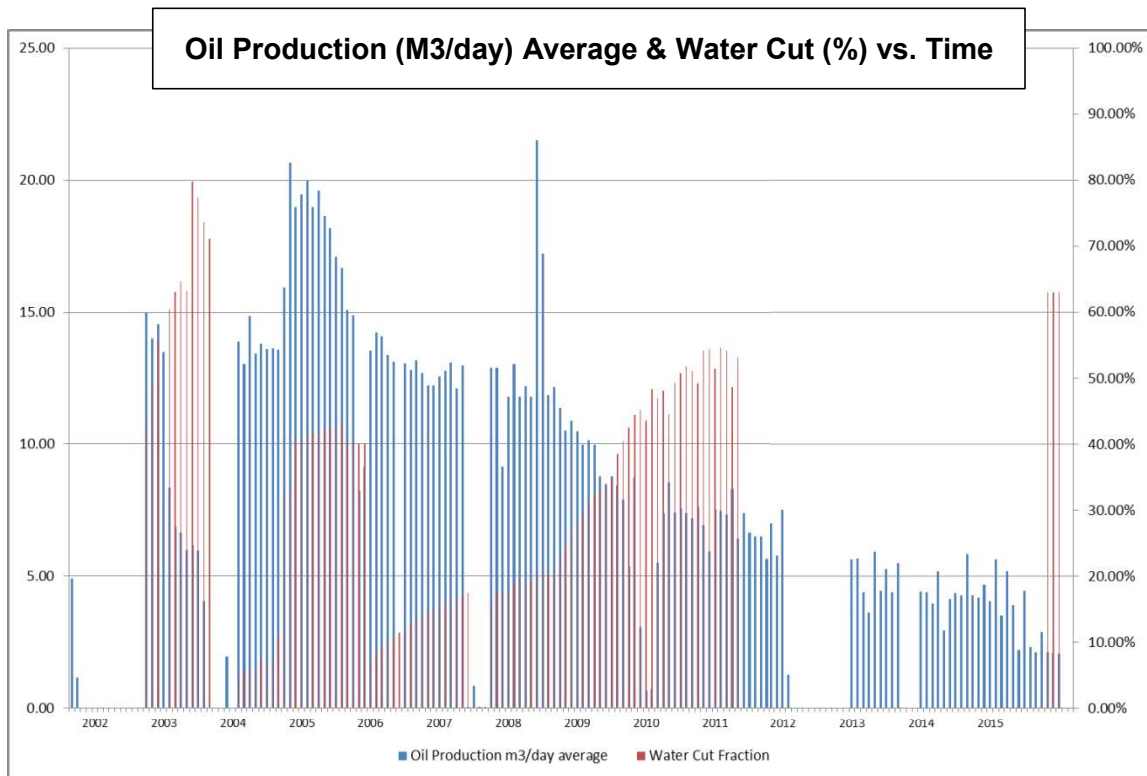


Figure 11 Past production History Portland Reservoir

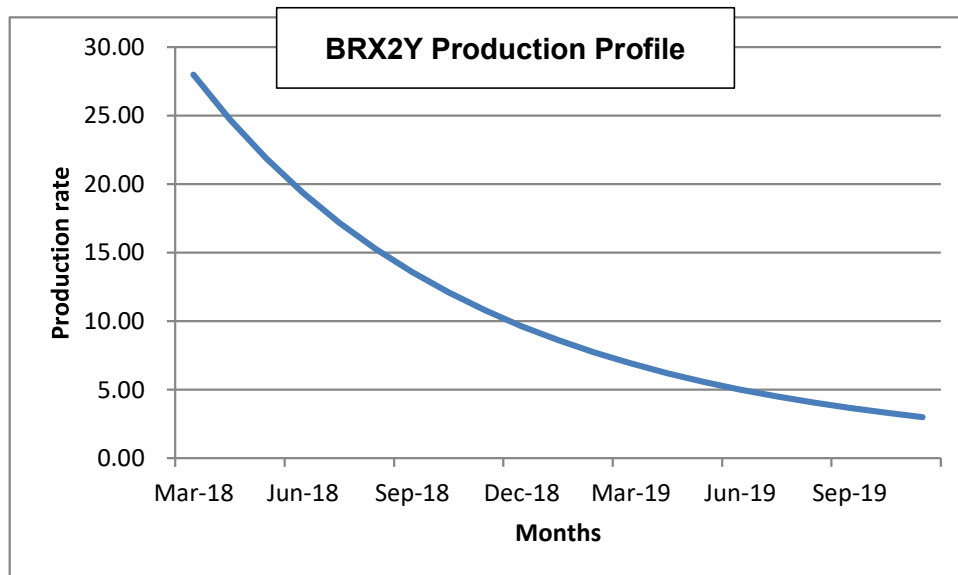


Figure 12 Production profile for the Brockham X2Y well

The strategy now is as follows. Well BRX2Y will be brought back into production in Q1 2018 to produce from the Portland Sandstone Reservoir. Furthermore, subsequent to the resolution of planning issues, an attempt will be made to produce the Brockham X4Z well from the Kimmeridge horizon as described above. Then, depending on the results of the Brockham X4Z Kimmeridge production and the Portland Sandstone BRX2Y production, either drill a new well or sidetrack to the Kimmeridge or to the Portland Sandstone. A new well to the Kimmeridge would probably be drilled off structure to finally confirm the unconventional nature of that reservoir.

The new X4Z sidetrack (which is a sidetrack of the third top hole location well on the field) offers the potential to produce from the Kimmeridge micrite limestones and adjacent shale sections thus accessing oil from the Kimmeridge clay as a hybrid reservoir. The current plan is to produce from the combined three micrite intervals plus the shale interbedded limestone sections between above and below in a single section of comingled production. The expected total perforated interval is to be 190m perforated as a single zone in one perforating operation entirely underbalanced. The practicalities of this have been discussed with the perforating contractor and completion advisor. Should the initial perforation not initiate flow then a simple acid treatment as used in Horse Hill 1 would be employed.

Based on the mid case resources estimate above in table 7 a production profile has been developed for the new X4Z well. This production profile assumes a steep decline reflecting the typical declines for naturally fractured dual porosity systems and the initial rates seen in the Horse Hill testing.

Proposed Programme of Work and Well Evaluation Objectives

The BRX2Y well is to be put into production as soon as possible following approval. Subsequently, the BRX4Z well will be put into production for a long-term production test. As mentioned above it is considered that a typical extended well test of 90 days provides insufficient time to evaluate the performance of this reservoir accordingly a programme of work has been devised to enable full and comprehensive monitoring of the well and maximising the data acquired within the context of the long-term production test. Specifically, the programme of work envisages the following well testing and evaluation components.

