

SR2010No4 Mobile Plant for Land-spreading Deployment Application

**Nant Y Croi Farm,
Ferwig,
Cardigan,
Ceredigion,
SA43 1PU**

Applicant:

**Stepside Agri Contractors (Gwbert Road, Cardigan,
SA43 1PH)**

Permit Number: EPR/AB3891CX

Date: 04/03/2020

Application for an environmental permit:

Part LPD1 – Application for a deployment

Use this form for deployments for the landspreading of waste where the operator holds a permit for any of the following standard rules:

- SR2010No4 Mobile plant for landspreading (land treatment resulting in agricultural or ecological benefit);
- SR2010No5 Use of mobile plant for land reclamation, restoration or improvement of land;
- SR2010No6 Mobile plant for landspreading of sewage sludge; or a
- Bespoke mobile plant permit for landspreading or land reclamation.

Please check that this is the latest version of the form available from our website.

Please read through this form and the guidance notes that

come with it. All relevant guidance documents can be found on our website.

Where you see the term 'document reference' on the form, give the document references and send the documents with the application form when you've completed it.

Contents

- 1 About the permit
- 2 About you
- 3 Contact details
- 4 About the deployment
- 5 Payment
- 6 Supporting documents
- 7 Data Protection Act 1998
- 8 Confidentiality and national security
- 9 Declaration

1 About the permit

1a Discussions before your application

If you have had discussions with us before your application, give us the case reference or details on a separate sheet.

Case or document reference

1b Permit number

Permit number this application relates to

EPR/AB3891CX

1c What type of permit do you want to deploy under? (Please tick)

- SR2010No4 Mobile plant for landspreading (land treatment resulting in agricultural or ecological benefit) ☒
- SR2010No5 Use of mobile plant for land reclamation, restoration or improvement of land ☐
- SR2010No6 Mobile plant for landspreading of sewage sludge ☐
- Bespoke mobile plant permit for landspreading or reclamation, restoration or improvement of land ☐

2 About you

Please give us details of the permit holder. For companies, the details must match Companies House.

Organisation name (if relevant)

Stepside Agri

Title

Mr

First name

Daniel

Last name

James

Address

Stepside Farm

	Gwbert Road
	Cardigan
Postcode	SA43 1PH
Telephone - mobile	07966521386
Telephone - office	01239621354
Email address	enquiries@stepside.biz

If you are applying as an organisation of individuals, every partner needs to give us their details, including their title. If necessary, continue on a separate sheet and tell us the reference you have given the sheet.

Document reference	
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3 Contact details

Who can we talk to about your application? This can be someone acting as a consultant or 'agent' for you.

Title	Mr	
First name	David	
Last name	Powell	
Telephone - mobile	07968 496178	
Telephone - office		
Email address	dave.purlon@gmail.com	

4 About the deployment

4a Multiple deployments for one area of land

You may spread more than 10 waste streams on the same area of land, provided you submit additional fully completed deployment forms listing the additional wastes. Your benefit statement must take into account the total benefit to the land of all wastes to be spread.

Is this deployment one of a batch (multiple deployments) for the same area of land?

No ☒ Go to section 4b

Yes ☐ How many deployments are in the batch?

4b Nominated competent person

4b1 Give us details of the nominated competent person. This is the person who will be responsible for compliance with the permit for this deployment. See the guidance notes on LPD1 for further details.

Title	Mr	
First name	David	
Last name	Powell	

Telephone - mobile	07968 496178
Telephone - office	
Email address	dave.purlon@gmail.com

4b2 What evidence are you using to show the nominated competent person has suitable technical skills and knowledge to manage the activity?

- An approved technical scheme ☒ *Go to section 4b3*
- Documented in-house training ☐ You must provide evidence – see below.

You must provide evidence to show the documented in-house training meets the requirements set out in technical guidance. See the guidance notes on LPD1 for further details and give us the document reference.

Document reference *Go to section 4c*

4b3 Which approved scheme are you using to show you have the suitable technical skills and knowledge to manage your facility?

- CIWM / WAMITAB ☒
- ESA / EU ☐

4b4 Tick to confirm you've included all original *and* continuing competence evidence. ☒

4c Which risk band does the activity fall within?

Please complete Table 1 below to indicate which risk band your activity falls within. This is a combination of waste types and proximity to sensitive receptors.

Once you have selected the risk band your activity falls within, the form guidance tells you what additional information you need to send with the application.

The risk banding affects the fee you need to send with your deployment application. See section 6.

Table 1 – risk band			
Permit type	Lower risk location		High risk location
	- Not in an SPZ 2, and/or - Over 500 meters from: • European site, and/or • Ramsar, and/or • SSSI		- In a Source Protection Zone 2, and/or - 500 meters or less from: • European site, and/or • Ramsar, and/or • SSSI You <i>must</i> submit a site specific risk assessment.
SR2010No4 List A wastes (Lower risk)	Low risk deployment <input type="checkbox"/>	Medium risk (2) deployment <input type="checkbox"/>	
SR2010No4 List B wastes (Higher risk)	Medium risk (1) deployment <input type="checkbox"/>	High risk deployment <input checked="" type="checkbox"/>	
SR2010No5 (Any waste listed)	Medium risk (1) deployment <input type="checkbox"/>	High risk deployment <input type="checkbox"/>	
SR2010No6 (Any waste listed)	Medium risk (1) deployment <input type="checkbox"/>	High risk deployment <input type="checkbox"/>	
Bespoke mobile plant permit	Low risk deployment <input type="checkbox"/>	Medium risk deployment <input type="checkbox"/>	High risk deployment <input type="checkbox"/>

4d Additional information on sensitive receptors

Is the deployment within an SPZ 2 and/or 500m of a European site, Ramsar or SSSI, or being made under a bespoke permit?

No ☐

Yes ☒ You must submit a site specific risk assessment (see question 4e).

4e Site specific risk assessment

Your site specific risk assessment must show how you intend to prevent any harm to any SPZ 2, European site, Ramsar or SSSI. For more information on risk-assessment please see the accompanying guidance to LPD1 and Technical Guidance Note 'TGN 8.01'.

Please tick a box below to indicate which type of risk-assessment you have submitted.

I have attached a site-specific risk-assessment as the deployment is within and SPZ 2 and/or 500m of a European site, Ramsar or SSSI. I have also addressed risks to other receptors in the risk assessment ☒

I am not within an SPZ 2 and/or 500 m of a European site, Ramsar or SSSI but have addressed risks to other receptors in my benefit statement. ☐

I am deploying under a bespoke permit and have attached a site-specific risk assessment (regardless of location). ☐

4f About the waste

Please list all the individual waste streams you want to spread/use under this deployment, in Table 2 below. We've included an example to help you.

Please note: You can only spread/use 10 waste types per deployment.

Table 2 – waste types					
	List of Waste code (6 digit)	Waste description	Physical form	Waste producer	Total amount being spread/used (tonnes)
e.g.	03 03 05	De-inked paper	Sludge	Smith's Newsprint	500
1	02 05 02	Sludge from dairy waste treatment	Sludge	Dairy Partners – Newcastle Emlyn	5,838
2	02 05 02	Sludge from dairy waste treatment	Sludge	Volac – Felinfach	3,357
3	02 05 02	Sludge from dairy waste treatment	Sludge	First Milk - Haverfordwest	5,838
4					N.B. Maximums for single waste stream
5					
6					
7					
8					
9					
10					
				Total tonnage	Max. 5,838

4g About the land you want to treat

4g1 Please give details of the main address of the land to be treated.

Address	Nant Y Croi
	Ferwig
	Cardigan
	Ceredigion
Postcode	SA43 1PU
National grid reference (12 digit)	SN 18363 51085

4g2 What type of land do you want to treat?

Agricultural land ☒ Please give your County/ Parish/ Holding number 55/226/0005

Non-agricultural land ☐

4h The parcels of land you want to treat

Please list all the individual areas (parcels) of land you want to include this deployment, in Table 3 below.

Please note: the total area to be treated must not be more than 50 hectares.

Table 3 – parcels of land				
	Field name/ number/ reference	Grid reference - centre of field (12 digit)	Waste types to be spread/used (List of Waste code) Separate using commas.	Size (hectares)
1	Please see continuation sheet: Table 3 Details of land to be treated			
2				
3				
4				
5				
6				
7				
8				
9				
10				
Total hectares				48.65

4i Is the permit holder the owner or occupier of the land you want to spread on/treat?

Yes ☐ *Go to section 4k*

No ☒ You must give us details of the land owner or occupier, below.

Organisation name (if relevant)		
Title	Mr	

First name	Morris
Last name	Davies
Address	Hafod Farm
	Ferwig
	Cardigan
	Ceredigion
Postcode	SA43 1PU
Telephone - mobile	07974102696
Telephone - office	
Email address	

If there is more than one owner or occupant for the area covered by this deployment, you must give us details of each. Please continue on a separate sheet and tell us the reference you have given the sheet.

Document reference	
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4j Do you have the consent of the owner or occupier to carry out the activity?

Yes ☒ Go to section 4k

No ☐ You must tell us why you think you can carry out the activity without the consent of the occupier. Please give an explanation in the box, below. Continue on a separate sheet if needed.

Explanation

4k Previous land treatment

Has any of the land listed in Table 3 been treated with other wastes, sewage sludge, slurries or manures etc. in the last 12 months?

No ☐ Go to section 4l

Yes ☒ You must give us details in Table 4 below *and* account for them in your benefit statement.

Table 4 – previous land treatment					
	Field name/ number/ reference	Describe the waste spread (in last 12 months)	Person/ company who spread the waste	Quantity spread per hectare (in tonnes)	Deployment/ other reference (if known)
e.g.	East field	Digested sewage sludge cake	Eastern Waters	20	PAN 000000

1	Nant Y Croi fields 6 – 10 & 12	Sludge from dairy waste treatment	Stepside Agricultural Contractors	46	PAN-005068
2	Bolafron fields 2849, 3836, 4718, 3107 & 6609	Sludge from dairy waste treatment	Stepside Agricultural Contractors	56	PAN-005068
3					
4					
5					
6					
7					
8					
9					
10					

4I Waste storage

Are you proposing to store waste in connection with this deployment?

No ☐ Go to section 5

Yes ☒ You must give us details in Table 5 below.

Table 5 – waste storage details				
	Grid reference (12 digit)	Waste type being stored (6 digit List of Waste code)	Storage method	Quantity stored at any one time (in tonnes)
1	SN 17956 50061	02 05 02	Above ground storage tank	1000
2	SN 18389 51144	02 05 02	Nurse tank	150
3				
4				
5				
6				
7				
8				
9				
10				

5 Payment

5a Tick an option below to show how you will pay for the application.

Electronic transfer (for example, BACS)	<input checked="" type="checkbox"/>	Go to section 5b
Cheque	<input type="checkbox"/>	Go to section 5c
Postal order	<input type="checkbox"/>	Go to section 5d
Credit or debit card	<input type="checkbox"/>	Go to section 5e

5b Paying by electronic transfer

If you choose to pay by electronic transfer use the following information to make your payment.

Company name: Natural Resources Wales
Company address: Income Dept., PO BOX 663, Cardiff, CF24 0TP
Bank: RBS
Address: National Westminster Bank Plc, 2 ½ Devonshire Square, London, EC2M 4BA
Sort code: 60-70-80
Account number: 10014438

Reference number

You can use any reference number but we prefer the number to be 'EPDEP' followed by the first five letters of your organisation name followed by a four-digit number.

For example, for a company named Joe Bloggs Ltd, the reference number might be EPDEPJOEBL0001. (Remember you can use any four-digit number at the end.)

The reference number you will provide will appear on our bank statements so we can check your payment. We may need to contact your bank to make sure the reference number is quoted correctly.

