SR2010No4 Mobile Plant for Land-spreading Deployment Application

Manian Fawr & Trefwtial Farm

Applicant:

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

Permit Number: EPR/AB3891CX

Date: 20/03/2021

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

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	

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** - Not in an SPZ 2, and/or - Over 500 meters from: • European site, and/or • Ramsar, and/or • SSSI	**High risk location** - In a Source Protection Zone 2, and/or - 500 meters or less from: • European site, and/or • Ramsar, and/or • SSSI **You *must* submit a site specific risk assessment.**
SR2010No4 List A wastes (Lower risk)	Low risk deployment ☐	Medium risk (2) deployment ☐
SR2010No4 List B wastes (Higher risk)	Medium risk (1) deployment ☒	High risk deployment ☐
SR2010No5 (Any waste listed)	Medium risk (1) deployment ☐	High risk deployment ☐
SR2010No6 (Any waste listed)	Medium risk (1) deployment ☐	High risk deployment ☐

Bespoke mobile plant permit	Low risk deployment ☐	Medium risk deployment ☐	High risk deployment ☐

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	Liquid sludge	Dairy Partners – Newcastle Emlyn	5650
2	02 05 02	Sludge from dairy waste treatment	Liquid sludge	Volac – Felinfach	4504
3	02 05 02	Sludge from dairy waste treatment	Liquid sludge	First Milk - Haverfordwest	3220
4					N.B. Maximums for single waste stream
5					
6					
7					
8					
9					
10					
				Total tonnage	Max. 5650

4g About the land you want to treat

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

Address	Manian Fawr (land at Trerhys)
	St Dogmaels
	Pembrokeshire
Postcode	SA43 3LL
National grid reference (12 digit)	SN 15422 47855

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

Agricultural land ☒ Please give your County/ Parish/ Holding number 55/305/0055

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	45.20

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	Nigel
Last name	Fletcher
Address	Manian Fawr
	St. Dogmaels
	Pembrokeshire
Postcode	SA43 3LL
Telephone - mobile	07817 003209
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	Farm Details

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	Please see continuation sheet: Table 4 - Previous land treatment				
2					
3					
4					
5					
6					
7					
8					
9					
10					

4l 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 12599 46496**	02 05 02	Nurse tank	120
2	**SN 13015 46512**	02 05 02	Nurse tank	120
3	SN 24543 48682	02 05 02	Nurse tank	120
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)	☒	*Go to section 5b*
Cheque	☐	*Go to section 5c*
Postal order	☐	*Go to section 5d*
Credit or debit card	☐	*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	EPDEPSTEPS0060
Amount paid	£798

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	
Amount paid	

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?	☒
Are the grid references in the correct format i.e. AB 12345 67890?	☒
Have details of previous land treatment been provided?	☒
Have you included a location map?	☒
Does the map include all the relevant features as set out in the guidance?	☒
Have you included a waste analysis?	☒
Is the waste analysis for each waste less than 12 months old?	☒
Does the waste analysis include pH, Nitrogen (N), Phosphorus (P), Potassium (K), % dry matter and Potentially Toxic Elements (PTE's)?	☒
Have you included a soil analysis?	☒
Is the soil analysis less for each field than 4 years old?	☒
Does the soil analysis provide the soil pH, Potassium (K), Phosphorus (P), Magnesium (Mg) and PTEs if they are high in the waste?	☒
Have the soil indices for P, K and Mg for each field been provided?	☒
Have you included a Certificate of Agricultural Benefit?	☒
Has the proposed cropping regime been stated?	☒
Has the waste application rate been stated?	☒
Has the timing of application been stated and is it appropriate for the cropping regime?	☒
Has the intended method of waste application been stated?	☒
Have the total nutrients supplied by the waste been stated and have they been provided in oxide format?	☒
Has the nutrient requirement for the proposed crop been provided?	☒
Has the soil nitrogen supply (SNS) for each field been provided?	☒
If the land has been treated with other wastes, sewage sludge, slurries manures etc. in the last 12 months, has relevant information been provided?	☒

If more than one waste stream is to be applied to the land; has the benefit for each individual waste stream been demonstrated?	☒
Have you included a site specific risk assessment? (where relevant)	☐
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.	☐

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)	☒	
Benefit statement (required for all deployments)	☒	
Waste analysis (required for all deployments)	☒	
Receiving soil analysis (required for all deployments)	☒	
Site-specific risk assessment (in accordance with 4e)	☐	
Any other additional information	N/A	Farm Details
	N/A	Table 3: Details of land to be treated
	N/A	Table 4: Previous land treatment
	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)	20/03/2021	

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

STEPSIDE
AGRI CONTRACTORS
TEL: 01239 621354 MOB: 07966 521386

Farm details for Manian Fawr & Trefwtial Farm Deployment

Nigel Fletcher
Manian Fawr (land at Trerhys)
St Dogmaels
Pembrokeshire
SA43 3LL

Holding No. 55/305/0055

Mobile: 07817 003209

Grid Reference: SN 15422 47855

……

Mr. Gwyndaf Davies
Trefwtial Farm
Blaenannerch
Cardigan
Ceredigion
SA43 2AG

Holding No. 55/226/0017

Mobile: 07816 101266

Grid Reference: SN 23733 48030

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)
Manian Fawr			
Trerhys 1	2.80	SN 13008 46312	02 05 02
Trerhys 2	6.40	SN 12792 46451	02 05 02
Trerhys 3	3.50	SN 12791 46316	02 05 02
Trerhys 4	2.20	SN 12832 46186	02 05 02
Trerhys 5	5.10	SN 12632 46200	02 05 02
Trerhys 6	2.80	SN 12443 46211	02 05 02
Trerhys 7	2.10	SN 12504 46055	02 05 02
Trerhys 8	2.80	SN 12335 46069	02 05 02
Trefwtial Farm			
Trefwtial 3471	9.50	SN 24340 48710	02 05 02
Trefwtial 2847	8.00	SN 24280 48470	02 05 02
TOTAL	**45.20**		

TABLE 4 Previous land treatment

Field ref.	Waste description	Person/ company who spread the waste	Quantity spread per hectare (in tonnes)	Deployment / other reference (if known)
Manian Fawr				
Trerhys 1	Sludge from dairy waste treatment	Stepside Agricultural Contractors	107	PAN-008619
Trerhys 1	Cattle FYM	Farmer	15	N/A
Trerhys 2	Sludge from dairy waste treatment	Stepside Agricultural Contractors	106	PAN-008619
Trerhys 2	Cattle FYM	Farmer	15	N/A
Trerhys 3	Sludge from dairy waste treatment	Stepside Agricultural Contractors	17	PAN-008619
Trerhys 4	Sludge from dairy waste treatment	Stepside Agricultural Contractors	50	PAN-008619
Trerhys 5	Sludge from dairy waste treatment	Stepside Agricultural Contractors	63	PAN-008619
Trerhys 6	Sludge from dairy waste treatment	Stepside Agricultural Contractors	68	PAN-008619
Trerhys 7	Sludge from dairy waste treatment	Stepside Agricultural Contractors	48	PAN-008619
Trerhys 8	Sludge from dairy waste treatment	Stepside Agricultural Contractors	79	PAN-008619
Trefwtial Farm				
Trefwtial 2847	Cattle slurry	Farmer	25	N/A

