ADITYA BIRLA

UTKAL ALUMINA

Ref: UAIL-Mines/BBM/058/2025 **26th September 2025**

To

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

Subject: Submission of Environment Statement for the financial year ending **31st March 2025** with respect to Baphalimali Bauxite Mine of M/s Utkal Alumina International Ltd.

Ref : Consent to Operate (**order no. 2765**) vide letter no. **3859/IND-I-CON-5450** dated 25.02.2025 and authorization no. **IND-IV-HW-1035/2597** dated 27.02.2024

Dear Sir,

With reference to above subject and under the provision of Rule 14 of the Environment (Protection)Act,1986 & Rules made thereof. We are submitting herewith the **Environmental Statement (FORM-V)** for the financial year ending 31st March 2025 with respect to **Baphalimali Bauxite Mine of M/s Utkal Alumina International Ltd. Paikkuphakhal, Maikanch, Rayagada, Odisha**.

This is for your kind information and necessary records please.

Thanking you,

Yours faithfully,
For Utkal Alumina International Ltd.

Vijay Chauhan
Head- Mines
Baphlimali Bauxite Mine

Encl: As above.
Copy to: Regional Officer, SPCB, Rayagada for kind information & record.

ENVIRONMENT STATEMENT FOR THE YEAR 2025

8.50 MTPA BAUXITE PRODUCTION

BAPHLIMALI BAUXITE MINE
M/s UTKAL ALUMINA INTERNATIONAL LTD
AT
DORAGUDA, RAYAGADA, ODISHA

FORM-V
(See rule 14)

Environmental Statement for the Financial Year Ending 31st March 2025, 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 : 8.50 MPTA (Bauxite Ore)

(iv) Year of establishment : 2012

(v) Date of the last environmental statement submitted.: 20.09.2024

PART-B

WATER AND RAW MATERIAL CONSUMPTION

(1) Water Consumption in m3/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) : 413 m3/Day

Domestic & others : 214 m3/Day

Name of products	Process water consumption per unit of product output	
	During the previous financial year (2023-24)	During the current financial year (2024-25)
	(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 (2023-24)	During the current financial year (2024-25)
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.

(3) Production (in MT)

Name of Products	During Current Financial Year (2023-24)	During Current Financial Year (2024-25)
Bauxite	69,91,255 MT	76,57,426 MT

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(µg/Nm3): 39.74	Well within the NAAQS 60 µg/m3
		PM2.5(µg/Nm3): 17.88	Well within the NAAQS of 40 µg/m3

PART-D

HAZARDOUS WASTES

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

Hazardous Wastes	Total Quantity	
HAZARDOUS WASTES: Authorization No.: IND-IV-HW-1035/2597/27-02-2024		
1. Generation from Process	**During the previous financial year (2023-24)**	**During the current financial year (2024-25)**
a) Used Oil (Stream- 5.1)	: 40.63 MT	: 40.38 MT
b) Wastes/Residue Containing Oil (Stream- 3.3, 5.2, & 33.2)	: 2.72 Tonne	: 1.60 MT
c) Discarded barrels (Stream- 33.1)	: 3.75 MT	: 2.55 MT
d) Contaminated cotton rags (Stream- 33.2)	: 1.31 tonnes	: 0.95 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 (2023-24)	**During the current financial year (2024-25)**
(a) From process (Overburden)	48,92,203 tonnes	54,17,304 tonnes
(b) From Pollution Control Facility	Nil	Nil
(c)	48,92,203 tonnes (backfilling)	54,17,304 tonnes (backfilling)
i. Quantity recycled or re-Utilized within the unit.	Nil	Nil
ii. Sold	Nil	Nil
iii. Disposed		

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:

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

An Organic waste converter has been installed which converts the kitchen and horticulture wastes into manure with the help of bio-inoculum which used has supplemented food for plantation. Thus, reducing organic waste is going to landfill.

The OWC helped us divert 32,200 kg of waste from landfills and converted it to manure in FY2025.

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 workshop premises 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.

PART-G

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

Zero Waste Mining approach, where all overburden (OB) material and topsoil generated during operations have been 100% utilized through concurrent backfilling within the mine voids. This systematic reuse of mined material eliminates the need for external waste dumps, thereby minimizing land disturbance and aligning with circular economic principles. This Zero Waste model serves as a replicable standard for sustainable mining and responsible land use management.

