

SEVERN TRENT WATER - Elan Valley WTW

Analysis of water clarification sludge cake

Report Number: WAK/2854301/2025

Lab Number: 25427307

Date: 01/07/2025

Application rate (t/ha)	21.0
Application rate (t/acre)	8.5
pH	8.9
Dry solids (%)	28.0
Organic Matter (%)	26.7

NUTRIENT CONTENT

	Dry Wt result	Wet Wt result	Units	Total		Available	
				(kg/t)	(kg/ha)	(kg/t)	(kg/ha)
Nitrogen (N)	0.836	0.23	%	2.3	49	0.2	5
Phosphorus (P)	1430	400.40	mg/kg	0.4	8		
Phosphate (P ₂ O ₅)		0.00		0.9	19	0.2	4
Potassium (K)	869	243.32	mg/kg	0.2	5		
Potash (K ₂ O)		0.00		0.3	6	0.1	1
Magnesium (Mg)	5050	1414.00	mg/kg	1.4	30		
Magnesium (MgO)		0.00		2.3	49	0.5	10
Sulphur (S)	1280	358.40	mg/kg	0.4	8		
Sulphur (SO ₃)		0.00		0.9	19	0.1	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	1460	408.80	mg/kg	408.80	8.58	15.00	57%
Copper	54.8	15.34	mg/kg	15.34	0.32	7.50	4%
Nickel	125.7	35.20	mg/kg	35.20	0.74	3.00	25%
Lead	333.1	93.27	mg/kg	93.27	1.96	15.00	13%
Cadmium	8.85	2.48	mg/kg	2.48	0.05	0.15	35%
Chromium	21.5	6.02	mg/kg	6.02	0.13	15.00	1%
Arsenic	44.2	12.38	mg/kg	12.38	0.26	0.70	37%
Mercury	0.36	0.10	mg/kg	0.10	0.00	0.10	2%
Molybdenum	1.2	0.34	mg/kg	0.34	0.01	0.20	4%
Selenium	3.44	0.96	mg/kg	0.96	0.02	0.15	13%
Flouride	81	22.68	mg/kg	22.68	0.48	20.00	2%
Other Elements							
Iron	81700	22876.00	mg/kg	22876.00	480		
Aluminium	12900	3612.00	mg/kg	3612.00	76		

SEVERN TRENT WATER - Elan Valley WTW

Analysis of water clarification sludge cake

Report Number: WAK/2854301/2025

Lab Number: 25427307

Date: 01/07/2025

Application rate (t/ha)	25.0
Application rate (t/acre)	10.1
pH	8.9
Dry solids (%)	28.0
Organic Matter (%)	26.7

NUTRIENT CONTENT

	Dry Wt result	Wet Wt result	Units	Total		Available	
				(kg/t)	(kg/ha)	(kg/t)	(kg/ha)
Nitrogen (N)	0.836	0.23	%	2.3	59	0.2	6
Phosphorus (P)	1430	400.40	mg/kg	0.4	10		
Phosphate (P ₂ O ₅)		0.00		0.9	23	0.2	5
Potassium (K)	869	243.32	mg/kg	0.2	6		
Potash (K ₂ O)		0.00		0.3	7	0.1	1
Magnesium (Mg)	5050	1414.00	mg/kg	1.4	35		
Magnesium (MgO)		0.00		2.3	59	0.5	12
Sulphur (S)	1280	358.40	mg/kg	0.4	9		
Sulphur (SO ₃)		0.00		0.9	22	0.1	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	1460	408.80	mg/kg	408.80	10.22	15.00	68%
Copper	54.8	15.34	mg/kg	15.34	0.38	7.50	5%
Nickel	125.7	35.20	mg/kg	35.20	0.88	3.00	29%
Lead	333.1	93.27	mg/kg	93.27	2.33	15.00	16%
Cadmium	8.85	2.48	mg/kg	2.48	0.06	0.15	41%
Chromium	21.5	6.02	mg/kg	6.02	0.15	15.00	1%
Arsenic	44.2	12.38	mg/kg	12.38	0.31	0.70	44%
Mercury	0.36	0.10	mg/kg	0.10	0.00	0.10	3%
Molybdenum	1.2	0.34	mg/kg	0.34	0.01	0.20	4%
Selenium	3.44	0.96	mg/kg	0.96	0.02	0.15	16%
Flouride	81	22.68	mg/kg	22.68	0.57	20.00	3%
Other Elements							
Iron	81700	22876.00	mg/kg	22876.00	572		
Aluminium	12900	3612.00	mg/kg	3612.00	90		

Report Summary

ANALYSED BY

**Mr Lee Musgrove
Severn Trent Water
Old Hattons Farm STW
Cartwright Lane
Coven
Wolverhampton
West Midlands
WV9 5BF**



Date of Issue: **18 July 2025**

Report Number: **WAK/2854301/2025**

Issue **1**

This issue replaces
all previous issues

Job Description: WTW/ Trade Sludge Sampling & Analysis

Number of Samples
included in this report **1**

Job Received: **01 July 2025**

Number of Test Results
included in this report **27**

Analysis Commenced: **02 July 2025**

Signed:

Name: **S. Goodchild**

Date: **18 July 2025**

Title: **Dep. Organic Chemistry Manager**

ALS Laboratories (UK) Limited was not responsible for sampling unless otherwise stated.

Information on the methods of analysis and performance characteristics are available on request.

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation. The results relate only to the items tested and where relevant sampled. Information supplied by the customer may affect the validity of results.

