Non-Technical Summary to support an application for a normal variation to a Bespoke Mobile Plant Landspreading Permit

Prepared on behalf of:

FGS Organics Ltd

ETL965/2025

Prepared by:

Earthcare Technical Ltd.
Manor Farm
Chalton
Waterlooville
Hants PO8 0BG

Tel: 02392 290 488
Email: Office@earthcaretechnical.co.uk

26 May 2025

Document Control

Document Title:	**Non-Technical Summary to support an application for a normal variation to a Bespoke Mobile Plant Landspreading Permit**
Document Name:	ETL965_NTS_Normal Variation_BB3603XR_V1.0_May_25
Prepared For:	FGS Organics Ltd, Stanford Bridge Farm, Station Road, Pluckley, Ashford, Kent TN27 0RU
Project Reference:	ETL965/2025
Copyright:	Earthcare Technical Ltd. © 2025

Version Control

Issue	Date	Revision details	Author	Client Approval given by
Version 1.0 Issue 0	26 May 2025	First Issue	A Becvar	R Bacon

Contents

1 Introduction

This Non-Technical Summary has been prepared by Earthcare Technical Ltd (ETL) on behalf of FGS Organics Ltd to support a normal variation application to vary the existing bespoke mobile plant landspreading permit EPR/ BB3603XR to a bespoke SR2010 No. 4 permit only.

The activities permitted under additional permit rules sets, which are included within the current bespoke permit, from SR2010 No5, SR2010 No6 and SR2010 No11, are to be removed from BB3603XR/A001. Two new permit applications will be submitted to apply for FGS Organics Ltd to hold SR2010No5: mobile plant for reclamation, restoration or land improvement and SR2022 No2: mobile treatment of waste to produce soil, soil substitutes and aggregate, Standard Rules permits. It has been agreed with the Environment Agency that there will be no additional fees for these applications as they are carried out to correct the previous bespoke permit.

This application seeks to add the following additional waste codes to the bespoke mobile plant landspreading permit, which are not included within the Standard Rules SR2010No4 mobile plant for landspreading permit:

- Waste code 19 02 03: Premixed wastes composed of non-hazardous wastes from a lagoon so long as the wastes stored are listed within SR2010 No.4
- Waste code 19 12 12: Wastes from the mechanical treatment of non-hazardous wastes. 'Poultry Grits' removed via mechanical processes from poultry manure.
- Waste code 10 01 26: Wastes from cooling-water treatment (Power Station)

The bespoke mobile plant permit is operated in accordance with a written Environmental Management System (EMS) provided to support this application (File Ref: EMS _FGS Organics_ Bespoke MPP_V3.0). The relevant EMS documents have been updated to reflect the proposed changes and potential environmental risks associated with the proposed changes in types of waste to be spread to land.

Prior to any waste being spread FGS Organics Ltd will make a deployment application to the Environment Agency (EA). Each deployment application will contain an assessment (Agricultural benefit statement), that shows that benefit which will be conferred by spreading the waste. The assessment will be carried out by a suitably qualified person with appropriate technical expertise and contain evidence demonstrating the reasons for their opinion.

The bespoke mobile plant permit will also require a site-specific risk assessment to be carried out with each deployment application.

The activities detailed in a deployment shall not begin unless and until the EA has agreed the deployment form in writing i.e. An Issue Document must be received.

The benefits and risks of spreading each of the proposed waste streams to land has been assessed. Only premixed wastes comprised of wastes listed within the SR2010No4 mobile plant landspreading permit will be spread, therefore there is no additional risk to that which have already been determined.

A Rapid Evidence Assessment (REA) has been undertaken to assess both Cooling Tower Silts Waste Code 10 01 26 (File Ref: Cooling Tower Silt_Evidence_extraction_V1.0_Apr_25) and Poultry Grit removed from poultry manure Wase Code 19 12 12 (Fiel Ref: Poultry Grits_Evidence_extraction_V1.0_Apr_25) to inform the request to add these to the existing bespoke permit. The outcome is a summary of the available evidence including the published scientific and grey literature, and unpublished data available from the operator.

The Non-Technical Summary is written to highlight aspects of the proposed changes and to signposts the reader to the key supporting documents of the application.

2 Premixed wastes from a lagoon (Waste code 19 02 03)

FGS Organics Ltd may be required to spread premixed wastes from storage facility which holds a bespoke storage permit. Only wastes included within the SR 2010 No.4 mobile plant for landspreading are received and mixed within the storage prior to application to land under deployments. They should therefore be spread under waste code 19 02 03 Premixed wastes composed of non-hazardous wastes.

2.1 Waste classification

19 02	**Wastes from physico/chemical treatments of waste (including dechromatation, decyanidation, neutralisation)**
19 02 03	Premixed wastes composed only of non-hazardous wastes
19 02 03	Premixed wastes composed of non-hazardous wastes from a lagoon so long as the wastes stored are listed within SR2010 No.4

2.2 Control measures

Only wastes deemed acceptable to be spread to land under SR2010No4 Mobile plant permit will be mixed within the storage facility, as such as hazard risk assessment and soil screening values assessment has been completed for each potential waste stream previously. waste streams have already been assessed as to their suitability for spreading. When pre-mixed waste Waste code 19 02 03 is spread from a permitted storage facility the following protocol will be followed:

a) Each individual waste will be sampled and assessed as to its agricultural benefit before being received to the lagoon. These details will be included within the deployment application.
b) The receipt of wastes will be logged and recorded such that the proportion of each waste added to the lagoon can be determined.
c) A representative sample of the pre-mixed waste will then be taken and analysed, and its agricultural benefit assessed to demonstrate the final mixture analysis, and correct application rate, to be applied to land under the deployment.

Should a new waste stream be added to the lagoon following deployment issue, a new deployment will be prepared to reflect the new resulting mixture of waste.

3 Poultry Grit (Waste code 19 12 12)

Chicken manure may be treated within an anaerobic digestion (AD) plant which provides an effective means of sanitisation of the waste to produce digestate biofertiliser and biogas which may be used to produce heat and electricity.

Layers are chicken raised for egg production which are fed high purity granular calcium carbonate 'Grit' to assist gizzard function and to increase calcium levels within the diet. The gizzard is a muscular part of the stomach that grinds up food. This process exposes more surface area for digestive enzymes to work on and aids nutrient absorption. The limestone grit is also a valuable source of calcium which enhances eggshell quality and bone strength. The limestone grit improves the thickness and breaking strength of the shells and can improve tibia bone strength. Hens will voluntarily consume up to 5.5 grams of limestone grit per day.

Example data sheets for Longcliffe granular calcium carbonates (Longcal P10 and Longcal P7) are provided as Appendix A to this report. The material is quarried carboniferous limestone. The material is crushed, milled and dried and classified to produce a product which is Feed Materials Assurance Scheme (FEMAS) Certified, and transport methods are certified to the Trade Assurance Scheme for Combinable Crops (TASCC). The FEMAS Certificate is also provided within Appendix A.

Chicken manure from Layers therefore contains a larger proportion of grit compared to that which is produced from broilers (raised for meat production) and certain AD plants have pre-treatment processes in place, (grit washing) to remove the grit from the feedstock material before it enters the treatment process; thereby avoiding sedimentation of the grit and a build-up of non-biodegradable material within the Digesters.

Typically, the chicken manure has process water added, is mixed within a cyclone and is then passed through a settlement tank or washer tank. The grit is then settled and filtered from the slurry material.

The process gives rise to washed mechanically separated 'Poultry Grit' which would be of agricultural benefit when spread to land as a liming material and a source of nutrients contributed from the manure.

FGS Organics Ltd is applying to add waste Poultry Grit as a waste to be stored and spread to land under their bespoke mobile plant permit.

A Rapid Evidence Assessment has been prepared based on evidence gleaned from internet-based sources and that provided from a Case Study site Knoxbridge Anaerobic Digestion Plant (File Ref: Grits form chicken manure_Evidence_extraction_V1.0_Apr_25). There is limited analysis of the material available given the Grit washing process was only operational for a short time but that which has been provided has been risk assessed to inform this application and is provided as Appendix B.

An Example Agricultural benefit statement, based on the most extensive analysis available is provided as Appendix B to this report.

3.1 Wase classification

The waste Poultry Grit is derived from 02 01 06 chicken manure which has undergone mechanical treatment and has therefore been classified and described as:

19 12	**wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, pelletising) not otherwise specified**
19 12 12	other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11
19 12 12	Grits from the mechanical treatment of chicken manure

The material is deemed non-hazardous and has passed through the chicken as a feed product. Pathogen risk is the same as that of untreated chicken manure. Chicken manure is subject to Animal By Products Regulations[1] (ABPR) but may be applied to land under Derogation B1 to the ABPR Regulations provided that a waiting period of at least 21 days is observed before cutting or grazing by livestock is observed and any restrictions put in place by the Secretary of State in relation to a suspected disease outbreak are complied with. The Grit is washed but the same conditions should be adhered considering the origin of the waste.

[1] The Animal By-Products Regulations 2005 (SI No. 2347) and the Animal By-Products (Wales) Regulations 2006 (SI No. 1293, W.127)

4 Cooling Tower Silt (10 01 26)

FGS Organics Ltd seeks to add waste silt from Cooling Towers (power station) Waste Code 10 01 26 as a waste to be stored and spread to land under their bespoke mobile plant permit.

A Rapid Evidence Assessment has been prepared based on evidence gleaned from internet-based sources and that provided from a Case Study site SSE Medway Power Station (File Ref: Cooling Tower Silt_Evidence_extraction_V1.0_Apr_25). There is limited analysis of the material available but that which has been provided has been risk assessed to inform this application and is provided as Appendix D.

4.1 Case Study: SSE Medway Power Station

The waste producer is SSE Medway, Medway Power Station, Grain Road Isle Of Grain Rochester Medway ME3 0AG. Th site has a permit reference SO/A03198/A001 listed as site type: Sub-station / Electricity / Gas / Air Conditioning Supply.

SSE Medway Power Station is a natural gas fired 735MW plant located on the Isle of Grain, Kent.

The power station uses two General Electric Frame 9 (9001F) gas turbines which burn natural gas to generate energy.

The exhaust gases from the gas turbines are directed to two Nooter Eriksen heat recovery steam generators (HRSGs) which capture the waste heat from the exhaust to produce steam.

The steam produced from the HRCGs is then used to drive the one General Electric steam turbine to produce more electricity. Cooling towers are heat removal devices used to transfer process waste heat to the atmosphere. Warm water from the system is pumped into the cooling towers and distributed over the large surface area of the 12 no. cells. Air is drawn through each cell by a fan which helps evaporate a portion of the water (drift seen as a mist from the tower). As the wate evaporates it removes heat from the remaining water cooling it down. The cooled water is collected at the bottom of the system where it is condensed and recirculated or returned to the Medway. Water is abstracted from the Medway to be used within the system.

The abstracted cooling water is treated:

- to remove calcium to avoid limescale build up within the cooling towers with the addition of polyphosphate.
- with a shot dose of sodium hypochlorite once a day to eliminate Legionella; and
- during spring and summer with foam inhibitor should algal blooms occur.

The Cooling Water Process Flow is represented in Figure 1 below. The treatment chemicals used and resulting compounds are in solution. Water discharges are monitored and treated prior to discharge. Sediment and salts from evaporation process build up in the base and on walls of the towers. To maintain the efficiency of the towers and ensure limescale and biofilm build up is controlled the towers are washed down and the silt build up removed.

Jet washers are used inside the cooling tower channels and the sediments removed by hand then pumped out using vacuum tankers. The material is currently taken to a wastewater treatment plant for further treatment but has historically been spread to land for agricultural benefit. Figure 2 is an image of

the cooling towers at Medway Power Station and Figure 3 provides images of before and after cleaning and removal of sediment. It is this sediment which could be spread to land.