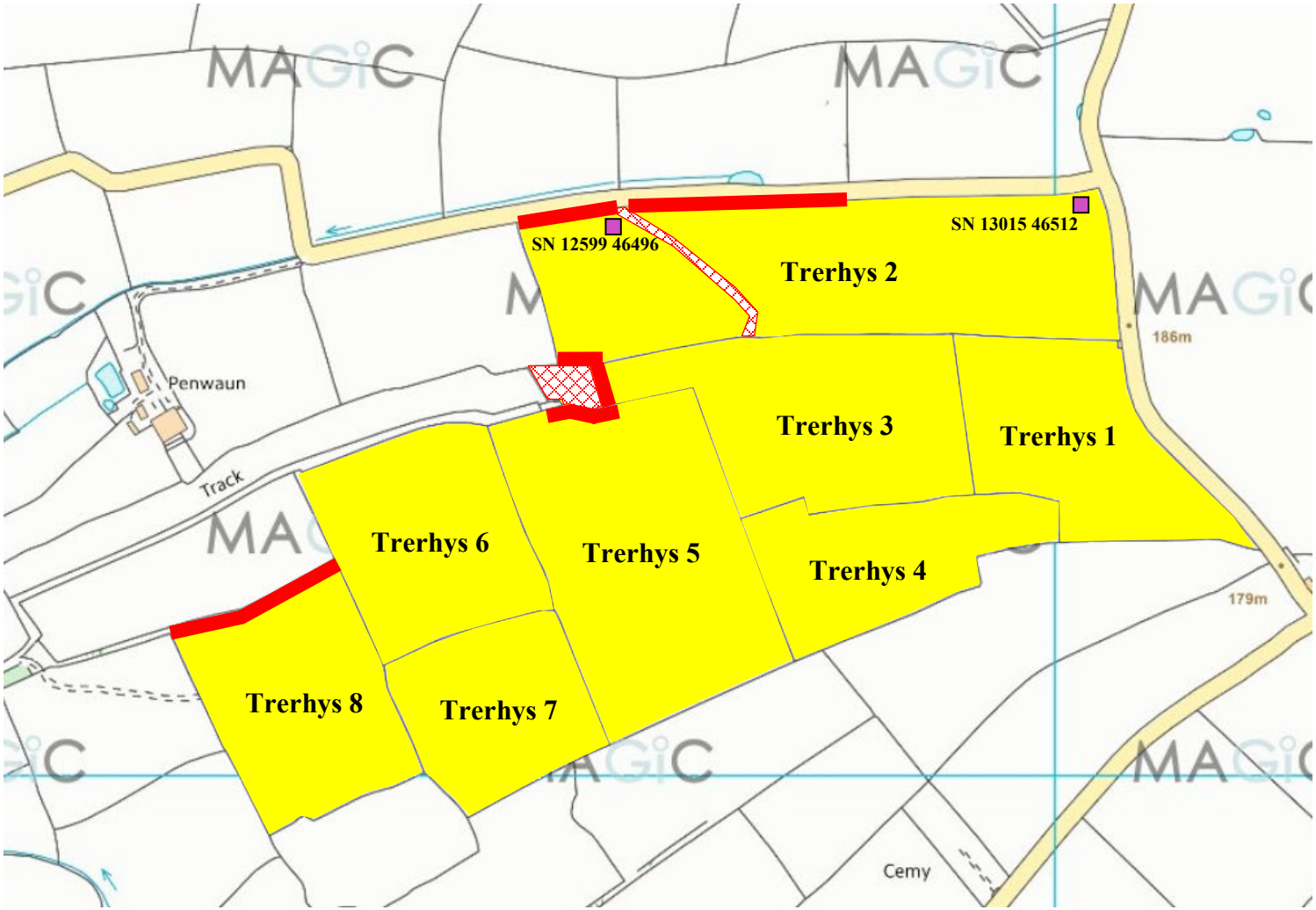
Map Key

	Non-Spreadable Section of Field
	No spread area (10 Metres Buffer to Watercourses)
	Suitable for Spreading
	Store
	Water Course (10 Metres Buffer)
	Foot Path (5 Metres Buffer on Either Side)
	Spring, Well or Bore Hole (50 Metres Buffer)
	Other Features
	Nurse Tank

Farmer: N. Fletcher
Map Grid Ref: SN 12634 46185
Farm ID: Manian Fawr
Farm Post Code: SA43 3LL

Manian Fawr (land at Trerhys) – Location Map

N



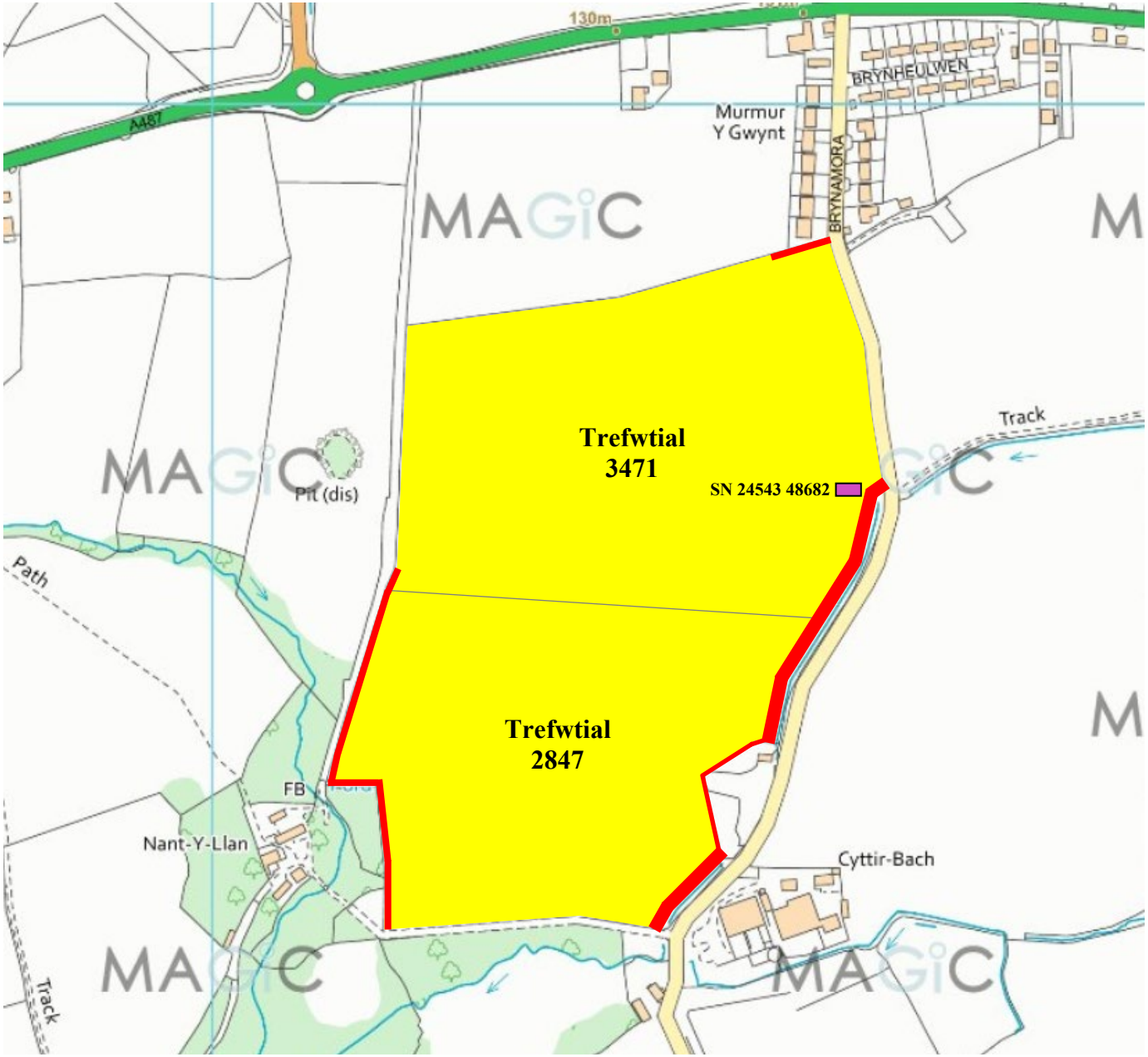
Map Key

	Non-Spreadable Section of Field
	No spread area (10 Metres Buffer to Watercourses)
	Suitable for Spreading
	Store
	Water Course (10 Metres Buffer)
	Foot Path (5 Metres Buffer on Either Side)
	Spring, Well or Bore Hole (50 Metres Buffer)
	Other Features
	Nurse Tank

