

**STACK EMISSION REPORT OF FUME TREATMENT PLANT
FOR THE MONTH OF AUGUST 2024**

LOCATION	DATE OF TEST	STACK DISCHARGE VOLUME Nm ³ / hr	GASEOUS FLUORIDE mg/ Nm ³	PARTICULATE FLUORIDE mg/ Nm ³	TOTAL FLUORIDE mg/ Nm ³	TOTAL PARTICULATE mg/ Nm ³
FTP-1	01.08.2024	748502	0.70	0.83	1.53	34.73
	21.08.2024	738433	1.51	0.59	2.10	31.27
FTP-2	01.08.2024	762134	1.42	0.53	1.95	30.0
	22.08.2024	763348	1.49	0.39	1.88	28.06
FTP-3	02.08.2024	727888	0.84	0.40	1.24	24.30
	21.08.2024	738766	1.33	0.36	1.69	20.72
FTP-4	02.08.2024	731929	1.10	0.40	1.50	20.92
	22.08.2024	742407	1.65	0.35	2.00	26.95
FTP-5	04.08.2024	787797	0.66	0.42	1.08	34.37
	23.08.2024	790007	1.24	0.86	2.10	44.10
FTP-6	04.08.2024	750315	0.53	0.18	0.71	45.52
	23.08.2024	760167	1.39	0.42	1.81	32.03
FTP-7	05.08.2024	883001	1.07	0.24	1.31	45.63
	24.08.2024	878002	1.23	0.32	1.55	35.17
FTP-8	05.08.2024	923546	1.00	0.17	1.17	16.94
	24.08.2024	963297	1.03	0.35	1.38	37.43

NOTE:

1. Total Fluoride emission 0.186 Kg/ Ton of Aluminum produced, against total hot metal Production 39421 MT.
2. **Orissa State Pollution Control Board Norm :**
Total Fluoride emission: 0.300 Kg / Ton of Aluminum produced
Total particulate: 100 mg/Nm³.
Stack discharge volume: 9,93,600 Nm³/hr

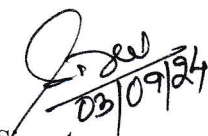

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F60G8/QC/4.5.1
Issue No 001.Rev 00
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STACK EMISSION REPORT OF BAKE OVEN PLANT
FOR THE MONTH OF AUGUST 2024

LOCATION	DATE OF TEST	STACK DISCHARGE VOLUME Nm ³ /hr	GASEOUS FLUORIDE mg/ Nm ³	PARTICULATE FLUORIDE mg/ Nm ³	TOTAL FLUORIDE mg/ Nm ³	TOTAL PARTICULATE MATTER mg/ Nm ³
BO-I	06.08.2024	159958	0.88	0.17	1.05	39.86
	26.08.2024	159508	1.34	0.14	1.48	33.04
BO-II	07.08.2024	200682	1.09	0.33	1.42	41.80
	27.08.2024	200806	1.45	0.21	1.66	31.99

- I. Total Fluoride emission **0.012 Kg/ Ton** of Aluminium produced, against total hot metal Production 39421 MT.
- II. **Orissa State Pollution Control Board Norm:**
Total Fluoride emission: 0.1 kg/Ton of Aluminium produced
Total particulate: 50 mg/Nm³.
Stack discharge volume BO-I: 1,60,000 Nm³/hr
Stack discharge volume BO-II: 2,00,880 Nm³/hr


03/09/24
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DOC NO : QLS/SAMP/08-B/00

TEST REPORT

Name & Address Of the Customer : M/s. National Aluminium Company Limited Smelter Plant Division, Angul, Odisha- 759145	Report No. : QLS/MR/A/24-25/C/722 Date : 31.08.2024 Sample No. : QLS/MR/A/24-25/722-731 Sample Description : Stack Flue Gas Date of Performance(s) : 22.08.2024-31.08.2024
Ref No & Date: SMLT/T&C/S20/OMC-5639/5300007582/WO/7329, Dated. 13.04.2023	

