

Angus Energy PLC

Balcombe 2z Hydrocarbon – Extended Well Test

Landscape & Visual Appraisal

RSK/MLs/32414/05/01 Rev00



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RSK GENERAL NOTES

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Author	Daniel Leaver	Technical reviewer	Chris frain
	Ang		CIAI
Signature	00.06.2020	Signature	00.06.2020
Date:	09.00.2020	Date:	09.00.2020
Project manager	Daniel Leaver		
Signature	John 9		
Date:	09.06.2020		
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Angus Energy PLC Balcombe Re-Submission RSK/MLs/32414/05/01 (00)



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1 INTRODUCTION

Introduction

- 1.1 This report has been prepared on behalf of Angus Energy Weald Basin No.3 Ltd (hereafter 'Angus Energy') for the proposed removal of drilling fluids and Extended Well Test (EWT) on land at Lower Stumble Wood, Hydrocarbon Exploration Site, London Road, Balcombe, Haywards Heath, RH17 6JH (hereafter 'the site').
- 1.2 This landscape and visual appraisal (LVA) comprises an appraisal of the landscape and visual baseline and identifies the potential landscape and visual effects of the proposed operations. The proposed work will take place in a phased approach with a total duration of up to 30 months; it is likely however, that surface operations will be confined to a much shorter duration. The site has already been in existence for approximately 30 years.

Application details

- 1.3 The proposed work on the Balcombe 2Z Well will take place in four distinct phases, with planning and regulatory approvals at each phase. Phase 1, pumping operation, is anticipated to take up to 4 weeks and will require the use of the linear rod pump (LRP). If this is successful, phase 2 will see the pad containment area upgraded with an impermeable membrane. Once construction and installation of the pad membrane is complete, phase 3 would commence with an extended well test for up to 12 months using the LRP.
- 1.4 If the initial 12 months testing are successful, a separate planning application will be prepared for a future production phase. A period of 12 months has been allowed for the submission of a planning application for determination by West Sussex County Council (WSCC).
- 1.5 Should the project be unsuccessful, phase 4 will involve the site decommissioning with the removal of all surface plant and equipment and plugging of the wellbore. It is estimated that this will take approximately 1-2 months to complete. The site will then be restored, with 50% of the pad to become deciduous woodland in accordance with the High Weald AONB Management Plan 2019-2024.
- 1.6 The surface plant and equipment will be similar to that approved under planning application ref: WSCC/040/17/BA and will include:
 - Linear rod pump or equivalent (6.1m);
 - Containers and storage tanks (up to 2.6m);
 - Coil tubing unit (CTU) (11.5m);
 - Temporary mobile crane (up to 40m);
 - Well testing equipment (6m); and
 - Flare unit (up to 13.8m but may be replaced with a smaller unit up to 8m).
- 1.7 The use of the CTU and associated mobile crane is a contingency that may be required to aid the flow of the well. If needed, the CTU and crane will be required for 1 to 2 weeks during phase 3 operations only. This option has been included as a worst-case scenario



for the assessment. Similarly, a worst-case height of 13.8m has been used for the flare unit.

Methodology

1.8 The following section outlines the methodology and approach to the assessment of landscape and visual effects. The methodology sets out the criteria and definitions used for the assessment of sensitivity, magnitude of change and significance of effects.

Landscape assessment

- 1.9 The degree to which the proposed development changes "the distinct and recognisable pattern that makes one landscape different from another, rather than better or worse" (Countryside Agency and SNH, 2002), enables a judgement to be made as to the significance of the effect in landscape character terms.
- 1.10 Landscape sensitivity (whether a landscape character area or designated landscape resource) is based on the combination of value and the susceptibility of the landscape to the type of development proposed.
- 1.11 Landscapes of high value include those designated for their scenic quality and rarity on a national/international scale such as National Parks, Areas of Outstanding Natural Beauty (AONBs) and World Heritage Sites. Low value landscapes include nondesignated landscapes in poor or degraded condition with few valued features. The value of the landscape is categorised as High, Medium or Low using professional judgement.
- 1.12 The susceptibility to change is determined by the extent to which the landscapes key characteristics are susceptible to the type of landscape changes likely to be associated with the proposed development. The key characteristics of the landscape include scale; enclosure; landform; landcover; landscape pattern; and manmade influences. The susceptibility of the landscape is categorised as High, Medium or Low using professional judgement.
- 1.13 Assessment of the magnitude of landscape effect may take account of the following criteria and professional judgement is used to determine the relevance and appropriate weighting to be attributed to each of the following:
 - degree of loss or alteration to key landscape features/elements or characteristics;
 - geographical extent of the landscape area that would be changed;
 - duration of the effect;
 - potential reversibility of the change to the landscape (not a consideration if a development is deemed to be permanent in duration);
 - landscape backdrop to the development; and
 - landscape context of other built development, particularly vertical elements.
- 1.14 The magnitude of landscape change is assessed as High, Medium, Low or Negligible. A judgement of a high magnitude could result from a total loss or substantial alteration to key landscape elements, features or characteristics of the baseline or introduction of uncharacteristic elements which would give rise to a new characterising effect. A judgement of a negligible degree of change is typically defined as a very minor loss or



alteration to one or more key landscape elements, features or characteristics of the baseline and/or the introduction of elements that are not uncharacteristic of the surrounding landscape.