You should also email your payment details and payment reference number to banking.team@naturalresourceswales.gov.uk / banking.team@cyfoethnaturiolcymru.gov.uk or fax it to 0300 065 3001 and enter it in the space provided below.

BACS reference	<input type="text" value="EPDEPSTEPS0038"/>
Amount paid	<input type="text" value="£1,018"/>

Making payments from outside the UK

These details have changed. If you are making your payment from outside the United Kingdom (which must be received in sterling), our IBAN number is GB70 NWBK6070 8010 0144 38 and our SWIFT/BIC number is NWBKGB2L.

If you do not quote your payment reference number, there may be a delay in processing your payment and application.

5c Paying by cheque or postal order

You should make cheques or postal orders payable to Natural Resources Wales and they should be marked 'A/c Payee'. We will not accept post-dated cheques (cheques with a future date written on them).

Cheque/ postal order number	<input type="text"/>
Amount paid	<input type="text"/>

5d Paying by credit or debit card

If you are paying by credit or debit card, please fill in the separate form CC1.

You can download this from our Website or you can ask for one of our customer service providers to send one by post. We will destroy your card details once we have processed your payment. We can accept payments by Visa, MasterCard or Maestro UK card only.

6 Supporting documents

You must provide all relevant documents to support your application. The information we need depends on the type of deployment application you're making. If you don't provide us with all the information we need, we won't be able to assess your proposal and the application may be rejected.

Better quality deployments result in shorter processing times. If we don't need to come back to you for more information, we'll be able to give you a decision quicker.

6a What supporting evidence do you need to send?

Are you applying to spread/use waste under a SR2010 No4 standard rule set permit?

Yes ☒ Complete the checklist in Table 6 *and* Table 7 *Go to section 6b*

No ☐ Complete the checklist in Table 7 only. *Go to section 6c*

6b Checklist for deployments under SR2010 No4 only

Complete the checklist in Table 6, below. Tick to confirm you've completed the action.

Table 6	
Do the grid references (for fields and storage areas) match the map locations?	<input checked="" type="checkbox"/>
Are the grid references in the correct format i.e. AB 12345 67890?	<input checked="" type="checkbox"/>
Have details of previous land treatment been provided?	<input checked="" type="checkbox"/>
Have you included a location map?	<input checked="" type="checkbox"/>
Does the map include all the relevant features as set out in the guidance?	<input checked="" type="checkbox"/>
Have you included a waste analysis?	<input checked="" type="checkbox"/>
Is the waste analysis for each waste less than 12 months old?	<input checked="" type="checkbox"/>
Does the waste analysis include pH, Nitrogen (N), Phosphorus (P), Potassium (K), % dry matter and Potentially Toxic Elements (PTE's)?	<input checked="" type="checkbox"/>
Have you included a soil analysis?	<input checked="" type="checkbox"/>
Is the soil analysis less for each field than 4 years old?	<input checked="" type="checkbox"/>
Does the soil analysis provide the soil pH, Potassium (K), Phosphorus (P), Magnesium (Mg) and PTEs if they are high in the waste?	<input checked="" type="checkbox"/>
Have the soil indices for P, K and Mg for each field been provided?	<input checked="" type="checkbox"/>
Have you included a Certificate of Agricultural Benefit?	<input checked="" type="checkbox"/>
Has the proposed cropping regime been stated?	<input checked="" type="checkbox"/>
Has the waste application rate been stated?	<input checked="" type="checkbox"/>
Has the timing of application been stated and is it appropriate for the cropping regime?	<input checked="" type="checkbox"/>
Has the intended method of waste application been stated?	<input checked="" type="checkbox"/>
Have the total nutrients supplied by the waste been stated and have they been provided in oxide format?	<input checked="" type="checkbox"/>
Has the nutrient requirement for the proposed crop been provided?	<input checked="" type="checkbox"/>
Has the soil nitrogen supply (SNS) for each field been provided?	<input checked="" type="checkbox"/>

If the land has been treated with other wastes, sewage sludge, slurries manures etc. in the last 12 months, has relevant information been provided?	<input checked="" type="checkbox"/>
If more than one waste stream is to be applied to the land; has the benefit for each individual waste stream been demonstrated?	<input checked="" type="checkbox"/>
Have you included a site specific risk assessment? (where relevant)	<input checked="" type="checkbox"/>
Does the Site Specific Risk Assessment; consider all potential receptors, identify all risks from the activity, and include information on all measures you'll use to minimise or mitigate the impact and why they're suitable.	<input checked="" type="checkbox"/>

6c Checklist for all types of deployment application.

Complete the checklist in Table 7, below. Tick to confirm you've completed the action.

Table 7		
Item	Complete	Your document reference/ description
Location map (required for all deployments)	<input checked="" type="checkbox"/>	
Benefit statement (required for all deployments)	<input checked="" type="checkbox"/>	
Waste analysis (required for all deployments)	<input checked="" type="checkbox"/>	
Receiving soil analysis (required for all deployments)	<input checked="" type="checkbox"/>	
Site-specific risk assessment (in accordance with 4e)	<input checked="" type="checkbox"/>	
Any other additional information	N/A	Farmer Details
	N/A	Table 3 Details of land to be treated
	N/A	
	N/A	

7 The data Protection Act 1998

We, the Natural Resources Body for Wales (hereafter "Natural Resources Wales"), will process the information you provide so that we can:

- deal with your application;
- make sure you keep to the conditions of the licence, permit or registration;
- process renewals; and
- keep the public registers up to date.

We may also process or release the information to:

- offer you documents or services relating to environmental matters;
- consult the public, public organisations and other organisations (for example, the Health and Safety Executive, local authorities, the emergency services, the Department for Environment, Food and Rural Affairs) on environmental issues;
- carry out research and development work on environmental issues;
- provide information from the public register to anyone who asks;
- prevent anyone from breaking environmental law, investigate cases where environmental law may have been broken, and take any action that is needed;
- assess whether customers are satisfied with our service, and to improve our service; and
- respond to requests for information under the Freedom of Information Act 2000 and the Environmental Information Regulations 2004 (if the Data Protection Act allows).

We may pass the information on to our agents or representatives to do these things for us.

8 Confidentiality and national security

We will normally put all the information in your application on a public register of environmental information. However, we may not include certain information in the public register if this is in the interests of national security, or because the information is confidential.

You can ask for information to be made confidential by ticking the box below and enclosing a letter with your application giving your reasons. If we agree with your request, we will tell you and not include the information in the public register. If we do not agree with your request, we will let you know how to appeal against our decision, or you can withdraw your application.

Please treat the information in my application as confidential. ☐

You can tell the Secretary of State that you believe including information on a public register would not be in the interests of national security. You must enclose a letter with your application telling us that you have told the Welsh Ministers and you must still include the information in your application. We will not include the information in the public register unless the Welsh Ministers decides that it should be included.

Only tick the box below if you are certain that you wish to claim confidentiality or national security for your application. This may delay your application.

I attach a letter stating that I have written to the Welsh Ministers explaining why my information should not be included on the public register for national security reasons ☐

9 Declaration

You must read this section before making the declaration and sending your form to us.

A relevant person should make the declaration. You must be a relevant person or have the authority of a relevant person to sign this application on their behalf.

Relevant people means each applicant, and in the case of a company, a director, manager, company secretary or any similar officer or employee listed on current appointments in Companies House. In the case of a Limited Liability Partnership (LLP), it includes any partner. If the permit holder is an organisation of individuals, each individual (or individual trustee) must complete the declaration.

To simplify and speed up the application process we recommend that the declaration is filled in by an officer of a company or one of the partners in a Limited Liability Partnership (LLP).

If you wish a manager, employee or consultant etc. to sign the declaration on behalf of a relevant person, we will need written confirmation from a relevant person; that is, an officer of the company, a partner in the LLP or the individual, confirming that the person has the authority to fill in the declaration.

If you are joint permit holders you should each fill in your own declaration. We have provided a separate sheet for this.

Where the operator is the subject of any insolvency procedure, the declaration must be filled in by the official receiver/appointed insolvency practitioner.

9a Are you signing the form on *behalf* of a relevant person?

If you are *not* a relevant person, but want to sign the application on their behalf, you must include confirmation that you can do this.

I have included written confirmation from a relevant person to confirm I can sign on their behalf. ☒

9b Does your deployment application relate to a standard facility permit?

If your deployment application is being made in relation to a standard facility permit (SRP), you also need to confirm that you are able to meet all relevant criteria of the standard rule set/sets under which you are applying.

I confirm that my activity/activities will fully meet the rules of the permit deployment I have applied for. ☒

9c Sign to confirm you understand the declaration.

If you knowingly or recklessly make a statement which is false or misleading to help you get an environmental permit (for yourself or another person), you are committing an offence under the Environmental Permitting (England and Wales) Regulations 2016.

I declare that the information in this application is true to the best of my knowledge and belief. I understand that this application may be refused or approval withdrawn if I give false or incomplete information.

I understand that if I knowingly or recklessly make a false or misleading statement:

- **I may be prosecuted; and**
- **if convicted, I may have to pay a fine and/or go to prison.**

By signing below, you are confirming that you understand and agree with the declaration above.

Title	Mr	
First name	David	
Last name	Powell	
On behalf of (if relevant)	Mr Daniel James	
Today's date (DD/MM/YYYY)	04/03/2020	



Farmer details:

Mr. Morris Davies
Nant Y Croi Farm
Ferwig
Cardigan
SA43 1PU

Grid Reference:
SN 18363 51085
Mobile 07974102696
CPH 55/226/0005










Mr. Morris Davies
Hafod Farm
Ferwig
Cardigan
SA43 1PU

Grid Reference:
SN 18094 50342
Mobile: 07974102696
CPH 55/226/0027

TABLE 3 Details of land to be treated

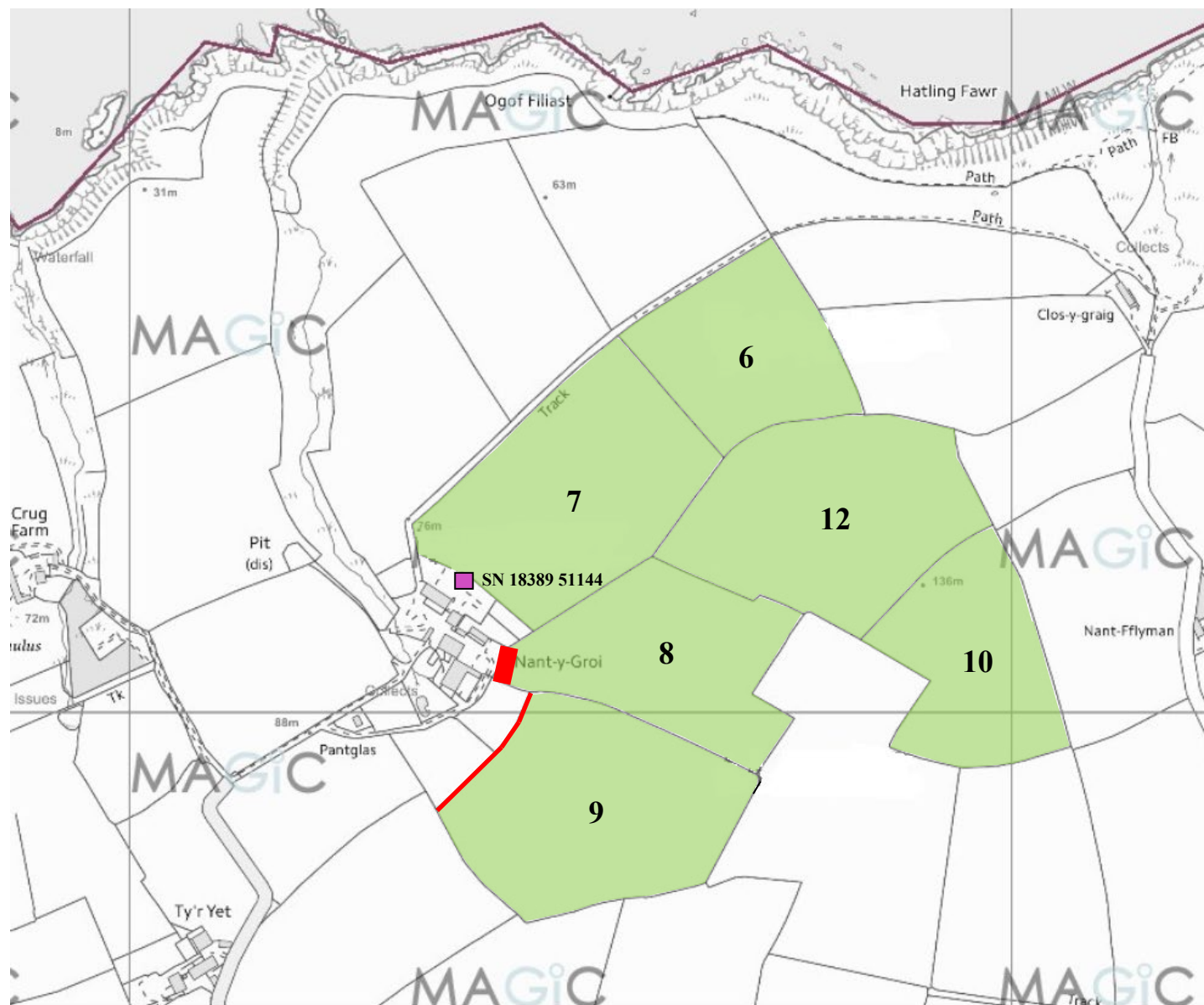
Field ref.	Spreadable area (hectares)	Grid reference (centre of fields)	Waste type(s) to be spread (LoW)
<u>Nant Y Croi</u>			
6	3.65	SN 18698 51398	02 05 02
7	5.90	SN 18505 51238	02 05 02
8	4.50	SN 18612 51058	02 05 02
9	6.00	SN 18532 50877	02 05 02
10	3.80	SN 18964 51053	02 05 02
12	6.10	SN 18807 51214	02 05 02
<u>Bolafron</u>			
2849	3.40	SN 17301 50496	02 05 02
3836	4.90	SN 17366 50337	02 05 02
4718	3.10	SN 17470 50166	02 05 02
3107	5.00	SN 17319 50053	02 05 02
6609	2.30	SN 17653 50093	02 05 02
TOTAL	48.65		

Map Key










	Non-Spreadable Section of Field
	10 Metres Buffer (Do Not Spread)
	Suitable for Spreading
	Store
	Water Course (10 Metres Buffer)
	Foot Path (5 Metres Buffer on Either Side)
	Spring, Well or Bore Hole (50 or 250 Metres Buffer)
	Other Features
	Nurse Tank

Farmer: M Davies
Grid Ref: SN 18391 51086
Site ID: Nant Y Croi
Site Post Code: SA43 1PU

Nant Y Croi – Location Map



Map Key

	Non-Spreadable Section of Field
	10 Metres Buffer (Do Not Spread)
	Suitable for Spreading
	Store
	Water Course (10 Metres Buffer)
	Foot Path (5 Metres Buffer on Either Side)
	Spring, Well or Bore Hole (50 or 250 Metres Buffer)
	Other Features
	Nurse Tank

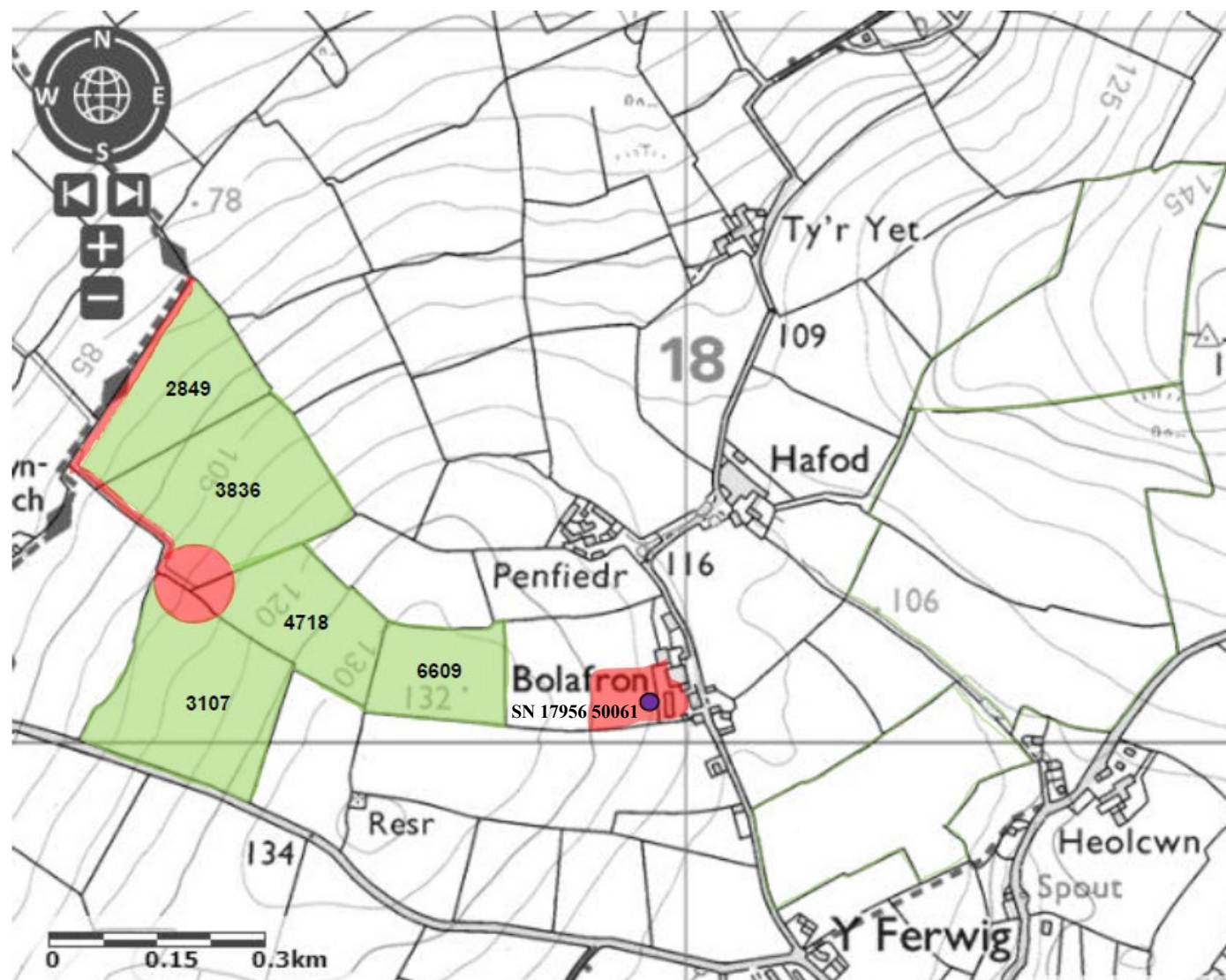
Farmer: M Davies

Grid Ref: SN 17967 50084

Site ID: Hafod Farm (Bolafron)

Site Post Code: SA43 1PU

Hafod Farm (Bolafron) – Location Map



Statement of Agricultural Benefit – Nant Y Croi Farm



Applicant: Stepside Agri Contractors

Permit: SR2010 No4: mobile plant for land-spreading

Permit Number: EPR/AB3891CX

Person with Technical Expertise:

Mr David Powell

FACTS: FE/2981

WAMITAB CCC No: 5157880

Phone number: 07968 496178

Email: dave.purlon@gmail.com

Farm Addresses:

Nant Y Croi Farm, Ferwig, Cardigan, Ceredigion, SA43 1PU - Holding No. 55/226/0005

Hafod Farm, Ferwig, Cardigan, SA43 1PU - Holding No. 55/226/0027

Wastes to be applied:

Waste Code	Waste Description	Physical Form	Waste Producer
02 05 02	Waste from the dairy products industry – sludges from on-site effluent treatment	Liquid	Dairy Partners, Newcastle Emlyn
02 05 02	Waste from the dairy products industry – sludges from on-site effluent treatment	Liquid	Volac, Felinfach
02 05 02	Waste from the dairy products industry – sludges from on-site effluent treatment	Liquid	First Milk, Haverfordwest

Rates of application are detailed in Table 1

Application:

- These grass fields will be spread subject to ground conditions being suitable and when there is a significant crop nutrient requirement (i.e. following a silage cut). Spreading of these grass fields will be split into multiple applications throughout the season and the total of all applications will not exceed the max application rate per field as listed in table 1.
- Spreading of the waste will be carried out in accordance with the Code of Good Agricultural Practice ("Protecting our Water, Soil and Air. Defra, 2009) and in accordance with the requirements of the deployment and environmental permitting regulations.
- NRW will be informed at least 48 hours prior to any spreading commencing and no spreading will occur within 48 hours of forecasted rainfall.
- The waste will be directly spread onto the fields with shallow injection equipment assuming ground conditions are suitable at the time of waste receipt, or for stored in a secure above ground liquid storage tank for future application for the Hafod farm - Bolafron fields when conditions are suitable and there is requirement for application. Should the ground or weather conditions mean it's unsuitable for spreading then contingency field storage in a nurse tank for the Nant Y Croi Farm fields may also be required. These potential locations are detailed on the attached field maps and within the LPD1 form.
- The maximum application rate for each field will be split into multiple applications and will not exceed 50t/ha in any one application to a field.
- **Waste will not be stored or spread in combination (i.e. one waste stream per field).**

Benefits from waste application:

- The analysis and nutrient content of the wastes are shown in the waste analysis attachments.
- The wastes are a source of nitrogen, phosphate, potassium, magnesium, sulphur, sodium, calcium and organic matter. The wastes can be beneficially used to replace a proportion of bagged mineral fertiliser.
- At the proposed application rates for each of the wastes in this deployment the amount of total magnesium (MgO) supplied by the wastes is 2 - 11kg/ha.
- The risk of sulphur deficiency has been estimated as 'High' based on the soil texture and expected winter rainfall (RB209). The crop requirements are approximately 40kg SO₃/ha before each cut of grass silage. The amount of available sulphur (SO₃) supplied by the wastes is 2 - 4 kg/ha.
- The addition of sodium will improve the palatability of grass and is important in the diet for livestock health. The crop requirements for the grass fields are up to 140kg/ha Na₂O.
- The recommended maximum application rates are shown in Table 1 and have been made on a field by field basis using The Nutrient Management Guide (RB209).

Materials applied in previous 12 months:

Nant Y Croi fields 6 – 10 & 12 received 46 t/ha of Volac sludge from dairy waste treatment and the five fields at Bolafron received 56t/ha of Volac sludge from dairy waste treatment in the previous 12 months. This was spread under deployment PAN-005068.

It's considered that the nutrients applied from these applications will have been used up by the previous crops before the material within this deployment is applied for the next crops.

