

DAIRY PARTNERS, NEWCASTLE EMLYN

Analysis of Liquid Sludge

Report No: 72745
Sample No: 160672
Date: 09/01/2025

Application rate (t/ha) 30.0
Application rate (t/acre) 12.1
pH 5.95
Dry solids (%) 5.29

Organic Matter (%) 4.92

NUTRIENT CONTENT

	Result	Units	Total		Available	
			(kg/t)	(kg/ha)	(kg/t)	(kg/ha)
Nitrogen (N)	0.24	%	2.4	72	0.5	14
Ammonium-N	110	mg/kg	0.1	3		
Phosphorus (P)	635	mg/kg	0.6	19		
Phosphate (P ₂ O ₅)			1.5	44	0.9	26
Potassium (K)	281	mg/kg	0.3	8		
Potash (K ₂ O)			0.3	10	0.3	8
Magnesium (Mg)	46.2	mg/kg	0.0	1		
Magnesium (MgO)			0.1	2	0.0	0
Sulphur (S)	155	mg/kg	0.2	5		
Sulphur (SO ₃)			0.4	12	0.1	2

POTENTIALLY TOXIC ELEMENTS

	Result	Units	Rate		Limit
			(g/tonne)	(kg/ha)	(kg/ha/yr)
Zinc	1.80	mg/kg	1.80	0.05	15.00
Copper	0.49	mg/kg	0.49	0.01	7.50
Nickel	0.20	mg/kg	0.20	0.01	3.00
Lead	0.50	mg/kg	0.50	0.02	15.00
Cadmium	0.01	mg/kg	0.01	0.00	0.15
Chromium	0.23	mg/kg	0.23	0.01	15.00
Mercury	0.05	mg/kg	0.05	0.00	0.10

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

DAIRY PARTNERS, NEWCASTLE EMLYN

Analysis of Liquid Sludge

Report No: 72745
Sample No: 160672
Date: 09/01/2025

Application rate (t/ha) 37.0
Application rate (t/acre) 15.0
pH 5.95
Dry solids (%) 5.29

Organic Matter (%) 4.92

NUTRIENT CONTENT

	Result	Units	Total		Available	
			(kg/t)	(kg/ha)	(kg/t)	(kg/ha)
Nitrogen (N)	0.24	%	2.4	89	0.5	18
Ammonium-N	110	mg/kg	0.1	4		
Phosphorus (P)	635	mg/kg	0.6	23		
Phosphate (P ₂ O ₅)			1.5	54	0.9	32
Potassium (K)	281	mg/kg	0.3	10		
Potash (K ₂ O)			0.3	12	0.3	10
Magnesium (Mg)	46.2	mg/kg	0.0	2		
Magnesium (MgO)			0.1	3	0.0	0
Sulphur (S)	155	mg/kg	0.2	6		
Sulphur (SO ₃)			0.4	14	0.1	3

POTENTIALLY TOXIC ELEMENTS

	Result	Units	Rate		Limit
			(g/tonne)	(kg/ha)	(kg/ha/yr)
Zinc	1.80	mg/kg	1.80	0.07	15.00
Copper	0.49	mg/kg	0.49	0.02	7.50
Nickel	0.20	mg/kg	0.20	0.01	3.00
Lead	0.50	mg/kg	0.50	0.02	15.00
Cadmium	0.01	mg/kg	0.01	0.00	0.15
Chromium	0.23	mg/kg	0.23	0.01	15.00
Mercury	0.05	mg/kg	0.05	0.00	0.10

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

DAIRY PARTNERS, NEWCASTLE EMLYN

Analysis of Liquid Sludge

Report No: 72745
Sample No: 160672
Date: 09/01/2025

Application rate (t/ha) 43.0
Application rate (t/acre) 17.4
pH 5.95
Dry solids (%) 5.29

Organic Matter (%) 4.92

NUTRIENT CONTENT

	Result	Units	Total		Available	
			(kg/t)	(kg/ha)	(kg/t)	(kg/ha)
Nitrogen (N)	0.24	%	2.4	103	0.5	21
Ammonium-N	110	mg/kg	0.1	5		
Phosphorus (P)	635	mg/kg	0.6	27		
Phosphate (P ₂ O ₅)			1.5	63	0.9	38
Potassium (K)	281	mg/kg	0.3	12		
Potash (K ₂ O)			0.3	14	0.3	12
Magnesium (Mg)	46.2	mg/kg	0.0	2		
Magnesium (MgO)			0.1	3	0.0	0
Sulphur (S)	155	mg/kg	0.2	7		
Sulphur (SO ₃)			0.4	17	0.1	3

POTENTIALLY TOXIC ELEMENTS

	Result	Units	Rate		Limit
			(g/tonne)	(kg/ha)	(kg/ha/yr)
Zinc	1.80	mg/kg	1.80	0.08	15.00
Copper	0.49	mg/kg	0.49	0.02	7.50
Nickel	0.20	mg/kg	0.20	0.01	3.00
Lead	0.50	mg/kg	0.50	0.02	15.00
Cadmium	0.01	mg/kg	0.01	0.00	0.15
Chromium	0.23	mg/kg	0.23	0.01	15.00
Mercury	0.05	mg/kg	0.05	0.00	0.10

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

DAIRY PARTNERS, NEWCASTLE EMLYN

Analysis of Liquid Sludge

Report No: 72745
Sample No: 160672
Date: 09/01/2025

Application rate (t/ha) 97.0
Application rate (t/acre) 39.3
pH 5.95
Dry solids (%) 5.29

Organic Matter (%) 4.92

NUTRIENT CONTENT

	Result	Units	Total		Available	
			(kg/t)	(kg/ha)	(kg/t)	(kg/ha)
Nitrogen (N)	0.24	%	2.4	233	0.5	47
Ammonium-N	110	mg/kg	0.1	11		
Phosphorus (P)	635	mg/kg	0.6	62		
Phosphate (P ₂ O ₅)			1.5	141	0.9	85
Potassium (K)	281	mg/kg	0.3	27		
Potash (K ₂ O)			0.3	33	0.3	26
Magnesium (Mg)	46.2	mg/kg	0.0	4		
Magnesium (MgO)			0.1	7	0.0	1
Sulphur (S)	155	mg/kg	0.2	15		
Sulphur (SO ₃)			0.4	38	0.1	8

POTENTIALLY TOXIC ELEMENTS

	Result	Units	Rate		Limit
			(g/tonne)	(kg/ha)	(kg/ha/yr)
Zinc	1.80	mg/kg	1.80	0.17	15.00
Copper	0.49	mg/kg	0.49	0.05	7.50
Nickel	0.20	mg/kg	0.20	0.02	3.00
Lead	0.50	mg/kg	0.50	0.05	15.00
Cadmium	0.01	mg/kg	0.01	0.00	0.15
Chromium	0.23	mg/kg	0.23	0.02	15.00
Mercury	0.05	mg/kg	0.05	0.00	0.10

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

DAIRY PARTNERS, NEWCASTLE EMLYN

Analysis of Liquid Sludge

Report No: 72745
Sample No: 160672
Date: 09/01/2025

Application rate (t/ha) 100.0
Application rate (t/acre) 40.5
pH 5.95
Dry solids (%) 5.29

