

Non-Technical Summary

Wisborough Green-1
Exploratory Well Site

August 2013

1.0 Introduction

- 1.1 Celtique Energie Weald Ltd (the “Applicant”) proposes to develop an exploratory well site for the exploration, testing and evaluation of oil and gas resources on Northup field, south of Boxal Bridge, Kirdford Road, Wisborough Green, West Sussex.
- 1.2 A full planning application has been submitted to West Sussex County Council (WSSC) supported by an Environmental Statement (ES) which is the report on the Environmental Impact Assessment (EIA) carried out for the project. This document is the Non-Technical Summary of the ES which conveys the key findings of the EIA to allow the reader to understand the development proposal and its anticipated environmental outcomes in a clear and concise format.

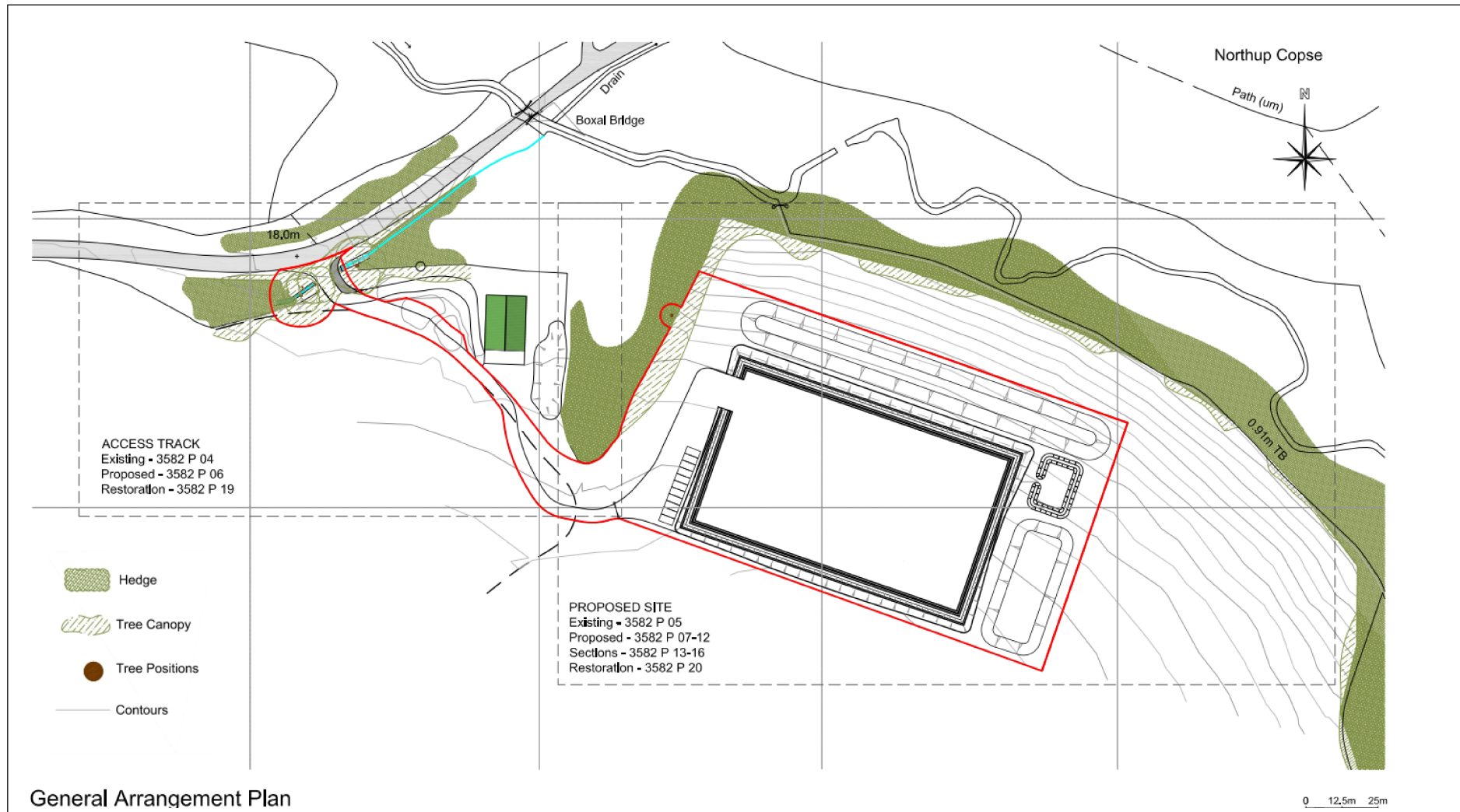
2.0 Site Location & Context

- 2.1 The site (referred to as the “Application Site” in this document) falls within the administrative area of Chichester District Council. The boundary of the South Downs National Park is approximately 500m south of the Application Site beyond the River Kird.
- 2.2 The Application Site lies between the villages of Wisborough Green approximately 1.2km to the south east, and Kirdford approximately 1.8km to the west. The Application Site falls within the Ward of Wisborough Green and the Parish of Kirdford. Other settlements in the vicinity of the Application Site include the villages of Cranleigh (11.6km north), Billingshurst (4.5km east) and Pulborough (8.1km south), and the towns of Petworth (7.5km south west) and Horsham (12km north east).

3.0 Site Description

- 3.1 The Application Site is 1.63 hectare (ha) or 4.02 acres, and currently forms part of an intensively managed arable field which is used for growing cereal. The Application Site is not subject to any international, national or local designations and there are no Public Rights of Way (PROW) on the Application Site.
- 3.2 Access to the Application Site is obtained from Kirdford Road and through an existing metal post and rail agricultural field gate which adjoins an existing wooden post and rail boundary fence. The Application Site is edged in red and encompasses the land required to carry out the Proposed Development during all Phases including some additional land to facilitate construction. However, the well site compound and access road will take up a smaller area as shown in black on **Figure 1** which also shows the planning application drawing numbers that provide further details on the Proposed Development.

Figure 1: The Application Site



4.0 Application and Proposed Development

- 4.1 The Applicant has submitted a detailed planning application for the siting and development of a temporary well site compound and access road including all infrastructure and equipment associated with the drilling of boreholes for exploring for oil and gas, and the testing and evaluation of any discovered. This exercise would determine if it would be commercially viable to extract oil or gas from the Application Site. Any future production would be the subject of a separate application and is therefore not covered in the Environmental Statement.
- 4.2 **Figure 2** sets out the key stages of the project, hereafter referred to as the “Proposed Development”.

