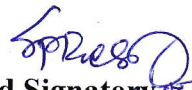


**STACK EMISSION REPORT OF FUME TREATMENT PLANT
FOR THE MONTH OCTOBER 2024**

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	01.10.2024	730426	0.76	0.16	0.92	31.67
	22.10.2024	735063	0.89	0.21	1.10	29.42
FTP-2	02.10.2024	767263	0.50	0.30	0.80	14.66
	23.10.2024	769183	0.98	0.70	1.68	20.19
FTP-3	02.10.2024	722516	0.45	0.23	0.68	16.73
	22.10.2024	734263	1.98	0.39	2.37	28.87
FTP-4	03.10.2024	736756	0.81	0.12	0.93	33.53
	23.10.2024	704976	1.46	0.25	1.71	9.22
FTP-5	04.10.2024	736440	0.83	0.57	1.40	44.51
	24.10.2024	775450	0.75	0.61	1.36	48.93
FTP-6	01.10.2024	738307	1.48	0.25	1.73	48.00
	24.10.2024	759576	0.91	0.41	1.32	48.58
FTP-7	03.10.2024	865347	0.50	0.42	0.92	57.45
	25.10.2024	881809	1.31	0.61	1.92	33.32
FTP-8	04.10.2024	941328	0.64	0.31	0.95	35.64
	26.10.2024	893835	0.50	0.31	0.81	45.28

NOTE:

1. Total Fluoride emission 0.155 Kg/ Ton of Aluminum produced, against total hot metal Production 38446 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


Authorised Signatory 05/11/24
Premananda Behera
 Asst. Manager (Laboratory)
 NALCO, Smelter Plant, 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 OCTOBER 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	05.10.2024	159138	1.23	0.13	1.36	35.90
	26.10.2024	159942	0.65	0.20	0.85	31.59
BO-II	09.10.2024	200726	2.33	0.12	2.45	9.14
	28.10.2024	200519	2.26	0.14	2.40	22.28

- I. Total Fluoride emission **0.016 Kg/ Ton** of Aluminium produced, against total hot metal Production **38446 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 05/11/24
Premananda Behera
Asst. Manager (Laboratory)
NALCO, Smelter Plant, 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/MR/A/24-25/C/975 Date : 04.10.2024 Sample No. : QLS/MR/A/24-25/975-984 Sample Description : Stack Flue Gas Date of Performance(s) : 25.10.2024-01.11.2024
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)	NOx (mg/Nm ³)	Temp. (°C)	Velocity (m/s)	Discharge Volume (Nm ³ /hr.)
975	FTP-1	24.10.2024	14:30	46.6	32.7	99	18.21	759132
976	FTP-2		15.:35	40.7	25.4	97	17.46	732391
977	FTP-3		11:00	54.1	30.8	101	19.45	805327
978	FTP-4		12:05	41.6	21.4	98	18.77	783548
979	FTP-5		9:30	54.1	26.5	99	10.44	791952
980	FTP-6		10:15	44.8	29.4	96	11.52	881064
981	GTC-7	23.10.2024	12:05	51.2	28.5	103	10.71	935941
982	GTC-8		14:30	52.3	35.2	100	11.31	996417
983	B.O-1		10:30	223.6	134.3	95	8.47	153677
984	B.O-2		11:15	283.2	153.3	96	8.14	196989
METHOD OF TEST REFERENCE								
<u>EPA Part-2</u> : for Temperature, Velocity & Discharge Volume								
<u>EPA Part-6</u> : for Sulphur dioxide								
<u>EPA Part-7</u> : for Oxides of Nitrogen								

Report Prepared By: 

for Qualissure Laboratory Services
Reviewed & Authorized By

Benimadhab Goral, Chemist
(Authorized Signatory)

