

Waste Interpretations – Pentwyn 2026

DCWW

Analysis of Elan Valley Sludge

Date: 10/07/2025

Sample no. 8443903

Application rate (t/ha)	250
Application rate (t/acre)	100.0
pH	7.0
Dry solids (%)	4.5
Organic matter (%)	34.0

NUTRIENT CONTENT

TOTALS	result	units	Total		Available	
			(kg/tonne)	(kg/ha)	(kg/tonne)	(kg/ha)
Nitrogen (N)	0.88	%	0.39	98.6	0.020	5.0
Ammonium-N	442	mg/kg	0.02	5.0		
Phosphorus (P)	0.36	%	0.16	41.0		
Phosphate (P ₂ O ₅)			0.37	93.4	0.2	46.7
Potassium (K)	0.04	%	0.02	4.4		
Potash (K ₂ O)			0.02	5.3	0.0	4.7
Magnesium (Mg)	719	mg/kg	0.03	8.1		
Magnesium (MgO)			0.05	12.9	0.0	3.2
Sulphur (S)	3860	mg/kg	0.17	43.4		
Sulphur (SO ₃)			0.43	108.6	0.0	10.9
Calcium (Ca)		mg/kg	0.0	0.0		

POTENTIALLY TOXIC ELEMENTS

TOTALS	result	units	Amount		Limit
			(g/tonne)	(kg/ha)	(kg/ha/yr)
Zinc	320.0	mg/kg	14.4	3.60	15.00
Copper	35.0	mg/kg	1.58	0.39	7.50
Nickel	22.9	mg/kg	1.03	0.26	3.00
Lead	62.9	mg/kg	2.83	0.71	15.00
Cadmium	0.49	mg/kg	0.02	0.01	0.15
Chromium	33.4	mg/kg	1.50	0.38	15.00
Mercury	0.5	mg/kg	0.02	0.01	0.10
Arsenic	45.6	mg/kg	2.05	0.51	0.70
Aluminium	4790	mg/kg	216	53.9	
Iron	404000	mg/kg	18180	4545.0	

DCWW

Analysis of Elan Valley Sludge

Date: 10/07/2025

Sample no. 8443903

Application rate (t/ha)	220
Application rate (t/acre)	88.0
pH	7.0
Dry solids (%)	4.5
Organic matter (%)	34.0

NUTRIENT CONTENT

TOTALS	result	units	Total		Available	
			(kg/tonne)	(kg/ha)	(kg/tonne)	(kg/ha)
Nitrogen (N)	0.88	%	0.39	86.7	0.020	4.4
Ammonium-N	442	mg/kg	0.02	4.4		
Phosphorus (P)	0.36	%	0.16	36.0		
Phosphate (P2O5)			0.37	82.2	0.2	41.1
Potassium (K)	0.04	%	0.02	3.9		
Potash (K2O)			0.02	4.6	0.0	4.2
Magnesium (Mg)	719	mg/kg	0.03	7.1		
Magnesium (MgO)			0.05	11.4	0.0	2.8
Sulphur (S)	3860	mg/kg	0.17	38.2		
Sulphur (SO3)			0.43	95.5	0.0	9.6
Calcium (Ca)		mg/kg	0.0	0.0		

POTENTIALLY TOXIC ELEMENTS

TOTALS	result	units	Amount		Limit
			(g/tonne)	(kg/ha)	(kg/ha/yr)
Zinc	320.0	mg/kg	14.4	3.17	15.00
Copper	35.0	mg/kg	1.58	0.35	7.50
Nickel	22.9	mg/kg	1.03	0.23	3.00
Lead	62.9	mg/kg	2.83	0.62	15.00
Cadmium	0.49	mg/kg	0.02	0.00	0.15
Chromium	33.4	mg/kg	1.50	0.33	15.00
Mercury	0.5	mg/kg	0.02	0.00	0.10
Arsenic	45.6	mg/kg	2.05	0.45	0.70
Aluminium	4790	mg/kg	216	47.4	
Iron	404000	mg/kg	18180	3999.6	

DCWW

Analysis of Elan Valley Sludge

Date: 10/07/2025

Sample no. 8443903

Application rate (t/ha)	109
Application rate (t/acre)	43.6
pH	7.0
Dry solids (%)	4.5
Organic matter (%)	34.0

