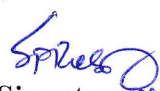


**STACK EMISSION REPORT OF FUME TREATMENT PLANT
FOR THE MONTH JANUARY 2024**

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	02.01.2024	745680	0.77	0.43	1.20	30.66
	20.01.2024	749863	0.61	0.24	0.85	30.14
FTP-2	02.01.2024	785229	0.74	0.43	1.17	29.99
	19.01.2024	784726	0.65	0.39	1.04	28.25
FTP-3	03.01.2024	738214	0.98	0.38	1.36	24.50
	19.01.2024	735121	0.92	0.32	1.24	29.40
FTP-4	03.01.2024	742856	0.74	0.56	1.30	23.62
	20.01.2024	744532	0.82	0.61	1.43	57.34
FTP-5	04.01.2024	806397	0.78	0.50	1.28	33.35
	22.01.2024	810768	0.31	0.55	0.86	30.57
FTP-6	05.01.2024	779518	0.93	0.23	1.16	48.43
	22.01.2024	748496	0.44	0.24	0.68	32.09
FTP-7	05.01.2024	887482	0.51	0.19	0.70	36.35
	23.01.2024	921849	0.37	0.15	0.52	33.40
FTP-8	04.01.2024	949193	0.49	0.21	0.70	39.35
	23.01.2024	911010	0.33	0.21	0.54	29.14

NOTE:

1. Total Fluoride emission 0.116 Kg/ Ton of Aluminum produced, against total hot metal Production 40537 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
Premananda Behera
 Asst. Manager (Laboratory)
 NALCO, Smelter Plant, Angul

**STACK EMISSION REPORT OF BAKE OVEN PLANT
FOR THE MONTH OF JANUARY 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	08.01.2024	159890	0.82	0.11	0.93	38.13
	24.01.2024	159953	0.28	0.16	0.44	28.31
BO-II	06.01.2024	200391	0.91	0.46	1.37	38.62
	25.01.2024	200589	0.43	0.41	0.84	26.39

I. Total Fluoride emission **0.007 Kg/ Ton** of Aluminum produced, against total hot metal Production 40537 MT.

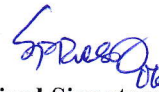
II. **Orissa State Pollution Control Board Norm:**

Total Fluoride emission: 0.1 kg/Ton of Aluminum 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


06/02/24.
Authorised Signatory
Premananda Behera
Asst. Manager (Laboratory)
NALCO, Smelter Plant, Angul



Qualissure Laboratory Services

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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/23-24/C/1733
	Date	: 29.01.2024
	Sample No.	: QLS/MR/A/23-24/1733-1735
	Sample Description	: Stack Flue Gas
	Date of Performance(s)	: 24.01.2024-29.01.2024
Ref No & Date: SMLT/T&C/S20/OMC-5639/5300007582/WO/7329, Dated: 13.04.2023		

Analysis Result

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.)
1733	FTP-1	17.01.2024	13.05	31.4	31.7	101	18.59	763643
1734	FTP-2		14.10	39.2	22.6	103	19.03	777725
1735	FTP-3		15.05	46.2	23.5	100	15.96	657575
1726	FTP-4	18.01.2024	9.45	35.7	26.1	98	16.34	676816
1729	FTP-5		14.35	41.1	27.0	100	8.63	647715
1730	FTP-6		15.25	31.4	34.5	101	8.12	607849
1727	GTC-7		12.00	42.7	32.0	98	10.45	917061
1728	GTC-8		13.50	47.1	22.7	96	9.76	861024
1731	B.O-1	17.01.2023	9.30	297.5	90.8	91	9.84	238873
1732	B.O-2		10.18	363.9	106.2	96	10.03	240202
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

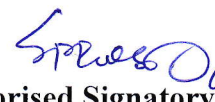
Benimadhab Gorai, Chemist
(Authorized Signatory)

-----End of 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

FUGITIVE EMISSION OF FLUORIDE IN POTROOMS FOR THE MONTH OF JANUARY 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	10.01.2024 12.01.2024	119	0.87	0.895	0.284	0.40
Pot room-B	10.01.2024 12.01.2024	120	0.71			
Pot room-C	15.01.2024 17.01.2024	120	1.26			
Pot room-D	15.01.2024 17.01.2024	120	1.00			
Pot room-E	16.01.2024 18.01.2024	120	1.13			
Pot room-F	16.01.2024 18.01.2024	120	0.70			
Pot room-G	11.01.2024 13.01.2024	120	0.50			
Pot room-H	11.01.2024 13.01.2024	120	0.99			


