NORTH YORKSHIRE COUNCIL

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To: North Yorkshire Council Planning - FAO Amy Taylor

Our Ref: NY/2025/0030/ENV/JW/01A

Date: 29 May 2025

Landscape Planning Consultation

Application / Project Ref: NY/2025/0030/ENV

Dear Sir/Madam

TOWN AND COUNTRY PLANNING (ENVIRONMENTAL IMPACT ASSESSMENT) REGULATIONS 2017 PLANNING APPLICATION ACCOMPANIED BY AN ENVIRONMENTAL STATEMENT FOR Construction of a temporary wellsite for the appraisal of gas, including drilling operation, proppant squeeze and flow testing operation and site restoration AT Land East of the Mill Yard, Burniston Mill, Coastal Road, Burniston, Scarborough, YO13 0DB

Thank you for your consultation on the above Application.

These comments principally relate to the 'Landscape and Visual' chapter in the Applicant's EIA, but comments may overlap with other topic areas such as phasing, lighting, operational hours, alternatives and design, cumulative effects.

Summary:

There are likely to be short-term adverse landscape and visual effects because of the nature of the proposed development in a highly sensitive landscape location within the North Yorkshire and Cleveland Heritage Coast, and due to proximity and landscape setting of sensitive receptors such as Burniston Village and the coastal footpath. Impacts are likely to be moderate adverse which in this case we would consider significant.

Where an effect has been classified as either "Major" or "Major/Moderate", this is considered to be equivalent to a likely significant effect. Where "Moderate" effects are predicted, professional judgement is applied to determine whether the effect is significant or not with justification for the judgement reached where appropriate.

The EIA concluded that there would be some Moderate Adverse effects on recreational users and the Heritage Coast. These effects were judged to be not significant and reduce to Negligible as the land is returned to agriculture.

Views from Burniston would be limited to a small number of properties on higher ground and to the upper levels of the drilling rig. At most these would be Minor Adverse.

The NYMNPA concluded that the relatively short-term development would not lead to significant harm to the delivery of the statutory purposes of the National Park.

We therefore do not accept that Minor Adverse and Moderate effects will lead to a significant impact.

This development would not be consistent with the special character of the Heritage Coast area and the importance of its conservation. We would consider this to be major development and contrary to the policy for Heritage Coast as set out in paragraph 191 of the NPPF. The development is likely to have significant short-term impact on the purpose for which the area has been defined.

It is acknowledged that major development within a Heritage Coast is unlikely to be appropriate. The planning balance will need to take this into account against the clear guidance in the NPPF that **great weight** should be given to the benefits of mineral extraction when determining planning applications. The proposed development accords with policy D06 of the M&WJP because the benefits of the proposed development and its short term duration outweigh any harm caused. These benefits and the absence of any material adverse impact arising from noise, air quality, transport and access, lighting, archaeology and soils justify the selected location.

The Applicant has not taken account of the Heritage Coast in consideration of alternatives and there is insufficient explanation of what alternative sites may have been considered or discounted. It seems reasonable and possible that an alternative site could be found which could meet the Applicant's other site selection criteria and which would not directly impact on the North York Moors National Park and the Heritage Coast

The consideration of reasonable alternatives is covered in chapter 5 of the Environmental Statement. Europa is confident that the chosen site location is suitable for the proposed development and that it accords with the relevant policies in the development plan.

Further information is needed to demonstrate that the landscape and visual effects would be minimised that the development is temporary and reversible, and the site could be sufficiently restored following completion of the temporary works including building and equipment heights, soil storage and protection to enable reinstatement to the former use.

Background and Comments:

<u>The Proposed Development</u>

The site lies to the south east of the village of Burniston and is accessed from the A165 Coastal Road. The site is located in a rural area within the North Yorkshire and Cleveland Heritage Coast.

This is an application for temporary development expected to last no more than 9.5 months within a 3 year permission period. The Proposed Development will take place in 4 Phases:

- Phase 1: – site construction
- Phase 2: – drilling operations
- Phase 3: – proppant squeeze and flow testing
- Phase 4: – well decommissioning, site restoration and aftercare

The Phase 2 drilling operations are expected to take 7 weeks with 5 weeks of drilling. Phase2 and Phase 3 will be a 24/7 operation and will include nighttime lighting and noise levels typically 35-39 dB. The drilling rig will be approximately 38m high and the site will incorporate other temporary buildings

and equipment, carparking and perimeter earthworks. The existing boundary hedgerows will be retained. At the end of the production testing phase the site will be restored to agricultural use or an approved new use.

