



**Exploration
& Mining**
Division Minerals
Ireland

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Department of
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Climate Action &
Environment

Guidance for Good Environmental Practice in Mineral Exploration

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Contents

1. Introduction	2
2. General Principles	2
3. Commencement and Supervision of Work	3
4. Drilling	4
5. Excavations / Trenching	6
6. Water Services.....	7
7. Pumping and other Groundwater Tests.....	8
8. Stream Sediment Sampling	8
9. Ground Geophysical Surveys.....	8
10. Record of Work	9
11. Restricted Areas	9

1. Introduction

The *Guidance for Good Environmental Practice in Mineral Exploration* is intended to supplement the specific requirements set out in Prospecting Licences and other provisions as issued by the Minister of Communications, Climate Action and Environment (DCCA).

In accordance with Regulation 42(1) of the European Communities (Birds and Natural Habitats) Regulations, 2011, S.I. No. 477 of 2011, the Minister must undertake an Appropriate Assessment screening to assess, in view of best scientific knowledge and the conservation objectives of the site, if the project (Exploration Activity), individually or in combination with other plans or projects is likely to have a significant effect on a European Site. The Minister is also required to carry out a determination as to whether an exploration drilling project requires screening for Environmental Impact Assessment (EIA) in accordance with Section 8A (4) of the Minerals Development Act 1940, as amended.

The guidance, in conjunction with other Departmental guidance, sets out the principles and practices needed by companies to carry out an environmentally responsible exploration project. Additional information and guidance can be found at <http://www.mineralsireland.ie/> or <https://www.dcca.gov.ie/en-ie/natural-resources/topics/Minerals-Exploration-Mining/Pages/home.aspx>

2. General Principles

1. Environmentally responsible management should be an integral component of all exploration programmes.
2. Those involved in exploration activities should make themselves fully aware of any ecological or heritage sites of interest within or adjacent to the boundaries of their prospecting licence such as Natura 2000 Sites (Special Areas of Conservation and Special Protection Areas), National Parks, National Heritage Areas (NHA), proposed National Heritage Areas (pNHA) and National Monuments.
3. There should be compliance with all relevant Government laws and regulations, including for the protection of the environment. The principal environmental legislation of direct relevance to exploration includes:
 - European Communities (Birds and Natural Habitats) Regulations, 2011 (S.I. No. 477 of 2011)
 - European Communities Environmental Objectives (Groundwater) Regulations, 2010 (S.I. No. 9 of 2010)
 - European Communities Environmental Objectives (Surface Water) Regulations, 2009 (S.I. No. 272 of 2009)
 - European Communities Environmental Objectives (Freshwater Pearl Mussel) Regulations, 2009 (S.I. No. 296 of 2009)
 - Local Government (Water Pollution) Acts 1977 to 2007
 - European Communities (Drinking Water) Regulations, 2014 (S.I. No. 122 of 2014)

- Waste Management (Management of Waste from the Extractive Industries) Regulations 2009 (S.I. No. 566 of 2009)
 - European Communities (Environmental Impact Assessment of Projects) Regulations, 2014 (Directive 2011/92/EU as amended by 2014/52/EU)
 - European Union (Appropriate Assessment) (Minerals Development Act 1940) Regulations 2018 (S.I. No. 385 of 2018)
 - European Union (Environmental Impact Assessment) (Minerals Development Act 1940) (Amendment) Regulations 2018 (S.I. No. 384 of 2018)
 - European Union (Environmental Impact Assessment) (Minerals Development Act 1940) (Amendment) Regulations 2019 (S.I. No. 164 of 2019)
4. All exploration activities are required to be screened for Appropriate Assessment to assess whether the activity is likely to have the potential to have a significant effect on a European Site.
 5. Drilling is required to be screened for Appropriate Assessment and assessed to determine whether screening under the EIA Directive is required, taking into account the criteria set out in Section 8A (4) of the Minerals Development Act 1940, as amended.
 6. Best contemporary practice in environmental management standards shall be maintained in conjunction with effective exploration, regardless of the location of operations.
 7. An environmental operating or management plan should be developed prior to implementation detailing environmental protocols.
 8. The environmental risks associated with all exploration activities should be considered and planned for. Best practice procedures should be implemented to minimise any environmental impact and these procedures should be clearly outlined and communicated to all contractors and employees prior to commencing any activity.
 9. Holders of Prospecting Licences should take responsibility for ensuring that all contractors and employees are fully informed of these Guidelines and legislative requirements and must ensure that adequate insurance cover is in place prior to entry.
 10. There should be full consideration and close liaison with relevant landowners and regulatory authorities.
 11. Any damage to vegetation, land surface or landowner property that may occur as a result of exploration should be corrected without undue delay.

