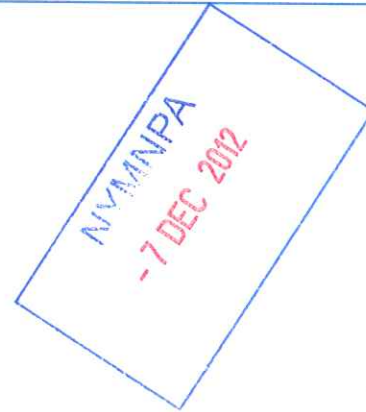




# Planning Supporting Statement Temporary borehole drilling site & spoil storage Dove Nest Farm

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December 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.
2. This application is for planning permission to extend the site boundary of planning permission NYM/2012/0601/FL which is for a temporary exploratory potash borehole and associated plant, equipment including drilling rig (max height 33 metres) and access arrangements. Following the commencement of site preparation, the decision was taken to excavate to a deeper level than originally intended in order to reach a stable platform for the drilling rig to be placed on. This meant that more spoil was excavated which had to be placed adjacent to the excavation, outside of the original red line boundary. The spoil was placed as close to the edge of the excavation as possible in accordance with the planning supporting statement for application NYM/2012/0601/FL.
3. The operation applied for in NYM/2012/0601/FL is approximately 9 months from beginning of soil stripping to completion of restoration i.e. soil replacement. The existing permission lasts for a period of 12 months and the spoil area will remain in place until it is replaced into the excavation area before the existing permission expires.
4. The extension to 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 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.
5. 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.



**1. Site and Surroundings**

1.1 The application site is approximately 165m x 150m, 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 on the plan dated 16-11-2012 'Doves Nest South Shaft Platform Spoil Area'. The site is flat in nature and does not experience any drop in levels.

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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 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 is taken from a new access off the B1416. The access is 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 current permitted 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 re-visited the site to ensure that there had been no change to the ecological interest and that the area to be stripped, and the surrounding area to a distance of 50m, did not contain nesting birds or reptiles. When the ecologist indicated that no additional ecological impacts would occur, the access point was formed.
- 2.3 Consultation with the highways authority for the carrying out of the permitted operations indicated that signage was not required at the A171 due to the long straight view at the junction with the B1416 in both directions. Further consultation with the highways authority since the commencement of site preparation has led to the introduction of a temporary speed restriction from 60mph to 40mph.
- 2.4 The drilling area has been 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 a consultant archaeologist carried out a watching brief to identify any archaeological interest that had not been anticipated through the desk-based assessment. A written scheme of investigation was agreed with the Mineral Planning Authority in case of any archaeological remains being found on site, however none were. Any finds would have been logged and placed in a local museum.
- 2.5 The soils were handled, moved and stored in accordance with the 'MAFF Good Handling Guide for Soils' and placed to the south of the excavation area up to a maximum height of approximately 7m.
- 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.
- 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 land-take, 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 lorry-loads of equipment. The drilling process is described in the Drilling Method Statement was submitted with application NYM/2012/0601/FL.
- 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 poyhalite 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 approximately 6 months. 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 cowled 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.

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**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	



## 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 traffic route for vehicles entering and exiting the site is shown on the Traffic Management Plan which supported application NYM/2012/0601/FL. This proposal to extend the site boundary will not impact on or alter the approved Traffic Management Plan but a copy is included for completeness.
- 2.19 Temporary road traffic signage is also shown on the Traffic Management Plan. This signage was erected prior to the commencement of the works and will be 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. None of the temporary signs shall be sited to obscure the existing permanent signs or sited where existing signs will obscure them.
- 2.20 Shortly after the site preparation works began, discussions were held with the highways authority leading to the mutual agreement that a temporary speed restriction is required on a 1.2km (approx.) section of the B1416 in the vicinity of the site entrance. This was initially arranged through an Emergency Traffic Order to cover the period 19<sup>th</sup> November – 10<sup>th</sup> December. A Temporary Traffic Order has also been applied for. This lasts for a period of up to 18 months and will come into effect on the 10<sup>th</sup> December.
- 2.21 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 have provided 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 was undertaken to support application NYM/2012/0601/FL. 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 As a condition of the permitted development an archaeologist was present during the stripping of topsoil and subsoil. Although, no archaeological remains were known to be located within the site this action was undertaken to identify any potential as yet unrecorded remains. The area of the site strip observed by the archaeologist is depicted on the attached plan. The work took place between 7 and 10 November 2012.
- 3.3 No features, finds or deposits of archaeological significance were identified during the works. The soil removed was located next to the stripped area and stockpiled in areas that were not stripped.
- 3.4 If further soil stripping is required at the site an archaeologist will again be present, although current intelligence suggest that it is unlikely that buried archaeological remains would be exposed.