The Over Burden and Topsoil generated and utilized in reclamation for the last three year are as follows.

Year	Topsoil Generated (MT)	Topsoil Utilized (MT)	Topsoil Stored (MT)
2022-23	55466	55466	Nil
2023-24	99,707	99,707	Nil
2024-25	144958	144958	Nil

Year	OB Generated (MT)	OB Utilized (MT)	OB Stored (MT)
2022-23	4714425	4714425	Nil
2023-24	4892203	4892203	Nil
2024-25	5417304	5417304	Nil

As on 31.03.2025, **160 Ha** area has been backfilled & **106 Ha** has been afforested in this backfilled area.

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 NOx and SOx.

- 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.
- we have adopted zero effluents discharge mines and 375447 KL surface runoff water for groundwater recharge and augmentation of groundwater table through settling pit and pumping the water into the existing mines pit.
- 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. Treated water is being used for vehicle gardening and horticulture activities.
- 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.
- 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.
- **Steps taken to minimize the adverse impacts of ground vibration and air blast.**

  The controlled blasting technique is adopted using delay detonators to minimize noise & vibration. Blasting vibration is being measured regularly by using Seismograph.
  - ✓ Proper drilling pattern and reducing excessive burden and spacing.
  - ✓ Proper charging/ initiation with required delay sequence, optimum charging as per hole depth, using low VOD and low density and Limit frequency of blasting.
  - ✓ Digitization in blasting: - Blasting software like 'SHOT Plus's and Blast Design software like 'Blast IQ' is already implemented.

PART- H

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

- Mitigation measures shall be continuing to implement for minimization of soil erosion & choking of stream.
- Loose boulder check dams shall be 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.
- Sewage Treatment Plants (STPs) have been provided at mine for treatment of domestic wastewater. Treated water is being used for gardening and horticulture activities.
- **Greenbelt Development: -** The mine has done phase wise afforestation of native species within the mine lease area covering the slope area, avenue plantation, backfilled area, and safety zone. During the year 2024-2025, 1,53,000 saplings have been planted.
- Nursery has been developed with shed net arrangement to develop, preserve, and cater for the saplings during plantation period. Increase the native species to **35 from 32.**
- An ETP has been installed to treat workshop effluent with oil and grease separation mechanism. Treated water is being used for vehicle washing and dust suppression.
- Retaining wall along with Garland drains, settling tanks and check dams of appropriate size, gradient and length have been constructed around the remaining part of over burden dump to prevent runoff water and flow of sediments directly into the natural Nallah and other water bodies.
- Check dams and concrete weir are constructed around the slopes of valley to arrest silts and sediments.

- Fixed type water sprinklers of around 3.1 Km length have been provided around stockpile area & haul road.
- Two fog cannons have been deployed at strategic locations to suppress fugitive dust.
- An efficient dry fog system is installed in the fixed crusher for suppression of dust at ROM hopper and Transfer points.
- A Sustainability marvel from inception an 18.1 kms long overland conveyor to transport bauxite from Mines to Alumina Refinery.
- 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 systems to confine the dispersion of dust. The installation of overland conveyor system is eco-friendly method of transporting mineral in difficult topographical weather conditions, while reducing the **fugitive dust emission** and overall environmental impact including on wildlife. It helps in reduced utilization of **fossil fuel compared to the conventional tipper transport**.
- Regular water sprinkling is done on haul roads, loading & unloading areas, and material transfer points by deploying two dedicated water tankers of capacity 28 KL.
- An **Online Noise meter** has been installed, with values displayed live through the RTDAS software.
- **Real Time Ground Water levels** are now digitally display and recorded.
- Supply and installation of 8 solar energy-based dual water pumping systems at Andirakanch and the mine's peripheral area, with an investment of ₹28,25,000. Installation of Solar Street Lights along the mine's peripheral area with a total investment of ₹27,25,000.

