KIRBY MISPERTON A WELLSITE

KM8 PRODUCTION WELL

HYDRAULIC FRACTURE STIMULATION

SITE RESTORATION PLAN

www.third-energy.com

Revision 2

17th May 2017

APPROVAL LIST

	Title	Name	Signature
Prepared By	Senior Town Planner	Elizabeth Walker	
Reviewed By	HSE and Planning Manager	Jonathan Foster	
Approved By	Operations Director	John Dewar	

REVISION RECORD

Version	Date	Description
P0	24th April 2015	Draft
Rev 0	15th May 2015	Original Issue
Rev 1	29th June 2015	Amended Drawing List
Rev 2	17th May 2017	Update for Discharge of Planning Condition 35 of Decision Notice C3/15/00971/CPO

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1. INTRODUCTION

1.1 THE APPLICANT

Third Energy UK Gas Limited (the "Applicant") is the operator of gas fields within the Ryedale area and, at the time of submitting this application, holds interests in a total of six (6) Petroleum Licences and one (1) Petroleum Appraisal Licence, granted by the Oil and Gas Authority (OGA) on behalf of the Secretary of State at the Department for Business, Energy and Industrial Strategy (BEIS). Under the Petroleum Licensing system this permits the licence holder to '*search and bore for and get petroleum within the licence boundary*' subject to the granting of planning permission, in accordance with the Town and County Planning Act 1990.

Many of the Ryedale gas fields were originally discovered by Taylor Woodrow Exploration Limited and subsequently developed by Kelt UK Limited. Kelt sold its interest in the Ryedale Gas Fields to Tullow Oil and Edinburgh Oil and Gas. Tullow Oil went on to acquire the interest held by Edinburgh Oil and Gas. The Applicant (formerly Viking UK Gas Limited) acquired the interests of the Ryedale Gas Fields from Tullow in 2003 and has subsequently undertaken an active drilling and workover programme to enhance production of gas from the gas fields located at Kirby Misperton, Pickering, Marishes and Malton.

The Applicant also holds a number of exploration licences and has previously constructed and drilled wells at Ebberston Moor, within the North York Moors National Park.

1.2 THE DEVELOPMENT

Planning permission was granted by North Yorkshire County Council (NYCC) on the 9th January 2013 for the construction of an extension to an existing wellsite (Kirby Misperton 1), to drill and test up to two (2) production boreholes followed by subsequent production of gas at Kirby Misperton 1 Wellsite (East), Alma Farm, Habton Road, Kirby Misperton (Decision Notice C3/12/00989/CPO). The Kirby Misperton 1 wellsite and the Kirby Misperton 1 extension are referred to collectively as the Kirby Misperton A wellsite (KMA). A further planning permission was granted by North Yorkshire County Council on 27th May 2016 for the KMA wellsite (Decision Notice C3/15/00971/CPO) to hydraulically stimulate and test the various geological formations previously identified during the 2013 drilling operation and subsequent analysis of the data, followed by the production of gas from one or more of these formations into the existing production facilities.

The approved development consists of five (5) principal phases:

1. Pre-Stimulation Workover;
2. Hydraulic Fracture Stimulation;
3. Production Test;
4. Production; and
5. Site Restoration.

1.2.1 Pre-stimulation Workover

In order to prepare the well for hydraulic fracturing operations, a workover rig will first be mobilised to the KM8 wellsite and rigged up. The workover rig will run into the KM8 well and retrieve the 89mm (3 ½") circulating string.

Once the circulating string has been removed, the borehole may be surveyed using wireline tools to accurately correlate the perforating depths. Once the perforating depths have been correlated a series of tubing conveyed perforation guns will be run into the borehole in sequence and spaced out to perforate the 178mm (7") casing at the required depths. As the proposal is to hydraulically fracture five (5) discrete zones, at depths between circa 2,123m (7,000ft) and circa 3,048m (10,000ft) below ground level, five (5) perforating guns will be run in to the borehole and fired, creating direct communication between the borehole and the formation. The depths of the five (5) zones are:

- Zone A – 2,123m (6,965ft) to 2,129m (6,985ft)
- Zone B – 2,247m (7,370ft) to 2,253m (7,390ft)
- Zone C – 2,652m (8,699ft) to 2,658m (8,719ft)
- Zone D – 2,760m (9,056ft) to 2,766m (9,076ft)
- Zone E – 3,037m (9,964ft) to 3,043m (9,984ft)

Once the 178mm (7") casing has been perforated, the fired perforating guns will be brought back to surface. A clean-up assembly will then be run into the borehole, where it will be cleaned and scraped to remove any debris from the perforations.