Figure 1 Cooling water process flow SSSE Medway Power Station

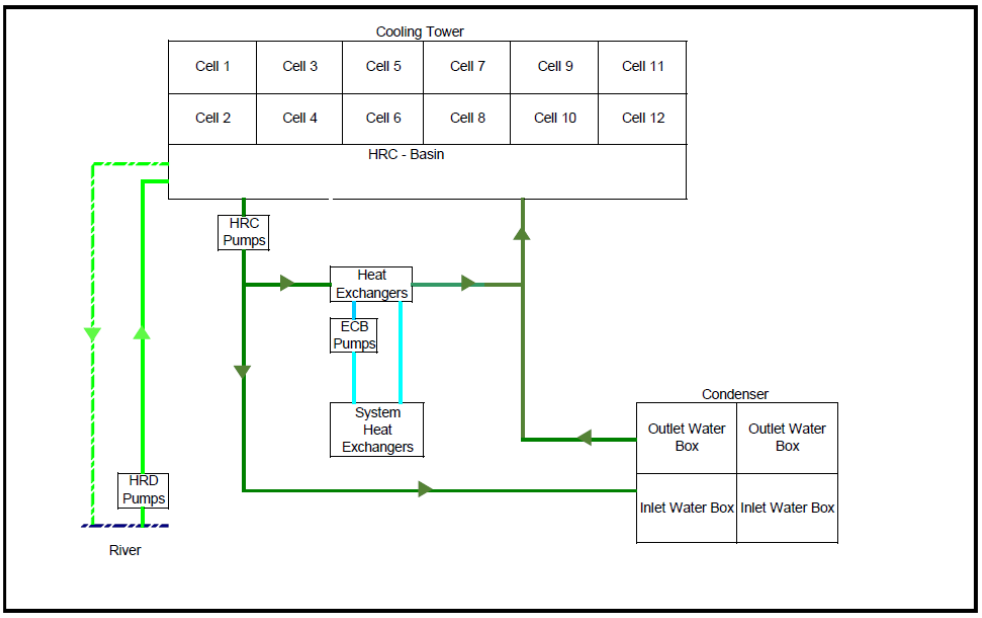


Figure 2 SSE Medway Power Station - cooling towers

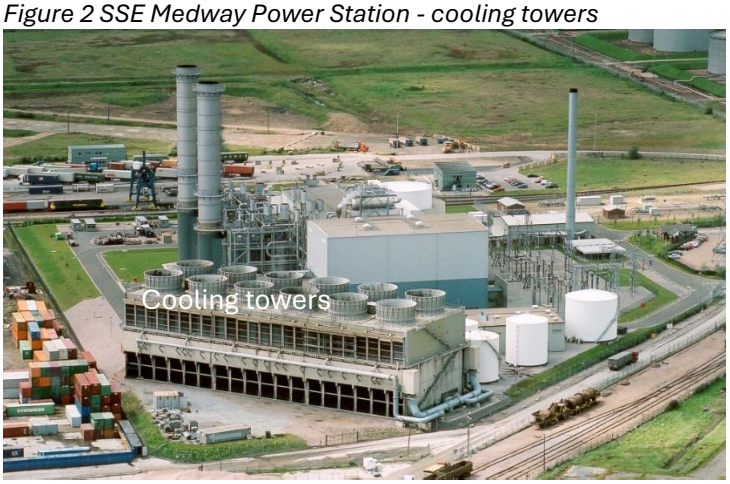


Figure 3 Cleared cooling tower channels (Source: [Medway Cooling Towers Clean Ainsworth Civils and Engineering Limited AC&E])

4.2 Waste classification

From 2015 until 2019 the waste sludge was classified as Waste code 17 05 06 *dredging spoil other than those mentioned in 17 05 05* and recovered to land for agricultural benefit in accordance with Standard Rules SR2010 No.4: Mobile Plant for landspreading. The last deployment number spread was EPR/GP3398LU/D0823. It was subsequently found the waste had been incorrectly described and an alternative disposal route was setup.

The waste was then reclassified as Waste code 10 01 26 *wastes from cooling-water treatment* following a recommendation from the Senior Environment Officer (Agriculture) of the Medway & Rother Team to revisit the classification of the waste. The waste code is classified as follows:

10	**Waste from Thermal Processes**
10 01	Waste from power stations and other combustion plants (except 19)
10 01 26	Wastes from cooling-water treatment

Given the material is only removed once a year the waste was last generated in 2024. An Agricultural benefit statement for the waste has been prepared based on the most extensive analysis available taken 21 April 2023 provided as Appendix E.

The findings of the Rapid Evidence Assessment and Agricultural Benefit Statement produced are that the Cooling Tower Silt waste could be applied to land when actual analysis of the waste is considered on a site-specific basis and where agricultural benefit is proven.

Appendix A: Longcliffe granular calcium carbonates data sheets and FEMAS Certificates

Product Information

HIGH PURITY GRANULAR LIMESTONE

Longcliffe CALCIUM CARBONATES

Longcal P10

Longcal P10 is a granular calcium carbonate produced from very high purity Carboniferous Limestone at the company's Brassington Moor quarry and processing operations in Derbyshire. The material has been crushed, milled, dried and classified to produce a product of exceptional purity and consistency. Granule size is nominally less than 1.50mm.

SPECIFICATION

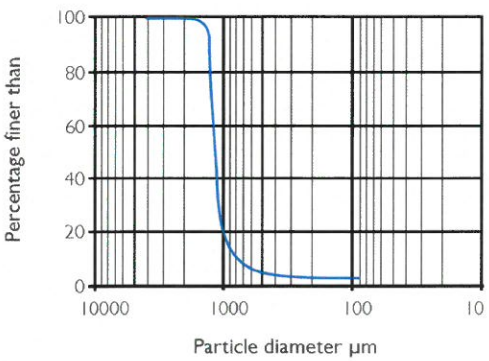
1.70mm	% passing	100 min
0.600mm	% passing	5 max
CaO	% calcium as CaO	55.00 min
$CaCO_3$	% calcium as $CaCO_3$	98.25 min

TYPICAL PROPERTIES

Moisture content (%)	0.05
Loss on ignition (% @ 1000°C)	43.60
Bulk density (loose) (t/m^3)	1.35
Bulk density (compacted) (t/m^3)	1.50
Specific gravity (g/cm^3)	2.65

TYPICAL PARTICLE SIZE DISTRIBUTION

1.70mm	% passing	100
1.40mm	% passing	70 - 90
1.25mm	% passing	40 - 70
1.00mm	% passing	10 - 30
0.600mm	% passing	2



Natural Chemistry...Pure Science

Longcliffe Quarries Ltd
Brassington
Matlock
Derbyshire
DE4 4BZ

Tel: 01629 540284
Fax: 01629 540569
sales@longcliffe.co.uk

www.longcliffe.co.uk

ISO 9001

CERTIFICATE No. 92138

Typical properties quoted in this product information sheet are based on routine production samples. However, due to the raw material's natural origin, variations in colour and physical properties can occur.

All information given and recommendations made herein are based on research and are believed to be accurate. However, no guarantee is made with respect thereto. All Longcliffe's products are sold on the understanding that the user is responsible for determining their suitability for any purpose.

The data presented has been determined by Longcliffe's Standard Test Methods, details of which can be obtained on request.

Issue Number: 020
Date: October 2008

Longcliffe Quarries Ltd
Brassington
Matlock
Derbyshire
DE4 4BZ

Tel: 01629 540284
Fax: 01629 540569
sales@longcliffe.co.uk

www.longcliffe.co.uk

ISO 9001

CERTIFICATE No. 92138

Longcal P10

QUALITY CONTROL

Longcal P10 is tested at a frequency relevant to its production rate and consistency. The results of both laboratory and production monitoring are used to maintain process control.

PACKAGING

Longcal P10 is available in bulk, IBCs and sacks - palletised and shrunk wrapped if required.

STORAGE

Dry storage conditions must be maintained.

HEALTH AND SAFETY

Natural calcium carbonate occurs widely in nature. It is a non-inflammable, non-irritant material with extremely low toxicity. However, respirable dust from calcium carbonate in fine powder form should not be inhaled over a prolonged period as it could constitute a health hazard.

Workplace exposure limits (WEL) for low toxicity dusts such as calcium carbonate are as follows:

Total inhalable dust: 10mg/m^3
Respirable dust: 4mg/m^3

These limits should not be exceeded. Detailed Health and Safety data for this material is available on the appropriate Longcliffe MSDS.

REACH

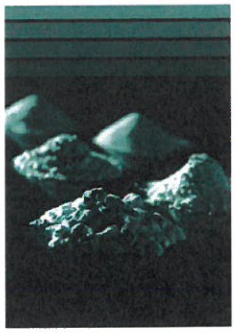
Limestone (CAS: 1317-65-3 & EINECS: 215-279-6) is exempt from the obligation to pre-register under the REACH legislation. The exemption is granted in Annex V, Paragraph 7 as the material is a naturally occurring mineral found in nature.

Product Information

HIGH PURITY GRANULAR LIMESTONE

Longcliffe CALCIUM CARBONATES

Longcal PP7



Longcal PP7 is a granular calcium carbonate produced from very high purity Carboniferous Limestone at the company's Brassington Moor quarry and processing operations in Derbyshire. The material has been crushed, milled, dried and classified to produce a product of exceptional purity and consistency. Granule size is nominally less than 3.35mm.

SPECIFICATION

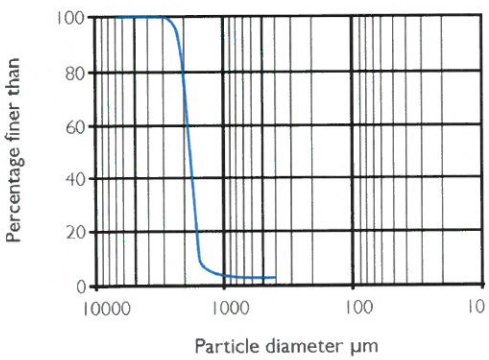
3.35mm	% passing	100 min
0.850mm	% passing	2 max
CaO	% calcium as CaO	55.00 min
$CaCO_3$	% calcium as $CaCO_3$	98.25 min

TYPICAL PROPERTIES

Moisture content (%)	0.05
Loss on ignition (% @ 1000°C)	43.60
Bulk density (loose) (t/m³)	1.32
Bulk density (compacted) (t/m³)	1.49
Specific gravity (g/cm³)	2.65

TYPICAL PARTICLE SIZE DISTRIBUTION

2.80mm	% passing	95 - 100
2.36mm	% passing	80 - 90
1.70mm	% passing	15 - 35
1.40mm	% passing	0 - 5
0.850mm	% passing	1



Natural Chemistry...Pure Science

Longcliffe Quarries Ltd
Brassington
Matlock
Derbyshire
DE4 4BZ

Tel: 01629 540284
Fax: 01629 540569
sales@longcliffe.co.uk

www.longcliffe.co.uk

ISO 9001

CERTIFICATE No. 92138

Typical properties quoted in this product information sheet are based on routine production samples. However, due to the raw material's natural origin, variations in colour and physical properties can occur.

All information given and recommendations made herein are based on research and are believed to be accurate. However, no guarantee is made with respect thereto. All Longcliffe's products are sold on the understanding that the user is responsible for determining their suitability for any purpose.

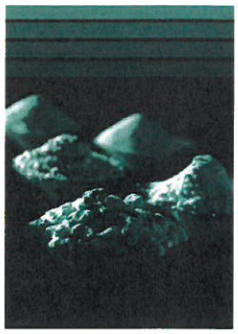
The data presented has been determined by Longcliffe's Standard Test Methods, details of which can be obtained on request.

Issue Number: 020
Date: October 2008

Longcliffe
CALCIUM CARBONATES

HIGH PURITY GRANULAR LIMESTONE

Product Information



Longcliffe Quarries Ltd
Brassington
Matlock
Derbyshire
DE4 4BZ

Tel: 01629 540284
Fax: 01629 540569
sales@longcliffe.co.uk

www.longcliffe.co.uk

ISO 9001

CERTIFICATE No. 92138

Longcal PP7

QUALITY CONTROL

Longcal PP7 is tested at a frequency relevant to its production rate and consistency. The results of both laboratory and production monitoring are used to maintain process control.