The well will be initially put into production using underbalanced perforating and with downhole gauges present. There will be an initial "test period" involving an initial flow and build-up to establish initial reservoir pressure followed by one or more short flow and build-up periods to establish kh and skin values and possibly additional near wellbore information.

The design of the well completion, using the latest under balanced perforating techniques, should result in immediate good communication with the reservoir. However, it is possible that mud invasion has extended further than expected in the existing fracture system or that perforating materials are not cleared by immediate back flow. Under these circumstances consideration would be given to using acid washes or similar conventional well clean up aids to help initiate flow.

At the end of the initial testing process the gauges will be recovered and a production log will be run across the entire perforated interval to establish the relative contributions from portions of the reservoir section. This will then be used in conjunction with the image logging of the well fracture system to establish the role of the observed natural fracture system in the production performance of different areas of the reservoir. The production log will also check for water production.

Subsequently, during the period of sustained natural flow without pumping, at intervals of around 12 months, the production logging will be repeated during that period to build up a picture of the changing performance of the fracture system. The production log will also provide a snapshot of flowing bottom hole pressure. It is envisaged that initially at least production will be constrained to around [REDACTED]. This rate constraint is based on assumptions made about the likely rate at which the fracture system can sustain production. Should the evidence obtained in the initial stages provide comfort that higher rates of production from the natural fracture system could be sustained, from the more remote fractures and possibly the matrix, then the constrained rate would potentially be increased. It should be noted that the initial Horse Hill 1 tests produced short term rates of 705 and 1008 BOPD from just the two thicker micrites. Note although Angus have traded Horse Hill well data they were not provided with detailed well test data. In Brockham we anticipate simultaneous production from both these intervals plus around 140m of further section involving fractured shales and limestones. It is therefore quite feasible that rates in excess of [REDACTED] could be sustained. However, in the interests of caution Angus envisage initial production at [REDACTED] until evidence supports a change. Note that the temporary facilities envisaged will have a capacity of up to around [REDACTED] but could easily be extended or modified by rental of additional capacity. The rental approach offers rapid flexibility to changing conditions.