3. Commencement and Supervision of Work

Prior to the start of any field work the Exploration and Mining Division (EMD) must be provided with the name and contact details of the Resident Manager, if different from that submitted during the licencing application process. The Resident Manager must be in the jurisdiction during the fieldwork or appoint a deputy, in agreement with EMD. This is so that in the event of EMD being notified of an issue we can contact the relevant parties quickly.

Where practicable, agreement should be obtained from landowners before entering onto lands for geological mapping, prospecting, geochemical or geophysical surveying, trenching or

drilling. There must be due regard for agricultural activities of landowners, and exploration programmes should be appropriately scheduled so as to cause minimum or no disturbance to such activities. Where disturbance of land or farming activity is expected e.g. during trenching or drilling, compensation must be agreed with the farmer or landowner beforehand. Where disturbance exceeds that which was agreed with the landowner and agreement on the damage cannot be achieved a mutually agreed independent arbitrator may be consulted.

With respect to drilling or trenching, there should be a field supervisor whose name, company address and telephone number are given to the landowner. The field supervisor should be acquainted with relevant local regulations (control of crop or stock disease, quarantine regulations, etc.). The exploration company will accept responsibility for the actions of their contractors and of their subcontractors and of all persons employed by them in connection with the works, except for actions carried out expressly at the request of the owner or occupier of the land.

Field equipment, other than drill rigs and heavy excavation machinery needed to be left in place overnight, should not be left unattended in fields or by roadsides. On the completion of work, care should be taken to ensure that no equipment or materials are left behind which may cause injury to persons or animals, or cause pollution.

With regard to any drilling or excavation works, the field supervisor must, before work is initiated, discuss and identify with the landowner suitable entry points, watering points for stock, power and telephone cables, pipelines, etc. Particular attention should be paid to sensitive areas (crop harvesting, etc.), livestock management (calving, foaling, etc.), disease spread and spread of noxious weeds and invasive species. Target areas should also be checked for sensitive ecological sites or any archaeological features and measures taken to prevent any damage.

The field supervisor must also inform the landowner as to the remedial measures that would be immediately undertaken in the event of water or land pollution, and inform the relevant landowners and appropriate regulatory bodies immediately in the event of any pollution incident.

It should be noted that planning permission may be required for certain activities such as construction of access roads.

4. Drilling

Operators are required to comply with procedures outlined in: '[Exploration Drilling - Guidance on Discharge to Surface and Groundwater](#)' (2019, DCCAE). A photographic record should be kept for all sites, showing the situation before, during, on completion and if appropriate, after a suitable rehabilitation time has elapsed. For certain sensitive areas (e.g. wetlands, farmland), it may be necessary to use modified vehicles for minimum access damage.

Vehicle access routes to the site should be agreed in advance with the landowner.

Where there is a possibility of artesian conditions, precautionary steps should be taken to handle the water flow. If artesian conditions are intersected, the flow must be shut off within the lithological unit in which such conditions arise. If the drillhole is collared in unconsolidated overburden likely to contain an aquifer, the casing should be kept at least 300mm above ground level and the return water prevented from entering the casing area. If groundwater vulnerability is a potential problem or if there is any groundwater flow from drilling operations, the drillholes should be fully sealed. Where future re-entry of a drillhole is envisaged, secure and lockable caps must be fitted.

Since both fuel and hydraulic oils are used by drilling and pumping equipment, fail-safe storage and anti-vandal spillage precautions must be taken. Bulk tanks should be kept locked and in secure locations well away from areas where spillage could affect people, stock or watercourses. Fuelling procedures should be specified for contractors and separate containers kept in the vicinity of unattended rigs or pumps should be made secure. Pumps should be located far enough back from water sources so that any pollution can be contained. In case of spillage, contingency provisions should be on hand (e.g. oil absorbent mats and spill kits), and remedial action immediately undertaken. The exploration company is totally responsible for all materials, liquids or other substances brought onto the land and any consequential damage resulting from these materials. Water source for drilling should be carefully considered before use, taking into account the risk assessment procedures outlined in the above drilling guidelines.

