

**STACK EMISSION REPORT OF FUME TREATMENT PLANT
FOR THE MONTH APRIL 2023**

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	01.04.2023	742868	1.30	0.53	1.83	25.05
	19.04.2023	731246	1.17	0.55	1.72	31.28
FTP-2	03.04.2023	773347	1.58	0.56	2.14	32.16
	19.04.2023	778567	1.25	0.55	1.80	29.92
FTP-3	01.04.2023	742174	1.84	0.37	2.21	27.01
	20.04.2023	711752	1.33	0.34	1.67	21.35
FTP-4	04.04.2023	749915	1.45	0.23	1.68	19.70
	21.04.2023	742628	1.33	0.42	1.75	23.02
FTP-5	03.04.2023	764679	0.54	0.31	0.85	39.33
	20.04.2023	739034	1.41	0.69	2.10	35.70
FTP-6	05.04.2023	726709	1.34	0.93	1.27	66.13
	21.04.2023	729351	1.34	0.90	2.24	15.08
FTP-7	05.04.2023	826530	0.60	0.49	1.09	49.75
	24.04.2023	907588	1.09	0.50	1.59	20.50
FTP-8	04.04.2023	966430	1.29	0.39	1.68	31.23
	24.04.2023	889700	0.97	0.50	1.47	24.00

NOTE:

- Total Fluoride emission 0.194 Kg/ Ton of Aluminium produced, against total hot metal Production 39191 MT.
- Orissa State Pollution Control Board Norm :**
Total Fluoride emission:0.300 Kg / Ton of Aluminium produced
Total particulate:100 mg/Nm³.
Stack discharge volume: 9,93,600 Nm³/hr


 Authorised Signatory
S. K. BHAL
 Dy. Manager (LAB)
 NALCO, SMELTER, ANGUL

F60G8/QC/4.5.1
Issue No 001.Rev 00
Dt.04.07.2013

**STACK EMISSION REPORT OF BAKE OVEN PLANT
FOR THE MONTH OF APRIL 2023**

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	06.04.2023	158482	1.77	0.16	1.93	33.78
	25.04.2023	157838	4.04	0.38	4.42	47.22
BO-II	08.04.2023	200334	3.39	0.21	3.60	31.07
	26.04.2023	200519	2.52	0.43	2.95	48.78

I. Total Fluoride emission **0.027 Kg/ Ton** of Aluminium produced, against total hot metal Production **39191 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

Authorised Signatory

S. R. DIAL

Dy. Manager (LAB)

NALCO, SMELTER, ANGUL



Qualissure Laboratory Services

361, Prantick Pally,
45/361, Bose Pukur Road,
Kolkata - 700107
Email : qualissure@gmail.com
Mob. No. : 9831287086
9830093976

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/Apr/A/23-24/C/128 Date : 04.05.2023 Sample No. : QLS/Apr/A/23-24/128-137 Sample Description : Stack Flue Gas Date of Performance(s) : 28.04-03.05.2023
Ref No & Date: SMLT/T&C/SO2/OMC-5076/5300004349/WO/5802, Dated. 15.10.2019	

Analysis Result

Sampling Done by: S.Poddar					Sampling done as per : EPA/IS			
Sample No.	Location	Date of Sampling	Time	SO ₂ (mg/Nm ³)	NO _x (mg/Nm ³)	Temp. (°C)	Velocity (m/s)	Discharge Volume (Nm ³ /hr.)
128	F.T.P.-1	27.04.2023	14.30	24.5	21.4	101	18.03	738602
129	F.T.P.-2	27.04.2023	15.15	32.4	23.3	99	16.54	681262
130	F.T.P.-3	27.04.2023	12.29	34.1	21.1	100	14.76	605634
131	F.T.P.-4	27.04.2023	12.05	27.7	18.6	98	16.45	678526
132	F.T.P.-5	26.04.2023	14.10	23.5	22.5	103	8.54	634042
133	F.T.P.-6	26.04.2023	15.08	31.1	18.5	107	9.78	718499
134	G.T.C.-7	26.04.2023	11.05	39.6	21.6	102	10.39	899581
135	G.T.C.-8	26.04.2023	12.05	42.9	19.9	101	10.67	926207
136	Back Oven-1	27.04.2023	9.40	172.9	89.5	99	8.99	212685
137	Back Oven-2	26.04.2023	10.15	189.4	78.4	98	11.93	283216

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

for Qualissure Laboratory Services
Reviewed & Authorized by

(Authorized Signatory)

- 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

F60G10/QC/4.5.1
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**FUGITIVE EMISSION OF FLUORIDE IN POTROOMS
FOR THE MONTH OF APRIL 2023**

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	11.04.2023 13.04.2023	120	0.85	0.733	0.155	0.40
Pot room-B	11.04.2023 13.04.2023	120	0.67			
Pot room-C	12.04.2023 14.04.2023	120	0.60			
Pot room-D	12.04.2023 14.04.2023	120	0.73			
Pot room-E	15.04.2023 17.04.2023	119	0.59			
Pot room-F	15.04.2023 17.04.2023	119	0.75			
Pot room-G	08.04.2023 10.04.2023	120	0.76			
Pot room-H	08.04.2023 10.04.2023	120	0.91			