The data, thus obtained, will enable modelling of the single well production performance to establish the effective drainage radius, the likely ultimate recoverable reserves for the well and an understanding of the performance of differing types of reservoir across the section. Angus are working at present to start generating an initial static geological model with a view to forming the basis for long term dynamic modelling. The critical questions to be addressed in this modelling centre around the extent of the natural fracture system engaged by the well and the extent of any drainage of the matrix from that fracture system.

At present there also remains considerable uncertainty about the Kimmeridge reservoir fluids. Offset well data at Horse Hill 1 and from reservoirs sourced from the Kimmeridge suggests the oil will be light [REDACTED] and GOR around [REDACTED]. The facilities will be designed to enable measurement of oil, water and gas to enable recombined sample analysis and long-term verification of the reservoir fluids present. It is anticipated that water production initially at least will be minimal but the long-term trends in water production will be important for a full understanding of the reservoir dynamics.

The planned production forecast for the Kimmeridge Reservoir is shown below in figure 13. This is based on the above assumptions of a [REDACTED] initial constrained rate followed by a steep decline when the well potential drops below [REDACTED]. However, it must be noted that should evidence from regular monitoring of production and downhole production logging suggests that higher rates are sustainable then the production rate may be adjusted up accordingly. The gas production profile is based on [REDACTED]. Clearly if pressures drop below the bubble point gas rates would increase, but production will be adjusted accordingly.

Based on experience from similar hybrid reservoirs, water production is typically very low and has been ignored at this stage. Should water production occur, a water injection well Brockham 3 is available.

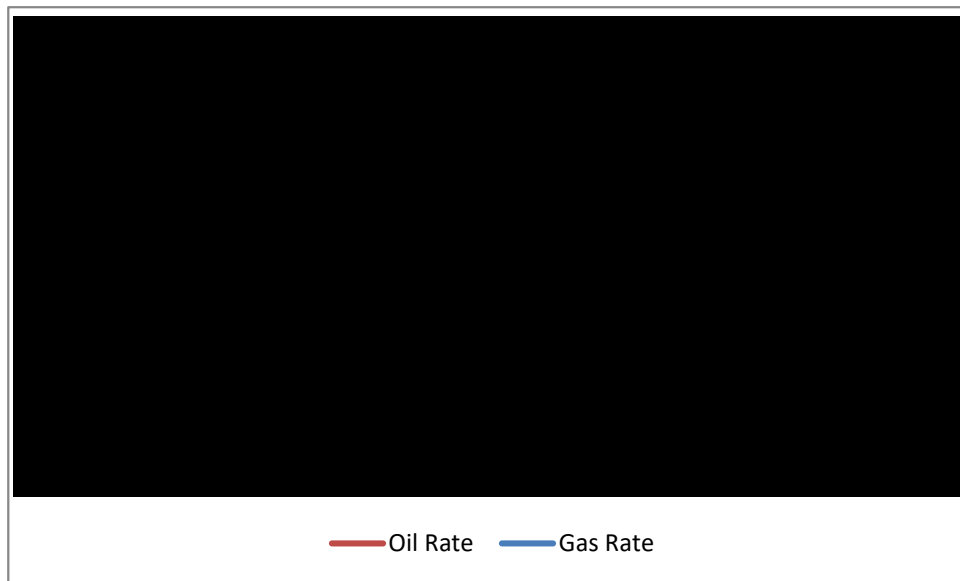


Figure 13 Single well Production Profile

For the present until a new Field Development Plan addendum is issued this is the planned production forecast for the BRX4Z well. The scale is shown in months from start of production not calendar months as the actual start of production is dependent on approvals and outside Angus control.

Field Facilities and Infrastructure

The field development centres on the one well pad and production facility. The annotated OS map below shows the location of the well site.



