



Planning and Design and Access Statement

Temporary borehole drilling site Dove Nest Farm

November 2012





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Executive Summary

1. York Potash Limited is seeking to establish the extent, quality and quantity of potash deposits. This is being carried out by the analysis of existing data from previous exploration activities and the provision of data for analysis by new exploration activities. These activities consist of the drilling of boreholes and the carrying out of vibration (non-percussive) seismic survey. It was estimated that up to 10 new boreholes will be required.
2. Not all the boreholes that have previously been granted planning consent have been explored and as such it is necessary to submit this next phase of boreholes in continue to further prove the resource.
3. This application is for planning permission for the drilling of an exploration borehole. The information derived from this temporary operation will aid the understanding of the nature and extent of the deposit and will contribute to the decision of position for the minehead.
4. The operation is approximately 9 months from beginning of soil stripping to completion of restoration i.e. soil replacement. Sites have been selected through the need to close geological information gaps and the intention to minimise the surface environmental impacts. It has also been driven by the need to obtain access to the surface.
5. The Dove's Nest site has been considered in terms of the potential impacts on ecology, the surface and sub-surface heritage environment, the noise environment, hydrogeology and landscape and visual impacts. The findings of these investigations show that there are temporary impacts that will be very short-lived and the archaeological study has not revealed any potential for harming important remains.
6. The proposals have also been considered, in the light of the study results, against the policy framework which constitutes the Development Plan for the North York Moors National Park and, where there are gaps in this regime reference has been made to the framework of national guidance against which development control decisions should be taken. The conclusion of the Policy review is that the proposals are in conformity with the existing framework and the national guidance.

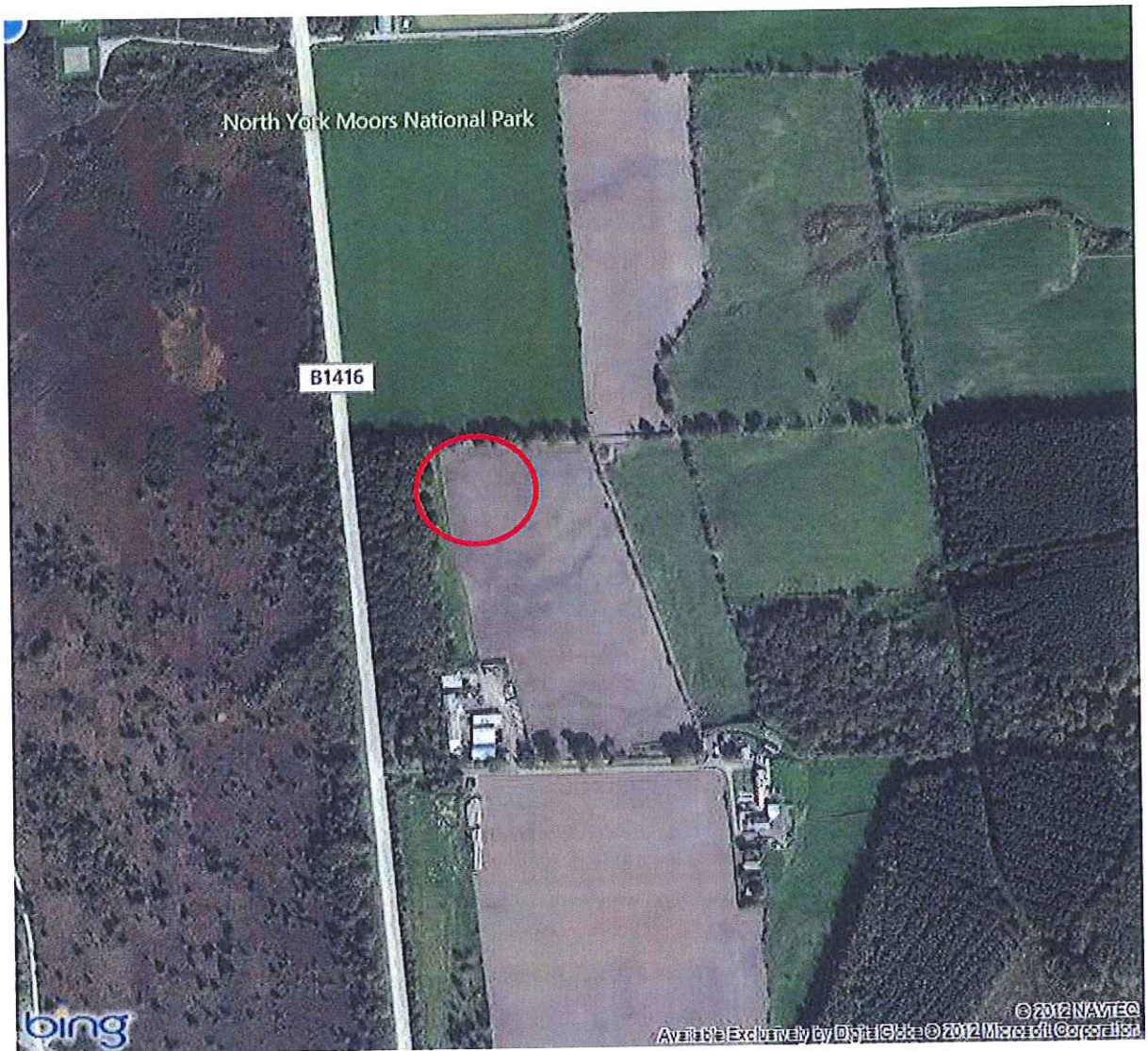
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1. Site and Surroundings

