

SR2010No4 Mobile Plant for Land-spreading Deployment Application

**Bryn Barcud,
Gors-goch,
Ceredigion,
SA40 9TH**

Applicant:

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

Permit Number: EPR/AB3891CX

Date: 23/12/2020

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.

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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 checked="" type="checkbox"/>	High risk deployment <input 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	Liquid Sludge	Dairy Partners – Newcastle Emlyn	5650
2	02 05 02	Sludge from dairy waste treatment	Liquid Sludge	Volac – Felinfach	4836
3	02 05 02	Sludge from dairy waste treatment	Liquid Sludge	First Milk - Haverfordwest	5379
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	Bryn Barcud
	Gors-goch
	Ceredigion
Postcode	SA40 9TH
National grid reference (12 digit)	SN 45436 50593

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

Agricultural land ☒ Please give your County/ Parish/ Holding number 55/202/0486

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	Cenydd Antony
Last name	Williams
Address	Bryn Barcud
	Gors-goch
	Ceredigion
Postcode	SA40 9TH
Telephone - mobile	
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	1	Sludge from dairy waste treatment	Stepside Agri	56	PAN-008050
2	2	Sludge from dairy waste treatment	Stepside Agri	54.5	PAN-008050
3	3	Sludge from dairy waste treatment	Stepside Agri	54.5	PAN-008050
4	4	Sludge from dairy waste treatment	Stepside Agri	97	PAN-008050
5	5	Sludge from dairy waste treatment	Stepside Agri	58	PAN-008050
6	6	Sludge from dairy waste treatment	Stepside Agri	98	PAN-008050
7	7	Sludge from dairy waste treatment	Stepside Agri	50	PAN-008050
8	8	Sludge from dairy waste treatment	Stepside Agri	54	PAN-008050
9	10	Sludge from dairy waste treatment	Stepside Agri	50	PAN-008050
10	12	Sludge from dairy waste treatment	Stepside Agri	50	PAN-008050

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 45080 50181	02 05 02	Nurse tank	120
2	SN 45303 50462	02 05 02	Nurse tank	120
3	SN 45879 50661	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	<input type="checkbox"/>	<i>Go to section 5d</i>
Credit or debit card	<input type="checkbox"/>	<i>Go to section 5e</i>

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="EPDEPSTEPS0055"/>
Amount paid	<input type="text" value="£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	<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 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 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 type="checkbox"/>	
Any other additional information	N/A	Table 3 Details of land to be treated
	N/A	
	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)	23/12/2020