Nutrients supplied by this application:

Rates of application (t/ha)	Nitrogen kg/ha		Phosphate kg/ha		Potash kg/ha		Magnesium MgO kg/ha		Sulphur SO ₃ kg/ha	
	Total	Available	Total	Available	Total	Available	Total	Available	Total	Available
Dairy Partners @ 120 t/ha	12	2	3	2	11	9	2	0	11	2
Volac @ 69 t/ha	35	7	80	48	70	56	11	1	22	4
First Milk @ 120 t/ha	12	2	7	4	7	6	2	0	8	2
Estimated Availability	20%		60%		80%		10%		20%	

Table 1: Field, Soil & Cropping Details, Fertiliser Recommendations and Application Rates

Field Ref.	Soil Type	Spreadable Area (ha)	Previous Crop	Next Crop	Nitrogen		Phosphate			Potash			Magnesium	
					SNS	N Required (kg/ha)	P Index	P Required (kg/ha)	Crop Use (Offtake) (kg/ha)	K Index	K Required (kg/ha)	Crop Use (Offtake) (kg/ha)	Mg Index	Mg Required (kg/ha)
Nant Y Croi														
6	Medium soils	3.65	2 cuts grass silage + grazing	3 cuts grass silage	Moderate	250	3	20	80	3	90	282	3	0
7	Medium soils	5.90	2 cuts grass silage + grazing	3 cuts grass silage	Moderate	250	2	80	80	1	320	282	3	0
8	Medium soils	4.50	2 cuts grass silage + grazing	3 cuts grass silage	Moderate	250	2	80	80	2-	280	282	3	0
9	Medium soils	6.00	2 cuts grass silage + grazing	3 cuts grass silage	Moderate	250	2	80	80	2-	280	282	3	0
10	Medium soils	3.80	2 cuts grass silage + grazing	3 cuts grass silage	Moderate	250	2	80	80	1	320	282	3	0
12	Medium soils	6.10	2 cuts grass silage + grazing	3 cuts grass silage	Moderate	250	2	80	80	1	320	282	3	0
Bolafron														
2849	Medium soils	3.40	3 cuts grass silage	3 cuts grass silage	Moderate	250	3	20	80	1	320	282	3	0
3836	Medium soils	4.90	3 cuts grass silage	3 cuts grass silage	Moderate	250	3	20	80	1	320	282	3	0
4718	Medium soils	3.10	3 cuts grass silage	3 cuts grass silage	Moderate	250	4	0	80	1	320	282	3	0
3107	Medium soils	5.00	3 cuts grass silage	3 cuts grass silage	Moderate	250	3	20	80	1	320	282	3	0
6609	Medium soils	2.30	3 cuts grass silage	3 cuts grass silage	Moderate	250	4	0	80	2-	280	282	3	0
TOTAL		48.65												

Nutrient requirements based on:
Grass 3 cuts silage (23t FW/ha at 1st cut, 15t FW/ha at 2nd cut, 9t FW/ha at 3rd cut), silage 25% DM, totalling 1.7kg/t P2O5 and 6.0kg/t K2O removed in offtake (RB209)
Expected DM yields of grass 9-12t/ha, good grass growth class

Field Ref.	Dairy Partners, Newcastle Emlyn - Liquid Waste						Volac, Felinfach - Liquid Waste						First Milk, Haverfordwest - Liquid Waste					
	N Applied - Waste (kg/ha)	P Applied - Waste (kg/ha)	K Applied - Waste (kg/ha)	Mg Applied - Waste (kg/ha)	Application Rate (t/ha)	Total Tonnes	N Applied - Waste (kg/ha)	P Applied - Waste (kg/ha)	K Applied - Waste (kg/ha)	Mg Applied - Waste (kg/ha)	Application Rate (t/ha)	Total Tonnes	N Applied - Waste (kg/ha)	P Applied - Waste (kg/ha)	K Applied - Waste (kg/ha)	Mg Applied - Waste (kg/ha)	Application Rate (t/ha)	Total Tonnes
Nant Y Croi																		
6	**2	*3	*11	*2	120	438	**7	*80	*70	*11	69	252	**2	*7	*7	*2	120	438
7	**2	*3	**9	*2	120	708	**7	*80	**56	*11	69	407	**2	*7	**6	*2	120	708
8	**2	*3	*11	*2	120	540	**7	*80	*70	*11	69	310	**2	*7	*7	*2	120	540
9	**2	*3	*11	*2	120	720	**7	*80	*70	*11	69	414	**2	*7	*7	*2	120	720
10	**2	*3	**9	*2	120	456	**7	*80	**56	*11	69	262	**2	*7	**6	*2	120	456
12	**2	*3	**9	*2	120	732	**7	*80	**56	*11	69	421	**2	*7	**6	*2	120	732
Bolafron																		
2849	**2	*3	**9	*2	120	408	**7	*80	**56	*11	69	235	**2	*7	**6	*2	120	408
3836	**2	*3	**9	*2	120	588	**7	*80	**56	*11	69	338	**2	*7	**6	*2	120	588
4718	**2	*3	**9	*2	120	372	**7	*80	**56	*11	69	214	**2	*7	**6	*2	120	372
3107	**2	*3	**9	*2	120	600	**7	*80	**56	*11	69	345	**2	*7	**6	*2	120	600
6609	**2	*3	*11	*2	120	276	**7	*80	*70	*11	69	159	**2	*7	*7	*2	120	276
TOTAL						5838						3357						5838

Waste will NOT be spread or stored in combination (i.e. one waste stream per field)

* Total nutrient content of waste used on P, K or Mg index 2 or above
** Available nutrient content of waste used on P, K or Mg index 0 or 1
The assumed availability of total nutrients in the sludge are N 20%, P 60%, K 80%, Mg 10%, S 20%

Potential negative impacts from this application and mitigation measures planned:

Waste Composition & Receiving Soils

- Potentially Toxic Elements: The supplied concentrations at the proposed application rates are all significantly lower than the maximum permissible levels detailed in the Sludge (Use in Agriculture) Regulations 1989 for biosolids applied to agriculture, which is believed to be a suitable comparison for wastes applied to agricultural land. This indicates there is little risk of build-up of harmful substances in the soil.
- Physical contaminants: The wastes are produced by managed processes. The sludges do not contain physical contaminants.
- Waste pH: The wastes are acidic in nature. The acidic nature is most probably associated with the presence of food based organic acids. Acidic food-based wastes are routinely applied to agricultural land without adverse effects on crop health, or significant decreases in soil pH. Use of the Dairy Partners, Volac and First Milk waste streams will be carefully monitored, through low rates of individual application across the growing season and close monitoring of crop health, for any adverse signs resulting from acidity around roots.
- Receiving soils are below the limits set for grassland soils under the Sludge (Use in Agriculture) Regulations.

Operations

The fields in this deployment have been designated as 'high risk' following site checks on the proximity to surrounding protected areas (e.g. SSSIs) and groundwater source protection zones. On the basis of 'high risk' the proposed operation will be subject to a site-specific risk assessment for deploying mobile plant under a SR2010 No.4. The potential risks associated with the application of waste on this deployment have been identified as;

- Potential run-off after application: The wastes will be applied following the Codes of Good Agricultural Practice. The maximum application rate for each field will be split into multiple applications throughout the growing season and will not exceed 50t/ha in any one application to a field.
- Odour may potentially be emitted from the spreading of waste – to mitigate odour generation all handling of waste will be done in accordance to current regulations and relevant mitigation strategies will be adopted e.g. waste will be sub-surface injected. If any odour complaints are received, further odour mitigation methods will be implemented.
- Spillages: all spillages will be reported immediately to NRW.
- No waste will be spread within 10m of any ditch, pond or surface water, within 50m of any spring, well, borehole, or reservoir that supplies water for human consumption or farm dairies.
- Waste will be spread on delivery (or securely stored as stated above). Operators will aim to empty spreading equipment before the end of each working day to avoid overnight storage of waste in machinery.
- Regular servicing of all machinery is conducted and spreading equipment is annually calibrated. To prevent waste being held in faulty machinery replacement spreading equipment will be available.
- Spreading machinery will travel over the field in a direction which will most easily allow the machinery to turn within the boundaries of the field. Any spreading equipment will be turned off and/or lifted out of the soil prior to turning at the end of each run.
- Machinery turns will be routed to avoid rutting and wheel slip. The turns will not be executed on any buffer strips.
- There will be sufficient trained staff available to ensure that the operation continues throughout operational hours (i.e. there will be sufficient cover for illness, holiday etc.).
- Consideration for the public and local residential receptors will be taken before and during application.

Signed: David Powell

Date: 04/03/2020

Risk Assessment for a Standard Permit Rule set SR2010 No4

PAN-00

Standard Facility:

EPR/AB3891CX - Stepside Agri SR2010 No4 Mobile plant for landspreading

Location:

Nant y Croi Farm, Ferwig, Cardigan

Risk assessment carried out by:

D J Powell

Date:

Mar-2020



Data and information					Judgement			Action (by permitting)	
Receptor	Source	Harm	Pathway	Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude	Risk management	Residual risk
What is at risk? What do I wish to protect?	What is the agent or process with potential to cause harm?	What are the harmful consequences if things go wrong?	How might the receptor come into contact with the source?	How likely is this contact?	How severe will the consequences be if this occurs?	What is the overall magnitude of the risk?	On what did I base my judgement?	How can I best manage the risk to reduce the magnitude?	What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).
Surface water – ditches, watercourses and ponds	Nutrients, and organic matter	Surface water pollution	Surface run-off	Medium	High	Medium	Proximity of ditches, ponds, slopes	Comply with COGAP, Cross Compliance, Sludge Regs and EPR. Non spreading areas to be observed as per attached maps. Waste applied at periods of crop nutrient requirement. Do not apply waste if heavy rain forecast. Follow PQA	Low
Groundwater	Nutrients,	Groundwater pollution	In appropriate application	Medium	Medium	Low	Wastes have moderate concentrations of nutrients	As above	Low
Soils	Physical damage to soil structure	Damage to soil structure and poor subsequent crop yields	Delivery and	Low	Medium to High	Low	Delivery and spreading to be undertaken when ground conditions are suitable.	Comply with COGAP and Cross Compliance Criteria. Apply only in suitable conditions. Follow PQA	Low
Soils	Nutrients and PTEs	Build up of nutrients and/or PTEs	Spreading activity	High	Medium to High	Low	Milk waste analysis, receiving soil analysis. Application rates matched to crop requirements rates, matched to crop	Apply according to PQA, RB209 and COGAP.	Low
Local human population, livestock and wildlife	Spreading activities – physical	Harm to human health or animals	Trespass, accidental contact	Low	Medium	Low	Agricultural areas with limited public and animal access. Minimum 3 week non utilisation period	Application during appropriate conditions and awareness of access issues.	Low

Local human population	Odour during spreading activity	Odour issues/complaints	Airborne compounds	Medium	Medium	Medium	Sensitivity of local human receptors to odours The waste has low odour but all odours will be managed effectively through good practice (following of CoGAP during spreading) and operational practices (EMS).	Odour emissions will be controlled through adoption of recommendations in CoGAP. Odour management plan available in EMS in accordance with SR2010No4 permit	Low
Local human population	Releases of airborne dusts/particulate matter	Harm to human health , nuisance. Respiratory irritation, illness and nuisance to local population	Transport through air	Low	Medium	Low	Waste has a low potential to produce airborne dust and particulate matter.	Waste will be sub surface injected and will be applied in accordance with CoGAP and EMS	Low

Risk Assessment for a Standard Permit Rule set SR2010 No4

PAN-00

Standard Facility:

EPR/AB3891CX - Stepside Agri SR2010 No4 Mobile plant for landspreading

Location:

Nant Y Croi Farm, Ferwig, Cardigan

Risk assessment carried out by:

D J Powell

Date:

Mar-2020



Data and information					Judgement			Action (by permitting)	
Receptor	Source	Harm	Pathway	Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude	Risk management	Residual risk
What is at risk? What do I wish to protect?	What is the agent or process with potential to cause harm?	What are the harmful consequences if things go wrong?	How might the receptor come into contact with the source?	How likely is this contact?	How severe will the consequences be if this occurs?	What is the overall magnitude of the risk?	On what did I base my judgement?	How can I best manage the risk to reduce the magnitude?	What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).
Local human population	Releases of airborne dusts/particulate matter	Nuisance dust on cars, clothing etc.	Deposition from air	Low	Low	Low	Waste has a low potential to produce airborne dust and particulate matter. Liquid injection.	Waste will be applied by sub surface injection and in accordance with CoGAP and EMS	Low
Local human population	Emissions; litter	Nuisance loss of amenity and harm to pet health	Transport through air	Low	Low	Low	Waste does not contain litter as it derives from a controlled manufacturing process	Waste will be applied in accordance with CoGAP and EMS	Low
Local human population and local environment.	Emmissions: litter and mud on local roads	Nuisance, loss of amenity, risk of accident	Vehicles entering and leaving site	Medium	Medium	Medium	Road safety. Tractors/spreaders trailing mud and debris from fields	Operation will not cause any additional effects on surrounding roads than normal agricultural practice occurring in the surrounding area. Application of waste will condition the soil and improve workability, which reduces environmental impact associated with spreading.	Low
Local human population	Pests (e.g. flies)	Harm to human health, nuisance, loss of amenity	Air transport and over land	Low	Low	Low	The milk waste is highly unlikely to attract scavenging animals. Low potential to attract flies.	All waste will be stored, transported and spread in accordance with conditions set in SR2010No4 permit and CoGAP. Wastes are unlikely to attract pests as it is produced from a controlled source segregated waste treatment facility. Milk waste has low particulate matter content. Waste will be injected.	Low
Hedgerows and trees	Physical damage from spreading equipment	Ecological & landscape	Physical damage from spreading equipment	Low	Low	Low	Professional drivers are employed and instructed to take care around trees & hedgerows	Leave a 2.0m, minimum buffer zone adjacent to trees and hedgerows	Low

Risk Assessment for a Standard Permit Rule set SR2010 No4

PAN-00

Standard Facility:

EPR/AB3891CX - Stepside Agri SR2010 No4 Mobile plant for landspreading

Location:

Nant Y Croi Farm, Ferwig, Cardigan

Risk assessment carried out by:

D J Powell

Date:

Mar-2020



Data and information					Judgement			Action (by permitting)	
Receptor	Source	Harm	Pathway	Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude	Risk management	Residual risk
What is at risk? What do I wish to protect?	What is the agent or process with potential to cause harm?	What are the harmful consequences if things go wrong?	How might the receptor come into contact with the source?	How likely is this contact?	How severe will the consequences be if this occurs?	What is the overall magnitude of the risk?	On what did I base my judgement?	How can I best manage the risk to reduce the magnitude?	What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).
Aberarth-Carreg Wylan SSSI	Nutrients, Organic matter & liquid waste	Ecological & Environmental pollution.	Run off of waste. Waste entering water course.	Medium	Medium	Medium	The Aberarth Carreg Wylan SSSI is within 500m of various fields. The nearest field is 6 which is 170m at the closest point. . All field have been soil sampled and risk assessed for water courses, slopes, ditches etc.	Ensure that application rates are adhered to and in accordance to Agricultural benefit statement provided. Non spreading areas to be observed as per attached maps. Spread only when weather conditions are suitable. Spreading done by sub surface injection system to prevent any runoff.	Low
Conservation areas	Physical damage from spreading equipment	Ecological & landscape	Physical damage from spreading equipment	Low	Low	Low	Professional drivers are employed and instructed to take care around hedgerows and banks.	Leave a 2.0m, minimum buffer zone adjacent to any trees and hedgerows. 10m from any water courses.	Low
Wildlife	Releases of airborne dusts/particulate matter	Inhalation & digestion of particles	Deposition from air	Low	Low	Low	Waste has a low potential to produce airborne dust and particulate matter.No signs of any wildlife inhabiting fields that waste will be applied on at time of inspection.	Waste will be applied by sub surface injection and in accordance with CoGAP and EMS. Drivers to monitor weather conditions at time of spreading and observe if any wildlife is in the fields which are being spread and in adjacent fields.	Low

Wildlife	Organic material & liquid.	Digestion of material	Grazing and digestion.	Low	Low	Low	Professional drivers are employed and instructed to take care injection material. Accurate spreading and use of equipment. No signs of any wildlife inhabiting fields that waste will be applied on at time of inspection.	Ensure that application rates are adhered to and in accordance to Agricultural benefit statement provided. Non spreading areas to be observed as per attached maps. Spread only when weather conditions are suitable. Spreading done by sub surface injection system.	Low
Flora & Fauna	Organic material & liquid.	Ecological	Run off of waste from spreading. Contact from machinery	Low	Low	Low	The fields to be spread are bordered by other fields that are not to be used. This gives a robust buffer zone.	Ensure that the correct spreading equipment is used with profesional drivers. Drivers are to be made aware of any site specific guidelines. Spread only when conditions are suitable.	

Risk Assessment for a Standard Permit Rule set SR2010 No4

PAN-00

Standard Facility:

EPR/AB3891CX - Stepside Agri SR2010 No4 Mobile plant for landspreading

Location:

Nant Y Croi Farm, Ferwig, Cardigan, SA43 1PU

Risk assessment carried out by:

D J Powell

Date:

Mar-2020



Data and information					Judgement			Action (by permitting)	
Receptor	Source	Harm	Pathway	Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude	Risk management	Residual risk
What is at risk? What do I wish to protect?	What is the agent or process with potential to cause harm?	What are the harmful consequences if things go wrong?	How might the receptor come into contact with the source?	How likely is this contact?	How severe will the consequences be if this occurs?	What is the overall magnitude of the risk?	On what did I base my judgement?	How can I best manage the risk to reduce the magnitude?	What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).
Cardigan Bay SAC, West Wales marine SAC	Nutrients, Organic matter & liquid waste	Ecological & Environmental pollution.	Run off of waste. Waste entering water course.	Medium	Medium	Medium	The SAC is within 500m of various fields. Nearest field is 6 which is 170m. All field have been soil sampled and risk assessed for water courses, slopes, ditches etc.	Ensure that application rates are adhered to and in accordance to Agricultural benefit statement provided. Non spreading areas to be observed as per attached maps. Spread only when weather conditions are suitable. Spreading done by sub surface injection system to prevent any runoff.	Low
Marine Environment	Organic material & liquid.	Harm to marine wildlife	Runoff from waste entering the sea	Medium	Medium	Medium	Non-spreading areas and low volumes with large buffer zones have been looked at the time of field inspections. Current farming practice has also been observed.	Ensure that application rates are adhered to and in accordance to Agricultural benefit statement provided. Non spreading areas to be observed as per attached maps. Spread only when weather conditions are suitable. Spreading done by sub surface injection system to prevent any runoff.	Low
Conservation areas	Physical damage from spreading equipment	Ecological & landscape	Physical damage from spreading equipment	Low	Low	Low	Professional drivers are employed and instructed to take care around hedgerows and banks.	Leave a 2.0m, minimum buffer zone adjacent to any trees and hedgerows. 10m from any water courses.	Low
Birds	Releases of airborne dusts/particulate matter or Organic material	Inhalation & digestion of particles	Deposition from air or field surface	Low	Low	Low	Waste has a low potential to produce airborne dust and particulate matter. Material will be injected into ground.	Waste will be applied by sub surface injection and in accordance with CoGAP and EMS. Drivers to monitor weather conditions at time of spreading and observe if any birds are in the fields which are being spread and in adjacent fields.	Low

Coastal Flora & Fauna	Organic material & liquid.	Ecological	Run off of waste from spreading. Contact from machinery	Low	Low	Low	The fields to be spread are bordered by other farmed fields that are not to be used. This gives a robust buffer zone.	Ensure that the correct spreading equipment is used with profesional drivers. Drivers are to be made aware of any site specific guidelines. Spread only when conditions are suitable.	Low
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Risk Assessment for a Standard Permit Rule set SR2010 No4

PAN-00

Standard Facility:

EPR/AB3891CX - Stepside Agri SR2010 No4 Mobile plant for landspreading

Location:

Nant Y Croi Farm, Ferwig, Cardigan

Risk assessment carried out by:

D J Powell

Date:

Mar-2020



Data and information					Judgement			Action (by permitting)	
Receptor	Source	Harm	Pathway	Probability of exposure	Consequence	Magnitude of risk	Justification for magnitude	Risk management	Residual risk
What is at risk? What do I wish to protect?	What is the agent or process with potential to cause harm?	What are the harmful consequences if things go wrong?	How might the receptor come into contact with the source?	How likely is this contact?	How severe will the consequences be if this occurs?	What is the overall magnitude of the risk?	On what did I base my judgement?	How can I best manage the risk to reduce the magnitude?	What is the magnitude of the risk after management? (This residual risk will be controlled by Compliance Assessment).
Caeau Crug Bychan, Ty Gwyn A Llwyn Ysgaw SSSI	Nutrients, Organic matter & liquid waste	Ecological & Environmental pollution.	Run off of waste. Waste entering water course.	Medium	Medium	Medium	Field 7 is 480m from Caeau Crug Bychan, Ty Gwyn A Llwyn Ysgaw SSSI. All fields have been soil sampled and risk assessed for water courses, slopes, ditches etc.	Ensure that application rates are adhered to and in accordance to Agricultural benefit statement provided. Non spreading areas to be observed as per attached maps. Spread only when weather conditions are suitable. Spreading done sub surface injection system to prevent any runoff.	Low
Conservation areas	Physical damage from spreading equipment	Ecological & landscape	Physical damage from spreading equipment	Low	Low	Low	Professional drivers are employed and instructed to take care around hedgerows and banks.	Leave a 2.0m, minimum buffer zone adjacent to any trees and hedgerows. 10m from any water courses.	Low
Wildlife	Releases of airborne dusts/particulate matter	Inhalation & digestion of particles	Deposition from air	Low	Low	Low	Waste has a low potential to produce airborne dust and particulate matter. No signs of any wildlife inhabiting fields that waste will be applied on at time of inspection.	Waste will be applied by sub surface injection and in accordance with CoGAP and EMS. Drivers to monitor weather conditions at time of spreading and observe if any wildlife is in the fields which are being spread and in adjacent fields.	Low

Wildlife	Organic material & liquid.	Digestion of material	Grazing and digestion.	Low	Low	Low	Professional drivers are employed and instructed to take care injection material. Accurate spreading and use of equipment. No signs of any wildlife inhabiting fields that waste will be applied on at time of inspection.	Ensure that application rates are adhered to and in accordance to Agricultural benefit statement provided. Non spreading areas to be observed as per attached maps. Spread only when weather conditions are suitable. Spreading done by sub surface injection system.	Low
Flora & Fauna	Organic material & liquid.	Ecological	Run off of waste from spreading. Contact from machinery	Low	Low	Low	The fields to be spread are bordered by other fields that are not to be used. This gives a robust buffer zone.	Ensure that the correct spreading equipment is used with profesional drivers. Drivers are to be made aware of any site specific guidelines. Spread only when conditions are suitable.	