- 1.1 The application site is approximately 90m long and 90m deep, relatively flat, and is situated to the east of the B1461. The site is currently used as a paddock and forms part of Doves Nest Farm. It is shown edged red the plan dated 20th May 2012 – “Proposed Borehole Location, Doves Nest”. The site is flat in nature and does not experience any drop in levels.

- 1.2 The aerial plan below outlines the site and surroundings.



- 1.3 As can be seen from the above aerial view the site forms part of the wider of the Doves Nest Farm complex. The area is made up of the livestock sheds which are located adjacent to the B1416 at the entrance to the farm. The farm house and holiday cottage complex are located to the western part of the wider site. The holiday

cottages are made up of three static caravans, which can accommodate up to six people each.

- 1.4 Access to the drilling site would be taken from a new access off the B1416. The access will be taken from the northern part of the site to the north of the area of tree's that screen the site from the B1416.

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2. Proposals

- 2.1 There are three main phases to the proposed operation. These are the site preparation, the drilling operation and the site restoration. These phases are separately described below but in total are intended to last no more than nine months, of which the drilling will take approximately six months. The exact period of time will depend on the drill rig that is used and the progress being made, particularly with the retrieval of core samples.

Phase 1 – Site Preparation

- 2.2 Prior to entry onto the site the consultant ecologist would re-visit the site to ensure that there has been no change to the ecological interest and that the area to be stripped, and the surrounding area to a distance of 50m, does not contain nesting birds or reptiles. When the ecologist has indicated that no additional ecological impacts will occur, the access point will be formed.
- 2.3 Consultation with the highways authority, for the carrying out of these operations has indicated that signage will not be required at the A171 due to the long straight view at the junction with the B1416 in both directions but temporary signs, indicating that lorries are turning, may be introduced.
- 2.4 The drilling area will then be prepared by the removal of the pasture and the separate stripping and storage of topsoil and subsoil, if a distinction can be made, followed by the levelling of the site. During the soil stripping the consultant archaeologist will carry out a watching brief to identify any archaeological interest that has not been anticipated through the desk-based assessment. In the event that an archaeological find is located the stripping operation will be moved to another part of the site whilst the find is examined and recorded in accordance with a written scheme of investigation that has been agreed with the Mineral Planning Authority. Any finds will be logged and placed in a local museum.
- 2.5 The soils would be handled, moved and stored in accordance with the 'MAFF Good Handling Guide for Soils' and will be placed around the perimeter of the compound area at no greater than 3m in height. The location of soil bunds would be dictated by the intention to minimise noise and visual impacts.
- 2.6 The levelled site will then have terram and a geogrid membrane placed on the levelled area prior to the importation of approximately 11,500 tonnes of single-size aggregate which will be spread to a depth of approximately 550mm. The importation would be carried out by 20 tonne loads resulting in approximately 575 vehicle movements in each direction over a nineteen day period.