Organic Matter (%) 4.92

NUTRIENT CONTENT

	Result	Units	Total		Available	
			(kg/t)	(kg/ha)	(kg/t)	(kg/ha)
Nitrogen (N)	0.24	%	2.4	240	0.5	48
Ammonium-N	110	mg/kg	0.1	11		
Phosphorus (P)	635	mg/kg	0.6	64		
Phosphate (P₂O₅)			1.5	145	0.9	87
Potassium (K)	281	mg/kg	0.3	28		
Potash (K₂O)			0.3	34	0.3	27
Magnesium (Mg)	46.2	mg/kg	0.0	5		
Magnesium (MgO)			0.1	8	0.0	1
Sulphur (S)	155	mg/kg	0.2	16		
Sulphur (SO₃)			0.4	39	0.1	8

POTENTIALLY TOXIC ELEMENTS

	Result	Units	Rate		Limit
			(g/tonne)	(kg/ha)	(kg/ha/yr)
Zinc	1.80	mg/kg	1.80	0.18	15.00
Copper	0.49	mg/kg	0.49	0.05	7.50
Nickel	0.20	mg/kg	0.20	0.02	3.00
Lead	0.50	mg/kg	0.50	0.05	15.00
Cadmium	0.01	mg/kg	0.01	0.00	0.15
Chromium	0.23	mg/kg	0.23	0.02	15.00
Mercury	0.05	mg/kg	0.05	0.01	0.10

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DAIRY PARTNERS

DAIRY WASTE

DAIRY WASTE ANALYSIS RESULTS

Sample Reference :

DAIRY PARTNERS

Sample Matrix : DAIRY WASTE

Laboratory References

Report Number	72745
Sample Number	160672

Date Received	09-JAN-2025
Date Reported	24-FEB-2025

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	5.29	%
E Coli [Fresh]	740	cfu/g
Conductivity 1:6	340	uS/cm
Total Kjeldahl Nitrogen	0.24	% w/w
Nitrate Nitrogen	<10	mg/kg
Ammonium Nitrogen	110	mg/kg
Total Phosphorus (P)	635	mg/kg
Total Potassium (K)	281	mg/kg
Total Magnesium (Mg)	46.2	mg/kg
Total Copper (Cu)	0.49	mg/kg

Released by *Gabrielle Parkes*

Date *24/02/25*

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DAIRY PARTNERS

DAIRY WASTE

DAIRY WASTE ANALYSIS RESULTS

Sample Reference :

DAIRY PARTNERS

Sample Matrix : DAIRY WASTE

Laboratory References

Report Number	72745
Sample Number	160672

Date Received	09-JAN-2025
Date Reported	24-FEB-2025

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)	1.80	mg/kg
Total Sulphur (S)	155	mg/kg
Total Calcium (Ca)	183	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)	0.23	mg/kg
Total Sodium (Na)	206	mg/kg
pH 1:6 [Fresh]	5.95	

Released by *Gabrielle Parkes*

Date *24/02/25*

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DAIRY PARTNERS

DAIRY WASTE

DAIRY WASTE ANALYSIS RESULTS

Sample Reference :

DAIRY PARTNERS

Sample Matrix : DAIRY WASTE

Laboratory References

Report Number	72745
Sample Number	160672

Date Received	09-JAN-2025
Date Reported	24-FEB-2025

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	4.92	% w/w
Coliforms [fresh]	380000	cfu/g
B.O.D. [fresh]	29550	mg/l
C.O.D. [fresh]	85530	mg/kg
Oils,Fats and Grease	17720	mg/kg
Salmonella spp [fresh]	Negative	in 25g
EC [Neat]	2138	uS/cm

Released by *Gabrielle Parkes*

Date 24/02/25

VOLAC/SENSIENT, FELINFACH

Analysis of Liquid Sludge

Sample Name: Volac / Sensient 1

Report No: 91949

Sample No: 166297

Date: 08/05/2025

Application rate (t/ha) 37.0
Application rate (t/acre) 15.0
pH 7.76
Dry solids (%) 1.81

Organic Matter (%) 0.98

NUTRIENT CONTENT

	result	units	Total		Available	
			(kg/t)	(kg/ha)	(kg/t)	(kg/ha)
Nitrogen (N)	0.11	%	1.1	41	0.2	8
Ammonium-N	588	mg/kg	0.6	22		
Phosphorus (P)	525	mg/kg	0.5	19		
Phosphate (P ₂ O ₅)			1.2	44	0.7	27
Potassium (K)	1061	mg/kg	1.1	39		
Potash (K ₂ O)			1.3	47	1.0	38
Magnesium (Mg)	90.9	mg/kg	0.1	3		
Magnesium (MgO)			0.2	6	0.0	1
Sulphur (S)	81	mg/kg	0.1	3		
Sulphur (SO ₃)			0.2	7	0.0	1

POTENTIALLY TOXIC ELEMENTS

	result	units	Rate		Limit
			(g/tonne)	(kg/ha)	(kg/ha/yr)
Zinc	1.55	mg/kg	1.55	0.06	15.00
Copper	0.20	mg/kg	0.20	0.01	7.50
Nickel	0.20	mg/kg	0.20	0.01	3.00
Lead	0.50	mg/kg	0.50	0.02	15.00
Cadmium	0.01	mg/kg	0.01	0.00	0.15
Chromium	0.23	mg/kg	0.23	0.01	15.00
Mercury	0.05	mg/kg	0.05	0.00	0.10

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

VOLAC/SENSIENT, FELINFACH

Analysis of Liquid Sludge

Sample Name: Volac / Sensient 1

Report No: 91949

Sample No: 166297

Date: 08/05/2025

Application rate (t/ha) 45.0
Application rate (t/acre) 18.2
pH 7.76
Dry solids (%) 1.81

Organic Matter (%) 0.98

NUTRIENT CONTENT

	result	units	Total		Available	
			(kg/t)	(kg/ha)	(kg/t)	(kg/ha)
Nitrogen (N)	0.11	%	1.1	50	0.2	10
Ammonium-N	588	mg/kg	0.6	26		
Phosphorus (P)	525	mg/kg	0.5	24		
Phosphate (P ₂ O ₅)			1.2	54	0.7	32
Potassium (K)	1061	mg/kg	1.1	48		
Potash (K ₂ O)			1.3	57	1.0	46
Magnesium (Mg)	90.9	mg/kg	0.1	4		
Magnesium (MgO)			0.2	7	0.0	1
Sulphur (S)	81	mg/kg	0.1	4		
Sulphur (SO ₃)			0.2	9	0.0	2

POTENTIALLY TOXIC ELEMENTS

	result	units	Rate		Limit
			(g/tonne)	(kg/ha)	(kg/ha/yr)
Zinc	1.55	mg/kg	1.55	0.07	15.00
Copper	0.20	mg/kg	0.20	0.01	7.50
Nickel	0.20	mg/kg	0.20	0.01	3.00
Lead	0.50	mg/kg	0.50	0.02	15.00
Cadmium	0.01	mg/kg	0.01	0.00	0.15
Chromium	0.23	mg/kg	0.23	0.01	15.00
Mercury	0.05	mg/kg	0.05	0.00	0.10

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

VOLAC/SENSIENT, FELINFACH

Analysis of Liquid Sludge

Sample Name: Volac / Sensient 1

Report No: 91949

Sample No: 166297

Date: 08/05/2025

Application rate (t/ha) 52.0
Application rate (t/acre) 21.0
pH 7.76
Dry solids (%) 1.81