Care should be taken to minimize damage to vegetation, and on cessation of drilling and clearance of the site, rehabilitation should be commenced at the earliest appropriate time.

Noise problems can arise when drilling in proximity to residential or noise sensitive areas. Where drilling and pumping must take place in such locations, standard operating procedures, including noise barriers, should be taken to reduce noise emissions, at source, to acceptable levels and activity should not be permitted during unsocial hours.

In addition, drilling and pumping sites should be securely fenced to exclude grazing animals; drill rods should be stacked in the safest possible manner, inside the site; all oils and greases should be securely stored and at no time should grease be accessible to livestock; the highest possible standard of housekeeping should be insisted upon on the drilling site, storage and assembly areas and meticulous clearance carried out when work is completed. On completion of the work the site and the access routes should be restored to their condition prior to commencement, or as close thereto as possible. The rehabilitation must be to the satisfaction of the landowner, and if compensation or rehabilitation is required it should be finalised without delay.

Holders of Prospecting Licences should develop their own drilling protocols taking account of the above recommendations (at a minimum) and submit these protocols to the Department when drilling approval is sought.

Drilling anywhere within a PLA will require prior approval from EMD. The drilling submission will be screened for Appropriate Assessment and a Determination made by DCCAE. The drilling submission will also be assessed to determine whether screening under the EIA Directive will be necessary. EIA Criteria Assessment Tables and relevant supporting documentation should be submitted to EMD with all drilling applications. As per the Minerals Act 1940 a minimum of two weeks notice must be given to EMD. However, in environmentally sensitive locations, a longer notice period is required in order to complete the process, particularly where consultation with other bodies, such as the NPWS, is required.

5. Excavations / Trenching

Similar concerns with regard to surface aspects of groundwater and drilling apply to excavations / trenching, and the same approach should be used. If possible the work should be done in dry weather, and surface runoff water diverted around the excavation or trench. A photographic record should be kept for all sites, showing the situation before, during, on completion and after a suitable rehabilitation time has elapsed. Safety requirements are essential in planning and implementing the actual trench work - further information, guidance and procedures are available from the Health and Safety Authority website, https://www.hsa.ie/eng/your_industry/construction/construction_faq's/excavations/. These guidelines indicate how the works should be implemented, includes requirements for a competent person to oversee the works and must be followed.

Excavation should adopt a suitable set back distance from streams or rivers. If possible, excavations should also be avoided in fields with old 'french drains'; if encountered they should be correctly replaced.

A temporary fence must be erected around any excavation, equipment and spoil heaps. The fence should be at an appropriate distance beyond the opening, and no chemicals/petroleum-based products should be kept in this area. Unless otherwise agreed with the landowner, the fence should be adequate for the purpose of excluding any livestock kept on adjoining land. All temporary fencing should be erected in position before excavation commences and subsequently maintained until reinstatement of land is completed.

If pumping is necessary to prevent excavations from becoming waterlogged, the discharge must be treated prior to discharge into suitable drains or onto stable slopes, and never directly into receiving waters. Discharge from the excavations should be treated as per EMD's [Exploration Drilling – Guidance on Discharge to Surface and Groundwater](#)

All topsoil should be kept separate and stacked to one side of the working area and kept free from the passage of vehicles and plant. In sensitive areas of vegetation, sods should be taken and carefully preserved for reinstatement. Subsoil and hard-core materials should be kept separate from topsoil. Contaminated soil should be clearly identified and remediated.

Reinstatement of land must be carried out without delay, according to best contemporary environmental practice. After backfilling, the topsoil should be carefully replaced, and

additional topsoil provided if reasonably required for proper reinstatement. Care should be taken to restore ground to a condition at least equivalent to that existing before the commencement of the works. This should involve;

- the topsoil being left in a loose and friable condition
- appropriate levelling off of the ground so as to present a neat appearance. The level of the trench area should be the same as that of the undisturbed surrounding ground one year after restoration is completed
- the removal of all stones in excess of 50mm (2") in diameter from the surface
- the reseeded of the area in consultation with the landowners. The rate of seeding and time and method of sowing including application of fertiliser, should be in accordance with good agricultural practice.

