



Rialtas na hÉireann
Government of Ireland

Guidelines for Completion of Environmental Screening Forms for Mineral Exploration Activities 2023

Prepared by the Department of
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Introduction

Prospecting Licence holders that plan to carry out exploration activities on a Prospecting Licence issued by the Geoscience Regulation Office (GSRO) are required to apply for such activities through a submitted work programme (summary of work form). This work programme is screened as part of the licence application, renewal or review process. Additional environmental screening will be required for the following activities.

1. Drilling, Trenching, Seismic Surveys, Bulk Sampling and Deep Overburden Sampling using a motorised auger within 1.5km of a designated site.
2. Activities within or in close proximity to a designated site such as a European (Natura) site, Natural Heritage Area or proposed Natural Heritage Area.
3. Any activity that is proposed to be undertaken, but which was not listed in the licensee's submitted work programme.

Environmental screening forms will need to be submitted to the GSRO for 1 and 2. Whether these forms will be required for 3 will be determined on a case-by-case basis by the GSRO.

This document provides a guide to stakeholders on the completion of the environmental screening forms. Included in this document is guidance on the following environmental screening forms:

- Screening for Appropriate Assessment (AA)
- Screening for Aarhus Decision
- EIA Criteria Assessment
- EIA Screening
- Risk Assessment of Discharge to Surface and Groundwater

Please note additional information may be required by the GSRO to carry out an environmental screening, therefore forms, and associated documentation should be submitted at least 3 weeks in advance, and longer for more complex projects.

Further information on screening assessments may be requested from the GSRO (GSRO@decc.gov.ie).

Screening for Appropriate Assessment (AA)

Context

The transposition of Regulation 42 of the EC (Birds and Natural Habitats) Regulations 2011 (SI No. 477 of 2011) and Article 6 of the Habitats Directive ([Council Directive 92/43/EEC](#)) requires that all mineral exploration activities must be screened for Appropriate Assessment (AA). The Geoscience Regulation Office (GSRO), acting on behalf of the Minister for the Environment, Climate and Communications, is the public (competent) authority for Stage I Screening for Appropriate Assessment of mineral exploration activities.

The **Stage I Screening Assessment** shall determine:

1. Whether the mineral exploration activity is directly connected with, or necessary to, the management of a European Site; and
2. Whether a significant effect on a European Site can be excluded, on the basis of objective scientific information, for the mineral exploration activity alone and in combination with other plans or projects.

If the mineral exploration activity is not connected with, or necessary to, the management of a European Site and a significant effect on a European Site cannot be excluded, then a **Stage II Appropriate Assessment** is required.

In this context, 'significant' is an effect which would undermine a conservation objective of a qualifying interest (QI) feature of any European Site and 'excluded' means that there is scientific certainty that there would be no such effect.

In accordance with *Section 4 (4) of the Planning and Development Act, 2000*, the Minister for the Environment, Climate and Communications is not the public (competent) authority for making a determination in respect of more detailed environmental assessments (Stage II Appropriate Assessment and full Environmental Impact Assessment (EIA)), which are instead the responsibility of the relevant planning authority.

Further information may be requested from the Licensee by GSRO in order to undertake screening for Appropriate Assessment.

Appropriate Assessment (AA) Screening Form

Applicant Details

Please enter:

- Applicant: Company Name (the PLA holder/operator)
- PLA: Prospecting Licence Area.
- Contact Person: This is the main contact for questions regarding the proposed activity.
- Resident manager: if different to contact person
- Contractor: Main contact for contractor carrying out the work, if applicable

Checklist

Please ensure that the EIA Criteria/screening (drilling only), Aarhus Screening (all exploration activities) and Ground & Surface Water Risk Assessment (drilling only) forms have been completed where required.

Description of Project

Please fill in all details for the relevant activity.

- Scope of Work
- Location map (at an appropriate scale)
- Provide shapefile or equivalent
- Any other details as required within the form

Provision of Geographic Information System (GIS) Files

Please provide ESRI Shapefiles (.shp) or equivalent for ALL proposed activities or areas. The files should be in Irish Transverse Mercator (ITM).

Appropriate Assessment Screening Questions

1. Management of a Natura 2000 site

(i) Is the activity solely and directly connected with or necessary to the management of a Natura Site?

Note this is a mandatory question and for mineral exploration activities the answer will be 'No'.

2. Project Impacts (if a question is not applicable to the application, please answer with n/a).

- i. Nature and duration of activity (if applying for only one exploration activity, please just fill in the boxes for Activity 1)
 - Nature of activity: for example, Diamond drilling of 300m.
 - Equipment to be used: for example, track-mounted drill rig.
 - Duration, for example: 2-4 weeks, commencing in late September.
 - Timing/daily: for example, Mon-Sat, 8am to 6pm.
 - Restoration work: refer to GSRO guidance documents.
- ii. Resource Requirements
 - Land use: for example, Area in hectare (Ha) or squared metres (m²), for drilling this should include drill site and pump site footprint.
 - Soil use: It is not expected that any significant soil use will be required, in which case the answer should be 'low' or 'negligible'.
 - Water use (m³/day): Volume of water to be abstracted, in m³/day. Please note that by law, if you abstract 25 cubic meters (25,000 litres) of water or more per day, you must register this abstraction with the EPA.
- iii. Type and Volume of Waste Produced
 - Nature of Solid Waste: for example, drill cuttings, consisting of limestone rock chips and silt.
 - Volume of Solid Waste: Applicants should make an informed estimate based on their knowledge of the formations to be drilled.
 - Nature of Liquid Waste: for example, drill return water with drilling additives (provide Safety Data Sheets for additives).