- 1.15 A final judgement will be made on the overall level of effect on the landscape through a combination of the magnitude of change (high, medium, low or negligible) with the sensitivity of the landscape resource (high, medium or low). Overall effects will be described using a four-point scale of: major; medium; minor; or negligible and the nature of effect will also be judged as: adverse; beneficial; or neutral (however, a negligible level of effect will not typically be described as being adverse, beneficial or neutral).
- 1.16 Professional judgement and experience are used to produce the assessment of effects; however, reasoning is provided in the text as to how this conclusion has been reached.

Visual assessment

- 1.17 Assessing the overall effect on visual amenity is achieved by relating the sensitivity of the visual receptors or features, to the potential magnitude of change to a particular view. The sensitivity of visual receptors has been assessed by combining susceptibility of receptor to the type of change proposed with the value attached to the view.
- 1.18 Typically, receptors demonstrating high susceptibility are people with a particular interest in their available view or with prolonged viewing opportunities such as: residential locations; tourist destinations providing a specific important and highly valued view; recreational hilltops; public rights of ways; ornamental parks/designed landscapes; and national trails. Typically, receptors demonstrating low susceptibility are people engaged in outdoor sport or recreation; people at their place of work including places of employment industrial buildings and commercial buildings. The susceptibility of visual receptors is categorised as High, Medium or Low using professional judgement.
- 1.19 The value of views is categorised as High, Medium or Low using professional judgement. Importance of views will be categorised based on the recognition of the value attached to views (planning designations or heritage assets) or indicators of the value attached to the view by visitors.
- 1.20 The magnitude of a visual effect is about understanding the scale, nature, extent and duration of visual change a new development will have on a view, considering any proposed mitigation measures. The parameters include:
 - distance of the viewpoint from the development;
 - duration of effect;
 - The potential reversibility;
 - extent of the development in the view;
 - angle of view in relation to main receptor activity;
 - proportion of the field of view occupied by the development;
 - background to the development; and
 - extent of other built development visible, particularly vertical elements.
- 1.21 The magnitude of visual change is assessed as High, Medium, Low or Negligible. A judgement of a High degree is typically defined as: the project, or a part of it, would



become the dominant feature or focal point of the view. A judgement of a Negligible degree of change is typically defined as: only a very small part of the project would be discernible, or it is at such a distance that it would form a barely noticeable feature or element of the view.

- 1.22 A final judgement will be made on the overall level of effect on the visual receptors through a combination of the magnitude of change (high, medium, low or negligible) with the sensitivity of the visual receptor (high, medium or low). Overall effects will be described using a four-point scale of: major; medium; minor; or negligible and the nature of effect will also be judged as: adverse; beneficial; or neutral (however, a negligible level of effect will not typically be described as being adverse, beneficial or neutral).
- 1.23 Professional judgement and experience are used to produce the assessment of effects with reasoning provided in the text as to how this conclusion has been reached.

Scope of the Appraisal

- 1.24 Baseline landscape and visual assessments are undertaken in parallel and are informed by a combination of desk and field-based techniques.
- 1.25 Preliminary identification, description and evaluation of the existing landscape and visual context of the study area involve a desk-based review and interrogation of the following information sources:
 - Ordnance Survey mapping and aerial photography relating to existing landform, vegetation, settlement patterns, promoted viewpoints and drainage regimes;
 - Plans containing information relating to landscape designations and landscape related policies at the local, regional and national level;
 - The Multi-Agency Geographical Information for the Countryside website; managed by Natural England (available at <u>http://www.magic.gov.uk</u>);
 - The High Weald AONB Management Plan;
 - National landscape character areas (NCAs) as defined by Natural England; and
 - Local landscape character assessment, as defined by Mid Sussex District Council.

Study area

- 1.26 Following the findings of the preliminary landscape and visual desk and site-based assessment; the extent of the study area has been defined as a 1.0 km radius from around the site fence.
- 1.27 It is considered that the nature and form of the proposed development would be such that prominent landscape and visual effects would not be experienced beyond a 1.0 km study radius from the site fence.

Project Envelope

- 1.28 The field survey was undertaken during periods of clement weather from public highways, public rights of way (PRoW) and publicly accessible areas, including areas of public open space. The study area was visited on 6th August 2019. Site work involved:
 - A corroboration of the findings of the desktop review;



- Additional information on landscape elements, character, views and localised screening; and
- Photography from representative viewpoints.



2 LANDSCAPE PLANNING POLICY

National Policy

2.1 National landscape policy is found within the following document:

• National Planning Policy Framework (NPPF), February 2019¹

The NPPF aims to provide a national planning framework within which the local community and local authorities can produce distinctive local plans which respond to local needs and priorities, which can then be used to determine planning applications. Within the NPPF there is a presumption in favour of sustainable development. The NPPF incorporates policies designed to protect the landscape, those which are relevant to the proposed development are:

- Para 127 'Planning policies and decisions should ensure that developments:
 - a) are visually attractive as a result of good architecture, layout and appropriate and effective landscaping;
 - are sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change (such as increased densities);
 - c) optimise the potential of the site to accommodate and sustain an appropriate amount and mix of development (including green and other public space) and support local facilities and transport networks'
- Para 170a 'Planning policies and decisions should contribute to and enhance the natural and local environment by:
 - a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
 - b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland.'
- Para 171 'Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.'
- Para 172 'Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty, which have the highest status of protection in relation to these issues.'