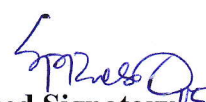
-----End of the Report-----

- 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

F60G10/QC/4.5.1
Issue No 001.Rev 00
Dt. 04.07.2013

**FUGITIVE EMISSION OF FLUORIDE IN POTROOMS
FOR THE MONTH OF OCTOBER 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	14.10.2024 16.10.2024	118	1.83	1.27	0.283	0.4
Pot room-B	14.10.2024 16.10.2024	120	1.93			
Pot room-C	17.10.2024 19.10.2024	120	0.81			
Pot room-D	17.10.2024 19.10.2024	118	1.15			
Pot room-E	12.10.2024 18.10.2024	112	1.39			
Pot room-F	12.10.2024 18.10.2024	116	1.35			
Pot room-G	15.10.2024 21.10.2024	120	0.73			
Pot room-H	15.10.2024 21.10.2024	119	0.97			


Authorised Signatory 05/11/24
Premananda Behera
Asst. Manager (Laboratory)
NALCO, Smelter Plant, Angul

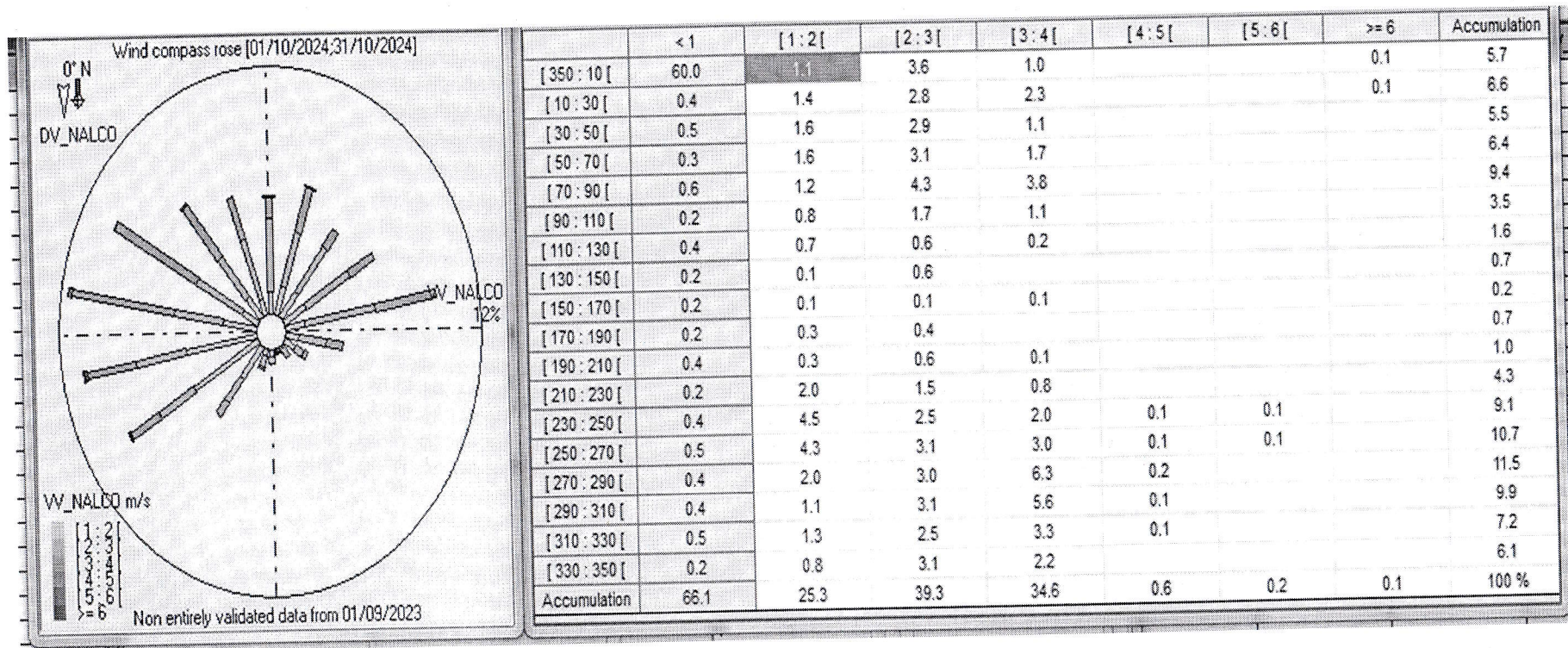
MAXIMUM & MINIMUM TEMPERATURE AND RAIN FALL