Organic Matter (%) 0.98

NUTRIENT CONTENT

	result	units	Total		Available	
			(kg/t)	(kg/ha)	(kg/t)	(kg/ha)
Nitrogen (N)	0.11	%	1.1	57	0.2	11
Ammonium-N	588	mg/kg	0.6	31		
Phosphorus (P)	525	mg/kg	0.5	27		
Phosphate (P ₂ O ₅)			1.2	63	0.7	38
Potassium (K)	1061	mg/kg	1.1	55		
Potash (K ₂ O)			1.3	66	1.0	53
Magnesium (Mg)	90.9	mg/kg	0.1	5		
Magnesium (MgO)			0.2	8	0.0	1
Sulphur (S)	81	mg/kg	0.1	4		
Sulphur (SO ₃)			0.2	11	0.0	2

POTENTIALLY TOXIC ELEMENTS

	result	units	Rate		Limit
			(g/tonne)	(kg/ha)	(kg/ha/yr)
Zinc	1.55	mg/kg	1.55	0.08	15.00
Copper	0.20	mg/kg	0.20	0.01	7.50
Nickel	0.20	mg/kg	0.20	0.01	3.00
Lead	0.50	mg/kg	0.50	0.03	15.00
Cadmium	0.01	mg/kg	0.01	0.00	0.15
Chromium	0.23	mg/kg	0.23	0.01	15.00
Mercury	0.05	mg/kg	0.05	0.00	0.10

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

VOLAC/SENSIENT, FELINFACH

Analysis of Liquid Sludge

Sample Name: Volac / Sensient 1

Report No: 91949

Sample No: 166297

Date: 08/05/2025

Application rate (t/ha) 98.0
Application rate (t/acre) 39.7
pH 7.76
Dry solids (%) 1.81

Organic Matter (%) 0.98

NUTRIENT CONTENT

	result	units	Total		Available	
			(kg/t)	(kg/ha)	(kg/t)	(kg/ha)
Nitrogen (N)	0.11	%	1.1	108	0.2	22
Ammonium-N	588	mg/kg	0.6	58		
Phosphorus (P)	525	mg/kg	0.5	51		
Phosphate (P ₂ O ₅)			1.2	118	0.7	71
Potassium (K)	1061	mg/kg	1.1	104		
Potash (K ₂ O)			1.3	125	1.0	100
Magnesium (Mg)	90.9	mg/kg	0.1	9		
Magnesium (MgO)			0.2	15	0.0	1
Sulphur (S)	81	mg/kg	0.1	8		
Sulphur (SO ₃)			0.2	20	0.0	4

POTENTIALLY TOXIC ELEMENTS

	result	units	Rate		Limit
			(g/tonne)	(kg/ha)	(kg/ha/yr)
Zinc	1.55	mg/kg	1.55	0.15	15.00
Copper	0.20	mg/kg	0.20	0.02	7.50
Nickel	0.20	mg/kg	0.20	0.02	3.00
Lead	0.50	mg/kg	0.50	0.05	15.00
Cadmium	0.01	mg/kg	0.01	0.00	0.15
Chromium	0.23	mg/kg	0.23	0.02	15.00
Mercury	0.05	mg/kg	0.05	0.00	0.10

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

VOLAC/SENSIENT, FELINFACH

Analysis of Liquid Sludge

Sample Name: Volac / Sensient 1

Report No: 91949

Sample No: 166297

Date: 08/05/2025

Application rate (t/ha) 100.0
Application rate (t/acre) 40.5
pH 7.76
Dry solids (%) 1.81

Organic Matter (%) 0.98

NUTRIENT CONTENT

	result	units	Total		Available	
			(kg/t)	(kg/ha)	(kg/t)	(kg/ha)
Nitrogen (N)	0.11	%	1.1	110	0.2	22
Ammonium-N	588	mg/kg	0.6	59		
Phosphorus (P)	525	mg/kg	0.5	53		
Phosphate (P ₂ O ₅)			1.2	120	0.7	72
Potassium (K)	1061	mg/kg	1.1	106		
Potash (K ₂ O)			1.3	127	1.0	102
Magnesium (Mg)	90.9	mg/kg	0.1	9		
Magnesium (MgO)			0.2	15	0.0	2
Sulphur (S)	81	mg/kg	0.1	8		
Sulphur (SO ₃)			0.2	20	0.0	4

POTENTIALLY TOXIC ELEMENTS

	result	units	Rate		Limit
			(g/tonne)	(kg/ha)	(kg/ha/yr)
Zinc	1.55	mg/kg	1.55	0.16	15.00
Copper	0.20	mg/kg	0.20	0.02	7.50
Nickel	0.20	mg/kg	0.20	0.02	3.00
Lead	0.50	mg/kg	0.50	0.05	15.00
Cadmium	0.01	mg/kg	0.01	0.00	0.15
Chromium	0.23	mg/kg	0.23	0.02	15.00
Mercury	0.05	mg/kg	0.05	0.01	0.10

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

VOLAC/SENSIENT, FELINFACH

Analysis of Liquid Sludge

Sample Name: Volac / Sensient 1

Report No: 91949

Sample No: 166297

Date: 08/05/2025

Application rate (t/ha) 131.0
Application rate (t/acre) 53.0
pH 7.76
Dry solids (%) 1.81

Organic Matter (%) 0.98

NUTRIENT CONTENT

	result	units	Total		Available	
			(kg/t)	(kg/ha)	(kg/t)	(kg/ha)
Nitrogen (N)	0.11	%	1.1	144	0.2	29
Ammonium-N	588	mg/kg	0.6	77		
Phosphorus (P)	525	mg/kg	0.5	69		
Phosphate (P ₂ O ₅)			1.2	157	0.7	94
Potassium (K)	1061	mg/kg	1.1	139		
Potash (K ₂ O)			1.3	167	1.0	133
Magnesium (Mg)	90.9	mg/kg	0.1	12		
Magnesium (MgO)			0.2	20	0.0	2
Sulphur (S)	81	mg/kg	0.1	11		
Sulphur (SO ₃)			0.2	27	0.0	5

POTENTIALLY TOXIC ELEMENTS

	result	units	Rate		Limit
			(g/tonne)	(kg/ha)	(kg/ha/yr)
Zinc	1.55	mg/kg	1.55	0.20	15.00
Copper	0.20	mg/kg	0.20	0.03	7.50
Nickel	0.20	mg/kg	0.20	0.03	3.00
Lead	0.50	mg/kg	0.50	0.07	15.00
Cadmium	0.01	mg/kg	0.01	0.00	0.15
Chromium	0.23	mg/kg	0.23	0.03	15.00
Mercury	0.05	mg/kg	0.05	0.01	0.10

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

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LIQUID WASTE

SLURRY/SLUDGE ANALYSIS RESULTS

Sample Reference :

VOLAC/SENSIENT 1

Sample Matrix : SLURRY/SLUDGE

Laboratory References

Report Number 91949
Sample Number 166297

Date Received 08-MAY-2025
Date Reported 13-JUN-2025

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

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

ANALYTICAL RESULTS *on 'as received' basis.*

Determinand	Value	Units
Oven Dry Solids	1.81	%
E Coli [Fresh]	310	cfu/g
Conductivity 1:6	1917	uS/cm
Total Kjeldahl Nitrogen	0.11	% w/w
Nitrate Nitrogen	<10	mg/kg
Ammonium Nitrogen	588	mg/kg
Total Phosphorus (P)	525	mg/kg
Total Potassium (K)	1061	mg/kg
Total Magnesium (Mg)	90.9	mg/kg
Total Copper (Cu)	<0.2	mg/kg