¹ The Department of Housing, Communities and Local Government (2019)



Local development Plan Policy

West Sussex Joint Minerals Plan, July 2018

- 2.2 Policy M12 within the West Sussex Joint Minerals Local Plan sets out clear strategic objectives relating to landscape elements. The first is to "conserve and enhance the landscape and townscape character of West Sussex and the special qualities of the South Downs National Park and the local distinctiveness and character of the High Weald AONB and Chichester Harbour AONB and the settings of all protected landscapes." Additionally, "To protect and, where possible, enhance the natural and historic environment and resources of West Sussex". Proposals for mineral development will be permitted provided that:
 - a) they would not have an unacceptable impact on the character, distinctiveness, sense of place of the different areas of the County, the special qualities of the South Downs National Park, and the setting and character of the Chichester Harbour and High Weald Areas of Outstanding Natural Beauty and the setting of West Sussex - Joint Minerals Local Plan July 2018 84 protected landscapes;
 - b) they would not have an unacceptable impact on the separate identity of settlements and distinctive character of towns and villages (including specific areas or neighbourhoods) and development would not lead to their actual or perceived coalescence; and
 - c) they reflect and, where possible, reinforce the distinctive attributes of the main character areas (including the retention of important features or characteristics) (Para 8.2.1, Page 83).

Mid Sussex Local Plan

- 2.3 The site is located within the boundary of Mid Sussex District Council (MSDC). The main local policy document is as follows:
 - Mid Sussex District Council (adopted March 2018) Mid Sussex Local Plan Saved policy DP12 states, "The countryside will be protected in recognition of its intrinsic character and beauty. Development will be permitted in the countryside, defined as the area outside of built-up area boundaries on the Policies Map, provided it maintains or where possible enhances the quality of the rural and landscape character of the District, and:
 - a) it is necessary for the purposes of agriculture; or
 - b) it is supported by a specific policy reference either elsewhere in the Plan, a Development Plan Document or relevant Neighbourhood Plan. (Page 57).
- 2.4 Within the District's AONB, Policy DP16 states that:
 - "Development within the High Weald Area of Outstanding Natural Beauty (AONB), as shown on the Policies Maps, will only be permitted where it conserves or enhances natural beauty and has regard to the High Weald AONB Management Plan, in particular:
 - a) the identified landscape features or components of natural beauty and to their setting;



- b) b) the traditional interaction of people with nature, and appropriate land management;
- c) c) character and local distinctiveness, settlement pattern, sense of place and setting of the AONB; and
- d) d) the conservation of wildlife and cultural heritage.
- Small scale proposals which support the economy and social well-being of the AONB that are compatible with the conservation and enhancement of natural beauty will be supported. Development on land that contributes to the setting of the AONB will only be permitted where it does not detract from the visual qualities and essential characteristics of the AONB, and in particular should not adversely affect the views into and out of the AONB by virtue of its location or design. ," (Page 62).



3 ENVIRONMENTAL BASELINE

Landscape Baseline

Site description

3.1 The site is located within the Lower Stumble Wood approximately 800m south of the village of Balcombe, West Sussex. The site is an existing drill rig pad of 0.58 ha and comprises of hard standing with the borehole in the centre bound by 2m high security fencing. The site is accessible from a vehicular access track located some 150m off London Road (B2036). The site is situated within a predominantly wooded rural landscape and sits within a secluded valley with ridgelines to the north-east and southwest of the site.

Site Context

3.2 North of the site is Lower Stumble Wood comprising of ancient and semi-natural woodland. The closest residential property to the site is Kemps Farm located approximately 350m to the north. Landform rises to the northeast and east of the site and is wooded with the London to Brighton Railway Line nearby running in a north- westerly to south-easterly direction. South of the site is the Lower Beanham Wood ancient and semi-natural woodland. Directly west of the site is an area of land utilised for commercial/woodland forestry, and further west is London Road (B2036) which runs in a northwest to southeast direction.

Landscape designations

- 3.3 The site is located within the High Weald AONB. The key defining characteristics of the AONB are described as follows:
 - "Geology, landform and water systems a deeply incised, ridged and faulted landform of clays and sandstone with numerous gills and streams.
 - **Settlement** dispersed historic settlement including high densities of isolated farmsteads and late medieval villages founded on trade and non-agricultural rural industries.
 - **Routeways** a dense network of historic routeways (now roads, tracks and paths).
 - **Woodland** abundance of ancient woodland, highly interconnected and in smallholdings.
 - **Field and Heath** small, irregular and productive fields, bounded by hedgerows and woods, typically used for livestock grazing, with distinctive zones of lowland heaths and inned river valleys." (The High Weald AONB Management p.23).
- 3.4 In particular, the key characteristics most relevant to the site relate to the wooded nature of the surrounding landscape and are as follows:
 - Highly interconnected and structurally varied mosaic of many small woods, larger forests and numerous linear gill woodlands, shaws, wooded routeways and outgrown hedgerows.
 - High proportion of ancient woodland typically broadleaved coppice with a rich ground flora.



• **Considerable variability** in woodland types and tree forms over short distances reflecting the variety of soils, microclimates and drainage conditions (Principle NVC communities are W10 and W8 with some W15 and W16 on sandier ridges). (The High Weald AONB Management p.41).