3.5

#### 4. Noise

- 4.1 A full Noise Assessment was undertaken in support of application NYM/2012/0601/FL (WSP Acoustics Document ref. 19211 Doves Nest – Potash/Polyhalite Drilling Noise Assessment dated 21 May 2012). In summary, the previous assessment 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 was therefore concluded that noise need not be considered a determining factor in granting planning approval for 24 hour drilling works at this site.
- 4.2 An additional site visit was undertaken by WSP on 04/12/12 to assess the impact on ambient noise levels since the red line boundary has been breached on site to include the spoil storage area. Following this, an addendum to the original Noise Assessment was produced.
- 4.3 In paragraph 2.2.2 of the previous noise assessment report, local noise-sensitive receptors were identified as being located in most directions from the site. The assessment approach was to use source noise data for the drilling rig similar to that proposed and construct a computer noise model of the local area. The identified noise-sensitive receptors were incorporated into the noise model as receptor points, source noise data was incorporated as a point noise source at the drilling location and Ordinance Survey 10 metre ground contour data was included to model the propagation path of the noise from source to receiver, allowing for any acoustic attenuation that may be provided by topographical features.
- 4.4 Within paragraph 5.1.1 of the noise assessment report, it is stated that no perimeter noise bunding was incorporated around the drilling site boundary, although that in practice such bunding will be created when stripped top soil is stored on site.
- 4.5 Table 4 of the noise assessment report shows that, for even the most stringent adopted assessment criteria (in this case the night-time criteria), noise criteria are predicted to be comfortably met at both of the closest receptors to the proposed drilling site, when assuming no perimeter bunding.
- 4.6 Paragraph 6.1.3 of the noise assessment report states that noise attenuation can be afforded by the formation of earth bunds around the perimeter of the drilling site, for example where stripped soil has to be stored. To ensure the acoustic integrity of such bunds, they should be

continuous and fully screen the line of sight between the receptors and the noise sources within the drilling site.

- 4.7 Minerals Policy Statement 2: Controlling and mitigating the environmental effects of mineral extraction In England - Annex 2: Noise (MPS 2) stated that reductions of between 5 and 10dB can be achieved by bunds close to the source, depending on whether the noise is partially or completely screened from the measurement point (e.g. the receptor). The National Planning Policy Framework (NPPF) which has superseded MPS 2 does not provide any guidance on how to determine the noise attenuation that can be afforded by noise barriers. However, the performance values presented within MPS 2 are also supported by the noise barrier attenuation calculation methodology detailed within BS5228: 2009: Code of practice for noise and vibration control on construction and open sites – Part 1: Noise (BS5228-1). Accordingly the barrier performance values detailed within MPS2 remain valid and appropriate for use.
- 4.8 This shows that, in terms of noise propagation, the incorporation of acoustic screening such as bunding, particularly close to a noise source, can have the beneficial effect of attenuating noise for a given noise-sensitive receptor. It is therefore likely that the spoil heap will provide some noise attenuation to many of the identified noise-sensitive properties south of the site, or at the very least will result in noise levels at receptors no higher than previously predicted.
- 4.9 In summary, this document has identified that the noise levels predicted to be generated by the approved proposed drilling works were considered acceptable and meet appropriate daytime, evening and night-time assessment criteria determined in accordance with a stringent interpretation of applicable national guidance, including the NPPF and MPS 2 (which the NPPF has superseded). It has been identified that the results of the previous assessment remain valid, that the spoil heap will lead to noise levels of no worse than previously predicted, and in many cases will be of acoustic benefit to local noise-sensitive receptors to the south of the site.
- 4.10 In summary, it is concluded that the incorporation of the boundary extension does not affect the result of the previous noise assessment report.

## 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. The extensive and tall spoil mound would be visible from Greystone Hills.
- 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 and adverse*, chiefly because of the size and form of the drilling rig and especially the mound. 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 *substantial/moderate and adverse overall*, however it must be considered that the development is temporary and will be apparent for only around 12 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.
- 5.10 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 or the works would form part of earthworks for a subsequent minehead application. Because of the length of time that the mound would be extant, it is suggested that this be graded and seeded to reduce visual impact and soil runoff.
- 5.11 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. 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

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a temporary and entirely reversible development would not conflict with National Park Policy  
or Guidance

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**6. Hydrology**

- 6.1 A Hydrological Risk Assessment ("HRA") was carried out for application NYM/2012/0601/FL using similar methods to that which has been previously submitted for the earlier borehole applications. An updated HRA was submitted to the National Park for approval on 7<sup>th</sup> November 2012.
  
- 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.



## 7. Ecology

- 7.1 The application site has been subject to an extended Phase 1 habitat survey by a qualified ecologist for application NYM/2012/0601/FL. An updated Ecological Impact Assessment Report has been prepared including an additional site visit since the establishment of the spoil storage area for this application. A copy is included at Appendix 5 to this document which outlines the impact (if any) of the added spoil storage area.
- 7.2 In summary, the updated ecological survey and assessment has shown that the application site is a poor habitat of negligible ecological value. The site will quickly be restored to its previous farmland use on completion of the operations. Residual effects of the use of this area as a temporary borehole 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.