Heritage Coast Policy

The site is located within the North Yorkshire and Cleveland Heritage Coast and the development would be contrary to policy for heritage Coast. NPPF Paragraph 191 states that major development within a Heritage Coast is unlikely to be appropriate, unless it is compatible with its special character:

“191. Within areas defined as Heritage Coast (and that do not already fall within one of the designated areas mentioned in paragraph 189), planning policies and decisions should be consistent with the special character of the area and the importance of its conservation. Major development within a Heritage Coast is unlikely to be appropriate, unless it is compatible with its special character.”

Footnote 67 to the NPPF states:

“For the purposes of paragraphs 190 and 191, whether a proposal is ‘major development’ is a matter for the decision maker, taking into account its nature, scale and setting, and whether it could have a

significant adverse impact on the purposes for which the area has been designated or defined.”

Minerals and Waste Joint Plan 2022, adopted by North Yorkshire County Council February 2022 (MWJP):

Policy D06: Landscape of the MWJP seeks to protect the rich and varied landscapes of the region ranging from moorland to rolling farmland to low-lying areas, and seascapes characterised by high cliffs:

“ 3) Protection will also be afforded to the historic character and setting of York and to areas defined as Heritage Coast. Permission will only be granted where it would not lead to an unacceptable impact on the historic character or setting of York or on the undeveloped character of Heritage Coast, unless the need for, or benefits of, the development outweigh the harm caused. “
The Application does not explain how this development would be compatible with this policy or the special character and purpose of the Heritage Coast.

Please see the response above about the Heritage Coast.

Landscape and Visual Effects

There are likely to be moderate adverse landscape and visual effects because of the nature of the proposed development in a highly sensitive landscape location within the North Yorkshire and Cleveland Heritage Coast, and due to proximity and landscape setting of sensitive receptors such as Burniston Village and the coastal footpath.

The Heritage Coast was established to conserve the best stretches of undeveloped coast in England. The purpose of Heritage Coast includes conserving, protecting and enhancing the natural beauty of the coastline, to encourage and help the public to enjoy and understand and appreciate these areas.

The Heritage Coast in proximity to the site is a distinctive scenic landscape with dramatic coastal cliffs and bays and long distance views along the coastline and back to the North York Moors National Park. The landscape has perceived wilderness, remoteness and tranquillity.

We would consider the Heritage Coast to have 'high' landscape and visual sensitivity particularly because it is recognised at a national level and defined for its natural beauty and its purpose to encourage and help the public to enjoy, understand and appreciate these areas.

The England Coastal Path / Cleveland Way National Trail meet along the coastline and situated approximately 0.65km east of the Site. Additionally, the site lies within a relatively unlit landscape area classified as Zone E2 which typically comprise areas of low district lighting and sparsely inhabited rural areas.

The proposed development is likely to impact local views, landscape character and setting within the Heritage Coast particularly within 1km of the site and within Phases 2 and 3, including impacts on tranquillity and night-time setting. Some views to varying degrees are likely of the drilling rig from the nearby settlements of Burniston, Scalby and Cloughton, and from local footpaths around the site, particularly from the England Coastal path / Cleveland Way National Trail to the east and north sides of the site.

The Applicant has submitted a Landscape and Visual Impact Assessment (LVIA) within the ES Chapter 6 Landscape and Visual.

While we generally agree with the overall methodology, and scope of the LVIA including the selection of representative viewpoints and supporting photography, we do not agree with the overall summary of landscape and visual effects which states that moderate adverse landscape and visual effects are 'not significant' with explanation in the LVIA that it is the professional opinion of the assessors that in this instance, the effects would be not significant on the basis that effects would be temporary, short term and reversible.

In-line with GLVIA3 assessing the significance of landscape and visual effects is a matter of judgement taking account of the nature of the receptor and its sensitivity, and the nature of the effect as its magnitude.

We would consider 'moderate adverse' as significant unless there was clear explanation and justification otherwise. In this case, because of the nature of the proposed development in a highly sensitive landscape location within the North Yorkshire and Cleveland Heritage Coast and the adverse effects on its special qualities (see comments below), and due to proximity and landscape setting of sensitive receptors such as Burniston Village and the coastal footpath, we would consider 'moderate adverse' as significant despite it being short-term and reversible.