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
LS

Anaerobic Digestion
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

TABLE 3 Details of land to be treated

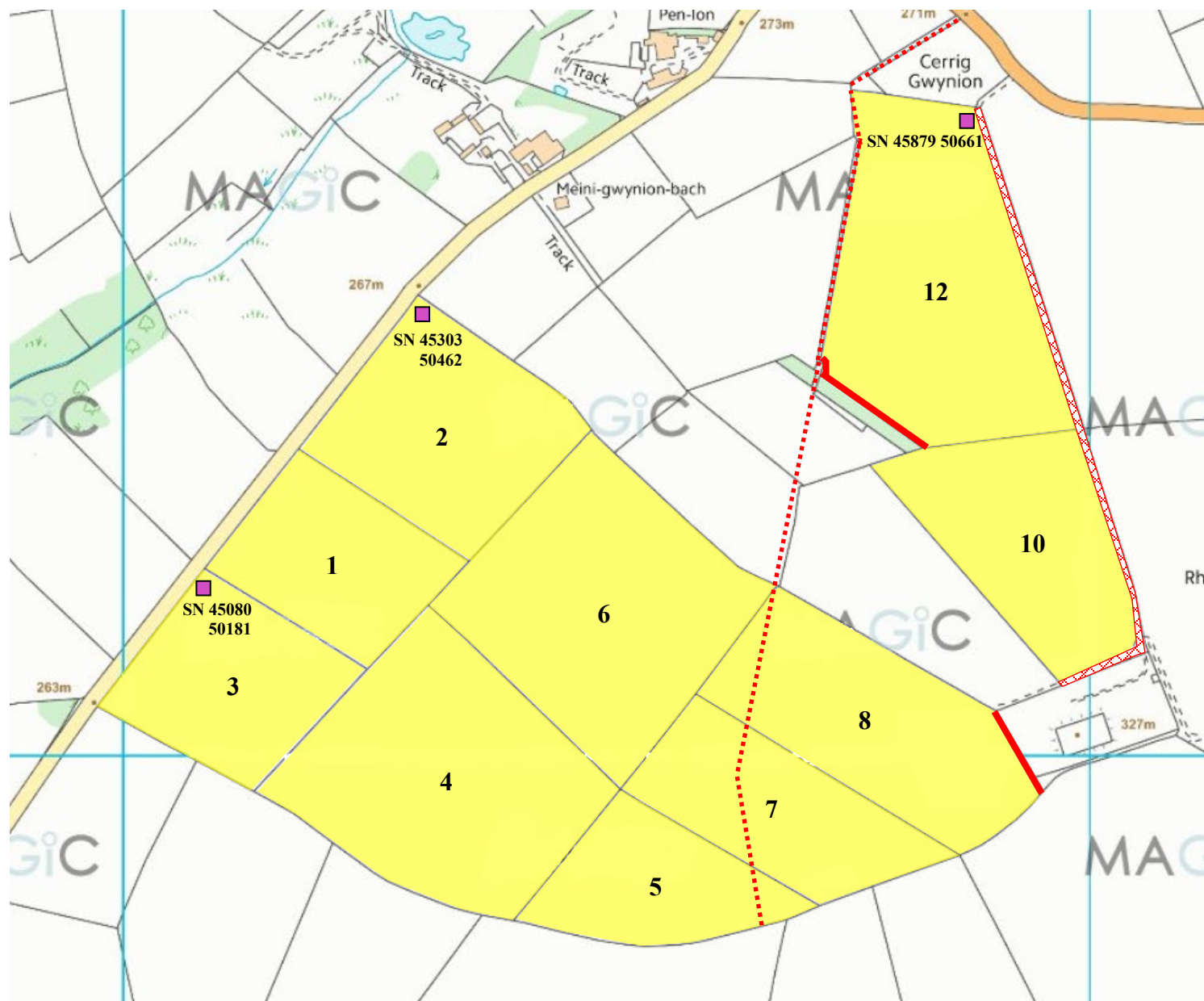
Field ref.	Spreadable area (hectares)	Grid reference (centre of fields)	Waste type(s) to be spread (LoW)
1	3.20	SN 45214 50196	02 05 02
2	4.40	SN 45332 50327	02 05 02
3	3.30	SN 45110 50067	02 05 02
4	6.60	SN 45333 49971	02 05 02
5	2.60	SN 45549 49863	02 05 02
6	6.50	SN 45496 50147	02 05 02
7	3.40	SN 45679 49936	02 05 02
8	4.60	SN 45776 50025	02 05 02
10	4.00	SN 45945 50211	02 05 02
12	6.60	SN 45846 50482	02 05 02
TOTAL	45.20		

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: C A Williams
 Map Grid Ref: SN 45576 50158
 Farm ID: Bryn Barcud
 Farm Post Code: SA40 9TH

Bryn Barcud – Location Map



Statement of Agricultural Benefit

- Bryn Barcud



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:

Bryn Barcud, Gors-goch, Ceredigion, SA40 9TH – Holding No. 55/202/0486

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

Application:

- The fields will be spread subject to ground conditions being suitable and when there is a significant crop nutrient requirement (i.e. early spring 2021, straight after silage cuts in 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 rates for the fields 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 heavy rainfall.
- The waste will be spread onto the grass fields with shallow injection equipment, 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 storage in nurse tanks may also be required. These potential locations are detailed on the attached field map 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 80 kg SO₃/ha. The amount of available sulphur supplied by the wastes at the proposed maximum application rates is 2-8 kg SO₃/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 Na₂O 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 Volac sludge from dairy waste treatment as in 'Table 4 - Previous Land Treatment' under deployment PAN-008050 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 ₂ O ₅) kg/ha		Potash (K ₂ O) 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 @ 107 t/ha	64	13	67	40	154	123	13	1	17	3
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

Field Ref.	Soil Type	Spreadable Area (ha)	Previous Crop	Next Crop	Nitrogen		Phosphate			Potash			Magnesium	
					SNS	N Required (kg/ha)	P Index	P ₂ O ₅ Required (kg/ha)	Crop Use (Offtake) (kg/ha)	K Index	K ₂ O Required (kg/ha)	Crop Use (Offtake) (kg/ha)	Mg Index	MgO Required (kg/ha)
1	Medium soils	3.20	Grass 2 cuts silage + grazing	Grass 2 cuts silage + grazing	Moderate	175	0	125	65	0	320	228	2	0
2	Medium soils	4.40	Grass 2 cuts silage + grazing	Grass 2 cuts silage + grazing	Moderate	175	0	125	65	0	320	228	2	0
3	Medium soils	3.30	Grass 2 cuts silage + grazing	Grass 2 cuts silage + grazing	Moderate	175	0	125	65	0	320	228	2	0
4	Medium soils	6.60	Grass 2 cuts silage + grazing	Grass 2 cuts silage + grazing	Moderate	175	0	125	65	0	320	228	1	0
5	Medium soils	2.60	Grass 2 cuts silage + grazing	Grass 2 cuts silage + grazing	Moderate	175	0	125	65	0	320	228	2	0
6	Medium soils	6.50	Grass 2 cuts silage + grazing	Grass 2 cuts silage + grazing	Moderate	175	0	125	65	1	270	228	2	0
7	Medium soils	3.40	Grass 2 cuts silage + grazing	Grass 2 cuts silage + grazing	Moderate	175	0	125	65	0	320	228	2	0
8	Medium soils	4.60	Grass 2 cuts silage + grazing	Grass 2 cuts silage + grazing	Moderate	175	0	125	65	0	320	228	2	0
10	Medium soils	4.00	Grass 2 cuts silage + grazing	Grass 2 cuts silage + grazing	Moderate	175	0	125	65	0	320	228	2	0
12	Medium soils	6.60	Grass 2 cuts silage + grazing	Grass 2 cuts silage + grazing	Moderate	175	0	125	65	1	270	228	2	0
TOTAL		45.20												