Analysis Result

Sampling Done by: S.Poddar				Sampling done as per : EPA/IS				
Sample No.	Location	Date of Sampling	Time (hrs.)	SO ₂ (mg/Nm ³)	NO _x (mg/Nm ³)	Temp. (°C)	Velocity (m/s)	Discharge Volume (Nm ³ /hr.)
722	FTP-1	21.08.2024	15:15	46.2	22.2	100	19.03	783771
723	FTP-2		14.25	40.2	33.3	98	18.66	770787
724	FTP-3		10.20	37.3	24.0	101	17.57	720779
725	FTP-4		11.20	47.3	28.1	98	18.45	763092
726	FTP-5	20.08.2024	9.35	29.9	34.8	98	10.01	754354
727	FTP-6		15.40	38.8	30.1	97	10.85	781826
728	GTC-7		14.50	54.0	28.2	103	11.23	954174
729	GTC-8		14.00	61.5	33.7	101	10.59	920663
730	B.O-1		9.30	223.8	106.5	93	10.08	181785
731	B.O-2		10.20	195.7	100.7	94	11.07	266034

METHOD OF TEST REFERENCE

EPA Part-2 : for Temperature, Velocity & Discharge Volume

EPA Part-6 : for Sulphur dioxide

EPA Part-7 : for Oxides of Nitrogen

Report Prepared By:

for Qualissure Laboratory Services
Reviewed & Authorized By

Benimadhab Gorai, Chemist
(Authorized Signatory)

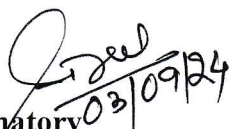
-----End of Report-----

- The results relate only to the item(s) tested.
- This Test Report shall not be reproduced without the permission of Qualissure Laboratory Services.
- The reserved part of sample(s), except perishable sample(s), shall be retained for 30 days from the date of issue of the Test Report.

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FUGITIVE EMISSION OF FLUORIDE IN POTROOMS
FOR THE MONTH OF AUGUST 2024

Location	Date of Sampling	No of Pots in operation	Fugitive emission in mg/m ³ (Average)	Average fugitive emission mg/m ³	Average fugitive emission in kg/T of Al from pot rooms (Kg/T of Al)	OSPCB NORM: Total Fugitive emission from Pot rooms (Kg/T of Al)
Pot room-A	13.08.2024 15.08.2024	119	1.23	0.89	0.29	0.4
Pot room-B	13.08.2024 15.08.2024	120	1.02			
Pot room-C	14.08.2024 16.08.2024	119	0.69			
Pot room-D	14.08.2024 16.08.2024	115	0.64			
Pot room-E	17.08.2024 19.08.2024	111	0.58			
Pot room-F	17.08.2024 19.08.2024	119	0.55			
Pot room-G	10.08.2024 12.08.2024	120	0.71			
Pot room-H	10.08.2024 12.08.2024	119	1.70			


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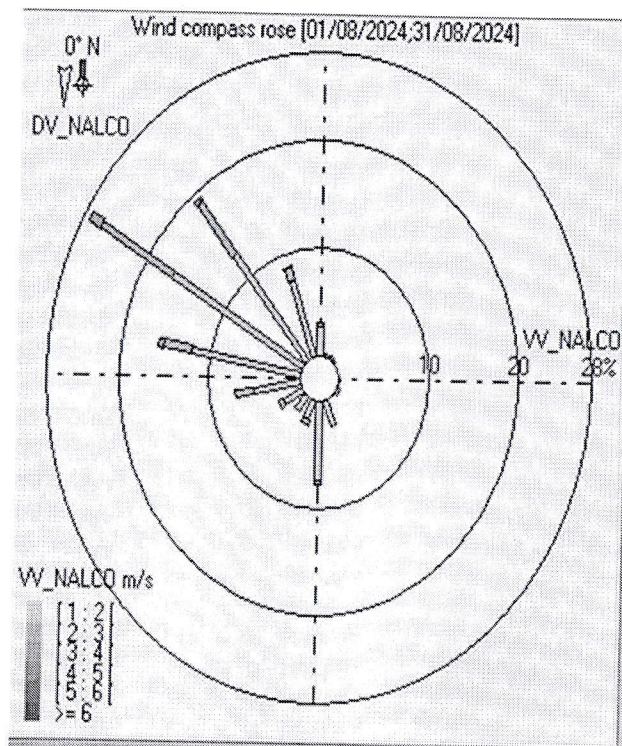
MAXIMUM & MINIMUM TEMPERATURE AND RAIN FALL **AUGUST-2024**