NUTRIENT CONTENT

TOTALS	result	units	Total		Available	
			(kg/tonne)	(kg/ha)	(kg/tonne)	(kg/ha)
Nitrogen (N)	0.88	%	0.39	43.0	0.020	2.2
Ammonium-N	442	mg/kg	0.02	2.2		
Phosphorus (P)	0.36	%	0.16	17.9		
Phosphate (P ₂ O ₅)			0.37	40.7	0.2	20.4
Potassium (K)	0.04	%	0.02	1.9		
Potash (K ₂ O)			0.02	2.3	0.0	2.1
Magnesium (Mg)	719	mg/kg	0.03	3.5		
Magnesium (MgO)			0.05	5.6	0.0	1.4
Sulphur (S)	3860	mg/kg	0.17	18.9		
Sulphur (SO ₃)			0.43	47.3	0.0	4.7
Calcium (Ca)		mg/kg	0.0	0.0		

POTENTIALLY TOXIC ELEMENTS

TOTALS	result	units	Amount		Limit
			(g/tonne)	(kg/ha)	(kg/ha/yr)
Zinc	320.0	mg/kg	14.4	1.57	15.00
Copper	35.0	mg/kg	1.58	0.17	7.50
Nickel	22.9	mg/kg	1.03	0.11	3.00
Lead	62.9	mg/kg	2.83	0.31	15.00
Cadmium	0.49	mg/kg	0.02	0.00	0.15
Chromium	33.4	mg/kg	1.50	0.16	15.00
Mercury	0.5	mg/kg	0.02	0.00	0.10
Arsenic	45.6	mg/kg	2.05	0.22	0.70
Aluminium	4790	mg/kg	216	23.5	
Iron	404000	mg/kg	18180	1981.6	

DCWW

Analysis of Llyswen sludge

Date: 12/01/2026

Sample no. 8656098

Application rate (t/ha)	250
Application rate (t/acre)	100.0
pH	6.7
Dry solids (%)	5.1
Organic matter (%)	32.4

NUTRIENT CONTENT

TOTALS	result	units	Total		Available	
			(kg/tonne)	(kg/ha)	(kg/tonne)	(kg/ha)
Nitrogen (N)	1.01	%	0.51	127.8	0.01	2.0
Ammonium-N	156	mg/kg	0.01	2.0		
Phosphorus (P)	0.23	%	0.12	29.2		
Phosphate (P2O5)			0.27	66.6	0.1	33.3
Potassium (K)	0.09	%	0.05	11.8		
Potash (K2O)			0.06	14.2	0.1	12.8
Magnesium (Mg)	2580	mg/kg	0.13	32.6		
Magnesium (MgO)			0.21	52.2	0.1	13.1
Sulphur (S)	4660	mg/kg	0.24	58.9		
Sulphur (SO3)			0.59	147.4	0.1	14.7
Calcium (Ca)		mg/kg	0.0	0.0		

POTENTIALLY TOXIC ELEMENTS

TOTALS	result	units	Amount		Limit
			(g/tonne)	(kg/ha)	(kg/ha/yr)
Zinc	204.0	mg/kg	10.3	2.58	15.00
Copper	64.9	mg/kg	3.28	0.82	7.50
Nickel	29.5	mg/kg	1.49	0.37	3.00
Lead	24.5	mg/kg	1.24	0.31	15.00
Cadmium	0.45	mg/kg	0.02	0.01	0.15
Chromium	17.8	mg/kg	0.90	0.23	15.00
Mercury	0.4	mg/kg	0.02	0.01	0.10
Arsenic	19.9	mg/kg	1.01	0.25	0.70
Aluminium	156000	mg/kg	7894	1973.4	
Iron	19000	mg/kg	961	240.4	

DCWW

Analysis of Llyswen sludge

Date: 12/01/2026

Sample no. 8656098

Application rate (t/ha)	154
Application rate (t/acre)	61.6
pH	6.7
Dry solids (%)	5.1
Organic matter (%)	32.4