Once the borehole has been cleaned and any perforating debris removed, a 114.3mm (4 ½") completion string will be run into the borehole. The completion string will consist of a number of completion packers attached to a 114.3mm (4 ½") tubing string, suitably spaced to provide individual isolation of the five (5) zones being hydraulically fractured. A sliding sleeve will be positioned between each set of completion packers, which can be opened using coil tubing to allow fluid to be pumped into each zone.

The completion string is engineered such to provide integrated down hole safety barriers and plug profiles tied back to the surface wellhead, with a production hanger system connected to the 114.3mm (4 ½") completion string. A series of valves will be installed on top of the wellhead to provide additional safety barriers to the wellbore. Once installed and in advance of the hydraulic fracturing operation, the completion string and wellhead will be tested. The workover operation is anticipated to take two weeks to complete, during which time the operation will be undertaken 24 hours per day.

Following installation and testing of the completion string, the workover rig will be de-mobilised from the KMA wellsite.

The pre-stimulation workover will be carried out over a period of approximately two (2) weeks and will require approximately 10 personnel. A parking area will be made available onsite for all vehicles associated with the operations.

1.2.2 Hydraulic Fracture Stimulation and Well Test

Once the workover rig has been de-mobilised from the KMA wellsite, the hydraulic fracturing equipment, coil tubing unit and well testing equipment will be rigged up and commissioned. It is anticipated that the majority of the equipment required for the hydraulic fracture stimulation will be delivered to site during the workover phase and within the first two weeks of the hydraulic fracture phase, reducing the number of peak traffic movements.

Each discrete zone will be hydraulically stimulated in turn, starting from Zone E at the bottom by fully opening the sliding sleeve using wireline or coil tubing and pumping the designed stimulation treatment for that particular interval down the wellbore, through the perforated interval and into the targeted formation. Once the fluid has been pumped, coil tubing will be run back down the wellbore to the stimulated zone in order to circulate out any material from the wellbore. A coil tubing drillable bridge plug will then be run and set above the opened sliding sleeve, effectively isolating Zone E. Each stage will be similar in sequence to the last and will consist of fully opening the sliding sleeve using coil tubing and pumping stimulation fluids. The stimulation fluids are a mixture of water and fracture additives to which sand will be added.

Each hydraulic stimulation, from beginning to end, is anticipated to take approximately five hours to complete and be undertaken during daylight hours, however, preparation times, including rigging up and rigging down the equipment, extends the overall duration of operation to approximately 6 weeks.

A percentage of the hydraulic fracture fluid used in each of the five (5) fracture treatments will be returned to surface and treated making it suitable for reuse in the next zone being hydraulically stimulated. The percentage returned is anticipated to be circa 30% with the maximum of 50% having been recorded in previous hydraulic fracturing operations. Waste water treatment may include electrocoagulation and UV screening equipment. Cleaning waste fluids in this manner reduces the volume of waste water needing to be transported offsite for treatment and/or disposal and reduces water requirement for the subsequent zones being hydraulically fractured.

On completion of the fifth hydraulic fracture treatment, all flowback water will be diverted to storage tanks on site, where it is held for subsequent offsite treatment and/or disposal at an Environment Agency permitted facility.

In an attempt to reduce the duration and impact of the operation, all the flowback water may be diverted directly to storage tanks on site, where it is held for subsequent offsite treatment and/or disposal at an Environment Agency permitted waste treatment facility.

Once all five (5) zones have been hydraulically stimulated and cleaned out, the hydraulic fracturing equipment will be de-mobilised from site.