PACKAGING

Longcal PP7 is available in bulk, IBCs and sacks - palletised and shrunk wrapped if required.

STORAGE

Dry storage conditions must be maintained.

HEALTH AND SAFETY

Natural calcium carbonate occurs widely in nature. It is a non-inflammable, non-irritant material with extremely low toxicity. However, respirable dust from calcium carbonate in fine powder form should not be inhaled over a prolonged period as it could constitute a health hazard.

Workplace exposure limits (WEL) for low toxicity dusts such as calcium carbonate are as follows:

Total inhalable dust: 10mg/m^3
Respirable dust: 4mg/m^3

These limits should not be exceeded. Detailed Health and Safety data for this material is available on the appropriate Longcliffe MSDS.

REACH

Limestone (CAS: 1317-65-3 & EINECS: 215-279-6) is exempt from the obligation to pre-register under the REACH legislation. The exemption is granted in Annex V, Paragraph 7 as the material is a naturally occurring mineral found in nature.

Certificate of Conformity

Kiwa Agri Food certifies that

Longcliffe Quarries Ltd

complies with the requirements of the following scheme:

FEMAS

Feed Materials Assurance Scheme 2019 : August 2021 v2.1

Site Addresses

Brassington, MATLOCK, DE4 4BZ
Longcliffe Quarries Ltd Limeplant, Longcliffe Crossroads, Brassington, MATLOCK, DE4 4HN

Scope of Operation

The production of bulk and packaged calcium carbonate from first time quarried limestone. The packing and storage of packaged calcium carbonate contracted to a third party. The packing of calcium oxide contracted to a third party. The trading of feed ingredients purchased from suppliers certified to AIC recognised certification schemes

Expiry Date:	**28/02/2025**
Scheme ID No.:	29245
Certificate No.:	29339
Certificate Issue	205866-3
Valid From:	01/03/2022
Original Issue:	20/02/2004

Hannah Adams

Kiwa Agri Food Authorised Signatory

Kiwa Agri Food is a trading name of Kiwa Ltd.

UKAS PRODUCT CERTIFICATION
072

The use of the UKAS accreditation mark indicates accreditation in respect of those activities covered by accreditation certificate 072

Appendix B: Poultry Grits NRM Analysis Summary

Poultry Grit 19 12 12 waste from mechanical separation of manures

Note: Results on a dry matter basis unless otherwise stated

Sample Ref:		17750-134347	10590-133441	Mean	Min	Max	SD	n
Date received:		13/05/2022	04/04/2022					
Inorganics								
Total Kjeldahl nitrogen	%w/w	1.57	1.82	1.70	1.57	1.82	0.18	2
Total carbon	%w/w	n/a	14.9	14.90	14.90	14.90		1
Nitate nitrogen	mg/kg	10	10	10.00	10.00	10.00	0.00	2
Ammonium nitrogen	mg/kg	9991	8503	9247.00	8503.00	9991.00	1052.17	2
Total phosphorus	mg/kg	2520	1240	1880.00	1240.00	2520.00	905.10	2
Total potassium	mg/kg	2450	1960	2205.00	1960.00	2450.00	346.48	2
Total magnesium	mg/kg	2250	1409	1829.50	1409.00	2250.00	594.68	2
Total sulphur	mg/kg	660	605	632.50	605.00	660.00	38.89	2
Total sodium	mg/kg	520	492	506.00	492.00	520.00	19.80	2
PTEs								
Total copper	mg/kg	10.3	7.24	8.77	7.24	10.30	2.16	2
Total zinc	mg/kg	107	65.9	86.45	65.90	107.00	29.06	2
Total Lead	mg/kg	4.87	5.13	5.00	4.87	5.13	0.18	2
Total cadmium	mg/kg	2.39	1.46	1.93	1.46	2.39	0.66	2
Total mercury	mg/kg	0.1	0.1	0.10	0.10	0.10	0.00	2
Total nickel	mg/kg	3.3	3.19	3.25	3.19	3.30	0.08	2
Tota chromium	mg/kg	9.38	12.8	11.09	9.38	12.80	2.42	2
Total Arsenic	mg/kg	0.775	0.5	0.64	0.50	0.78	0.19	2
Total molybdenum	mg/kg	0.574	0.46	0.52	0.46	0.57	0.08	2
Total selenium	mg/kg	0.109	0.31	0.21	0.11	0.31	0.14	2
Flouride (100:1 H2SO4)	mg/kg	10	10	10.00	10.00	10.00	0.00	2
Organics								
pH 1:6	(fresh)	9	8.81	8.91	8.81	9.00	0.13	2
Oven Dry Solids	%	71.4	70.5	70.95	70.50	71.40	0.64	2
Conductivity 1:6	µS/cm	5040	2651	3845.50	2651.00	5040.00	1689.28	2
Oils, fats and grease	mg/kg	n/a	2753	2753.00	2753.00	2753.00		1
Organic Matter LOI	%w/w	9.38	8.8	9.09	8.80	9.38	0.41	2
NV Equiv. CaCO3	%w/w	83.5	87.7	85.60	83.50	87.70	2.97	2
NV Equiv. CaO	%w/w	46.8	49.2	48.00	46.80	49.20	1.70	2

KELLY METELEWA
GREEN CREATE W2V
KENT LTD
40 CRAVEN STREET
LONDON
WC2N 5NG

W733

Please quote above code for all enquiries

KELLY METELEWA

MANURE GRIT

MANURE GRIT (Metric Units)

Sample Reference : MANURE GRIT

Sample Matrix : MANURE GRIT

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

The sample will be kept as the dry ground sample for at least 1 month.

Laboratory References	
Report Number	17750
Sample Number	134347

Date Received	13-MAY-2022
Date Reported	01-JUN-2022

ANALYTICAL RESULTS

Determinand on a DM basis unless otherwise indicated	Units	Result	Amount per fresh tonne	Amount applied at an equivalent total Nitrogen application of 250 kg N/ha	Units
pH 1:6 [Fresh]		9.00			
Oven Dry Matter	%	71.4	714.00	15924	kg DM
Total Nitrogen	% w/w	1.57	11.21	250	kg N
Ammonium Nitrogen	mg/kg	9991	7.13	159.09	kg NH4-N
Nitrate Nitrogen	mg/kg	<10	< 0.01		kg NO3-N
Total Phosphorus (P)	% w/w	0.252	4.12	91.89	kg P2O5
Total Potassium (K)	% w/w	0.245	2.10	46.82	kg K2O
Total Magnesium (Mg)	% w/w	0.225	2.67	59.47	kg MgO
Total Sulphur (S)	% w/w	0.066	1.18	26.27	kg SO3
Total Copper (Cu)	mg/kg	10.3	0.01	0.16	kg Cu
Total Zinc (Zn)	mg/kg	107	0.08	1.70	kg Zn
Total Sodium (Na)	% w/w	0.052	0.50	11.16	kg Na2O
Total Calcium (Ca)	mg/kg	367894	262.68	5858.18	kg Ca
Equivalent field application rate		—	1.00	22.30	tonnes/ha

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

Released by ..... *Linaben Patel* ..... Date ..... *01/06/22* .....

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

KELLY METELEWA
GREEN CREATE W2V
KENT LTD
40 CRAVEN STREET
LONDON
WC2N 5NG

W733

Please quote above code for all enquiries

KELLY METELEWA

MANURE GRIT

MANURE GRIT (Metric Units)

Sample Reference : MANURE GRIT

Sample Matrix : MANURE GRIT

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

The sample will be kept as the dry ground sample for at least 1 month.

Laboratory References	
Report Number	17750
Sample Number	134347

Date Received	13-MAY-2022
Date Reported	01-JUN-2022

ANALYTICAL RESULTS

Determinand on a DM basis unless otherwise indicated	Units	Result
Conductivity 1:6 [Fresh]	uS/cm	5040
Total Molybdenum (Mo)	mg/kg	0.574
Total Lead (Pb)	mg/kg	4.87
Total Cadmium (Cd)	mg/kg	2.39
Total Mercury (Hg)	mg/kg	<0.1
Total Nickel (Ni)	mg/kg	3.30
Total Chromium (Cr)	mg/kg	9.38
Organic Matter LOI	% w/w	9.98
Lime Equivalent as CaCO3	% w/w	83.5
Fluoride [100:1 H2S04 Soluble]	mg/kg	<10
Total Arsenic (As)	mg/kg	0.775
Total Selenium (Se)	mg/kg	0.109
N. V. as CaO equivalents	% w/w	46.8

Released by ..... *Linaben Patel* ..... Date ..... *01/06/22* .....

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

MR ANDREW WEST
FGS AGRI LTD
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

MR ANDREW WEST

GREEN CREATE GRIT

Reference : G FRANKLIN

GRIT ANALYSIS RESULTS

Sample Reference :

GREEN CREATE 1/4/22

Sample Matrix : GRIT

Laboratory References	
Report Number	10590
Sample Number	133441

Date Received	04-APR-2022
Date Reported	21-APR-2022

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

The sample will be kept as the dry ground sample for at least 1 month.

ANALYTICAL RESULTS *on 'dry matter' basis.*

Determinand	Value	Units
Oven Dry Matter	70.5	%
E Coli [Fresh]	15000	cfu/g
Conductivity 1:6 [Fresh]	2651	uS/cm
Total Nitrogen	1.82	% w/w
Total Carbon	14.9	% w/w
C:N Ratio	8:1	
Nitrate Nitrogen	<10	mg/kg
Ammonium Nitrogen	8503	mg/kg
Total Phosphorus (P)	1240	mg/kg
Total Potassium (K)	1960	mg/kg

Released by *Myles Nicholson* Date *21/04/22*

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

MR ANDREW WEST
FGS AGRI LTD
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

MR ANDREW WEST

GREEN CREATE GRIT

Reference : G FRANKLIN

GRIT ANALYSIS RESULTS

Laboratory References	
Report Number	10590
Sample Number	133441

Sample Reference :

GREEN CREATE 1/4/22

Sample Matrix : GRIT

Date Received	04-APR-2022
Date Reported	21-APR-2022

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

The sample will be kept as the dry ground sample for at least 1 month.

ANALYTICAL RESULTS *on 'dry matter' basis.*

Determinand	Value	Units
Total Magnesium (Mg)	1409	mg/kg
Total Copper (Cu)	7.24	mg/kg
Total Zinc (Zn)	65.9	mg/kg
Total Sulphur (S)	605	mg/kg
Total Molybdenum (Mo)	0.46	mg/kg
Total Lead (Pb)	5.13	mg/kg
Total Cadmium (Cd)	1.46	mg/kg
Total Mercury (Hg)	<0.1	mg/kg
Total Nickel (Ni)	3.19	mg/kg
Total Chromium (Cr)	12.8	mg/kg

Released by ..... *Myles Nicholson* ..... Date ..... *21/04/22* .....

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

MR ANDREW WEST
FGS AGRI LTD
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

MR ANDREW WEST

GREEN CREATE GRIT

Reference : G FRANKLIN

GRIT ANALYSIS RESULTS

Sample Reference :

GREEN CREATE 1/4/22

Sample Matrix : GRIT

Laboratory References	
Report Number	10590
Sample Number	133441

Date Received	04-APR-2022
Date Reported	21-APR-2022

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

The sample will be kept as the dry ground sample for at least 1 month.

ANALYTICAL RESULTS *on 'dry matter' basis.*

Determinand	Value	Units
Total Sodium (Na)	492	mg/kg
pH 1:6 [Fresh]	8.81	
Organic Matter LOI	8.8	% w/w
Lime Equivalent as CaCO3	87.7	% w/w
Total Aluminium	61.8	mg/kg
Fluoride [100:1 H2S04 Soluble]	<10	mg/kg
Total Arsenic (As)	<0.5	mg/kg
Total Selenium (Se)	0.31	mg/kg
Oils,Fats and Grease	2753	mg/kg
Salmonella spp [fresh]	Negative	in 25g

Released by *Myles Nicholson* Date *21/04/22*

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

MR ANDREW WEST
FGS AGRI LTD
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

MR ANDREW WEST

GREEN CREATE GRIT

Reference : G FRANKLIN

GRIT ANALYSIS RESULTS

Sample Reference :

GREEN CREATE 1/4/22

Sample Matrix : GRIT

Laboratory References	
Report Number	10590
Sample Number	133441

Date Received	04-APR-2022
Date Reported	21-APR-2022

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

The sample will be kept as the dry ground sample for at least 1 month.