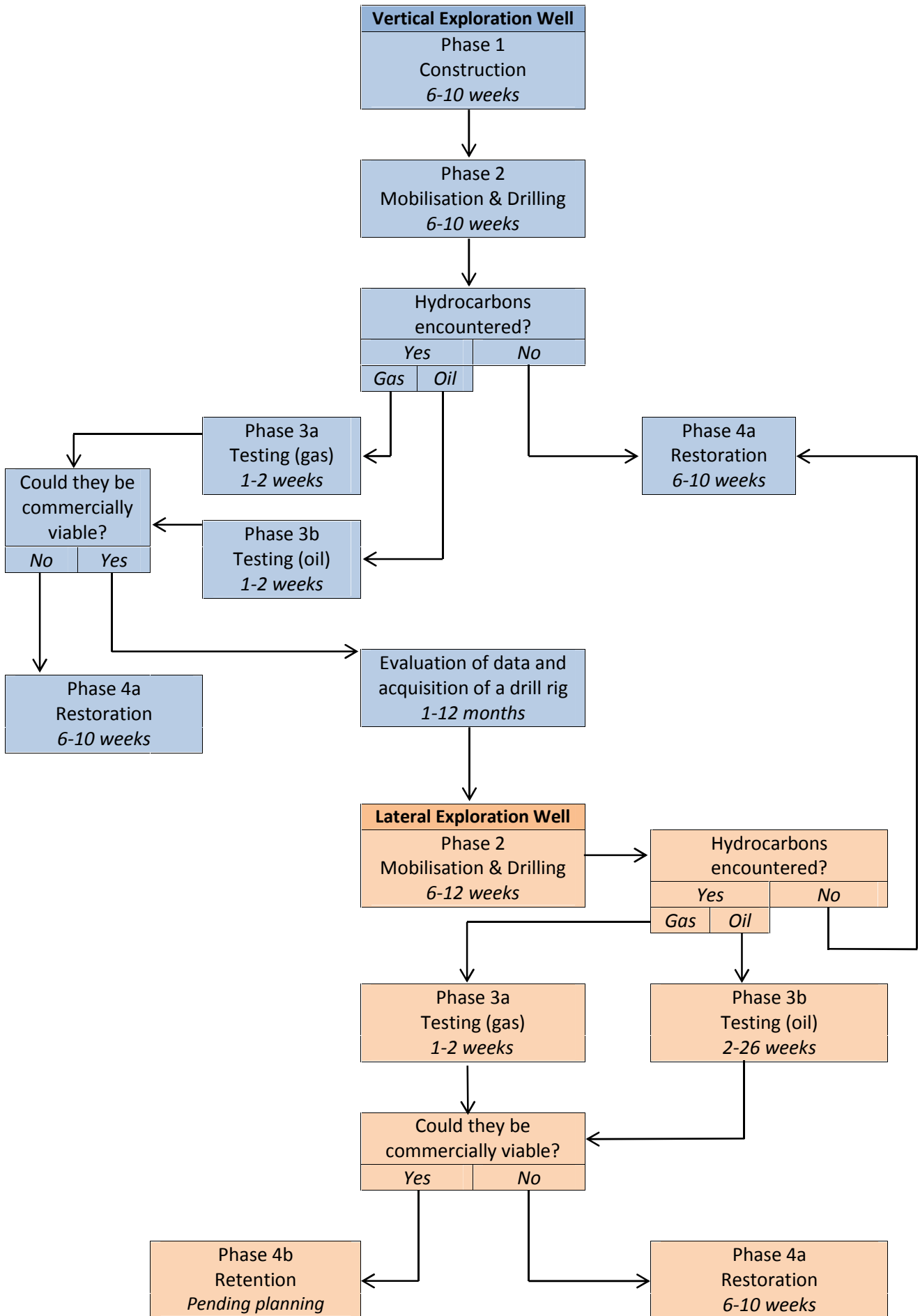
5.0 EIA Requirement and Scope

- 5.1 An EIA assesses the potential positive and negative environmental, social and economic effects that a proposed development may have on a number of subjects as agreed with the Planning Authority. The requirement for EIA is set out in the Town & Country Planning (EIA) (England) Regulations 2011 (the “EIA Regulations”). The Proposed Development requires EIA to support a planning application because it falls within two categories within the EIA Regulations as follows:

“deep drilling” and “surface industrial installation for the extraction of petroleum”.

- 5.2 EIA is more likely to be required when the area for a deep drilling exceeds 1ha or the area for a surface industrial installation exceeds 0.5ha.
- 5.3 At 1.63ha, the Application Site exceeds these thresholds and the Proposed Development has the potential to lead to likely significant effects on the environment. Therefore EIA has been undertaken and an ES has been prepared in support of the planning application.
- 5.4 The scope of the EIA has been agreed with the local planning authority and statutory consultees including Natural England, the Environment Agency and English Heritage.
- 5.5 The EIA Regulations also require consideration of likely significant cumulative effects that may arise from the Proposed Development and other developments under construction, with planning consent or which are reasonably foreseeable (e.g. the local planning authority is being consulted on forthcoming proposals). The developments that have been included in the assessment of cumulative effects are:
- Ref. 13/00593/EIA – 31 hectare solar farm; and
 - Ref. 13/01190/EIA – Proposal for 30 houses.

Timescales and Phasing



EIA Methodology

- 5.6 EIA assesses the pre-development (baseline) conditions and then compares them to the conditions with the proposed development in place during the construction, operational and decommissioning phases. Effects on the environment are defined as beneficial (positive) or adverse (negative) or negligible (no significant or noticeable effect). Adverse and beneficial effects can be minor, moderate or major. Some environmental disciplines use slightly different terms if there is specific guidance that promotes this. The terminology is explained in the Environmental Statement.
- 5.7 Many factors are considered when determining whether effects would be adverse or beneficial and to what extent including the sensitivity of the environment (how sensitive an element of the environment is to change) and the magnitude of effect (how great the change from the baseline conditions would be).
- 5.8 Some disciplines use numerical or quantitative methods to determine what the effects would be whereas others use descriptive or qualitative methods based on professional judgment and experience.
- 5.9 EIA is an objective process and describes the likely significant effects of a proposed development. It does not make judgments on whether a development should go ahead or not, but gives the local planning authority the information they need to make that decision.