 06/02/24.
 Authorised Signatory
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MAXIMUM & MINIMUM TEMPERATURE AND RAIN FALL**JANUARY-2024**

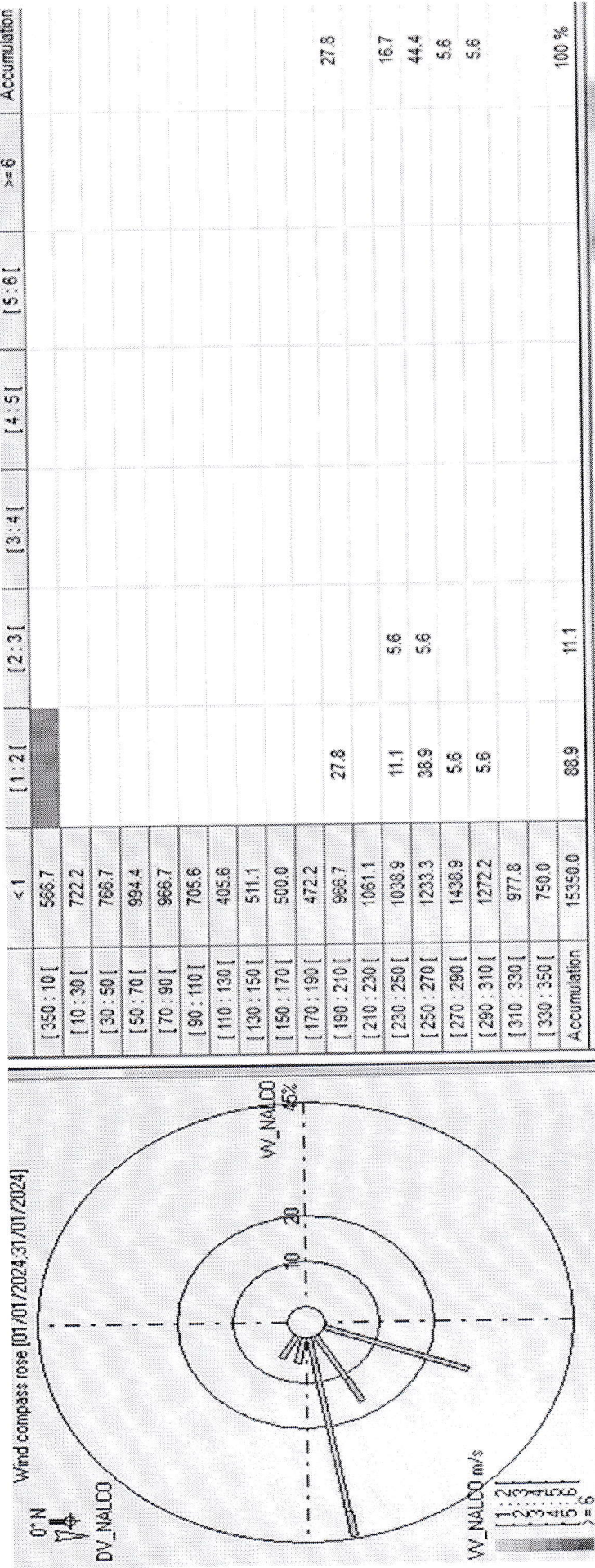
DATE	MAXIMUM TEMP. (deg.C)	MINIMUM TEMP. (deg C)	RAIN FALL (mm)
01-Jan	27.0	16.0	0.0
02-Jan	26.0	15.0	0.0
03-Jan	27.0	15.0	0.0
04-Jan	28.0	15.0	0.0
05-Jan	28.0	15.0	0.0
06-Jan	28.0	15.5	0.0
07-Jan	28.0	16.0	0.0
08-Jan	28.0	17.0	0.0
09-Jan	28.0	17.0	0.0
10-Jan	28.0	17.5	0.0
11-Jan	29.0	18.0	0.0
12-Jan	27.0	15.0	0.0
13-Jan	28.0	15.0	0.0
14-Jan	28.0	15.0	0.0
15-Jan	28.0	17.0	0.0
16-Jan	28.0	19.0	0.0
17-Jan	27.0	20.0	0.0
18-Jan	28.0	18.0	0.0
19-Jan	24.0	18.0	8.5
20-Jan	26.0	18.0	8.2
21-Jan	26.0	18.0	0.0
22-Jan	26.0	18.0	0.0
23-Jan	24.0	16.0	0.0
24-Jan	22.0	16.0	0.0
25-Jan	24.0	13.0	0.0
26-Jan	25.0	13.0	0.0
27-Jan	28.0	14.0	0.0
28-Jan	28.0	14.0	0.0
29-Jan	28.0	16.0	0.0
30-Jan	28.0	16.0	0.0
31-Jan	29.0	18.0	0.0
Max. Temp. for the month in Deg.C		29.0	
Min. Temp. for the month in Deg.C.		13.0	
Total rainfall (mm) -		16.7	YEAR 2024: 16.70


