



Ref-UAIL/MINES/ENV/27/2026

21st May 2026

To

The Addl. Principal Chief Conservator of Forest (Central)
Ministry of Environment Forests & Climate Change
Govt. of India
Eastern Regional office, A/3, Chandrasekharpur
Bhubaneswar – 751023

Subject: Submission of six-monthly compliance status report on Environmental Clearance conditions for the period **1st October 2025 to 31st March 2026** in respect of Baphlimali Bauxite Mine of M/s Utkal Alumina International Limited, Rayagada, Odisha with production capacity of **8.5 MTPA**.

Ref: Environment Clearance Letter No. J-11015/650/2007-IA.II (M) dated 19.02.2009 from MoEF&CC, GOI.

Dear Sir,

Please find enclosed herewith the six-monthly compliance reports against the conditions of above referred Environmental Clearances for the period from **1st October 2025 to 31st March 2026** in respect of Baphlimali Bauxite Mine of M/s Utkal Alumina International Ltd. having production capacity of **8.5 MTPA**.

This is for your kind information and perusal please.

Yours faithfully,

For Utkal Alumina International Limited

A handwritten signature in blue ink, appearing to read 'Vijay Kumar Singh Chauhan', is written over the typed name.

Vijay Kumar Singh Chauhan
Head- Mines
Baphlimali Bauxite Mine

Encl: As above

Copy to:

1. The Member Secretary, State Pollution Control Board, Paribesh Bhawan
A/118 Nilakantha Nagar Unit-VIII, Bhubaneswar -751012.
2. Regional Office, CPCB, Kolkata
3. Regional Office, OSPCB, Rayagada.
4. The Regional Director, Central Ground Water Board, Southeastern Region, Bhujal Bhawan,
Khandagiri, BHUBANESHWAR, PIN- 751030

Utkal Alumina International Limited

STATUS OF COMPLIANCE WITH ENVIRONMENTAL CLEARANCE CONDITIONS FOR ENHANCEMENT OF ANNUAL PRODUCTION CAPACITY TO 8.5 MTPA AT BAPHLIMALI BAUXITE MINES OF M/S UTKAL ALUMINA INTERNATIONAL LTD.

(Ministry Letter No. J-11015/650/2007-IA. II (M) Dt. 19.02.2009)

Name of the Project : **Baphlimali Bauxite Mine,
M/s Utkal Alumina International Ltd.**

Environment Clearance No. & date : **F. No. J-11015/650/2007-IA. II (M), dated.19.02.2009.**

Period of compliance Report : **From 1st October 2025 to 31st March 2026.**

Sl. No.	A. Special Conditions	Status of Compliance as of 31.03.2026
i.	All the conditions stipulated by the State Pollution Control Board, Orissa in their consent to establish shall be effectively implemented.	All the conditions are being effectively implemented and complied.
ii.	The project proponent shall effectively address the concerns raised by the locals in the public hearing as well as during consideration of the project while implementing the project.	All the concerns raised in the public hearing are being implemented. The details of points raised, and their compliance are attached as Annexure- I .
iii.	The project proponent shall develop fodder plots in the non-mineralized area in lieu of use of grazing land.	The entire plateau of the ML area consists of mineralized and non-mineralized zones which are capped with hard laterite which normally prevents tree growth. However, plantation of fodder species in 3 Ha land has been taken into consideration at the extreme south of mining lease area. The said area has been demarcated, and necessary arrangements are in progress to avoid soil erosion and subsequent grass.
iv.	The mining operations shall be restricted to above ground water table, and it should not intersect groundwater table. In case of working below ground water table, prior approval of the Ministry of Environment and Forests and the Central Ground Water Authority shall be obtained, for which a detailed hydro-geological study shall be carried out.	The lowest working depth of our existing mine pit has gone up to 1004 Mtrs. RL as per survey and borehole information. The presence of ground water table has been estimated to be about 150 to 200 Mtrs. below from the surface (800-850 m RL). As the mining activities are limited to 30 Mtrs. Only from the plateau top surface, there is no impact of mining operation on the ground water/aquifers. In addition to that, the mined-out area has been backfilled for restoration. Therefore, there is no possibility of any Ground Water Intersection thereby.
v.	The project proponent shall ensure that no natural watercourse and/or water resources are obstructed due to any mining operations. Adequate measures shall be taken while	No natural watercourse or water resources are obstructed due to mining operations. Necessary care has been taken during monsoon to channel run off

	diverting seasonal channels emanating from the mine lease, during the course of mining operation.	water to the excavated pits, so that it does not carry any sediment to obstruct / affect the water bodies.																
vi.	The project proponent shall take adequate environmental safeguard measures for control of rolling down of silt and sediments and protection of the catchment area of upper Indravati Reservoir during the course of mining operation.	<p>In addition to as stated in Sl. No. v, to check flow of any silt and sediments, numbers of check dams/siltation ponds have been constructed and ensured by regular cleaning and maintenance. There are also pumps installed in siltation ponds to pump out the collected water to the open and non-working pit area for ground water recharge. The same is also continued concurrently with the running of the mines.</p> <p>Details of Check Dams, garland drains, and Siltation pit attached as Annexure-II and Photo 1, 2, 3 respectively. Siltation pits are being cleaned before monsoon, and the photo is attached as Photo 4.</p> <p>After measures listed in Annexure-II, the run-off confluence with the nearby seasonal nallah and ultimately to River Indravati after moving a distance around 9 Km, thus not affecting the quality of Indravati.</p>																
vii.	A 3 km stretch on the upstream and 3 Km in the downstream of the river passing through the project area should be taken up by the project authorities for plantation to arrest riverbank erosion and sediment flow into the river.	<p>There is no such perennial river/nallah that exists at the mining lease.</p> <p>However, there are small natural depressions, may called as gullies, develops preferably in the rainy days during inflow/outflow of rainwater at the slope of the mining lease, which is a part of project area, are being provided with check dam and plantations of indigenous species to arrest the erosion and sediment flow into the perennial nallah available at the bottom of the mining lease.</p>																
viii.	The topsoil shall temporarily be stored at earmarked site(s) only and it should not be kept unutilized for long. The topsoil shall be used for land reclamation and plantation.	<p>Topsoil is being separately removed and is concurrently used in backfilling of mined out area.</p> <p>The topsoil generated and utilized in reclamation for the last three years as follows.</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Topsoil Generated (MT)</th> <th>Topsoil Utilized (MT)</th> <th>Topsoil Stored (MT)</th> </tr> </thead> <tbody> <tr> <td>2023-24</td> <td>99707</td> <td>99707</td> <td>Nil</td> </tr> <tr> <td>2024-25</td> <td>144958</td> <td>144958</td> <td>Nil</td> </tr> <tr> <td>2025-26</td> <td>107949</td> <td>107949</td> <td>Nil</td> </tr> </tbody> </table>	Year	Topsoil Generated (MT)	Topsoil Utilized (MT)	Topsoil Stored (MT)	2023-24	99707	99707	Nil	2024-25	144958	144958	Nil	2025-26	107949	107949	Nil
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2023-24	99707	99707	Nil															
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2025-26	107949	107949	Nil															
ix.	The over burden (OB) generated during the initial years of the mining operation shall be temporarily stacked at the earmarked dump site(s) only for backfilling. Backfilling shall start from the 4th year onwards of the mining	The overburden of initial years of mining is stacked as per the approved mining scheme and within the earmarked area. Since 01.04.2016 backfilling has been started by utilizing entire quantity of overburden in the voids of the mined-out area																