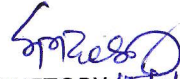
OCTOBER-2024

DATE	MAXIMUM TEMP. (deg.C)	MINIMUM TEMP. (deg C)	RAIN FALL (mm)
01-Oct	37.0	27.0	0.0
02-Oct	37.0	28.0	0.0
03-Oct	36.0	27.0	0.0
04-Oct	36.0	27.0	0.0
05-Oct	36.0	26.0	0.0
06-Oct	36.0	26.0	0.0
07-Oct	35.0	26.0	0.0
08-Oct	37.0	26.0	12.8
09-Oct	32.0	26.0	0.0
10-Oct	36.0	26.5	0.0
11-Oct	36.0	26.0	0.0
12-Oct	36.0	26.0	0.0
13-Oct	36.0	26.0	0.0
14-Oct	35.0	27.0	0.0
15-Oct	36.0	27.0	0.0
16-Oct	36.0	27.0	0.0
17-Oct	36.0	27.0	0.0
18-Oct	35.0	27.0	0.0
19-Oct	32.0	24.0	20.6
20-Oct	34.0	25.0	0.0
21-Oct	32.0	24.0	0.0
22-Oct	34.0	24.0	0.0
23-Oct	33.0	25.0	0.0
24-Oct	30.0	24.0	25.5
25-Oct	27.0	25.0	8.8
26-Oct	28.0	25.0	0.0
27-Oct	30.0	25.0	1.8
28-Oct	32.0	25.0	69.1
29-Oct	30.0	25.0	0.0
30-Oct	33.0	25.0	0.0
31-Oct	33.0	26.0	0.0
Max. Temp. for the month in Deg		37.0	
Min. Temp. for the month in Deg.		24.0	
Total rainfall (mm) -		138.6	YEAR 2024: 1534.10


 Authorised Signatory
 Premananda Behera
 Asst. Manager (Laboratory)
 NALCO, Smelter Plant, Angul

AIR LABORATORY
नलको NALCO
WINDROSE FOR THE MONTH OF OCTOBER 2024



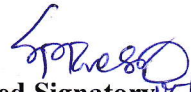

 AUTHORISED SIGNATORY 25/11/24.
Premananda Behera
 Asst. Manager (Laboratory)
 NALCO, Smelter Plant, Angul

F60G4/QC/4.5.1
Issue No 001.Rev 00
Dt.04.07.2013

**ANALYSIS REPORT OF GROUND WATER AND SURFACE WATER
FOR THE MONTH OCTOBER 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	0.58	6.9
4	Open Well Kulad)	75	0.79	6.8
5	Open Pond (Bonda)	100	1.42	7.7
6	Open well (Bonda)	100	1.37	7.1
7	Open Pond (Bonda – Rly. Culvert)	15	1.43	7.9
8	Tube Well (Bonda)	100	0.94	6.8
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	0.54	8.4
14	Open Pond (Banarpal)	200	0.40	6.8
15	Open Pond (Banarpal)	200	1.41	7.5

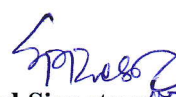
- Sample could not be collected as access to the location was restricted.