The existing well site has planning approval for 6 wells. In terms of actual current wells from surface top hole locations, there are currently 3. The site has been recently refurbished in the provision of drainage, a bunded area for well production equipment and separately for tanker loading and new electrical equipment. The old rented production facilities were removed to allow for this upgrade and because they were not required.

BRX2Y will be produced directly to the existing tanks as no gas is present and the well rates are limited. The map below Figure 14 shows the permanent production facilities on the site.

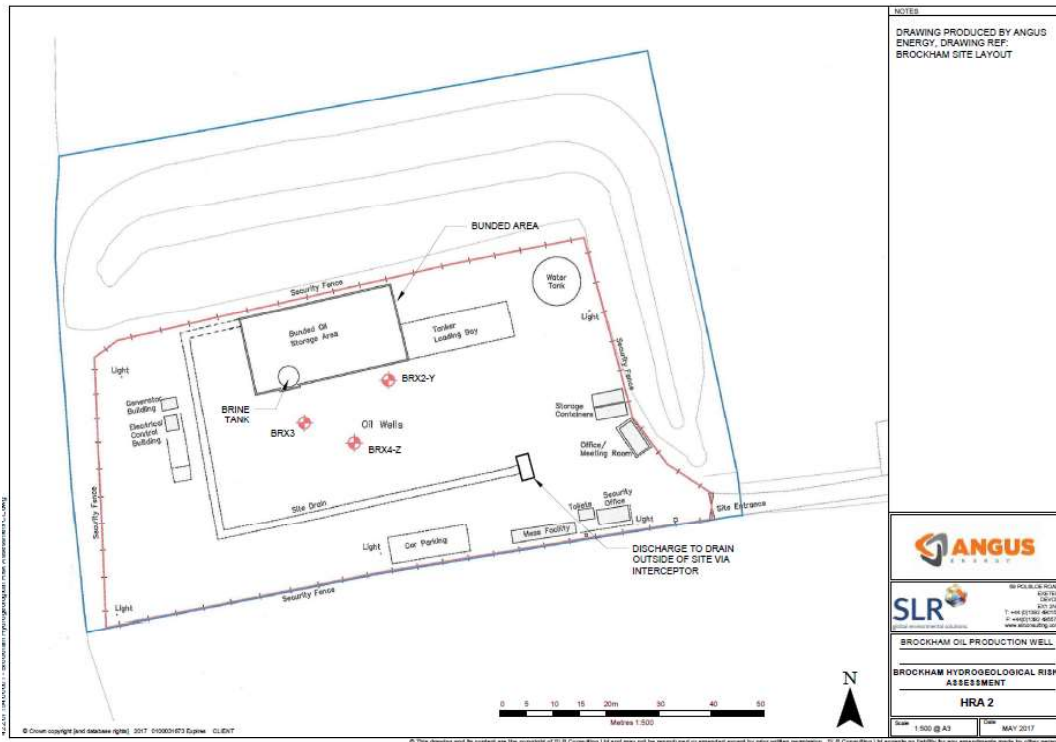


Figure 14 Permanent Facilities on the Brockham site

For the proposed Kimmeridge production period new rented equipment will be provided on the site. Renting the equipment is cost effective and enables alterations to be made as production rates change. The equipment will be skid mounted and connected by suitably rated temporary flowlines.

In summary the new surface production facilities will include separation, heating, tank storage for oil (one tank being heated for enhanced settling) plus oil metering and loading. Associated water will be separated and reinjected. It is anticipated that the Kimmeridge oil will have some associated gas. The evidence so far suggests a GOR of around [REDACTED] with [REDACTED] oil. Current plans are to use this gas to power a small power generation package to provide power on site and export surplus power to the grid. Initially all power generated will be used for on-site purposes but eventually when possible and when sustainable rates are known offshore sales will commence.

The detailed equipment list for the rented production equipment is provided in appendix 1 along with the P&ID diagram for the proposed process.

The site layout including both the permanent facilities above and the rented equipment is shown in schematic form in figure 15 below.