Landscape character

- 3.5 Considering published landscape character documents which are relevant to the site and the proposed development, the following two documents have been referenced:
 - Natural England (2013) National Character Area Profile 122: High Weald; and
 - Mid Sussex District Council (2005) A Landscape Character Assessment for Mid Sussex.
- 3.6 The High Weald AONB covers 78% of the Natural England High Weald NCA and provides an overview of the wider area characteristics. The key characteristics identified within the NCA 122 relevant to the site location are:
 - A faulted landform of clays, sand and soft sandstones with outcrops of fissured sandrock and ridges running east-west, deeply incised and intersected with numerous gill streams forming the headwaters of a number of the major rivers – the Rother, Brede, Ouse and Medway – which flow in broad valleys.
 - A dispersed settlement pattern of hamlets and scattered farmsteads and medieval ridgetop villages founded on trade and non-agricultural rural industries, with a dominance of timber- framed buildings with steep roofs often hipped or half-hipped, and an extremely high survival rate of farm buildings dating from the 17th century or earlier.
 - An intimate, hidden and small-scale landscape with glimpses of far reaching views, giving a sense of remoteness and tranquillity yet concealing the highest density of timber-framed buildings anywhere in Europe amidst lanes and paths.
 - Strong feeling of remoteness due to very rural, wooded character. A great extent of interconnected ancient woods, steep-sided gill woodlands, wooded heaths and shaws in generally small holdings with extensive archaeology and evidence of longterm management.
 - Extensive broadleaved woodland cover with a very high proportion of ancient woodland with high forest, small woods and shaws, plus steep valleys with gill woodland.
 - Small and medium-sized irregularly shaped fields enclosed by a network of hedgerows and wooded shaws, predominantly of medieval origin and managed historically as a mosaic of small agricultural holdings typically used for livestock grazing.
 - A predominantly grassland agricultural landscape grazed mainly with sheep and some cattle.
 - There is a strong influence of the Wealden iron industry which started in Roman times, until coke fuel replaced wood and charcoal. There are features such as a notably high number of small hammer ponds surviving today.
 - An essentially medieval landscape reflected in the patterns of settlement, fields and woodland.



- 3.7 The NCA 122 includes guidance within the Statements of Environmental Opportunity which are relevant to the site:
 - Ensuring that any increased woodland cover is informed by the historical nature of the area, and promoting small-scale woodland creation to buffer existing woods, enhance landscape connectivity and manage flood flows.
 - Increasing the viability of woodland habitats for wildlife by determining the area of appropriately managed woodland necessary to link and enhance isolated habitats and species to provide better connectivity between woodlands and encourage species' resilience to climate change.
 - Promoting sustainable woodland management techniques (such as coppicing, pollarding and wood fuel production) to increase carbon substitutions and sequestration and the resilience of tree species to climate change and disease.
 - Working with the High Weald Area of Outstanding Natural Beauty (AONB) to continue support for the restoration of planted ancient woodland sites.
- 3.8 The MSDC's "A Landscape Character Assessment for Mid Sussex" document provides a local level landscape character assessment which includes information at an appropriate scale to consider the landscape character of the site and study area in greater detail.
- 3.9 The site is located within landscape character area (LCA) High Weald, the key characteristics relevant to the site location are as follows:
 - "Wooded, confined rural landscape of intimacy and complexity, perceived as attractive, locally secluded and tranquil.
 - Complex sandstone and clay hilly landscape of ridges and secluded valleys centred on the western end of Forest Ridge of the High Weald plateau deeply cut by numerous gill streams and with sandrock crags...
 - Includes major reservoir at Ardingly and adjoins Weir Wood Reservoir.
 - Significant woodland cover, a substantial portion of it ancient, including some larger woods and a dense network of hedgerows and shaws, creates a sense of enclosure, the valleys damp, deep and secluded.
 - Pattern of small, irregular-shaped assart fields, some larger fields and small pockets of remnant heathland...
 - Dense network of twisting, deep lanes, droveways, tracks and footpaths.
 - Dispersed historic settlement pattern on high ridges, hilltops and high ground, the principal settlements East Grinstead and some expanded smaller villages.
 - Some busy lanes and roads including along the Crawley–East Grinstead corridor.
 - London to Brighton Railway Line crosses the area," 7(Page 74).
- 3.10 The site and surrounding area are typical of the AONB and landscapes as described within the landscape character assessments. In particular, the landscape is well wooded which results in a contained and locally intimate and small-scale character, although its location between the B306 London Road and the London to Brighton Railway Line reduces its sense of tranquillity.



Visual Baseline

Visual context

- 3.11 The site is an existing exploration drill pad and has been previously used since 1986 with recent activity in 2018. The site is located within the Lower Stumble Wood and accessible via a vehicular access off London Road approximately 800m to the south of the village of Balcombe. The site is well screened by surrounding woodland and sits within a secluded valley.
- 3.12 The site is well screened by mature woodland with a tree line of approximately 15m and there are very limited potential views of the taller surface plant. Publicly accessible locations from which the proposed development is potentially visible are:
 - London Road (B2306), which runs along the west of the site;
 - London to Brighton Railway Line to the northeast of the site;
 - PRoW Footpath 17Ba (part of High Weald Circular 4 Walk), which runs to the west of the site; and
 - PRoW Footpath 13Ba (part of High Weald Circular 4 Walk), located to the north- west of the site and accesses through Kemps Farm.
- 3.13 Kemps Farm located approximately 380m to the north-west of the site is the only property likely to experience views of the proposed development.