- Volume of Liquid Waste: for example, 10m³/day.
- The method proposed for the waste disposal;
 - Method and location of solid waste disposal: for example, drill cuttings will be captured using settlement tanks and removed to a licenced disposal site.
 - Method and location of disposal of water: for example, use of settlement tanks to remove silts/ clay fraction prior to natural percolation.
- iv. Machinery and emissions to air. Describe the type of machinery to be used, including type and number of support vehicles, and likely emissions, for example, machinery that is approximately the same scale as farm machinery will likely have low to negligible emissions, of short duration for routine drilling operations.
- v. Transport, access, and temporary site compounds. Describe route to site, and whether clearing or installation of temporary tracks, or clearance for drill pads, is necessary.

3. Local Site Characteristics

- i. Habitats (refer to Fossitt¹ Classification - some local authorities have surveyed their own areas and Fossitt classification data are available, for example Roscommon²) – Habitat for example, Improved Agricultural Grasslands (GA1)
- ii. Soils: Soil type or soil association, available from Teagasc³
- iii. Geology: Briefly describe the bedrock geology at the site (it is not necessary to list every formation expected to be intersected in this section, as this will be captured in the groundwater assessment form).
- iv. Surface water: Nearest water course name, distance and Q-status, data available from EPA⁴. Consideration of waterbodies and their intersection with SACs. Please note that there may be low order streams which will not be named or have a Q-status, information on these low order streams will also need to be provided.
- v. Groundwater

¹ <https://www.npws.ie/sites/default/files/publications/pdf/A%20Guide%20to%20Habitats%20in%20Ireland%20-%20Fossitt.pdf>

² <https://www.roscommoncoco.ie/en/download-it/heritage-publications/co-roscommon-habitat-mapping-2011-low-res.pdf>

³ <https://www.teagasc.ie/environment/soil/soil-maps/>

⁴ <https://gis.epa.ie/EPAMaps/>

- Vulnerability and Aquifer type at the site (it is not necessary to list every aquifer expected to be intersected in this section, as this will be captured in the groundwater assessment form). For example, Extreme, Regionally Important Aquifer.
- Distance to Karst features and springs.
- Distance to nearest well and group water abstraction point.
- Distance to groundwater-dependent Natura sites. Are there groundwater-dependent Natura sites within the zone of influence of the proposed activity – Yes/No question. The zone of influence in this case is any site which has a hydrogeological connection to the site.

4. Identification of Natura 2000 Sites¹ within Zone of Influence

- i. Mineral exploration within an SAC or SPA: please indicate if Yes/No. If yes, give name and site code in Appendix 1.
- ii. Mineral exploration within 2km zone of an SAC or SPA: please indicate if Yes/No. If yes, give name and site code in Appendix 1.
- iii. An ecological connection between the mineral exploration site and an SAC or SPA: please indicate if Yes/No. If yes, give name and site code in Appendix 1. Noise and Dust – For drilling, trenching seismic surveys and other surveys involving noise-making equipment, for example, generators, 2km is considered adjacent. Ecological Connection (that is, if drill site is connected to a Natura 2000 site via hedgerows or other ecological connections) – A connection is either the presence in a nearby Natura site of a species that forages outside its normal habitat to a distance that could include the proposed site, or a habitat that extends/is connected to an area outside the Natura site. When assessing SPAs, bird foraging ranges should be considered i.e., is there suitable foraging habitat at the drill site.
- iv. Hydrological or hydrogeological connection between the mineral exploration site and an SAC or SPA: provide indicate if Yes/No. Hydrological/geohydrological connection (i.e. surface or groundwater connection) – A hydrological connection is if a river, lake or stream connects the proposed site with a Natura 2000 site. A hydrogeological connection is if the Natura 2000 site is groundwater dependent and is on an aquifer that could be impacted by the proposed activity.
- v. Mineral exploration site in Annex I habitat?
- vi. Provide details of all SACs / SPAs in Appendix 1.

5. Strictly Protected Species⁵

Note: strictly protected species in Ireland are:

<i>All bat species</i>	<i>Kerry Slug</i>	<i>Killarney Fern</i>
<i>Otter</i>	<i>Dolphins, whales and porpoises</i>	<i>Slender Naiad</i>
<i>Natterjack Toad</i>	<i>Marine turtles</i>	<i>Marsh Saxifrage</i>

- i. Linking pathway to any Annex IV species: please refer to the guidance on the strictly protected species, please indicate if Yes /No
- ii. If yes, refer to guidance document for strictly protected species for details.