DATE	MAXIMUM TEMP. (deg.C)	MINIMUM TEMP. (deg C)	RAIN FALL (mm)
01-Aug	31.0	27.0	2.9
02-Aug	31.0	27.0	0.9
03-Aug	33.0	27.0	0.0
04-Aug	36.0	27.0	21.0
05-Aug	33.0	27.0	3.9
06-Aug	28.0	26.0	70.9
07-Aug	29.0	26.0	0.0
08-Aug	35.0	27.0	23.0
09-Aug	34.0	27.0	0.0
10-Aug	34.0	27.0	10.0
11-Aug	35.0	27.0	4.5
12-Aug	33.0	27.0	19.2
13-Aug	37.0	26.0	28.5
14-Aug	33.0	26.0	29.7
15-Aug	35.0	27.0	10.0
16-Aug	31.0	26.0	4.5
17-Aug	33.0	26.0	3.8
18-Aug	36.0	27.0	5.0
19-Aug	35.0	28.0	0.0
20-Aug	35.0	28.0	0.0
21-Aug	35.0	28.0	6.3
22-Aug	34.0	27.0	0.0
23-Aug	34.0	27.0	0.0
24-Aug	33.0	27.0	5.1
25-Aug	33.0	26.0	0.0
26-Aug	35.0	26.0	37.6
27-Aug	33.0	26.0	20.9
28-Aug	33.0	26.0	6.0
29-Aug	34.0	27.0	0.0
30-Aug	35.0	27.0	6.4
31-Aug	34.0	27.0	15.0
Max. Temp. for the month in Deg		37.0	
Min. Temp. for the month in Deg.		26.0	
Total rainfall (mm) -		335.1	YEAR 2024: 1167.90

Authorised Signatory

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AIR LABORATORY
नालको **NALCO**
WINDROSE FOR THE MONTH OF AUGUST 2024



	<1	[1:2[	[2:3[	[3:4[	[4:5[	[5:6[	>=6	Accumulation
[350:10[	22.7	2.7	0.3					3.1
[10:30[	14.8	0.3						0.3
[30:50[	12.2	0.3						0.3
[50:70[	16.3							
[70:90[	17.6							
[90:110[	21.4	0.2						0.2
[110:130[	15.9	0.3						0.3
[130:150[	9.7							
[150:170[	7.9	2.6						2.6
[170:190[	18.5	7.4	0.3					7.7
[190:210[	17.1	1.9	0.5					2.4
[210:230[	21.3	1.6						1.6
[230:250[	22.5	2.3	0.6					2.9
[250:270[	29.0	5.2	2.1					7.2
[270:290[	39.6	12.1	3.2	0.5				15.8
[290:310[	35.9	16.6	9.3	1.4				27.4
[310:330[	30.8	12.7	6.1	0.5				19.3
[330:350[	23.8	7.4	1.3	0.2				8.9
Accumulation	377.0	73.6	23.8	2.6				100 %


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F60G4/QC/4.5.1
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**ANALYSIS REPORT OF GROUND WATER AND SURFACE WATER
FOR THE MONTH OF AUGUST 2024**

Sl. No.	Sampling place	Approx. Distance from Storm water Channel (in meter)	Fluoride mg/l (Norm 1.5)	pH (Norm 6.5-9.0)
1	Open Pond (Kulad)	200	*	*
2	Open Pond (Kulad)	100	*	*
3	Bore Well (Kulad)	100	0.73	7.0
4	Open Well Kulad)	75	0.75	6.9
5	Open Pond (Bonda)	100	1.42	8.4
6	Open well (Bonda)	100	0.39	8.1
7	Open Pond (Bonda – Rly. Culvert)	15	1.45	7.5
8	Tube Well (Bonda)	100	1.07	6.9
9	Open well (Bonda)	50	*	*
10	Open Well (Chowadhia)	10	*	*
11	Open Well (Chowadhia)	15	*	*
12	Tube Well (Chowadhia)	100	*	*
13	Open Pond (Chowadhia)	100	0.97	7.2
14	Open Pond (Banarpal)	200	0.96	8.9
15	Open Pond (Banarpal)	200	0.78	7.4

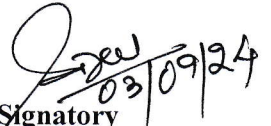
- Sample could not be collected as access to the location was restricted.