	<p>operation and the entire quantity of the waste to be generated shall be backfilled. There shall be no external over burden dumps after the 8th year of the mining operation. The entire backfilled area shall be afforested. Monitoring and management of rehabilitated areas should continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests and its Regional Office located at Bhubaneswar on six monthly basis.</p>	<p>concurrently as per the proposal given in the Review of Mining Plan.</p> <p>The OB generated and utilized in reclamation for the last three year are as follows.</p> <table border="1" data-bbox="839 365 1517 591"> <thead> <tr> <th>Year</th> <th>OB Generated (MT)</th> <th>OB Utilized (MT)</th> <th>OB Stored (MT)</th> </tr> </thead> <tbody> <tr> <td>2023-24</td> <td>4892203</td> <td>4892203</td> <td>Nil</td> </tr> <tr> <td>2024-25</td> <td>5417304</td> <td>5417304</td> <td>Nil</td> </tr> <tr> <td>2025-26</td> <td>5315709</td> <td>5315709</td> <td>Nil</td> </tr> </tbody> </table> <p>As on 31.03.2026, 181.00 Ha area has been backfilled, and 123.78 Ha has been afforested in this backfilled area.</p> <p>Both the activities are under continuous progress. Monitoring and management are being carried out. Compliance status is being submitted to the Ministry of Environment & Forests and its Regional Office located at Bhubaneswar in six months.</p> <p>Photo of backfilled area with plantation is attached as photo- 5.</p>	Year	OB Generated (MT)	OB Utilized (MT)	OB Stored (MT)	2023-24	4892203	4892203	Nil	2024-25	5417304	5417304	Nil	2025-26	5315709	5315709	Nil
Year	OB Generated (MT)	OB Utilized (MT)	OB Stored (MT)															
2023-24	4892203	4892203	Nil															
2024-25	5417304	5417304	Nil															
2025-26	5315709	5315709	Nil															
x.	<p>Catch drains and siltation ponds of appropriate size shall be constructed around the mine working, mineral and temporary OB dumps to prevent run off of water and flow of sediments directly into the Kandabindha Nallah, the San River, the Indravati River and other water bodies. The water so collected shall be utilized for watering the mine area, roads, green belt development etc. The drains shall be regularly desilted, particularly after the monsoon, and maintained properly.</p> <p>Garland drains, settling tanks and check dams of appropriate size, gradient and length shall be constructed around the mine pit, topsoil dump, temporary over burden dumps and mineral dumps to prevent run off of water and flow of sediments directly into the Kandabindha Nallah, the San River, the Indravati River and other water bodies and sump capacity shall be designed keeping 50% safety margin over and above peak sudden rainfall (based on 50 years data) and maximum discharge in the area adjoining the mine site. Sump capacity shall also provide adequate retention period to allow proper settling of silt material. Sedimentation</p>	<p>Details of the measures asked in the enlisted in Annexure-II and photos attached as Photo 1 to 4.</p> <p>The runoff storage capacity has been designed to keep 50% safety margin over and above peak sudden rainfall. Sump capacity is having adequate retention period to allow proper settling of silt material. However, during rain the run-off water is continuously pumped out from settling ponds to excavated pits which increases the capacity of the ponds. The settling ponds and garland drains are being de-silted and maintained at regular intervals.</p> <p>The majority of the rainwater of the broken-up area has been channelized and collected in the mine pits during monsoon is not pumped out. Rather, it is allowed to be collected at the lowest level to augment the ground water resources.</p> <p>There are no waste dumps or OB dumps as concurrent reclamation methods have been adopted. There are no active dumps and hence there is no question of washouts from dumps.</p>																