Released by *Karen Mitchell*

Date *13/06/25*

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STEPSIDE AGRI

LIQUID WASTE

SLURRY/SLUDGE ANALYSIS RESULTS

Sample Reference :

VOLAC/SENSIENT 1

Sample Matrix : SLURRY/SLUDGE

Laboratory References

Report Number 91949
Sample Number 166297

Date Received 08-MAY-2025
Date Reported 13-JUN-2025

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)	1.55	mg/kg
Total Sulphur (S)	81.0	mg/kg
Total Calcium (Ca)	601	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)	0.23	mg/kg
Total Sodium (Na)	725	mg/kg
pH 1:6 [Fresh]	7.76	

Released by *Karen Mitchell*

Date *13/06/25*

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STEPSIDE AGRI

LIQUID WASTE

SLURRY/SLUDGE ANALYSIS RESULTS

Sample Reference :

VOLAC/SENSIENT 1

Sample Matrix : SLURRY/SLUDGE

Laboratory References

Report Number 91949
Sample Number 166297

Date Received 08-MAY-2025
Date Reported 13-JUN-2025

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	0.98	% w/w
Coliforms [fresh]	250000	cfu/g
B.O.D. [fresh]	8650	mg/l
C.O.D. [fresh]	18060	mg/kg
Oils,Fats and Grease	1099	mg/kg
Salmonella spp [fresh]	Negative	in 25g
EC [Neat]	9572	uS/cm

Released by *Karen Mitchell*

Date *13/06/25*

FIRST MILK, HAVERFORDWEST

Analysis of Liquid Sludge

Sample Name: Aqua Thin Sludge

Report No: 79190

Sample No: 162728

Date: 17/02/2025

Application rate (t/ha) 47.0
Application rate (t/acre) 19.0
pH 6.76
Dry solids (%) 2.41

Organic Matter (%) 1.97

NUTRIENT CONTENT

	result	units	Total		Available	
			(kg/t)	(kg/ha)	(kg/t)	(kg/ha)
Nitrogen (N)	0.19	%	1.9	89	0.4	18
Ammonium-N	53.4	mg/kg	0.1	3		
Phosphorus (P)	418	mg/kg	0.4	20		
Phosphate (P ₂ O ₅)			1.0	45	0.6	27
Potassium (K)	193	mg/kg	0.2	9		
Potash (K ₂ O)			0.2	11	0.2	9
Magnesium (Mg)	25.8	mg/kg	0.0	1		
Magnesium (MgO)			0.0	2	0.0	0
Sulphur (S)	118	mg/kg	0.1	6		
Sulphur (SO ₃)			0.3	14	0.1	3

POTENTIALLY TOXIC ELEMENTS

	result	units	Rate		Limit
			(g/tonne)	(kg/ha)	(kg/ha/yr)
Zinc	1.40	mg/kg	1.40	0.07	15.00
Copper	0.20	mg/kg	0.20	0.01	7.50
Nickel	0.20	mg/kg	0.20	0.01	3.00
Lead	0.50	mg/kg	0.50	0.02	15.00
Cadmium	0.01	mg/kg	0.01	0.00	0.15
Chromium	0.29	mg/kg	0.29	0.01	15.00
Mercury	0.05	mg/kg	0.05	0.00	0.10

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

FIRST MILK, HAVERFORDWEST

Analysis of Liquid Sludge

Sample Name: Aqua Thin Sludge

Report No: 79190

Sample No: 162728

Date: 17/02/2025

Application rate (t/ha) 57.0
Application rate (t/acre) 23.1
pH 6.76
Dry solids (%) 2.41

Organic Matter (%) 1.97

NUTRIENT CONTENT

	result	units	Total		Available	
			(kg/t)	(kg/ha)	(kg/t)	(kg/ha)
Nitrogen (N)	0.19	%	1.9	108	0.4	22
Ammonium-N	53.4	mg/kg	0.1	3		
Phosphorus (P)	418	mg/kg	0.4	24		
Phosphate (P ₂ O ₅)			1.0	55	0.6	33
Potassium (K)	193	mg/kg	0.2	11		
Potash (K ₂ O)			0.2	13	0.2	11
Magnesium (Mg)	25.8	mg/kg	0.0	1		
Magnesium (MgO)			0.0	2	0.0	0
Sulphur (S)	118	mg/kg	0.1	7		
Sulphur (SO ₃)			0.3	17	0.1	3

POTENTIALLY TOXIC ELEMENTS

	result	units	Rate		Limit
			(g/tonne)	(kg/ha)	(kg/ha/yr)
Zinc	1.40	mg/kg	1.40	0.08	15.00
Copper	0.20	mg/kg	0.20	0.01	7.50
Nickel	0.20	mg/kg	0.20	0.01	3.00
Lead	0.50	mg/kg	0.50	0.03	15.00
Cadmium	0.01	mg/kg	0.01	0.00	0.15
Chromium	0.29	mg/kg	0.29	0.02	15.00
Mercury	0.05	mg/kg	0.05	0.00	0.10

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

FIRST MILK, HAVERFORDWEST

Analysis of Liquid Sludge

Sample Name: Aqua Thin Sludge

Report No: 79190

Sample No: 162728

Date: 17/02/2025

Application rate (t/ha) 65.0
Application rate (t/acre) 26.3
pH 6.76
Dry solids (%) 2.41

Organic Matter (%) 1.97

NUTRIENT CONTENT

	result	units	Total		Available	
			(kg/t)	(kg/ha)	(kg/t)	(kg/ha)
Nitrogen (N)	0.19	%	1.9	124	0.4	25
Ammonium-N	53.4	mg/kg	0.1	3		
Phosphorus (P)	418	mg/kg	0.4	27		
Phosphate (P ₂ O ₅)			1.0	62	0.6	37
Potassium (K)	193	mg/kg	0.2	13		
Potash (K ₂ O)			0.2	15	0.2	12
Magnesium (Mg)	25.8	mg/kg	0.0	2		
Magnesium (MgO)			0.0	3	0.0	0
Sulphur (S)	118	mg/kg	0.1	8		
Sulphur (SO ₃)			0.3	19	0.1	4

POTENTIALLY TOXIC ELEMENTS

	result	units	Rate		Limit
			(g/tonne)	(kg/ha)	(kg/ha/yr)
Zinc	1.40	mg/kg	1.40	0.09	15.00
Copper	0.20	mg/kg	0.20	0.01	7.50
Nickel	0.20	mg/kg	0.20	0.01	3.00
Lead	0.50	mg/kg	0.50	0.03	15.00
Cadmium	0.01	mg/kg	0.01	0.00	0.15
Chromium	0.29	mg/kg	0.29	0.02	15.00
Mercury	0.05	mg/kg	0.05	0.00	0.10

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

FIRST MILK, HAVERFORDWEST

Analysis of Liquid Sludge

Sample Name: Aqua Thin Sludge

Report No: 79190

Sample No: 162728

Date: 17/02/2025

Application rate (t/ha) 100.0
Application rate (t/acre) 40.5
pH 6.76
Dry solids (%) 2.41

Organic Matter (%) 1.97

NUTRIENT CONTENT

	result	units	Total		Available	
			(kg/t)	(kg/ha)	(kg/t)	(kg/ha)
Nitrogen (N)	0.19	%	1.9	190	0.4	38
Ammonium-N	53.4	mg/kg	0.1	5		
Phosphorus (P)	418	mg/kg	0.4	42		
Phosphate (P ₂ O ₅)			1.0	96	0.6	57
Potassium (K)	193	mg/kg	0.2	19		
Potash (K ₂ O)			0.2	23	0.2	19
Magnesium (Mg)	25.8	mg/kg	0.0	3		
Magnesium (MgO)			0.0	4	0.0	0
Sulphur (S)	118	mg/kg	0.1	12		
Sulphur (SO ₃)			0.3	30	0.1	6