NUTRIENT CONTENT

TOTALS	result	units	Total		Available	
			(kg/tonne)	(kg/ha)	(kg/tonne)	(kg/ha)
Nitrogen (N)	1.01	%	0.51	78.7	0.01	1.2
Ammonium-N	156	mg/kg	0.01	1.2		
Phosphorus (P)	0.23	%	0.12	18.0		
Phosphate (P2O5)			0.27	41.0	0.1	20.5
Potassium (K)	0.09	%	0.05	7.3		
Potash (K2O)			0.06	8.8	0.1	7.9
Magnesium (Mg)	2580	mg/kg	0.13	20.1		
Magnesium (MgO)			0.21	32.2	0.1	8.0
Sulphur (S)	4660	mg/kg	0.24	36.3		
Sulphur (SO3)			0.59	90.8	0.1	9.1
Calcium (Ca)		mg/kg	0.0	0.0		

POTENTIALLY TOXIC ELEMENTS

TOTALS	result	units	Amount		Limit
			(g/tonne)	(kg/ha)	(kg/ha/yr)
Zinc	204.0	mg/kg	10.3	1.59	15.00
Copper	64.9	mg/kg	3.28	0.51	7.50
Nickel	29.5	mg/kg	1.49	0.23	3.00
Lead	24.5	mg/kg	1.24	0.19	15.00
Cadmium	0.45	mg/kg	0.02	0.00	0.15
Chromium	17.8	mg/kg	0.90	0.14	15.00
Mercury	0.4	mg/kg	0.02	0.00	0.10
Arsenic	19.9	mg/kg	1.01	0.16	0.70
Aluminium	156000	mg/kg	7894	1215.6	
Iron	19000	mg/kg	961	148.1	

DCWW

Analysis of Talybont Sludge

Date: 10/07/2025

Sample no. 8443884

Application rate (t/ha)	250
Application rate (t/acre)	100.0
pH	6.6
Dry solids (%)	6.8
Organic matter (%)	50.6

NUTRIENT CONTENT

TOTALS	result	units	Total		Available	
			(kg/tonne)	(kg/ha)	(kg/tonne)	(kg/ha)
Nitrogen (N)	0.85	%	0.58	144.8	0.014	3.5
Ammonium-N	204	mg/kg	0.01	3.5		
Phosphorus (P)	0.17	%	0.12	29.2		
Phosphate (P ₂ O ₅)			0.27	66.7	0.1	33.3
Potassium (K)	0.03	%	0.02	5.2		
Potash (K ₂ O)			0.02	6.2	0.0	5.6
Magnesium (Mg)	640	mg/kg	0.04	10.9		
Magnesium (MgO)			0.07	17.4	0.0	4.4
Sulphur (S)	4730	mg/kg	0.32	80.4		
Sulphur (SO ₃)			0.80	201.0	0.1	20.1
Calcium (Ca)		mg/kg	0.0	0.0		

POTENTIALLY TOXIC ELEMENTS

TOTALS	result	units	Amount		Limit
			(g/tonne)	(kg/ha)	(kg/ha/yr)
Zinc	146.0	mg/kg	9.9	2.48	15.00
Copper	64.7	mg/kg	4.40	1.10	7.50
Nickel	20.5	mg/kg	1.39	0.35	3.00
Lead	18.3	mg/kg	1.24	0.31	15.00
Cadmium	0.43	mg/kg	0.03	0.01	0.15
Chromium	12.7	mg/kg	0.86	0.22	15.00
Mercury	0.3	mg/kg	0.02	0.01	0.10
Arsenic	18.8	mg/kg	1.28	0.32	0.70
Aluminium	70100	mg/kg	4767	1191.7	
Iron	5090	mg/kg	346	86.5	

DCWW

Analysis of Talybont Sludge

Date: 10/07/2025

Sample no. 8443884

Application rate (t/ha)	153
Application rate (t/acre)	61.2
pH	6.6
Dry solids (%)	6.8
Organic matter (%)	50.6