	pits shall be constructed at the corners of the garland drains and desilted at regular intervals.	In addition to the above, a scientific study was carried out on surface runoff management by deputing NIT, Rourkela and the recommendations of the study report have been implemented and verified. The Verification report of the recommendations is attached as Annexure-III .
xi.	Dimension of the retaining wall at the toe of temporary OB dump(s) and the over burden benches within the mine to check run-off and siltation shall be based on the rain fall data.	As per our proposal in the approved Review of Mining Plan, Dump-I and II have already been re-handled.
xii.	Plantation shall be raised in an area of 680ha including a 7.5m wide green belt in the safety zone around the mining lease, backfilled and reclaimed area, around void, roads etc. by planting the native species in consultation with the local DFO/Agriculture Department. The density of the trees should be around 2500 plants per ha.	Mining commenced during 2012-13 and as per the approved Scheme of Mining, backfilling of mined out voids started from 01.04.2016. Rehabilitation over reclaimed areas started from 2017-18. As on 31.03.2026 an area 181.00 Ha is backfilled / reclaimed. In this backfilled area 123.78 Ha has been afforested/ rehabilitated. However, plantation is being taken up on the Mine slope including a 7.5-meter safety zone from 2012-13. The financial year 2025-26 we have planted around 90496 Nos. saplings which includes slope area & safety zone around the mining lease, backfilled area, roads, avenue plantation etc. The remaining area will be covered progressively in a phase wise manner as per the Review of Mining Plan. Different native saplings are procured in consultation with the local DFO/Agriculture Department. In addition to this, nursery has been developed to germinate, preserve, and cater for the seedlings during plantation period. Photos of plantation and nursery are attached as Photo- 6 and 7 .
xiii.	The void left unfilled in an area of 250ha shall be converted into the water body. The higher benches of the excavated void/mine pit shall be terraced, and plantation done to stabilize the slopes. The slopes of higher benches shall be made gentler for easy accessibility by the local people to use the water body. Peripheral fencing shall be carried out all along the excavated area.	We will abide by this condition. It will be followed according to the conceptual plan.
xiv.	Regular water sprinkling shall be carried out in critical areas prone to air pollution and having high levels of SPM and RSPM such as around crushing and screening plant, loading, and unloading point and all transfer points.	Regular water sprinkling is being done using 02 no's of self-propelled 28 KL capacity & 01 no's of 10 KL mobile water tanker.

	<p>Extensive water sprinkling shall be carried out on haul roads. It shall be ensured that the Ambient Air Quality parameters conform to the norms prescribed by the Central Pollution Control Board in this regard.</p>	<p>Fixed water sprinkling arrangements have been provided on the arterial road and around the stockpile of 3.1 KM in length.</p> <p>Dry fog arrangements have been provided in Crushing and screening plant.</p> <p>Two fog cannons were also deployed at strategic locations to suppress the fugitive dust.</p> <p>Photos of water sprinkling arrangements are attached as Photo 8 & 9.</p> <p>Ambient Air Quality is being monitored by establishing four no. of AAQ station each in core and buffer zone of mines lease.</p> <p>In addition to this three CAAQMS have been installed & connected to OSPCB server.</p> <p>The result of ambient air quality monitoring data for the period of October'25 to March'26 of Core & Buffer Zone is enclosed as Annexure-IV & V.</p> <p>From the test results, it is evident that all the parameters are within the prescribed standard of national ambient air quality and there is no deviation from NAAQS.</p>
xv.	<p>Regular monitoring of the flow rate of the springs and perennial nallahs flowing in and around the mine lease shall be carried out and records maintained.</p>	<p>The flow rate of the small perennial nallahs, which is flowing near the Baphlimali hillock close to the lease boundary, is being monitored regularly and the records are maintained.</p> <p>The flow rate monitoring data during October'25 to March'26 is enclosed as Annexure-VI.</p>
xvi.	<p>Regular monitoring of water quality upstream and downstream of the Khandabindha Nallah shall be carried out and record of monitored data should be maintained and submitted to the Ministry of Environment and Forests, its Regional Office, Bhubaneswar, the Central Groundwater Authority, the Regional Director, Central Ground Water Board, the State Pollution Control Board and the Central Pollution Control Board.</p>	<p>Regular monitoring of water quality upstream and downstream of the Kandabindha Nallah is being carried out and recorded.</p> <p>The results of surface water quality are enclosed in Annexure-VII.</p> <p>The same is also being submitted to the Central Groundwater Authority, the Regional Director, Central Ground Water Board, the State Pollution Control Board, and the Central Pollution Control Board with this six-monthly compliance report.</p>
xvii.	<p>The project authority shall implement suitable conservation measures to augment ground water resources in the area in consultation with the Regional Director, Central Ground Water Board.</p>	<p>At present 3 no's of settling pit have been developed for rainwater harvesting a top the mines.</p> <p>The capacity of the three no's of settling pits is as follows:</p>

		<table border="1" data-bbox="839 188 1517 376"> <thead> <tr> <th>Sl. No.</th> <th>Description</th> <th>Capacity of Storage in Cum.</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Settling Pit-1</td> <td>3913</td> </tr> <tr> <td>2</td> <td>Settling Pit-2</td> <td>3072</td> </tr> <tr> <td>3</td> <td>Settling Pit-3</td> <td>2268</td> </tr> </tbody> </table> <p>All the three-settling pit water are pumping back to mining pit for groundwater recharge and augmentation of groundwater table.</p> <p>The following Conservation measures have been taken to augment ground water resources: -</p> <ol style="list-style-type: none"> i. Rainwater harvesting is being carried out by collecting the precipitated water through a network of drainage system into the exhaust mining pit for storage and ground recharge. ii. Movement of mines faces is being carried out systematically as per mine plan following the contour lines such that the faces have self-draining slopes. Precipitated water from the adjacent area is being collected within the mine-out area. iii. Concreted Weir has been constructed to arrest rainwater resulting in ground water recharge. Also, the Surface water flow near the pit has been diverted towards the pit and this accumulation influences on recharge ground water table. iv. Arrangement has been made that the mining method and the peripheral barrier all around mining area do not allow the storm water to go outside valley areas. The water thus trapped, percolates down and recharges the ground water. 	Sl. No.	Description	Capacity of Storage in Cum.	1	Settling Pit-1	3913	2	Settling Pit-2	3072	3	Settling Pit-3	2268
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xviii.	<p>Regular monitoring of ground water level and quality shall be carried out in and around the mine lease by establishing a network of existing wells and constructing new piezometers during the mining operation. The monitoring shall be carried out four times in a year, pre- monsoon (April-May), monsoon (August), post-monsoon (November) and winter (January) and the data thus collected may be sent regularly to the Ministry of Environment and Forests and its Regional Office, Bhubaneswar, the Central Ground Water Authority and the Regional Director, Central Ground Water</p>	<p>Regular monitoring of ground water level and quality is being carried out in each season of the open wells/ dug wells located around the nearby villages and the data is being submitted to Regional Office, MoEFCC and SPCB, Bhubaneswar once every six months with this six-monthly compliance report.</p> <p>Two piezometric wells have been constructed inside the lease area and four outside lease to monitor the level of ground water.</p> <p>The monitoring results of Ground water quality &</p>												