ANALYTICAL RESULTS *on 'dry matter' basis.*

Determinand	Value	Units
Neutralising Value as CaO [TNV]	49.2	% w/w

Released by *Myles Nicholson* Date *21/04/22*

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

Appendix C: Poultry Grits Example Agricultural Benefit Statement

Poultry Grit Example Agricultural Benefit Statement

On behalf of FGS Organics Ltd.

Prepared by:

Anna Becvar
Earthcare Technical Ltd.
Netherley Cottage
Chalton
Waterlooville
Hants PO8 0BG

Tel: 02392 290 488
anna@earthcaretechnical.co.uk

09 April 2025

1 Qualifications and technical expertise

Name: Anna Becvar

Technical qualifications: BSc (Hons) Soils and Plant Nutrition MI Soil Sci C Sci MBPR

FACTS registration number: 20003286 RFE/414

Experience: Anna Becvar has a degree in Soils and Plant Nutrition is FACTS Qualified, holds the advanced BASIS Modules in NMP and Waste to Land and is a BASIS approved trainer for these courses. She has over 25 years' experience. She is experienced in the assessment of materials to be recycled to land and is versant with legislative requirements including those of Nitrate Vulnerable Zones, Regulations, and Good Practice Guidance. She is a Chartered Scientist.

2 Waste recovery without harm

We can confirm the deployment is a waste recovery activity based on the 5 waste recovery tests and the information we have supplied in this benefit statement. This deployment will provide agricultural benefit to the soil and crop. The Poultry Grit waste is an effective liming material and source of readily available nutrients.

This deployment application relates to permit number: EPR/ BB3603XR /A001 FGS Organics Ltd.

The following additional guidance and regulations will be followed:

- Nutrient Management Guide RB209[1].
- The Reduction and Prevention of Agricultural Diffuse Pollution (England) Regulations 2018 referred to as The Farming Rules for Water (FfRW).[2]
- Nitrate Vulnerable Zone Rules where applicable[3].
- Protecting our water, soil, and air: The Codes of Good practice (COGAP) for Soil, Water and Air[4].
- COGAP for reducing ammonia emissions, 2018[5].
- Guidance: Land spreading to improve soil health[6].

3 Waste type

Waste producer: Knoxbridge Farm Anaerobic Digestion Facility, Knoxbridge Farm, Cranbrook Road Knoxbridge, Kent TN17 2BT
Permit No.: EPR/PP3939QL
Site Type: Anaerobic Digestion Facility Bespoke Permit

Waste analysis upon which the benefit statement is based is provided as Appendix A to this report.

3.1 Waste code 19 12 12

A mixture of wastes from the mechanical separation of grits from livestock manure, hereafter referred to as 'Poultry Grit'

The waste is subject to Animal By-Product Regulations (ABPRs) but is exempt from ABPR controls when spread to land under Authorisation B, however precautionary controls are recommended within this benefit statement.

[1] Nutrient Management Guide (RB209) | AHDB
[2] Applying the farming rules for water - GOV.UK (www.gov.uk)
[3] Nitrate vulnerable zones - GOV.UK (www.gov.uk)
[4] Protecting our water, soil and air - GOV.UK (www.gov.uk)
[5] Code of Good Agricultural Practice (COGAP) for Reducing Ammonia Emissions - GOV.UK (www.gov.uk)
[6] Landspreading to improve soil health - GOV.UK (www.gov.uk)

4 Waste storage and spreading

Storage: The waste Poultry Grits will be stored in destination field heaps at a minimum of 150m from occupied dwellings. There is an odour management plan in place which will be enacted if odour is reported, and the material may be covered or removed. It is recommended that Poultry Grits are stored for a minimum 8 weeks prior to spreading. Best practice is to spread manure on arable land rather than pasture or land cropped for animal feed. Take appropriate hygiene measures when spreading manure e.g. outer clothing, waterproof footwear and good hand washing.

5 Operational details

5.1 Spreading

The material will be spread with a rear discharge spread capable of accurate application of a liming material, which may apply to only certain mapped areas of the field. The waste will be soil incorporated within 12 hours or as soon as is practical ahead of drilling crops. The waste may be stockpiled in readiness for this application as is recommended.

5.2 Timing of application

Applications will be made to meet crop need and timed in accordance with the requirements of the Framing Rules for Water and Nitrate Vulnerable Zone Rules (when relevant) considering the liming requirements of the field to be spread.

5.3 Cropping details

An example recommendation has been prepared for a crop of winter oilseed rape, grown within an arable rotation, with the Poultry Grits to be spread in the autumn (Aug-Sept) and soil incorporated.

6 Benefits and nutrients supplied to the land, soil, or crops

The waste will be applied to replace the use of quarried lime given that the material has itself been quarried but is produced as a waste following the mechanical treatment of poultry manure. Given the Poultry Grits are a mixed waste and contain residues of manure the waste will also provide major nutrients to replace manufactured fertilisers.

An example application with soils at target index levels and low pH has been prepared.

The waste contains ammonium nitrogen and is 50% readily available nitrogen (RAN) by analysis and is therefore subject to NVZ closed periods. Crop available N is estimated to be 45% from the waste during the season of application.

The waste contains organic matter from the organic manure, but the accuracy of the test result is questioned given it has been analysed using the 'loss on ignition' method which would have also burnt a proportion of the calcium carbonate present and quantified this as total carbon from which the organic matter result has been calculated.

Table 1 Poultry Grit waste nutrients provided based on analysis Report No.10590-133441

	Total Nitrogen (N)	**Total Ammonium-N (NH4-N)**	**Total phosphate (P_2O_5)**	**Total Potash (K_2O)**	**Total Magnesium (MgO)**	**Total Sulphur (SO_3)**
	(kg/ha)					
1t/ha	12.831	5.995	2.003	1.665	1.647	1.066
5 t/ha	13	6	2	4	2	1

Recommendations have been made based on example soil analysis results and using the Nutrient Management Guide (RB209). All land is assumed to be within a sulphur deficient area and crops will benefit from the small quantity of added sulphur from the material.

Table 2 Calculated crop offtakes

	Phosphate (P_2O_5) kg/ha	Potash (K_2O) kg/ha
Winter oilseed rape 4.75t/ha	67	52

The lime recommendation made assumes soils are within an arable rotation and are a silt loam with an initial soil pH of 6.0. The neutralising value of the Poultry Grits is 49.2% w/w as CaO (TNV) like that of Screened limestone (50% TNV). Around 4t/ha of lime is required lime to correct a soil pH of 6.4 but this is adjusted to account for a ~50% neutralising value to be 5t/ha. This recommendation has been carried out using the ALA Lime calculator tool[7].

Table 3 Example recommendation

Field Name	**Soil type**	**pH**	**SNS Index**	**P**	**K**	**Mg**	**SO_3**
Example Field	Medium	6.4	1	2	2-	1	Low
Crop 2025/26: Winter oilseed rape 4.75t/ha		**Lime Req.**	**N**	**P_2O_5**	**K_2O**	**MgO**	**SO_3**
Crop requirement for Ag lime (t/ha)		4	30+190	67	52	0	75
Total nutrients and lime supplied by 5 t/ha (kg/ha)		**4**	**13**	**2**	**4**	**2**	**1**
Estimated crop available (kg/ha)			6	1	4		1
Balance of nutrients and lime required (kg/ha)		0	24	65	48	0	74

[7] ALA Lime calculator

7 Potential negative impacts to the land, soil, and crops

The waste contains potentially toxic elements well below Soil Guideline Values and has therefore been compared to limits set within the Sludge Use (in Agriculture) Regulations and given with the Sewage sludge in agriculture: code of practice for England, Wales and Northern Ireland[8] for the maximum average allowable annual addition over a 10-year period. The applied values are compared in Table 4 below.

Additions are acceptable within the example analysis but will be assessed based on the analysis of the Poultry Grits that will potentially be spread.

Annual Addition of Potentially Toxic Elements (kg/ha) versus SUiAR limit for max average allowable annual addition over a 10-year period			
Potentially Toxic Element	**kg/ha Applied**	**SUiAR Limit (kg/ha)**	**% of limit**
Copper (Cu)	0.0051	**7.5**	0.1
Zinc (Zn)	0.0465	**15**	0.3
Cadmium (Cd)	0.0010	**0.15**	0.7
Mercury (Hg)	0.0001	**0.1**	0.1
Lead (Pb)	0.0036	**15**	0.0
Arsenic (As)	0.0004	**1**	0.1
Chromium (Cr)	0.0090	**15**	0.1
Nickel (Ni)	0.0022	**3**	0.1
Molybdenum (Mo)	0.0003	**0.2**	0.2
Selenium (Se)	0.0002	**0.15**	0.1
Fluoride (F)	0.0071	**20.0**	0.0

The waste pH is 8.81 and is a liming material.

Conductivity is moderate at 2651 uS/cm. Sodium levels are low and should not be detrimental to plant growth with 0.47 kg Na_2O /ha applied if the Poultry Grit is spread at a rate of 5 t/ha.

Aluminium levels reflect the Poultry Manure's inherent levels and should not be available since the waste is pH7.94. Therefore, the silt is at low risk of inducing toxicity.

Salmonella spp is Negative; but E. coli levels are 15,000 cfu/g given the waste is a mixture of limestone grit and chicken manure this is as expected. The waste should be spread ahead of drilling arable crops with a long harvest interval to mitigate risks to human health.

Good practice will be followed when the material is applied to mitigate risk of pollution given the material is predicted to have a high Biological and Chemical Oxygen demand should it enter a surface water.

Oils, fats, and grease are 0.19% by weight and therefore pose a low risk of coating or clogging soil particles.

7.1 Other potential negative impacts

The waste Poultry Grits may be odorous and should therefore be stored and spread with careful consideration of human receptors within the vicinity.

[8] https://www.gov.uk/government/publications/sewage-sludge-in-agriculture-code-of-practice/sewage-sludge-in-agriculture-code-of-practice-for-england-wales-and-northern-ireland

8 Sensitive human and environmental receptors

A site-specific environmental risk assessment will be carried out for each deployment considering human and ecological receptors based on the Generic Risk Assessment for SR2010No.4.

8.1 Human receptors

Storage heaps will be placed as far away as possible from human receptors and at a minimum of 150m away.

Dwellings in proximity to the fields to be spread will be buffered by a 10 metre no spread area on the perimeter of the field. Public rights of way will be clearly marked on spread risk maps and all spreading will cease if a member of the public enters the field. The material will be soil incorporated within 12 hours and as soon as is practical to do so.

8.2 Ecological receptors

The Poultry Grit waste is high in readily available nitrogen (50% RAN) and at risk of volatilisation so should therefore be stored at least 200m from a designated ecological receptor.

Proximity to ecological receptors to each field to be spread will be measured and additional measures may be put in place such as no spread buffer zones to protect ecology.

All surface waters will be buffered by a 10m no spread margin. Boreholes will be buffered by 50m.

Additional measures may be identified as part of the site-specific risk assessment.

9 Actions to reduce impacts on identified sensitive receptors

Spreading will only be undertaken when weather and soil conditions are suitable.

The material will be applied with a rear discharge spreader and soil incorporated within 12 hours or as soon as is practicable.

Machinery field operations will always be carried out avoiding soil damage e.g., machinery turns will be gentle to avoid ruts and wheel slip within buffer strips.

Machinery will be checked daily when being used for spreading operations. All machinery is regularly serviced and spreading equipment is calibrated.

A dynamic risk assessment of wind direction and speed, prevailing weather conditions will be carried out during spreading operations and spreading will cease if conditions are deemed unsuitable.
Operations will not be carried out in:

- Heavy rain
- When heavy rain is imminent or there is risk of flooding.
- High winds
- Frozen or snow-covered ground
- When weather conditions are assessed to be likely to interfere with operations.