08/05/2023
Authorised Signatory
S. K. DHAL
Dy. Manager (LAB)
NALCO, SMELTER, ANGUL

MAXIMUM & MINIMUM TEMPERATURE AND RAIN FALL**APRIL-2023**

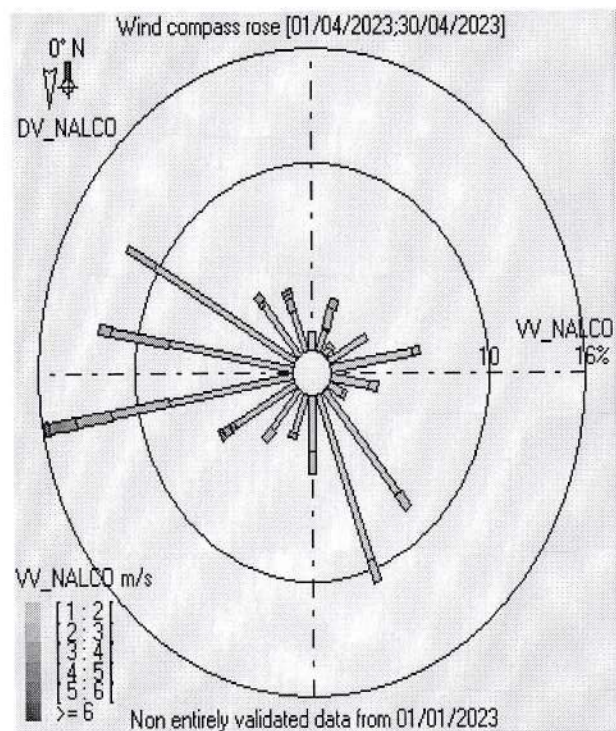
DATE	MAXIMUM TEMP. (deg.C)	MINIMUM TEMP. (deg C)	RAIN FALL (mm)
01-Apr	36.0	22.0	
02-Apr	36.0	22.0	
03-Apr	37.0	24.0	
04-Apr	37.0	24.0	
05-Apr	38.0	25.0	
06-Apr	39.5	26.0	
07-Apr	37.0	25.0	
08-Apr	39.0	26.0	
09-Apr	39.0	26.0	
10-Apr	40.0	26.0	
11-Apr	41.0	26.0	
12-Apr	42.0	25.0	
13-Apr	43.0	27.0	
14-Apr	43.0	27.0	
15-Apr	42.0	27.0	
16-Apr	42.0	27.0	
17-Apr	43.5	27.5	
18-Apr	43.0	27.0	
19-Apr	43.0	28.5	
20-Apr	42.0	28.0	
21-Apr	35.0	21.0	13.3
22-Apr	35.0	20.0	
23-Apr	35.0	20.0	
24-Apr	34.0	25.0	
25-Apr	34.0	23.0	
26-Apr	37.0	25.0	
27-Apr	39.0	26.0	
28-Apr	38.5	26.0	
29-Apr	37.0	25.0	
30-Apr	37.0	25.0	
Max. Temp. for the month in Deg.C		43.5	
Min. Temp. for the month in Deg.C.		20.0	
Total rainfall (mm) -		13.3	YEAR 2023: 92.1

Authorised Signatory

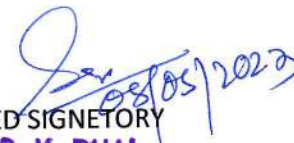
S. K. DHAL

Dy. Manager (LAB)

AIR LABORATORY
नालको **NALCO**
WINDROSE FOR THE MONTH OF APRIL 2023



	< 1	[1 : 2 [	[2 : 3 [	[3 : 4 [	[4 : 5 [	[5 : 6 [	>= 6	Accumulation
[350 : 10 [	177.7	1.0						1.0
[10 : 30 [	14.6	1.2	1.2	0.5				3.0
[30 : 50 [	25.1	0.5	0.2					0.7
[50 : 70 [	29.3	2.7						2.7
[70 : 90 [	25.6	5.2	0.5					5.7
[90 : 110 [	15.4	2.5	0.5					3.0
[110 : 130 [	8.4	1.0	0.2					1.2
[130 : 150 [	15.1	7.2	1.0					8.2
[150 : 170 [	28.5	9.4	1.2					10.7
[170 : 190 [	23.1	3.0	1.2					4.2
[190 : 210 [	21.1	2.2		0.2				2.5
[210 : 230 [	22.6	2.7	0.7					3.5
[230 : 250 [	28.5	4.5	0.2	0.5	0.2			5.5
[250 : 270 [	24.8	7.9	3.7	2.2	1.7	0.2		15.9
[270 : 290 [	27.3	7.9	3.7	0.7				12.4
[290 : 310 [	21.8	10.2	2.0					12.2
[310 : 330 [	17.9	3.5	0.2	0.5				4.2
[330 : 350 [	13.6	2.2	0.7	0.2	0.2			3.5
Accumulation	540.4	74.9	17.6	5.0	2.2	0.2		100 %