	Board. If at any stage, it is observed that the ground water is depleted due to mining activity, necessary corrective measures shall be carried out.	<p>level is done monthly every year. The parameters being monitored are as per IS 10500:2012 specified for drinking water.</p> <p>The six-monthly results for ground water quality and level are enclosed as Annexure – VIII and IX respectively.</p> <p>Photograph of piezometer is attached as Photo-10.</p>
xix.	Appropriate mitigative measures shall be taken to prevent pollution of the San River and the Indravati River in consultation with the State Pollution Control Board.	<p>The mine being a zero discharge mine has got adequate facility to treat wash from workshop and the treated water is reused for dust suppression and plantation purposes, and no wastewater is discharged outside. San River and Indravati are flowing at a distant location 12 KMs. and 9 KMs. respectively as such in no way does the mining operation affect the river basins.</p> <p>The following measures are being implemented and maintained.</p> <ol style="list-style-type: none"> 1. Garland drains are constructed to check erratic flow of precipitated water. 2. Check dams are constructed around the slopes of valley to arrest silts and sediments if any. 3. A retaining wall of a height of 1.5 meter has been constructed at the edge of the valley. The naked areas of the valley slopes have been covered by mass afforestation and the same will be continued till full cover.
xx.	The project proponent shall obtain necessary prior permission of the competent authorities for drawl of requisite quantity of water (surface water and ground water, if any) required for the project.	<p>There is no proposal to withdraw ground water for the project and surface water is being used for mining purposes. To this effect, an agreement was made between M/s Utkal Alumina Int. Ltd & Water Resource Dept. Govt. of Odisha for drawl of 9.0 cusec or 777600 cft/day for plant site and mines at Baphlimali from San River upstream of Indravati River.</p> <p>The copy of agreement is attached as Annexure-X.</p>
xxi.	Suitable rainwater harvesting measures on long term basis shall be planned and implemented in consultation with the Regional Director, Central Ground Water Board.	<p>At present 3 no's of settling pit have been developed for rainwater harvesting a top the mines.</p> <p>The capacity of the three no's of settling pits is as follows:</p>

		<table border="1"> <tr> <th>Sl. No.</th> <th>Description</th> <th>Capacity of Storage in Cum.</th> </tr> <tr> <td>1</td> <td>Settling Pit-1</td> <td>3913</td> </tr> <tr> <td>2</td> <td>Settling Pit-2</td> <td>3072</td> </tr> <tr> <td>3</td> <td>Settling Pit-3</td> <td>2268</td> </tr> </table>	Sl. No.	Description	Capacity of Storage in Cum.	1	Settling Pit-1	3913	2	Settling Pit-2	3072	3	Settling Pit-3	2268
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xxii.	<p>Vehicular emissions shall be kept under control and regularly monitored. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral within the mine lease. The mineral transportation within the mine lease shall be carried out through the covered trucks only and the vehicles carrying the mineral shall not be overloaded.</p>	<p>All the three-settling pit water are pumping back to mining pit for groundwater recharge and augmentation of groundwater table.</p> <p>A unique project of Surface Run off rainwater harvesting has been successfully implemented to use the rainwater run off for domestic purposes without involving any carbon emission. The project is simply working on gravity principle, thus making it a green project.</p> <p>Surface runoff water harvesting is the collection accumulation, channelization, and treatment of storm water for its eventual reuse.</p> <p>The design has been made considering the natural mine topography and elevation, so that the runoff water can be harvested through gravity flow without supply of any external energy making it a green project.</p> <p>To minimize the water consumption footprint of mine. To Utilize surface runoff water for domestic use at mine top during the rainy periods without depending on the regular source(San River).</p> <p>The Rainwater Harvesting for the last three year as below:</p> <table border="1"> <thead> <tr> <th>Year</th> <th>Rainwater Harvesting in KL</th> </tr> </thead> <tbody> <tr> <td>2023-24</td> <td>53040</td> </tr> <tr> <td>2024-25</td> <td>53050</td> </tr> <tr> <td>2025-26</td> <td>36280</td> </tr> </tbody> </table> <p>Photograph of Surface Rainwater harvesting structure is attached as Photo-11</p> <p>Pollution testing certificate of all machinery is being verified regularly to check vehicular emission. Further emission levels are kept under control by rigorous maintenance of all engines and changing of lubricants as per the recommendation of the manufacturer. A full fledge workshop is in place for maintenance of vehicles used in mining operation.</p>	Year	Rainwater Harvesting in KL	2023-24	53040	2024-25	53050	2025-26	36280				
Year	Rainwater Harvesting in KL													
2023-24	53040													
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		Bauxite ore is transported in the pit area in an environmentally safe manner by limiting the speed of transporting Machine; by maintaining proper road conditions, to the primary crusher adjacent to the pit in addition to the bauxite have some inherent moisture content and transportation inside the mine lease area.
xxiii.	No blasting shall be carried out after the sunset. Blasting operation shall be carried out only during the daytime. Controlled blasting shall be practiced. The mitigative measures for control of ground vibrations and to arrest fly rocks and boulders should be implemented.	Blasting is being done during shift change between 1:00 PM to 2:00 PM. No Blasting is done beyond daylight hours. Further, controlled blasting is being practiced with use of NONELs for sequential blasting to reduce ground vibrations and to arrest fly rocks and boulders.
xxiv.	Drills shall either be operated with dust extractors or equipped with water injection system. The critical parameters such as SPM, RSPM, NOx in the ambient air within the impact zone, peak particle velocity at 300m distance or within the nearest habitation, whichever is closer shall be monitored periodically. Further, quality of discharged water shall also be monitored (TDS, DO, PH and Total Suspended Solids (TSS)). The monitored data shall be uploaded on the website of the company as well as displayed on a display board at the project site at a suitable location near the main gate of the Company in public domain. The circular No. J-20012/1/2006-IA.II(M) dated 27.05.2009 issued by Ministry of Environment and Forests, which is available on the website of the Ministry www.envfor.nic.in shall also be referred in this regard for its compliance.	A drilling machine with in-built vacuum cyclone dust collector & equipped with water spraying system is being used. All drilling operations are carried out using water injection systems/dust extractors to effectively control dust emissions. Ambient air quality parameters (SPM, PM ₁₀ /PM _{2.5} , NOx) and blasting vibrations (PPV) are monitored periodically within the impact zone and at the nearest habitation. The mine is operating on a Zero Liquid Discharge (ZLD) system. STP and ETP have been installed for treatment of domestic and industrial wastewater, and treated water is regularly monitored to ensure compliance with CPCB norms before reuse. The monitored data is uploaded on the company website and displayed at the main gate for public access. Compliance is ensured in line with MoEF&CC Circular dated 27.05.2009. Photo of drilling is attached as Photo-12 .
xxv.	Mineral handling area shall be provided with adequate number of high efficiency dust extraction system. Loading and unloading areas including all the transfer points should also have efficient dust control arrangements. These should be properly maintained and operated.	Stockpile area is surrounded by fixed water sprinkling arrangements (Photo 13). Further water sprinkling by mobile water tankers is being carried out for effective dust suppression. Metal hoods are provided at transfer points in Crushing and Closed Conveying System to restrict the dispersion of dust (Photo 14). Dry fog system is installed for suppression of dust at ROM hopper and Transfer points (Photo 15).
xxvi.	Consent to operate shall be obtained from the State Pollution Control Board, Orissa prior to start of production from the mine.	At Present Mine is operating with consent to operate for 8.0 MTPA production capacity vide letter no. 3859/IND-I-CON-5450 dated 25.02.2025 with