Spreading will be carried out in accordance with the agreed spread risk maps which are provided to all spreader operators. No spreading will occur in no spread zones.

10 Contingency planning

There is a written Environmental Management System (EMS) in place and accident management plan.
Machinery is serviced on a regular basis and replacement equipment and parts are available.
A record keeping system is in place to record all applications as well as incidents.

Appendix A: Example Poultry Grit Analysis on which this statement is based

MR ANDREW WEST
FGS AGRI LTD
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

MR ANDREW WEST

GREEN CREATE GRIT

Reference : G FRANKLIN

GRIT ANALYSIS RESULTS

Sample Reference :

GREEN CREATE 1/4/22

Sample Matrix : GRIT

Laboratory References	
Report Number	10590
Sample Number	133441

Date Received	04-APR-2022
Date Reported	21-APR-2022

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

The sample will be kept as the dry ground sample for at least 1 month.

ANALYTICAL RESULTS *on 'dry matter' basis.*

Determinand	Value	Units
Oven Dry Matter	70.5	%
E Coli [Fresh]	15000	cfu/g
Conductivity 1:6 [Fresh]	2651	uS/cm
Total Nitrogen	1.82	% w/w
Total Carbon	14.9	% w/w
C:N Ratio	8:1	
Nitrate Nitrogen	<10	mg/kg
Ammonium Nitrogen	8503	mg/kg
Total Phosphorus (P)	1240	mg/kg
Total Potassium (K)	1960	mg/kg

Released by *Myles Nicholson* Date *21/04/22*

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

MR ANDREW WEST
FGS AGRI LTD
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

MR ANDREW WEST

GREEN CREATE GRIT

Reference : G FRANKLIN

GRIT ANALYSIS RESULTS

Laboratory References	
Report Number	10590
Sample Number	133441

Sample Reference :

GREEN CREATE 1/4/22

Sample Matrix : GRIT

Date Received	04-APR-2022
Date Reported	21-APR-2022

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

The sample will be kept as the dry ground sample for at least 1 month.

ANALYTICAL RESULTS *on 'dry matter' basis.*

Determinand	Value	Units
Total Magnesium (Mg)	1409	mg/kg
Total Copper (Cu)	7.24	mg/kg
Total Zinc (Zn)	65.9	mg/kg
Total Sulphur (S)	605	mg/kg
Total Molybdenum (Mo)	0.46	mg/kg
Total Lead (Pb)	5.13	mg/kg
Total Cadmium (Cd)	1.46	mg/kg
Total Mercury (Hg)	<0.1	mg/kg
Total Nickel (Ni)	3.19	mg/kg
Total Chromium (Cr)	12.8	mg/kg

Released by ..... *Myles Nicholson* ..... Date ..... *21/04/22* .....

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

MR ANDREW WEST
FGS AGRI LTD
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

MR ANDREW WEST

GREEN CREATE GRIT

Reference : G FRANKLIN

GRIT ANALYSIS RESULTS

Sample Reference :

GREEN CREATE 1/4/22

Sample Matrix : GRIT

Laboratory References	
Report Number	10590
Sample Number	133441

Date Received	04-APR-2022
Date Reported	21-APR-2022

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

The sample will be kept as the dry ground sample for at least 1 month.

ANALYTICAL RESULTS *on 'dry matter' basis.*

Determinand	Value	Units
Total Sodium (Na)	492	mg/kg
pH 1:6 [Fresh]	8.81	
Organic Matter LOI	8.8	% w/w
Lime Equivalent as CaCO3	87.7	% w/w
Total Aluminium	61.8	mg/kg
Fluoride [100:1 H2S04 Soluble]	<10	mg/kg
Total Arsenic (As)	<0.5	mg/kg
Total Selenium (Se)	0.31	mg/kg
Oils,Fats and Grease	2753	mg/kg
Salmonella spp [fresh]	Negative	in 25g

Released by *Myles Nicholson* Date *21/04/22*

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

MR ANDREW WEST
FGS AGRI LTD
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

MR ANDREW WEST

GREEN CREATE GRIT

Reference : G FRANKLIN

GRIT ANALYSIS RESULTS

Sample Reference :

GREEN CREATE 1/4/22

Sample Matrix : GRIT

Laboratory References	
Report Number	10590
Sample Number	133441

Date Received	04-APR-2022
Date Reported	21-APR-2022

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

The sample will be kept as the dry ground sample for at least 1 month.

ANALYTICAL RESULTS *on 'dry matter' basis.*

Determinand	Value	Units
Neutralising Value as CaO [TNV]	49.2	% w/w

Released by *Myles Nicholson* Date *21/04/22*

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

Appendix D: Cooling Tower Silt NRM Analysis Summary

SSE Medway 10 01 26 wastes from cooling-water treatment

Sample Ref:		35760-151807	68483-136517	14623-121837	51409-81237	13290-91439	61913-56158	26309-45980	75169-35239	Mean	Min	Max	SD	n
Date received:		09/05/2024	21/04/2023	26/04/2022	09/04/2019	17/05/2018	13/06/2017	29/07/2016	17/07/2015					
Inorganics														
Total Kjeldahl nitrogen	%w/w	0.01	0.3	0.01	0.04	0.06	1.11	0.04	0.03	0.20	0.01	1.11	0.38	8
Total carbon	%w/w	0.3	0.407	0.09	1.38	1.19	0.06	1.67	0.7	0.72	0.06	1.67	0.62	8
Nitate nitrogen	mg/kg	10	10	10	10	10	10	10	10	10.00	10.00	10.00	0.00	8
Ammonium nitrogen	mg/kg	25	918	25	50	15	20.4	15	10	134.80	10.00	918.00	316.70	8
Total phosphorus	mg/kg	174	125	5	402	580	356	402	204	281.00	5.00	580.00	186.01	8
Total potassium	mg/kg	509	589	353	1192	1460	1293	1302	1074	971.50	353.00	1460.00	423.10	8
Total magnesium	mg/kg	1365	1594	1195	3673	4323	4061	4289	3141	2955.13	1195.00	4323.00	1357.64	8
Total sulphur	mg/kg	538	948	797	1934	1829	1971	1911	1863	1473.88	538.00	1971.00	602.14	8
Total sodium	mg/kg	1963	6948	12172	8352	5625	10305	9219	16083	8833.38	1963.00	16083.00	4264.47	8
Total Aluminium	mg/kg		1105	6.24	3036	4230	3397	4289	1677	2534.32	6.24	4289.00	1639.07	7
PTEs														
Total copper	mg/kg	4.6	3.81	0.2	12	13	8.89	13.3	5.91	7.71	0.20	13.30	4.83	8
Total zinc	mg/kg	44.6	28.5	0.5	98.4	316	80.5	313	49.9	116.43	0.50	316.00	125.84	8
Total Lead	mg/kg	3.84	3.54	0.5	10.2	14.4	9.5	10.3	5.51	7.22	0.50	14.40	4.60	8
Total cadmium	mg/kg	0.01	0.01	0.01	0.05	0.07	0.04	0.06	0.02	0.03	0.01	0.07	0.02	8
Total mercury	mg/kg	0.05	0.05	0.05	0.06	0.08	0.05	0.06	0.05	0.06	0.05	0.08	0.01	8
Total nickel	mg/kg	4.82	3.97	0.2	10.9	14.8	9.96	12.6	5.254	7.81	0.20	14.80	4.99	8
Tota chromium	mg/kg	6.61	6.14	0.2	17.4	24.1	15.1	17.4	6.99	11.74	0.20	24.10	7.94	8
Total Arsenic	mg/kg		1.6	5	5.05	5.77	n/a	n/a	n/a	4.36	1.60	5.77	1.87	4
Total molybdenum	mg/kg	0.75	0.719	0.05	2.75	2.73	n/a	n/a	n/a	1.40	0.05	2.75	1.26	5
Total selenium	mg/kg		0.033	0.02	0.09	0.13	n/a	n/a	n/a	0.07	0.02	0.13	0.05	4
Flouride (100:1 H2SO4)	mg/kg		10	10	44.3	45.6	n/a	n/a	n/a	27.48	10.00	45.60	20.19	4
Organics														
pH 1:6	(fresh)	8.28	7.94	7.68	7.87	8.1	8.08	7.8	7.68	7.93	7.68	8.28	0.21	8
Oven Dry Solids	%	39.6	8.28	3.46	40.2	56	44.2	57.3	32.4	35.18	3.46	57.30	19.95	8
Conductivity 1:6	µS/cm	1614	6544	7729	6906	4790	8960	7040	11500	6885.38	1614.00	11500.00	2894.07	8
Oils, fats and grease	mg/kg		200	200	200	200	280	580	200	265.71	200.00	580.00	141.76	7
Organic Matter LOI	%w/w		0.562	0.42	1.79	2.13	1.83	1.57	2.14	1.49	0.42	2.14	0.71	7
NV Equiv. CaCO3	%w/w		2	2	5.9	8.68	5.2	8.8	2.4	5.00	2.00	8.80	2.99	7
NV Equiv. CaO	%w/w		1.1	1	3.3	4.87	2.9	4.9	1.4	2.78	1.00	4.90	1.69	7

MISS ALEXIS NOONAN
FGS ORGANICS
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

MISS ALEXIS NOONAN

SLUDGE

SLURRY/SLUDGE ANALYSIS RESULTS

Laboratory References	
Report Number	35760
Sample Number	151807

Sample Reference :

SSE MEDWAY CW SLUDGE

Sample Matrix : SLURRY/SLUDGE

Date Received	09-MAY-2024
Date Reported	05-JUN-2024

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	39.6	%
Conductivity 1:6	1614	uS/cm
Total Kjeldahl Nitrogen	<0.01	% w/w
Total Carbon	0.30	% w/w
Nitrate Nitrogen	<10	mg/kg
Ammonium Nitrogen	<25	mg/kg
Total Phosphorus (P)	174	mg/kg
Total Potassium (K)	509	mg/kg
Total Magnesium (Mg)	1365	mg/kg
Total Copper (Cu)	4.60	mg/kg

Released by ..... *Daniel Petty* ..... Date ..... *05/06/24* .....

MISS ALEXIS NOONAN
FGS ORGANICS
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

MISS ALEXIS NOONAN

SLUDGE

SLURRY/SLUDGE ANALYSIS RESULTS

Laboratory References

Report Number	35760
Sample Number	151807

Sample Reference :

SSE MEDWAY CW SLUDGE

Sample Matrix : SLURRY/SLUDGE

Date Received	09-MAY-2024
Date Reported	05-JUN-2024

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)	44.6	mg/kg
Total Sulphur (S)	538	mg/kg
Total Molybdenum (Mo)	0.75	mg/kg
Total Lead (Pb)	3.84	mg/kg
Total Cadmium (Cd)	0.01	mg/kg
Total Mercury (Hg)	<0.05	mg/kg
Total Nickel (Ni)	4.82	mg/kg
Total Chromium (Cr)	6.61	mg/kg
Total Sodium (Na)	1963	mg/kg
pH 1:6 [Fresh]	8.28	

Released by *Daniel Petty* Date *05/06/24*

MISS ALEXIS NOONAN
FGS ORGANICS
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

MISS ALEXIS NOONAN

SLUDGE

SLURRY/SLUDGE ANALYSIS RESULTS

Sample Reference :

SSE MEDWAY CW SLUDGE

Sample Matrix : SLURRY/SLUDGE

Laboratory References	
Report Number	35760
Sample Number	151807

Date Received	09-MAY-2024
Date Reported	05-JUN-2024

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	0.58	% w/w
Lime Equivalent as CaCO3	2.1	% w/w
Total Aluminium	1486	mg/kg
Fluoride [100:1 H2S04 Soluble]	18.7	mg/kg
Total Arsenic (As)	1.80	mg/kg
Total Selenium (Se)	0.02	mg/kg
Oils,Fats and Grease	<200	mg/kg
Neutralising Value as CaO [TNV]	1.2	% w/w