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AIR LABORATORY

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WINDROSE FOR THE MONTH OF JANUARY 2024

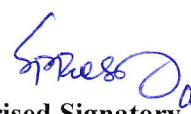


F60G4/QC/4.5.1
Issue No 001.Rev 00
Dt.04.07.2013

**ANALYSIS REPORT OF GROUND WATER AND SURFACE WATER
FOR THE MONTH JANUARY 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	0.97	6.8
4	Open Well Kulad)	75	0.26	6.7
5	Open Pond (Bonda)	100	1.43	7.7
6	Open well (Bonda)	100	0.80	6.8
7	Open Pond (Bonda – Rly. Culvert)	15	1.39	8.1
8	Tube Well (Bonda)	100	1.06	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	0.69	7.0
14	Open Pond (Banarpal)	200	0.81	6.6
15	Open Pond (Banarpal)	200	0.66	7.2

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


06/02/24.
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F60G5/QC/4.5.1
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Dt.04.07.2013

ANALYSIS REPORT OF GROUND AND SURFACE WATER
(SURROUNDING VILLAGES OF SMELTER PLANT)
FOR THE MONTH OF JANUARY 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	0.31	6.7
2	KURUDOL OPEN WELL	NW	5	0.22	6.6
3	BALARAM PRASAD TUBE WELL	N	5	0.38	6.8
4	GOTAMARA OPEN WELL	NE	6	0.50	6.6
5	TULASIPAL OPEN WELL	SE	4	1.14	7.3
6	LANGULIABERA OPEN WELL	S	3	0.86	7.0
7	GOPINATHPUR OPEN WELL	SW	2.5	0.49	7.3
8	ANKULA TUBE WELL	W	2	0.58	6.7


06/02/24.
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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 JANUARY 2024**

Sample Collected on: 17.01.2024

Sl. No	Parameters	Units	Norms (max)	Analysis
1	pH	-	6.5 to 9.0	7.2
2	Suspended solids	mg/l	100	01
3	BOD 3 days at 27 deg. C	mg/l	30	05
4	Fecal Coliform (Sample collected on 12.01.2024)	MPN /100ml	1000	95

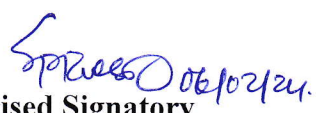
Spree 06/02/24.
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F60G7/QC/4.5.1
Issue No 001.Rev 00
Dt.02.07.2015

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

Sample Collected on: 17.01.2024

Sl. No	Parameters	Units	Norms (max)	Analysis
1	pH	-	6.5 to 9.0	6.9
2	Suspended solids	mg/l	100	02
3	BOD 3 days at 27 deg. C	mg/l	30	07
4	Fecal Coliform (Sample collected on 12.01.2024)	MPN/100ml	1000	90


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F61B/QC/4.5.1
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BORE WELL ANALYSIS REPORT

FOR THE MONTH OF JANUARY 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)	18.01.2024	7.9	0.76	ND
2	Bore well -4 (Hazardous waste land fill)	18.01.2024	7.9	0.88	ND
3	Bore well -5 (Hazardous waste land fill)	18.01.2024	7.7	1.02	ND

Note:

1) ND – Not detectable.


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FORAGE FLUORIDE MONITORING (GRASS SAMPLES) REPORTS AROUND SMLETER PLANT

FOR THE MONTH OF JANUARY 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 JAN'24	Fluoride content (dry basis) in ppm for the month of DEC' 23	Average of two consecutive months in ppm
1	Bonda	South-East	13.01.2024	38.7	38.1	38.4
2	Tulsipal	South-East	09.01.2024	36.9	39.2	38.05
3	Languliabeda	South-West	09.01.2024	37.6	37.8	37.7
4	Banarpal	East	08.01.2024	38.5	39.3	38.9
5	Turang	West	12.01.2024	38.4	36.7	37.55
6	Balaramprasad	North	18.01.2024	39	38.5	38.75

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


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