On completion of the works the company must remove all temporary buildings, fences, roadways, all surplus soil, stones or gravel and any debris such as trees, brushwood, etc. and any other matter that does not naturally belong to the site. The site should be left clean and tidy, to the satisfaction of the landowner, and if required by the landowner, the company should plant shallow-rooted trees, shrubs, or hedging to replace any which have been removed.

If compensation is required, it should be finalized without delay. Follow up visits should be made after six months to assess the quality of rehabilitation, and any required remedial work undertaken to the satisfaction of the landowner.

Excavations / Trenching anywhere within a PLA will require prior approval from EMD. The submission will be screened for Appropriate Assessment and a Determination made by DCCAE. As per the Minerals Act 1940 a minimum of two weeks notice must be given to EMD. In the case of environmentally sensitive areas, additional notice time beyond the two weeks may be required to complete the process.

6. Water Services

All necessary precautions must be taken to protect all watercourses and water supplies against impacts attributable to any exploration activity. Where excavations are adjacent to watercourses, best practice procedures should be put in place to ensure that no debris or soil enters the watercourse, either inadvertently, or by flooding during periods of high water discharge. All proper steps should be taken to reduce to a minimum any interference with water supplies.

Before trenching or drilling operations commence, the company or its agents should acquaint themselves with the position, type and size of all underground services in the selected location. In the event of a water pipe or supply being severed, the company or its agents should effect an immediate repair or provide alternative supplies. In the event of a well or other private water supply being permanently affected or destroyed by any exploration activity, the company should construct an alternative supply (e.g. a well or connection to public supply) as soon as possible; in the meantime, alternative supplies must be provided.

7. Pumping and other Groundwater Tests

Where such testing is required, relevant landowners in the area should be notified, and there must be a continuous emergency telephone service and suitable emergency facilities in place to ensure that a wholesome, potable water supply is continuously available to any affected parties. The relevant Local Authority should be made aware of such proposed tests and the arrangements, and any needed approvals obtained from them (e.g. a discharge licence may be required). The arrangements for such tests should include appropriate controls to avoid adverse impacts arising from disruption of existing water supplies and disposal of pumped waters, and suitable records of water quality and monitoring procedures must be kept. Such information should be made available to the relevant Local Authority on completion of the work. Where required, a licence under the Local Government (Water Pollution) Acts, 1977 to 1990 must be obtained.

8. Stream Sediment Sampling

Section 173 of the Fisheries (Consolidation) Act, 1959, states that it is an offence to “disturb any spawning bed, bank or shallow where the spawn or fry of salmon, trout or eels may be”. Licence holders should note that in-stream investigation of such sites, including stream sediment sampling, is not normally permitted by Inland Fisheries Ireland in the months **October to June**. These activities will additionally require ‘Screening for Appropriate Assessment’ as outlined below.

Aquatic invasive species and fish pathogens can be readily transferred from one watercourse to another on protective clothing, panning equipment, boats, etc. To ensure that invasive species and fish pathogens are not inadvertently transferred into Irish waters, field equipment should be routinely inspected and disinfected following stream sediment sampling surveys. More information on biosecurity and the prevention and surveillance of invasive species is available from <http://www.fisheriesireland.ie/Biosecurity/biosecurity-for-boaters-and-anglers.html>.

9. Ground Geophysical Surveys

While ground geophysics is typically a low impact, non intrusive activity due care and consideration should be taken, in particular with regard to protected sites and land access. Any surveys which are proposed within or adjacent to protected sites will need to be screened by EMD, the licencing authority, for Appropriate Assessment (AA) determination ahead of the activity commencing. Sufficient notice should be provided to EMD to allow completion of the determination.

Where practicable, agreement should be obtained from landowners before entering onto lands. There must be due regard for agricultural activities of landowners, and the geophysical surveying should be appropriately scheduled so as to cause minimum or no disturbance to such activities. Where disturbance of land or farming activity is expected it be agreed with the

farmer or landowner beforehand. Cables must not be left unattended in areas where livestock are present. If necessary, arrangements should be made with the landowner to remove livestock at a mutually convenient time for the duration of the work.