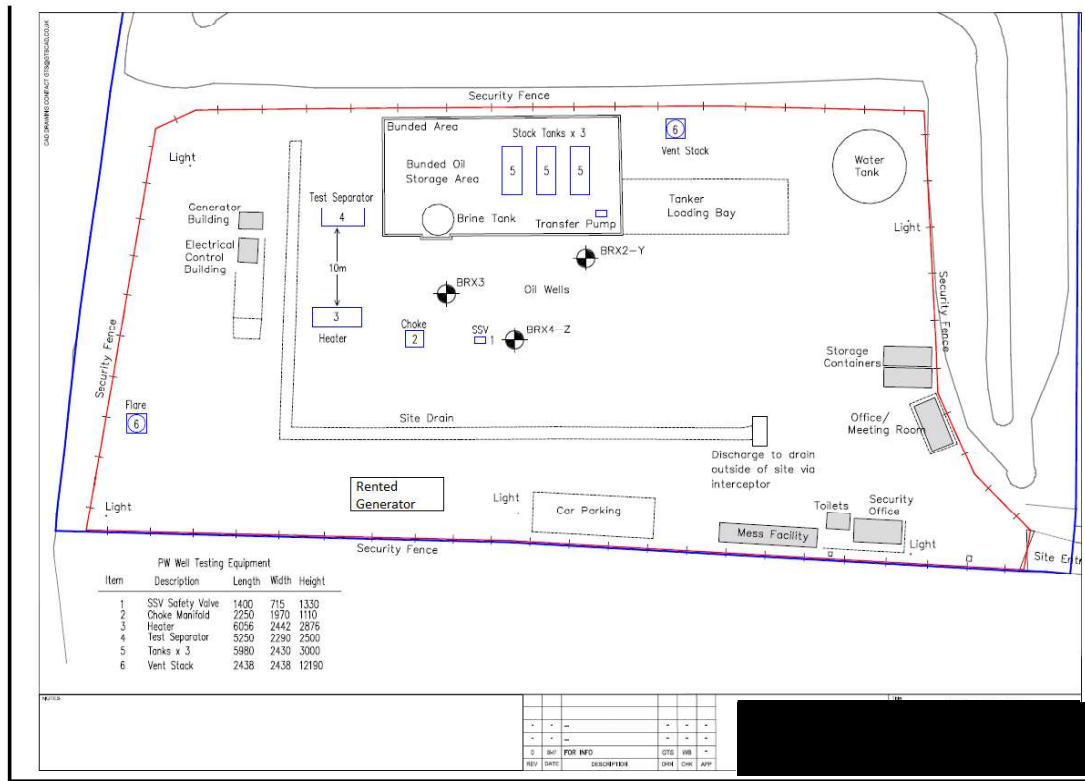


Figure 15 proposed layout of both rented (production equipment) and permanent facilities

The current rented equipment being sourced will enable sustained Kimmeridge field production at levels of around [REDACTED] (plus low rate Portland production) but with a large margin for uncertainty in case production evidence proves more optimistic. Continuous monitoring of oil gas and water rates, well head and separating conditions plus BS&W and other basic parameters will be provided. Sampling points will also be provided to enable sample collection during the initial testing stages. All the production equipment used will be provided on a rental basis and thus can be adapted to changing production performance and flowing conditions. The provision of this equipment is currently under discussion with a major equipment supplier so the details cannot be provided until the contract is concluded.

The current plan is to place the rented equipment on site for just under one year, during which time the well performance can be evaluated. If production remains viable new, suitably sized, temporary equipment will be placed for use until the new addendum is considered after 18 months.

DEVELOPMENT AND MANAGEMENT PLAN

Field Management

The Kimmeridge reservoir is a new development so no past reservoir history is available. It is anticipated that following the first year of production a study will be made to formally estimate reserves and resources and report on reservoir performance. It is envisaged that after the first year of production and the initial testing stages a revised Field Development Plan Addendum will be prepared reporting on the lessons learnt from the initial production and the single well modelling planned. This revised addendum will be submitted no later than 18 months after the commencement of production.

In the past the Portland wells were produced using sucker rod pumps and will continue to do so. No decision has been made regarding the artificial lift system to be employed for the Kimmeridge when natural flow ceases. However, Angus have hitherto preferred the use of sucker rod pumps for convenience.

In terms of the Portland reservoir production, this will be from one production well BRX2Y. The on-site facilities for production are described above.