In the case of this development the main justification for Moderate adverse effects generally being deemed 'not significant' is due to the extremely short-term nature of the main effect (the 5-week period of the drill rig). Furthermore, in the relation to views from Burniston village, the visual envelope within the village, despite its proximity to the wellsite, is relatively small.

It should be noted that the Applicant's LVIA methodology applies a modifier to the Magnitude of Effect to take account of duration, which in-turn may have a bearing on determining significance of effect [LVIA chapter 6.2.2]. The LVIA methodology tells us that in the assessment of effects, Major or Major/Moderate are considered equivalent to a likely significant effect and where Moderate effects are

predicted professional judgement is applied to determine if the effect is significant or not with justification [LVIA chapter 6.2.3].

It seems that the time modifier could be applied twice and with undue emphasis in order to reduce the significance of Moderate, (applied in forming the initial assessment, and also in forming a final judgement).

Whilst the modifier of duration and reversibility is utilised within the calculation and determination of magnitude of effects, as per paragraph 25 of Appendix 6.3 of the Environmental Statement Volume II, the modifier is not used twice. It is, however, alluded to within the summation of effects, particularly due to the proposed development falling well within the 'less than 2 years' timescale category with the Drill rig being present for 5 weeks (and therefore an extremely short duration) and a subsequent 17 week Proppant Squeeze and Flow Testing phase. The timescales are therefore noteworthy within the final summation.

The assessment also lacks some clarity and consistency in part which makes it difficult to form an overall conclusion, particularly relating to inconsistent assessment of effects within 1km distances (see LVIA para 6.7.4.1 Host Landscape: LCA D3:Scalby) and in overlap between assessment of recreational users and visitors to the Heritage Coast, and the effect on the Heritage Coast as a designated / defined area (which also seems to be missing from Table 6.7 Summary of Effects).

With regards to the setting of baseline landscape character the assessment utilises the Scarborough Borough Landscape Study: Vol 1 Borough wide Landscape Character Assessment (2013) but acknowledges the North Yorkshire and York Landscape Characterisation Project (2011). The reason for this is that the Scarborough Borough Character Assessment was produced more recently and deals with landscape characterisation within the area at a much finer grain.

Whilst admittedly the Heritage Coast is missing from Table 6.7 Summary of Effects, it is referenced twice within section 6.7.7 'Summary of landscape and Visual Effects'.

The Landscape officer alludes to inconsistencies between the assessment of effects within the 'Host' landscape D3 Scalby and those within the Heritage Coast. Whilst the 'Host' Landscape does incorporate areas of the Heritage Coast the landscape is much broader and includes areas that do not fall within the designated landscape. The Site itself sits along the western peripheries of the Heritage Coast boundary and is heavily influenced by the adjacent solar array and working mill buildings and light industrial workshops. Due to the characteristics of D3 as a whole, whilst acknowledging the relationship with the Heritage Coast, as detailed in Appendix 6.2 of the Environmental Statement Volume II, the value of the 'Host' landscape (LCA D3) is therefore judged to be of **Regional** value, **Medium** susceptibility achieving a sensitivity of **High/Medium**.

The level of effect determined at Site level within the 'Host' Landscape is deemed to be Moderate adverse, where the Site does lie within the Heritage Coast and align with the assessment of effects on the Heritage Coast itself (Moderate adverse). Where the assessment of effects within the 'Host' landscape are deemed to be Minor adverse during drilling operations this is justified through the intervisibility of drilling operations throughout LCA D3. Whilst admittedly the drill rig will be seen from parts of the LCA, the effects on landscape character are deemed to be minor adverse because the most visible entity (the 38m tall drill rig) will be viewed as a single vertical structure, of small scale and localised extent within the landscape, and of extremely short duration (5 weeks).

It is inconsistent that recreational users within the Heritage Coast could experience Moderate Adverse Effects, but that the designated Heritage Coast area within 1km to the site is Minor Adverse, as stated in the assessment, since the purpose of Heritage Coast is also to encourage and help the public to enjoy and understand and appreciate these areas.

Recreational users of the Heritage Coast are primarily visual receptors - those using PRoWs and the other recreational areas available. In contrast, the Heritage coast designation more closely relates to character and the special features/ qualities displayed.

