# Site Specific Risk Assessment

## Risk assessment for proposed land-spreading activity – Ffynnoncyff Farm, Ferwig, Cardigan, Ceredigion, SA43 1QD

## Risk assessment carried out by: Mr Daniel James & Mrs Carys James Date: December 2025

| Data | | | | Judgement | | | | Action | |
|---|---|---|---|---|---|---|---|---|---|
| *Receptor*<br>What is at risk? What do I wish to protect? | *Source*<br>The agent or process with potential to cause harm | *Harm*<br>The harmful consequences if things go wrong | *Pathway*<br>How the receptor might come into contact with the source | *Probability of exposure*<br>How likely is this contact? | *Consequence*<br>Severity of the consequences if this occurs | *Magnitude of risk*<br>The overall magnitude of the risk | *Justification for magnitude*<br>Basis of my judgement | *Risk management*<br>How I can best manage the risk to reduce the magnitude | *Residual risk*<br>Magnitude of the risk after management |
| Surface water – ditches, watercourses and ponds | Nutrients, organic matter and solids | Surface water pollution | Direct application to surface water, underdrainage and run off | Low | High | Medium | No spread areas, buffer zones in place and accurate spreading with dribble bar. Liquid sludge soil incorporated within 12 hours for arable fields. | Comply with COGAP, Sludge Regs and EPR. Spreading to be only undertaken when conditions are suitable. No spreading areas enforced as per plans attached to application. | Low |
| Groundwater /Soils | Nutrients and PTES | Groundwater pollution and excessive nutrient build up | Over-application to land | Low | High | Low | The liquid sludge has low PTEs to be applied at proposed rates as detailed in application. Lower than average annual addition limits under Sludge Regs. Nitrogen applied is significantly less than crop recommendations. Some of the fields have phosphate and magnesium indices of 3, above target levels. Phosphate applied is equal to or less than crop offtake and magnesium applied is also less than is likely to be removed by the next crop so there should be no increase to soil levels. | Appropriate given spreading rates and timing of application. Comply with COGAP, EPR and Sludge Regs. Carry out soil analysis of all fields regularly. Fields spread with dribble bar with the use of a flow metre. No spreading within 50m of a spring, borehole or well.<br>Future run down of soil phosphate for all fields excluding field Fynnoncyff 28 is planned through crop offtake of a following grass crop over winter that will have a silage cut removed the following spring. No phosphate will be applied for this crop allowing rundown of soil phosphate. | Low |
| Humans and animals | Spreading activities – physical | Harm to humans or animals | Trespass, accidental contact | Low | Medium | Low | Agricultural areas with limited public access.<br>There are no public footpaths in the fields to be spread. | Application during appropriate conditions & awareness of access issues. | Low |

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| Soils | Physical damage to soil structure | Damage to soil structure and poor subsequent crop yields | Delivery and spreading activity | Low | Medium | Low | Delivery and spreading to be undertaken under appropriate ground conditions using low ground pressure equipment. | Comply with COGAP and Cross Compliance Criteria. Apply only in suitable conditions. | Low |
| Soils | PTE addition | Build-up of PTEs. | Spreading activity | Low | Medium | Low | The liquid sludge has low PTEs to be applied at proposed rates as detailed in application. | Comply with COGAP, Cross Compliance and Sludge Regs. Apply at specified rates. Soils sampled regularly. | Low |
| Soils | Nutrient build up | Reduced yield quality and quantity of subsequent crops, nutrient leaching, runoff to sensitive receptors & surface water | Spreading activity, over application | Low | Medium | Low | Liquid sludge applied at specified rates. Nitrogen applied is significantly less than crop recommendations. Some fields have phosphate and magnesium indices of 3, above target levels. Phosphate applied is equal to or less than crop offtake & magnesium applied is also less than is likely to be removed by the next crop so there should be no increase to soil levels. | Apply according to RB209 recommendations, COGAP & The Water Resources (Control of Agricultural Pollution) (Wales) Regulations. Application rates in agricultural benefit statement not to be exceeded. Carry out soil analysis of all fields regularly.<br>Future run down of soil phosphate for all fields excluding field Fynnoncyff 28 is planned through crop offtake of a following grass crop over winter that will have a silage cut removed the following spring. No phosphate will be applied for this crop allowing rundown of soil phosphate. | Low |