Representative views

- 3.14 The previous application WSCC/071/19 (October 2019) included four viewpoints considered representative of available views of the site from within the study area; these were selected to aid the assessment and are listed in the table in 3.2.2.5 below.
- 3.15 For each viewpoint a photomontage visualisation was produced for the worst-case scenario as they illustrated all of the proposed project elements (i.e. crane, work over rig, beam pump / pump jack and enclosed flame).
- 3.16 As outlined in Section 1, the type and amount of equipment used is similar to the previous application and the same viewpoints have therefore been used within this current assessment.
- 3.17 Views from Viewpoint 4 were screened by a tall maize crop at the time of carrying out the photography. Photography for Viewpoint 4 has not, therefore, been updated, but an assessment has been made within the visual appraisal section.
- 3.18 Four locations were selected as representative of views from within the study area. The viewpoints are listed in table 1.



Table 1: Viewpoints

Viewpoint Reference	Location	Grid Ref. & Elevation (AOD)	Direction of View & Distance to Site Fence	Reasons for selection
Vp 1	B2036 London Road	530980, 129130 & 54m AOD	View north east & 68m to site fence.	Representative of views from the B2036 London Road opposite the site entrance.
Vp 2	B2036 London Road verge	530890, 129260 & 56m AOD	View east & 86m to site fence.	Representative of views from the B2036 London Road verge adjacent to the Christmas tree plantation looking East.
Vp 3	Railway bridge and PRoW footpath 13Ba	530914, 129557 & 82m AOD	View south & 291m to site fence.	Representative of views from railway bridge and PRoW footpath 13Ba.
Vp 4	PRoW footpath 17Ba	530707, 129416 & 66m AOD	View south east & 325m to site fence	Representative of views from the PRoW footpath 17Ba and south west of Kemps Farm

Mitigation

- 3.19 Embedded mitigation measures that will contribute in avoiding or minimising landscape and visual effects are as follows:
 - The proposed development has the benefit of utilising an existing drill rig pad and was previously used in 2018 as an exploration well site. The presence and use of an existing drill pad would suggest that the site and local landscape are less susceptible to the proposed change;
 - The site has the benefit of being located within a secluded valley adjacent to a main railway line and commercial forestry landuse, as well as within an area of ancient and semi-natural woodland which provides screening, and therefore visibility of the proposed development from the surrounding area is limited and localised; and
 - The applicant has sought to limit the scale of the proposed development as far as is reasonably possible.
- 3.20 The proposed restoration (Figure 9) also affords opportunities to provide biodiversity benefits through the landscape proposals and management of the site following its operational phase. The proposed mitigation landscape measures including biodiversity



enhancements that have been considered in the assessment of both landscape and visual effects and will complement the AONB character in terms of native deciduous woodland planting. It is proposed that the site is returned to 50% native deciduous woodland with the remaining area as working area for the forestry business on associated land.

- 3.21 The NCA 122 Statements of Environmental Opportunity and AONB Management Plan provide guidance for the proposed restoration. In particular, the guidance recommends a return to native deciduous woodland which will complement the local ancient woodland characteristics. An increased woodland cover that is informed by the historical nature of the area will increase the viability of woodland habitats by enhancing connectivity between woodlands and encourage species' resilience to climate change.
- 3.22 Tree planting will include major and minor species: Common oak, silver birch, wych elm, crab apple and hornbeam.
- 3.23 Shrub planting as an understorey and edge will include native species: Hawthorn, hazel, wayfaring tree.
- 3.24 Sustainable woodland management techniques will be incorporated within a management plan to ensure that the restoration scheme will increase carbon substitutions and sequestration and the resilience of tree species to climate change and disease.

Predicted landscape effects

Landscape features

- 3.25 The operational works will utilise the existing vehicular access to Lower Stumble Wood and the existing Balcombe Estate's forestry and farming activities from London Road (B2036). Access was previously used for hydrocarbon exploration sampling. The construction phase will include all HGVs accessing the site via junction 10a of the M23 motorway and not from the south.
- 3.26 The proposed development will largely utilise areas of the existing hard standing and the operational works would not involve the loss of any landscape features such as woodland, trees or hedgerow. There are therefore no effects to existing landscape features during the operational works.

Landscape designations and landscape character

- 3.27 The proposed development would maintain or even reduce the amount of plant and equipment used previously at the drill pad site which would minimise direct effects on the local landscape.
- 3.28 The first consideration in assessing the level of effect which the proposed development would have on the landscape is an assessment of the sensitivity of the receiving landscape.
- 3.29 The local landscape character area High Weald LCA is described as a wooded, confined rural landscape with a substantial portion of ancient woodland that creates a sense of enclosure and seclusion. The site is adjacent to ancient woodland and Gill streams, which



are identified as key characteristics to the landscape character area. The High Weald AONB and High Weald LCA is of high value due to the area being of national landscape value.