PART - I
MISCELLANEOUS

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

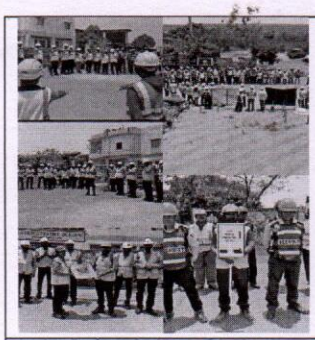
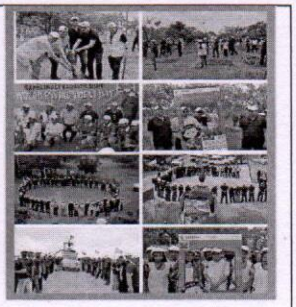
- An environment cell has been established for monitoring and implementation of safeguard measures for environmental parameters.
- Three No's. of Continuous Ambient Air Quality Monitoring Stations (CAAQMS) have been installed and the real time AAQ data is being transmitted to OSPCB server through RT-DAS.
- Four No's IP cameras have been installed at major predictable dust prone areas of mine viz. crusher hopper, stackyard, 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.
- The Solar Mobile Lighting Tower of 5 KW (5 no. of High mast, each 1 KW) to replace 2.40 KW High Mast was installed. The load capacity reduces our annual consumption by **21.9 MWh**.

- 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 2024-25 is approx. **945.98 lakhs.**
- Third Party Compliance Audit of Hazardous Waste Management carried out through authorized third party.
- **5304 KL** water harvesting through surface rainwater harvesting structure.
- **119887 KL** rainwater is pumping back to mining pit for groundwater recharge and augmentation of groundwater table.
- Total **18935 KL** of water recycled and reused in FY25.
- Baphlimali Bauxite Mine received the **Golden Bird National Award** in the Diamond category for Sustainability Excellence at the National Summit and Award Ceremony held on January 22, 2025.
- A **Sustainable Mining Workshop** was held at Baphlimali Bauxite Mine on the 22nd and 23rd of October 2024. The initiative aimed to bring the principles of the sustainability charter to every level of operation. Participants received sustainable products such as recycled pens, notebooks, t-shirts, jute folders, and jute bags, along with Baphlimali coffee and lemon oil. This reflects our commitment to not only promoting sustainability in thought but also demonstrating it through our actions.
- Baphlimali Bauxite Mines received **Bala Gulshan Tandan Award of Excellence**, the highest recognition by the FIMI for 2024-25.
- Observation and Awareness of Mines Environment & Mineral Conservation week, which is being organized by IBM, BBSR regions and the regional environment cum mineral awareness program, **World Environment Day 2024#GenerationtoRestoration**, **Swachha Baphlimali Drive: Ek Tareekh Ek Ghanta Ek Saath** and **World Earth Day 2024 -Planet VS. Plastic.**
- Digital processing of the lease area by remote sensing has been carried out and the **LULC** report has been submitted to MoEF & CC.
- Biodiversity Management: - The Baphlimali Bauxite Mines committed to protecting biodiversity and has developed BMPs in collaboration with IUCN, aiming to achieve No Net Loss by 2050. The Sustainable Mining Charter and KPIs under seven thematic areas are the other crucial steps taken by Hindalco to make its mining vertically more sustainable.
- Baphlimali Bauxite mines Won various prizes on the occasion of **26th MEMC week** concluding day function at Bhubaneswar:

  1. Afforestation Category-1st
  2. Reclamation Category-2nd
  3. Overall, in all categories(Group-A Mines)- 1st

GLIPMPSES OF PHOTOGRAPHS AT BAPHLIMALI BAUXITE MINES

			
Topsoil Spreading	Reclaimed Area-Backfilling with Over Burden	STP@75 KLD	ETP@15 KLD
			
Surface Runoff Rainwater Harvesting Structure	Mobile Water Tanker	Mist Cannon	Long Distance Conveyors
			
IP-Camera	CAAQMS	Online Noise Meters	Solar Mobile Lighting Tower
			
Organic Waste Convertor@100 Kg/Day	Rehabilitation Area /Panorama view of plantation	Viewpoint in Reclaimed Area	Birds Niche Habitat

			
World Earth Day 2024 **Planet VS. Plastic**	Swachha Baphlimali Drive: **Ek Tareekh Ek Ghanta Ek Saath**	**5-STAR RATING MINES FROM IBM**	World Environment Day 2024 **#GenerationtoRestoration**

Head-Mines
Baphlimali Bauxite Mines
M/s. Utkal Alumina International Ltd.

Date: 24.09.2025
Place: Doraguda

Vijay Chauhan
Head- Mines

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