Studies

The studies related to the Brockham X4Z long term production test are outlined above. However, further work is needed to understand the relationship of the subject well to the weald basin as a whole. As the reservoir is a totally new reservoir under development it is appropriate to carry out studies to understand well performance as the development and production proceeds and data become available. Initial work will centre on understanding the extent of the potential to produce from the formation. A study is planned for the 2017 to examine the maturity and TOC evidence from wells in the area penetrating the Kimmeridge to update work previously carried out by the BGS looking at the Kimmeridge formation maturity across the Weald basin. These values appear to vary through the Kimmeridge section further work will try to establish the controls on this. This work will then expand to consider the potential of the Kimmeridge as a Hybrid oil play

A single well modelling study is also planned and discussed above.

Improved Oil Recovery (IOR)

Enhanced oil recovery methods are not generally applicable to hybrid reservoirs of this kind. No plans are being considered at present for either the Kimmeridge or Portland reservoirs.

Proposed Changes to the Development Plan

The primary changes to the development plan are the inclusion of the Kimmeridge Clay in the production plan, and the restart of production from the Portland Sandstone from well BRX2Y. In the future there may be further development of the Kimmeridge and Portland from new and/or sidetracked wells. It is envisaged that a further Field Development Plan Addendum will be issued to report on the results of Kimmeridge production 18 months after the start of Kimmeridge production to present a forward plan based on those results. It is important to

note that production of the Portland will have improved economics when carried out in parallel with development of the Kimmeridge.

Regarding further exploration, a successful development of the Kimmeridge would confirm further exploration and development potential both within the block and the adjacent licences.

Other Regulatory issues

Environment Agency (EA)

The Brockham Site currently has two Environmental Permits, BL9763IN and EB3604MZ.

Permit BL9763IN:

* Allows for the production and storage of crude oil which was issued in 2002.

Permit EB3604MZ:

* Management of extractive waste not involving a waste facility, generated from onshore oil and gas prospecting activities of drill, core, leak off well testing, acid wash and decommissioning without well stimulation (using oil and water based drilling mud) which was issued in 2016.