6. Consideration of Source-Pathway-Receptor for each potential impact factor.

It is only necessary to consider impacts if there is a potential pathway between the proposed site and a Natura site.

- i. Damage and / or disturbance to habitats and species (i.e. Qualifying Interests) as a result of the proposed activity should be noted.
- ii. Disturbance from noise, vibration and visual disturbance, including mobile and migratory Annex II species and SPA bird species outside Natura 2000 sites. Provide sound pressure at closest point to an SPA or SAC. If online calculators are used, the proposer should satisfy themselves as to their accuracy.
- iii. Disturbance from lighting, including mobile and migratory Annex II species and SPA bird species outside Natura 2000 sites.
- iv. Alteration to hydrogeological regimes (groundwater flow paths). Note if proposed activity is likely to significantly alter hydrogeological flow paths
- v. Alteration to hydrological regimes (for example, abstraction of water from streams). Note if proposed activity is likely to significantly alter hydrological flows.
- vi. Changes in surface water quality and quantity. Note if abstraction to surface water is likely to significantly alter the surface water quality and quantity.

⁵ <https://www.npws.ie/sites/default/files/files/strict-protection-of-certain-animal-and-plant-species.pdf>

- vii. Increase in sedimentation (for example, in streams). Note if significant sedimentation is likely to occur, note if sediment runoff is likely to occur.
- viii. Changes in groundwater quality and quantity. Note if abstraction or discharge to or from groundwater is likely to significantly alter the groundwater quality and quantity.
- ix. Changes in air quality. Note if significant changes in air quality are likely i.e. dust or plant/drill emissions.

7. Consideration of Conservation Objectives (project only)

Consider whether any impact pathway identified in Section 6 (above) could undermine the conservation objectives of the relevant Natura site. Conservation objectives for all Natura sites are available on the NPWS website⁶.

8. Identification of Projects and Plans for 'In combination' assessment⁷.

If a pathway or potential pathway has been identified, but it is not likely to result in a significant effect on a Natura site, identify any plans or projects which may have a cumulative effect.

9. Consider whether any in combination impact pathway identified in Section 8 (above) could undermine the conservation objectives of the relevant Natura site.

Conservation objectives for all Natura sites are available on the NPWS website⁶.

10. Conclusions on likely significant effect.

State clearly whether there is a likely significant effect on any Natura site arising from the proposed activity.

Note: If any answers above are 'Unknown', the screening process will automatically find that an Appropriate Assessment Stage 2 is required.

⁶ <https://www.npws.ie/protected-sites>

⁷ [9729-Office-of-the-Planning-Regulator-Appropriate-Assessment-Screening-booklet-15.pdf](#)

Screening for Aarhus Decision

Context

In compliance with **Article 6.1b of the UNECE Aarhus Convention**⁸, certain mineral development activities must be screened for significant effects to establish whether the provision for 'Public Participation in Decisions on Specific Activities' may be triggered.

The Aarhus screening process for certain mineral exploration activities will be coordinated with the screening processes for AA, EIA and likely impacts on surface and groundwaters to ensure consistency in consideration of the likely impacts of a proposed activity. The Aarhus screening process shall determine if public consultation is required in advance of approval of the proposed mineral exploration activity.

In such cases, the **Screening Assessment for Aarhus** shall determine:

1. Whether the mineral exploration activity, as determined by the accompanying Stage 1 screening for Appropriate Assessment, is likely to have a significant effect on a European Site and can be excluded on the basis of objective scientific information⁹.
2. Whether the mineral exploration activity, as determined by the accompanying EIA Criteria screening assessment, is likely to have a significant effect on any Natural Heritage Area (NHA), proposed Natural Heritage Area (pNHA), Nature Reserve, proposed Nature Reserve, faunal or floral refuge, National Park or National Monument, and can be excluded on the basis of objective scientific information¹⁰.
3. Whether the land, soil and water resource requirements; types and volumes of waste produced; proposed measures or protocols to minimise environmental impact; and the risk of potential pollution or nuisance of the mineral exploration activity will not give rise to significant effects on the environment on the basis of objective scientific information.

⁸ Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters. This Convention was concluded in Aarhus, Denmark in June 1998. The EU is one of the signatories since 2005 under Decision 2005/370/EC <http://ec.europa.eu/environment/aarhus/legislation.htm>.

⁹ In this context, 'significant' is an effect which would undermine a conservation objective of a qualifying interest (QI) feature of an SAC/SPA or a special conservation interest (SCI) of an SPA of any European Site and 'excluded' means that there is reasonable scientific certainty that there would be no such effect.

¹⁰ In this context, the location and Zone of Influence of the proposed Activity, with particular regard to the provisions of the Wildlife Act 1976, as amended by the Wildlife (Amendment) Act 2000; and National Monuments Act 1930.

4. In consideration of nuisance, whether the proposed activity will have an adverse effect on 'near neighbours' in terms of noise and emissions; or on the cultural heritage (national monuments and sites) within 2km of the location in which the activity may take place.