Farmer: G. Davies
Map Grid Ref: SN 24338 48601
Farm ID: Trefwtial Farm
Farm Post Code: SA43 2AG

Trefwtial Farm – Location Map

N



Statement of Agricultural Benefit – Manian Fawr & Trefwtial 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:
Manian Fawr, St. Dogmaels, Pembrokeshire, SA43 3LL – Holding No. 55/305/0055
Trefwtial Farm, Blaenannerch, Cardigan, Ceredigion, SA43 2AG - Holding No. 55/226/0017

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:

- Fields Trerhys 3-8 & Trefwtial 3471 will be spread subject to ground conditions being suitable and when there's a significant crop nutrient requirement (i.e. spring 2021, after a silage cut spring / summer 2021). Spreading of these grass fields will be split into multiple applications and the total of all applications will not exceed the max application rate per field as listed in table 1.
- Field Trefwtial 2847 will be spread in spring 2021 immediately prior to cultivations and planting of the forage maize crop with the waste incorporated into the soil or spread into the growing crop in spring 2021.
- Fields Trerhys 1 & 2 being planted with spring barley will be spread in spring 2021 immediately prior to cultivations and planting of the spring barley crop with the waste incorporated into the soil or spread into the growing crop in spring 2021. These two fields will then be spread again in autumn 2021 prior to grass establishment with the waste incorporated into the soil and in spring 2022. The max application rates for these two fields listed in table 1 will be split between spring 2021, autumn 2021 and spring 2022 application.
- 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 grass fields with shallow injection equipment, or a trailing hose applicator (dribble bar) for the arable fields assuming ground conditions are suitable at the time of waste receipt. Should the ground or weather conditions mean it's unsuitable for spreading then contingency field storage in nurse tanks 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 and calcium. 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 supplied by the wastes is 4-16 kg MgO/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 25-120 kg SO_3/ha. The amount of available sulphur supplied by the wastes at the proposed maximum application rates is 2-8 kg SO_3/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 approximately 140 kg/ha Na_2O to improve herbage mineral balances.
- 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:

The fields within this deployment application have received the rates (t/ha) of materials as in 'Table 4 - Previous Land Treatment' within the previous 12 months.

It's considered that the nutrients applied from these applications will have been utilised 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 (P_2O_5) kg/ha		Potash (K_2O) kg/ha		Magnesium (MgO) kg/ha		Sulphur (SO_3) kg/ha	
	Total	Available	Total	Available	Total	Available	Total	Available	Total	Available
Dairy Partners liquid sludge @ 125 t/ha	38	8	23	14	33	27	4	0	10	2
Volac liquid sludge @ 64 t/ha	38	8	40	24	92	74	8	1	10	2
Volac liquid sludge @ 89 t/ha	53	11	56	34	128	102	11	1	14	3
Volac liquid sludge @ 103 t/ha	62	12	65	39	148	119	13	1	16	3
Volac liquid sludge @ 107 t/ha	64	13	67	40	154	123	13	1	17	3
First Milk liquid sludge @ 33 t/ha	40	8	40	24	10	8	5	0	11	2
First Milk liquid sludge @ 46 t/ha	55	11	56	34	15	12	6	1	15	3
First Milk liquid sludge @ 53 t/ha	64	13	64	39	17	13	7	1	17	3
First Milk liquid sludge @ 66 t/ha	79	16	80	48	21	17	9	1	21	4
First Milk liquid sludge @ 119 t/ha	143	29	145	87	38	30	16	2	38	8
Estimated Availability	20%		60%		80%		10%		20%	

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

						Nitrogen		Phosphate			Potash			Magnesium	
Field Ref.	**Soil Type**	**Spreadable Area (ha)**	**Previous Crop**	**Next Crop**	**Following Crop**	**SNS**	**N Required (kg/ha)**	**P Index**	**P_2O_5 Required (kg/ha)**	**Crop Use (Offtake) (kg/ha)**	**K Index**	**K_2O Required (kg/ha)**	**Crop Use (Offtake) (kg/ha)**	**Mg Index**	**MgO Required (kg/ha)**
Manian Fawr															
Trerhys 1	Medium soils	2.80	Stubble turnips	Wholecrop spring barley	Grass 3 cuts silage	1, Moderate	140 + 250	3	0 + 20	54 + 80	2+	160 + 190	162 + 282	2	0
Trerhys 2	Medium soils	6.40	Stubble turnips	Wholecrop spring barley	Grass 3 cuts silage	1, Moderate	140 + 250	1	85 + 110	54 + 80	0	220 + 370	162 + 282	1	0
Trerhys 3	Medium soils	3.50	Grass 3 cuts silage	Grass 3 cuts silage		Moderate	250	4	0	80	3	90	282	2	0
Trerhys 4	Medium soils	2.20	Grass 3 cuts silage	Grass 3 cuts silage		Moderate	250	2	80	80	1	320	282	1	0
Trerhys 5	Medium soils	5.10	Grass 3 cuts silage	Grass 3 cuts silage		Moderate	250	2	80	80	0	370	282	2	0
Trerhys 6	Medium soils	2.80	Grass 3 cuts silage	Grass 3 cuts silage		Moderate	250	1	110	80	0	370	282	2	0
Trerhys 7	Medium soils	2.10	Grass 3 cuts silage	Grass 3 cuts silage		Moderate	250	2	80	80	0	370	282	2	0
Trerhys 8	Medium soils	2.80	Grass 3 cuts silage	Grass 3 cuts silage		Moderate	250	0	140	80	0	370	282	2	0
Trefwtial Farm															
Trefwtial 3471	Medium soils	9.50	Grass 3 cuts silage	Grass 2 cuts silage + grazing		Moderate	205	3	20	65	2+	180	228	3	0
Trefwtial 2847	Medium soils	8.00	Forage maize	Forage maize		1	100	3	20	56	2+	145	176	3	0
TOTAL		**45.20**													

Nutrient requirements based on:
Grass 3 cut 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. Expected DM yields of grass 9-12t/ha, good grass growth class
Grass 2 cuts silage (23t FW/ha at 1st cut, 15t FW/ha at 2nd cut), silage 25% DM, totalling 1.7kg/t P2O5 and 6.0kg/t K2O removed in offtake + grazing. Expected DM yields of grass 9-12t/ha, good grass growth class
Forage maize 40t/ha silage (30% DM)
Wholecrop spring barley 30t FW/ha

