

Site Specific Risk Assessment

Risk assessment for proposed land-spreading activity – Pengelli Fawr Farm, Vaynor, Merthyr Tydfil, CF48 2TT & Cwm Carno Farm, Rhymney, Tredegar, NP22 5QY

Risk assessment carried out by: Mr Daniel James & Mrs Carys James Date: January 2026

Data				Judgement				Action	
<i>Receptor</i> What is at risk? What do I wish to protect?	<i>Source</i> The agent or process with potential to cause harm	<i>Harm</i> The harmful consequences if things go wrong	<i>Pathway</i> How the receptor might come into contact with the source	<i>Probability of exposure</i> How likely is this contact?	<i>Consequence</i> Severity of the consequences if this occurs	<i>Magnitude of risk</i> The overall magnitude of the risk	<i>Justification for magnitude</i> Basis of my judgement	<i>Risk management</i> How I can best manage the risk to reduce the magnitude	<i>Residual risk</i> 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 for liquid sludge and rear discharge muck spreaders for sludge cake. Stockpiles for sludge cake sited in suitable locations away from watercourses.	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 materials have lower PTEs levels than average annual addition limits under Sludge Regs. Nitrogen applied is significantly less than crop recommendations. Phosphate applied is less than crop recommendations.	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 for liquid sludges and rear discharge muck spreaders for sludge cake. No spreading within 50m of a spring, borehole or well.	Low
Humans and animals	Spreading activities – physical	Harm to humans or animals	Trespass, accidental contact Public footpaths in fields Pengelli Fawr 11, 12, 15, 19, 27 and Cwm Carno 1 & 7	Low	Medium	Low	Agricultural areas with limited public access.	Application during appropriate conditions & awareness of access issues. Spread at times of low use.	Low
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