NUTRIENT CONTENT

TOTALS	result	units	Total		Available	
			(kg/tonne)	(kg/ha)	(kg/tonne)	(kg/ha)
Nitrogen (N)	0.85	%	0.58	88.6	0.014	2.1
Ammonium-N	204	mg/kg	0.01	2.1		
Phosphorus (P)	0.17	%	0.12	17.9		
Phosphate (P ₂ O ₅)			0.27	40.8	0.1	20.4
Potassium (K)	0.03	%	0.02	3.2		
Potash (K ₂ O)			0.02	3.8	0.0	3.4
Magnesium (Mg)	640	mg/kg	0.04	6.7		
Magnesium (MgO)			0.07	10.7	0.0	2.7
Sulphur (S)	4730	mg/kg	0.32	49.2		
Sulphur (SO ₃)			0.80	123.0	0.1	12.3
Calcium (Ca)		mg/kg	0.0	0.0		

POTENTIALLY TOXIC ELEMENTS

TOTALS	result	units	Amount		Limit
			(g/tonne)	(kg/ha)	(kg/ha/yr)
Zinc	146.0	mg/kg	9.9	1.52	15.00
Copper	64.7	mg/kg	4.40	0.67	7.50
Nickel	20.5	mg/kg	1.39	0.21	3.00
Lead	18.3	mg/kg	1.24	0.19	15.00
Cadmium	0.43	mg/kg	0.03	0.00	0.15
Chromium	12.7	mg/kg	0.86	0.13	15.00
Mercury	0.3	mg/kg	0.02	0.00	0.10
Arsenic	18.8	mg/kg	1.28	0.20	0.70
Aluminium	70100	mg/kg	4767	729.3	
Iron	5090	mg/kg	346	53.0	

Analysis of Biogen Digestate

Date: 12/08/2025

Sample no. BP ST 12/08/25

Application rate (t/ha)	20
Application rate (t/acre)	8.0
pH	8.8
Dry solids (%)	6.55
Organic matter content (%)	3.5
conductivity (µS/cm)	

NUTRIENT CONTENT

TOTALS	result	units	Total		Available	
			(kg/tonne)	(kg/ha)	(kg/tonne)	(kg/ha)
Nitrogen (N)	1.07	%	10.70	214.0	8.08	161.5
Ammonium-N	8077	mg/kg	8.08	161.5		
Phosphorus (P)	724	mg/kg	0.72			
Phosphate (P ₂ O ₅)			1.65	33.0	0.83	16.5
Potassium (K)	3911	mg/kg	3.91			
Potash (K ₂ O)			4.69	93.9	4.22	84.5
Magnesium (Mg)	38.4	mg/kg	0.04			
Magnesium (MgO)			0.06	1.2	0.01	0.2
Sulphur (S)	612	mg/kg	0.61			
Sulphur (SO ₃)			1.53	30.6	0.31	6.1

POTENTIALLY TOXIC ELEMENTS

TOTALS	result	units	Rate		Limit
			(g/tonne)	(kg/ha)	(kg/ha/yr)
Zinc	14.4	mg/kg	14.4	0.29	15.00
Copper	2.91	mg/kg	2.9	0.06	7.50
Nickel	2.50	mg/kg	2.5	0.05	3.00
Lead	0.50	mg/kg	0.5	0.01	15.00
Cadmium	0.03	mg/kg	0.0	0.00	0.15
Chromium	0.94	mg/kg	0.9	0.02	15.00
Mercury	0.05	mg/kg	0.1	0.00	0.10

Analysis of Biogen Digestate

Date: 12/08/2025

Sample no. BP ST 12/08/25

Application rate (t/ha)	15
Application rate (t/acre)	6.0
pH	8.8
Dry solids (%)	6.55
Organic matter content (%)	3.5
conductivity (µS/cm)	

NUTRIENT CONTENT

TOTALS	result	units	Total		Available	
			(kg/tonne)	(kg/ha)	(kg/tonne)	(kg/ha)
Nitrogen (N)	1.07	%	10.70	160.5	8.08	121.2
Ammonium-N	8077	mg/kg	8.08	121.2		
Phosphorus (P)	724	mg/kg	0.72			
Phosphate (P ₂ O ₅)			1.65	24.8	0.83	12.4
Potassium (K)	3911	mg/kg	3.91			
Potash (K ₂ O)			4.69	70.4	4.22	63.4
Magnesium (Mg)	38.4	mg/kg	0.04			
Magnesium (MgO)			0.06	0.9	0.01	0.2
Sulphur (S)	612	mg/kg	0.61			
Sulphur (SO ₃)			1.53	23.0	0.31	4.6