Released by *Daniel Petty* Date *05/06/24*

MISS ALEXIS NOONAN
FGS ORGANICS
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

MISS ALEXIS NOONAN

SLUDGE

Reference : O HINDER

SLUDGE ANALYSIS (Metric Units)

Sample Reference : SSE MEDWAY 19/04/23

Sample Matrix : SLUDGE

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

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

Laboratory References	
Report Number	68483
Sample Number	136517

Date Received	21-APR-2023
Date Reported	10-MAY-2023

ANALYTICAL RESULTS *on 'as received' basis.*

Determinand on a fresh weight basis	Units	Result	Amount per fresh tonne or m3	Amount applied at an equivalent total Nitrogen application of 250 kg N/ha	Units
pH 1:6 [Fresh]		7.94			
Oven Dry Solids	%	8.28	82.80	6900	kg DM
Total Kjeldahl Nitrogen	% w/w	0.300	3.00	250	kg N
Ammonium Nitrogen	mg/kg	918	0.92	76.50	kg NH4-N
Nitrate Nitrogen	mg/kg	<10	< 0.01		kg NO3-N
Total Phosphorus (P)	mg/kg	125	0.29	23.85	kg P2O5
Total Potassium (K)	mg/kg	589	0.71	58.90	kg K2O
Total Magnesium (Mg)	mg/kg	1594	2.65	220.49	kg MgO
Total Sulphur (S)	mg/kg	948	2.37	197.49	kg SO3
Total Copper (Cu)	mg/kg	3.81	< 0.01		kg Cu
Total Zinc (Zn)	mg/kg	28.5	0.03	2.37	kg Zn
Total Sodium (Na)	mg/kg	6948	9.37	780.46	kg Na2O
Equivalent field application rate		—	1.00	83.33	tonnes or m3 / ha

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

Released by *Daniel Petty* Date *10/05/23*

MISS ALEXIS NOONAN
FGS ORGANICS
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

MISS ALEXIS NOONAN

SLUDGE

Reference : O HINDER

SLUDGE ANALYSIS (Metric Units)

Sample Reference : SSE MEDWAY 19/04/23

Sample Matrix : SLUDGE

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

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

Laboratory References	
Report Number	68483
Sample Number	136517

Date Received	21-APR-2023
Date Reported	10-MAY-2023

ANALYTICAL RESULTS *on 'as received' basis.*

Determinand on a fresh weight basis	Units	Result
Conductivity 1:6	uS/cm	6544
Total Molybdenum (Mo)	mg/kg	0.719
Total Carbon	% w/w	0.407
Total Lead (Pb)	mg/kg	3.54
Total Cadmium (Cd)	mg/kg	0.010
Total Mercury (Hg)	mg/kg	<0.05
Total Nickel (Ni)	mg/kg	3.97
Total Chromium (Cr)	mg/kg	6.14
Organic Matter LOI	% w/w	0.562
Lime Equivalent as CaCO3	% w/w	2.0
Total Aluminium	mg/kg	1105
Fluoride [100:1 H2S04 Soluble]	mg/kg	<10
Total Arsenic (As)	mg/kg	1.60
Total Selenium (Se)	mg/kg	0.033
Oils,Fats and Grease	mg/kg	<200
N. V. as CaO equivalents	% w/w	1.1

Released by *Daniel Petty* Date *10/05/23*

MISS ALEXIS NOONAN
FGS ORGANICS
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

MISS ALEXIS NOONAN

SLUDGE

Reference : O HINDER

SLUDGE ANALYSIS (Metric Units)

Sample Reference : SSE MEDWAY 19/04/23

Sample Matrix : SLUDGE

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

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

Laboratory References	
Report Number	68483
Sample Number	136517

Date Received	21-APR-2023
Date Reported	10-MAY-2023

ANALYTICAL RESULTS *on 'as received' basis.*

Determinand on a fresh weight basis	Units	Result
Stones > 5mm	%	<0.01
Other Contaminants > 2mm	%	<0.01
Total Plastics > 2mm	%	<0.01
Total Glass > 2mm	%	<0.01
Total Metals > 2mm	%	<0.01
Sharps > 2mm	%	0

Released by *Daniel Petty* Date *10/05/23*

Purchase Order : DEPLOYMENTS

MR ANDREW WEST
FGS AGRI LTD
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

MEDWAY POWER STATION

SLUDGE

Reference : ALEXIS NOONAN

SLUDGE ANALYSIS RESULTS

Sample Reference :

MEDWAY POWER STATION

Sample Matrix : SLUDGE

Laboratory References	
Report Number	14623
Sample Number	121837

Date Received	26-APR-2022
Date Reported	17-MAY-2022

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	3.46	%
Conductivity 1:6	7729	uS/cm
Total Kjeldahl Nitrogen	<0.01	% w/w
Total Carbon	0.09	% w/w
C:N Ratio	N.A.	
Nitrate Nitrogen	<10	mg/kg
Ammonium Nitrogen	<25	mg/kg
Total Phosphorus (P)	<5	mg/kg
Total Potassium (K)	353	mg/kg
Total Magnesium (Mg)	1195	mg/kg

Released by *Myles Nicholson* Date *17/05/22*

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

Purchase Order : DEPLOYMENTS

MR ANDREW WEST
FGS AGRI LTD
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

MEDWAY POWER STATION

SLUDGE

Reference : ALEXIS NOONAN

SLUDGE ANALYSIS RESULTS

Sample Reference :

MEDWAY POWER STATION

Sample Matrix : SLUDGE

Laboratory References	
Report Number	14623
Sample Number	121837

Date Received	26-APR-2022
Date Reported	17-MAY-2022

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 Copper (Cu)	<0.2	mg/kg
Total Zinc (Zn)	<0.5	mg/kg
Total Sulphur (S)	797	mg/kg
Total Molybdenum (Mo)	<0.05	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)	12172	mg/kg

Released by *Myles Nicholson* Date *17/05/22*

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

Purchase Order : DEPLOYMENTS

MR ANDREW WEST
FGS AGRI LTD
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

MEDWAY POWER STATION

SLUDGE

Reference : ALEXIS NOONAN

SLUDGE ANALYSIS RESULTS

Sample Reference :

MEDWAY POWER STATION

Sample Matrix : SLUDGE

Laboratory References	
Report Number	14623
Sample Number	121837

Date Received	26-APR-2022
Date Reported	17-MAY-2022

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
pH 1:6 [Fresh]	7.68	
Organic Matter LOI	0.42	% w/w
Lime Equivalent as CaCO3	<2	% w/w
Total Aluminium	6.24	mg/kg
Fluoride [100:1 H2S04 Soluble]	<10	mg/kg
Total Arsenic (As)	<0.5	mg/kg
Total Selenium (Se)	<0.02	mg/kg
Oils,Fats and Grease	<200	mg/kg
Neutralising Value as CaO [TNV]	<1	% w/w
Stones > 5mm	0.09	%

Released by *Myles Nicholson* Date *17/05/22*

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

Purchase Order : DEPLOYMENTS

MR ANDREW WEST
FGS AGRI LTD
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

MEDWAY POWER STATION

SLUDGE

Reference : ALEXIS NOONAN

SLUDGE ANALYSIS RESULTS

Sample Reference :

MEDWAY POWER STATION

Sample Matrix : SLUDGE

Laboratory References	
Report Number	14623
Sample Number	121837

Date Received	26-APR-2022
Date Reported	17-MAY-2022

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
Other Contaminants > 2mm	<0.01	%
Total Plastics > 2mm	<0.01	%
Total Glass > 2mm	<0.01	%
Total Metals > 2mm	<0.01	%
Sharps > 2mm	0	%

Released by *Myles Nicholson* Date *17/05/22*

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

MR ANDREW WEST
FGS AGRI LTD
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

MR ANDREW WEST

SLUDGE

SLUDGE ANALYSIS RESULTS

Laboratory References	
Report Number	51409
Sample Number	81237

Sample Reference :

MEDWAY POWERSTATION

Sample Matrix : SLUDGE

Date Received	09-APR-2019
Date Reported	16-APR-2019

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

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

ANALYTICAL RESULTS *on 'as received' basis.*

Determinand	Value	Units
Oven Dry Solids	40.2	%
Conductivity 1:6	6906	uS/cm
Total Nitrogen	0.04	% w/w
Total Carbon	1.38	% w/w
C:N Ratio	34.5:1	
Nitrate Nitrogen	<10	mg/kg
Ammonium Nitrogen	<50	mg/kg
Total Phosphorus (P)	402	mg/kg
Total Potassium (K)	1192	mg/kg
Total Magnesium (Mg)	3673	mg/kg

Released by *Myles Nicholson* Date *16/04/19*

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

MR ANDREW WEST
FGS AGRI LTD
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

MR ANDREW WEST

SLUDGE

SLUDGE ANALYSIS RESULTS

Sample Reference :

MEDWAY POWERSTATION

Sample Matrix : SLUDGE

Laboratory References	
Report Number	51409
Sample Number	81237

Date Received	09-APR-2019
Date Reported	16-APR-2019

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

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

ANALYTICAL RESULTS *on 'as received' basis.*

Determinand	Value	Units
Total Copper (Cu)	12.0	mg/kg
Total Zinc (Zn)	98.4	mg/kg
Total Sulphur (S)	1934	mg/kg
Total Molybdenum (Mo)	2.75	mg/kg
Total Lead (Pb)	10.2	mg/kg
Total Cadmium (Cd)	0.05	mg/kg
Total Mercury (Hg)	0.06	mg/kg
Total Nickel (Ni)	10.9	mg/kg
Total Chromium (Cr)	17.4	mg/kg
Total Sodium (Na)	8352	mg/kg

Released by ..... *Myles Nicholson* ..... Date ..... *16/04/19* .....

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

MR ANDREW WEST
FGS AGRI LTD
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

MR ANDREW WEST

SLUDGE

SLUDGE ANALYSIS RESULTS

Laboratory References	
Report Number	51409
Sample Number	81237

Sample Reference :

MEDWAY POWERSTATION

Sample Matrix : SLUDGE

Date Received	09-APR-2019
Date Reported	16-APR-2019

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

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

ANALYTICAL RESULTS *on 'as received' basis.*

Determinand	Value	Units
pH 1:6 [Fresh]	7.87	
Organic Matter LOI	1.79	% w/w
Lime Equivalent as CaCO3	5.9	% w/w
Total Aluminium	3036	mg/kg
Fluoride [100:1 H2S04 Soluble]	44.3	mg/kg
Total Arsenic (As)	5.05	mg/kg
Total Selenium (Se)	0.09	mg/kg
Oils,Fats and Grease	<200	mg/kg
Neutralising Value as CaO [TNV]	3.3	% w/w

Released by *Myles Nicholson* Date *16/04/19*

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

MR ANDREW WEST
FGS AGRI LTD
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

MEDWAY POWER STATION

SILT

SILT ANALYSIS RESULTS

Sample Reference :

SILT

Sample Matrix : SILT

Laboratory References	
Report Number	13290
Sample Number	91439

Date Received	17-MAY-2018
Date Reported	23-MAY-2018

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

The sample will be kept as the dry ground sample for at least 1 month.

ANALYTICAL RESULTS *on 'dry matter' basis.*

Determinand	Value	Units
Oven Dry Matter	56.0	%
Conductivity 1:6 [Fresh]	4790	uS/cm
Total Nitrogen	0.11	% w/w
Total Carbon	2.14	% w/w
C:N Ratio	19:1	
Nitrate Nitrogen	<10	mg/kg
Ammonium Nitrogen	26.8	mg/kg
Total Phosphorus (P)	1037	mg/kg
Total Potassium (K)	2607	mg/kg
Total Magnesium (Mg)	7720	mg/kg

Released by J Doyle Date 23/05/18

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

MR ANDREW WEST
FGS AGRI LTD
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

MEDWAY POWER STATION

SILT

SILT ANALYSIS RESULTS

Sample Reference :

SILT

Sample Matrix : SILT

Laboratory References	
Report Number	13290
Sample Number	91439

Date Received	17-MAY-2018
Date Reported	23-MAY-2018

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

The sample will be kept as the dry ground sample for at least 1 month.