POTENTIALLY TOXIC ELEMENTS

	result	units	Rate		Limit
			(g/tonne)	(kg/ha)	(kg/ha/yr)
Zinc	1.40	mg/kg	1.40	0.14	15.00
Copper	0.20	mg/kg	0.20	0.02	7.50
Nickel	0.20	mg/kg	0.20	0.02	3.00
Lead	0.50	mg/kg	0.50	0.05	15.00
Cadmium	0.01	mg/kg	0.01	0.00	0.15
Chromium	0.29	mg/kg	0.29	0.03	15.00
Mercury	0.05	mg/kg	0.05	0.01	0.10

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

FIRST MILK, HAVERFORDWEST

Analysis of Liquid Sludge

Sample Name: Aqua Thin Sludge

Report No: 79190

Sample No: 162728

Date: 17/02/2025

Application rate (t/ha) 126.0
Application rate (t/acre) 51.0
pH 6.76
Dry solids (%) 2.41

Organic Matter (%) 1.97

NUTRIENT CONTENT

	result	units	Total		Available	
			(kg/t)	(kg/ha)	(kg/t)	(kg/ha)
Nitrogen (N)	0.19	%	1.9	239	0.4	48
Ammonium-N	53.4	mg/kg	0.1	7		
Phosphorus (P)	418	mg/kg	0.4	53		
Phosphate (P ₂ O ₅)			1.0	121	0.6	72
Potassium (K)	193	mg/kg	0.2	24		
Potash (K ₂ O)			0.2	29	0.2	23
Magnesium (Mg)	25.8	mg/kg	0.0	3		
Magnesium (MgO)			0.0	5	0.0	1
Sulphur (S)	118	mg/kg	0.1	15		
Sulphur (SO ₃)			0.3	37	0.1	7

POTENTIALLY TOXIC ELEMENTS

	result	units	Rate		Limit
			(g/tonne)	(kg/ha)	(kg/ha/yr)
Zinc	1.40	mg/kg	1.40	0.18	15.00
Copper	0.20	mg/kg	0.20	0.03	7.50
Nickel	0.20	mg/kg	0.20	0.03	3.00
Lead	0.50	mg/kg	0.50	0.06	15.00
Cadmium	0.01	mg/kg	0.01	0.00	0.15
Chromium	0.29	mg/kg	0.29	0.04	15.00
Mercury	0.05	mg/kg	0.05	0.01	0.10

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

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AQUA OPERATIONS
FIRST MILK

THIN SLUDGE

THIN SLUDGE ANALYSIS

Sample Reference :

AQUA THIN SLUDGE

Sample Matrix : THIN SLUDGE

Laboratory References

Report Number	79190
Sample Number	162728

Date Received	17-FEB-2025
Date Reported	27-FEB-2025

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	2.41	%
E Coli [Fresh]	20	cfu/g
Conductivity 1:6	649	uS/cm
Total Kjeldahl Nitrogen	0.19	% w/w
Nitrate Nitrogen	<10	mg/kg
Ammonium Nitrogen	53.4	mg/kg
Total Phosphorus (P)	418	mg/kg
Total Potassium (K)	193	mg/kg
Total Magnesium (Mg)	25.8	mg/kg
Total Copper (Cu)	<0.2	mg/kg

Released by *Teresa Clyne*

Date *27/02/25*

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AQUA OPERATIONS
FIRST MILK

THIN SLUDGE

THIN SLUDGE ANALYSIS

Sample Reference :

AQUA THIN SLUDGE

Sample Matrix : THIN SLUDGE

Laboratory References

Report Number	79190
Sample Number	162728

Date Received	17-FEB-2025
Date Reported	27-FEB-2025

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)	1.40	mg/kg
Total Sulphur (S)	118	mg/kg
Total Calcium (Ca)	293	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)	0.29	mg/kg
Total Sodium (Na)	387	mg/kg
pH 1:6 [Fresh]	6.76	

Released by *Teresa Clyne*

Date *27/02/25*

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AQUA OPERATIONS
FIRST MILK

THIN SLUDGE

THIN SLUDGE ANALYSIS

Sample Reference :

AQUA THIN SLUDGE

Sample Matrix : THIN SLUDGE

Laboratory References

Report Number	79190
Sample Number	162728

Date Received	17-FEB-2025
Date Reported	27-FEB-2025

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	1.97	% w/w
Coliforms [fresh]	32000	cfu/g
B.O.D. [fresh]	12200	mg/l
C.O.D. [fresh]	26790	mg/kg
Oils,Fats and Grease	1820	mg/kg
Salmonella spp [fresh]	Negative	in 25g
EC [Neat]	2137	uS/cm

Released by *Teresa Clyne*

Date *27/02/25*

DWR CYMRU WELSH WATER - LLECHRYD WTW

Analysis of liquid water clarification sludge

Sampling Point No: 100504

Sample ID: 8511042

Date: 04/09/2025

Application rate (t/ha)	100.0
Application rate (t/acre)	40.5
pH	6.9
Dry solids (%)	3.06

NUTRIENT CONTENT

	Dry Wt result	Wet Wt result	Units	Total		Available	
				(kg/t)	(kg/ha)	(kg/t)	(kg/ha)
Nitrogen (N)	0.976	0.03	%	0.3	30	0.0	3
Ammonium N	200	6.12	mg/kg	0.0	1		
Phosphorus (P)	5550	169.83	mg/kg	0.2	17		
Phosphate (P ₂ O ₅)		0.00		0.4	39	0.1	8
Potassium (K)	572	17.50	mg/kg	0.0	2		
Potash (K ₂ O)		0.00		0.0	2	0.0	0
Magnesium (Mg)	841	25.73	mg/kg	0.0	3		
Magnesium (MgO)		0.00		0.0	4	0.0	1
Sulphur (S)	3160	96.70	mg/kg	0.1	10		
Sulphur (SO ₃)		0.00		0.2	24	0.0	2

POTENTIALLY TOXIC ELEMENTS

	Dry Wt result	Wet Wt result	Units	Rate		Limit	% of Annual Addition Limit
				(g/tonne)	(kg/ha)	(kg/ha/yr)	
Zinc	133	4.07	mg/kg	4.07	0.41	15.00	3%
Copper	51.3	1.57	mg/kg	1.57	0.16	7.50	2%
Nickel	33.5	1.03	mg/kg	1.03	0.10	3.00	3%
Lead	40.8	1.25	mg/kg	1.25	0.12	15.00	1%
Cadmium	0.72	0.02	mg/kg	0.02	0.00	0.15	1%
Chromium	28.3	0.87	mg/kg	0.87	0.09	15.00	1%
Arsenic	28.2	0.86	mg/kg	0.86	0.09	0.70	12%
Mercury	0.66	0.02	mg/kg	0.02	0.00	0.10	2%
<u>Other Elements</u>							
Iron	314000	9608.40	mg/kg	9608.40	961		
Aluminium	3080	94.25	mg/kg	94.25	9		