	Dairy Partners, Newcastle Emlyn - liquid sludge						Volac, Felinfach - liquid sludge						First Milk, Haverfordwest - liquid sludge					
Field Ref.	**N Applied - Waste (kg/ha)**	**P_2O_5 Applied - Waste (kg/ha)**	**K_2O Applied - Waste (kg/ha)**	**MgO Applied - Waste (kg/ha)**	**Application Rate (t/ha)**	**Total Tonnes**	**N Applied - Waste (kg/ha)**	**P_2O_5 Applied - Waste (kg/ha)**	**K_2O Applied - Waste (kg/ha)**	**MgO Applied - Waste (kg/ha)**	**Application Rate (t/ha)**	**Total Tonnes**	**N Applied - Waste (kg/ha)**	**P_2O_5 Applied - Waste (kg/ha)**	**K_2O Applied - Waste (kg/ha)**	**MgO Applied - Waste (kg/ha)**	**Application Rate (t/ha)**	**Total Tonnes**
Manian Fawr																		
Trerhys 1	**8	*23	*33	*4	125	350	**13	*67	*154	*13	107	300	**16	*80	*21	*9	66	185
Trerhys 2	**8	**14	**27	**0	125	800	**13	**40	**123	**1	107	685	**29	**87	**30	**2	119	762
Trerhys 3	**8	*23	*33	*4	125	438	**8	*40	*92	*8	64	224	**8	*40	*10	*5	33	116
Trerhys 4	**8	*23	**27	**0	125	275	**13	*67	**123	**1	107	235	**16	*80	**17	**1	66	145
Trerhys 5	**8	*23	**27	*4	125	638	**13	*67	**123	*13	107	546	**16	*80	**17	*9	66	337
Trerhys 6	**8	**14	**27	*4	125	350	**13	**40	**123	*13	107	300	**29	**87	**30	*16	119	333
Trerhys 7	**8	*23	**27	*4	125	263	**13	*67	**123	*13	107	225	**16	*80	**17	*9	66	139
Trerhys 8	**8	**14	**27	*4	125	350	**13	**40	**123	*13	107	300	**29	**87	**30	*16	119	333
Trefwtial Farm																		
Trefwtial 3471	**8	*23	*33	*4	125	1188	**12	*65	*148	*13	103	979	**13	*64	*17	*7	53	504
Trefwtial 2847	**8	*23	*33	*4	125	1000	**11	*56	*128	*11	89	712	**11	*56	*15	*6	46	368
TOTAL						**5650**						**4504**						**3220**

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 Dairy Partners, Volac & First Milk liquid sludge are N 20%, P_2O_5 60%, K_2O 80%, MgO 10%, SO_3 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 lower than the maximum permissible levels detailed in the Sludge (Use in Agriculture) Regulations for biosolids applied to agriculture, which is believed to be a suitable comparison for wastes applied to agricultural land.
- Physical contaminants: The wastes are produced by managed processes. The liquid wastes 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 & First Milk wastes 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 & arable soils under the Sludge (Use in Agriculture) Regulations.
- Soils have been sampled to 7.5cm depth for permanent grass fields & to 15cm depth for arable & temporary grass fields with a 'half cheese' corer soil sampler walking a 'W' pattern across each field collecting approx. 25 sub samples per field.

Operations

The fields in this deployment have been designated as 'medium risk' following site checks on the proximity to surrounding protected areas (e.g. SSSIs) and groundwater source protection zones. On the basis of 'medium risk' the proposed operation will be subject to the generic 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 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 or incorporated. 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.).
- Rights of way have been marked on the spread risk maps.
- Weather conditions will be monitored prior to spreading with wind speed and direction assessed.
- Consideration for the public and local residential receptors will be taken before and during application.

Signed: David Powell	**Date:** 20/03/2021

DAIRY PARTNERS, NEWCASTLE EMLYN

Analysis of Liquid Waste

Report No: 19446
Date: 21/08/2020

Application rate (t/ha)	**125.0**
Application rate (t/acre)	**50.6**
pH	**5.21**
Dry solids (%)	**0.78**
Organic Matter(%)	**0.46**

NUTRIENT CONTENT

			Total		Available	
	result	**units**	**(kg/t)**	**(kg/ha)**	**(kg/t)**	**(kg/ha)**
Nitrogen (N)	0.03	%	0.3	38	0.1	8
Ammonium-N	69	mg/kg	0.1	9		
Phosphorus (P)	79.5	mg/kg	0.1	10		
Phosphate (P_2O_5)			0.2	23	0.1	14
Potassium (K)	221	mg/kg	0.2	28		
Potash (K_2O)			0.3	33	0.2	27
Magnesium (Mg)	20.5	mg/kg	0.0	3		
Magnesium (MgO)			0.0	4	0.0	0
Sulphur (S)	32.2	mg/kg	0.0	4		
Sulphur (SO_3)			0.1	10	0.0	2

POTENTIALLY TOXIC ELEMENTS

			Rate		Limit
	result	**units**	**(g/tonne)**	**(kg/ha)**	**(kg/ha/yr)**
Zinc	2.01	mg/kg	2.01	0.25	15.00
Copper	0.20	mg/kg	0.20	0.03	7.50
Nickel	0.20	mg/kg	0.20	0.03	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	0.03	15.00
Mercury	0.05	mg/kg	0.05	0.01	0.10

All results expressed on sample as received. The 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

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SA43 1PH

V850

Please quote above code for all enquiries

DAIRY PARTNERS LTD

EFFLUENT

EFFLUENT

Sample Reference :

DAIRY PARTNERS LTD

Sample Matrix : EFFLUENT

Laboratory References	
Report Number	19446
Sample Number	98842

Date Received	21-AUG-2020
Date Reported	02-SEP-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	0.780	%
E Coli [Fresh]	10	cfu/g
Conductivity 1:6	820	uS/cm
Total Kjeldahl Nitrogen	0.03	% w/w
Nitrate Nitrogen	<10	mg/kg
Ammonium Nitrogen	69.0	mg/kg
Total Phosphorus (P)	79.5	mg/kg
Total Potassium (K)	221	mg/kg
Total Magnesium (Mg)	20.5	mg/kg
Total Copper (Cu)	<0.2	mg/kg

Released by ..... *Linaben Patel* ..... Date ..... *02/09/20* .....

NRM Coopers Bridge, Braziers Lane, Bracknell, Berkshire RG42 6NS
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Laboratory References	
Report Number	19446
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Date Received	21-AUG-2020
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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)	2.01	mg/kg
Total Sulphur (S)	32.2	mg/kg
Total Calcium (Ca)	113	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)	834	mg/kg
pH 1:6 [Fresh]	5.21	

Released by ..... *Linaben Patel* ..... Date ..... *02/09/20* .....

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DAIRY PARTNERS LTD

EFFLUENT

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Sample Reference :

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Sample Matrix : EFFLUENT

Laboratory References	
Report Number	19446
Sample Number	98842

Date Received	21-AUG-2020
Date Reported	02-SEP-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
Organic Matter LOI	0.46	% w/w
Coliforms [fresh]	15000	cfu/g
Oils,Fats and Grease	1960	mg/kg
Salmonella spp [fresh]	Negative	in 25g
EC [Neat]	4689	uS/cm

Released by *Linaben Patel* Date *02/09/20*

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

VOLAC, FELINFACH

Analysis of Liquid Waste

Report No: 99545
Date: 28/05/2020

Application rate (t/ha)	**64.0**
Application rate (t/acre)	**25.9**
pH	**6.47**
Dry solids (%)	**1.04**
Organic Matter(%)	**0.36**

NUTRIENT CONTENT

			Total		Available	
	result	units	(kg/t)	(kg/ha)	(kg/t)	(kg/ha)
Nitrogen (N)	0.06	%	0.6	38	0.1	8
Ammonium-N	519	mg/kg	0.5	33		
Phosphorus (P)	275	mg/kg	0.3	18		
Phosphate (P_2O_5)			0.6	40	0.4	24
Potassium (K)	1199	mg/kg	1.2	77		
Potash (K_2O)			1.4	92	1.2	74
Magnesium (Mg)	73.4	mg/kg	0.1	5		
Magnesium (MgO)			0.1	8	0.0	1
Sulphur (S)	62	mg/kg	0.1	4		
Sulphur (SO_3)			0.2	10	0.0	2

POTENTIALLY TOXIC ELEMENTS

			Rate		Limit
	result	units	(g/tonne)	(kg/ha)	(kg/ha/yr)
Zinc	3.33	mg/kg	3.33	0.21	15.00
Copper	0.20	mg/kg	0.20	0.01	7.50
Nickel	0.20	mg/kg	0.20	0.01	3.00
Lead	0.50	mg/kg	0.50	0.03	15.00
Cadmium	0.01	mg/kg	0.01	0.00	0.15
Chromium	0.20	mg/kg	0.20	0.01	15.00
Mercury	0.05	mg/kg	0.05	0.00	0.10