Applicant Details

Please enter:

- Applicant: Company Name (the PLA holder/operator)
- PLA: Prospecting Licence Area.
- Contact Person: This is the main contact for questions regarding the proposed activity.
- Resident manager: if different to contact person
- Contractor: Main contact for contractor carrying out the work, if applicable

Checklist

Please ensure that the Appropriate Assessment Screening Stage 1 (e.g., drilling, trenching, geophysics), EIA Criteria (drilling only), and Ground & Surface Water Risk Assessment (drilling only) forms have been completed in full, which will inform the following screening for Aarhus determination. Activities that have previously been screened as part of the licence application, renewal or review process do not have to be screened again, unless they are in, or adjacent to a European (Natura) site.

Description of Project

If the AA Screening form has been correctly filled in, these details should automatically be populated on the Aarhus Screening form.

Provision of Geographic Information System (GIS) Files

Please provide ESRI Shapefiles (.shp) or equivalent for ALL proposed activities or areas. The files should either be in Irish National Grid TM65 (ING) or Irish Transverse Mercator (ITM).

Aarhus Screening Questions

A. Has Landowner agreement for the proposed activity been secured in advance?

Yes/ No

- Provide any relevant details relating to seasonality or timing relative to farming activities.

B. Have 'Noise Sensitive Receptors' such as residents of nearby dwellings and others potentially impacted by proposed activity (e.g. schools) have been notified in advance?¹¹

- Provide summary distances to receptors such as dwellings/ residences or schools/ hospitals within 500m of the proposed activity.
- Explain, for example, given the distance from receptors and proposed short duration of the drilling activity, consultations are/are not considered necessary; OR, given the proximity (<200m) to noise sensitive receptors such as residential dwellings, near neighbours have been consulted about the drill timing and duration.
- Provide a map/ satellite image of the location of noise sensitive receptors such as dwellings relative to the proposed activity.

1. Nature & Duration of Proposed Activity

- Nature of activity: for example, Diamond drilling of 300m.
- Duration, for example: 2-4 weeks, commencing in late September.
- Timing/daily: for example, Mon-Sat, 8am to 6pm.

2. Characteristics of the Proposed Activity

i. The resource requirements, in particular land, soil and water, of the activity:

- Land use: for example, Area in hectare (Ha) or squared metres (m²), for drilling this should include drill site and pump site footprint.
- Soil use: It is not expected that any significant soil use will be required, in which case the answer should be 'low' or 'negligible'.

¹¹ Note: consultation with 'near neighbours' as noise sensitive receptors is considered to be best practice and is strongly advocated by GSRO to reduce potential nuisance impacts.

- Water use (m³/day): Volume of water to be abstracted, in m³/day.
- Water source: for example, stream, well.
- Water treatment: indicate yes or no if water will be treated.

ii. Type and Volume of Waste Produced

- Nature of Solid Waste: for example, dry drill cuttings, consisting of limestone rock chips and silt.
- Volume of Solid Waste: Applicants should make an informed estimate based on their knowledge of the formations to be drilled.
- Nature of Liquid Waste: for example drill return water with drilling additives (provide Safety Data Sheets for additives)
- Volume of Liquid Waste: for example, 10m³/day.

iii. The method proposed for the waste disposal;

- Method and location of solid waste disposal: for example, drill cuttings will be captured using settlement tanks and removed to a licenced disposal site.
- Method and location of disposal of water: for example, use of settlement tanks to remove silts/ clay fraction prior to natural percolation.

iv. Machinery and emissions to air;

- Describe the type of machinery to be used: including type and number of support vehicles, and likely emissions, for example, machinery that is approximately the same scale as large farm machinery will likely have low to negligible emissions, of short duration for routine drilling operations.
- Transport, access, and temporary site compounds: describe route to site, and whether clearing or installation of temporary tracks, or clearance for drill pads, is necessary.

v. The measures and protocols proposed in order to minimise potential pollution or nuisance, or risk of environmental impact.

Issues to be considered:

- Monitoring protocol: daily checks & monitoring should be carried out on-site manager/ site geologist.
- Site access on designated tracks.

- Site housekeeping & storage of fuels: bunding, secure storage of fluids & materials, use of spill kits, use of matting.
- Additives/greases used in activity to be non-hazardous, non-toxic and biodegradable.
- Use of electric pumps vs diesel pumps.
- Fluid management: for example, recirculation, no direct discharge of return drilling fluids to a watercourse.
- Distance to nearest domestic well.
- Distance to public group water supplies.
- Distance to nearest properties.
- Distance to nearest noise sensitive receptors such as neighbouring dwellings.
- Sound pressure at nearest noise sensitive receptors.
- Does the sound pressure at nearest noise sensitive location meets the EPA noise guidance criteria¹²?
- Outline spill management procedure.
- Remediation and rehabilitation of the site, for example, drillholes to be plugged (to reduce artesian flow and surface water ingress); and areas to be reseeded, trenches to be backfilled with topsoil, subsoils, rehabilitated in sequence of excavation, soil sample sites backfilled with topsoils.
- Is a site Emergency Management Plan in place?

