HANOI UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF ENVIRONMENTAL SCIENCE AND TECHNOLOGY

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VILAS 406; VIMCERTS 055

ENVIRONMENTAL MONITORING RESULTS

Sampling Site : Ash pond 2 - Mong Duong 2 BOT Coal Fired Power Plant
Address : Cong Hoa commune – Cam Pha city – Quang Ninh province
Sampling Date : 20/10/2023
Type of Samples : Wastewater
Number of Samples : 02 samples

No.	Parameters	Unit	Analytical methods	Results		QCĐP 3:2020/QN *(Column B)*	
				AP-W1	AP-W2	$C_{(Column\ B)}$	C_{max}
1.	Temperature	°C	SMEWW 2550B:2017	28.7	28.1	40	40
2.	pH	-	TCVN 6492:2011	7.2	7.3	5.5 – 9.0	5.5 - 9.0
3.	Color (pH=7)	Pt/Co	TCVN 6185:2015	6	<5	150	150
4.	TSS	mg/L	TCVN 6625:2000	6	3	100	90
5.	COD	mg/L	SMEWW 5220C:2017	18	14	150	135
6.	BOD_5	mg/L	TCVN 6001-1:2008	7	5	50	45
7.	Arsenic (As)	mg/L	EPA method 200.8	0.006	0.005	0.1	0.09
8.	Mercury(Hg)	mg/L	EPA method 200.8	<0.001	<0.001	0.01	0.009
9.	Lead (Pb)	mg/L	EPA method 200.8	<0.0005	<0.0005	0.5	0.45
10.	Cadmium (Cd)	mg/L	EPA method 200.8	<0.0005	<0.0005	0.1	0.09
11.	Chromium III	mg/L	EPA Method 200.8 & TCVN 6658:2000	0.0169	0.0162	1	0.9
12.	Chromium VI	mg/L	TCVN 6658:2000	<0.006	<0.006	0.1	0.09
13.	Copper (Cu)	mg/L	EPA method 200.8	0.0041	0.0034	2	1.8
14.	Zinc (Zn)	mg/L	EPA method 200.8	0.0353	0.0135	3	2.7
15.	Nikel (Ni)	mg/L	EPA method 200.8	0.0209	0.0165	0.5	0.45
16.	Manganese (Mn)	mg/L	EPA method 200.8	0.115	0.098	1	0.9
17.	Iron (Fe)	mg/L	EPA method 200.8	0.170	0.158	5	4.5
18.	Total mineral oil & grease	mg/L	SMEWW5520B&F:2017	<0.3	<0.3	10	9
19.	Residue Chlorine	mg/L	TCVN 6225-3:2011	<0.1	<0.1	2	1.8
20.	Sulfide (as H_2S)	mg/L	TCVN 6637:2000	<0.03	<0.03	0.5	0.45
21.	Total N	mg/L	TCVN 6638:2000	3.49	3.24	40	36
22.	Total P	mg/L	TCVN 6202:2008	0.07	0.05	6	5.4
23.	Ammonium (NH_4^+)	mg/L	SMEWW 4500 NH_3.F:2017	0.15	0.14	10	9
24.	Fluoride (F^-)	mg/L	SMEWW 4500-F^- .B&D:2017	7.69	6.83	10	9
25.	Total Cyanide (CN^-)	mg/L	SMEWW 4500 CN^- C&E:2017	<0.002	<0.002	0.1	0.09

No.	Parameters	Unit	Analytical methods	Results		QCĐP 3:2020/QN *(Column B)*	
				AP-W1	AP-W2	$C_{(Column\ B)}$	C_{max}
26.	Total Phenol	mg/L	SMEWW 5530 B&C:2017	0.019	0.017	0.5	0.45
27.	Coliform	MPN/ 100mL	TCVN 6187-2:1996	950	930	5,000	5,000

Note

- *The result is valid only for samples at the monitoring time.*
- *The samples will be destroyed after 5 days from the date of issue of environmental monitoring results unless otherwise agreed with the customer.*
- ***QCĐP 3:2020/QN** - Local technical regulation on industrial wastewater in Quang Ninh province; Column B specifies the C value of pollution parameters in industrial wastewater when discharged into water sources not used for domestic water supply purposes, C_{max} is the maximum allowable value of pollution parameters in industrial wastewater when discharging into the receiving water source:*

$$C_{max} = C \times K_q \times K_f \times K_{QN} = C \times 1.0 \times 0.9 \times 1.0 = 0.9 \times C$$

In which:

+ C: Values of pollution parameters in industrial wastewater specified in QCĐP 3:2020/QN

+ K_q: Coefficient of wastewater receiving source corresponding to the flow volume of rivers, streams, canals and ditches, or corresponding to the volume of lakes, ponds, lagoons; the use purpose of the coastal sea area $K_q = 1.0$;

+ K_f: Wastewater flow coefficient corresponding to the total wastewater flow of industrial facilities when discharging into the receiving water source $K_f = 0.9$;

+ K_{QN}: Coefficient of additional application specific to QCĐP 03: 2020/QN for waste sources when discharged into rivers, streams, creeks, canals, lakes and reservoirs with different water use purposes and in different areas. different regions, $K_{QN} = 1.0$

- *Sampling position:*

	Coordinates	
AP-W1: Wastewater from AP2 Reservoir	*21°06'40.9"N*	*107°21'19.8"E*
AP-W2: Output of wastewater treatment system – Ash pond 2	*21°06'42.5"N*	*107°21'12.9"E*

Ha Noi, November 06th, 2023

Centre for industrial environmental monitoring and pollution control
Director

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