- 3.30 The existing features of the drill pad contribute an industrialising character to the landscape of the site; the latest drilling activity being in September 2018. As an established drill pad site, the proposed activity is in line with previous site usage and the industrialised character will be maintained throughout the proposed works. This character is well contained by the enclosed nature of the site. The site therefore has good ability to accommodate the proposed development due to its existing nature and the enclosure afforded by local landform and woodland. The landscape is therefore considered to have a low susceptibility to change.
- 3.31 Combining landscape value and susceptibility the sensitivity is assessed as medium.
- 3.32 The assessment of magnitude takes into consideration the scale of proposed changes, their geographical extent and the duration and reversibility of the potential effects.
- 3.33 The proposed development will be in keeping with the appearance of the existing site and previous uses to the extent that the activity could be considered as no-change; even taking into account the appearance of the temporary taller structures on site the proposed development would be a barely perceptible landscape element and would not change the key landscape characteristics within the local area.
- 3.34 The geographical extent of the effects would be limited to within the existing site and local area to within less than 0.5km due to the containment by surrounding woodland.
- 3.35 The proposed work has a total duration of up to 30 months. For the majority of operations, the enclosed flare (13.8m) and LRP (6.1m) would be the tallest components on site, as illustrated by wireline Figures 2 to 5. The duration of operational effects will therefore be temporary, reversible and short-term. The proposed development may require the use of the CTU (11.5m) supported by the mobile crane which would reach a height of at most 40m for 1 to 2 weeks during phase 3. Although the CTU and crane may not be required, wireline have been produced to illustrate this potential worst-case scenario in Figures 2a to 5a.
- 3.36 The magnitude of landscape effect is therefore assessed as low to negligible.
- 3.37 Combining the medium sensitivity with the low to negligible level of magnitude the overall level of effect on the landscape character area and AONB would be locally **Minor adverse** reducing to **Negligible** in the wider landscape.

Visual effects

- 3.38 The viewpoints from the previous application remain the most suitable and the wireline illustrations are therefore included with the existing 2017 photography within this updated report. In making the assessment of visual effects the wirelines have been updated to illustrate two scenarios as described in section 3.35. Figures 6-8 provide additional photography carried out in September 2019 included to illustrate that the extent of views has not substantially altered.
- 3.39 The following are the identified effects on the representative viewpoints:



Viewpoint 1: View from B2036 London Road opposite the site entrance looking north east (see Figures 2, 2a and 6)

- 3.40 The viewpoint is representative of users of London Road (B2036) with the direction of view to the north east towards the site entrance and Lower Stumble Wood. The sensitivity of the receptor based on susceptibility and value is considered to be medium as it is representative of views of people travelling by car.
- 3.41 As illustrated by Figure 2, glimpses of the 13.8m high enclosed flare will be likely through the intervening woodland during winter, however, views of other plant and equipment are likely to be heavily filtered or screened by the intervening woodland. Figure 2a illustrates the same view with the CTU and mobile crane which may be deployed for between 1-2 weeks during phase 3.
- 3.42 For the majority of the works the flare is likely to be the only tall vertical element of the proposed development that would be visible. It would be perceived as a background component within the view and would largely go unnoticed and lead to at most a minor change within the view during winter months (Figure 2); views would be predominantly screened by foliage outside of this time. The remaining parts of the site would be screened by the intervening woodland and would be imperceptible in the view. The magnitude of change is therefore considered to be at most low during the winter months. Should they be deployed, the potential visibility of the taller mobile crane and CTU would be of such short duration (1-2 weeks) that their addition to the proposed development would not change this magnitude (Figure 2a).
- 3.43 Based on these considerations, the level of effect experienced at this viewpoint is assessed as **Minor and adverse**.
- 3.44 Updated photography is provided in Figure 6 and illustrates that views have not substantially changed.

Viewpoint 2: View from the B2036 London Road verge adjacent to the Christmas tree plantation looking east (See Figures 3, 3a and 7)

- 3.45 The viewpoint is representative of users of London Road (B2036) with the direction of the view looking east onto Lower Stumble Wood. The sensitivity of the receptor based on susceptibility and value is considered to be medium as it is representative of views by people travelling by car.
- 3.46 As illustrated by Figure 3, glimpses of the 13.8m high enclosed flare would be predominantly screened by intervening vegetation even during winter; views of other plant and equipment would not be possible. Figure 3a illustrates the same view with the CTU and mobile crane which may be required for between 1-2 weeks during phase 3.
- 3.47 For the majority of the works the proposed development would be effectively screened by existing vegetation, even during winter months (Figure 3). The magnitude of change is therefore considered to be negligible. Should they be deployed, the potential visibility of the taller mobile crane and CTU would be of such short duration (1-2 weeks) that their addition to the proposed development would at most result in a low magnitude of change Figure 3a).



- 3.48 Based on these considerations, the level of effect experienced at this viewpoint is assessed as **Negligible** for the majority of the works, rising to **Minor and adverse** should the CTU and crane be deployed.
- 3.49 Updated photography is provided in Figure 7 and illustrates that views have not substantially changed.