		consent order No. 2765 which is valid up to 31.03.2027. Attached as Annexure XI.
xxvii.	Sewage treatment plant shall be installed for the colony. ETP shall also be provided for the workshop and wastewater generated during the mining operation.	STP of 75 KLD has been installed to treat the domestic wastewater. The treated water has been used in green belt development and sprinkling on haul road. Effluent generated from workshop has been treated by ETP of 15 KLD capacity installed at workshop. The treated water from ETP is reused in vehicle washing. Analysis report of STP & ETP treated water is enclosed in Annexure-XII & XIII. Photographs of STP & ETP are attached as Photo-16 & 17.
xxviii.	The project authorities shall undertake sample survey to generate data on pre-project community health status within a radius of 1 km from proposed mine.	Complied. A focused healthcare interventions and CSR activities in the nearby community.
xxix.	Pre-placement medical examination and periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly.	Pre-placement medical examination and periodical medical examination of the workers engaged in the project are carried out regularly. The annual Schedule of PME is being made for all eligible employees as per DGMS requirement and necessary PME is carried out. For all employees of Baphlimali bauxite mine periodical medical examinations are done, and records thereof maintained. No Occupational diseases have been detected so far.
xxx.	Provision shall be made for the housing of construction Labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Mining operations have already commenced, and all regular employees and executives reside in the integrated township adjacent to the alumina refinery; therefore, no on-site temporary labour housing is required at present. Domestic effluents generated are being treated in the sewage treatment plant (STP) of 75 KLD located at mines as well as discharged soak pit via septic tank constructed.
xxx.	The project proponent shall take all precautionary measures during mining operation for conservation and protection of endangered fauna namely; python, panther, sloth bear, wild dog etc. spotted in the study area. Action plan for conservation of flora and fauna shall be prepared and implemented in consultation with the State Forest and Wildlife Department. Necessary allocation of funds for implementation of the conservation plan shall be made and the funds so allocated shall be included in the project cost. All the safeguard measures brought out in the Wildlife	The Action Plan for conservation of wildlife i.e., Site Specific Wildlife Conservation Plan exclusively for Mining lease has been approved by PCCF (WL) & Chief wildlife Warden, Odisha vide letter No. 5608/IWL-SSP-80/2016 dated 27.06.2017 with financial forecast of Rs.670.451 Lakhs and an amount of Rs.535.715 Lakhs has been deposited in CAMPA FUND for implementation of the same. Further, as per the demand notice of the Divisional Forest Officer, Rayagada vide letter No. 4168 dated. 04.08.2017, an amount of Rs. 8, 05, 46,920/- has been deposited in CAMPA FUND for

	Conservation Plan so prepared specific to the project site shall be effectively implemented. A copy of action plan shall be submitted to the Ministry of Environment and Forests and its Regional Office, Bhubaneswar.	implementation of Regional Wildlife Management Plan. The copy of action taken to implement the Regional Wildlife management Plan is attached as Annexure-XIV & copy of approval letter as Annexure-XV . No endangered fauna has been observed in the project area during the reporting period. In addition to that a biodiversity study is being carried out by IUCN.
xxxii.	Digital processing of the entire lease area using remote sensing technique shall be carried out regularly once in three years for monitoring land use pattern and report submitted to Ministry of Environment and Forests and its Regional Office, Bhubaneswar.	Digital processing of the entire lease area using the remote sensing technique by the authorized agency from Odisha Space Application Center (ORSAC), Bhubaneswar has been carried out for monitoring the land use pattern. The report has been submitted vide letter no UAIL-MINES/BBM/53/2023 dated 14.10.2023 to the Ministry of Environment and Forests and its Regional Office, Bhubaneswar. The copy of the submission letter is attached as Annexure- XVI .
xxxiii	A final mine closure plan along with details of Corpus Fund shall be submitted to the Ministry of Environment & Forests 5 years in advance of final closure for approval.	The same will be submitted to the Ministry of Environment & Forests. The final mine closure plan will be submitted 2 years in advance as per MCDR 2017.
A. General conditions		
i.	No change in mining technology and scope of working should be made without prior approval of the Ministry of Environment & Forests.	Agreed and we shall abide by this condition.
ii.	No change in the calendar plan including excavation, quantum of mineral bauxite and waste should be made.	Agreed and we are abiding by this condition.
iii.	At least four ambient air quality-monitoring stations should be established in the core zone as well as in the buffer zone for RSPM, SPM, SO ₂ & NO _x monitoring. Location of the stations should be decided based on the meteorological data, topographical features and environmentally and ecologically sensitive targets and frequency of monitoring should be undertaken in consultation with the State Pollution Control Board.	Eight ambient air quality monitoring stations have been established in both Core & Buffer Zone based on the factors mentioned and measurements are being made weekly twice for parameters. The location of monitoring station has been fixed in consultation with the State Pollution Control Board, Odisha. Monitoring reports are attached as Annexure – IV & V .
iv.	Data on ambient air quality (RSPM, SPM, SO ₂ & NO _x) should be regularly submitted to the Ministry of Environment and Forests including its regional office located at Bhubaneswar and the State Pollution Control Board / Central Pollution Control Board once in six months.	The monitored AAQ data is submitted to the concerned authorities along with the half yearly compliance report once in six months. The result of ambient air quality monitoring data for the period of October'25 to March'26 of Core and Buffer Zone is enclosed as Annexure-IV and V .