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| Air | Odour during temporary storage and spreading activities | Odour issues and complaints | Airborne compounds | Medium | Medium | Medium | The sludge has moderate odour.<br>Nearby residents often sensitive to odour. | Liquid sludge spread with low trajectory dribble bar, liquid sludge soil incorporated within 12hrs for arable fields. Prevailing wind direction and weather will be monitored. Odour monitoring and mitigation measures in place in line with EMS. | Low |
| Air | Dust during spreading | Dust complaints | Dust during windy conditions | Low | Low | Low | Sludge is liquid and has low potential for dust. | Assess wind speed and direction before spreading and proximity to surrounding receptors. Spread when conditions are suitable. | Low |
| Air | Airborne compounds | Air pollution, dry deposition, wet deposition | Ammonia emissions during spreading | Low | Medium | Low | The liquid sludge is high in readily available nitrogen. Nitrogen applied is significantly less than crop requirements. Spread with low trajectory dribble bar applicator into growing grass crop or for arable fields spread and soil incorporated within 12 hours. | Spread with low trajectory dribble bar applicator. Avoid spreading on particularly hot or windy days. Spread at correct rates, at stated timings and suitable conditions.<br>Liquid sludge soil incorporated within 12 hours for arable fields. | Low |
| Air/People | Noise | Noise complaints | Noise from delivery, and spreading | Low | Low to Medium | Low | Agricultural machinery in agricultural areas. | Avoid sensitive spreading periods where possible e.g. bank holidays and weekends. Delivery during daylight hours where possible | Low |

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| Nitrate Vulnerable Zones (NVZs) | Agricultural nitrate pollution | Harm to environment through nitrate pollution | Spreading at incorrect timings for crop nitrogen uptake, spreading at incorrect application rates, during unsuitable weather or ground conditions, spreading too close to watercourses and other sensitive receptors | Low | Medium | Medium | The liquid sludge is high in readily available nitrogen. The nitrogen applied though the liquid sludge is significantly less than crop requirements.<br>No spreading areas to watercourses as per maps. Spread with a low trajectory dribble bar applicator into growing grass crop, or soil incorporated within 12 hours following spreading for arable fields. Spreading at appropriate timings and rates as stated in ABS. | Liquid sludge spread with a low trajectory precision dribble bar applicator at low rates of application at appropriate timings for crop uptake. 10m no spread areas enforced to watercourses. Ensure field conditions are appropriate for spreading. No spreading in periods where heavy rain is forecast or if land is waterlogged, frozen, soil temperatures are too low.<br>Liquid sludge soil incorporated within 12 hours following spreading for arable fields.<br>Liquid sludge spread at stated timings during appropriate conditions as in ABS. Spreading periods are not during NVZ closed periods for spreading organic manures with high readily available N. | Low |
| Hedgerows and trees | Physical damage from spreading equipment | Ecological + landscape | Physical damage from spreading equipment | Low | Low | Low | Experienced operators employed & instructed to take care around trees | Leave a 2.0m minimum buffer zone adjacent to trees, shrubs and hedges. | Low |