3. Screening will assess Activity in relation to the following sites

The Location and Zone of Influence of a Proposed Activity must be considered with particular regard to the provisions of the Wildlife Act 1976, as amended by the Wildlife (Amendment) Act 2000; and National Monuments Act 1930 on any designated sites, nature reserves, flora/fauna refuges, or national parks, to this regard please populate i to vii in Appendix 1 to include:

¹² <https://www.epa.ie/publications/monitoring--assessment/noise/EPA-Guidance-Note-for-Noise-Action-Planning.pdf>

- i. Names of Natura sites, NHAs, pNHAs, Nature Reserves, proposed Nature Reserves, floral or faunal refuge or National Parks within the zone of Influence of the proposed Activity.
- ii. Qualifying interests for SACs, SPAs, NHAs and pNHAs.
- iii. Notes on nature reserves, national parks within zone of influence showing distances from Natura sites.
- iv. Maps of Natura sites, NHAs, pNHAs, Nature Reserves, proposed Nature Reserves, floral or faunal refuge or National Parks within the zone of Influence of the proposed Activity.
- v. Provide details of the National Monuments.
- vi. Surface water - Nearest water course name, distance and Q-status, data available from EPA¹³. Consideration of waterbodies and their intersection with SACs.
- vii. Groundwater
 - Vulnerability and Aquifer type at the site (it is not necessary to list every aquifer expected to be intersected in this section, will be required in the groundwater assessment). E.g., Extreme, Regionally Important Aquifer.
 - Distance to Karst features and springs.
 - Distance to nearest well and group water abstraction point.
 - Distance to groundwater-dependent Natura sites. Are there groundwater-dependent Natura sites within the zone of influence of the proposed activity – Yes/No question. The zone of influence in this case is any site which has a hydrogeological connection to the site.

4. Conclusions on Requirement for Public Consultation.

- Based on the information collated above, will there be significant impacts with respect of Aarhus considerations, and will Public Consultation be required?

¹³ <https://gis.epa.ie/EPAMaps/>

EIA Criteria Assessment

Introduction

The form sets out the assessment criteria that will be used to appraise proposals for minerals exploration projects to ascertain whether Environmental Impact Assessment (EIA) Screening is required. The EIA criteria assessment is only related to those activities associated with drilling. The assessment is based upon criteria as set out in the following:

- Environmental Impact Assessment Directive (2014/52/EU) (referred to as the 'EIA Directive')
- European Union (Environmental Impact Assessment) (Minerals Development Act 1940) (Amendment) Regulations 2018 (S.I. No. 384 of 2018) (referred to as the 'EIA MDA Regs')
- European Union (Planning and Development) (Environmental Impact Assessment) Regulations 2018 (S.I. No. 296 of 2018) (referred to as the 'EIA P&D Regs')

The Geoscience Regulation Office (GSRO) can then make an informed decision as to whether EIA is required for a proposed mineral exploration drilling project. The term 'project' is defined in Article 1(2) of the EIA Directive as: **'the execution of construction works or of other installations or schemes, other interventions in the natural surroundings and landscape including those involving the extraction of mineral resources.'**

It is important to note that the EIA process should consider the whole development that is proposed, including supporting infrastructure and demolition works, whereby the full scope of a project must be taken into account. The GSRO is only able to provide direction on the EIA requirements associated with mineral exploration activities, and it is a developer's responsibility to consider whether other non-mineral exploration activities or aspects of a wider project are appropriately screened for EIA.

The EIA assessment criteria within this report therefore relate solely to mineral exploration and there is a three-step process to ascertain whether EIA or EIA screening is required for specific mineral exploration activities:

- **Stage 1** – Consideration of the full project to determine whether there are non-mineral exploration activities that require EIA Screening or mandatory EIA, for example construction of access roads, storage areas or underground development for exploration purposes.

- **Stage 2** – An initial filter, using criteria from the ‘EIA MDA Regulations¹⁴’, to give consideration of mineral exploration activities to see if a case-by-case EIA Screening Determination is required.
- **Stage 3** – Case-by-case EIA Screening Determination of mineral exploration activities (if required by Step 2) using criteria from the ‘EIA Planning and Development Regulations¹⁵’.

Instructions

Project Description

1. Provide (a) name and (b) address of applicant.
2. Enter BRIEF description of proposed drill programme, for example number of drill holes, area covered, duration.
3. Are there any non-drilling aspects of the project? Indicate Yes or No
 - a) Do the non-drilling aspects of the project fall within the classes and thresholds set out in Part 1 or Part 2 of Schedule 5 of the Planning and Development Regulations 2001? Indicate Yes or No, if you have answered yes to question 3.
 - b) Do the non-mineral exploration aspects of the project of a class specified in Part 2 of Schedule 5 which does not equal or exceed, as the case may be, the specified quantity, area or limit -requires EIA Screening? Indicate Yes or No, if you have answered yes to question 3.
4. Is the activity site located within 2km of a Natura 2000 site? Indicate Yes or No
5. Has previous drilling been undertaken by the applicant within 6 months and within 2km of the current site? Indicate Yes or No