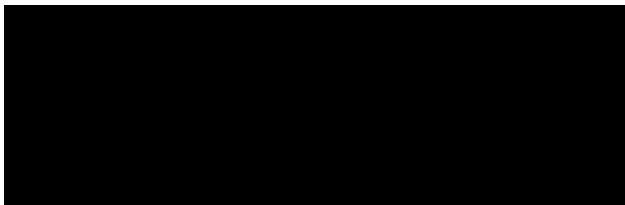
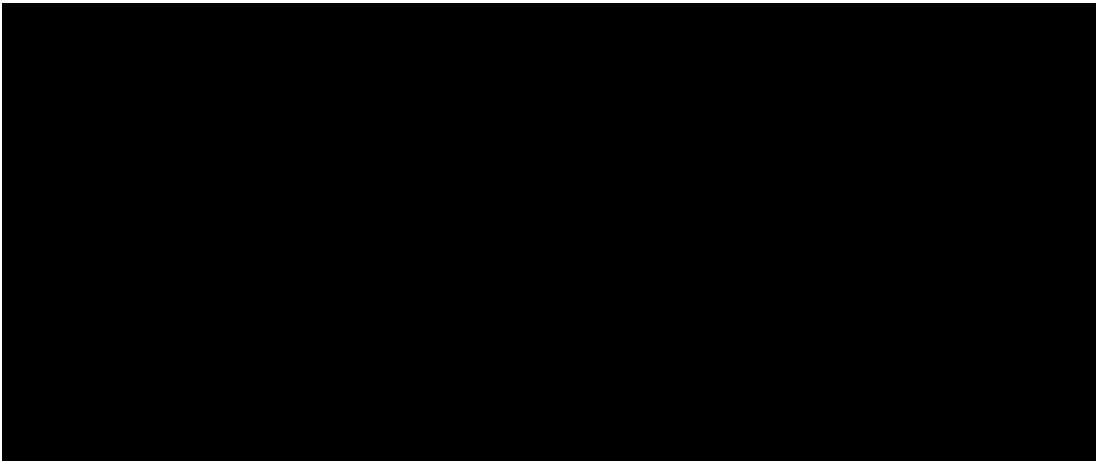
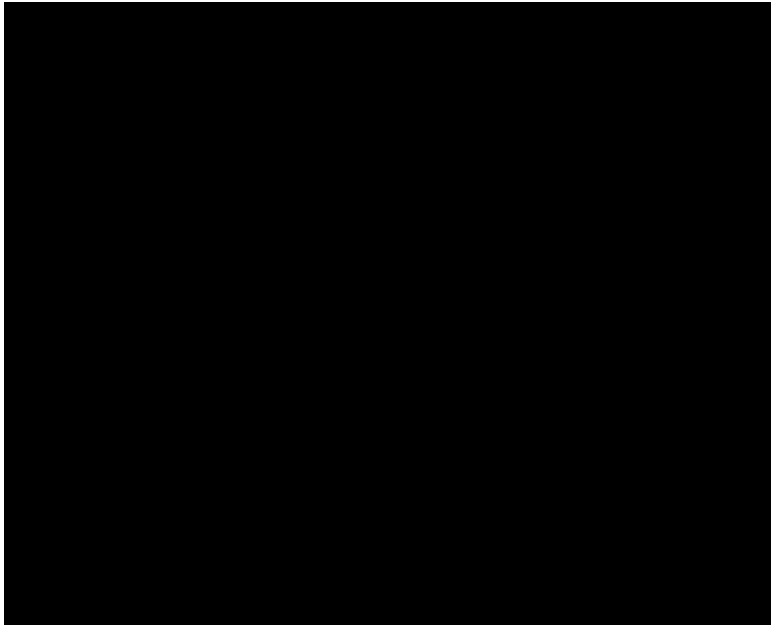
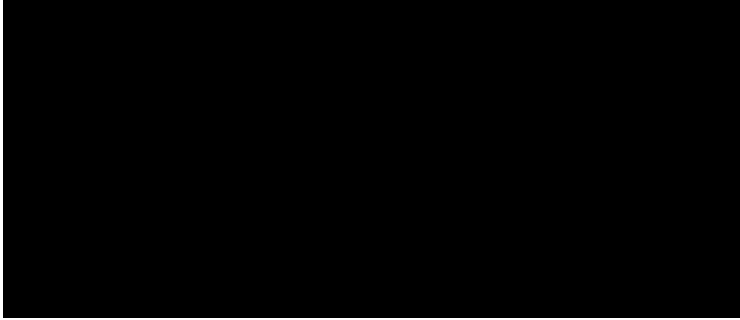
The Environment Agency is currently reviewing all permits granted before 1 October 2013 to operators of onshore oil and gas facilities. BL9763IN is currently in that permit review project and Angus Energy has been asked to make permit applications to bring the production and storage permit in to modern regulation. Angus Energy will be submitting their permit applications at the end of April to comply with this review project. The new permits should be issued by March 2018. During this period Angus Energy are operating their permit (BL9763IN) under the Environment Agency's Regulatory Position Statement 392.

Whilst Angus Energy has temporarily suspended production at the Brockham site, the site has been through major upgrades on site infrastructure to comply with Environment Agency permit conditions including upgrading the bunding for storage of crude oil and chemicals to meet CIRIA standards.

Mineral Planning Permissions (County Council)

Planning permission for oil exploration of the Brockham oil field site was originally granted in 1986 (MO86/1112). That permission was replaced by planning permission no MO92/0969 dated 13th January 1995 ("the 1995 permission") which granted permission to retain the existing 1.2 ha well site, further test the existing oil bore, drill up to 5 additional wells and install production and road tanker loading facilities. The 1995 permission was extended by permission no MO/2001/1288 in 2001 which authorised the retention of an existing 1.2 ha well site and access road, the erection of production equipment, the production of oil and export by tanker until 31st December 2006. Subsequently, planning permission MO/006/1294 issued in 2006 extended the life of the site further until 2036. Please note that none of the permissions granted for the Brockham oil field site are subject to any conditions requiring the location of the wells or the depth/direction of any underground drilling to be approved by the County Council. Planning permission was granted on 19 June 2007 under MO07/016 for the drilling of a new well (which was later named BR-X4) for the ...efficient continued production of oil from the site.

**Appendix 1 to Brockham Portland & Kimmeridge Reservoirs
Addendum to the Field Development Plan Details of Rented
Production Equipment**



[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