All results expressed on sample as received. The 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

VOLAC, FELINFACH

Analysis of Liquid Waste

Report No: 99545
Date: 28/05/2020

Application rate (t/ha)	**89.0**
Application rate (t/acre)	**36.0**
pH	**6.47**
Dry solids (%)	**1.04**
Organic Matter(%)	**0.36**

NUTRIENT CONTENT

			Total		Available	
	result	**units**	**(kg/t)**	**(kg/ha)**	**(kg/t)**	**(kg/ha)**
Nitrogen (N)	0.06	%	0.6	53	0.1	11
Ammonium-N	519	mg/kg	0.5	46		
Phosphorus (P)	275	mg/kg	0.3	24		
Phosphate (P_2O_5)			0.6	56	0.4	34
Potassium (K)	1199	mg/kg	1.2	107		
Potash (K_2O)			1.4	128	1.2	102
Magnesium (Mg)	73.4	mg/kg	0.1	7		
Magnesium (MgO)			0.1	11	0.0	1
Sulphur (S)	62	mg/kg	0.1	6		
Sulphur (SO_3)			0.2	14	0.0	3

POTENTIALLY TOXIC ELEMENTS

			Rate		Limit
	result	**units**	**(g/tonne)**	**(kg/ha)**	**(kg/ha/yr)**
Zinc	3.33	mg/kg	3.33	0.30	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	0.04	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	0.00	0.10

All results expressed on sample as received. The 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

VOLAC, FELINFACH

Analysis of Liquid Waste

Report No: 99545
Date: 28/05/2020

Application rate (t/ha)	**103.0**
Application rate (t/acre)	**41.7**
pH	**6.47**
Dry solids (%)	**1.04**
Organic Matter(%)	**0.36**

NUTRIENT CONTENT

			Total		Available	
	result	**units**	**(kg/t)**	**(kg/ha)**	**(kg/t)**	**(kg/ha)**
Nitrogen (N)	0.06	%	0.6	62	0.1	12
Ammonium-N	519	mg/kg	0.5	53		
Phosphorus (P)	275	mg/kg	0.3	28		
Phosphate (P_2O_5)			0.6	65	0.4	39
Potassium (K)	1199	mg/kg	1.2	123		
Potash (K_2O)			1.4	148	1.2	119
Magnesium (Mg)	73.4	mg/kg	0.1	8		
Magnesium (MgO)			0.1	13	0.0	1
Sulphur (S)	62	mg/kg	0.1	6		
Sulphur (SO_3)			0.2	16	0.0	3

POTENTIALLY TOXIC ELEMENTS

			Rate		Limit
	result	**units**	**(g/tonne)**	**(kg/ha)**	**(kg/ha/yr)**
Zinc	3.33	mg/kg	3.33	0.34	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	0.05	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 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

VOLAC, FELINFACH

Analysis of Liquid Waste

Report No: 99545
Date: 28/05/2020

Application rate (t/ha)	**107.0**
Application rate (t/acre)	**43.3**
pH	**6.47**
Dry solids (%)	**1.04**
Organic Matter(%)	**0.36**

NUTRIENT CONTENT

			Total		Available	
	result	**units**	**(kg/t)**	**(kg/ha)**	**(kg/t)**	**(kg/ha)**
Nitrogen (N)	0.06	%	0.6	64	0.1	13
Ammonium-N	519	mg/kg	0.5	56		
Phosphorus (P)	275	mg/kg	0.3	29		
Phosphate (P_2O_5)			0.6	67	0.4	40
Potassium (K)	1199	mg/kg	1.2	128		
Potash (K_2O)			1.4	154	1.2	123
Magnesium (Mg)	73.4	mg/kg	0.1	8		
Magnesium (MgO)			0.1	13	0.0	1
Sulphur (S)	62	mg/kg	0.1	7		
Sulphur (SO_3)			0.2	17	0.0	3

POTENTIALLY TOXIC ELEMENTS

			Rate		Limit
	result	**units**	**(g/tonne)**	**(kg/ha)**	**(kg/ha/yr)**
Zinc	3.33	mg/kg	3.33	0.36	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	0.05	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 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

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CARDIGAN
SA43 1PH

V850

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STEPSIDE AGRI

EFFLUENT

EFFLUENT

Sample Reference :

VOLAC-EFFLUENT

Sample Matrix : EFFLUENT

Laboratory References	
Report Number	99545
Sample Number	96050

Date Received	28-MAY-2020
Date Reported	04-JUN-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	1.04	%
E Coli [Fresh]	370	cfu/g
Conductivity 1:6	2030	uS/cm
Total Kjeldahl Nitrogen	0.06	% w/w
Nitrate Nitrogen	<10	mg/kg
Ammonium Nitrogen	519	mg/kg
Total Phosphorus (P)	275	mg/kg
Total Potassium (K)	1199	mg/kg
Total Magnesium (Mg)	73.4	mg/kg
Total Copper (Cu)	<0.2	mg/kg

Released by ..... *Myles Nicholson* ..... Date ..... *04/06/20* .....

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STEPSIDE AGRI

EFFLUENT

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Sample Reference :

VOLAC-EFFLUENT

Sample Matrix : EFFLUENT

Laboratory References	
Report Number	99545
Sample Number	96050

Date Received	28-MAY-2020
Date Reported	04-JUN-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)	3.33	mg/kg
Total Sulphur (S)	62.0	mg/kg
Total Calcium (Ca)	373	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)	969	mg/kg
pH 1:6 [Fresh]	6.47	

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EFFLUENT

EFFLUENT

Sample Reference :

VOLAC-EFFLUENT

Sample Matrix : EFFLUENT

Laboratory References	
Report Number	99545
Sample Number	96050

Date Received	28-MAY-2020
Date Reported	04-JUN-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
Organic Matter LOI	0.36	% w/w
Coliforms [fresh]	1500	cfu/g
Oils,Fats and Grease	1080	mg/kg
Salmonella spp [fresh]	Negative	in 25g
EC [Neat]	10470	uS/cm

Released by *Myles Nicholson* Date *04/06/20*

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FIRST MILK, HAVERFORDWEST

Analysis of Liquid Waste

Report No: 19447
Date: 21/08/2020

Application rate (t/ha)	**33.0**
Application rate (t/acre)	**13.4**
pH	**5.77**
Dry solids (%)	**3.15**
Organic Matter(%)	**2.25**

NUTRIENT CONTENT

			Total		Available	
	result	**units**	**(kg/t)**	**(kg/ha)**	**(kg/t)**	**(kg/ha)**
Nitrogen (N)	0.12	%	1.2	40	0.2	8
Ammonium-N	109	mg/kg	0.1	4		
Phosphorus (P)	531	mg/kg	0.5	18		
Phosphate (P_2O_5)			1.2	40	0.7	24
Potassium (K)	265	mg/kg	0.3	9		
Potash (K_2O)			0.3	10	0.3	8
Magnesium (Mg)	82.2	mg/kg	0.1	3		
Magnesium (MgO)			0.1	5	0.0	0
Sulphur (S)	129	mg/kg	0.1	4		
Sulphur (SO_3)			0.3	11	0.1	2

POTENTIALLY TOXIC ELEMENTS

			Rate		Limit
	result	**units**	**(g/tonne)**	**(kg/ha)**	**(kg/ha/yr)**
Zinc	8.43	mg/kg	8.43	0.28	15.00
Copper	0.24	mg/kg	0.24	0.01	7.50
Nickel	0.20	mg/kg	0.20	0.01	3.00
Lead	0.50	mg/kg	0.50	0.02	15.00
Cadmium	0.01	mg/kg	0.01	0.00	0.15
Chromium	0.66	mg/kg	0.66	0.02	15.00
Mercury	0.05	mg/kg	0.05	0.00	0.10