v.	Fugitive dust emissions from all the sources should be controlled regularly. Water spraying arrangement on haul roads, loading and unloading and at transfer points should be provided and properly maintained.	<p>Water spraying on haul roads is carried out both with fixed (3.1 km long) and mobile water sprinklers(2 no's)of having capacity of 28 KL and 01 no's of having capacity 10 Kl.</p> <p>Loading points of crusher houses are provided with dry fog system.</p> <p>The haulage roads are being maintained to avoid ruts and potholes.</p> <p>Two fog cannons are also deployed at strategic locations to arrest the fugitive dust if any.</p> <p>Transportation of Bauxite Ore is carried out through a long-distance conveyor (LDC) of 18.1 km with covered hood all along.</p> <p>The results of fugitive emission monitoring report for the period of October'25 to March'26 is enclosed as Annexure-XX.</p>
vi.	Measures should be taken for control of noise levels below 85 dB (A) in the work environment. Workers engaged in operations of HEMM, etc. should be provided with ear plugs / muffs.	<p>Noise monitoring is taken up once every month. The following measures are being taken to control noise levels below 85 dB (A) in the work environment.</p> <ul style="list-style-type: none"> • Maintenance of all machines including checking of silencers regularly, • Controlled blasting using delay detonators, installing immovable machinery on foundations and in closed rooms. • Provision of earplugs/muffs to workers engaged in noise prone areas. • The HEMM operators are provided with AC close cabinets which themselves are acoustic in nature. <p>The noise level analysis report for the period October'25 to March'26 is enclosed as Annexure-XVII.</p>
vii.	Industrial waste water (workshop and waste water from the mine) should be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19th May, 1993 and 31st December, 1993 or as amended from time to time. Oil and grease trap should be installed before discharge of workshop effluents.	<p>There is no outside discharge of workshop effluent. The mine is operating a zero-discharge system for effluents where all the wastewater is treated , analyzed, and reused for dust suppression and Vehicle washing. Effluents from the mechanical workshop area are being channelized through Effluent Treatment Plant of 15 KL/D capacity. 100% treated water is reused.</p> <p>Analysis report of ETP treating water for the period October'25 to March'26 is enclosed in Annexure-XIII.</p>
viii.	Personnel working in dusty areas should wear protective respiratory devices and they should	<p>Personal protective equipment (PPEs) is being provided to all workers respective to the nature of the job. Initial and periodical awareness training is being</p>

	<p>also be provided with adequate training and information on safety and health aspects.</p> <p>Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.</p>	<p>imparted to all workers in the Company's Vocational Training Center located within the lease area on Safety and Health Aspects.</p> <p>Pre-placement medical examination and periodical medical examination as per DGMS guideline of the workers engaged in the project are being carried out and records maintained for corrective measures. No occupational diseases have been detected so far.</p> <p>The Personal Dust Level Monitoring report for the period October'25 to March'26 is enclosed as Annexure-XXI.</p>
ix.	<p>A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.</p>	<p>A separate environmental management cell with suitable qualified personnel has been set up under the control of the Agent of Mines, who reports to the Head of the Organization directly.</p> <p>The organization structure is attached Annexure-XVIII.</p>
x.	<p>The funds earmarked for environmental protection measures should be kept in separate account and should not be diverted for other purpose. Year wise expenditure should be reported to the Ministry of Environment and Forests and its Regional Office located at Bhubaneswar.</p>	<p>The funds earmarked for environmental protection measures are being utilized for the said purpose only. Adequate funds are always allocated to meet the capital & recurring expenses to implement the environmental control measures inclusive of plantation.</p> <p>The total capital expenditure and recurring annual expenditure during the financial year 2025-26 are as follows:</p> <ol style="list-style-type: none"> i. Capital Cost for Environmental Pollution Control incurred during 2025-26 is Rs. 105.79 lakh ii. Recurring expenditure incurred during 2025-26 is Rs. 3096.54 Lakh <p>The details are Attached in Annexure XIX.</p>
xi.	<p>The project authorities should inform to the Regional Office located at Bhubaneswar regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.</p>	<p>Agreed & we shall abide by this condition.</p>
xii.	<p>The Regional Office of this Ministry located at Bhubaneswar shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.</p>	<p>We are abiding by the condition and shall extend full cooperation to the officers of regional office by furnishing the requisite data/monitoring reports during their monitoring of compliance of the stipulated conditions.</p>
xiii.	<p>The project proponent shall submit six monthly reports on the status of the implementation of the stipulated environmental safeguards including results of monitored data (both in hard copies as</p>	<p>Six monthly reports are being submitted regularly to the Ministry of Environment and Forests, it's Regional Office of the Ministry at Bhubaneswar /</p>

