

**Surface Water Discharge  
3<sup>rd</sup> Quarter Monitoring Report 2023**

**Flemings Fireclays Ltd.**  
The Swan  
Athy  
Co. Kildare

**IPPC Licence No. P0527-01**

**September 2023**

## 1.0 Introduction

Flemings Fireclays Ltd. was issued with an Integrated Pollution Control Licence (Reg. No. P0527-01) on the 23<sup>rd</sup> April 1999. The site has one licenced emission point at SW3 which has an emission limit value for Suspended Solids. The company are also required to carry out quarterly monitoring at four other surface water points for total suspended solids and chemical oxygen demand as requested by the Agency in an inspection report dated 30/04/07. A further requirement to measure Metals, including Aluminium on the five sampling points was requested by the Agency in an inspection report dated 09/10/09.

The surface water points to be monitored at the site are:

SW1	New kiln discharge point to stream
SW2	Old kiln discharge point to stream
SW3	Settlement pond outlet from quarry
SW4	Stores and grinding area discharge point
SW5	Final discharge point of all SW into River Clough

## 2.0 Methodology

A grab sample was taken by Seamus Holland of Flemings Fireclays on the 12<sup>th</sup> of September 2023, from surface water monitoring locations SW2, SW3, SW4 & SW5. The samples were analysed by ALS Environmental, Hawarden, Deeside, UK for COD, Suspended Solids and Metals.

## 3.0 Results

### 3.1: SW3 Licenced Emissions to Water Results

PARAMETER	UNITS	SW3	Env. Quality Standards for SW	IPPC Licence Emission Limit Value	IPPC Licence Compliance
Suspended solids	mg/l	<2		25mg/l	Compliant
COD	mg/l O <sub>2</sub>	14.2			
Aluminium (diss.filt)	µg/l	<10	200 ug/l		
Antimony (diss.filt)	µg/l	<1			
Arsenic (diss.filt)	µg/l	0.814	25 ug/l		
Boron (diss.filt)	µg/l	<10	2000 ug/l		
Cadmium (diss.filt)	µg/l	<0.08	5 ug/l		
Chromium (diss.filt)	µg/l	<1	30 ug/l		
Copper (diss.filt)	µg/l	1.45	30 ug/l		
Iron (Dis.Filt)	mg/l	<0.019	1 mg/l		
Lead (diss.filt)	µg/l	<0.2	10 ug/l		
Manganese (diss.filt)	µg/l	<3	300 ug/l		
Mercury (diss.filt)	µg/l	<0.01	1 ug/l		
Nickel (diss.filt)	µg/l	1.15	50 ug/l		
Selenium (diss.filt)	µg/l	<1			
Sodium (Dis.Filt)	mg/l	3.24	150mg/l		

### 3.2: Additional Monitoring Results

PARAMETER	UNITS	SW2	Env. Quality Standards for SW
COD	mg/l	20.5	
Suspended solids	mg/l	18.8	
Aluminium (diss.filt)	µg/l	<10	200 ug/l
Antimony (diss.filt)	µg/l	<1	
Arsenic (diss.filt)	µg/l	<0.5	25 ug/l
Boron (diss.filt)	µg/l	28.1	2000 ug/l
Cadmium (diss.filt)	µg/l	<0.08	5 ug/l
Chromium (diss.filt)	µg/l	<1	30 ug/l
Copper (diss.filt)	µg/l	39.4	30 ug/l
Iron (Dis.Filt)	mg/l	0.0226	1 mg/l
Lead (diss.filt)	µg/l	0.595	10 ug/l
Manganese (diss.filt)	µg/l	17.7	300 ug/l
Mercury (diss.filt)	µg/l	<0.01	1 ug/l
Nickel (diss.filt)	µg/l	1.33	50 ug/l
Selenium (diss.filt)	µg/l	<1	
Sodium (Dis.Filt)	mg/l	13.2	150mg/l