02/09/24
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F60G5/QC/4.5.1
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ANALYSIS REPORT OF GROUND AND SURFACE WATER
(SURROUNDING VILLAGES OF SMELTER PLANT)
FOR THE MONTH OF **AUGUST 2024**

Sl. No.	Sampling place	Direction with respect to Smelter Plant	Approx. Distance from Smelter Plant Km	Fluoride mg/l (Norm 1.5)	pH (Norm 6.5-9.0)
1	TURANGA TUBEWELL	NW	4	0.52	6.8
2	KURUDOL OPEN WELL	NW	5	0.59	6.9
3	BALARAM PRASAD TUBE WELL	N	5	0.89	6.9
4	GOTAMARA OPEN WELL	NE	6	0.33	7.2
5	TULASIPAL OPEN WELL	SE	4	0.71	7.3
6	LANGULIABERA OPEN WELL	S	3	0.84	7.6
7	GOPINATHPUR OPEN WELL	SW	2.5	0.86	7.2
8	ANKULA TUBE WELL	W	2	0.72	6.8

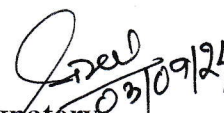

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F60G7/QC/4.5.1
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**ANALYSIS OF TREATED EFFLUENT FROM SEWAGE TREATMENT PLANT
(INSIDE TOWNSHIP)
FOR THE MONTH OF AUGUST 2024**

Sample Collected on: 17.08.2024

Sl. No	Parameters	Units	Norms (max)	Analysis
1	pH	-	6.5 to 9.0	7.9
2	Suspended solids	mg/l	100	08
3	BOD 3 days at 27 deg. C	mg/l	30	02
4	Fecal Coliform (Sample collected on 24.08.2024)	MPN /100ml	1000	97

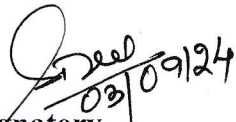

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F60G7/QC/4.5.1
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**ANALYSIS OF TREATED EFFLUENT FROM SEWAGE TREATMENT PLANT
(NEAR CISF BARRACK)
FOR THE MONTH OF AUGUST 2024**

Sample Collected on: 17.08.2024

Sl. No	Parameters	Units	Norms (max)	Analysis
1	pH	-	6.5 to 9.0	7.2
2	Suspended solids	mg/l	100	03
3	BOD 3 days at 27 deg. C	mg/l	30	03
4	Fecal Coliform (Sample collected on 24.08.2024)	MPN/100ml	1000	92


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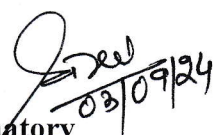
BORE WELL ANALYSIS REPORT

FOR THE MONTH OF AUGUST 2024

Sl No.	Location	Date of Collection and analysis.	pH (Norm 6.5-9.0)	Fluoride as F mg/l (Norm 1.5)	Cyanide as CN mg/l (Norm 0.2)
1	Bore well -3 (Hazardous waste land fill)	02.08.2024	7.0	1.50	ND
2	Bore well -4 (Hazardous waste land fill)	02.08.2024	7.4	1.06	ND
3	Bore well -5 (Hazardous waste land fill)	02.08.2024	6.8	1.48	ND

Note:

1) ND – Not detectable.


03/09/24
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F60G11/QC/4.5.1
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FORAGE FLUORIDE MONITORING (GRASS SAMPLES) REPORTS AROUND SMLETER PLANT

FOR THE MONTH OF AUGUST 2024

SL. No	Location	Direction w.r.t Smelter Plant	Date of collection of sample	Fluoride content (dry basis) in ppm for the month of AUG'24	Fluoride content (dry basis) in ppm for the month of JULY 24	Average of two consecutive months in ppm
1	Bonda	South-East	12.08.2024	37.5	39.5	38.5
2	Tulsipal	South-East	13.08.2024	39.6	37	38.3
3	Languliabeda	South-West	10.08.2024	38.3	35.5	36.9
4	Banarpal	East	10.08.2024	38	36.5	37.25
5	Turang	West	08.08.2024	38.4	39.8	39.1
6	Balaramprasad	North	06.08.2024	39.4	34.5	36.95

Norm- For single month - 80ppm
Average of two consecutive months - 60 ppm
Annual average - 40 ppm


03/09/24
Authorised Signatory