POTENTIALLY TOXIC ELEMENTS

TOTALS	result	units	Rate		Limit
			(g/tonne)	(kg/ha)	(kg/ha/yr)
Zinc	14.4	mg/kg	14.4	0.22	15.00
Copper	2.91	mg/kg	2.9	0.04	7.50
Nickel	2.50	mg/kg	2.5	0.04	3.00
Lead	0.50	mg/kg	0.5	0.01	15.00
Cadmium	0.03	mg/kg	0.0	0.00	0.15
Chromium	0.94	mg/kg	0.9	0.01	15.00
Mercury	0.05	mg/kg	0.1	0.00	0.10

Analysis of Welsh Water Organic Energy Digestate

Date: 08/09/2025

Sample no. DT 08/09/2025

Application rate (t/ha)	25
Application rate (t/acre)	10.0
pH	8.5
Dry solids (%)	6.21
Organic matter content (%)	3.5
conductivity (µS/cm)	

NUTRIENT CONTENT

TOTALS	result	units	Total		Available	
			(kg/tonne)	(kg/ha)	(kg/tonne)	(kg/ha)
Nitrogen (N)	0.85	%	8.50	212.5	5.63	140.7
Ammonium-N	5628	mg/kg	5.63	140.7		
Phosphorus (P)	915	mg/kg	0.92			
Phosphate (P ₂ O ₅)			2.09	52.2	1.04	26.1
Potassium (K)	3055	mg/kg	3.06			
Potash (K ₂ O)			3.67	91.7	3.30	82.5
Magnesium (Mg)	84.5	mg/kg	0.08			5.0
Magnesium (MgO)			0.14	3.4	0.03	0.7
Sulphur (S)	491	mg/kg	0.49			
Sulphur (SO ₃)			1.23	30.7	0.25	6.1

POTENTIALLY TOXIC ELEMENTS

TOTALS	result	units	Rate		Limit
			(g/tonne)	(kg/ha)	(kg/ha/yr)
Zinc	11.4	mg/kg	11.4	0.29	15.00
Copper	1.62	mg/kg	1.6	0.04	7.50
Nickel	1.38	mg/kg	1.4	0.03	3.00
Lead	0.50	mg/kg	0.5	0.01	15.00
Cadmium	0.03	mg/kg	0.0	0.00	0.15
Chromium	0.48	mg/kg	0.5	0.01	15.00
Mercury	0.05	mg/kg	0.1	0.00	0.10

Analysis of Welsh Water Organic Energy Digestate

Date: 08/09/2025

Sample no. DT 08/09/2025

Application rate (t/ha)	19
Application rate (t/acre)	7.6
pH	8.5
Dry solids (%)	6.21
Organic matter content (%)	3.5
conductivity (µS/cm)	

NUTRIENT CONTENT

TOTALS	result	units	Total		Available	
			(kg/tonne)	(kg/ha)	(kg/tonne)	(kg/ha)
Nitrogen (N)	0.85	%	8.50	161.5	5.63	106.9
Ammonium-N	5628	mg/kg	5.63	106.9		
Phosphorus (P)	915	mg/kg	0.92			
Phosphate (P ₂ O ₅)			2.09	39.6	1.04	19.8
Potassium (K)	3055	mg/kg	3.06			
Potash (K ₂ O)			3.67	69.7	3.30	62.7
Magnesium (Mg)	84.5	mg/kg	0.08			5.0
Magnesium (MgO)			0.14	2.6	0.03	0.5
Sulphur (S)	491	mg/kg	0.49			
Sulphur (SO ₃)			1.23	23.3	0.25	4.7

POTENTIALLY TOXIC ELEMENTS

TOTALS	result	units	Rate		Limit
			(g/tonne)	(kg/ha)	(kg/ha/yr)
Zinc	11.4	mg/kg	11.4	0.22	15.00
Copper	1.62	mg/kg	1.6	0.03	7.50
Nickel	1.38	mg/kg	1.4	0.03	3.00
Lead	0.50	mg/kg	0.5	0.01	15.00
Cadmium	0.03	mg/kg	0.0	0.00	0.15
Chromium	0.48	mg/kg	0.5	0.01	15.00
Mercury	0.05	mg/kg	0.1	0.00	0.10