Authorised Signatory 15/11/24
Premananda Behera
Asst. Manager (Laboratory)
NALCO, Smelter Plant, Angul

F60G5/QC/4.5.1
Issue No 001.Rev 00
Dt.04.07.2013

ANALYSIS REPORT OF GROUND AND SURFACE WATER
(SURROUNDING VILLAGES OF SMELTER PLANT)
FOR THE MONTH OF **OCTOBER 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	0.38	6.8
2	KURUDOL OPEN WELL	NW	5	0.72	7.4
3	BALARAM PRASAD TUBE WELL	N	5	1.00	7.0
4	GOTAMARA OPEN WELL	NE	6	0.43	7.0
5	TULASIPAL OPEN WELL	SE	4	0.65	7.4
6	LANGULIABERA OPEN WELL	S	3	0.85	7.5
7	GOPINATHPUR OPEN WELL	SW	2.5	0.60	6.9
8	ANKULA TUBE WELL	W	2	0.71	6.9


Authorised Signatory 05/11/24
Premananda Behera
Asst. Manager (Laboratory)
NALCO, Smelter Plant, Angul

F60G7/QC/4.5.1
Issue No 001.Rev 00
Dt.02.07.2015

**ANALYSIS OF TREATED EFFLUENT FROM SEWAGE TREATMENT PLANT
(INSIDE TOWNSHIP)
FOR THE MONTH OF OCTOBER 2024**

Sample Collected on: 11.10.2024

Sl. No	Parameters	Units	Norms (max)	Analysis
1	pH	-	6.5 to 9.0	7.8
2	Suspended solids	mg/l	100	03
3	BOD 3 days at 27 deg. C	mg/l	30	04
4	Fecal Coliform (Sample collected on 30.10.2024)	MPN /100ml	1000	96


Authorised Signatory
Premananda Behera
Asst. Manager (Laboratory)
NALCO, Smelter Plant, Angul

F60G7/QC/4.5.1
Issue No 001.Rev 00
Dt.02.07.2015

**ANALYSIS OF TREATED EFFLUENT FROM SEWAGE TREATMENT PLANT
(NEAR CISF BARRACK)
FOR THE MONTH OF OCTOBER 2024**

Sample Collected on: 11.10.2024

Sl. No	Parameters	Units	Norms (max)	Analysis
1	pH	-	6.5 to 9.0	7.1
2	Suspended solids	mg/l	100	09
3	BOD 3 days at 27 deg. C	mg/l	30	09
4	Fecal Coliform (Sample collected on 30.10.2024)	MPN/100ml	1000	92


Authorised Signatory
Premananda Behera
Asst. Manager (Laboratory)
NALCO, Smelter Plant, Angul

F61B/QC/4.5.1
ISSUE No.01 REV00
Dt.04.07.2013

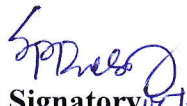
BORE WELL ANALYSIS REPORT

FOR THE MONTH OF OCTOBER 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)	09.10.2024	6.9	1.46	ND
2	Bore well -4 (Hazardous waste land fill)	09.10.2024	7.2	1.00	ND
3	Bore well -5 (Hazardous waste land fill)	09.10.2024	6.7	1.42	ND

Note:

- 1) ND – Not detectable.


Authorised Signatory/5/11/24
Premananda Behera
Asst. Manager (Laboratory)
NALCO, Smelter Plant, Angul

FORAGE FLUORIDE MONITORING (GRASS SAMPLES) REPORTS AROUND SMLETER PLANT

FOR THE MONTH OF OCTOBER 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 OCT'24	Fluoride content (dry basis) in ppm for the month of SEP'24	Average of two consecutive months in ppm
1	Bonda	South-East	09.10.2024	39.7	38.5	39.1
2	Tulsipal	South-East	10.10.2024	39.92	39.1	39.51
3	Languliabeda	South-West	10.10.2024	39.1	38	38.55
4	Banarpal	East	08.10.2024	38.5	39.2	38.85
5	Turang	West	14.10.2024	39.5	37.6	38.55
6	Balaramprasad	North	07.10.2024	39.9	38.4	39.15

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


Authorised Signatory 15/11/24
Premananda Behera
Asst. Manager (Laboratory)
NALCO, Smelter Plant, Angul