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

FIRST MILK, HAVERFORDWEST

Analysis of Liquid Waste

Report No: 19447
Date: 21/08/2020

Application rate (t/ha)	**46.0**
Application rate (t/acre)	**18.6**
pH	**5.77**
Dry solids (%)	**3.15**
Organic Matter(%)	**2.25**

NUTRIENT CONTENT

			Total		Available	
	result	**units**	**(kg/t)**	**(kg/ha)**	**(kg/t)**	**(kg/ha)**
Nitrogen (N)	0.12	%	1.2	55	0.2	11
Ammonium-N	109	mg/kg	0.1	5		
Phosphorus (P)	531	mg/kg	0.5	24		
Phosphate (P_2O_5)			1.2	56	0.7	34
Potassium (K)	265	mg/kg	0.3	12		
Potash (K_2O)			0.3	15	0.3	12
Magnesium (Mg)	82.2	mg/kg	0.1	4		
Magnesium (MgO)			0.1	6	0.0	1
Sulphur (S)	129	mg/kg	0.1	6		
Sulphur (SO_3)			0.3	15	0.1	3

POTENTIALLY TOXIC ELEMENTS

			Rate		Limit
	result	**units**	**(g/tonne)**	**(kg/ha)**	**(kg/ha/yr)**
Zinc	8.43	mg/kg	8.43	0.39	15.00
Copper	0.24	mg/kg	0.24	0.01	7.50
Nickel	0.20	mg/kg	0.20	0.01	3.00
Lead	0.50	mg/kg	0.50	0.02	15.00
Cadmium	0.01	mg/kg	0.01	0.00	0.15
Chromium	0.66	mg/kg	0.66	0.03	15.00
Mercury	0.05	mg/kg	0.05	0.00	0.10

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

FIRST MILK, HAVERFORDWEST

Analysis of Liquid Waste

Report No: 19447
Date: 21/08/2020

Application rate (t/ha)	**53.0**
Application rate (t/acre)	**21.4**
pH	**5.77**
Dry solids (%)	**3.15**
Organic Matter(%)	**2.25**

NUTRIENT CONTENT

			Total		Available	
	result	**units**	**(kg/t)**	**(kg/ha)**	**(kg/t)**	**(kg/ha)**
Nitrogen (N)	0.12	%	1.2	64	0.2	13
Ammonium-N	109	mg/kg	0.1	6		
Phosphorus (P)	531	mg/kg	0.5	28		
Phosphate (P_2O_5)			1.2	64	0.7	39
Potassium (K)	265	mg/kg	0.3	14		
Potash (K_2O)			0.3	17	0.3	13
Magnesium (Mg)	82.2	mg/kg	0.1	4		
Magnesium (MgO)			0.1	7	0.0	1
Sulphur (S)	129	mg/kg	0.1	7		
Sulphur (SO_3)			0.3	17	0.1	3

POTENTIALLY TOXIC ELEMENTS

			Rate		Limit
	result	**units**	**(g/tonne)**	**(kg/ha)**	**(kg/ha/yr)**
Zinc	8.43	mg/kg	8.43	0.45	15.00
Copper	0.24	mg/kg	0.24	0.01	7.50
Nickel	0.20	mg/kg	0.20	0.01	3.00
Lead	0.50	mg/kg	0.50	0.03	15.00
Cadmium	0.01	mg/kg	0.01	0.00	0.15
Chromium	0.66	mg/kg	0.66	0.03	15.00
Mercury	0.05	mg/kg	0.05	0.00	0.10

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

FIRST MILK, HAVERFORDWEST

Analysis of Liquid Waste

Report No: 19447
Date: 21/08/2020

Application rate (t/ha)	**66.0**
Application rate (t/acre)	**26.7**
pH	**5.77**
Dry solids (%)	**3.15**
Organic Matter(%)	**2.25**

NUTRIENT CONTENT

			Total		Available	
	result	**units**	**(kg/t)**	**(kg/ha)**	**(kg/t)**	**(kg/ha)**
Nitrogen (N)	0.12	%	1.2	79	0.2	16
Ammonium-N	109	mg/kg	0.1	7		
Phosphorus (P)	531	mg/kg	0.5	35		
Phosphate (P_2O_5)			1.2	80	0.7	48
Potassium (K)	265	mg/kg	0.3	17		
Potash (K_2O)			0.3	21	0.3	17
Magnesium (Mg)	82.2	mg/kg	0.1	5		
Magnesium (MgO)			0.1	9	0.0	1
Sulphur (S)	129	mg/kg	0.1	9		
Sulphur (SO_3)			0.3	21	0.1	4

POTENTIALLY TOXIC ELEMENTS

			Rate		Limit
	result	**units**	**(g/tonne)**	**(kg/ha)**	**(kg/ha/yr)**
Zinc	8.43	mg/kg	8.43	0.56	15.00
Copper	0.24	mg/kg	0.24	0.02	7.50
Nickel	0.20	mg/kg	0.20	0.01	3.00
Lead	0.50	mg/kg	0.50	0.03	15.00
Cadmium	0.01	mg/kg	0.01	0.00	0.15
Chromium	0.66	mg/kg	0.66	0.04	15.00
Mercury	0.05	mg/kg	0.05	0.00	0.10

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

FIRST MILK, HAVERFORDWEST

Analysis of Liquid Waste

Report No: 19447
Date: 21/08/2020

Application rate (t/ha)	**119.0**
Application rate (t/acre)	**48.2**
pH	**5.77**
Dry solids (%)	**3.15**
Organic Matter(%)	**2.25**

NUTRIENT CONTENT

			Total		Available	
	result	**units**	**(kg/t)**	**(kg/ha)**	**(kg/t)**	**(kg/ha)**
Nitrogen (N)	0.12	%	1.2	143	0.2	29
Ammonium-N	109	mg/kg	0.1	13		
Phosphorus (P)	531	mg/kg	0.5	63		
Phosphate (P_2O_5)			1.2	145	0.7	87
Potassium (K)	265	mg/kg	0.3	32		
Potash (K_2O)			0.3	38	0.3	30
Magnesium (Mg)	82.2	mg/kg	0.1	10		
Magnesium (MgO)			0.1	16	0.0	2
Sulphur (S)	129	mg/kg	0.1	15		
Sulphur (SO_3)			0.3	38	0.1	8

POTENTIALLY TOXIC ELEMENTS

			Rate		Limit
	result	**units**	**(g/tonne)**	**(kg/ha)**	**(kg/ha/yr)**
Zinc	8.43	mg/kg	8.43	1.00	15.00
Copper	0.24	mg/kg	0.24	0.03	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	0.66	mg/kg	0.66	0.08	15.00
Mercury	0.05	mg/kg	0.05	0.01	0.10

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

STEPSIDE AGRI
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CARDIGAN
SA43 1PH

V850

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FIRST MILK

EFFLUENT

EFFLUENT

Sample Reference :

FIRST MILK

Sample Matrix : EFFLUENT

Laboratory References	
Report Number	19447
Sample Number	98843

Date Received	21-AUG-2020
Date Reported	02-SEP-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	3.15	%
E Coli [Fresh]	100	cfu/g
Conductivity 1:6	948	uS/cm
Total Kjeldahl Nitrogen	0.12	% w/w
Nitrate Nitrogen	<10	mg/kg
Ammonium Nitrogen	109	mg/kg
Total Phosphorus (P)	531	mg/kg
Total Potassium (K)	265	mg/kg
Total Magnesium (Mg)	82.2	mg/kg
Total Copper (Cu)	0.24	mg/kg

Released by *Linaben Patel* Date *02/09/20*

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FIRST MILK

EFFLUENT

EFFLUENT

Sample Reference :

FIRST MILK

Sample Matrix : EFFLUENT

Laboratory References	
Report Number	19447
Sample Number	98843

Date Received	21-AUG-2020
Date Reported	02-SEP-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)	8.43	mg/kg
Total Sulphur (S)	129	mg/kg
Total Calcium (Ca)	244	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)	0.66	mg/kg
Total Sodium (Na)	875	mg/kg
pH 1:6 [Fresh]	5.77	

Released by ..... *Linaben Patel* ..... Date ..... *02/09/20* .....