The determination for effects on the Heritage Coast itself takes into account the scale of effect and the geographical extent across the entirety of the Heritage Coast itself. It is therefore deemed to be of limited geographical extent. It also takes into account the Special Qualities of which the 'natural beauty of the coastline' is one of three as shown in Table 6.6 of Chapter 6 of the Environmental Statement Volume I (reproduced below) with justification given for scale and extent of effect:

Table 6.6: : North Yorkshire and Cleveland Heritage Coast Special Qualities

	Susceptibility	Nature of effect	Scale and extent of effect
Special Qualities			
Natural beauty of the coastline	**High** – development of this nature could adversely affect the visual amenity and appreciation of the landscape associated with the Heritage Coast from recreational users.	Views of development will be available from certain locations within the Heritage coast, most notably the 38m tall drill rig which will have a wider extent of visual impact but will be short term.	**Medium** scale on visual amenity as a result of temporary development primarily comprising views of the uppermost parts of the drill rig.
Terrestrial, coastal and marine flora and fauna	**Low** – development could lead to impacts on coastal flora and fauna.	Development is contained within the Site and contains the retention of most planting types. Some loss of pasture grassland. To be returned to agriculture following development.	**Small** scale effect on flora and fauna through the replacement of pasture with development, albeit contained within the Site and returned to agricultural usage following operation.
Their heritage features	**Medium** – development of this nature would note directly affect heritage features albeit it could detract from the setting of the rugged coastal cliffs.	Some impact to the setting of the Heritage coast, although the development will be contained within the Site views of the drill rig will have a wider extent of visual impact.	**Small** scale effect on visual amenity of heritage features as a result of temporary development primarily comprising views of the uppermost parts of the drill rig

With regard to recreational users of certain PRoWs within the Heritage Coast, namely the England Coastal Path/ Cleveland Way National Trail the extent is deemed to be localised across the route, given the length of the route in question and the potential intervisibility between recreational users and the Proposed Development.

This inconsistency is also reflected in the LVIA Table 6.6: North Yorkshire and Cleveland Heritage Coast Special Qualities, where the effects of development are assessed against 'Special Qualities: Natural beauty of the coastline' determined as 'High susceptibility' and 'Medium scale and extent of effect on visual amenity' and where the Heritage coast is then determined as 'High/Medium' sensitivity. Using the LVIA significance criteria at Table 6.3 we would expect High/Medium Sensitivity + Moderate Magnitude = Major / Moderate significance of effect on the Heritage Coast special quality of natural beauty of the Coastline, and where the LVIA methodology determines Major/Moderate as significant.

Where we believe the discrepancy arises is where the scale of effect is judged to be between Small/Negligible and Small in the paragraphs below (reproduced from section 6.7.6 of Chapter 6 of the Environmental Statement Volume I):

'Assessment of Effects
During phase 1 construction distant views of construction activity would likely be extremely limited. Based on the detailed considerations set out above, short-term effects on the purposes of designation and Special Qualities of the NYMNP would be of Negligible scale and very limited in terms of extent to within 1-2km to the north of the Site (Viewpoint 4). There would be a Negligible magnitude of change, and combined with the High sensitivity of the NYMNP, ***Minor/Negligible Adverse*** *effects during phase 1 construction considered* ***not significant****.*

During phase 2 drilling operations views of the 38m high drill rig would be available from certain locations within the National Park, particularly to within 1-2km to the north of the Site. These Small/Negligible scale effects would be short-term and localised in extent, resulting in a Negligible magnitude of change and ***Minor/Negligible Adverse*** *effects. The effect would be* ***not significant*** *on the basis that effects would be temporary, short term and reversible.*

During phase 3 there would be a reduction in visible operational activity following the removal of the drill rig, with potential very limited glimpsed views of operations. These effects would be of Negligible scale, very limited extent culminating in a Negligible magnitude of change. Effects on visual amenity of the National Park would be ***Minor/Negligible Adverse*** *and* ***not significant****.*
During phase 4 well decommissioning effects would be similar to phase 1 but in reverse with construction activity visible within the landscape. ***Minor/Negligible Adverse*** *effects on visual amenity and* ***not significant****.*

These effects would reduce to ***Negligible*** *and* ***not significant*** *as the land is returned to agricultural usage and integrated back into the landscape following the short-term operational phase'*

Based on Table 6.6: North Yorkshire and Cleveland Heritage Coast Special Qualities the scale of effect across the 3 Special Qualities the scale of effect is more accurately judged to be **Medium/Small**. Nevertheless, when using the plates and tables within the Methodology the resulting effect remains **Minor/Negligible** and **not significant**.