6.0 Public Consultation

- 6.1 A comprehensive programme of public consultation was undertaken to inform the Proposed Development with an invitation to the two day exhibition being published in the local press and posted via Royal Mail to residents. The public exhibition was held at Kirdford Village Hall on Friday 17 and Saturday 18 May 2013 and included almost 30 exhibition boards on drilling, geology and environmental studies associated with the Proposed Development.
- 6.2 Residents were provided with a brochure of the exhibition boards and a questionnaire to fill in and return which were also made available to download or view on the Applicants' website along with a dedicated community consultation telephone number and email.
- 6.3 A meeting was also held with Wisborough Green and Kirdford Parish Councillors on Monday 24 June 2013, to discuss the results of the public exhibition.
- 6.4 Further details on the consultation process and the feedback received are contained within the Statement of Community Involvement submitted in support of the Planning Application.

7.0 Project Description

7.1 The planning application seeks permission for the development of a temporary well, access road and associated equipment (including cabins and storage tanks) to allow a borehole to initially be drilled vertically down through the rock and then horizontally to find out if oil and/or gas are present below the surface. If they are found, samples would be taken to determine if it would be viable to extract them on a commercial scale for energy in the future. Hydraulic fracturing (or fracking) is not proposed by this application. As stated earlier in this document, production of oil/gas from the Application Site would be covered by a future planning application and EIA if the results from these operations are positive. The activities involved are collectively referred to as the “Proposed Development” in this report.

7.2 The Proposed Development has four main phases which are shown in **Table 1**.

Table 1: Phases of the Proposed Development

Phases of the Proposed Development	
Phases	Sub-Phases
Phase 1: Construction	-
Phase 2: Mobilisation and drilling	-
Phase 3: Testing	Phase 3a: Testing (gas)
	Phase 3b: Testing (oil)
Phase 4: Aftercare	Phase 4a: Restoration
	Phase 4b: Retention

7.3 The phases would involve the following activities:

- Site clearance involving removal of top soil;
- Construction of temporary earth bunds on the northern and eastern boundaries of the Application Site to store excavated topsoil and subsoil;
- Construction of the access track using tarmac at the entrance and crushed stone delivered by heavy goods vehicles (HGVs);
- Construction of a temporary well site compound using crushed stone with security fencing, and a ditch, bund and membrane to prevent surface water runoff moving off site or down through the ground;
- Creation of a staff car park to provide up to 12 spaces on the Application Site;
- Construction of five portable cabins providing temporary office accommodation, living accommodation for 2 key personnel who need to be on-site in case of emergency response, plus canteen, toilet and shower facilities for the crews;
- Delivery of portable skips for on-site refuse collection;
- Installation of on-site water storage tanks and fire fighting equipment;

- Construction of a concrete chamber sunk into the ground which will take the drilling rig;
- Delivery and on site assembly of a drilling rig approximately 45m in height;
- The installation of purpose built tanks for the storage of drilling mud and rock cuttings;
- The installation of external lighting for the drilling rig, tanks and cabins;
- The use of measures to reduce noise and dust including effective plant silencers and wheel washing facilities;
- Drilling to test for the presence and type/amount of oil and/or gas below the surface; and
- The plugging of the borehole and retention on site in readiness for a future application for production or restoration of the Application Site to its pre-development state (depending on the results of the drilling).

8.0 Construction Programme

8.1 Construction of the facilities on the Application Site ready for drilling are expected to take 6-10 weeks. Following that, drilling of the vertical borehole would take around a further 6-10 weeks, and if oil or gas is discovered testing would take around 2 weeks. If no hydrocarbons are discovered or after testing, extracting the oil or gas is not viable then the Site will be restored which will take up to 10 weeks. If a horizontal borehole is drilled this will take around an additional 6-12 weeks with testing lasting up to 26 weeks.

9.0 Alternatives

9.1 The EIA Regulations require that the Environmental Statement describes the alternatives to the Proposed Development that have been considered. This includes the “no development alternative”, alternative sites and alternative designs.

9.2 The need for the Proposed Development has arisen due to:

- Depleting domestic reserves of oil and gas and a growing dependency on foreign imports; and
- A national energy strategy which seeks to maximise the economic production of the UK’s domestic energy sources.