ANALYTICAL RESULTS *on 'dry matter' basis.*

Determinand	Value	Units
Total Copper (Cu)	22.7	mg/kg
Total Zinc (Zn)	564	mg/kg
Total Sulphur (S)	3266	mg/kg
Total Molybdenum (Mo)	4.88	mg/kg
Total Lead (Pb)	25.7	mg/kg
Total Cadmium (Cd)	0.12	mg/kg
Total Mercury (Hg)	0.15	mg/kg
Total Nickel (Ni)	26.5	mg/kg
Total Chromium (Cr)	43.1	mg/kg
Total Sodium (Na)	10045	mg/kg

Released by ..... *J Doyle* ..... Date ..... *23/05/18* .....

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

MR ANDREW WEST
FGS AGRI LTD
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

MEDWAY POWER STATION

SILT

SILT ANALYSIS RESULTS

Sample Reference :

SILT

Sample Matrix : SILT

Laboratory References	
Report Number	13290
Sample Number	91439

Date Received	17-MAY-2018
Date Reported	23-MAY-2018

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

The sample will be kept as the dry ground sample for at least 1 month.

ANALYTICAL RESULTS *on 'dry matter' basis.*

Determinand	Value	Units
pH 1:6 [Fresh]	8.10	
Organic Matter LOI	3.8	% w/w
Lime Equivalent as CaCO3	15.5	% w/w
Total Aluminium	7554	mg/kg
Fluoride [100:1 H2S04 Soluble]	81.4	mg/kg
Total Arsenic (As)	10.3	mg/kg
Total Selenium (Se)	0.23	mg/kg
Oils,Fats and Grease	<200	mg/kg
Neutralising Value as CaO [TNV]	8.7	% w/w

Released by J Doyle Date 23/05/18

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

MR ANDREW WEST
FGS AGRI LTD
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

MEDWAY POWER STATION

SLUDGE

SLUDGE ANALYSIS RESULTS

Sample Reference :

SLUDGE

Sample Matrix : SLUDGE

Laboratory References	
Report Number	61913
Sample Number	56158

Date Received	06-JUN-2017
Date Reported	13-JUN-2017

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	44.2	%
Conductivity 1:6	8960	uS/cm
Total Nitrogen	0.06	% w/w
Total Carbon	1.11	% w/w
C:N Ratio	19.4:1	
Nitrate Nitrogen	<10	mg/kg
Ammonium Nitrogen	20.4	mg/kg
Total Phosphorus (P)	356	mg/kg
Total Potassium (K)	1293	mg/kg
Total Magnesium (Mg)	4061	mg/kg

Released by ..... *Darren Whitbread* ..... Date ..... *13/06/17* .....

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

MR ANDREW WEST
FGS AGRI LTD
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

MEDWAY POWER STATION

SLUDGE

SLUDGE ANALYSIS RESULTS

Laboratory References	
Report Number	61913
Sample Number	56158

Sample Reference :

SLUDGE

Sample Matrix : SLUDGE

Date Received	06-JUN-2017
Date Reported	13-JUN-2017

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 Copper (Cu)	8.89	mg/kg
Total Zinc (Zn)	80.5	mg/kg
Total Sulphur (S)	1971	mg/kg
Total Lead (Pb)	9.50	mg/kg
Total Cadmium (Cd)	0.04	mg/kg
Total Mercury (Hg)	0.05	mg/kg
Total Nickel (Ni)	9.96	mg/kg
Total Chromium (Cr)	15.1	mg/kg
Total Sodium (Na)	10305	mg/kg
pH 1:6 [Fresh]	8.08	

Released by ..... *Darren Whitbread* ..... Date ..... *13/06/17* .....

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

MR ANDREW WEST
FGS AGRI LTD
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

MEDWAY POWER STATION

SLUDGE

SLUDGE ANALYSIS RESULTS

Sample Reference :

SLUDGE

Sample Matrix : SLUDGE

Laboratory References	
Report Number	61913
Sample Number	56158

Date Received	06-JUN-2017
Date Reported	13-JUN-2017

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	1.83	% w/w
Lime Equivalent as CaCO3	5.2	% w/w
Total Aluminium	3397	mg/kg
Oils,Fats and Grease	280	mg/kg
Neutralising Value as CaO [TNV]	2.9	% w/w

Released by ..... *Darren Whitbread* .....

Date ..... *13/06/17* .....

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

MR ANDREW WEST
FGS AGRI LTD
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

MEDWAY POWER STATION

LIQUID WASTE

WASTE ANALYSIS RESULTS

Laboratory References	
Report Number	26309
Sample Number	45980

Sample Reference :

MEDWAY POWER STATION

Sample Matrix : WASTE

Date Received	29-JUL-2016
Date Reported	04-AUG-2016

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	57.3	%
Conductivity 1:6	7040	uS/cm
Total Nitrogen	0.04	% w/w
Total Carbon	1.67	% w/w
C:N Ratio	37.9:1	
Nitrate Nitrogen	<10	mg/kg
Ammonium Nitrogen	15.0	mg/kg
Total Phosphorus (P)	402	mg/kg
Total Potassium (K)	1302	mg/kg
Total Magnesium (Mg)	4289	mg/kg

Released by ..... *J Doyle* .....

Date ..... *04/08/16* .....

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

MR ANDREW WEST
FGS AGRI LTD
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

MEDWAY POWER STATION

LIQUID WASTE

WASTE ANALYSIS RESULTS

Laboratory References	
Report Number	26309
Sample Number	45980

Sample Reference :

MEDWAY POWER STATION

Sample Matrix : WASTE

Date Received	29-JUL-2016
Date Reported	04-AUG-2016

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 Copper (Cu)	13.3	mg/kg
Total Zinc (Zn)	313	mg/kg
Total Sulphur (S)	1911	mg/kg
Total Lead (Pb)	10.3	mg/kg
Total Cadmium (Cd)	0.06	mg/kg
Total Mercury (Hg)	0.06	mg/kg
Total Nickel (Ni)	12.6	mg/kg
Total Chromium (Cr)	17.4	mg/kg
Total Sodium (Na)	9219	mg/kg
pH 1:6 [Fresh]	7.80	

Released by ..... *J Doyle* .....

Date ..... *04/08/16* .....

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

MR ANDREW WEST
FGS AGRI LTD
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

MEDWAY POWER STATION

LIQUID WASTE

WASTE ANALYSIS RESULTS

Laboratory References	
Report Number	26309
Sample Number	45980

Sample Reference :

MEDWAY POWER STATION

Sample Matrix : WASTE

Date Received	29-JUL-2016
Date Reported	04-AUG-2016

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	1.57	% w/w
Lime Equivalent as CaCO3	8.8	% w/w
Total Aluminium	4289	mg/kg
Oils,Fats and Grease	580	mg/kg
Neutralising Value as CaO [TNV]	4.9	% w/w

Released by J Doyle Date 04/08/16

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

MR ANDREW WEST
FGS AGRI LTD
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

FGS AGRI LTD

SILT

SILT

Sample Reference :

KINGSNORTH SILT

Sample Matrix : SILT

Laboratory References	
Report Number	75169
Sample Number	35239

Date Received	17-JUL-2015
Date Reported	27-JUL-2015

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	32.4	%
Conductivity 1:6	11500	uS/cm
Total Nitrogen	0.03	% w/w
Total Carbon	0.70	% w/w
C:N Ratio	24.1:1	
Nitrate Nitrogen	<10	mg/kg
Ammonium Nitrogen	<10	mg/kg
Total Phosphorus (P)	204	mg/kg
Total Potassium (K)	1074	mg/kg
Total Magnesium (Mg)	3141	mg/kg

Released by ..... *Joe Cherrie* ..... Date ..... *27/07/15* .....

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

MR ANDREW WEST
FGS AGRI LTD
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

FGS AGRI LTD

SILT

SILT

Sample Reference :

KINGSNORTH SILT

Sample Matrix : SILT

Laboratory References	
Report Number	75169
Sample Number	35239

Date Received	17-JUL-2015
Date Reported	27-JUL-2015

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 Copper (Cu)	5.91	mg/kg
Total Zinc (Zn)	49.9	mg/kg
Total Sulphur (S)	1863	mg/kg
Total Lead (Pb)	5.51	mg/kg
Total Cadmium (Cd)	0.02	mg/kg
Total Mercury (Hg)	<0.05	mg/kg
Total Nickel (Ni)	5.25	mg/kg
Total Chromium (Cr)	6.99	mg/kg
Total Sodium (Na)	16083	mg/kg
pH 1:6 [Fresh]	7.78	

Released by *Joe Cherrie* Date *27/07/15*

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

MR ANDREW WEST
FGS AGRI LTD
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

FGS AGRI LTD

SILT

SILT

Sample Reference :

KINGSNORTH SILT

Sample Matrix : SILT

Laboratory References	
Report Number	75169
Sample Number	35239

Date Received	17-JUL-2015
Date Reported	27-JUL-2015

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	2.14	% w/w
Lime Equivalent as CaCO3	2.4	% w/w
Total Aluminium	1677	mg/kg
Oils,Fats and Grease	<200	mg/kg
Neutralising Value as CaO [TNV]	1.4	% w/w

Released by ..... *Joe Cherrie* .....

Date ..... *27/07/15* .....

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

Appendix E: SSE Medway Cooling Tower Silt Example Agricultural Benefit Statement

SSE Medway Cooling Tower Silt Example Agricultural Benefit Statement

On behalf of FGS Organics Ltd.

Prepared by:

Anna Becvar
Earthcare Technical Ltd.
Netherley Cottage
Chalton
Waterlooville
Hants PO8 0BG

Tel: 02392 290 488
anna@earthcaretechnical.co.uk

08 April 2025

1 Qualifications and technical expertise

Name: Anna Becvar

Technical qualifications: BSc (Hons) Soils and Plant Nutrition MI Soil Sci C Sci MBPR

FACTS registration number: 20003286 RFE/414

Experience: Anna Becvar has a degree in Soils and Plant Nutrition is FACTS Qualified, holds the advanced BASIS Modules in NMP and Waste to Land and is a BASIS approved trainer for these courses. She has over 25 years' experience. She is experienced in the assessment of materials to be recycled to land and is versant with legislative requirements including those of Nitrate Vulnerable Zones, Regulations, and Good Practice Guidance. She is a Chartered Scientist.

2 Waste recovery without harm

We can confirm the deployment is a waste recovery activity based on the 5 waste recovery tests and the information we have supplied in this benefit statement. This deployment will provide agricultural benefit to the soil and crop. It will meet crop nutrient requirements and provide nominal amounts of organic matter to the soil.

This deployment application relates to permit number: EPR/ BB3603XR /A001 FGS Organics Ltd.

The following additional guidance and regulations will be followed:

- Nutrient Management Guide RB209[1].
- The Reduction and Prevention of Agricultural Diffuse Pollution (England) Regulations 2018 referred to as The Farming Rules for Water (FfRW).[2]
- Nitrate Vulnerable Zone Rules where applicable[3].
- Protecting our water, soil, and air: The Codes of Good practice (COGAP) for Soil, Water and Air[4].
- COGAP for reducing ammonia emissions, 2018[5].
- Guidance: Land spreading to improve soil health[6].

3 Waste type

Waste producer: SSE Medway, Medway Power Station, Grain Road Isle Of Grain Rochester Medway ME3 0AG
Permit No.: SO/A03198/A001
Site Type: Sub-station / Electricity / Gas / Air Conditioning Supply

Waste analysis is provided as Appendix A to this report.

3.1 Waste code 10 01 26

Wastes from cooling-water treatment (Power Station)

The waste is not subject to Animal By-Product Regulations.

4 Waste storage and spreading

Storage: No storage under this deployment.