Notwithstanding the above, the LVIA does identify a number of Moderate and Moderate/Minor Adverse landscape and visual effects relating to landscape character at a site level, Recreational Routes along the High and Low Toft Hills, and the England Coastal Path / Cleveland Way National Trail.

The LVIA also includes a night-time assessment which considers the effect of lighting on the character and amenity of the landscape at night. The LVIA para. 6.2.5.2 Potential Effects tells us that the proposed site lighting would be visible as points of light or as increased lighting glow, especially where there would be a high degree of contrast at the viewpoint, that in summer the lighting would be viewed less, but that in contrast, during winter the lighting would be more readily viewed during peak active times.

Drilling and testing will be 24 / 7 operation during Phase 2 and Phase 3 and will likely incur the greatest level of effect and particularly in winter due to shorter day length.

We agree with the above that the effects would be greater in winter months where the hours of darkness appear longer and the lighting fixtures viewed for longer periods of time, our assessment deals with the worst-case scenario in terms of visibility of lighting in this instance.

Consideration of Alternatives

The Applicant has not taken account of the Heritage Coast in consideration of alternatives [ES chapter 5.4] and there is limited explanation of what alternative sites may have been considered or discounted. The Landscape and Visual Impact Assessment (LVIA) has not been used to guide the site selection process when considering alternative sites, which is relevant given that the site is located within Heritage Coast but outside the hydrocarbon area.

The proposal involves borehole drilling from a location within the Heritage Coast to a hydrocarbon area located outside the Heritage Coast. Given that the overall extent of the hydrocarbon area much of which is located outside the North York Moors National Park and the Heritage Coast defined area, it seems reasonable and possible that an alternative site could be found which could meet the Applicant's other site selection criteria and which would not directly impact on these landscape designations.

Section 5.4 of the ES sets out the criteria that Europa has applied to identify a suitable site. The chosen site has a number of benefits which are set out in that section. These benefits are then fully justified in considerable detail in both the ES and in the accompanying free standing environmental assessments.

Design and Mitigation

The proposed development includes retention of existing boundary hedgerows and retention of topsoil forming 3m perimeter screening bunds along part of the north-western and north-eastern boundaries. At the end of the production testing phase the site will be restored to agricultural use or an approved new use.

Temporary buildings and equipment are shown on the Indicative Section Plans, but further detail and clarity are needed for the proposed built heights (other than Drilling Rig – stated as 38m high).

The cross sections and space allowed on the layout plans suggests that there is only space to store approx.70% of whole site topsoil (based on volumes in the ALC and Soil Resource Survey) and that subsoil would be re-graded in forming the working area platform. This is contrary to the Agricultural Land Classification and Soil Resource Survey (chapter 6 Soil Resource) which assumes that the full soil profile to a depth of 1.2m is to be stripped and stored according to best practice (presumably for the whole site). The Application should clarify this and demonstrate that all soils will be retained and protected, and that the development is temporary and reversible in accordance with best practice.

It seems reasonable that visibility of site working area could be further reduced through the use of dark recessive colours for temporary buildings and equipment.

The most visible component is the rig which, due to the short term nature of the development, would be hired in and, therefore, is not within the control of the developer to adopt a particular colour scheme. The rig most likely to be used is the Consortium Drilling Rig 4, conventional doubles rig. The rig mast is majority white lattice structure, with the top section (Crown) painted red. This structure will be in situ for a short duration of 5 weeks during the drilling phase of operation.

The next highest structure is the rig floor wind walls, which are a recessive dark green colour. The rig's mud tanks are also a recessive dark green colour. The prime movers (generator and mud pump engines) are a recessive dark green colour. The lower level kit, the rig carrier and mud pumps are low in height and will be screened by the mud tanks and the prime movers.

Recommendation

Further information and clarity are needed on the following:

- explanation and justification of how the development is compatible with the special character of Heritage Coast, in compliance with NPPF para. 191.
- height of all proposed temporary buildings and equipment.
- full restoration of the site including, soil storage and protection to enable reinstatement to the former use, in accordance with best practice (including soil stripped areas and storage volumes).