Viewpoint 3: View from railway bridge looking south (See figures 4, 4a and 8)

- 3.50 The viewpoint is representative of users of the Railway Bridge and PRoW footpath 13Ba (part of the High Weald Circular Walk 4) with the direction of the view looking south along the railway track towards Lower Stumble Wood. The sensitivity of the receptor based on susceptibility and value is considered to be high as it is representative of views by users of a PRoW within an AONB.
- 3.51 As illustrated by Figure 4, views of all plant and equipment, including the flare would be screened by intervening vegetation, even during winter. Figure 4a illustrates the same view with the CTU and mobile crane which may be required for between 1-2 weeks during phase 3.
- 3.52 For the majority of the works the proposed development would be screened by existing vegetation, even during winter months (Figure 4). The magnitude of change is therefore considered to be negligible. Should they be deployed, the potential visibility of the taller mobile crane and CTU would be of such short duration (1-2 weeks) that their addition to the proposed development would at most result in a low magnitude of change (Figure 4a).
- 3.53 Based on these considerations, the level of effect experienced at this viewpoint is assessed as **Negligible** for the majority of the works, rising to **Minor and adverse** should the CTU and crane be deployed.
- 3.54 Updated photography is provided in Figure 8 and illustrates that views have not substantially changed.

Viewpoint 4: View from the PRoW south west of Kemps Farm looking south east across the B2036 London Road (See Figures 5 and 5a)

- 3.55 The viewpoint is representative of users of PRoW footpath 17Ba (part of the High Weald Circular Walk 4) with the direction of the view looking south east over a rolling arable field onto a hedgerow running along London Road with mature trees and Lower Stumble Wood beyond. The sensitivity of the receptor based on susceptibility and value is considered to be high as it is representative of views by users of a PRoW within the AONB.
- 3.56 As illustrated by Figure 5, views of all plant and equipment, including the flare would be screened by intervening vegetation, even during winter. Figure 5a illustrates the same view with the CTU and mobile crane which may be required for between 1-2 weeks during phase 3.
- 3.57 For the majority of the works the proposed development would be screened by existing vegetation. The magnitude of change is therefore considered to be negligible. Should they be deployed, the potential visibility of the taller mobile crane and CTU would be of such short duration (1-2 weeks) that their addition to the proposed development would at most result in a low magnitude of change.



- 3.58 Based on these considerations, the level of effect experienced at this viewpoint is assessed as **Negligible** for the majority of the works, rising to **Minor and adverse** should the CTU and crane be deployed.
- 3.59 It was not possible to retake a more up to date photograph from viewpoint 4 as there was a tall crop of maize in the field at the time of site survey.



4 CONCLUSION

4.1 This report has been prepared to assess the landscape and visual effects for the proposed removal of drilling fluids and an extended well test on land at Lower Stumble Wood, Balcombe. The proposed work would take place in a phased approach with a total duration of up to 30 months, albeit surface operations would likely be confined to a considerably shorter duration. The site has already been in existence for approximately 30 years.

Landscape effects

- 4.2 The consideration of landscape effects has focused on the effects experienced on the nationally designated High Weald AONB and the local landscape character area High Weald LCA with ancient woodland.
- 4.3 The landscape sensitivity is considered medium as a result of combining the high landscape value of the High Weald AONB and LCA with the low susceptibility to change due to the proposed development utilising an existing drill rig pad. The proposed development would affect a very small geographical area that is well contained due to the surrounding woodland cover and there would be no loss of existing vegetation or landscape features of interest.
- 4.4 It has been considered that the direct effect on the landscape character and AONB would be locally Minor adverse reducing within the wider area, beyond 0.5km, to Negligible. Landscape effects experienced as a result of the proposed development would therefore not be prominent.

Visual effects

- 4.5 The consideration of visual effects has focused on the effects experienced at four representative viewpoints from within a 1 km study area. The low number of receptors is a result of the wooded and enclosed nature of the location with all viewpoints less than 0.5km from the site boundary.
- 4.6 For the majority of the site works, only one local receptor on London Road has been assessed as **minor adverse** with all other effects being **negligible** due to screening by intervening woodland and hedgerow vegetation.
- 4.7 In the case that the CTU and mobile crane greater should be deployed then no effects have been identified which are greater than **Minor adverse** and therefore it is deemed that overall visual effects experienced as a result of the proposed development would not be prominent.

Mitigation

4.8 The site benefits from embedded mitigation measures that will contribute in avoiding or minimising landscape and visual effects. The proposed restoration (Figure 9) also affords opportunities to provide biodiversity benefits through the landscape proposals and management of the site following its operational phase.



- 4.9 These include biodiversity enhancements that have been considered in the assessment of both landscape and visual effects and will complement the AONB Management Plan and NCA 122 Statements of Environmental Opportunity character. It is proposed that the site is returned to 50% native deciduous woodland with the remaining area as working area for the forestry business on associated land. An increased woodland cover that is informed by the historical nature of the area will increase the viability of woodland habitats by enhancing connectivity between woodlands and encourage species' resilience to climate change.
- 4.10 Sustainable woodland management techniques will be incorporated within a future management plan to ensure that the restoration scheme will increase carbon substitutions and sequestration and the resilience of tree species to climate change and disease.



FIGURES



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Viewpoint 1: NGR : 530980, 129130 Direction of View : 25° Included Angle of View : 76° Elevation Above OS Datum : 54m Distance to Site Fence : 68m Date of Photo : 7th April 2017 Time of Photo : 11:13am

Camera Height Above Ground : 1.6m Correct Viewing Distance : 30cm at A3

Note:

Glimpses during winter will be likely through the intervening woodland of the 13.8m high enclosed flare. Views of the other plant and equipment from the site location are likely to be heavily filtered or screened by the intervening woodland.