Coil tubing will be run into the borehole with a mill toothed drilling bit and will proceed to drill out each of the bridge plugs in turn, starting with the top plug. Fluid will be circulated down the coil tubing during the drilling operation and will circulate out the cuttings generated from the drilling

action. The cuttings will be separated from the fluid at surface and removed from site for offsite recycling and/or disposal.

Once all of the bridge plugs have been milled, the well is ready to be flow tested.

Well testing equipment will be mobilised to site during the first week of Hydraulic Fracturing phase, rigged up and commissioned. Well testing equipment will consist of a choke manifold, a solids removal system, a test separator, which separates any gas from fluids and fluid storage tanks.

Once all of the bridge plugs have been milled, the well is ready to be flow tested. Coil tubing will first be run into the base of well. Nitrogen will then be pumped through and out of the coil tubing positioned at the base of the well. The nitrogen will then flow to surface displacing (pushing) the fluid in the well back to surface. This process reduces the hydrostatic weight of the fluid column in the wellbore, which in turn allows the gas to flow to surface.

Once gas reaches surface it is diverted via the well testing tree, through the well test separator system and into the existing production equipment via temporary flow lines, from where it is exported off site via existing underground pipeline to Knapton Generating Station where it is used to produce electricity.

Residual flowback fluid, which is brought to surface with the gas, is separated on site via the well test separator and diverted to storage tanks on site, where it is held for subsequent offsite treatment and/or disposal at an Environment Agency permitted facility.

A number of tests will be performed to establish flow characteristics, with the aim of determining whether the formation being tested is capable of producing commercial quantities of gas.

1.2.3 Production Test

Once the hydraulic fracturing stimulation is complete and the well test indicates that the well is capable of producing commercial quantities of gas, the Applicant may wish to carry out a production test. The aim of the production test is to gain a greater understanding of the flow characteristics of the formation over an extended period of time.

The production test would take place immediately after completing the well test operation, once the hydraulic fracturing equipment, coil tubing unit and well test equipment has been demobilised from site.

This phase of the operations will require minimal equipment to be brought onsite, primarily consisting of a welded flowline and temporary flowline pipe supports connecting the KM8 well with the existing production equipment on site, which will be installed and operated for up to ninety (90) days.

As with the current arrangement on site for gas production, gas will be flowed to the surface and into the existing production facilities, from where it is transported via pipeline to the Knapton Generating Station for subsequent generating of electricity.

1.2.4 Production

On completion of the well testing phase and/or the production test phase, the Applicant will make a decision as to whether the prospect is commercially viable. If a successful production test is achieved the KM8 well will be permanently hooked up to the existing production equipment on site.

To enable the permanent hook-up of the KM8 well to the existing production equipment on site, only minor additional equipment will be required, consisting of permanent flowline pipe supports and minor groundworks.

Once permanent hook-up is complete and commissioned, production of natural gas will commence and continue until cessation of natural gas production, which is anticipated to be nine (9) years with all phases of the proposed development to be completed within ten (10) years. Natural gas will flow to surface under pressure and pass through the production equipment onsite. Produced gas is transferred to Knapton Generating Station via pipeline where it is used to generate electricity, which is then transferred into the national grid. Based on a detailed evaluation of the log and core data it is anticipated that any gas produced from the Bowland formation will be dry with any moisture removed as part of the routine production activity.

During the production life of the well(s) it may be necessary to undertake maintenance within the borehole(s), referred to as a workover. Historically, major workovers or tubing replacement has been permitted as part of the development, subject to approval of information reserved by planning condition. The number and extent of workovers required is not predicable at the planning application stage, however, workover operations are generally short duration activities and require minimal number of HGV movements.

1.2.4.1 Decommissioning

Once the wells reach the end of production they will be abandoned (decommissioned).

All surface production equipment will be purged clean and dismantled for offsite removal. All other equipment, which may include control lines, electric cables, monitoring equipment, pipe supports and storage containment will be dismantled for offsite removal.