¹⁴ [SI 384/2018 European Union \(Environmental Impact Assessment\) \(Minerals Development Act 1940\) \(Amendment\) Regulations 2018.](#)

¹⁵ [SI 600/2001 Planning and Development Regulations, 2001.](#)

Mineral Exploration Drilling Specific Screening Checklist

(Note: A No answer for any one of the criteria below will result in the proposed activity being referred for a case-by-case EIA screening)

Criteria

- a) If the application is for a single drillhole, multiple drillholes or for an area of interest please provide a site layout map at an appropriate scale. Indicate location of water pump relative to planned drillholes. Note: more than 10 drillholes per Area of Interest will trigger the need for an EIA screening.
- b) Provide map showing location of nearest NHA and pNHA and state distance(s) from drill site(s) / Area of Interest.
- c) Provide map showing location of nearest Natura site and state distance(s) from drill site(s) / Area of Interest.
- d) Provide details within the criteria table, note the location of the pump should be included in the site layout map provided in (a) above.
- e) Provide map showing distance to nearest domestic well and state distance from drill site(s). For an Area of Interest show the 100m exclusion zones for all domestic wells. All domestic wells must be ground truthed.
- f) Provide map showing distance from drill site(s) to nearest public water supply well and state distance from drill site(s). For an Area of Interest show the 300m exclusion zones for all public water supply wells.
- g) State the EPA level criteria at the nearest noise sensitive receptors, for example whether in an area designated as 'Quiet Area' or 'Area of Low Background Noise'¹⁶.
 - Provide a map showing noise sensitive receptors and indicate the distance from drill sites. For an Area of Interest provide a map indicating the exclusion zones which have been calculated from the minimum allowable distances to noise sensitive receptors.
 - Provide noise level report on equipment to be used, and noise management procedures. State noise pressure from the equipment at an appropriate distance, for example 55dB at a distance of 50m. *Note: many*

¹⁶ [https://www.epa.ie/publications/monitoring--assessment/noise/NG4-Guidance-Note-\(January-2016-Update\).pdf](https://www.epa.ie/publications/monitoring--assessment/noise/NG4-Guidance-Note-(January-2016-Update).pdf)

drilling companies can provide these data as part of their standard operating procedures.

- h) State distance to nearest National Park. If park is within 15km of proposed drill site(s) / Area of Interest, provide map.

EIA Screening Determination

Case by Case EIA Screening Determination Checklist – Guidance

This form is required to undertake case by case EIA Screening determination resulting from a 'No' answer to one or more questions in the EIA Criteria Checklist. The case-by-case determination is undertaken to appraise whether there would be likely significant effects on the environment in line with Article 6 (c) of the EIA MDA Regulations which in turn reference Schedule 7A of the EIA P&D Regs and the EIA Directive.

Screening Questions

The screening questions are straightforward, requiring Yes/No/Unknown answers, but further detail will be required if the answer is 'Yes'. Guidance is supplied below where it is considered necessary. Note that an answer of 'Unknown' will trigger a full EIA assessment. Note: Most of the required information to the questions below can be collated from the previously populated AA and Aarhus screening forms.

1. Describe any physical changes to landscape, land use or watercourses. Clearly state 'No', if no changes will occur. If 'Yes', state whether it is likely to result in a significant effect, and why. Note that proposers have to consider the project in its totality, while GSRO will only assess mineral exploration.
2. Drilling itself is unlikely to require the use of natural resources, other than water, which should be treated and returned to the environment under Standard Operating Procedures and GSRO guidance on discharge to surface and groundwater. Any other work to facilitate the drilling project will also have to be considered.
3. Please provide details of any materials to be used, including standard (non-hazardous, non-toxic and biodegradable) drilling additives.
4. Provide estimate of type and volume of drill cuttings expected to be produced, based on best available knowledge.
5. This includes exhaust fumes from drill rigs, generators and pumps.
6. Provide detail on noise and light (if relevant).
7. Standard Operating Procedures include the use of only non-hazardous, non-toxic drilling additives, details for these should already be provided in answer to Question 3. Describe measures taken to ensure that oil/fuel spills will not occur (for example matting, bunding, storage).

8. Provide some detail on workplace and risk/mitigation of accidental discharge with public safety measures to be taken, including site security.
9. A temporary drilling project is not expected to have any such effect.
10. A temporary drilling project is not expected to have any such effect unless it is expected that further development is likely.
11. Use information previously provided in Appropriate Assessment, Surface and Groundwater, and Aarhus screening forms.
12. Use information previously provided in Appropriate Assessment, Surface and Groundwater, and Aarhus screening forms.
13. Use information previously provided in Appropriate Assessment, Surface and Groundwater, and Aarhus screening forms.
14. Use information previously provided in Surface and Groundwater, and Aarhus screening forms.
15. A temporary drilling project is not expected to have any such effect.
16. Provide details and site configuration in context of any such routes or facilities.
17. Provide details and site access in context of any such routes.
18. A temporary drilling project is not expected to have any significant effect. Longer term projects for example, for deviation drilling, may have to consider the issue.
19. It is Standard Operating Procedure to treat National Monument Zones of Notification as exclusion zones for the purposes of drilling, unless the applicant has received prior written approval from the Minister for Housing, Local Government and Heritage.
20. A temporary drilling project is not expected to have any such effect.
21. A temporary drilling project is not expected to have any such effect, but other existing uses should be considered.
22. Check www.myplan.ie for other planned uses.
23. Provide noise and distance from sensitive receptor information here (Note: drilling within 'non-rural' areas is likely to require planning permission).
24. Provide distances to any such sensitive land uses if any are within 2km of the proposed drill site and consider the effects of the drilling.
25. Provide distances to any such land uses if any are within 2km of the proposed drill site and consider the effects of the drilling. Providing that Standard Operating

Procedures are to be used, it is not expected that temporary drilling would have a significant impact on such land uses.