	well as by e-mail) to the Ministry of Environment and Forests, its Regional Office, Bhubaneswar, Central Pollution Control Board and State Pollution Control Board. The project proponent shall upload the status of compliance of the environmental clearance conditions including the results of monitored data on their website and update the same periodically.	Central Pollution Control Board / SPCB, Odisha within stipulated time. However, as per the new notification, six monthly compliance reports are being uploaded to the Parivesh portal. The status of compliance is being updated on the website periodically. baphlimali-half-yearly-ec-compliance-report-april-2205-sept-2025.pdf
xiv.	A copy of clearance letter shall be marked to concerned Panchayat / local NGO, if any, from whom suggestion / representation has been received while processing the proposal.	Complied
xv.	The State Pollution Control Board should display a copy of the clearance letter at the regional office, District Industry Centre and the Collector's office/ Tehsildar's Office for 30 days.	The clearance letter has been displayed at the required places.
xvi.	The project authorities should advertise at least in two local newspapers widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7days of the issue of the clearance letter informing that the project has been accorded environmental clearance and a copy of the clearance letter is available with the State Pollution Control Board and also at web site of the Ministry of Environment and Forests at http://envfor.nic.in and a copy of the same should be forwarded to the Regional Office of this Ministry located at Bhubaneswar.	The accordance of environment clearance has been advertised in two local newspapers "SAMBADA" and ANUPAM BHARAT" and has already submitted to the Chairman SPCB, Bhubaneswar dated 28.02.2009.

ANNEXURE-I

Compliance Status of the issues raised during Public Hearing

Status of the issues raised during the Public Hearing held on 17.10.2006 for the Environmental Assessment of the expansion of Baphlimali Bauxite Mines of M/s Utkal Alumina International Ltd. from 3.0 MTPA to 8.5 MTPA over an area of 1338.74 Ha at Baphlimali Hill, Kashipur Tehsil, Rayagada District.

Sl.No.	Issues Raised in Public Hearing	Status of Compliance as of 31.03.2026
1	The company shall abide by all rules and regulations of State Pollution Control Board/ central Pollution Control Board, Forest and Environment Department, Government of Orissa or under Environment (protection) Rules to safeguard the environment and safety norms and shall not violate the commitments made in the EIA/EMP report.	<p>The company shall comply with all applicable rules and regulations of the State Pollution Control Board, Central Pollution Control Board, Forest and Environment Department, Government of Odisha, and the Environment (Protection) Rules, to ensure environmental protection and safety.</p> <p>All commitments made in the approved EIA/EMP report are being adhered to.</p>
2	Employment shall be made to the local people on priority and the local youths shall be imparted training to suit its requirement. This facility may be given to others only if suitable technical manpower on the higher grade is not locally available. First preference for employment will be given to the victims of the project, Displaced persons & land losers.	Priority in employment is being given to local people based on their skill levels, with necessary training provided to local youth to meet job requirements. Preference is extended to project-affected persons, including displaced persons and land losers, while higher-grade positions are filled from outside only when suitable local candidates are not available.