In accordance with Oil & Gas UK *Guidelines for the suspension and abandonment of wells*, all distinct permeable zones penetrated by the well are to be isolated from each other and from surface by a minimum of one permanent barrier. If any permeable zone penetrated by the well is hydrocarbon-bearing or over-pressured and water-bearing then the requirement is for two permanent barriers from surface, the second barrier being a back-up to the first. The operation involves the setting of cement barriers, extended above and below the permeable zone(s). Rubber cement retainers are positioned within the internal casing string immediately below the required cement depth, which prevents the cement from moving or slumping during setting.

Once the borehole is abandoned and the equipment used to undertake the operation removed from the wellsite, the casing within the drilling cellar will be cut off at a depth of approximately 1.5m below the expected ground level post restoration. A steel plate is welded over the top of the casing

to prevent soil from entering the borehole. The drilling cellar, which is of Pre Cast Concrete (PCC) ring construction is then broken up, ordinarily leaving the lowest PCC ring in situ.

1.2.5 Site Restoration

Following completion of the decommissioning works to dismantle and remove the surface production equipment and abandon all wells, the KMA wellsite will be restored to its pre-development condition. In addition and at a time to be agreed with the Environment Agency, the existing groundwater quality monitoring boreholes will be decommissioned. The method of decommissioning will be set out in a Site Closure Plan, to be submitted to the Environment Agency for approval, in advance of the well abandonment and/or site restoration.

Site restoration will consist of two (2) principal phases, detailed below.

1.2.5.1 Wellsite Restoration

Surface aggregates will be inspected prior to removal. Areas where surface contamination is identified will be removed for subsequent offsite treatment and reuse. The remaining surface aggregate will carefully be removed for subsequent offsite reuse.

Once the impermeable membrane has been removed and the subsoils exposed, the subsoils will be inspected. In the unlikely event that localised contamination is identified, the contaminated area will be excavated for subsequent offsite treatment and/or disposal at an Environment Agency permitted waste facility.

Soil samples will be taken, analysed and compared with soil samples taken prior to construction of both the original KM1 wellsite (if available) and the extension, the aim of which is to confirm that no contamination to the subsoil has occurred. If pre construction soil samples are not available for the original KM1 wellsite, samples will be analysed and compared against samples to be acquired immediately adjacent to the original wellsite.

The subsoil will then be deep tine cultivated in strips, using a low ground pressure bulldozer drawing a winged, straight legged tine cultivator to a depth of 600mm at 1000mm centres. The deep tine cultivated sub-soil will not be traversed by any machinery.

It is probable that the topsoil may have degraded somewhat during the period it has been stockpiled onsite. Establishing the condition of the soils prior to their replacement will determine what treatments, if any, are required to improve soil condition. Application of such treatments, which, for example, may include nitrogen fertiliser application, 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 by non-persistent, contact weed killer such as “Roundup”. Topsoil will be back-tipped from the stockpile onto the loosened strips and graded out either with the bucket of the 360° excavator or with a low ground pressure bulldozer to a uniform depth (the original depth before excavation), and will be levelled to avoid the formation of depressions which could hold water.

All topsoil areas within the site, including areas not affected by construction will be ploughed and cultivated to ensure that all stones, rubble, vegetation and other extraneous material larger than 75mm in any direction are removed.

The restoration of the KMA wellsite, including the section of access track from the KMA wellsite to the Alma Farm access track (some 140m) is anticipated to take approximately six (6) weeks to complete.

1.2.5.2 Aftercare and Monitoring

UKOOG (United Kingdom Onshore Oil and Gas Group) is currently drafting guidance on post decommissioning Environmental Monitoring for UK onshore oil and gas wells. The purpose of the monitoring will be to ensure and demonstrate to the satisfaction of the Regulators that the decommissioning of the borehole(s) has been successfully completed and that the site has been restored to its pre-existing condition.

Monitoring schemes form part of the proposed development and will be agreed with the relevant Regulator, which in the case of air quality and water quality monitoring is the Environment Agency. In the case of air quality and water quality monitoring, these monitoring schemes are provided for the establishment of a baseline in advance of the proposed development, monitoring throughout agreed phases, followed by post decommission monitoring to ensure and demonstrate the effectiveness of the decommissioning works.