26. Check www.epa.ie to see if existing legal environmental standards are exceeded in the area.
27. These conditions are unusual and unlikely to cause the project to present environmental problems, but they should be considered.

Risk Assessment of Discharge to Surface and Groundwater

Introduction

This guideline form has been developed by GSRO with reference to the draft guidance document entitled '*Exploration Drilling - Guidance on Discharge to Surface and Groundwater (v19.01, August 2019)*¹⁷'. The guidance document outlines procedures and risk assessments to be carried out for exploration drilling to comply with the *EC Environmental Objectives (Groundwater) Regulations, 2010 (SI No. 9 of 2010)*. This document additionally outlines the necessary measures to be adopted during drilling to protect sensitive receptors such as groundwater wells and surface water bodies from any potential contamination.

The form is designed to assist exploration companies with the submission of the correct information in a suitable format and should not be regarded as a comprehensive guide; it is not intended to be a wholly prescriptive form.

Where there are deficiencies or uncertainties in the information provided in the report submitted to GSRO, these should be clearly marked to indicate where further data gathering may be required. For drilling applications in County Limerick, applicants are also required to obtain a discharge licence from Limerick County Council issued under Section 4 of the Local Government (Water Pollution) Act 1977, as amended in 1990.

1. Proposed Activity

- i. Scale of activity:
 - Grassroots exploration – 1 to 3 planned drill holes per catchment
 - Intermediate scale – 4 – 10 drill holes
 - Advanced > 10 drill holes (Please note will require EIA screening).
- ii. Source of abstraction / supply: If the source of water is stream water the remaining information regarding the watercourse name, sufficient flow for abstraction, distance and Q status is required. Please note that there may be low order streams which will not be named or have a Q-status, information on these low order streams will also need to be provided.

¹⁷ [EXPLORATION DRILLING - GUIDANCE ON DISCHARGE TO GROUNDWATER - 688db9fa-ee00-4d4c-aa3b-3bb4e805c7ae.pdf \(www.gov.ie\)](https://www.gov.ie/en/publications-and-statements/publication-exploration-drilling-guidance-on-discharge-to-groundwater-688db9fa-ee00-4d4c-aa3b-3bb4e805c7ae.pdf)

- iii. How will water be discharged? For example, water will be discharged at surface away from watercourses to undergo natural percolation.
- iv. Expected water loss based on likely water return using previous experience in that area/ or equivalent formations.
- v. The method proposed for the waste disposal.
 - The method proposed for the waste disposal Method and location of solid waste disposal, for example, drill cuttings will be captured using settlement tanks and removed to a licenced disposal site.
 - Method and location of disposal of water, for example, use of settlement tanks to remove silts/ clay fraction prior to natural percolation.
- vi. Names, volumes and management of fuels/ oils/ drilling additives on site: Names, daily average volume, management of fuels / oils / drilling additives, for example, spill kits, mats, bunding, etc.
 - Include Safety Data Sheet (SDS) as an attachment for drilling additives.

2. Environmental Setting

- i. Geology: List all geological strata likely to be encountered to depth. It is understood that in some cases, this will not be known in detail, but applicants should use best available scientific information.
- ii. Regional Hydrogeology: List all aquifers expected to be encountered at depth. Aquifer data available from the Geological Survey of Ireland's Map Viewer¹⁸. Provide, based on best available scientific knowledge, the aquifer classifications expected to be intersected by the planned drill holes, for example, 0-250m - Regionally important aquifer; 250-350m – Locally important aquifer; 350m-400m – Regionally important aquifer.
- iii. Domestic Water Supply Wells: Applicants should carry out their own surveys for wells and not rely solely on the GSI's database, which may be out of date (speaking to local farmers may be particularly useful in this regard).
- iv. Designated sites: Distance to any water dependent designated sites, including SACs, SPAs, NHAs or pNHAs to be completed in Appendix 1 of the forms.

¹⁸ <https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0ab2fbde2aac3c228>

3. Surface Water and Groundwater Risk Assessment

i. Direct Discharge Risk Assessment

This section refers to direct discharge to groundwater, as GSRO standard operating procedures (SOPs), and normal drilling practice, are such that no direct discharge to surface water is permitted. Direct discharge to groundwater is almost always unavoidable.

The following description is taken from the Geological Survey of Ireland's website¹⁹, explaining the Source-Pathway-Receptor model for environmental management.