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- 2.7 The aggregate will form a level working surface which will spread the load of the drilling rig and keep it in a stable position. The perimeter will then be fenced in accordance with a specification to be agreed with the Mineral Planning Authority.

Phase 2 - Drilling operation

- 2.8 The area of the compound would accommodate the largest of the drill rigs under consideration for the site and car parking for six vehicles. However, whilst this larger rig has been used for the assessment of the potential impacts of the development it is the intention of the applicant to use the smallest rig that can be leased in order to minimise the landtake, visual impact and period of drilling. A single stage drilling programme is proposed with the whole operation being undertaken by a single drilling rig.
- 2.9 The plant and equipment would be imported to the site over a period of three days. This is expected to consist of up to 40 lorryloads of equipment. The drilling process is described in the Drilling Method Statement which forms part of this application.
- 2.10 As the hole approaches the interface between non-aquifer and aquifer a steel casing is introduced and cemented into place to prevent the migration of drilling fluids into the adjacent strata. The borehole is anticipated to meet three seams of potash mineral and as each is reached the drill bit will be changed in order to retrieve core samples. These cores will be recovered to the surface, referenced and temporarily stored prior to being split for permanent storage and analysis. The terminal hole depth will be determined by the depth of the potholite but is anticipated to be approximately 1700m from the surface.
- 2.11 The drilling operation would take place on a 24-hour basis and is anticipated to last less than five weeks. The drilling rig would be a maximum height of 33 metres and would have to be lit for health and safety purposes. The majority of the lighting is at low level. All lighting is cowed in order to direct the light down and into the compound with the exception of the red aircraft warning light at the very top of the rig.
- 2.12 In order to reduce the light pollution being emitted from the site the lights will be positioned in a downwards direction and at night the lights will be turned off. York Potash has undertaken a number of trials and can successfully operate the rig under the reduced lighting and will implement this scheme on the Dove's Nest Site and any future exploration boreholes.
- 2.13 During drilling the borehole is lubricated and flushed out by the introduction of drilling 'muds' at pressure. The mud returns to the surface where it is filtered and reused through the borehole. At the completion of drilling the mud in the borehole is replaced with a concrete which pushes the mud out of the hole for collection at the surface.
- 2.14 All drilling muds and other liquids used for the drilling process will be stored in compliance with all current UK legislation.



Phase 3 – Restoration

- 2.15 When each drilling phase is complete the drilling rig will be moved to the next site along with all of its accompanying plant and equipment. When the hole is completed it is filled with a concrete/bentonite concrete mix which will prevent the migration of water or other liquids from one horizon to another. The clean aggregate will be lifted and transported to the next drilling site that is being prepared in preference to being stored, to prevent double-handling. Any contaminated aggregate will be disposed of at a facility that is licensed to receive it. The terram and geogrid will also be lifted and removed off-site for re-use. Following the removal of the terram and geogrid the metal casing will be exposed to a depth of approximately 2m below ground level and cut.
- 2.16 The borehole itself would then be capped in accordance with a method which has been agreed with the Mines and Quarries Inspectorate, the Environment Agency and the MPA. Following the capping the operator will reinstate the water supplies that have been indicated by the landowner.
- 2.17 The soils would then be respread in sequence to achieve the previous contours and ripped to a depth of 200mm. Appropriate drains would then be incorporated, where necessary, and the site returned to the landowner so that it can be incorporated back into their planting programme.