PARAMETER	UNITS	SW4&SW5	Env. Quality Standards for SW
COD	mg/l	17.5	
Suspended solids	mg/l	6	
Aluminium (diss.filt)	µg/l	12.5	200 ug/l
Antimony (diss.filt)	µg/l	<1	
Arsenic (diss.filt)	µg/l	0.672	25 ug/l
Boron (diss.filt)	µg/l	20	2000 ug/l
Cadmium (diss.filt)	µg/l	<0.08	5 ug/l
Chromium (diss.filt)	µg/l	<1	30 ug/l
Copper (diss.filt)	µg/l	1	30 ug/l
Iron (Dis.Filt)	mg/l	<0.019	1 mg/l
Lead (diss.filt)	µg/l	<0.2	10 ug/l
Manganese (diss.filt)	µg/l	<3	300 ug/l
Mercury (diss.filt)	µg/l	<0.01	1 ug/l
Nickel (diss.filt)	µg/l	1.24	50 ug/l
Selenium (diss.filt)	µg/l	<1	
Sodium (Dis.Filt)	mg/l	6.59	150mg/l

## **4. Conclusion**

The surface water discharge at Flemings Fireclays Ltd. is compliant with the sites IPPC Licence emission limit values. Quarterly monitoring will continue in November/December 2023 for the 4<sup>th</sup> Quarter 2023.



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## CERTIFICATE OF ANALYSIS

**Date of report Generation:** 25 September 2023  
**Customer:** QED Engineering Ltd  
**Sample Delivery Group (SDG):** 230918-74  
**Your Reference:**  
**Location:** Flemings Fireclays  
**Report No:** 705193  
**Order Number:**

We received 3 samples on Monday September 18, 2023 and 3 of these samples were scheduled for analysis which was completed on Monday September 25, 2023. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.

Incorrect sampling dates and/or sample information will affect the validity of results.

The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

**Sonia McWhan**  
Operations Manager



ALS Laboratories (UK) Limited. Registered Office: Torrington Avenue, Coventry CV4 9GU. Registered in England and Wales No. 02391955.

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**CERTIFICATE OF ANALYSIS**

Validated

SDG: 23091 8-74  
Client Ref:

Report Number: 705193  
Location: Flemings Fireclays

Superseded Report:

Results Legend			Customer Sample Ref	SW2	SW3	SW4&SW5		
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery. (F) Trigger breach confirmed 1-4# Sample deviation (see appendix)			Depth (m) Sample Type Date Sampled Sample Time Date Received SDG Ref Lab Sample No. (s) AGS Reference	Surface Water (SW) 12/09/2023  18/09/2023 230918-74 28646165	Surface Water (SW) 12/09/2023  18/09/2023 230918-74 28646166	Surface Water (SW) 12/09/2023  18/09/2023 230918-74 28646167		
Component	LOD/Units	Method						
Suspended solids, Total	<2 mg/l	TM022	18.8	<2	6			
			#	#	#			
COD, unfiltered	<7 mg/l	TM107	20.5	14.2	17.5			
			#	#	#			
Aluminium (diss.filt)	<10 µg/l	TM152	<10	<10	12.5			
			#	#	#			
Antimony (diss.filt)	<1 µg/l	TM152	<1	<1	<1			
			#	#	#			
Arsenic (diss.filt)	<0.5 µg/l	TM152	<0.5	0.814	0.672			
			#	#	#			
Boron (diss.filt)	<10 µg/l	TM152	28.1	<10	20			
			#	#	#			
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08	<0.08	<0.08			
			#	#	#			
Chromium (diss.filt)	<1 µg/l	TM152	<1	<1	<1			
			#	#	#			
Copper (diss.filt)	<0.3 µg/l	TM152	39.4	1.45	1			
			#	#	#			
Lead (diss.filt)	<0.2 µg/l	TM152	0.595	<0.2	<0.2			
			#	#	#			
Manganese (diss.filt)	<3 µg/l	TM152	17.7	<3	<3			
			#	#	#			
Nickel (diss.filt)	<0.4 µg/l	TM152	1.33	1.15	1.24			
			#	#	#			
Selenium (diss.filt)	<1 µg/l	TM152	<1	<1	<1			
			#	#	#			
Sodium (Dis.Filt)	<0.076 mg/l	TM152	13.2	3.24	6.59			
			#	#	#			
Iron (Dis.Filt)	<0.019 mg/l	TM152	0.0226	<0.019	<0.019			
			#	#	#			
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01	<0.01	<0.01			