With regard to seismic surveys companies should comply with EMD's [Draft Guidelines for Seismic Surveying and Submission of Seismic Data to Exploration and Mining Division](#)

From airborne geophysical surveys companies should refer to the Departments guidance document [Guidelines for regional airborne geophysical surveying](#)

10. Record of Work

Suitable records of all drilling, excavations or work relating to groundwater testing must be kept by the company, including a complaints register and action taken. The record must be available for inspection by officials of the DCCA and the relevant Local Authority as required.

11. Restricted Areas

All exploration activities are required to be screened to assess whether the activity is likely to have the potential for a significant effect on a European Site (Special Areas of Conservation, SACs or Special Protection Areas, SPAs). A screening determination is carried out by authorised officers within the Exploration and Mining Division based on work programmes submitted by licensees. Any significant modifications to work programmes must be communicated to EMD. In addition, written approval is required from EMD before undertaking any activity not listed in the company's submitted work programme. Please apply for such approval in writing in advance of commencing any such activity.

All holders of Prospecting Licences are required to ascertain whether there are any Natura 2000 Sites within or adjacent to their prospecting licence areas. Approval to carry out any activities within and in the zone of influence of European Sites must be sought in writing, with full details of the work from the Department. These activities will be screened for Appropriate Assessment, as required under the European Communities (Birds and Natural Habitats) Regulations, 2011. A minimum of one months notice will be required but approval may take longer depending on the complexity of the project and European Site.

Companies must bear in mind that it is necessary to ascertain also the location of National Nature Reserves, Monuments, Agri-Environment Schemes and gas pipelines within the licence area and to ensure that there is no interference with such sites or features. With regard to:

- a) **National Nature Reserves:** . It is government policy that no prospecting work is permitted within National Parks (Department of Environment, Heritage and Local Government 2005
<https://www.npws.ie/sites/default/files/publications/pdf/WMNP.pdf> (Strategy 1.1 Pg 25)) and as such the National Parks and Wildlife Service (NPWS) does not permit

access to the Parks. However, If a company wish to discuss access then they must liaise with the NPWS.

- b) **National Monuments:** Prior to commencing exploration activities, licensees are required to check the 'Record of Monuments and Places' to ascertain the occurrence of National Monuments and similar protected structures within their licence areas. The record is available for inspection at County Libraries, Local Planning Authorities or online at <http://www.archaeology.ie/publications-forms-legislation/record-of-monuments-and-places>. The National Monuments Service of the Department of the Culture, Heritage and the Gaeltacht can advise on the protection applying to any particular monument or place and should be consulted if there is any doubt as to the status of a site. Exploration activities should not be undertaken at protected monuments or in proximity to them without the prior written approval of the Minister for Culture, Heritage and the Gaeltacht. The Department of the Environment, Heritage and Local Governemnt [2003 Good Farming Practice and Archaeology](#) guidance states that '*The monument and a buffer zone of 20m around it should not be interfered with through activities such as quarrying, drain excavation or associated farm works which would cause disturbance of the ground*'.
- c) **Agri-Environment Schemes** (Agri Environmental Options Scheme AEOS, Green Low-Carbon Agri-Environment Scheme - GLAS): No work should be conducted in these areas without the prior communication with the landowner(s)/user(s). Further information is available on the Department of Agriculture, Food and the Marine (DAFM) website. <http://www.agriculture.gov.ie/publications/2010/schemesandservices2010-2011/4agrienvironment/>.
If a landowner wishes to notify DAFM of the exploration activity to be undertaken on GLAS land, the a *Notification Of Mineral Exploration Activity On Land Covered Under GLAS* must be completed and submitted by the landowner to the GLAS Section in DAFM. A notification template is available on request from EMD. There are certain details that will be required by DAFM, such as:
- Confirmation the proposed activity is on GLAS land and the GLAS parcel number, which will be known by the landowner or their agricultural consultant.
 - The total area of land which will be occupied by the activity.
 - Whether the activity will take place within a designated Natura 2000 site and, if yes, the details of the Natura 2000 site.
 - Details of the timing of the activity, such as proposed start date and expected duration.
 - Prospecting Licence Area, Licence holder and a map showing the coordinates of the proposed activity on GLAS land.
- d) **Gas pipeline routes:** No excavations / trenching or drilling is permitted within 30m of the National Gas pipeline without the prior approval of Bord Gáis Éireann. A map of the gas pipeline is available at: <https://www.gasnetworks.ie/corporate/company/our-network/pipeline-map/>