9.3 National energy policy clearly identifies the need for additional oil and gas infrastructure in the UK, in order to improve energy security and market efficiency.

9.4 Information on geology and ground conditions was used to create a search area for identifying potential locations for oil and gas exploration. The search area is located in between the villages of Ifold to the north, Wisborough Green to the south east and Kirdford to the south west, and bound by the B2133 to the east and Plaistow Road to the west. The search area is approximately 4km in length and 2.5km in width but does not encompass any of the local towns and villages.

- 9.5 A constraints plan was developed to narrow down the potential sites taking account of factors including access, existing natural screening, views into and out of the site, agricultural land classification, flood risk and any other relevant features, taking into consideration any allocations in local planning policy. Eleven potential sites were identified.
- 9.6 The Application Site was selected for the following reasons:
- Natural screening provided by surrounding mature woodland;
 - Existing highway access from the B2133 and internal agricultural tracks;
 - The distance from existing residential properties and other viewpoints;
 - The flat topography of the field;
 - Its location away from open watercourses and areas of flood risk; and
 - The acoustic screening provided by the thick woodland and adjacent agricultural outbuildings

10.0 Legislative & Policy Context

- 10.1 The Energy Act 2011 requires annual reports to be published on the future demand for, and supply of, electricity in Great Britain.
- 10.2 The Annual Energy Statement (2012) states that the Department of Energy and Climate Change (DECC) *“will also support new ways of tapping our indigenous resources, where this proves economic, and subject to ensuring, through robust regulatory controls, that extraction can be carried out safely and with full regard for protection of the environment”*.
- 10.3 The National Planning Policy Framework (NPPF) was published in March 2012 and recognises that minerals *“are essential to support sustainable economic growth and our quality of life”*. In this regard, the NPPF also states at paragraph 142 that, *“it is therefore important that there is a sufficient supply of material to provide the infrastructure, buildings, energy and goods that the country needs”*.

11.0 Ecology

- 11.1 An assessment has been undertaken of the likely significant effects of the Proposed Development on ecology and nature conservation through the construction, operational and decommissioning stages.
- 11.2 Consultation on the scope of work required was undertaken via the EIA Scoping process and also through discussions and meetings with the County Ecologist from WSCC and Natural England.
- 11.3 The assessment has been based on the following surveys:
- Desk-based study to search the online websites and collate records from local record centres and recorders;

- Extended Phase 1 habitat survey to record the nature and extent of vegetation and habitats within and near to the Application Site;
 - Specific surveys for the following species:
 - badger *Meles meles*;
 - bats; and
 - hazel dormouse *Muscardinus avellanarius*.
- 11.4 The results of these surveys have informed the EIA as well as the Habitat Regulations Assessment required due to the Application Site's proximity to nature conservation sites protected under European legislation (The Mens and Ebernoe Special Areas for Conservation (SAC)).
- 11.5 The assessment presented in the ES followed guidelines published by the Institute of Ecology and Environmental Management (IEEM).
- 11.6 The Application Site comprises a small area of an intensively managed arable field which supported cereal stubble at the time of survey. A block of broadleaved ancient woodland (Dunhurst & Northup Copses Site of Nature Conservation Importance (SNCI)) lies to the north and west of the Application Site. Boxal Brook runs through the woodland approximately 40m to the north of the Application Site.
- 11.7 One badger sett was recorded in the woodland opposite the Application Site boundary. Common and soprano pipistrelle, and barbastelle bats were recorded frequently along the woodland edges of the Application Site during the surveys. Noctule and Leisler bats were also recorded. Over 100 hazelnuts were from the woodland surrounding the Application Site were examined for evidence of hazel dormouse. It was concluded that hazel dormouse is likely to be absent within the survey area.
- 11.8 In accordance with IEEM guidance, only those ecological features of more than local value were assessed further. These are:
- The Mens and Ebernoe Common Site of Special Scientific Importance (SSSI)/SACs;
 - Dunhurst & Northup Copses SNCI/Ancient Woodland and trees; and
 - Bats.
- 11.9 No direct impacts on the SSSI/SACs (such as habitat loss, pollution or disturbance from noise) are predicted during due to the distance between the sites and the Application Site.
- 11.10 As stated earlier in this document, the Lighting Strategy for the Proposed Development has been designed to ensure minimal impact to ecology, including bats. The level of light spill into surrounding woodland would be negligible (estimated to be 0 Lux beyond 10m from the Application Site) owing to good design.
- 11.11 Noise attenuation and dust control procedures will operate on site minimising impacts on ecology. The surrounding woodland will be checked for nesting birds prior