1.3 SCOPE

This Restoration Plan is applicable to the KMA Wellsite and is submitted to the Minerals Planning Authority to discharge Condition 35 of the planning consent, which states:

'No development authorised by this planning permission shall take place within the site until such time as a detailed scheme for the restoration and aftercare of the KM8 well site has been submitted to and approved by the County Planning Authority. The approved restoration and aftercare measures shall provide any necessary financial commitment required by the applicant to secure the approved scheme and these arrangements shall be retained for the duration of the development programme and for a minimum of six (6) months from the cessation of any authorised works at the KM8 well site.'

It outlines the general arrangements for wellsite restoration, following cessation of natural gas production, removal of production equipment and the decommissioning of the boreholes.

Whilst this document provides the general arrangements for site restoration, the arrangements will be further developed to reflect the status of the wellsite at the point of restoration. Any such changes will be notified to the Minerals Planning Authority and agreed in advance of site restoration works commencing.

2. RESTORATION OBJECTIVES AND SCHEDULE

2.1 OBJECTIVE

The purpose of this site restoration plan is to provide the arrangements for ensuring the KMA wellsite is returned to its former use, in a condition that is as close as is practically possible to its original condition, prior to wellsite construction.

The scheme, including the decommissioning of the borehole(s), will be agreed with the Minerals Planning Authority (MPA) and approved by the Health and Safety Executive (HSE), OGA and the Landowner.

2.2 PRE RESTORATION SITE CLEARANCE

All surface production equipment will be purged clean and dismantled for offsite reuse. The wellsite containment systems and associated management of surface water will continue to be implemented until all equipment has been removed from the site and the borehole(s) have been decommissioned.

A borehole that has been designed, independently examined and reviewed by the HSE to ensure integrity, which in turn is constructed and subsequently decommissioned in accordance with applicable regulation, guidance and industry best practice, represents no risk of contamination.

The borehole(s) will be cut off at a minimum depth of 1.5m below finished ground level (post restoration) and a steel plate welded over the top of the casing strings.

The boundary fencing will be dismantled and removed prior to site restoration works. Temporary Heras fencing will be used to maintain security of the site once the boundary fencing has been removed. On completion of the site restoration works, all boundary fencing and temporary Heras fencing will be removed for subsequent reuse at another wellsite.

2.3 SURFACE WATER CONTAINMENT SYSTEMS

All surface water containment systems will be emptied using vacuum tankers for subsequent offsite treatment and/or disposal at an Environment Agency permitted waste water treatment works.

Once the containment systems are empty of surface water, surface aggregate will carefully be removed exposing the impermeable membrane. The membrane will then be removed and the geotextile and/or subsoil below the membrane carefully inspected for signs of contamination. In the unlikely event that localised contamination is identified, the contaminated area will be excavated for subsequent offsite treatment and/or disposal at an Environment Agency permitted waste facility.

In the case of the impermeable membrane being HDPE, the membrane will be rolled up for subsequent offsite recycling and/or disposal at an Environment Agency permitted waste facility.

The drilling cellar(s) will be dismantled and the concrete removed from site for subsequent offsite recycling and/or disposal at an Environment Agency permitted waste facility.

The open voids as a result of removal of the surface water containment system and cellar, will be infilled with sub-soil stored on the site during site construction. The voids will be infilled in layers of 200mm thickness or less.

2.4 SOIL MANAGEMENT

The cultivation of sub-soil and the replacement/cultivation of top-soil is weather dependent. Timescales, where given, are estimated assuming both the sub-soil and top-soil are in a suitably dry non-plastic state such that damage to its structure shall be avoided.

The subsoil and topsoil should be in a non-compacted state, such that the growth of crop roots is unimpeded and drainage water can percolate down through the profile relatively freely either to the piped drainage system or to naturally permeable strata.

2.4.1 Soil Stockpile Analysis

It is probable that the subsoil and topsoil may have degraded somewhat during the period it has been stockpiled onsite. Establishing the condition of the soils prior to their replacement will determine what treatments, if any, are required to improve soil condition. Application of such treatments, which, for example, may include nitrogen fertiliser application, will then be applied during soil replacement, thus improving the penetration and effectiveness of the treatment.