DWR CYMRU WELSH WATER - LLECHRYD WTW

Analysis of liquid water clarification sludge

Sampling Point No: 100504

Sample ID: 8511042

Date: 04/09/2025

Application rate (t/ha)	250.0
Application rate (t/acre)	101.2
pH	6.9
Dry solids (%)	3.06

NUTRIENT CONTENT

	Dry Wt result	Wet Wt result	Units	Total		Available	
				(kg/t)	(kg/ha)	(kg/t)	(kg/ha)
Nitrogen (N)	0.976	0.03	%	0.3	75	0.0	7
Ammonium N	200	6.12	mg/kg	0.0	2		
Phosphorus (P)	5550	169.83	mg/kg	0.2	42		
Phosphate (P ₂ O ₅)		0.00		0.4	97	0.1	19
Potassium (K)	572	17.50	mg/kg	0.0	4		
Potash (K ₂ O)		0.00		0.0	5	0.0	1
Magnesium (Mg)	841	25.73	mg/kg	0.0	6		
Magnesium (MgO)		0.00		0.0	11	0.0	2
Sulphur (S)	3160	96.70	mg/kg	0.1	24		
Sulphur (SO ₃)		0.00		0.2	60	0.0	6

POTENTIALLY TOXIC ELEMENTS

	Dry Wt result	Wet Wt result	Units	Rate		Limit	% of Annual Addition Limit
				(g/tonne)	(kg/ha)	(kg/ha/yr)	
Zinc	133	4.07	mg/kg	4.07	1.02	15.00	7%
Copper	51.3	1.57	mg/kg	1.57	0.39	7.50	5%
Nickel	33.5	1.03	mg/kg	1.03	0.26	3.00	9%
Lead	40.8	1.25	mg/kg	1.25	0.31	15.00	2%
Cadmium	0.72	0.02	mg/kg	0.02	0.01	0.15	4%
Chromium	28.3	0.87	mg/kg	0.87	0.22	15.00	1%
Arsenic	28.2	0.86	mg/kg	0.86	0.22	0.70	31%
Mercury	0.66	0.02	mg/kg	0.02	0.01	0.10	5%
Other Elements							
Iron	314000	9608.40	mg/kg	9608.40	2402		
Aluminium	3080	94.25	mg/kg	94.25	24		

Sampling Point No:	100504	Location:	LLECHRYD WTW SLUDGE TANKERING POINT
Date Sampled:	04/09/2025	Time Taken:	09:26
Laboratory:	ALS	Sample ID:	8511042
No. of Results:	20		
Sampling Reason:	WTW Sludge - Product Monitoring (SW_ME)		
Type:	WTW Sludge (SW)		

Sample Results



Code	Result	Units	Qualifier	Lower Limit
238 Magnesium	841	mg/kg		
288 Aluminium	3080	mg/kg		
357 Arsenic	28.2	mg/kg		
4620 pH	6.9	pH		
7774 Mercury	0.66	mg/kg	<	
8241 Volatile solids	42.6	%		
9233 Ammoniacal nitrogen	200	mg/kg	<	
9234 Sulphur	3160	mg/kg		
9271 Cadmium	0.72	mg/kg	<	
9272 Chromium	28.3	mg/kg	<	
9273 Copper	51.3	mg/kg	<	
9275 Nickel	33.5	mg/kg	<	
9276 Lead	40.8	mg/kg	<	
9277 Zinc	133	mg/kg		
9278 Iron	314000	mg/kg		
9281 % Dry solids	3.06	%		
9282 % Minerals	57.4	%		
9283 % K (dry weight)	0.0572	mg/kg	<	
9284 % P (dry weight)	0.555	%		
9285 % N (dry weight)	0.976	%		

Comments:

Signed:

Approved by:

Position:

Upper Limit

DWR CYMRU WELSH WATER - STRATA FLORIDA WTW

Analysis of liquid water clarification sludge

Sampling Point No: 100519

Sample ID: 8207138

Date: 03/12/2024

Application rate (t/ha)	100.0
Application rate (t/acre)	40.5
pH	6.6
Dry solids (%)	2.88

NUTRIENT CONTENT

	Dry Wt result	Wet Wt result	Units	Total		Available	
				(kg/t)	(kg/ha)	(kg/t)	(kg/ha)
Nitrogen (N)	1.38	0.04	%	0.4	40	0.0	4
Ammonium N	213	6.13	mg/kg	0.0	1		
Phosphorus (P)	1640	47.23	mg/kg	0.0	5		
Phosphate (P ₂ O ₅)		0.00		0.1	11	0.0	2
Potassium (K)	186	5.36	mg/kg	0.0	1		
Potash (K ₂ O)		0.00		0.0	1	0.0	0
Magnesium (Mg)	249	7.17	mg/kg	0.0	1		
Magnesium (MgO)		0.00		0.0	1	0.0	0
Sulphur (S)	4350	125.28	mg/kg	0.1	13		
Sulphur (SO ₃)		0.00		0.3	31	0.0	3

POTENTIALLY TOXIC ELEMENTS

	Dry Wt result	Wet Wt result	Units	Rate		Limit	% of Annual Addition Limit
				(g/tonne)	(kg/ha)	(kg/ha/yr)	
Zinc	44.5	1.28	mg/kg	1.28	0.13	15.00	1%
Copper	13.7	0.39	mg/kg	0.39	0.04	7.50	1%
Nickel	3	0.09	mg/kg	0.09	0.01	3.00	0%
Lead	4.53	0.13	mg/kg	0.13	0.01	15.00	0%
Cadmium	0.33	0.01	mg/kg	0.01	0.00	0.15	1%
Chromium	2.37	0.07	mg/kg	0.07	0.01	15.00	0%
Arsenic	33.3	0.96	mg/kg	0.96	0.10	0.70	14%
Mercury	1.4	0.04	mg/kg	0.04	0.00	0.10	4%
<u>Other Elements</u>							
Iron	16000	460.80	mg/kg	460.80	46		
Aluminium	105000	3024.00	mg/kg	3024.00	302		

DWR CYMRU WELSH WATER - STRATA FLORIDA WTW

Analysis of liquid water clarification sludge

Sampling Point No: 100519

Sample ID: 8207138

Date: 03/12/2024

Application rate (t/ha)	250.0
Application rate (t/acre)	101.2
pH	6.6
Dry solids (%)	2.88

NUTRIENT CONTENT

	Dry Wt result	Wet Wt result	Units	Total		Available	
				(kg/t)	(kg/ha)	(kg/t)	(kg/ha)
Nitrogen (N)	1.38	0.04	%	0.4	99	0.0	10
Ammonium N	213	6.13	mg/kg	0.0	2		
Phosphorus (P)	1640	47.23	mg/kg	0.0	12		
Phosphate (P ₂ O ₅)		0.00		0.1	27	0.0	5
Potassium (K)	186	5.36	mg/kg	0.0	1		
Potash (K ₂ O)		0.00		0.0	2	0.0	0
Magnesium (Mg)	249	7.17	mg/kg	0.0	2		
Magnesium (MgO)		0.00		0.0	3	0.0	1
Sulphur (S)	4350	125.28	mg/kg	0.1	31		
Sulphur (SO ₃)		0.00		0.3	78	0.0	8

