



Ref: UAIL-Mines/BBM/ /2022

26<sup>th</sup> September 2022

To

The Member secretary  
State Pollution Control Board, Odisha  
Parivesh Bhawan, A/118  
Nilakanthanagar, unit- VIII  
Bhubaneswar- 751012

**Sub: Submission of Environment Statement for the financial year ending 31<sup>st</sup> March 2022  
with respect to Baphalimali Bauxite Mine of M/s Utkal Alumina International Ltd.**


Dear Sir,

We are enclosing herewith the Environment Statement for the financial year ending 31<sup>st</sup> March 2022 in the prescribed FORM-V with respect to Baphalimali Bauxite Mine of M/s Utkal Alumina International Ltd. Paikkuphakhil, Maikanch, Rayagada, Odisha, as per the Rule 14 of The Environment Protection Act, 1986 and Rules made thereof.

This is for your kind information and necessary records please.

Thanking you,

Yours faithfully,  
For **Utkal Alumina International Ltd.**

  
Mukesh Kumar Jha  
Head- Mines  
Baphlimali Bauxite Mine

Encl: As above  
Copy To: Regional Office, OSPCB, Rayagada.



**FORM-V**  
(See rule 14)

**Environmental Statement for the Financial Year Ending 31<sup>st</sup> March 2022, of  
Baphalimali Bauxite Mines of M/s. Utkal Alumina International Ltd.**

**PART-A**

- (i) Name and address of the owner/  
Occupier of the industry operation : Mr. S K Mishra  
: Baphalimali Bauxite Mine  
Utkal Alumina International Ltd.  
At- Doraguda, Po- Kucheipadar  
Dist. Rayagada- 765015
- (ii) Industry category : Primary( Large/Red)
- (iii) Production capacity : 8.5 MPTA (Bauxite Ore)
- (iv) Year of establishment : 2012
- (v) Date of the last environmental statement submitted.: 15.09.2021

**PART-B**

**WATER AND RAW MATERIAL CONSUMPTION**

**(1) Water Consumption in m<sup>3</sup>/Day**

- Process : As the operation is mining of bauxite by open cast method with shallow depth, therefore water is not required for processing.
- Industrial (Dust Suppression & others) : 560 m<sup>3</sup>/Day
- Domestic & others : 169 m<sup>3</sup>/Day

Name of products	Process water consumption per unit of product output	
	During the previous financial year (2020-21)	During the current financial year (2021-22)
	(1)	(2)
Bauxite Ore*	Nil	Nil

\* Bauxite is a natural product. As such no water is required for processing.



**(2) Raw material consumption**

Not applicable, as it is a raw material (Bauxite Ore) generating unit for its parent concern Utkal Alumina International Limited.

Name of Raw Materials	Name of the Product	Consumption of raw material per unit of output	
		During the previous financial year (2020-21)	During the current financial year (2021-22)
Not Applicable	Bauxite*	Nil	Nil

\*Since Bauxite is a natural product, it is produced by heavy duty mining machinery. As such no raw material is required in mining process.

**PART- C**

**POLLUTION DISCHARGED TO ENVIRONMENT/UNIT OF OUTPUT**  
(Parameter as specified in the consent issued)

Pollutants	Quantity of Pollutants discharged (mass/day)	Concentration of Pollutants discharged (mass/volume)	Percentage of variation from prescribed standards with reasons.
(a) Water	No Discharge	No Discharge	Not applicable since no discharge.
(b) Air		PM10( $\mu\text{g}/\text{Nm}^3$ ): 58.00	Well within the NAAQS 60 $\mu\text{g}/\text{m}^3$
		PM2.5( $\mu\text{g}/\text{Nm}^3$ ): 32.20	Well within the NAAQS of 40 $\mu\text{g}/\text{m}^3$

**PART-D**

**HAZARDOUS WASTES**

(As specified under Hazardous and Other Wastes (Management & Transboundary Movement) Rules, 2016).