Nutrient requirements based on: 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

	Dairy Partners, Newcastle Emlyn - liquid sludge						Volac, Felinfach - liquid sludge						First Milk, Haverfordwest - liquid sludge					
Field Ref.	N Applied - Waste (kg/ha)	P ₂ O ₅ Applied - Waste (kg/ha)	K ₂ O Applied - Waste (kg/ha)	MgO Applied - Waste (kg/ha)	Application Rate (t/ha)	Total Tonnes	N Applied - Waste (kg/ha)	P ₂ O ₅ Applied - Waste (kg/ha)	K ₂ O Applied - Waste (kg/ha)	MgO Applied - Waste (kg/ha)	Application Rate (t/ha)	Total Tonnes	N Applied - Waste (kg/ha)	P ₂ O ₅ Applied - Waste (kg/ha)	K ₂ O Applied - Waste (kg/ha)	MgO Applied - Waste (kg/ha)	Application Rate (t/ha)	Total Tonnes
1	**8	**14	**27	*4	125	400	**13	**40	**123	*13	107	342	**29	**87	**30	*16	119	381
2	**8	**14	**27	*4	125	550	**13	**40	**123	*13	107	471	**29	**87	**30	*16	119	524
3	**8	**14	**27	*4	125	412	**13	**40	**123	*13	107	353	**29	**87	**30	*16	119	393
4	**8	**14	**27	**0	125	825	**13	**40	**123	**1	107	706	**29	**87	**30	**2	119	785
5	**8	**14	**27	*4	125	325	**13	**40	**123	*13	107	278	**29	**87	**30	*16	119	309
6	**8	**14	**27	*4	125	813	**13	**40	**123	*13	107	696	**29	**87	**30	*16	119	774
7	**8	**14	**27	*4	125	425	**13	**40	**123	*13	107	364	**29	**87	**30	*16	119	405
8	**8	**14	**27	*4	125	575	**13	**40	**123	*13	107	492	**29	**87	**30	*16	119	547
10	**8	**14	**27	*4	125	500	**13	**40	**123	*13	107	428	**29	**87	**30	*16	119	476
12	**8	**14	**27	*4	125	825	**13	**40	**123	*13	107	706	**29	**87	**30	*16	119	785
TOTAL						5650						4836						5379

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 wastes are N 20%, P₂O₅ 60%, K₂O 80%, MgO 10%, SO₃ 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 soils under the Sludge (Use in Agriculture) Regulations.

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. 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: 23/12/2020

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

	result	units	Total		Available	
			(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 ₂ O ₅)			0.2	23	0.1	14
Potassium (K)	221	mg/kg	0.2	28		
Potash (K ₂ O)			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

	result	units	Rate		Limit
			(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



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 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*

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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
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 :

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
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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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

	result	units	Total		Available	
			(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 (P₂O₅)			0.6	67	0.4	40
Potassium (K)	1199	mg/kg	1.2	128		
Potash (K₂O)			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 (SO₃)			0.2	17	0.0	3

POTENTIALLY TOXIC ELEMENTS

	result	units	Rate		Limit
			(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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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

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
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	

Released by *Myles Nicholson*

Date *04/06/20*

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STEPSIDE AGRI

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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) 119.0
Application rate (t/acre) 48.2
pH 5.77
Dry solids (%) 3.15

Organic Matter(%) 2.25

NUTRIENT CONTENT

	result	units	Total		Available	
			(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 ₂ O ₅)			1.2	145	0.7	87
Potassium (K)	265	mg/kg	0.3	32		
Potash (K ₂ O)			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

	result	units	Rate		Limit
			(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
STEPSIDE FARM
GWBERT ROAD
CARDIGAN
SA43 1PH

V850

Please quote above code for all enquiries

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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V850