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FIRST MILK

EFFLUENT

EFFLUENT

Sample Reference :

FIRST MILK

Sample Matrix : EFFLUENT

Laboratory References	
Report Number	19447
Sample Number	98843

Date Received	21-AUG-2020
Date Reported	02-SEP-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
Organic Matter LOI	2.25	% w/w
Coliforms [fresh]	15000	cfu/g
Oils,Fats and Grease	8240	mg/kg
Salmonella spp [fresh]	Negative	in 25g
EC [Neat]	5051	uS/cm

Released by *Linaben Patel* Date *02/09/20*

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ANALYTICAL REPORT

Report Number	**76117-19**	**V850**	**STEPSIDE AGRI**	**Client**	**MR R FLETCHER**
Date Received	**31-OCT-2019**		**STEPSIDE FARM**		**MANIAN FAWR FARM**
Date Reported	**06-NOV-2019**		**GWBERT ROAD**		**ST DOGMAELS**
Project	**SOIL**		**CARDIGAN**		
Reference	**MR R FLETCHER**		**SA43 1PH**		
Order Number					

Laboratory Reference		**SOIL459952**	**SOIL459953**	**SOIL459954**	**SOIL459955**	**SOIL459956**	**SOIL459957**	**SOIL459958**	**SOIL459959**		
Sample Reference		**MANIAN LND TRERHYS 1**	**MANIAN LND TRERHYS 2**	**MANIAN LND TRERHYS 3**	**MANIAN LND TRERHYS 4**	**MANIAN LND TRERHYS 5**	**MANIAN LND TRERHYS 6**	**MANIAN LND TRERHYS 7**	**MANIAN LND TRERHYS 8**		
Determinand	**Unit**	**SOIL**	**SOIL**	**SOIL**	**SOIL**	**SOIL**	**SOIL**	**SOIL**	**SOIL**		
pH water [1:2.5]		6.3	5.2	6.1	5.3	5.4	5.2	5.6	5.2		
Available Phosphorus (Index)	mg/l	42.6 (3)	9.6 (1)	69.6 (4)	21.0 (2)	18.6 (2)	13.2 (1)	16.6 (2)	8.8 (0)		
Available Potassium (Index)	mg/l	200 (2+)	38.7 (0)	304 (3)	83.0 (1)	45.1 (0)	42.3 (0)	40.9 (0)	50.1 (0)		
Available Magnesium (Index)	mg/l	52.6 (2)	36.2 (1)	89.0 (2)	46.2 (1)	54.5 (2)	51.7 (2)	69.3 (2)	61.7 (2)		
Total Copper	mg/kg	10.4	8.8	11.8	8.8	10.2	10.5	11.2	11.0		
Total Zinc	mg/kg	30.0	27.2	36.2	25.3	28.6	31.5	35.9	34.1		
Total Lead	mg/kg	21.8	19.3	20.1	21.9	22.3	22.0	22.3	22.8		
Total Arsenic	mg/kg	14.0	11.9	12.7	14.5	12.7	12.4	14.3	12.7		
Total Cadmium	mg/kg	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
Total Nickel	mg/kg	<10	<10	<10	<10	<10	<10	<10	<10		
Total Chromium	mg/kg	25.4	21.1	25.1	27.1	25.8	24.6	28.9	28.8		
Total Mercury	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		
Total Selenium	mg/kg	0.61	0.55	0.61	0.61	0.62	0.52	0.60	0.46		
Total Molybdenum	mg/kg	1.3	1.1	1.4	1.3	1.5	1.5	1.4	1.6		
Fluoride	mg/kg	41.7	17.7	48.2	36.5	36.9	26.8	37.3	19.2		

Notes

Analysis Notes

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

The results as reported relate only to the item(s) submitted for testing.

The results are presented on a dry matter basis unless otherwise stipulated.

Document Control

ANALYTICAL NOTES

Report Number	**76117-19**	**V850**	**STEPSIDE AGRI**	**Client**	**MR R FLETCHER**
Date Received	**31-OCT-2019**		**STEPSIDE FARM**		**MANIAN FAWR FARM**
Date Reported	**06-NOV-2019**		**GWBERT ROAD**		**ST DOGMAELS**
Project	**SOIL**		**CARDIGAN**		
Reference	**MR R FLETCHER**		**SA43 1PH**		
Order Number					

Notes

Reported by

Myles Nicholson

Natural Resource Management, a trading division of Cawood Scientific Ltd.
Coopers Bridge, Braziers Lane, Bracknell, Berkshire, RG42 6NS
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SOIL CHEMICAL ANALYSIS REPORT FOR FIELD - 3471

STEPSIDE AGRI
STEPSIDE FARM
GWBERT ROAD
CARDIGAN
SA43 1PH

V850

Please quote above code for all enquiries

TREFWTIAL

Laboratory References

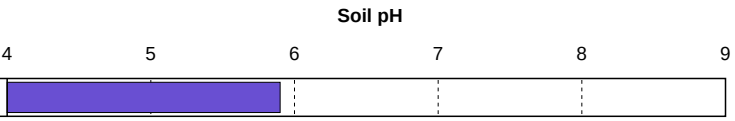
Report Number	46155
Sample Number	426182

Date Received	04-MAR-2019
Date Reported	07-MAR-2019

ANALYTICAL RESULTS *on 'dry matter' basis.*

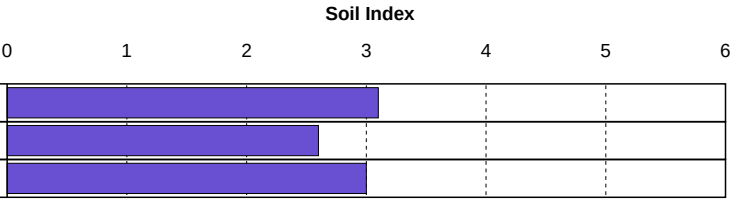
pH (1)

Determinand	Result
Soil pH	5.9



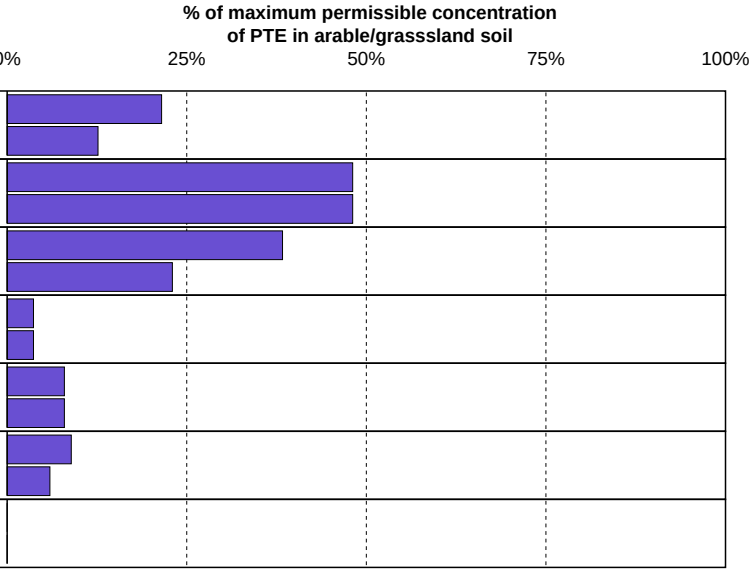
Soil Nutrients (1)

Determinand	Result mg/litre	Soil Index
Available Phosphorus	27.6	3
Available Potassium	197	2+
Available Magnesium	104	3



Potentially Toxic Elements (2)

Determinand	Result mg/kg		Maximum mg/kg
Total Copper	21.5	Arable	100
		Grassland	170
Total Zinc	96.2	Arable	200
		Grassland	200
Total Nickel	23.0	Arable	60
		Grassland	100
Total Cadmium	0.11	Arable	3
		Grassland	3
Total Lead	23.9	Arable	300
		Grassland	300
Total Chromium	35.7	Arable	400
		Grassland	600
Total Mercury	<0.2	Arable	1
		Grassland	1.5



(1) Recommendations for liming and fertiliser should be obtained from Defra's Fertiliser Manual (RB209). The analytical methods used are as described in Defra's RB427.