Hazardous Wastes	Total Quantity	
	During the previous financial year (2020-21)	During the current financial year (2021-22)
<b>HAZARDOUS WASTES: Authorization No.: IND-IV-HW-1035/5326/31-03-2022</b>		
1. Generation from Process		
a) Used Oil(Stream- 5.1)	: 59.97 KL	: 48.61 KL
b) Wastes/Residue Containing Oil(Stream- 3.3, 5.2, & 33.2)	: 0.678 Tonne	: 0.620 Tonne
c) Discarded barrels(Stream- 33.1)	: 305 Nos	: 233 Nos
d) Contaminated cotton rags(Stream- 33.2)	: 0.175 tonnes	: 0.167 tonnes
e)Oil & grease skimming residues	: Nil	: Nil
2. From Pollution Control Facilities	: NIL	: NIL



**PART- E**  
**SOLID WASTES**

Solid Wastes	Total Quantity	
	During the previous financial year(2020-21)	During the current financial year (2021-22)
(a) From process (Overburden)	39,72,502 tonnes	45,95,645 tonnes
(b) From Pollution Control Facility	Nil	Nil
(c)		
i. Quantity recycled or re-Utilized within the unit.	39,72,502 tonnes (backfilling)	45,95,645 tonnes (backfilling)
ii. Sold	Nil	Nil
iii. Disposed	Nil	Nil

**PART - F**

**Please specify the characteristics (in terms of concentration and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.**

**Characterization of Hazardous waste & Solid waste:**

The used or spent oil, contaminated cotton rags, oil filters etc. from the maintenance of HEMMs and other machineries have been identified as hazardous wastes. The composition of solid waste (Overburden) mainly consists of laterite.

**Disposal Practices:**

**a) Solid Waste:**

Over Burden is being systematically and scientifically backfilled over the voids of mined out area followed by plantation.

**b) Hazardous wastes:**

The used oil generated is collected in leak proof barrels and then kept on an impervious floor under shed with oil catch pit. It is also ensured that the caps of the barrels remain intact and horizontal. During transfer of waste oil to barrels, a trough is placed underneath in order to prevent land contamination due to oil spillage. Provision of impervious pit with oil for collection of oily waste is there at the used oil storage yard in addition to the existing practice of collection at specified barrels.



Similarly, the used cotton wastes, oil filters generated are collected in designated impervious pits. The hazardous wastes are being dispatched to the authorised re-cyclers of SPCB/CPCB as per the rules.

### **PART-G**

#### **Impact of the pollution control measures taken on conservation of natural resources and consequently on the cost of production.**

The topsoil and OB are being used for concurrent reclamation and rehabilitation of the mined-out areas.

**The main pollution control measures taken at Baphlimali bauxite mines of M/S Utkal alumina international ltd are as follows:**

#### **Air pollution control measures:**

- ❖ Drilling machine with in-built vacuum cyclone dust collector & equipped with water spraying system is being adopted.
- ❖ Controlled blasting with the application of NONEL is being practiced checking fly rocks and pre-wetting is practiced before charging.
- ❖ The haulage roads are being maintained, compacted periodically.
- ❖ Regular water sprinkling is being carried out by fixed type & mobile water sprinklers at sources of fugitive dust generation like loading & unloading areas, material transfer points etc. to suppress emission and distribution of dust particles.
- ❖ Dry Fog System is in place for dust suppression at crusher.
- ❖ The transportation of Bauxite ore from the mine pit to the refinery unit is being carried out through closed conveyor system to restrict the dispersion of dust. Periodic maintenance of Diesel machines is being carried out to decrease the emission level of NO<sub>x</sub> and SO<sub>x</sub>.
- ❖ Plantation is carried out in the plateau slope, safety zone, backfilled & other areas to prevent dust flow outside the lease area.
- ❖ Periodical monitoring of Air quality is being carried out by an approved external agency & is found within permissible limit.
- ❖ Three No's CAAQMS (Continuous Ambient Air Quality Monitoring Station) have been installed inside the core zone for real time monitoring of air quality parameters for effective control of air pollution.