POTENTIALLY TOXIC ELEMENTS

	Dry Wt result	Wet Wt result	Units	Rate		Limit	% of Annual Addition Limit
				(g/tonne)	(kg/ha)	(kg/ha/yr)	
Zinc	44.5	1.28	mg/kg	1.28	0.32	15.00	2%
Copper	13.7	0.39	mg/kg	0.39	0.10	7.50	1%
Nickel	3	0.09	mg/kg	0.09	0.02	3.00	1%
Lead	4.53	0.13	mg/kg	0.13	0.03	15.00	0%
Cadmium	0.33	0.01	mg/kg	0.01	0.00	0.15	2%
Chromium	2.37	0.07	mg/kg	0.07	0.02	15.00	0%
Arsenic	33.3	0.96	mg/kg	0.96	0.24	0.70	34%
Mercury	1.4	0.04	mg/kg	0.04	0.01	0.10	10%
Other Elements							
Iron	16000	460.80	mg/kg	460.80	115		
Aluminium	105000	3024.00	mg/kg	3024.00	756		

Sampling Point No:	100519	Location:	STRATA FLORIDA WTW SLUDGE TANKERING POINT
Date Sampled:	03/12/2024	Time Taken:	12:06
Laboratory:	ALS	Sample ID:	8207138
No. of Results:	20		
Sampling Reason:	WTW Sludge - Product Monitoring (SW_ME)		
Type:	WTW Sludge (SW)		

Sample Results



Code	Result	Units	Qualifier	Lower Limit
238 Magnesium	249	mg/kg		
288 Aluminium	105000	mg/kg		
357 Arsenic	33.3	mg/kg		
4620 pH	6.6	pH		
7774 Mercury	1.4	mg/kg	<	
8241 Volatile solids	58	%		
9233 Ammoniacal nitrogen	213	mg/kg	<	
9234 Sulphur	4350	mg/kg		
9271 Cadmium	0.33	mg/kg	<	
9272 Chromium	2.37	mg/kg	<	
9273 Copper	13.7	mg/kg		
9275 Nickel	3	mg/kg	<	
9276 Lead	4.53	mg/kg	<	
9277 Zinc	44.5	mg/kg		
9278 Iron	16000	mg/kg		
9281 % Dry solids	2.88	%		
9282 % Minerals	42	%		
9283 % K (dry weight)	0.0186	mg/kg		
9284 % P (dry weight)	0.164	%		
9285 % N (dry weight)	1.38	%		

Comments:

Signed:

Approved by:

Position:

Upper Limit

DWR CYMRU WELSH WATER - BONTGOCH WTW

Analysis of liquid water clarification sludge

Sampling Point No: 100521

Sample ID: 8443895

Date: 10/07/2025

Application rate (t/ha)	59.0
Application rate (t/acre)	23.9
pH	7.8
Dry solids (%)	4.14

NUTRIENT CONTENT

	Dry Wt result	Wet Wt result	Units	Total		Available	
				(kg/t)	(kg/ha)	(kg/t)	(kg/ha)
Nitrogen (N)	1.21	0.05	%	0.5	30	0.1	3
Ammonium N	973	40.28	mg/kg	0.0	2		
Phosphorus (P)	8000	331.20	mg/kg	0.3	20		
Phosphate (P ₂ O ₅)		0.00		0.8	45	0.2	9
Potassium (K)	418	17.31	mg/kg	0.0	1		
Potash (K ₂ O)		0.00		0.0	1	0.0	0
Magnesium (Mg)	973	40.28	mg/kg	0.0	2		
Magnesium (MgO)		0.00		0.1	4	0.0	1
Sulphur (S)	3370	139.52	mg/kg	0.1	8		
Sulphur (SO ₃)		0.00		0.3	21	0.0	2

POTENTIALLY TOXIC ELEMENTS

	Dry Wt result	Wet Wt result	Units	Rate		Limit	% of Annual Addition Limit
				(g/tonne)	(kg/ha)	(kg/ha/yr)	
Zinc	547	22.65	mg/kg	22.65	1.34	15.00	9%
Copper	37.4	1.55	mg/kg	1.55	0.09	7.50	1%
Nickel	26.3	1.09	mg/kg	1.09	0.06	3.00	2%
Lead	102	4.22	mg/kg	4.22	0.25	15.00	2%
Cadmium	1.06	0.04	mg/kg	0.04	0.00	0.15	2%
Chromium	20.6	0.85	mg/kg	0.85	0.05	15.00	0%
Arsenic	60.8	2.52	mg/kg	2.52	0.15	0.70	21%
Mercury	0.48	0.02	mg/kg	0.02	0.00	0.10	1%
<u>Other Elements</u>							
Iron	394000	16311.60	mg/kg	16311.60	962		
Aluminium	7990	330.79	mg/kg	330.79	20		

DWR CYMRU WELSH WATER - BONTGOCH WTW

Analysis of liquid water clarification sludge

Sampling Point No: 100521

Sample ID: 8443895

Date: 10/07/2025

Application rate (t/ha)	72.0
Application rate (t/acre)	29.1
pH	7.8
Dry solids (%)	4.14

NUTRIENT CONTENT

	Dry Wt result	Wet Wt result	Units	Total		Available	
				(kg/t)	(kg/ha)	(kg/t)	(kg/ha)
Nitrogen (N)	1.21	0.05	%	0.5	36	0.1	4
Ammonium N	973	40.28	mg/kg	0.0	3		
Phosphorus (P)	8000	331.20	mg/kg	0.3	24		
Phosphate (P ₂ O ₅)		0.00		0.8	55	0.2	11
Potassium (K)	418	17.31	mg/kg	0.0	1		
Potash (K ₂ O)		0.00		0.0	1	0.0	0
Magnesium (Mg)	973	40.28	mg/kg	0.0	3		
Magnesium (MgO)		0.00		0.1	5	0.0	1
Sulphur (S)	3370	139.52	mg/kg	0.1	10		
Sulphur (SO ₃)		0.00		0.3	25	0.0	3

POTENTIALLY TOXIC ELEMENTS

	Dry Wt result	Wet Wt result	Units	Rate		Limit	% of Annual Addition Limit
				(g/tonne)	(kg/ha)	(kg/ha/yr)	
Zinc	547	22.65	mg/kg	22.65	1.63	15.00	11%
Copper	37.4	1.55	mg/kg	1.55	0.11	7.50	1%
Nickel	26.3	1.09	mg/kg	1.09	0.08	3.00	3%
Lead	102	4.22	mg/kg	4.22	0.30	15.00	2%
Cadmium	1.06	0.04	mg/kg	0.04	0.00	0.15	2%
Chromium	20.6	0.85	mg/kg	0.85	0.06	15.00	0%
Arsenic	60.8	2.52	mg/kg	2.52	0.18	0.70	26%
Mercury	0.48	0.02	mg/kg	0.02	0.00	0.10	1%
Other Elements							
Iron	394000	16311.60	mg/kg	16311.60	1174		
Aluminium	7990	330.79	mg/kg	330.79	24		

DWR CYMRU WELSH WATER - BONTGOCH WTW

Analysis of liquid water clarification sludge

Sampling Point No: 100521

Sample ID: 8443895

Date: 10/07/2025

Application rate (t/ha)	83.0
Application rate (t/acre)	33.6
pH	7.8
Dry solids (%)	4.14

NUTRIENT CONTENT

	Dry Wt result	Wet Wt result	Units	Total		Available	
				(kg/t)	(kg/ha)	(kg/t)	(kg/ha)
Nitrogen (N)	1.21	0.05	%	0.5	42	0.1	4
Ammonium N	973	40.28	mg/kg	0.0	3		
Phosphorus (P)	8000	331.20	mg/kg	0.3	27		
Phosphate (P ₂ O ₅)		0.00		0.8	63	0.2	13
Potassium (K)	418	17.31	mg/kg	0.0	1		
Potash (K ₂ O)		0.00		0.0	2	0.0	0
Magnesium (Mg)	973	40.28	mg/kg	0.0	3		
Magnesium (MgO)		0.00		0.1	6	0.0	1
Sulphur (S)	3370	139.52	mg/kg	0.1	12		
Sulphur (SO ₃)		0.00		0.3	29	0.0	3