Continuing Competence Certificate

This certificate confirms that

David Powell

Has met the relevant requirements of the Continuing Competence scheme for the following award(s) which will remain current for two years from 13/01/2020

AD Anaerobic Digestion
LS Land Spreading

**Expiry Date:
13/01/2022**

Verification date: 03/01/2020

Authorised:

WAMITAB Chief Executive Officer

Learner ID: 21046

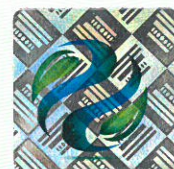
Certificate No.: 5157880

Date of Issue: 13/01/2020

CIWM Chief Executive Officer



The Chartered Institution
of Wastes Management



00133014

DAIRY PARTNERS

Analysis of Liquid Waste

Report No: 65692

Date: 13/08/19

Application rate (t/ha)	120.0
Application rate (t/acre)	49
pH	5.32
Dry solids (%)	0.36

Organic Matter(%)	0.12
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NUTRIENT CONTENT

TOTALS	result	units	Total		Readily Available	
			(kg/t)	(kg/ha)	(kg/t)	(kg/ha)
Nitrogen (N)	0.01	%	0.1	12	0.0	2
Ammonium-N	50	mg/kg	0.1	6		
Phosphorus (P)	10.5	mg/kg	0.0	1		
Phosphate (P ₂ O ₅)			0.024	3	0.0	2
Potassium (K)	77.8	mg/kg	0.1	9		
Potash (K ₂ O)			0.1	11	0.1	9
Magnesium (Mg)	10	mg/kg	0.0	1		
Magnesium (MgO)			0.0	2	0.0	0
Sulphur (S)	35.4	mg/kg	0.0	4		
Sulphur (SO ₃)			0.1	11	0.0	2

POTENTIALLY TOXIC ELEMENTS

TOTALS	result	units	Rate		Limit
			(g/tonne)	(kg/ha)	(kg/ha/yr)
Zinc	0.50	mg/kg	0.50	0.06	15.00
Copper	0.20	mg/kg	0.20	0.02	7.50
Nickel	0.20	mg/kg	0.20	0.02	3.00
Lead	0.50	mg/kg	0.50	0.06	15.00
Cadmium	0.01	mg/kg	0.01	0.00	0.15
Chromium	0.20	mg/kg	0.20	0.02	15.00
Mercury	0.05	mg/kg	0.05	0.01	0.10

All results expressed on sample as received. The nitrogen, magnesium, zinc, copper, nickel, lead, cadmium, chromium and mercury concentrations are less than the minimum level of detection, consequently, the calculated values will be less than those shown



STEPSIDE AGRI
STEPSIDE FARM
GWBERT ROAD
CARDIGAN
SA43 1PH

V850

Please quote above code for all enquiries

DAIRY PARTNERS LTD

EFFLUENT

EFFLUENT

Sample Reference :

DAIRY PARTNERS EFF

Sample Matrix : EFFLUENT

Laboratory References

Report Number	65692
Sample Number	85558

Date Received	13-AUG-2019
Date Reported	21-AUG-2019

The sample submitted was of adequate size to complete all analysis requested.

The sample will be kept under refrigeration for at least 3 weeks.

ANALYTICAL RESULTS *on 'as received' basis.*

Determinand	Value	Units
Oven Dry Solids	0.360	%
E Coli [Fresh]	31000	cfu/g
Conductivity 1:6	707	uS/cm
Total Kjeldahl Nitrogen	<0.01	% w/w
Nitrate Nitrogen	54.0	mg/kg
Ammonium Nitrogen	<50	mg/kg
Total Phosphorus (P)	10.5	mg/kg
Total Potassium (K)	77.8	mg/kg
Total Magnesium (Mg)	<10	mg/kg
Total Copper (Cu)	<0.2	mg/kg

Released by Myles Nicholson

Date 21/08/19

NRM Coopers Bridge, Braziers Lane, Bracknell, Berkshire RG42 6NS
Tel: +44 (0) 1344 886338 Fax: +44 (0) 1344 890972 Email: enquiries@nrm.uk.com www.nrm.uk.com



STEPSIDE AGRI
STEPSIDE FARM
GWBERT ROAD
CARDIGAN
SA43 1PH

V850

Please quote above code for all enquiries

DAIRY PARTNERS LTD

EFFLUENT

EFFLUENT

Sample Reference :

DAIRY PARTNERS EFF

Sample Matrix : EFFLUENT

Laboratory References

Report Number	65692
Sample Number	85558

Date Received	13-AUG-2019
Date Reported	21-AUG-2019

The sample submitted was of adequate size to complete all analysis requested.

The sample will be kept under refrigeration for at least 3 weeks.

ANALYTICAL RESULTS *on 'as received' basis.*

Determinand	Value	Units
Total Zinc (Zn)	<0.5	mg/kg
Total Sulphur (S)	35.4	mg/kg
Total Calcium (Ca)	41.1	mg/kg
Total Lead (Pb)	<0.5	mg/kg
Total Cadmium (Cd)	<0.01	mg/kg
Total Mercury (Hg)	<0.05	mg/kg
Total Nickel (Ni)	<0.2	mg/kg
Total Chromium (Cr)	<0.2	mg/kg
Total Sodium (Na)	850	mg/kg
pH 1:6 [Fresh]	5.32	

Released by Myles Nicholson

Date 21/08/19



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SA43 1PH

V850

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DAIRY PARTNERS LTD

EFFLUENT

EFFLUENT

Sample Reference :

DAIRY PARTNERS EFF

Sample Matrix : EFFLUENT

Laboratory References

Report Number	65692
Sample Number	85558

Date Received	13-AUG-2019
Date Reported	21-AUG-2019

The sample submitted was of adequate size to complete all analysis requested.

The sample will be kept under refrigeration for at least 3 weeks.

ANALYTICAL RESULTS *on 'as received' basis.*

Determinand	Value	Units
Organic Matter LOI	0.12	% w/w
Coliforms [fresh]	440000	cfu/g
Oils,Fats and Grease	<200	mg/kg
Salmonella spp [fresh]	Negative	in 25g
EC [Neat]	3789	uS/cm

Released by *Myles Nicholson*

Date *21/08/19*

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VOLAC FELINFACH

Analysis of Sludge

Lab Ref: 53284

Date: 25/04/19

Application rate (t/ha) 69.0
Application rate (t/acre) 28
pH 4.78
Dry solids (%) 1.82

Organic Matter(%) 1.22

NUTRIENT CONTENT

TOTALS	result	units	Total		Readily Available	
			(kg/t)	(kg/ha)	(kg/t)	(kg/ha)
Nitrogen (N)	0.05	%	0.5	35	0.1	7
Ammonium-N	107	mg/kg	0.1	7		
Phosphorus (P)	507	mg/kg	0.5	35		
Phosphate (P ₂ O ₅)			1.2	80	0.7	48
Potassium (K)	842	mg/kg	0.8	58		
Potash (K ₂ O)			1.0	70	0.8	56
Magnesium (Mg)	92.3	mg/kg	0.1	6		
Magnesium (MgO)			0.2	11	0.0	1
Sulphur (S)	130	mg/kg	0.1	9		
Sulphur (SO ₃)			0.3	22	0.1	4

POTENTIALLY TOXIC ELEMENTS

TOTALS	result	units	Rate		Limit
			(g/tonne)	(kg/ha)	(kg/ha/yr)
Zinc	1.24	mg/kg	1.24	0.09	15.00
Copper	0.20	mg/kg	0.2	0.01	7.50
Nickel	0.20	mg/kg	0.2	0.01	3.00
Lead	0.50	mg/kg	0.5	0.03	15.00
Cadmium	0.01	mg/kg	0.01	0.00	0.15
Chromium	0.30	mg/kg	0.3	0.02	15.00
Mercury	0.05	mg/kg	0.05	0.00	0.10

All results expressed on sample as received. The lead, copper, cadmium, nickel and mercury concentrations are less than the minimum level of detection, consequently, the calculated values will be less than those shown



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VOLAC FELINFACH

EFFLUENT ANALYSIS RESULTS (Metric Units)

Sample Reference : EFFLUENT 001A

Sample Matrix : EFFLUENT

The sample submitted was of adequate size to complete all analysis requested.

The sample will be kept under refrigeration for at least 3 weeks.

Laboratory References

Report Number 53284
Sample Number 81788

Date Received 25-APR-2019

Date Reported 03-MAY-2019

ANALYTICAL RESULTS *on 'as received' basis.*

Determinand on a fresh weight basis	Units	Result	Amount per fresh tonne or m3	Amount applied at an equivalent total Nitrogen application of 250 kg N/ha	Units
pH 1:6 [Fresh]		4.78			
Oven Dry Solids	%	1.82	18.20	9100	kg DM
Total Nitrogen	% w/w	0.050	0.50	250	kg N
Ammonium Nitrogen	mg/kg	107	0.11	53.50	kg NH4-N
Nitrate Nitrogen	mg/kg	<10	< 0.01		kg NO3-N
Total Phosphorus (P)	mg/kg	507	1.16	580.52	kg P2O5
Total Potassium (K)	mg/kg	842	1.01	505.20	kg K2O
Total Magnesium (Mg)	mg/kg	92.3	0.15	76.61	kg MgO
Total Sulphur (S)	mg/kg	130	0.32	162.50	kg SO3
Total Copper (Cu)	mg/kg	<0.2	< 0.01		kg Cu
Total Zinc (Zn)	mg/kg	1.24	< 0.01		kg Zn
Total Sodium (Na)	mg/kg	588	0.79	396.31	kg Na2O
Total Calcium (Ca)	mg/kg	562	0.56	281.00	kg Ca
Equivalent field application rate		—	1.00	500.00	tonnes or m3 / ha

The above equivalent field application rate for total nitrogen of 250 kg/ha has been provided purely for guidance purposes only. Organic manures should be used in accordance with the Defra Code of Good Agricultural Practice and where required within the specific regulatory guidance for the spreading of that material to land. To get the most benefit from your organic manures it is recommended that you follow the principles as set out in Defra's Fertiliser Manual (RB209) or as directed by a FACTS qualified adviser.

Released by **Katie Dunn**

Date **03/05/19**

NRM Coopers Bridge, Braziers Lane, Bracknell, Berkshire RG42 6NS
Tel: +44 (0) 1344 886338 Fax: +44 (0) 1344 890972 Email: enquiries@nrm.uk.com www.nrm.uk.com



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VOLAC FELINFACH

EFFLUENT ANALYSIS RESULTS (Metric Units)

Sample Reference : EFFLUENT 001A

Sample Matrix : EFFLUENT

The sample submitted was of adequate size to complete all analysis requested.

The sample will be kept under refrigeration for at least 3 weeks.

Laboratory References

Report Number	53284
Sample Number	81788

Date Received	25-APR-2019
Date Reported	03-MAY-2019

ANALYTICAL RESULTS *on 'as received' basis.*

Determinand on a fresh weight basis	Units	Result
E Coli [Fresh]	cfu/g	320
Conductivity 1:6	uS/cm	1331
Total Lead (Pb)	mg/kg	<0.5
Total Cadmium (Cd)	mg/kg	<0.01
Total Mercury (Hg)	mg/kg	<0.05
Total Nickel (Ni)	mg/kg	<0.2
Total Chromium (Cr)	mg/kg	0.303
Organic Matter LOI	% w/w	1.22
Coliforms [fresh]	cfu/g	50
Oils,Fats and Grease	mg/kg	<200
Salmonella spp [fresh]		Negative
EC [Neat]	uS/cm	6852

Released by Katie Dunn

Date 03/05/19

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How does your sample analysis compare with the 'standard' figures for organic manures?

Farmyard Manure	Dry Matter (% DM)	Total Nitrogen (Kg N/t)	Total Phosphate (Kg P2O5/t)	Total Potash (Kg K2O/t)	Total Sulphur (Kg SO3/t)	Total Magnesium (Kg MgO/t)
Cattle FYM	25	6.0	3.2	9.4	2.4	1.8
Pig FYM	25	7.0	6.0	8.0	3.4	1.8
Sheep FYM	25	7.0	3.2	8.0	4.0	2.8
Duck FYM	25	6.5	5.5	7.5	2.6	2.4
Horse FYM	25	5.0	5.0	6.0	1.6	1.5
Goat FYM	40	9.5	4.5	12.0	2.8	1.8

Notes: The 'standard' phosphate & potash availability figures to the next crop grown from Defra's Fertiliser Manual are 60% & 90% respectively.