Hours of working

Operation	Mon- Friday	Saturdays	Sundays, Bank Holidays, Public Holidays	Comments
Soil stripping	0700 - 1800	0700 - 1800	0700 - 1800	
HGV movements associated with site preparation and restoration	0700 - 1800	0700 - 1300	0700 - 1300	
Drilling operations	24 hour	24 hour	24 hour	
Restoration	0700 - 1800	0700 - 1300	Nil	

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Traffic Management

- 2.18 The works are located approximately 700m north of the 'Redgates' junction on the B1416, to the rear of Doves Nest Farm. A new access will be formed to the drill site from the B1416, directly to the north of the plantation. The vehicle route will be via the B1416 and the A171 to the south. The approved traffic route for vehicles entering and exiting the site is shown on the Traffic Management Plan that supports this application.
- 2.19 Temporary road traffic signage is also shown on the Traffic Management Plan. This signage scheme shall be erected prior to the commencement of the works and maintained as necessary for the duration of the contract. The signs shall then be removed at the end of the contract. All signage will be in accordance with Chapter 8 of the TSR & GD.
- 2.20 In order to prevent mud, grit and other detritus from being carried onto the public highway from the site the site operators/contractors propose to use the same methods as have been successfully incorporated on the previous drilling sites. They will provide an electrically operated jet-wash so that drivers can clean the underside and wheels of the vehicles before they depart the site. The combination of a stoned compound, 10m of bound, hard-surfaced internal roadway and the jet wash will again prove to be sufficient to prevent material being carried out onto the public highway. However, the operator will employ a sweeper on an 'as required' basis to ensure that the highway remains clear of mud or other detritus from the site.

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3. Heritage

- 3.1 A detailed Heritage Assessment has been undertaken to support this application. The report states that there is no evidence of previous settlement or occupation within the proposed development site from the sources consulted during this assessment, and no evidence for the funerary features frequently found on the nearby moorland. The proposed development site appears to have comprised land parcels on the edge of the moor during the 19th-century.
- 3.2 The lack of evidence to the contrary suggests that it is highly unlikely that there are any surviving buried archaeological remains within the proposed development site, and extremely unlikely that any would be of such significance to warrant statutory designation (i.e. of schedulable quality due to their archaeological interest).
- 3.3 The report goes on to state that no known heritage assets would be physically affected by the proposed works. Although the rig would be visible from heritage assets across a wide area, the key significances of these assets would not be affected.
- 3.4 There is no evidence of known surviving buried archaeological remains within the proposed development site. As such, it is considered to be highly unlikely that remains of such significance survive that warrant preservation in situ. However, it is proposed that a professional archaeologist be present during the stripping of the topsoil and ploughsoil, in advance of the construction of the compound. Any surviving archaeological remains revealed during this exercise would be excavated and recorded to a level commensurate with the importance of discoveries as identified within the regional and national archaeological research agendas.

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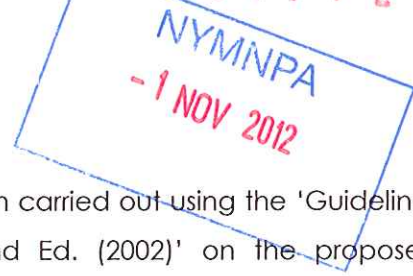
4. Noise

- 4.1 Whilst the proposed drilling site is in a fairly remote location, and drilling works would be temporary in nature, it is proposed that the works would be undertaken 24 hours a day 7 days a week.
- 4.2 Accordingly, the noise assessment has been undertaken to determine the noise levels that are likely to be generated by such works at the closest local noise sensitive receptors (e.g. dwellings), and whether the resulting levels would be acceptable during the daytime, evening and night-time.
- 4.3 Given the fact that the nearest dwelling to the site is Doves Nest Farm which is financially involved in the development, the assessment has identified the next closest noise sensitive receptors to the drilling site to be Thorn Hill, Moorside Farm, Moor House Farm, Park Down and Knaggy House Farm.
- 4.4 In accordance with the result of consultation with the Environmental Health Department of Scarborough Borough Council (SBC), a series of noise level predictions have been undertaken in accordance with the methodology prescribed in International Standard Organisation (ISO) 9613: Attenuation of sound during propagation outdoors -- Part 2: General method of calculation, to determine the noise levels that are likely to be generated at the closest identified receptors to the drilling site. The noise level predictions have been based on the results of noise emission data which have previously been determined for two drilling rigs, both of which are options for use at this site.
- 4.5 The results of the noise level predictions have been assessed based on noise level criteria applicable to the night-time period (a worst case, with less stringent criteria being applicable to evening and daytime periods).
- 4.6 The noise level criteria adopted within the completed assessment are in full accordance with the guidance contained within the National Planning Policy Framework (NPPF) and supporting technical guidance, as well as the former Minerals Policy Statement 2: Controlling and Mitigating the Environmental Effects of Mineral Extraction in England - Annex 2: Noise which the NPPF has superseded. The adopted noise level limits are also concordant with a worst case interpretation of the guidance contained with British Standard 5228: 2009: Code of practice for noise and vibration control on construction and open sites – Part 1: Noise. The guidance contained within the 1999 World Health Organisation publication: Guidelines for community noise and