POTENTIALLY TOXIC ELEMENTS

	Dry Wt result	Wet Wt result	Units	Rate		Limit	% of Annual Addition Limit
				(g/tonne)	(kg/ha)	(kg/ha/yr)	
Zinc	547	22.65	mg/kg	22.65	1.88	15.00	13%
Copper	37.4	1.55	mg/kg	1.55	0.13	7.50	2%
Nickel	26.3	1.09	mg/kg	1.09	0.09	3.00	3%
Lead	102	4.22	mg/kg	4.22	0.35	15.00	2%
Cadmium	1.06	0.04	mg/kg	0.04	0.00	0.15	2%
Chromium	20.6	0.85	mg/kg	0.85	0.07	15.00	0%
Arsenic	60.8	2.52	mg/kg	2.52	0.21	0.70	30%
Mercury	0.48	0.02	mg/kg	0.02	0.00	0.10	2%
<u>Other Elements</u>							
Iron	394000	16311.60	mg/kg	16311.60	1354		
Aluminium	7990	330.79	mg/kg	330.79	27		

DWR CYMRU WELSH WATER - BONTGOCH WTW

Analysis of liquid water clarification sludge

Sampling Point No: 100521

Sample ID: 8443895

Date: 10/07/2025

Application rate (t/ha)	100.0
Application rate (t/acre)	40.5
pH	7.8
Dry solids (%)	4.14

NUTRIENT CONTENT

	Dry Wt result	Wet Wt result	Units	Total		Available	
				(kg/t)	(kg/ha)	(kg/t)	(kg/ha)
Nitrogen (N)	1.21	0.05	%	0.5	50	0.1	5
Ammonium N	973	40.28	mg/kg	0.0	4		
Phosphorus (P)	8000	331.20	mg/kg	0.3	33		
Phosphate (P ₂ O ₅)		0.00		0.8	76	0.2	15
Potassium (K)	418	17.31	mg/kg	0.0	2		
Potash (K ₂ O)		0.00		0.0	2	0.0	0
Magnesium (Mg)	973	40.28	mg/kg	0.0	4		
Magnesium (MgO)		0.00		0.1	7	0.0	1
Sulphur (S)	3370	139.52	mg/kg	0.1	14		
Sulphur (SO ₃)		0.00		0.3	35	0.0	3

POTENTIALLY TOXIC ELEMENTS

	Dry Wt result	Wet Wt result	Units	Rate		Limit	% of Annual Addition Limit
				(g/tonne)	(kg/ha)	(kg/ha/yr)	
Zinc	547	22.65	mg/kg	22.65	2.26	15.00	15%
Copper	37.4	1.55	mg/kg	1.55	0.15	7.50	2%
Nickel	26.3	1.09	mg/kg	1.09	0.11	3.00	4%
Lead	102	4.22	mg/kg	4.22	0.42	15.00	3%
Cadmium	1.06	0.04	mg/kg	0.04	0.00	0.15	3%
Chromium	20.6	0.85	mg/kg	0.85	0.09	15.00	1%
Arsenic	60.8	2.52	mg/kg	2.52	0.25	0.70	36%
Mercury	0.48	0.02	mg/kg	0.02	0.00	0.10	2%
Other Elements							
Iron	394000	16311.60	mg/kg	16311.60	1631		
Aluminium	7990	330.79	mg/kg	330.79	33		

DWR CYMRU WELSH WATER - BONTGOCH WTW

Analysis of liquid water clarification sludge

Sampling Point No: 100521

Sample ID: 8443895

Date: 10/07/2025

Application rate (t/ha)	200.0
Application rate (t/acre)	80.9
pH	7.8
Dry solids (%)	4.14

NUTRIENT CONTENT

	Dry Wt result	Wet Wt result	Units	Total		Available	
				(kg/t)	(kg/ha)	(kg/t)	(kg/ha)
Nitrogen (N)	1.21	0.05	%	0.5	100	0.1	10
Ammonium N	973	40.28	mg/kg	0.0	8		
Phosphorus (P)	8000	331.20	mg/kg	0.3	66		
Phosphate (P ₂ O ₅)		0.00		0.8	152	0.2	30
Potassium (K)	418	17.31	mg/kg	0.0	3		
Potash (K ₂ O)		0.00		0.0	4	0.0	1
Magnesium (Mg)	973	40.28	mg/kg	0.0	8		
Magnesium (MgO)		0.00		0.1	13	0.0	3
Sulphur (S)	3370	139.52	mg/kg	0.1	28		
Sulphur (SO ₃)		0.00		0.3	70	0.0	7

POTENTIALLY TOXIC ELEMENTS

	Dry Wt result	Wet Wt result	Units	Rate		Limit	% of Annual Addition Limit
				(g/tonne)	(kg/ha)	(kg/ha/yr)	
Zinc	547	22.65	mg/kg	22.65	4.53	15.00	30%
Copper	37.4	1.55	mg/kg	1.55	0.31	7.50	4%
Nickel	26.3	1.09	mg/kg	1.09	0.22	3.00	7%
Lead	102	4.22	mg/kg	4.22	0.84	15.00	6%
Cadmium	1.06	0.04	mg/kg	0.04	0.01	0.15	6%
Chromium	20.6	0.85	mg/kg	0.85	0.17	15.00	1%
Arsenic	60.8	2.52	mg/kg	2.52	0.50	0.70	72%
Mercury	0.48	0.02	mg/kg	0.02	0.00	0.10	4%
<u>Other Elements</u>							
Iron	394000	16311.60	mg/kg	16311.60	3262		
Aluminium	7990	330.79	mg/kg	330.79	66		

Sampling Point No:	100521	Location:	BONTGOCH WTW SLUDGE TANKERING POINT
Date Sampled:	10/07/2025	Time Taken:	10:05
Laboratory:	ALS	Sample ID:	8443895
No. of Results:	20		
Sampling Reason:	WTW Sludge - Product Monitoring (SW_ME)		
Type:	WTW Sludge (SW)		

Sample Results



Code	Result	Units	Qualifier	Lower Limit
238 Magnesium	973	mg/kg		
288 Aluminium	7990	mg/kg		
357 Arsenic	60.8	mg/kg		
4620 pH	7.8	pH		
7774 Mercury	0.48	mg/kg	<	
8241 Volatile solids	31.8	%		
9233 Ammoniacal nitrogen	973	mg/kg		
9234 Sulphur	3370	mg/kg		
9271 Cadmium	1.06	mg/kg		
9272 Chromium	20.6	mg/kg	<	
9273 Copper	37.4	mg/kg	<	
9275 Nickel	26.3	mg/kg		
9276 Lead	102	mg/kg		
9277 Zinc	547	mg/kg		
9278 Iron	394000	mg/kg		
9281 % Dry solids	4.14	%		
9282 % Minerals	68.2	%		
9283 % K (dry weight)	0.0418	mg/kg	<	
9284 % P (dry weight)	0.800	%		
9285 % N (dry weight)	1.21	%		

Comments:

Signed:

Approved by:

Position:

Upper Limit