Poultry Manure	Dry Matter (% DM)	Total Nitrogen (Kg N/t)	Total Phosphate (Kg P2O5/t)	Total Potash (Kg K2O/t)	Total Sulphur (Kg SO3/t)	Total Magnesium (Kg MgO/t)
	20	9.4	8.0	8.5	3.0	2.7
	40	19.0	12.0	15.0	5.6	4.3
	60	28.0	17.0	21.0	8.2	5.9
	80	37.0	21.0	27.0	11.0	7.5

Notes: The 'standard' phosphate & potash availability figures to the next crop grown from Defra's Fertiliser Manual are 60% & 90% respectively.

Cattle & Pig Slurries	Dry Matter (% DM)	Total Nitrogen (Kg N/m3)	Total Phosphate (Kg P2O5/m3)	Total Potash (Kg K2O/m3)	Total Sulphur (Kg SO3/m3)	Total Magnesium (Kg MgO/m3)
Cattle slurry	6.0	2.6	1.2	2.5	0.7	0.6
Dirty water (from cattle)	0.5	0.5	0.1	1.0	0.1	0.1
Separated cattle slurries						
- strainer box liquid	1.5	1.5	0.3	1.5	ND	ND
- weeping wall liquid	3.0	2.0	0.5	2.3	ND	ND
- mechanically separated liquid	4.0	3.0	1.2	2.8	ND	ND
- solid portion after separation	20.0	4.0	2.0	3.3	ND	ND
Pig slurry	4.0	3.6	1.5	2.2	0.7	0.7
Separated pig slurry - liquid	3.0	3.6	1.1	2.0	ND	ND
Separated pig slurry - solid	20.0	5.0	3.7	2.0	ND	ND

Notes: ND = no data.

The 'standard' phosphate & potash availability figures to the next crop grown from Defra's Fertiliser Manual are 50% & 90% respectively (50% & 100% for dirty water).

Biosolids	Dry Matter (% DM)	Total Nitrogen (Kg N/t)	Total Phosphate (Kg P2O5/t)	Total Potash (Kg K2O/t)	Total Sulphur (Kg SO3/t)	Total Magnesium (Kg MgO/t)
Digested cake	25	11.0	11.0	0.6	8.2	1.6
Thermally dried	95	40.0	55.0	2.0	23.0	6.0
Lime stabilised	25	8.5	7.0	0.8	7.4	2.4
Composted	40	11.0	10.0	3.0	6.1	2.0

Notes: The 'standard' phosphate & potash availability figures to the next crop grown from Defra's Fertiliser Manual are 50% & 90% respectively.

Other Organic Manures	Dry Matter (% DM)	Total Nitrogen (Kg N/t)	Total Phosphate (Kg P2O5/t)	Total Potash (Kg K2O/t)	Total Sulphur (Kg SO3/t)	Total Magnesium (Kg MgO/t)
Composts						
Green compost	60	7.5	3.0	6.8	3.4	3.4
Green/food compost	60	11.0	4.9	8.0	5.1	3.4
Mushroom compost	35	6.0	5.0	9.0	ND	ND
Digestates						
Food-based whole	4.1	4.8	1.1	2.4	0.7	0.2
Food-based separated liquor	3.8	4.5	1.0	2.8	1.0	0.2
Food-based separated fibre	27.0	8.9	10.2	3.0	4.0	2.2
Farm-sourced whole	5.5	3.6	1.7	4.0	0.8	0.6
Farm-sourced separated liquor	3.0	1.9	0.6	2.5	<0.1	0.4
Farm-sourced separated fibre	24.0	5.6	4.7	6.0	1.2	1.8
Paper Crumble						
Chemically / physically treated	40	2.0	0.4	0.2	0.6	1.4
Biologically treated	30	7.5	3.8	0.4	2.4	1.0
Water Treatment Cake						
Water treatment cake	25	2.4	3.4	0.4	5.5	0.8
Food industry 'wastes'						
Dairy waste	4	1.0	0.8	0.2	ND	ND
Soft drinks waste	4	0.3	0.2	Trace	ND	ND
Brewing waste	7	2.0	0.8	0.2	ND	ND
General food waste	5	1.6	0.7	0.2	ND	ND

Notes: ND = no data.

The 'standard' figures for the above organic manures have been taken from Defra's Fertiliser Manual 2017 (RB209) 9th edition and the corresponding PLANET version 3 software. Further information on fertiliser recommendations for organic manures can be obtained from the Fertiliser Manual or from a FACTS qualified adviser.

FIRST MILK HAVERFORDWEST

Analysis of Sludge

Lab Ref: 83457

Date: 15/01/2020

Application rate (t/ha) 120.0
Application rate (t/acre) 49
pH 8.76
Dry solids (%) 0.43

NUTRIENT CONTENT

TOTALS	result	units	Total		Readily Available	
			(kg/t)	(kg/ha)	(kg/t)	(kg/ha)
Nitrogen (N)	0.01	%	0.1	12	0.0	2
Ammonium-N	25	mg/kg	0.0	3		
Phosphorus (P)	24.1	mg/kg	0.0	3		
Phosphate (P ₂ O ₅)			0.1	7	0.0	4
Potassium (K)	48.4	mg/kg	0.0	6		
Potash (K ₂ O)			0.1	7	0.0	6
Magnesium (Mg)	10	mg/kg	0.0	1		
Magnesium (MgO)			0.0	2	0.0	0
Sulphur (S)	26.4	mg/kg	0.0	3		
Sulphur (SO ₃)			0.1	8	0.0	2

POTENTIALLY TOXIC ELEMENTS

TOTALS	result	units	Rate		Limit
			(g/tonne)	(kg/ha)	(kg/ha/yr)
Zinc	0.5	mg/kg	0.50	0.06	15.00
Copper	0.20	mg/kg	0.2	0.02	7.50
Nickel	0.20	mg/kg	0.2	0.02	3.00
Lead	0.50	mg/kg	0.5	0.06	15.00
Cadmium	0.01	mg/kg	0.01	0.00	0.15
Chromium	0.20	mg/kg	0.2	0.02	15.00
Mercury	0.05	mg/kg	0.05	0.01	0.10

All results expressed on sample as received. The total nitrogen, magnesium, zinc, lead, copper, cadmium, nickel, chromium and mercury concentrations are less than the minimum level of detection, consequently, the calculated values will be less than those shown



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FIRST MILK
HAVERFORDWEST

MILK EFFLUENT

MILK EFFLUENT

Sample Reference :

MILK EFFLUENT 1

Sample Matrix : MILK EFFLUENT

Laboratory References

Report Number	83457
Sample Number	91030

Date Received	15-JAN-2020
Date Reported	27-JAN-2020

The sample submitted was of adequate size to complete all analysis requested.

The sample will be kept under refrigeration for at least 3 weeks.

ANALYTICAL RESULTS *on 'as received' basis.*

Determinand	Value	Units
Oven Dry Solids	0.430	%
E Coli [Fresh]	<10	cfu/g
Conductivity 1:6	671	uS/cm
Total Kjeldahl Nitrogen	<0.01	% w/w
Nitrate Nitrogen	<10	mg/kg
Ammonium Nitrogen	<25	mg/kg
Total Phosphorus (P)	24.1	mg/kg
Total Potassium (K)	48.4	mg/kg
Total Magnesium (Mg)	<10	mg/kg
Total Copper (Cu)	<0.2	mg/kg

Released by Myles Nicholson

Date 27/01/20

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FIRST MILK
HAVERFORDWEST

MILK EFFLUENT

MILK EFFLUENT

Sample Reference :

MILK EFFLUENT 1

Sample Matrix : MILK EFFLUENT

Laboratory References

Report Number	83457
Sample Number	91030

Date Received	15-JAN-2020
Date Reported	27-JAN-2020

The sample submitted was of adequate size to complete all analysis requested.

The sample will be kept under refrigeration for at least 3 weeks.

ANALYTICAL RESULTS *on 'as received' basis.*

Determinand	Value	Units
Total Zinc (Zn)	<0.5	mg/kg
Total Sulphur (S)	26.4	mg/kg
Total Calcium (Ca)	40.3	mg/kg
Total Lead (Pb)	<0.5	mg/kg
Total Cadmium (Cd)	<0.01	mg/kg
Total Mercury (Hg)	<0.05	mg/kg
Total Nickel (Ni)	<0.2	mg/kg
Total Chromium (Cr)	<0.2	mg/kg
Total Sodium (Na)	891	mg/kg
pH 1:6 [Fresh]	8.76	

Released by Myles Nicholson

Date 27/01/20



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FIRST MILK
HAVERFORDWEST

MILK EFFLUENT

MILK EFFLUENT

Sample Reference :

MILK EFFLUENT 1

Sample Matrix : MILK EFFLUENT

Laboratory References

Report Number	83457
Sample Number	91030

Date Received	15-JAN-2020
Date Reported	27-JAN-2020

The sample submitted was of adequate size to complete all analysis requested.

The sample will be kept under refrigeration for at least 3 weeks.

ANALYTICAL RESULTS *on 'as received' basis.*

Determinand	Value	Units
Salmonella spp [fresh]	Negative	in 25g

Released by Myles Nicholson

Date 27/01/20

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ANALYTICAL REPORT

Report Number	45807-19	V850	STEPSIDE AGRI	Client	MR MORRIS DAVIES
Date Received	28-FEB-2019		STEPSIDE FARM		NANT Y CROI
Date Reported	07-MAR-2019		GWBERT ROAD		FERWIG
Project	SOIL		CARDIGAN		CARDIGAN
Reference	MR MORRIS DAVIES		SA43 1PH		
Order Number					

Laboratory Reference		SOIL425851	SOIL425852	SOIL425853	SOIL425854	SOIL425855	SOIL425856	SOIL425857	SOIL425858	SOIL425859	SOIL425860
Sample Reference		1	2	4	5	6	7	8	9	10	11
Determinand	Unit					SOIL	SOIL	SOIL	SOIL	SOIL	
pH water [1:2.5]						6.0	5.8	6.0	5.9	6.0	
Available Phosphorus (Index)	mg/l					29.6 (3)	16.2 (2)	24.6 (2)	19.8 (2)	20.8 (2)	
Available Potassium (Index)	mg/l					258 (3)	90.3 (1)	158 (2-)	126 (2-)	108 (1)	
Available Magnesium (Index)	mg/l					154 (3)	111 (3)	163 (3)	127 (3)	112 (3)	
Total Copper	mg/kg					12.8	13.8	15.0	14.4	15.7	
Total Zinc	mg/kg					60.5	66.4	68.7	71.0	73.6	
Total Lead	mg/kg					16.9	18.2	20.8	19.0	21.1	
Total Arsenic	mg/kg					13.0	12.8	14.3	14.9	15.9	
Total Cadmium	mg/kg					0.14	0.13	0.17	0.14	0.13	
Total Nickel	mg/kg					17.9	19.4	18.9	21.0	21.5	
Total Chromium	mg/kg					44.9	43.9	47.0	48.4	49.1	
Total Mercury	mg/kg					<0.2	<0.2	<0.2	<0.2	<0.2	
Total Selenium	mg/kg					0.33	0.37	0.45	0.38	0.40	
Total Molybdenum	mg/kg					<1	<1	<1	<1	<1	
Fluoride	mg/kg	19.1	18.2	31.1	43.0	39.5	35.9	35.6	37.6	40.9	39.5