Risk Assessment continued

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Soils	PTE addition	Build-up of PTEs.	Spreading activity	Low	Medium	Low	Low levels of PTEs in wastes - lower than average annual addition limits under Sludge Regs	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, stockpile area for sludge cakes not fully cleared	Low	Medium	Low	Wastes applied at specified rates. The materials are low in available nitrogen. Phosphate applied is less than crop recommendations. Stockpile areas fully cleared and spread for sludge cake, no return to same stockpile footprints within 2 years.	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.	Low
Air	Odour during storage, loading / unloading and spreading activities	Odour issues and complaints	Airborne compounds	Medium	Medium	Medium	The liquid water clarification sludge and sludge cake have no noticeable odour.	Liquid sludge spread with a low trajectory dribble bar, sludge cake with rear discharge muck spreaders. Prevailing wind direction and weather will be monitored. Liquid sludge in temporary storage is in a covered nurse tank.	Low
Air	Dust during spreading	Dust complaints	Dust during windy conditions	Low	Low	Low	Liquid sludge - material has low potential for dust. The sludge cake also has low potential for any dust. There is a low risk of dust during spreading.	Assess wind speed and direction before spreading and proximity to surrounding receptors. Spread when conditions are suitable. This especially applies to spreading of the sludge cake.	Low
Air/People	Noise	Noise complaints	Noise from delivery, and spreading	Low	Low to Medium	Low	Agricultural machinery in agricultural areas.	Avoid sensitive delivery & spreading periods where possible e.g. bank holidays and weekends. Delivery during daylight hours where possible	Low
Hedgerows and trees	Physical damage from spreading	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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What is at risk? What do I wish to protect?	The agent or process with potential to cause harm	The harmful consequences if things go wrong	How the receptor might come into contact with the source	How likely is this contact?	Severity of the consequences if this occurs	The overall magnitude of the risk	Basis of my judgement	How I can best manage the risk to reduce the magnitude	Magnitude of the risk after management
<p>Nant Glais Caves SSSI</p> <p>(The limestone gorge of Nant Glais and two cave systems, which lie parallel to it and under each bank of the stream are of geological interest. The cave systems are of interest because they are developed at the contact of two different forms of limestone within the Carboniferous Limestone and the way in which they dissolve which has spectacularly influenced the pattern of cave passages. As well as the cave feature listed above, Nant Glais Caves has habitats and species that may contribute to the interest. These include woodland along the gorge and species, such as invertebrates and fish, which live in the caves and river.)</p>	Deterioration of site through contamination, nutrient enrichment, habitat loss, smothering	Harm to protected site through contamination, nutrient enrichment, disturbance etc.	Spreading activity, flooding, nutrient run off or leaching	Low	Medium	Medium	<p>No spreading areas enforced to watercourses. Liquid sludge spread with a low trajectory dribble bar applicator, sludge cake spread with rear discharge muck spreaders. Spreading at appropriate timings.</p> <p>Stockpiles of sludge cake sited in suitable low risk locations in fields to be spread.</p> <p>Proximity of stockpiles of sludge cake and nurse tank location, spreading areas to SSSI.</p> <p>Pengelli Fawr field 28 is 450m at the nearest point from this SSSI. All other fields are over 500m from this SSSI.</p>	Assess wind speed and direction before spreading and proximity to surrounding receptors when spreading all fields. 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. Liquid sludge spread with a low trajectory dribble bar applicator, sludge cake spread with rear discharge muck spreaders. 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	<p>Spreading undertaken only on fields at appropriate timings.</p> <p>Stockpiles of sludge cake sited in suitable low risk locations in fields to be spread.</p> <p>Nurse tank location is in suitable low risk location at farmyard.</p>	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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What is at risk? What do I wish to protect?	The agent or process with potential to cause harm	The harmful consequences if things go wrong	How the receptor might come into contact with the source	How likely is this contact?	Severity of the consequences if this occurs	The overall magnitude of the risk	Basis of my judgement	How I can best manage the risk to reduce the magnitude	Magnitude of the risk after management
<p>Cwm Taf Fechan Woodlands SSSI</p> <p>(The Semi-natural Broadleaved Woodland at Cwm Taf Fechan is special for its wide variety of plants, including several rare species. The dominant tree species are oak, ash and downy birch, with an understorey of shrubs such as hazel and hawthorn. In places, springs occur, and where the water has previously seeped through limestone they can create porous or spongy deposits of calcium carbonate known as tufa. The humid conditions in the wooded ravine allow a particularly rich moss and liverwort flora to grow, with over a hundred species recorded.)</p>	Deterioration of site through contamination, nutrient enrichment, habitat loss, smothering	Harm to protected site through contamination, nutrient enrichment, disturbance etc.	Spreading activity, flooding, nutrient run off or leaching	Low	Medium	Medium	<p>No spreading areas enforced to watercourses. Liquid sludge spread with a low trajectory dribble bar applicator, sludge cake spread with rear discharge muck spreaders. Spreading at appropriate timings.</p> <p>Stockpiles of sludge cake sited in suitable low risk locations in fields to be spread.</p> <p>Proximity of stockpiles of sludge cake and nurse tank location, spreading areas to SSSI.</p> <p>Pengelli Fawr field 28 is 365m at the nearest point from this SSSI and Pengelli Fawr field 27 is 410m at the nearest point from this SSSI. All other fields are over 500m from this SSSI.</p>	Assess wind speed and direction before spreading and proximity to surrounding receptors when spreading all fields. 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. Liquid sludge spread with a low trajectory dribble bar applicator, sludge cake spread with rear discharge muck spreaders. 10m no spread areas enforced to watercourses. Ensure field conditions are appropriate for spreading.	Low

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Bannau Brycheiniog Brecon Beacons National Park	Deterioration of national park through contamination, nutrient enrichment, habitat loss, smothering, disturbance	Harm to national park through contamination, nutrient enrichment, disturbance etc.	Spreading activity, temporary storage, flooding, nutrient run off or leaching	Low	Medium	Medium	<p>The Pengelli Fawr Farm fields are within the national park.</p> <p>No spreading areas enforced to watercourses. Liquid sludge spread with a low trajectory dribble bar applicator, sludge cake spread with rear discharge muck spreaders. Spreading at appropriate timings.</p> <p>Stockpiles of sludge cake sited in suitable low risk locations in fields to be spread.</p> <p>The liquid water clarification sludge and sludge cake have no noticeable odour.</p>	Assess wind speed and direction before spreading and proximity to surrounding receptors. Spread when conditions are suitable with no or little wind and when the potential of any gusts is not in the direction of sensitive receptors. Liquid sludge spread with a low trajectory dribble bar applicator, sludge cake spread with rear discharge muck spreaders. 10m no spread areas enforced to watercourses. Ensure field conditions are appropriate for spreading. Spread fields at times of low use of public rights of way where possible.	Low
Ancient Woodland	Physical damage from spreading equipment, nutrient run off / leaching.	Harm to ancient woodland, habitat and species through contamination, nutrient enrichment, disturbance, physical damage.	Spreading activity, nutrient run off or leaching, soil erosion and soil run off.	Low	Medium	Medium	<p>Spreading undertaken only on fields at appropriate timings.</p> <p>5m no spread buffer areas in fields bordering ancient woodland.</p>	No spreading in periods where heavy rain is forecast or if land is waterlogged. Spreading only on agreed spreadable field areas as per deployment.	Low