AUTHORISED SIGNATORY
S. K. DHAL
Dy. Manager (LAB)
NALCO, SMELTER, ANJUN

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**ANALYSIS REPORT OF GROUND WATER AND SURFACE WATER
FOR THE MONTH APRIL 2023**

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	0.38	6.9
4	Open Well Kulad)	75	1.01	7.0
5	Open Pond (Bonda)	100	1.45	7.0
6	Open well (Bonda)	100	0.42	7.2
7	Open Pond (Bonda – Rly. Culvert)	15	1.13	7.8
8	Tube Well (Bonda)	100	1.42	7.1
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	1.25	7.3
14	Open Pond (Banarpal)	200	1.18	7.7
15	Open Pond (Banarpal)	200	1.14	7.4

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


08/05/2023
Authorised Signatory
S. K. DHAL
Dy. Manager (LAB)
NALCO, SMELTER AND

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ANALYSIS REPORT OF GROUND AND SURFACE WATER
(SURROUNDING VILLAGES OF SMELTER PLANT)
FOR THE MONTH OF APRIL 2023

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	0.73	7.0
2	KURUDOL OPEN WELL	NW	5	1.42	7.2
3	BALARAM PRASAD TUBE WELL	N	5	1.20	7.1
4	GOTAMARA OPEN WELL	NE	6	0.52	7.0
5	TULASIPAL OPEN WELL	SE	4	1.48	7.2
6	LANGULIABERA OPEN WELL	S	3	1.31	7.1
7	GOPINATHPUR OPEN WELL	SW	2.5	0.80	7.0
8	ANKULA TUBE WELL	W	2	1.08	7.1


08/05/2023
Authorised Signatory
S. K. DHAL
Dy. Manager (LAB)
NALCO, SMELTER, ANGUL

F60G7/QC/4.5.1

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Dt.02.07.2015

**ANALYSIS OF TREATED EFFLUENT FROM SEWAGE TREATMENT PLANT
(INSIDE TOWNSHIP)
FOR THE MONTH OF APRIL 2023**

Sample Collected on : 07.04.2023

Sl. No	Parameters	Units	Norms (max)	Analysis
1	pH	-	6.5 to 9.0	7.3
2	Suspended solids	mg/l	100	10
3	BOD 3days at 27 deg.C	mg/l	30	03
4	Fecal Coliform (Sample collected on 21.04.2023)	MPN/100ml	1000	89


Authorised Signatory
S. K. DHAL
Dy. Manager (LAB)
NALCO, SMELTER, ANGM.

F60G7/QC/4.5.1
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**ANALYSIS OF TREATED EFFLUENT FROM SEWAGE TREATMENT PLANT
(NEAR CISF BARRACK)
FOR THE MONTH OF APRIL 2023**

Sample Collected on: 07.04.2023

Sl. No	Parameters	Units	Norms (max)	Analysis
1	pH	-	6.5 to 9.0	7.0
2	Suspended solids	mg/l	100	45
3	BOD 3days at 27 deg.C	mg/l	30	05
4	Fecal Coliform (Sample collected on 21.04.2023)	MPN/100ml	1000	80


08/05/2023
Authorised Signatory
S. K. DHAL
Dy. Manager (LAB)
NALCO, SMELTER, ANGUL

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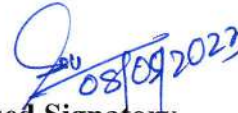
BORE WELL ANALYSIS REPORT

FOR THE MONTH OF APRIL 2023

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)	07.04.2023	7.5	1.46	ND
2	Bore well -4 (Hazardous waste land fill)	07.04.2023	7.6	1.41	ND
3	Bore well -5 (Hazardous waste land fill)	07.04.2023	7.1	1.21	ND

Note:

1) ND – Not detectable.


08/09/2023
Authorised Signatory
S. K. DHAL
Dy. Manager (LAB)
NALCO, SMELTER, ANGUL

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FORAGE FLUORIDE MONITORING (GRASS SAMPLES) REPORTS AROUND SMLETER PLANT

FOR THE MONTH OF APRIL 2023

SL. No	Location	Direction w.r.t Smelter Plant	Date of collection of sample	Fluoride content (dry basis) in ppm for the month of APRIL 2023	Fluoride content (dry basis) in ppm for the month of MAR 2023	Average of two consecutive months in ppm
1	Bonda	South-East	13.04.2023	40	38.4	39.2
2	Tulsipal	South-East	11.04.2023	38.9	39	38.95
3	Languliabeda	South-West	11.04.2023	39.2	39.4	39.3
4	Banarpal	East	06.04.2023	38.4	38.7	38.55
5	Turang	West	12.04.2023	39.3	38.9	39.1
6	Balaramprasad	North	12.04.2023	39.5	39.2	39.35

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


08/04/2023
Authorised Signatory
S. K. DHAL
Dy. Manager (LAB)
NALCO, SMELTER, ANGUL