Notes	
Analysis Notes	<p>The sample submitted was of adequate size to complete all analysis requested.</p> <p>The results as reported relate only to the item(s) submitted for testing.</p> <p>The results are presented on a dry matter basis unless otherwise stipulated.</p>
Document Control	<p>This test report shall not be reproduced, except in full, without the written approval of the laboratory.</p>



ANALYTICAL NOTES			
Report Number	45807-19	V850	Client MR MORRIS DAVIES
Date Received	28-FEB-2019	STEPSIDE AGRI	NANT Y CROI
Date Reported	07-MAR-2019	STEPSIDE FARM	FERWIG
Project	SOIL	GWBERT ROAD	CARDIGAN
Reference	MR MORRIS DAVIES	CARDIGAN	
Order Number		SA43 1PH	
Notes			
Reported by	<p>[29~ <i>Katie Dunn</i> Natural Resource Management, a trading division of Cawood Scientific Ltd. Coopers Bridge, Braziers Lane, Bracknell, Berkshire, RG42 6NS Tel: 01344 886338 Fax: 01344 890972 email: enquiries@nrm.uk.com</p>		



ANALYTICAL REPORT

Report Number	45808-19	V850	STEPSIDE AGRI	Client	MR MORRIS DAVIES
Date Received	28-FEB-2019		STEPSIDE FARM		NANT Y CROI
Date Reported	07-MAR-2019		GWBERT ROAD		FERWIG
Project	SOIL		CARDIGAN		CARDIGAN
Reference	MR MORRIS DAVIES		SA43 1PH		
Order Number					

Laboratory Reference		SOIL425861	SOIL425862	SOIL425863							
Sample Reference		12	15	16							
Determinand	Unit	SOIL									
pH water [1:2.5]		5.8									
Available Phosphorus (Index)	mg/l	22.2 (2)									
Available Potassium (Index)	mg/l	99.9 (1)									
Available Magnesium (Index)	mg/l	149 (3)									
Total Copper	mg/kg	15.1									
Total Zinc	mg/kg	78.7									
Total Lead	mg/kg	18.7									
Total Arsenic	mg/kg	15.5									
Total Cadmium	mg/kg	0.18									
Total Nickel	mg/kg	25.7									
Total Chromium	mg/kg	58.0									
Total Mercury	mg/kg	<0.2									
Total Selenium	mg/kg	0.34									
Total Molybdenum	mg/kg	<1									
Fluoride	mg/kg	50.0									

Notes	
Analysis Notes	<p>The sample submitted was of adequate size to complete all analysis requested.</p> <p>The results as reported relate only to the item(s) submitted for testing.</p> <p>The results are presented on a dry matter basis unless otherwise stipulated.</p>
Document Control	<p>This test report shall not be reproduced, except in full, without the written approval of the laboratory.</p>



ANALYTICAL NOTES				
Report Number	45808-19	V850	STEPSIDE AGRI	Client MR MORRIS DAVIES
Date Received	28-FEB-2019		STEPSIDE FARM	NANT Y CROI
Date Reported	07-MAR-2019		GWBERT ROAD	FERWIG
Project	SOIL		CARDIGAN	CARDIGAN
Reference	MR MORRIS DAVIES		SA43 1PH	
Order Number				
Notes				
Reported by	<i>Katie Dunn</i> Natural Resource Management, a trading division of Cawood Scientific Ltd. Coopers Bridge, Braziers Lane, Bracknell, Berkshire, RG42 6NS Tel: 01344 886338 Fax: 01344 890972 email: enquiries@nrm.uk.com			



Contact : JOHN CRIMES
CARA WALES LTD
Y FELIN
GAFRYW
MYDROILYN
LAMPETER CEREDIGION
SA48 7RJ
Tel. : 01570 471 516

M629

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Client : MORRIS DAVIES
HAFOD

Sample Matrix : Agricultural Soil

Laboratory Reference

Card Number 19607/16

Date Received 21-Nov-16

Date Reported 22-Nov-16

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details		Soil pH	Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details		P	K	Mg	P	K	Mg
78986/16	1	BOLAFRON 3107	5.7	3	1	3	44.8	114	134

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.

The analytical methods used are as described in DEFRA Reference Book 427

The index values are determined from the DEFRA Fertiliser Recommendations RB209 8th Edition (Appendix 4).

Released by *Dr R C Wilkinson* On behalf of NRM Ltd Date *22/11/16*

Independently Analysed by **NRM**, a division of **Cawood Scientific Ltd**, Coopers Bridge, Braziers Lane, Bracknell, Berkshire RG42 6NS

Tel +44 (0) 1344 886338 Fax: +44 (0) 1344 890972 Email: enquiries@nrm.uk.com www.nrm.uk.com



PAAG
Professional Agricultural Analysis Group



Contact : JOHN CRIMES
CARA WALES LTD
Y FELIN
GAFRYW
MYDROILYN
LAMPETER CEREDIGION
SA48 7RJ
Tel. : 01570 471 516

M629

Please quote the above code for all enquiries

Client : MORRIS DAVIES
HAFOD

Sample Matrix : Agricultural Soil

Laboratory Reference

Card Number 19610/16

Date Received 21-Nov-16

Date Reported 22-Nov-16

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details		Soil pH	Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details		P	K	Mg	P	K	Mg
79004/16	1								
79005/16	2								
79006/16	3								
79007/16	4								
79008/16	5	BOLAFRON 2849	5.5	3	1	3	35.0	109	157

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.

The analytical methods used are as described in DEFRA Reference Book 427

The index values are determined from the DEFRA Fertiliser Recommendations RB209 8th Edition (Appendix 4).

Released by *Dr R C Wilkinson* On behalf of NRM Ltd Date *22/11/16*

Independently Analysed by **NRM**, a division of **Cawood Scientific Ltd**, Coopers Bridge, Braziers Lane, Bracknell, Berkshire RG42 6NS

Tel +44 (0) 1344 886338 Fax: +44 (0) 1344 890972 Email: enquiries@nrm.uk.com www.nrm.uk.com



PAAG
Professional Agricultural Analysis Group



Contact : JOHN CRIMES
CARA WALES LTD
Y FELIN
GAFRYW
MYDROILYN
LAMPETER CEREDIGION
SA48 7RJ
Tel. : 01570 471 516

M629

Please quote the above code for all enquiries

Client : MORRIS DAVIES
HAFOD

Sample Matrix : Agricultural Soil

Laboratory Reference

Card Number 19612/16

Date Received 21-Nov-16

Date Reported 22-Nov-16

SOIL ANALYSIS REPORT

Laboratory Sample Reference	Field Details		Soil pH	Index			mg/l (Available)		
	No.	Name or O.S. Reference with Cropping Details		P	K	Mg	P	K	Mg
██████	1	████████████████████ ████████████████████	████	████	████	████	████	████	████
79017/16	2	BOLAFRON 6609 ████████████████████	5.5	4	2-	3	51.2	156	131
██████	1	████████████████████ ████████████████████	████	████	████	████	████	████	████
██████	1	████████████████████ ████████████████████	████	████	████	████	████	████	████
79020/16	5	BOLAFRON 4718 ████████████████████	5.6	4	1	3	53.2	90	124
79021/16	6	BOLAFRON 3836 ████████████████████	5.8	3	1	3	29.0	75	138

If general fertiliser and lime recommendations have been requested, these are given on the following sheets.

The analytical methods used are as described in DEFRA Reference Book 427

The index values are determined from the DEFRA Fertiliser Recommendations RB209 8th Edition (Appendix 4).

Released by Dr R C Wilkinson On behalf of NRM Ltd Date 22/11/16

Independently Analysed by **NRM**, a division of **Cawood Scientific Ltd**, Coopers Bridge, Braziers Lane, Bracknell, Berkshire RG42 6NS

Tel +44 (0) 1344 886338 Fax: +44 (0) 1344 890972 Email: enquiries@nrm.uk.com www.nrm.uk.com



PAAG
Professional Agricultural Analysis Group



ANALYTICAL REPORT

Report Number	46851-17	V293	ADAM STONE	Client	HAFOD FARM
Date Received	02-FEB-2017		4R GROUP		FERWIG
Date Reported	07-FEB-2017		12C NEWENT BUS PARK		CARDIGAN
Project	SOIL		GLOUCESTER STREET		SA43 1PU
Reference	HAFOD FARM		NEWENT		
Order Number			GLOUCESTERSHIRE GL18 1DZ		

Laboratory Reference						SOIL331317	SOIL331318				
Sample Reference						2849	3836				
Determinand	Unit					SOIL	SOIL				
Total Copper	mg/kg					18.6	15.1				
Total Zinc	mg/kg					71.5	69.3				
Total Lead	mg/kg					13.9	12.9				
Total Arsenic	mg/kg					8.4	9.3				
Total Cadmium	mg/kg					0.15	0.15				
Total Nickel	mg/kg					18.8	17.1				
Total Chromium	mg/kg					44.1	37.6				
Total Mercury	mg/kg					<0.2	<0.2				
Total Selenium	mg/kg					0.36	0.35				
Total Molybdenum	mg/kg					<1	<1				
Fluoride 2:1 ratio	mg/kg					17.9	18.9				

Notes	
Analysis Notes	<p>The sample submitted was of adequate size to complete all analysis requested.</p> <p>The results as reported relate only to the item(s) submitted for testing.</p> <p>The results are presented on a dry matter basis unless otherwise stipulated.</p>
Document Control	This test report shall not be reproduced, except in full, without the written approval of the laboratory.

Reported by	<p>Darren Whitbread</p> <p>Natural Resource Management, a trading division of Cawood Scientific Ltd.</p> <p>Coopers Bridge, Braziers Lane, Bracknell, Berkshire, RG42 6NS</p> <p>Tel: 01344 886338</p> <p>Fax: 01344 890972</p> <p>email: enquiries@nrm.uk.com</p>
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ANALYTICAL REPORT

Report Number	46852-17	V293	ADAM STONE	Client	HAFOD FARM
Date Received	02-FEB-2017		4R GROUP		FERWIG
Date Reported	07-FEB-2017		12C NEWENT BUS PARK		CARDIGAN
Project	SOIL		GLOUCESTER STREET		SA43 1PU
Reference	HAFOD FARM		NEWENT		
Order Number			GLOUCESTERSHIRE GL18 1DZ		

Laboratory Reference			SOIL331324	SOIL331325	SOIL331326						
Sample Reference			6609	4718	3107						
Determinand	Unit		SOIL	SOIL	SOIL						
Total Copper	mg/kg		15.8	13.4	9.1						
Total Zinc	mg/kg		69.6	55.2	46.1						
Total Lead	mg/kg		17.9	13.4	10.2						
Total Arsenic	mg/kg		11.6	9.1	8.7						
Total Cadmium	mg/kg		0.19	0.14	<0.1						
Total Nickel	mg/kg		17.6	11.8	<10						
Total Chromium	mg/kg		35.3	25.0	21.2						
Total Mercury	mg/kg		<0.2	<0.2	<0.2						
Total Selenium	mg/kg		0.31	0.23	0.16						
Total Molybdenum	mg/kg		<1	<1	<1						
Fluoride 2:1 ratio	mg/kg		24.6	22.4	17.9						

Notes	
Analysis Notes	<p>The sample submitted was of adequate size to complete all analysis requested.</p> <p>The results as reported relate only to the item(s) submitted for testing.</p> <p>The results are presented on a dry matter basis unless otherwise stipulated.</p>
Document Control	This test report shall not be reproduced, except in full, without the written approval of the laboratory.

Reported by	<p>Darren Whitbread</p> <p>Natural Resource Management, a trading division of Cawood Scientific Ltd.</p> <p>Coopers Bridge, Braziers Lane, Bracknell, Berkshire, RG42 6NS</p> <p>Tel: 01344 886338</p> <p>Fax: 01344 890972</p> <p>email: enquiries@nrm.uk.com</p>
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