Please quote above code for all enquiries

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	68203-19	V850	STEPSIDE AGRI	Client MR C A WILLIAMS
Date Received	02-SEP-2019		STEPSIDE FARM	
Date Reported	09-SEP-2019		GWBERT ROAD	
Project	SOIL		CARDIGAN	
Reference	MR C A WILLIAMS		SA43 1PH	
Order Number				

Laboratory Reference		SOIL449157	SOIL449158	SOIL449159	SOIL449160	SOIL449161	SOIL449162	SOIL449163	SOIL449164	SOIL449165	SOIL449166
Sample Reference		BRYN BARCUD FARM 1	BRYN BARCUD FARM 2	BRYN BARCUD FARM 3	BRYN BARCUD FARM 4	BRYN BARCUD FARM 5	BRYN BARCUD FARM 6	BRYN BARCUD FARM 7	BRYN BARCUD FARM 8	BRYN BARCUD FARM 9	BRYN BARCUD FARM 10
Determinand	Unit	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
pH water [1:2.5]		5.7	5.7	5.9	5.6	5.3	5.4	5.7	5.6		5.2
Available Phosphorus (Index)	mg/l	7.4 (0)	6.8 (0)	7.6 (0)	4.4 (0)	5.2 (0)	4.0 (0)	5.4 (0)	4.0 (0)		7.2 (0)
Available Potassium (Index)	mg/l	51.1 (0)	59.2 (0)	39.9 (0)	49.5 (0)	51.1 (0)	66.1 (1)	39.0 (0)	29.0 (0)		37.9 (0)
Available Magnesium (Index)	mg/l	56.5 (2)	61.6 (2)	68.5 (2)	45.5 (1)	54.3 (2)	68.0 (2)	67.3 (2)	60.3 (2)		56.6 (2)
Total Copper	mg/kg	12.1	12.9	14.0	12.9	13.3	11.6	9.3	10.6		12.4
Total Zinc	mg/kg	55.2	58.3	65.2	58.4	58.0	50.5	42.4	48.6		61.6
Total Lead	mg/kg	25.8	24.7	25.1	28.1	27.9	25.0	29.4	28.3		28.8
Total Arsenic	mg/kg	15.6	15.7	17.4	18.8	18.0	17.1	15.8	16.6		16.9
Total Cadmium	mg/kg	0.19	0.19	0.17	0.18	0.14	0.15	0.16	0.16		0.17
Total Nickel	mg/kg	13.2	14.1	16.7	14.3	14.1	11.6	11.1	12.5		17.4
Total Chromium	mg/kg	36.0	35.1	38.0	35.0	28.8	30.7	28.6	29.6		54.6
Total Mercury	mg/kg	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2		<0.2
Total Selenium	mg/kg	1.16	1.12	1.21	1.41	1.16	1.22	1.26	1.25		1.26
Total Molybdenum	mg/kg	<1	<1	<1	<1	<1	<1	<1	<1		<1
Fluoride	mg/kg	20.5	20.8	35.7	24.6	13.5	11.3	28.4	15.9		21.4

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	68203-19	V850	STEPSIDE AGRI	Client MR C A WILLIAMS
Date Received	02-SEP-2019		STEPSIDE FARM	
Date Reported	09-SEP-2019		GWBERT ROAD	
Project	SOIL		CARDIGAN	
Reference	MR C A WILLIAMS		SA43 1PH	
Order Number				
Notes				
Reported by	<p><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

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Date Reported	09-SEP-2019		GWBERT ROAD	
Project	SOIL		CARDIGAN	
Reference	MR C A WILLIAMS		SA43 1PH	
Order Number				

Laboratory Reference		SOIL449167	SOIL449168	SOIL449169	SOIL449170						
Sample Reference		BRYN BARCUD FARM 11	BRYN BARCUD FARM 12	BRYN BARCUD FARM 13	BRYN BARCUD FARM 14						
Determinand	Unit	SOIL	SOIL	SOIL	SOIL						
pH water [1:2.5]			5.4								
Available Phosphorus (Index)	mg/l		5.6 (0)								
Available Potassium (Index)	mg/l		63.3 (1)								
Available Magnesium (Index)	mg/l		59.5 (2)								
Total Copper	mg/kg		18.3								
Total Zinc	mg/kg		62.9								
Total Lead	mg/kg		29.1								
Total Arsenic	mg/kg		17.8								
Total Cadmium	mg/kg		0.20								
Total Nickel	mg/kg		15.8								
Total Chromium	mg/kg		35.6								
Total Mercury	mg/kg		<0.2								
Total Selenium	mg/kg		1.30								
Total Molybdenum	mg/kg		1.0								
Fluoride	mg/kg		14.9								

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>
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