(2) Concentration of Potentially Toxic Elements (PTE, commonly referred to as 'heavy metals') are in mg/kg dry soil. The maximum and the percentage of this maximum permissible concentration of PTE in soil are derived from the values in Defra's Code of Practice for Agricultural Use of Sewage Sludge (England & Wales) 1996. If applying organic manures to this soil it is important to ensure the soil is managed with a pH no less than 5.0, and that the PTE maximum values are not exceeded following the application. For soil where the pH value is less than 5.2, a FACTS Qualified Adviser should be consulted. Further details are provided in the Sludge Code.

Released by *Katie Dunn* Date *07/03/19*

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SOIL CHEMICAL ANALYSIS REPORT FOR FIELD - 3471

STEPSIDE AGRI
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SA43 1PH

V850

Please quote above code for all enquiries

TREFWTIAL

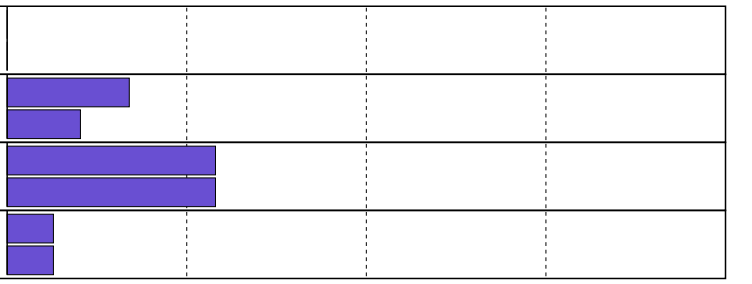
Laboratory References

Date Received	04-MAR-2019
Date Reported	07-MAR-2019
Report Number	46155
Sample Number	426182

ANALYTICAL RESULTS *on 'dry matter' basis.*

Potentially Toxic Elements (2)

Determinand	Result mg/kg		Maximum mg/kg	% of maximum permissible concentration of PTE in arable/grasssland soil (0% 25% 50% 75% 100%)
Total Molybdenum	<1	Arable	4	
		Grassland	4	
Total Selenium	0.51	Arable	3	
		Grassland	5	
Total Arsenic	14.5	Arable	50	
		Grassland	50	
Fluoride	32.2	Arable	500	
		Grassland	500	



(1) Recommendations for liming and fertiliser should be obtained from Defra's Fertiliser Manual (RB209). The analytical methods used are as described in Defra's RB427.

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Released by *Katie Dunn* Date *07/03/19*

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SOIL CHEMICAL ANALYSIS REPORT FOR FIELD - 2847

STEPSIDE AGRI
STEPSIDE FARM
GWBERT ROAD
CARDIGAN
SA43 1PH

V850

Please quote above code for all enquiries

TREFWTIAL

Laboratory References

Report Number	46155
Sample Number	426183

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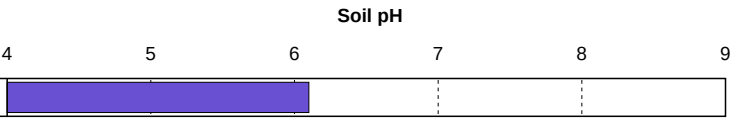
ANALYTICAL RESULTS *on 'dry matter' basis.*

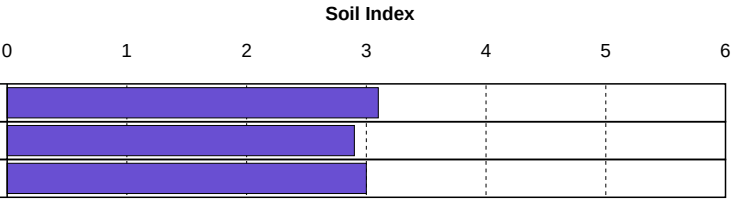
pH (1)

Determinand	Result
Soil pH	6.1



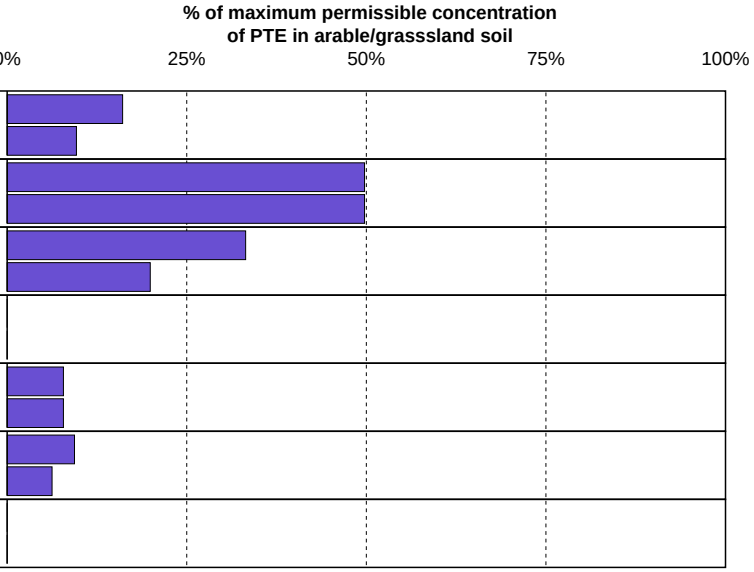
Soil Nutrients (1)

Determinand	Result mg/litre	Soil Index
Available Phosphorus	29.0	3
Available Potassium	234	2+
Available Magnesium	104	3



Potentially Toxic Elements (2)

Determinand	Result mg/kg		Maximum mg/kg
Total Copper	21.7	Arable	135
		Grassland	225
Total Zinc	99.5	Arable	200
		Grassland	200
Total Nickel	24.9	Arable	75
		Grassland	125
Total Cadmium	<0.1	Arable	3
		Grassland	3
Total Lead	23.5	Arable	300
		Grassland	300
Total Chromium	37.5	Arable	400
		Grassland	600
Total Mercury	<0.2	Arable	1
		Grassland	1.5



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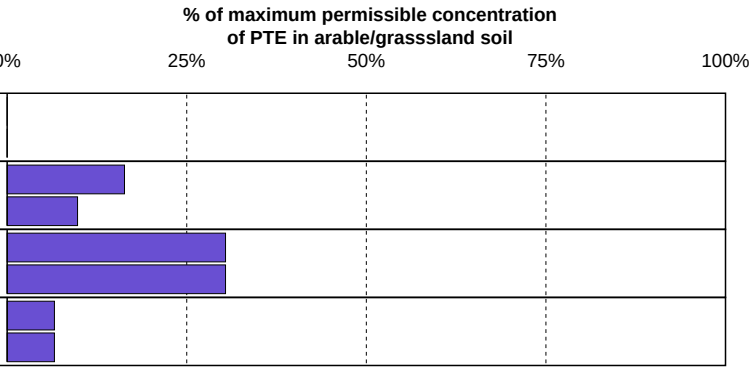

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