Tests marked 'Not UKAS Accredited' in this Report/Certificate are not included in the UKAS Accreditation Schedule for our laboratory.

This test report is not a statement of conformity to any specification or standard.

This communication has been sent to you by ALS Laboratories (UK) Limited. Registered in England and Wales. Registration No. 02391955.

Registered Office: ALS Laboratories (UK) Limited, Torrington Avenue, Coventry, CV4 9GU. (c) ALS Laboratories (UK) Limited 2025. All rights reserved. We, ALS Laboratories (UK) Limited, are the owner of all copyright in this report. You must not copy, reproduce, amend or adapt this report, its contents or any format in which it is delivered without our prior written agreement. If you copy, reproduce, amend, or adapt this report in any way without our agreement you will be liable for any damage or loss to us. In the event of a dispute the copy of the report held by us shall be the reference copy.

Certificate of Analysis

ANALYSED BY



Report Number: **WAK/2854301/2025**

Issue 1

Laboratory Number: **25427307**

Sample 1 of 1

Sample Source: **Severn Trent Water**

Sample Point Description:

Sample Description: **sample 1-elan valley wtw**

Sample Matrix: **Sludge**

Sample Date/Time: **01 July 2025 11:20**

Sample Received: **01 July 2025**

Analysis Complete: **18 July 2025**

Test Description	Result	Units	Completed	Accreditation	Method
Ammonia, H2O Sol as NH3	104	mg/kg	07/07/2025	N Wak	WSC19
Fluoride, Total as F DW	81	mg/kg	10/07/2025	Y Wak	WSC18
Loss on Ign, Dry Soil (Calc)	26.7	%	04/07/2025	N Wak	WSC12
Magnesium, Total as Mg DW	5050	mg/kg	08/07/2025	Y Wak	WSC6
Metals Soil+Sludge Prep Wkf	Y	Text	04/07/2025	N Wak	WSC15
Aluminium, Total as Al DW	12900	mg/kg	08/07/2025	Y Wak	WSC6
Mercury, Total as Hg DW	<0.36	mg/kg	10/07/2025	Y Wak	WSC16/20
Cadmium, Total as Cd DW	8.85	mg/kg	08/07/2025	Y Wak	WSC6
Calcium, Total as Ca DW	24700	mg/kg	08/07/2025	Y Wak	WSC6
Chromium, Total as Cr DW	21.5	mg/kg	08/07/2025	Y Wak	WSC6
Copper, Total as Cu DW	54.8	mg/kg	08/07/2025	Y Wak	WSC6
Iron, Total as Fe DW	81700	mg/kg	08/07/2025	Y Wak	WSC6
Lead, Total as Pb DW	333.1	mg/kg	08/07/2025	Y Wak	WSC6
Manganese, Total as Mn DW	54700	mg/kg	10/07/2025	Y Wak	WSC6
Molybdenum, Total as Mo DW	<1.20	mg/kg	17/07/2025	Y Wak	WSC16/20
Nickel, Total as Ni DW	125.7	mg/kg	08/07/2025	Y Wak	WSC6
Phosphorus, Total as P DW	1430	mg/kg	08/07/2025	Y Wak	WSC6
Potassium, Total as K DW	869	mg/kg	08/07/2025	Y Wak	WSC6
Sodium, Total as Na DW	161	mg/kg	08/07/2025	Y Wak	WSC6
Sulphur, Total as S DW	1280	mg/kg	08/07/2025	Y Wak	WSC6
Zinc, Total as Zn DW	1460	mg/kg	08/07/2025	Y Wak	WSC6
Arsenic, Total as As DW	44.2	mg/kg	09/07/2025	Y Wak	WSC16/20
Selenium, Total as Se DW	3.44	mg/kg	10/07/2025	Y Wak	WSC16/20
Nitrogen, Kjeldahl as N	0.836	%	08/07/2025	Y Wak	WSC8
pH	8.9	pH Units	02/07/2025	Y Wak	WSC11
Solids, Total as Ash	73.3	%	04/07/2025	Y Wak	WSC12
Solids, Total	28.0	%	04/07/2025	Y Wak	WSC12

This issue replaces all previous issues

Accreditation Codes: Y = UKAS / ISO17025 Accredited, N = Not UKAS / ISO17025 Accredited, M = MCERTS.

Analysed at: Che = Chester(CH5 3US), Cov = Coventry(CV4 9GU), S = Subcontracted, Trb = Subcontracted to Trowbridge(BA14 0XD), Wak = Wakefield(WF5 9TG), F = Data supplied by customer.

For Microbiological determinands 0 or ND=Not Detected, For Legionella ND=Not Detected in volume of sample filtered.

I/S=Insufficient sample For soil/sludge samples: AR=As received, DW=Dry weight.

Signed:



Name: **S. Goodchild**

Date: **18 July 2025**

Title: **Dep. Organic Chemistry Manager**



ANALYST COMMENTS FOR REPORT WAK/2854301/2025

Issue 1

This issue replaces
all previous issues

Date of Issue: **18 July 2025**

Sample No

Analysis Comments

25427307

Signed:

Name: **S. Goodchild**

Date: **18 July 2025**

Title: **Dep. Organic Chemistry Manager**




DETERMINAND COMMENTS FOR REPORT WAK/2854301/2025

ISSUE 1

Date of Issue: 18 July 2025

This issue replaces
all previous issues

Sample No	Description	Determinand	Comments

Signed: 	Name: S. Goodchild	Date: 18 July 2025
	Title: Dep. Organic Chemistry Manager	

Page Intentionally Left Blank