2.4.2 Subsoil cultivation

The subsoil will be deep tine cultivated in strips, using a low ground pressure bulldozer drawing a winged, straight legged tine cultivator to a depth of 600mm at 1000mm centres. After each strip is deep tine cultivated, topsoil will be back-tipped onto the loosened strip and graded out either with the bucket of the 360° excavator or with a low ground pressure bulldozer. The deep tine cultivated sub-soil will not be traversed by any machinery.

2.4.3 Replacement of Subsoil

Any weed growth on any subsoil stockpiles will be eliminated by non-persistent, contact weed killer such as “Roundup”, prior to the re-grading of the sub-soil to reform the falls and gradients which existed prior to the occupation of the site and to the original site contours. After each strip of sub-soil is deep tine cultivated, previously excavated sub-soil will be back-tipped onto the loosened strips in as thick a layer as possible and graded out either with the bucket of the 360° excavator or with a low ground pressure bulldozer. The deep tine cultivated sub-soil will not be traversed by any machinery.

2.4.4 Replacement of Topsoil

Any weed growth on the topsoil stockpiles will be eliminated by non-persistent, contact weed killer such as “Roundup”. Topsoil will be back-tipped from the stockpile onto the loosened strips and graded out either with the bucket of the 360° excavator or with a low ground pressure bulldozer to a uniform depth (the original depth before excavation), and will be levelled to avoid the formation of depressions which could hold water.

All topsoil areas within the site, including areas not affected by construction will be ploughed and cultivated to ensure that all stones, rubble, vegetation and other extraneous material larger than 75mm in any direction are removed.

The topsoil will be worked to a fine tilth by rotovator or harrow to not less than 100mm depth.

If it should prove necessary to import top soil into the site, disease and pest free material to British Standard 3882 (General Purpose Grade) will be used.

2.4.5 Installation of New Field Drainage

Prior to wellsite construction, a field drainage diversion scheme was agreed and implemented with the Landowner. The drainage will be reviewed prior to site restoration and agreed with the Landowner. Drainage works will be carried out by a specialist land drainage contractor, previously agreed with the Landowner.

Header drains installed as part of the diversion works will be retained and rodded to check their integrity prior to incorporating the new drainage scheme.

Perforated plastic pipe of minimum diameter, 110mm, will be laid at the bottom of the trench surrounded by backfill with clean washed 10 to 20mm pea-gravel (depending on the drainage machine to be used), and will be backfilled to within 225mm of surface allowing for settlement of the gravel. Drains will be laid to the maximum available falls and, at depths not less than 660mm cover.

Any outfall of the drainage system will consist of 2m lengths of frost resistant plastic pipe set into a suitable headwall (concrete or gabion) with a splash plate, discharging at water level into the ditches.

If it is not possible to lay drains at a depth of at least 600mm of cover, the Landowner will be consulted and his written approval will be sought to an amended specification.

2.4.6 Reinstatement of Hedgerows and Fencing

All hedgerows and/or stock fencing removed during site construction will be reinstated and will be subsequently monitored as part of the aftercare plan.

3. AFTERCARE

The site will be returned to agriculture after completion of the works, subject to the agreement with the Landowner and Minerals Planning Authority. An annual inspection will be undertaken by the Applicant in August/September of each year, for a period of five years, with the Landowner or his Agent, to review the progress and crop productivity of the restored area.

Year	Aftercare Management: Agricultural Use (Arable Land)
By End Of Year 1	Year 1 will begin following completion of the site restoration. Soil analysis will be taken of the restored land and also the adjoining land to compare and determine the difference in characteristics between the two soil compounds including its nutrient content. Soil analysis will not be taken within 3 months of any soil treatment having been applied to either the adjoining land or the restored land. Soil analysis will determine whether further soil treatment is required, such as the fertiliser requirements, nitrogen concentrations, pH levels and the appropriate application mix. The restored land will be treated with weed control to remove any unwanted vegetation extracting nutrients from the soil and depriving the arable crop. If required, treatment of the soil will be carried out using appropriate and adequate fertilisers to increase nutrients within the soil and improve overall soil quality. The overall aim of the restoration works and subsequent aftercare management is to achieve a soil quality comparable to the adjoining land and therefore the treatment of soil within the restored land is dependent on the results from soil analysis. Secondary soil treatment, by way of subsoiling will also be considered. The drilling of a crop on the restored land within year 1 of the aftercare period is determined by the completion of the restoration works. In consultation with the land user and a specialist advisor, seeding rates will be agreed and take into consideration soil analysis, date of sowing, seedbed condition etc. If a crop is planted and harvested within the first year of aftercare, the crop yields will be recorded on both the adjoining land and the restored land, a comparison made and a soil treatment plan agreed with the Landowner. Any deficiency in the crop within the restored land will result in compensation being paid to the land user. An assessment of drainage will be undertaken within year 1 of the aftercare period. The assessment will be undertaken at an appropriate time within year 1, taking into consideration the seasons where drainage issues become apparent.