#### **Water pollution control measures:**

- ❖ Runoff is coursed through garland drains provided with intermediate settling pits subsequently allowed to the mined-out pit where it gets recharged. The drains and settling pits are regularly de-silted and maintained.
- ❖ Check dams are provided around the slopes of valley to arrest the sediments.
- ❖ Peripheral barrier is provided around the mine to stop the direct flow of water down to the valley.
- ❖ Domestic effluents are treated in the sewage treatment plant (STP) located at mines & reused for plantation and sprinkling activities.
- ❖ Vehicle washing effluents are treated in the Effluent treatment plant (ETP) located at workshop & reused.



- ❖ Implementation of recommendations as suggested by NIT, Rourkela for Runoff Management are complied.
- ❖ Water quality & ground water level is monitored periodically through an approved agency and is found within prescribed limit.

#### **Sound and Vibration control measures:**

- ❖ Preventive maintenance of machineries is carried out properly to control the noise level below 85 dB in the work environment.
- ❖ The controlled blasting technique is adopted using delay detonators to minimize noise & vibration. Blasting vibration is being measured regularly by using Seismograph.
- ❖ Installing immovable machinery on foundations and in closed rooms.
- ❖ The HEMM operators are provided with AC close cabinets which itself is acoustic in nature.
- ❖ Workers engaged in blasting, drilling & HEMM operations are provided with ear plugs/muffs.
- ❖ We have a fixed crusher plant which is underground mounted with enclosed rotors. Thus, the noise level is within the standard.
- ❖ Noise level (ambient as well as work environment) is monitored periodically through an approved external agency & is found within permissible limit.

#### **PART- H**

#### **Additional measures/investment proposal for environmental protection including abatement of pollution.**

- ❖ Loose boulder check dams have been constructed across the seasonal nallah, drainage line & semi-perennial nallah occurring along the sloppy area of the lease.
- ❖ Installation of Organic waste converter to treat organic solid waste generated from canteen.
- ❖ Plantation is being taken up in the Mine slope including a 7.5-meter safety zone since 2012-13. In the year 2021-22, we have planted around 1,02,788 saplings in different areas which includes safety zone around the mining lease, backfilled area, 15 Mtrs peripheral barrier of plateau boundary, mining lease slope area, around void, roads etc. The remaining area will be covered progressively in phase wise manner as per the Scheme of Mining.
- ❖ Nursery has been developed with shed net arrangement to develop, preserve and cater the saplings during plantation period.
- ❖ An ETP has been installed to treat workshop effluent with oil and grease separation mechanism.
- ❖ Fixed type water sprinkler of around 3.1 Km length has been provided around stockpile area & haul road.
- ❖ Two fog cannons have been deployed at strategic locations to suppress fugitive dust.
- ❖ The whole long conveyor belt (18.2 km long) is being covered from outside to restrict the dispersion of dust. Metal hoods are also provided at transfer points in crushing and conveying system to confine the dispersion of dust.



## PART - I

### MISCELLANEOUS

#### **Any other particulars in respect of environmental protection and abatement of pollution.**

- ❖ An environment cell has been established for monitoring and implementation of safeguard measures for environmental parameters.
- ❖ Three No's. of Continuous Ambient Air Quality Monitoring Stations (CAAQMS) have been installed and the real time AAQ data is being transmitted to OSPCB server through RT-DAS.
- ❖ Four No's of IP cameras have been installed at major predictable dust prone areas of the mine viz. crusher hopper, stack yard, mines operation and material transport areas and connected with SPCB server.
- ❖ Environmental information w.r.t Air, Water, Haz, Wastes & Haz. Chemical are Displayed at the main gate for public review.
- ❖ We have developed a full- fledged Nursery in approx. 3000 Sq. Ft. with a capacity of more than 1,00,000 saplings within our ML area to develop, preserve & cater the saplings during plantation.
- ❖ Expenditure incurred on Environment & Pollution Control during the year 2021-22 is approx. 680.30 lakhs.

**Date: 26.09.2022**

**Place: Doraguda**

  
**Mukesh Kumar Jha**  
**Head- Mines**