British Standard 8233: Sound insulation and noise reduction for buildings - Code of practice has also been referenced with respect to the LAmaxnoise index.

- 4.7 In accordance with these documents, the night-time assessment criteria which have been adopted are emission levels of 42dB L Aeq,T and 57dB L Amax, external, free-field (equivalent to 30dB L Aeq,T and 45dB L Amax internal assuming partially open windows).
- 4.8 The results of the completed noise level predictions have identified that the adopted criteria will be met at the most sensitive local receptors, and by margins of between 5 and 13dB. Accordingly, it can be concluded that the resulting noise levels will be acceptable during the night-time period, and also during the daytime and evening periods for which applicable criteria would be achieved by even greater margins.
- 4.9 As the applicable criteria are expected to be achieved, no further consideration to noise mitigation measures is considered warranted. Nonetheless, advice has been provided regarding good practice in the design and setup of the drilling rig, and also with regards to additional attenuation that could be afforded by the formation of earth bunds for soil storage around the drilling site.
- 4.10 In summary, the completed assessment has identified that the noise levels predicted to be generated by the proposed drilling works will be acceptable and will meet appropriate daytime, evening and night-time assessment criteria determined in accordance with a stringent interpretation of applicable national guidance, including the National Planning Policy Framework (NPPF) and Minerals Policy Statement 2: Controlling and Mitigating the Environmental Effects of Mineral Extraction in England - Annex 2 (which the NPPF has superseded). It is therefore concluded that noise need not be considered a determining factor in granting planning approval for 24 hour drilling works at this site.

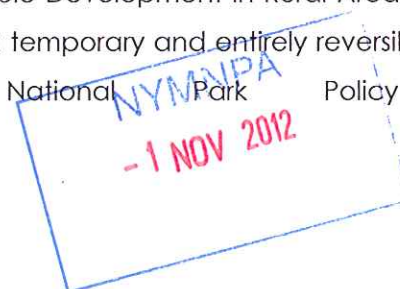




5. Landscape and visual

- 5.1 A landscape and visual impact assessment has been carried out using the 'Guidelines for Landscape and Visual Impact Assessment 2nd Ed. (2002)' on the proposed temporary drill rig site at Dove' Nest. The site lies within the North York Moors National Park and its landscape character therefore is of national significance. The National Park covers a large area and within it there are many different Landscape Character Types (LCT). These have been assessed as part of the North York Moors Landscape Character Assessment (2003) which has been used in this assessment. The most widespread and distinctive LCT is the Moorland itself, which attracts large numbers of visitors.
- 5.2 The site lies within the local character area 'Coast & Coastal Hinterland', specifically LCT '4(b) Whitby - Cloughton'. The site's character is typical of this area as it lies in one of the many agricultural fields that form a mosaic across the area.
- 5.3 The site does not lie within the Moorland, but there are numerous views of the site from this LCT. The Coastal areas, unlike the Moorland, are not open access land, which greatly restricts locations from where the site is likely to be seen within this character area. The settlement of Sneaton lies roughly 2.5km to the north.
- 5.4 The rig site can be seen from a relatively large number of points nearby, due to this LCT's flat, open character and the high density of minor roads and public rights of way. The landscape impact of the development will be noticeable because of its nature; it is tall and uncharacteristic of the Coast & Coastal Hinterland LCT.
- 5.5 Some views are obtainable from close to the site, where the impact of the rig will be high and adverse. However, there are plantations to the east, south and west (the Belt Plantation along the B1416 and Haxby Plantation/ Whinny Wood) that act as screens for majority of the site, with only the tallest extremities being visible above them.
- 5.6 The local area has many public rights of way, with views being obtainable from a number of them. However the route of notable significance is the Moor-to-Sea cycle route. From this, most views towards the rig site are around 90 degrees to the direction of travel, if not screened by the surrounding plantations, reducing the effect.