By End Of Year 2	An annual inspection will be carried out to determine what measures, if any, are required to return the restored land to its previously unaltered state, using the adjoining land as the comparable benchmark. The annual inspection will consist of the following: • Visual inspection to determine whether the restored land is unrecognisable within the context of the adjoining land; • Determining crop yields within the restored land and the adjoining land and making a comparison; • Drainage requirements if not previously installed. Excessive wetness can lead to structural damage to the soil, which in turn can reduce effectiveness of aftercare soil treatment. If installed, field drainage performance shall be included in the inspection; • Drainage requirements if installed as part of the restoration works. How the drainage is performing; • The effect wildlife is having on the restored land will be considered during the inspection. Any damage or impairment to the restoration and aftercare scheme needs to be rectified and mitigation measures, such as temporary fencing, may need to be installed; • Soil analysis will be taken of the restored land and also the adjoining land to compare and determine the difference in characteristics between the two soil compounds including its nutrient content. Soil analysis will not be taken within 3 months of any soil treatment having been applied to either the adjoining land or the restored land. Soil analysis will determine whether further soil treatment is required, such as the fertiliser requirements, nitrogen concentrations, pH levels and the appropriate application mix; • Secondary soil treatment by way of subsoiling will also be considered; and • Weed infestation will be included in the inspection. If weed infestation is present, specialist advice will be obtained to determine the appropriate method of control, including sprays to fend off diseases. The annual inspection will determine the results and effectiveness of the previous years remediation works and provide a schedule of works for the following years remediation (if required). In consultation with the land user and a specialist advisor, seeding rates for the following years crop will be agreed and take into consideration soil analysis, date of sowing, seedbed condition etc. An inspection report will be produced to document the inspection findings subsequent remedial works. A copy of the report will be submitted to the County Planning Authority. Any deficiency in the crop yield within the restored land when compared with the yields from the adjoining land will result in compensation being paid to the land user.
By End Of Year 3	As Per Year 2
By End Of	As Per Year 3

Year 4	
By End Of Year 5	As Per Year 4

Table 3.1: Proposed Aftercare Management

4. FINANCIAL COMMITMENT

In addition to the requirement to submit a detailed scheme for site restoration and aftercare for approval by the County Planning Authority, Condition 35 of the planning consent sets out requirement a requirement for the Applicant to provide a financial commitment to secure the restoration of the site. Condition 35 of the planning consent states:

'The approved restoration and aftercare measures shall provide any necessary financial commitment required by the applicant to secure the approved scheme and these arrangements shall be retained for the duration of the development programme and for a minimum of six (6) months from the cessation of any authorised works at the KM8 well site.'

In order to meet the full restoration requirements of the condition, and prior to the start of the development, Third Energy will submit and commit to the necessary financial security measures requested by members of the NYCC planning committee. The full amount of the site restoration works within the red line boundary of the KM-A site, including both lower and upper sections, has been estimated to be £160, 000.00. Security for the provision of this sum will be provided for in the discharge of the planning condition.

As the duration of the development has the potential to extend a number of years, it is considered necessary to apply indexation to the financial commitment periodically, to ensure its value remains consistent with current market rates.

APPENDIX 1 – SITE LOCATION PLAN

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APPENDIX 2 – SITE LAYOUTS AND CONSTRUCTION DETAILS

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