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| Cardigan Bay / Bae Ceredigion SAC<br><br>Habitat types for which the area is designated:<br>Reefs, subtidal sandbanks, sea caves<br>Species for which the area is designated:<br>Grey seal, river lamprey, sea lamprey, bottlenose dolphin | Deterioration of area through contamination, ammonia deposition, nutrient enrichment, habitat loss, siltation, smothering, noise disturbance | Harm to protected area through contamination, nutrient enrichment, disturbance | Spreading activity, airbourne compounds, flooding, nutrient run off or leaching, noise during spreading | Low | Medium | Medium | No spreading areas to watercourses. Spread with a low trajectory dribble bar applicator into growing grass crop, or soil incorporated within 12 hours following spreading for arable fields. Spreading at appropriate timings.<br><br>Proximity of fields to SAC. The closest field Ffynnoncyff 28 is approx. 370m at the nearest point from the SAC. | Assess wind speed and direction before spreading and proximity to surrounding receptors when spreading fields in relation to this SAC. Spread when conditions are suitable with no or little wind and when the potential of any gusts is not in the direction of the SAC. Material spread with a low trajectory dribble bar applicator at low rates of application. Spread into growing grass crop, or soil incorporated within 12 hours following spreading for arable fields.<br>10m no spread areas enforced to watercourses. Ensure field conditions are appropriate for spreading. | Low |
| Local human population and local environment | Flooding of site | If waste is washed off site, it may contaminate buildings / gardens / natural habitats downstream. | Flood waters | Low | Medium | Medium | Spreading undertaken only on fields at appropriate timings. | No spreading in periods where heavy rain is forecast or if land is waterlogged. Spreading operator to employ 10m no spreading areas as per attached plans to watercourses. | Low |

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| Aberarth-Carreg Wylan SSSI<br><br>This site is of special interest for its geological, geomorphological and biological features. The cliffs and foreshore vary considerably in structure, exposure and sediment type, supporting a wide range of marine and coastal wildlife. Bottlenose dolphin and Atlantic grey seal are of special interest and are known to feed and breed along the shoreline. Habitats of special interest associated with the cliffs and coastal slopes include cliff crevice and ledge vegetation, maritime grassland and coastal heathland supporting a large number of nationally scarce and regionally rare plant species. The scarce pearl-bordered fritillary butterfly and the regionally rare small blue butterfly are part of an important invertebrate community present. | Deterioration of site through contamination, ammonia deposition, nutrient enrichment, habitat loss, siltation, smothering, noise disturbance | Harm to protected site through contamination, nutrient enrichment, disturbance | Spreading activity, airbourne compounds, flooding, nutrient run off or leaching, noise during spreading | Low | Medium | Medium | No spreading areas to watercourses. Spread with a low trajectory dribble bar applicator into growing grass crop, or soil incorporated within 12 hours following spreading for arable fields. Spreading at appropriate timings.<br><br>Proximity of fields to SSSI. The closest field Ffynnoncyff 28 is approx. 370m at the nearest point from the SSSI. | Assess wind speed and direction before spreading and proximity to surrounding receptors when spreading fields in relation to this SSSI. Spread when conditions are suitable with no or little wind and when the potential of any gusts is not in the direction of the SSSI. Material spread with a low trajectory dribble bar applicator at low rates of application. Spread into growing grass crop, or soil incorporated within 12 hours following spreading for arable fields.<br><br>10m no spread areas enforced to watercourses. Ensure field conditions are appropriate for spreading. | Low |

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| West Wales Marine / Gorllewin Cymru Forol SAC<br><br>Species for which the area is designated:<br>Harbour porpoise | Deterioration of area through contamination, ammonia deposition, nutrient enrichment, habitat loss, siltation, smothering, noise disturbance | Harm to protected area and species through contamination, nutrient enrichment, disturbance | Spreading activity, airbourne compounds, flooding, nutrient run off or leaching, noise during spreading | Low | Medium | Medium | No spreading areas to watercourses. Spread with a low trajectory dribble bar applicator into growing grass crop, or soil incorporated within 12 hours following spreading for arable fields. Spreading at appropriate timings.<br><br>Proximity of fields to SAC.<br>The fields are all over 500 metres from the SAC. | Assess wind speed and direction before spreading and proximity to surrounding receptors when spreading fields in relation to this SAC. Spread when conditions are suitable with no or little wind and when the potential of any gusts is not in the direction of the SAC. Material spread with a low trajectory dribble bar applicator at low rates of application. Spread into growing grass crop, or soil incorporated within 12 hours following spreading for arable fields.<br>10m no spread areas enforced to watercourses. Ensure field conditions are appropriate for spreading. | Low |