- 5.7 The visual impact of the development has been assessed to be moderate/ slight and adverse, chiefly because of the size and form of the drilling rig itself. The large steel structure will contrast with the visual character of the area, but in many instances it is partially or fully screened by plantation. Many of the achievable views are from a long distance away, generally over 1km, reducing the rig's visual presence.
- 5.8 The landscape impacts have been assessed to be substantial/ moderate and adverse. The landscape character will be adversely affected where the site can be seen or where it is apparent there are uncharacteristic works taking place in the landscape as a result of mechanical activity, lighting or artificial soil mounding for example. The associated site buildings also contribute to the overall adverse impact.
- 5.9 The combined effects are moderate and adverse overall, however it must be considered that the development is temporary and will be apparent for only around 6 months in total. Once drilling has been completed, all visual evidence of the development will be removed and the effects of the mast in particular, will have disappeared completely. It is anticipated that following mitigation measures, removal of all site material and restoration back to arable farmland, the effects on landscape will be reversed.
- 5.10 The removal of a short portion of the existing hedgerow is necessary for the site access. The site access should be constructed to minimise damage; existing pine species should be retained with the breach being made by removing only fast growing shrub species such as goat willow.
- 5.11 The hedgerow removed can be replaced with similar species. It is anticipated that this can be secured by planning condition.
- 5.12 The short term and temporary nature of the development means that all adverse impacts will be removed providing vegetation is replaced as indicated above. The exploratory borehole development would therefore accord with guidance set out in the former PPS7 (2004) Sustainable Development in Rural Areas and now the National Planning Policy Framework, as a temporary and entirely reversible development would not conflict with National Park Policy or Guidance



6. Hydrology

- 6.1 A Hydrological Risk Assessment has been carried out using similar methods to that which has been previously submitted for the earlier borehole applications. The final document has been included at Appendix 5 to this document.
- 6.2 The Risk Assessment has considered the impacts of the drilling on surface waters, near-surface groundwaters, potable drinking resources and aquifers. Various mitigation measures are proposed including the use of specific drilling muds and the installation of a steel casing that is cemented in place to prevent ingress and egress of liquids to and from the borehole. With the implementation of the mitigation measures the report concludes that the risk associated with the proposed operations is "low".
- 6.3 The applicant will implement the proposed mitigation measures.

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7. Ecology

- 7.1 The application site has been subject to an extended Phase 1 habitat survey by a qualified ecologist and the resulting Ecological Impact Assessment Report is included at Appendix 6 to this document. The report presents the baseline situation and the nature conservation value of the area with the potential to be affected by the proposals i.e. wider than the application area.
- 7.2 The report concludes that the proposed drill site is a poor habitat of negligible ecological value. The site will quickly be restored to its previous arable use on completion of the drilling operations with the short impacted boundary section also subject to rapid reinstatement. Residual effects of the use of this area as a temporary drill site are therefore considered to be negligible.

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8. Conclusions

- 8.1 The applicant will implement the mitigation procedures outlined in the Appendices to this document. In doing so the proposal becomes Policy compliant.
- 8.2 The exploration phase is temporary and there will be no long-term impacts of the development.
- 8.3 It is recommended therefore that the planning application for a temporary borehole is approved by the Local Planning Authority.

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