15/05/2020 Rev: 00

Figure: 2 Viewpoint 1: Wireline View Lower Stumble Exploration Site, London Road, Balcombe





Viewpoint 1: NGR : 530980, 129130 Direction of View : 25° Included Angle of View : 76° Elevation Above OS Datum : 54m Distance to Site Fence : 68m Date of Photo : 7th April 2017 Time of Photo : 11:13am

Camera Height Above Ground : 1.6m Correct Viewing Distance : 30cm at A3

Note:

Views of the 40m high crane above and between intervening woodland in winter should the coil tubing unit require deployment for 1-2 weeks during phase 3.

15/05/2020 Rev: 00

Figure: 2a Viewpoint 1: Wireline View Lower Stumble Exploration Site, London Road, Balcombe





Viewpoint 2: NGR : 530891, 129261 Direction of View : 98° Included Angle of View : 76° Elevation Above OS Datum : 56m Distance to Site Fence : 86 Date of Photo : 7th April 2017 Time of Photo : 11:22am Camera Height Above Ground : 1.6m Correct Viewing Distance : 30cm at A3

Note:

Views of the taller site components would be screened by intervening conifers, deciduous woodland and hedgerow.

15/05/2020 Rev:00

Figure: 3 Viewpoint 2: Wireline View Lower Stumble Exploration Site, London Road, Balcombe





Viewpoint 2: NGR: 530891, 129261 Direction of View : 98º Included Angle of View : 76° Elevation Above OS Datum : 56m Distance to Site Fence : 86 Date of Photo : 7th April 2017 Time of Photo : 11:22am

Camera Height Above Ground : 1.6m Correct Viewing Distance : 30cm at A3

Note: Filtered views of the 40m high crane between intervening woodland in winter should the coil tubing unit require deployment for 1-2 weeks during phase 3.

15/05/2020 Rev: 00

Figure: 3a Viewpoint 2: Wireline View Lower Stumble Exploration Site, London Road, Balcombe





Viewpoint 3: NGR : 530913, 129557 Direction of View : 162° Included Angle of View : 76° Elevation Above OS Datum : 82m Distance to Site Fence : 291m Date of Photo : 7th April 2017 Time of Photo : 9:55am Camera Height Above Ground : 1.6m Correct Viewing Distance : 30cm at A3

Note:

Views of the taller site components would be screened by intervening conifers, deciduous woodland and hedgerow.

15/05/2020 Rev: 00

Figure: 4 Viewpoint 3: Wireline View Lower Stumble Exploration Site, London Road, Balcombe





Viewpoint 3: NGR : 530913, 129557 Direction of View : 162° Included Angle of View : 76° Elevation Above OS Datum : 82m Distance to Site Fence : 291m Date of Photo : 7th April 2017 Time of Photo : 9:55am

Camera Height Above Ground : 1.6m Correct Viewing Distance : 30cm at A3

Note: Filtered views of the 40m high crane between intervening woodland in winter should the coil tubing unit require deployment for 1-2 weeks during phase 3.

15/05/2020 Rev: 00

Figure: 4a Viewpoint 3: Wireline View Lower Stumble Exploration Site, London Road, Balcombe





Viewpoint 4: NGR : 530707, 129416 Direction of View : 120° Included Angle of View : 76° Elevation Above OS Datum : 66m Distance to Site Fence : 325m Date of Photo : 7th April 2017 Time of Photo : 10:16am Camera Height Above Ground : 1.6m Correct Viewing Distance : 30cm at A3

Note:

Views of the taller site components would be screened by the interview hedgerow and woodland along London Road.

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Figure: 5 Viewpoint 4: Wireline View Lower Stumble Exploration Site, London Road, Balcombe





Viewpoint 4: NGR : 530707, 129416 Direction of View : 120° Included Angle of View : 76° Elevation Above OS Datum : 66m Distance to Site Fence : 325m Date of Photo : 7th April 2017 Time of Photo : 10:16am

Camera Height Above Ground : 1.6m Correct Viewing Distance : 30cm at A3

Note: Views of the 40m high crane above and between intervening woodland in winter should the coil tubing unit require deployment for 1-2 weeks during phase 3.

15/05/2020 Rev: 00

Figure: 5a Viewpoint 4: Wireline View Lower Stumble Exploration Site, London Road, Balcombe



Photo survey point viewport 1 : View from the B2036 London Road opposite the site entrance

Viewpoint Information Grid reference: 530980, 129130 Elevation Above OS Datum: 54m Viewer height: 1.60m Field of view: 75° Distance from site boundary: 68m Conditions: dry and partial cloud Date: 6 August 2019 Time: 14:47 pm Camera: Canon 6D Lens: Canon EF 50 mm f/1.8 II

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Photo survey point viewpoint 2 : View from B2036 London Road verge

Viewpoint Information Grid reference: 530890, 129260 Elevation Above OS Datum: 56m Viewer height: 1.60m Field of view: 75° Distance from site boundary: 86m Conditions: dry and partial cloud Date: 6 August 2019 Time: 14:31 pm Camera: Canon 6D Lens: Canon EF 50 mm f/1.8 II

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Photo survey point viewpoint 3 : View from railway bridge and PROW footpath 13Ba

Viewpoint Information Grid reference: 530914, 129557

Elevation Above OS Datum: 82m Viewer height: 1.60m Field of view: 75°

Distance from site boundary: 291m Conditions: Date: 6 August 2019

Time: 13:07 pm Camera: Canon 6D Lens: Canon EF 50 mm f/1.8 II

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