to any works beginning on the site. Should any active nest be located then an assessment will be made as to whether the works would disturb them. Any types of work deemed disturbing will be delayed until any dependent young have left the area. Soil stripping of the arable land and removal of vegetation would be undertaken outside bird breeding season or under the supervision of a suitably qualified ecologist.

- 11.12 Site access and the positioning of the construction site compound, bunds, offices and materials storage etc. will be positioned outside the canopy spread or root protection areas of trees. Trees with the potential to support roosting bats would not be physically affected by the Proposed Development. Where tree canopies extend into the site area, pruning is likely to be required. All works would be undertaken by an Arboricultural Association Approved Contractor in accordance with the relevant British Standard.
- 11.13 Due the careful design of the Proposed Development, its small scale and temporary nature, no significant adverse effects are predicted.

12.0 Landscape & Visual Impact

- 12.1 The likely significant effects of the Proposed Development with respect to landscape and visual impact have been assessed as part of the EIA. The principal effects of the Proposed Development are the loss of the agricultural landscape affecting both land use and landscape character. The Proposed Development would however respect the existing field patterns rather than having an adverse effect on these. Care has also been taken to respect the majority of the root protection zones of existing trees to the Application Site boundary and within the Application Site itself.
- 12.2 With the benefit of the well wooded surrounding landscape there is no single clear view into the Application Site. However the Proposed Development would result in some adverse visual effects, the most significant of which would be close views from Kirdford Road during the mobilisation and drilling phase, due to the height of the rig, which cannot be mitigated.
- 12.3 In the restoration of the Application Site to existing landscape conditions, all adverse effects would be reversed, returning the Application Site to greenfield.
- 12.4 If retention of the Application Site is required following the finding of oil or gas, the removal of much of the operational structure and equipment, including the drill rig, from the Application Site would reduce the adverse landscape and visual effects.

13.0 Noise and Vibration

- 13.1 An assessment of the likely significant effects of the Proposed Development with respect to noise has been undertaken as part of the EIA. This assessment has considered noise from site preparation and drilling activities as well as potential noise impacts from vehicles accessing and leaving the Application Site.

- 13.2 Noise levels arising during site construction will sometimes be noticeable outside local residential properties during the daytime only. This will not be a cause of noise nuisance provided that construction activities are limited to the normal working day and Saturday mornings.
- 13.3 The noise from 24-hour drilling operations will cause a temporary increase in noise levels. The predicted noise levels at nearby residential properties are based on the noisiest rig likely to be used for the Proposed Development, so noise levels may be less depending on the final rig selected. Noise control measures will be implemented as far as practicable to reduce noise levels.
- 13.4 The site restoration phase would be likely to lead to levels of noise similar to during the construction phase but activity will be less intensive so the noise is likely to be slightly lower.
- 13.5 Noise effects during all phases of the Proposed Development are assessed as negligible with suitable mitigation measures in place.
- 13.6 The vibration assessment concluded that there would be no sources of significant ground vibration during any of the Phases of the Proposed Development that would be detectable inside neighbouring properties.
- 13.7 During drilling and testing some of the equipment can generate vibrations but these will disperse into the surrounding structures. The vibrations can sometimes be detected by an observer standing next to the machinery but the equipment is not capable of transmitting significant vibrations into the ground. Therefore, there will be no effects on the local environment or residential properties from vibration.

14.0 Transport & Access

- 14.1 An assessment has been undertaken on the likely significant effects of the Proposed Development with respect to transport and access. The assessment has been carried out in accordance with the "Guidelines for the Environmental Assessment of Road Traffic" published by the former Institute for Environmental Assessment (now the Institute of Environmental Management and Assessment).
- 14.2 The assessment has considered potential effects on pedestrians, cyclists, public transport and highways.
- 14.3 Construction traffic would access the Application Site via the existing access to the field which would be modified for the Proposed Development for the duration of the works. This access meets appropriate highway standards with respect to layout and safety. Construction traffic would amount to less than 30% of total daily traffic volumes on the identified construction traffic access routes. No significant transport effects are therefore expected to arise as a consequence of traffic volumes.