[1] Nutrient Management Guide (RB209) | AHDB
[2] Applying the farming rules for water - GOV.UK (www.gov.uk)
[3] Nitrate vulnerable zones - GOV.UK (www.gov.uk)
[4] Protecting our water, soil and air - GOV.UK (www.gov.uk)
[5] Code of Good Agricultural Practice (COGAP) for Reducing Ammonia Emissions - GOV.UK (www.gov.uk)
[6] Landspreading to improve soil health - GOV.UK (www.gov.uk)

5 Operational details

5.1 Spreading

The material will be spread with suitable equipment given the dry matter of the material. The waste will be soil incorporated within 12 hours or as soon as is practical ahead of drilling crops. The waste may be stockpiled in readiness for this application.

5.2 Timing of application

Applications will be made to meet crop need and timed in accordance with the requirements of the Framing Rules for Water and Nitrate Vulnerable Zone Rules (when relevant).

5.3 Cropping details

An example recommendation has been prepared for a crop of winter oilseed rape with the silt to be spread in the autumn (Aug-Sept) and soil incorporated.

6 Benefits and nutrients supplied to the land, soil, or crops

The waste will be applied to replace the use of inorganic fertilisers and to act as a soil improver. Application rates will be determined to meet crop need. An example application with soils at target index levels has been prepared.

The waste is low in ammonium nitrogen and below the limit of detection for nitrate nitrogen, and therefore 9% readily available nitrogen (RAN) by analysis. Crop available N is estimated to be 5% from the waste during the season of application.

Table 1 Silt waste nutrients provided based on analysis Report No.68483

	Total Nitrogen (N)	**Total Ammonium-N (NH4-N)**	**Total phosphate (P_2O_5)**	**Total Potash (K_2O)**	**Total Magnesium (MgO)**	**Total Sulphur (SO_3)**	**Organic matter**
	(kg/ha)						
1t/ha	3.000	0.918	0.286	0.710	2.643	2.370	5.620
25 t/ha	250	23	7	5	66	59	140

Recommendations have been made based on example soil analysis results and using the Nutrient Management Guide (RB209). All land is assumed to be within a sulphur deficient area and crops will benefit from the added sulphur from the material.

Table 2 Calculated crop offtakes

	Phosphate (P_2O_5) kg/ha	Potash (K_2O) kg/ha
Winter oilseed rape 4.75t/ha	67	52

Example recommendations are provided in Table 3 below. In addition to the beneficial amounts of total organic nitrogen, magnesium and sulphur provided by the silt a small quantity of organic matter at 140 kg/ha will be applied.

Table 3 Example recommendation

Field Name	pH	Soil type	SNS Index	P	K	Mg	SO_3
Example Field	7.0	Medium	1	2	2-	1	Low
Crop 2025/26: Winter oilseed rape 4.75t/ha			**N**	**P_2O_5**	**K_2O**	**MgO**	**SO_3**
Crop requirement whole season RB209 (kg/ha)			30+190	67	52	0	75
Total nutrients supplied 25 t/ha (kg/ha)			**250**	**7**	**5**	**66**	**59**
Estimated crop available (kg/ha)			13	3	4	6	12
Balance of nutrients required (kg/ha)			17+190	60	48	0	63

7 Potential negative impacts to the land, soil, and crop

The waste contains potentially toxic elements well below Soil Guideline Values and has therefore been compared to limits set within the Sludge Use (in Agriculture) Regulations and given with the Sewage sludge in agriculture: code of practice for England, Wales and Northern Ireland[7] for the maximum average allowable annual addition over a 10-year period. The applied values are compared in Table 4 below.

Additions are acceptable but will be assessed based on the actual analysis of the silt from the Cooling Tower to be spread.

Annual Addition of Potentially Toxic Elements (kg/ha) versus SUiAR limit for max average allowable annual addition over a 10-year period			
Potentially Toxic Element	**kg/ha Applied**	**SUiAR Limit (kg/ha)**	**% of limit**
Copper (Cu)	0.0953	**7.5**	1.3
Zinc (Zn)	0.7125	**15**	4.8
Cadmium (Cd)	0.0003	**0.15**	0.2
Mercury (Hg)	0.0013	**0.1**	1.3
Lead (Pb)	0.0885	**15**	0.6
Arsenic (As)	0.0400	**1**	5.7
Chromium (Cr)	0.1535	**15**	1.0
Nickel (Ni)	0.0993	**3**	3.3
Molybdenum (Mo)	0.0180	**0.2**	9.0
Selenium (Se)	0.0008	**0.15**	0.6
Fluoride (F)	0.2500	**20.0**	1.3

The waste pH is 7.94 and the material has a neutralising value which may be beneficial of equivalent to 0.5 t/ha of calcium carbonate. This is sufficient to balance the acidifying effects of using nitrogenous fertilisers.

Conductivity is high at 6544 uS/cm due to the saline waters of the Medway and salts which have accumulated from the evaporated water within the Cooling Tower. Application rate has been lowered to ensure Sodium levels are kept at an acceptable level and should not be detrimental to plant growth with 234 kg Na_2O /ha applied if the silt is spread at the maximum rate of 25 t/ha.

Aluminium levels reflect the silt's inherent levels and should not be available since the waste is pH7.94. Therefore, the silt is at low risk of inducing toxicity.

[7] https://www.gov.uk/government/publications/sewage-sludge-in-agriculture-code-of-practice/sewage-sludge-in-agriculture-code-of-practice-for-england-wales-and-northern-ireland

Good practice will be followed when the material is applied to mitigate risk of pollution given the material is predicted to have a high Biological and Chemical Oxygen demand should it enter a surface water.

Oils, fats, and grease are below the limit of detection.

7.1 Other potential negative impacts

The material may flow like slurry if low dry matter and therefore is at risk of runoff if applied to land incorrectly. If applied at 25 m^3/ha good infiltration should be achieved.

8 Sensitive human and environmental receptors

A site-specific environmental risk assessment will be carried out for each deployment considering human and ecological receptors based on the Generic Risk Assessment for SR2010No.4.

8.1 Human receptors

The material should not be odorous, but storage heaps will be placed as far away as possible from human receptors and at a minimum of 150m away.

Dwellings in proximity to the fields to be spread will be buffered by a 10 metre no spread area on the perimeter of the field. Public rights of way will be clearly marked on spread risk maps and all spreading will cease if a member of the public enters the field. The material will be soil incorporated within 12 hours and as soon as is practical to do so.

8.2 Ecological receptors

The silt waste is low in readily available nitrogen and at low risk of ammonia volatilisation.

Proximity to ecological receptors to each field to be spread will be measured and additional measures may be put in place such as no spread buffer zones to protect ecology.

All surface waters will be buffered by a 10m no spread margin. Boreholes will be buffered by 50m.

Additional measures may be identified as part of the site-specific risk assessment.

9 Actions to reduce impacts on identified sensitive receptors

Spreading will only be undertaken when weather and soil conditions are suitable.

The material will be applied with a rear discharge spreader and soil incorporated within 12 hours or as soon as is practicable or spread with a dribble bar if low dry matter.

Machinery field operations will always be carried out avoiding soil damage e.g., machinery turns will be gentle to avoid ruts and wheel slip within buffer strips.

Machinery will be checked daily when being used for spreading operations. All machinery is regularly serviced and spreading equipment is calibrated.

A dynamic risk assessment of wind direction and speed, prevailing weather conditions will be carried out during spreading operations and spreading will cease if conditions are deemed unsuitable.
Operations will not be carried out in:

- Heavy rain
- When heavy rain is imminent or there is risk of flooding.
- High winds

- Frozen or snow-covered ground
- When weather conditions are assessed to be likely to interfere with operations.

Spreading will be carried out in accordance with the agreed spread risk maps which are provided to all spreader operators. No spreading will occur in no spread zones.

10 Contingency planning

There is a written Environmental Management System (EMS) in place and accident management plan.
Machinery is serviced on a regular basis and replacement equipment and parts are available.
A record keeping system is in place to record all applications as well as incidents.
There is adequate storage capacity for the material to be spread.

Appendix A: Cooling Tower Silt Analysis

MISS ALEXIS NOONAN
FGS ORGANICS
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

MISS ALEXIS NOONAN

SLUDGE

Reference : O HINDER

SLUDGE ANALYSIS (Metric Units)

Sample Reference : SSE MEDWAY 19/04/23

Sample Matrix : SLUDGE

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

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

Laboratory References	
Report Number	68483
Sample Number	136517

Date Received	21-APR-2023
Date Reported	10-MAY-2023

ANALYTICAL RESULTS *on 'as received' basis.*

Determinand on a fresh weight basis	Units	Result	Amount per fresh tonne or m3	Amount applied at an equivalent total Nitrogen application of 250 kg N/ha	Units
pH 1:6 [Fresh]		7.94			
Oven Dry Solids	%	8.28	82.80	6900	kg DM
Total Kjeldahl Nitrogen	% w/w	0.300	3.00	250	kg N
Ammonium Nitrogen	mg/kg	918	0.92	76.50	kg NH4-N
Nitrate Nitrogen	mg/kg	<10	< 0.01		kg NO3-N
Total Phosphorus (P)	mg/kg	125	0.29	23.85	kg P2O5
Total Potassium (K)	mg/kg	589	0.71	58.90	kg K2O
Total Magnesium (Mg)	mg/kg	1594	2.65	220.49	kg MgO
Total Sulphur (S)	mg/kg	948	2.37	197.49	kg SO3
Total Copper (Cu)	mg/kg	3.81	< 0.01		kg Cu
Total Zinc (Zn)	mg/kg	28.5	0.03	2.37	kg Zn
Total Sodium (Na)	mg/kg	6948	9.37	780.46	kg Na2O
Equivalent field application rate		—	1.00	83.33	tonnes or m3 / ha

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

Released by *Daniel Petty* Date *10/05/23*

MISS ALEXIS NOONAN
FGS ORGANICS
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

MISS ALEXIS NOONAN

SLUDGE

Reference : O HINDER

SLUDGE ANALYSIS (Metric Units)

Sample Reference : SSE MEDWAY 19/04/23

Sample Matrix : SLUDGE

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

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

Laboratory References	
Report Number	68483
Sample Number	136517

Date Received	21-APR-2023
Date Reported	10-MAY-2023

ANALYTICAL RESULTS *on 'as received' basis.*

Determinand on a fresh weight basis	Units	Result
Conductivity 1:6	uS/cm	6544
Total Molybdenum (Mo)	mg/kg	0.719
Total Carbon	% w/w	0.407
Total Lead (Pb)	mg/kg	3.54
Total Cadmium (Cd)	mg/kg	0.010
Total Mercury (Hg)	mg/kg	<0.05
Total Nickel (Ni)	mg/kg	3.97
Total Chromium (Cr)	mg/kg	6.14
Organic Matter LOI	% w/w	0.562
Lime Equivalent as CaCO3	% w/w	2.0
Total Aluminium	mg/kg	1105
Fluoride [100:1 H2S04 Soluble]	mg/kg	<10
Total Arsenic (As)	mg/kg	1.60
Total Selenium (Se)	mg/kg	0.033
Oils,Fats and Grease	mg/kg	<200
N. V. as CaO equivalents	% w/w	1.1

Released by *Daniel Petty* Date *10/05/23*

MISS ALEXIS NOONAN
FGS ORGANICS
STANFORD BRIDGE FARM
STATION RD
PLUCKLEY
ASHFORD KENT TN27 0RU

R248

Please quote above code for all enquiries

MISS ALEXIS NOONAN

SLUDGE

Reference : O HINDER

SLUDGE ANALYSIS (Metric Units)

Sample Reference : SSE MEDWAY 19/04/23

Sample Matrix : SLUDGE

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

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

Laboratory References	
Report Number	68483
Sample Number	136517

Date Received	21-APR-2023
Date Reported	10-MAY-2023

ANALYTICAL RESULTS *on 'as received' basis.*

Determinand on a fresh weight basis	Units	Result
Stones > 5mm	%	<0.01
Other Contaminants > 2mm	%	<0.01
Total Plastics > 2mm	%	<0.01
Total Glass > 2mm	%	<0.01
Total Metals > 2mm	%	<0.01
Sharps > 2mm	%	0

Released by *Daniel Petty* Date *10/05/23*