1. Temporary Buildings and Equipment Details

The drilling rig shown on the indication layout and construction plans submitted with the planning application is the Consortium Drilling Rig #4. This is a conventional 'doubles' drilling rig, with telescopic mast mounted to the rig carrier, which accommodates the rigs drawworks (main winch) and its mechanical prime mover (engine). Constructed around the rear of the rig carrier is a steel sub-base, which extends upwards and outwards to create the working area of the drilling rig, known as the 'rig floor'. Weather protection walls, known as to as 'wind walls', are secured to the rig floor, sheltering the drilling rig crew from the elements.

Component parts that make up the drilling rig footprint include electrical power generation, drilling fluid tanks, drilling fluid pumps and drilling fluid pump engines.

In addition, there will be an office, accommodation and welfare facilities on site.

A list of equipment likely to be on site during the drilling, proppant squeeze and well testing phases, together with their respective heights, is provided below.

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Table 1 - Drilling Phase Equipment Heights

Equipment Description	Built Height Above Ground Level	Comments
Drilling Rig Mast	38m	
Poor Boy Degasser Vent Pipe	9.2m	Approximately 150mm diameter
Mobile Lighting Tower	9m	Fully extended
Top of Wind Walls, Dog House & Tool House	7.2m	Installed on Rig Floor (4.6m)
Mud Tank Canopy	5.2m	When installed
Drilling Fluids Trailer	4m	
Drilling Supervisor, Rig Manager, Fluids Engineer Accommodation & Toilet Block	3.3m	Extended to accommodate sewage storage tank underneath
Top Drive HPU	3m	
Mud Pump Engines	3m	
Mud Tanks	3m	
Fire Water Tank	3m	
Camp Generator	2.9m	
Rig Generator, Fuel Tank, Oil Store, Rig Store, Rigging Loft, MCC, Pump Store, Koomey Unit & Workshop	2.6m	
Mud Logger Unit	2.6m	
Service Company Accommodation, crew Canteen, Crew Changing Room, Potable Water Tank & Fuel Tank	2.6m	
Mud Pumps	2.5m	
Security Office	2.5m	

Table 2 – Proppant Squeeze with Workover Rig Phase Equipment Heights

Equipment Description	Built Height Above Ground Level	Comments
Mobile Crane	40m	Required for rig-up and rig-down. Smaller crane may be required for the proppant squeeze
Workover Rig Mast	37m	
Mobile Lighting Tower	9m	Fully extended
Handrails on Recovery Tank	5.4m	
Handrails on Rig Floor	4.5m	Installed on Rig Floor (3.5m anticipated)
Fluid Pumping Truck, Data Centre Truck & Control Unit Truck	3.9m	Anticipated
Proppant Fluids Trailer	4m	
Tank	3.4m	
Fluid Pumps & Blender	3.4m	Anticipated
Site Supervisor, Rig Manager, Fluids Engineer Accommodation & Toilet Block	3.3m	Extended to accommodate sewage storage tank underneath
Fluid Tanks	3m	
Fire Water Tank	3m	
Camp Generator	2.9m	
Rig Generator & Tool House	2.6m	
Service Company Accommodation, Crew Canteen, Crew Changing Room, Potable Water Tank & Fuel Tank	2.6m	
Security Office	2.5m	
250bbl Tank	2.4m	Anticipated

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Table 3 – Proppant Squeeze with Coil Tubing Phase Equipment Heights

Equipment Description	Built Height Above Ground Level	Comments
Mobile Crane	40m	Required for rig-up and rig-down. Smaller crane may be required for the proppant squeeze
Mobile Lighting Tower	9m	Fully extended
Handrails on Recovery Tank	5.4m	
N2 Tanks (Double Stacked)	5.2m	
Data Centre Truck & Control Unit Truck	3.9m	Anticipated
Proppant Fluids Trailer	4m	
Coil Tubing Reel	3.7m	Anticipated
Tank	3.4m	
Fluid Pumps & Blender	3.4m	Anticipated
Site Supervisor, Rig Manager, Fluids Engineer Accommodation & Toilet Block	3.3m	Extended to accommodate sewage storage tank underneath
Power Pack, Control Cabin & N2 Converter	3.1m	Anticipated
Fire Water Tank	3m	
Camp Generator	2.9m	
Generator & Tool House	2.6m	
Service Company Accommodation, Crew Canteen, Crew Changing Room, Potable Water Tank & Fuel Tank	2.6m	
Security Office	2.5m	