- 14.4 There is the potential for minor adverse impacts to arise as a consequence of disturbance and the delivery of unconventional loads during construction. A Traffic Management Plan (TMP) would be prepared and agreed with the highways authority to mitigate this.
- 14.5 With mitigation measures in place, effects would be negligible with respect to transport and access.

15.0 Ground and Groundwater Protection

- 15.1 An assessment has been undertaken as part of the EIA of the likely significant effects of the Proposed Development with respect to ground and groundwater resources.
- 15.2 Drilling would be through geology that that is well understood. The rocks beneath the Application Site are not used to supply drinking water.
- 15.3 The risk of groundwater pollution is low but is also reduced further by the best practice drilling techniques proposed to be used. When the Application Site is restored to its pre-development state there would be no ongoing risk to ground or groundwater.
- 15.4 The risk of local ground and surface water contamination will be removed by well-engineered site preparation, including controlling surface water runoff through installation of a ditch and bund around the site and placement of a membrane on the ground to prevent surface water runoff sinking into the ground.

16.0 Lighting

- 16.1 An assessment of the likely significant effects of the Proposed Development with respect to lighting has been undertaken. As the Application Site is in a rural location it is dark and inevitable that there will be some change in the lighting conditions on the Application Site and in adjacent areas throughout the various phases of the works. However these effects will largely remain localised because the lighting proposed is appropriate for the work and would keep light spillage to a minimum. Lighting would be downward facing and face away from the woodland boundaries to limit effects on people and ecology.
- 16.2 Alterations to the landscape and the effects of the site lighting within longer distance views towards the Application Site will be negligible. It is unlikely that any lighting other than those located within the drilling rig will be visible, and even the effects of this will be negligible.

17.0 Socio-Economics

- 17.1 The Proposed Development would create employment opportunities directly due to the construction programme and also indirectly by the workforce creating demand in the local economy for supplies, services and temporary accommodation. The indirect benefits would be in job creation and additional local expenditure. The Applicant would seek to recruit the construction workforce from the local area. During the drilling phases specially trained engineers would be required so are less likely to be sourced from the local area, however there would still be indirect local economic benefits. The Proposed Development is anticipated to generate employment for approximately 57 people in trades identified as having a readily available labour force.
- 17.2 The noise, traffic and lighting assessments are all relevant for assessing likely significant effects on local amenity and tourism. Mitigation measures would be put in place to limit disturbance to the local community.
- 17.3 There are a number of existing oil and gas developments in the South Downs, West Sussex and Hampshire with tourist facilities located in and around the tourism study area. Some tourist attractions have experienced increases or decreases in visitor numbers but this does not relate directly to the presence of oil and gas facilities because there is no correlation between fluctuations and the location of existing sites.
- 17.4 During all four phases the effects of the Proposed Development on population, housing, health, education, employment and tourism are assessed as either negligible or beneficial.
- 17.5 The Proposed Development will also provide opportunities for education and understanding due to the ecology and archaeology work that has been undertaken, for example, which would be of benefit to residents, schools and other local bodies or interest groups. The Proposed Development would also support agricultural diversification and provide a steady income to supplement an existing agricultural business.
- 17.6 Overall, the Proposed Development is anticipated to produce a negligible to moderate/minor beneficial effect on the socio economic conditions with the Study Area and Chichester District, generally.

18.0 Availability of Environmental Statement

- 18.1 The planning application, full Environmental Statement and other supporting documents are available for viewing by the public during normal office hours in the planning department of West Sussex County Council. Comments on the planning application should be forwarded to:

Strategic Planning Department
County Development
West Sussex County Council
2nd Floor
County Hall
Chichester
PO19 1RQ

strategic.planning@westsussex.gov.uk

- 18.2 Copies of this Non-Technical Summary are available free of charge. Hard copies of the Environmental Statement and the Technical Appendices can be purchased at a cost of £125. Copies of the ES, Technical Appendices and NTS can be obtained on CD at a cost of £25. All documents are available from:

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