Source – This is the activity that potentially causes a threat to a sensitive water receptor, for example, pathogens in surface water are introduced to aquifer by drilling activities.

Pathway - The pathway includes everything between the source and the receptor. It is from the point of release of contaminants through geological materials and layers to the groundwater (receptor). The pathway is determined by the groundwater vulnerability.

Receptors - The receptor is the water which has to be protected. Check distance to wells and other sensitive receptors.

- Source: for example, surface waters used for drilling, pumped down drill hole
- Pollutant Type: for example, Pathogens in surface water m3/day.
- Pathway (from GSI vulnerability maps): Flow regime (fissure, karst, conduit, intergranular, Aquifer type).
- Receptors: for example, domestic well >500m to the west.

ii. Indirect Discharge Risk Assessment

This section refers to indirect discharge, whereby drilling waters are returned to the environment via percolation and will return to groundwater and possibly to surface water.

- 1) Source: for example, used drilling water released to environment to undergo natural percolation.
- 2) Pollutant type: for example, Pathogens in surface water m3/day.
- 3) Discharge rate: for example, 10-15m3 on day drill hole decommissioned.

¹⁹<https://www.gsi.ie/en-ie/programmes-and-projects/groundwater/activities/understanding-ireland-groundwater/groundwater-vulnerability/Pages/Component-of-risk.aspx#:~:text=Source%2DPathway%2DReceptor&text=Source%3A%20The%20source%20is%20the%20depth%20of%20release.>

- 4) Are drilling additives non-toxic, non-hazardous and biodegradable?
Indicate Yes or No.
- 5) Pathway (from GSI vulnerability maps): Flow regime (fissure, karst, conduit, intergranular, Aquifer type).
- 6) Receptors: list wells and other sensitive receptors²⁰, for example a domestic well, a stream feeding into SPA etc.
- 7) Proximity to sensitive receptors, for example, domestic well - >500m to the west, stream - 240m to the east.

4. Standard Operating Procedures (SOPs) and Technical Assessment

This section deals with SOPs to be used for the drill programme.

Standard Operating Procedures are normal practices which are carried out in all cases.

SOPs have naturally developed over time, as technology has changed, and environmental awareness improved. The development in recent years of ultraviolet (UV) or similar water treatment techniques has resulted in this technique being added to many companies' SOPs. The adoption of UV or equivalent treatment as a standard procedure will significantly reduce the risk of inadvertently introducing pathogens to groundwater via drilling activities.

It should be noted that SOPs are not the same as mitigation measures, which are an addition to SOPs and intended to avoid or mitigate potential harm to specific sites or sensitive receptors. Mitigation measures should not be included in the Stage 1 Screening of the Mineral Exploration activity.

The applicant should include their SOPs and those of their contractor as an appendix to the application.

SOPs to include details on:

- Water Treatment
- Water re-circulation with settlement tanks
- Mats & spill kits
- Water Treatment Method
- Other Procedures

²⁰ The site where any proposed mineral exploration activity will take place should be more than 100m from water abstraction/ wells carried on for purposes of human consumption on a non-commercial basis (Domestic or Agri-Domestic Well) and more than 300m from water abstraction / wells carried on for the purpose of supply of water to the Public.

Geological / Hydrological / Ecological Conditions

- i. Distance from group or public water supply borehole.
- ii. Distance from spring.
- iii. Identified sensitive ecological receptors (for example, SPA, SAC, NHA, pNHA) (Details to be provided in Appendix 1);
 - o Receptor: name of site & site code
 - o Distance: along pathway, rather than straight line distance, for example, if potential link is via a local stream to an SPA, measure along the path of the stream, rather than in a straight line.
 - o Link: is the link via surface or groundwater, and what is the nature of the link?
- iv. Operations distance to any surface water body.
- v. Distance to any sensitive water courses, including drinking water rivers/lakes, salmonid rivers or nutrient sensitive rivers.
- vi. Flood Risk (Surface Water and Groundwater) OPW CFRAMS (floodinfo), for example, medium flood risk river 250m southeast of site; data available from <https://www.floodinfo.ie/map/floodmaps/>.
- vii. Surface water catchment – data available from <https://gis.epa.ie/EPAMaps/>.
- viii. Number of drillholes planned in catchment – this is per catchment, please check whether drill holes in the application are in more than one catchment.
- ix. Karst bedrock and Karst Features: Note nearest karst features or mapped bedrock at surface. Provide distance to all receptors within 2km.
- x. Aquifer classification to depth of drillholes planned: List all aquifers expected to be encountered at depth. Aquifer data available from the Geological Survey of Ireland's Map Viewer²¹. Provide, based on best available scientific knowledge, the aquifer classifications expected to be intersected by the planned drill holes, for example, 0-250m - Regionally important aquifer; 250-350m – Locally important aquifer; 350m-400m – Regionally important aquifer.

Provide assessed risk level based on GSRO Guidelines¹⁷.

²¹ <https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0ab2fbde2aaac3c228>

Further information on screening assessments may be requested from the GSRO (GSRO@decc.gov.ie).