Table 4 –Well Testing Phase Equipment Heights

Equipment Description:	Built Height Above Ground Level:	Comments:
Shrouded Ground Flare	12.2m	
Mobile Lighting Tower	9m	Fully extended
Relief Knock-Out Pot & Surge Tank	6.1m	Anticipated
Wireline Truck	4.3m	
Gas Knock-Out	4m	Anticipated
Site Supervisor, Rig Manager, Fluids Engineer Accommodation & Toilet Block	3.3m	Extended to accommodate sewage storage tank underneath
Fire Water Tank	3m	
Camp Generator	2.9m	
Heater	2.9m	Anticipated
Separator	2.6m	Anticipated
Well Test Lab, Data Centre and Well Test Workshop	2.6m	Anticipated
Service Company Accommodation, Crew Canteen, Crew Changing Room, Potable Water Tank & Fuel Tank	2.6m	
Security Office	2.5m	
Stock Tank	2.4m	Anticipated
Generator	2m	
Temporary Well Test Bund	0.8m	

2. Topsoil and Subsoil Volumes and Available Storage Capacity

The thickness of topsoil across the proposed wellsite area is 0.3m, as indicated within the Agricultural Land Classification and Soil Resource Survey. Table 2 of the report shows an area of 1.3ha of topsoil resource will be impacted by the development, resulting in a topsoil volume of 3,900m^3. The report also makes clear that the areas and volumes quoted are approximate.

Plan Ref: ZG-EOG-CLTN-PA-05 provides an indicative layout of the wellsite, including perimeter fencing, topsoil storage bund and both active and non-active areas. A detailed civil and structural design of the wellsite will be carried out after planning permission has been granted and will be informed by detailed geotechnical evaluation and soil analysis. In the meantime, the indicative plan has been based on topographic survey data.

The indicative plan indicates the position of the topsoil bund at the start of site construction, which is 0.5m in from the proposed perimeter fence. As no topsoil will be excavated under the topsoil storage bund and will be removed 0.5m in from the perimeter fence, the topsoil removal area is reduced from 1.3 ha to approximately 0.92 ha. Based on a 0.3m depth of topsoil, the volume of topsoil storage required is reduced from 3,900m^3 to 2,773m^3.

The topsoil storage bund area is approximately 1,380m^2 at its base. It is 10m wide at its base, tapering to 4m wide at a height of 3m. The available capacity of the topsoil bund is 2,800m^3, which is >100% of

the volume of topsoil to be stored at the wellsite. The wellsite can accommodate additional topsoil storage, should this be required.

With regards to the subsoil, the quantity of subsoil excavated for the drilling cellar construction and excavated from the perimeter containment ditch will be taken into account when designing the cut and fill balance to ensure all subsoil remains on site for subsequent site restoration.

The topsoil bund will be monitored throughout its existence and will be subject to periodic maintenance and weed control.

3. Soil Analysis Prior to Restoration

Depending how long the wellsite has been in existence, it is probable that the subsoil and topsoil may have degraded somewhat during the time it has been stockpiled on site, either as fill material (subsoil) or as a screening bund (topsoil). Establishing the condition of the soils prior to their replacement is an important first step in the process of restoration and will determine what treatments, if any, are required to improve soil condition.

Soil samples will be taken from the subsoil fill batters and topsoil screening bund and sent to UKAS/MCERTS laboratory for soil analysis. The analysis will inform what soil treatments may be necessary to reinstate the condition of the soil, which will then be applied during soil replacement, thus improving the penetration and effectiveness of the treatment.

Any weed growth on the topsoil stockpiles will be eliminated in advance of site restoration by non-persistent, contact weed killer such as “Roundup” and flailing, in agreement with the landowner.

If the development were to be approved we would recommend the following to be secured by suitably worded planning condition:

- Protection of existing boundary trees and hedgerows to BS5837 (pre-commencement condition) - Soil resource management plan
- Detailed scheme for materials and colour of all temporary buildings and equipment including boundary treatments; to reduce visual impact
- Control and limiting of duration for each working phase within the 3 year permission period
- Control of height of all buildings and equipment
- Detailed scheme for temporary lighting; to minimise night-time visual effects
- Reinstatement and remediation of the site following completion of the works.

We would be happy to discuss wording of conditions at the appropriate time.