3	<p>The project proponent should take sufficient care for improvement of health and education of local villagers and communication network of the areas and provide drinking water facility within its 20 km radius.</p>	<p>Utkal Alumina has been striving hard to create and improve healthy environment to enrich the quality of life of the community, particularly the underprivileged in the vicinity by sustainable initiatives as follows:</p> <p>Health Care:</p> <ul style="list-style-type: none"> ➤ During covid-19 pandemic situation/announcement has been carried out in 68 peripheral villages to create awareness among the villagers. During public announcement, villagers were distributed with leaflets carrying awareness messages. More than one lakh face masks were supplied to the villagers of 45 peripheral villages including govt. officials and hospitals. To create awareness on frequent hand wash, 1030 soaps were distributed to the villagers. To ensure periphery hygienic, sodium hypochlorite solution was sprayed in public places of Rayagada, Kashipur, Tikiri, Nuapada, Dongasil, Kodipari, Gorakhpur, Sanamtikona and other villages. Fumigation has been carried out in 35 villages to ensure disinfection of the area. Around 900 migrated labors were supplied with grocery items for ten days. Awareness meetings were organized in different villages from time to time. ➤ Diarrhea Control activities such as cleaning of village surroundings, disinfection of water logging areas, chlorination of water sources, providing water cans, installation of new tube wells, distribution of halogen tablets, and extending treatment services to the diarrhea affected persons through organizing health camps etc. have been carried out in Diarrhea affected villages. ➤ Functioning of one full-fledged round the clock Health Centre with laboratory facility at Nuapada with regular Doctors & Paramedical Staffs. ➤ Functioning of Utkal Hospital at Oshapada with specialist Doctors, IPD, Operation Theatre, ICU, and well-equipped modern equipment. ➤ Engagement of one Mobile Health Care Unit (MHU) extending services to 38
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		<p>remote villages from 10 strategic locations and 1 Girls High School at Dongasil.</p> <ul style="list-style-type: none">➤ Round-the-clock services extended by four Ambulances for referral of patients➤ Extending financial support for maintenance of one Ambulance donated to CHC, Kashipur.➤ Extending financial assistance to the poor and needy people of peripheral villages for medical treatment.➤ Organizing Multispecialty Health Camps at Cluster level.➤ Creation of Health Awareness through rallies, awareness camps competitions, sanitation drives, and street play etc.➤ Disinfection of drains, tube well platforms and water logging areas to guard against the spread of disease.➤ Organizing voluntary Blood Donation Camps in collaboration with Odisha Blood Center, Rayagada. 101 units of blood collected from voluntary donors➤ Extended Comprehensive eye care services including cataract surgery to 156 patients.➤ Facilitated construction of 854 toilets in 16 villages in collaboration with Swachha Bharat Mission.➤ Annual Chlorination of water sources such as tube wells, open wells, water tanks, sanitary wells etc. of all peripheral villages.➤ 10 TB patients of Kashipur block of Rayagada district are being supplied with Nutrition food baskets by Utkal Alumina under 'TB Mukht Bharat Abhiyaan' of Govt. of India➤ Two Nirogshalas (Static Health Centers) were established at Andirakanch & Paikakupakhal villages to provide treatment services to the villagers at their doorsteps.➤ National Nutrition Week was celebrated at Paikakupakhal Anganwadi Center by taking all the Pregnant and Lactating Mothers of that village in the presence of Anganwadi Worker, ASHA & other Community leaders of that village
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		<ul style="list-style-type: none">➤ National Nutrition Month was also celebrated at block level in collaboration with Women & Child Development dept. All AWWS, ASHAs and officials from Health and W&CD dept. were present on this occasion➤ Awareness Programme on Swachhata was organized at Hatikhaman & Villages➤ Awareness Campaign on Vitamin D3 & B12 was launched at Hatikhaman village & it will cover almost 69 Villages of both Kashipur and Th.Rampur blocks.➤ One Block level Workshop on Diarrhea Prevention & Sickle Cell Anemia was conducted at Kashipur by taking all the ASHAs & Anganwadi Workers of our Mines Peripheral villages.➤ One Multispecialty Health Camp was organized at Nuagaon village where 511 patients from eight villages attended and availed the services of Specialist Doctors from Medicine, Gyanic, Eye, Skin and Pediatric.➤ 34 differently abled people were supported with assistive devices and healthy life kits which include wheelchairs, crutches, special chairs, rollators etc. based on their assessment which enhanced their mobility and independence.➤ District level Awareness Meet on Newborn babies were organized at Kodipari in collaboration with health dept. of Govt. Odisha➤ Organized one more blood donation camp at Mines Top.➤ One Multispecialty Health Camp was organized at Chandragiri village where 572 patients from 31 villages attended and availed the services of Specialist Doctors from Medicine, Gyanic, Eye, Skin and Pediatric.➤ Organized one blood donation camp at Mines Top.➤ Three defunct tube wells of Maikanch & Lundrukana villages were repaired to ensure supply of safe drinking water to the villagers
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		<ul style="list-style-type: none"> ➤ National nutrition month was celebrated at Nuagaon village . ➤ 7 cataract Patients were facilitated to LV Prasad Eye Institute for eye check up ➤ Extended financial assistance to the 7 poor and needy families of peripheral villages for medical treatment. ➤ Running of two Nirogshala in Andirakanch & Paikakupakhal village. During the year 10000+ patients were treated in these Nirogshala. ➤ Provided ambulance services to 75+ patients of different mines peripheral villages. ➤ 2 cataract Patients were facilitated to LV Prasad Eye Institute for eye operation, and 05 patients were supplied spectacles in improve their eye vision. ➤ Two Swajal Dhara and nine Solar Based Drinking Water Project were inaugurated at Kalyachanchara and Railghati. ➤ Three defunct tube wells of Maikanch & Lundrukana villages were repaired to ensure supply of safe drinking water to the villagers. ➤ One Multispecialty Health Camp was organized at Chandragiri village where 619 patients from 28 villages attended and availed the services of Specialist Doctors from Medicine, Gyanic, Eye, Skin and Pediatric. ➤ On the eve of Gandhi Jayanti during Swachhata Pakhwada, Swachhata Activities were carried out in Tribal dominated Railghati village with the support of Community members ➤ Similarly, 15 new tubewell in 13 village has installed. ➤ A total of 49 drains were constructed across surrounding villages to improve sanitation and ensure effective wastewater management. ➤ A total of 250 adolescent girls from two mining-peripheral high schools participated in menstrual hygiene awareness sessions, during which sanitary pads were distributed. ➤ Street plays were conducted in 15 villages to raise awareness about sickle cell anemia, educating rural communities on its risks, symptoms, and
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prevention through engaging, culturally relevant performances that encouraged early detection and preventive action.

Promotion of Quality Education:

- Running Aditya Birla Public School (English Medium) to provide access to good quality education.
- Extending financial assistance to the land loser and economically backward families and meritorious students for Higher Education under Utkal Scholarship.
- Organized special Awareness drives in organizing Prabesh Utshabs for increasing school enrolment.
- Conducting Parents Counselling Meets to reduce school dropouts.
- Construction of hostel building with drinking water facility, toilet, drainage & field leveling etc. at certain schools.
- Construction of Boundary walls, Classrooms, CC Roads, and provision of drinking water through installation of tube wells inside school campus etc.
- Repairing and Painting of school Buildings
- Supply of study and sports materials and financial support for school functions
- Setting up two libraries at UGME School, Maikanch and Saraswati Sishu Mandir, Kashipur to enhance reading, comprehension, free expression, and there by creating a strong academic foundation of students.
- Conducted teachers' orientation program on the methodology of teaching in Libraries developed under Pustakalya Project and on the operation of Mini Science Centers promoted in schools.
- Setting up two Mini Science Centers at Maikanch High School and Kashipur High School benefiting 864 students of both the schools.
- Supplied Study materials to 352 students of five different schools of Kashipur block.

		<ul style="list-style-type: none"> ➤ Provided Desk Benches to the schools of Hatikhaman and Maligaon villages. ➤ Installed Solar System to provide consistent electric supply to the High School of Chandragiri. ➤ Running of six Remedial Coaching Centers in five different villages by taking 210 students ➤ Conducting different Competitions such as Sports Competition, Essay Competition & Drawing Competitions in four different peripheral schools. ➤ Teachers Day was celebrated in four mines peripheral schools where all the teachers were felicitated in the presence of all the school students. ➤ Essay & Drawing Competitions on Swachhata were conducted in four peripheral schools where total 163 students have participated and made aware on Swachhata ➤ Capacity building programmes were conducted for the Education Facilitators of Remedial Coaching Centers ➤ Development of child friendly Anganwadi centres at Paikakupakhal ➤ Rs. 10,00,000/- extended to district employment agency, Kalahandi for NEET/JEE Coaching ➤ Three Anganwadi centres of Andirakanch, Paikakupakhal and Karanjakupakhal were repaired ➤ Independence Day was observed at all the Remedial Coaching Center ➤ To attract small children towards pre-school education and to provide them with a joyful atmosphere, Child friendly Anganwadi Centers have been promoted with Bala paintings in seven peripheral villages. ➤ To promote digital literacy, Digital Classrooms with Maths Labs have been created in Chandragiri and Maikanch High Schools. ➤ To provide safe drinking water for the school children's, supported RO facility to the 4 schools. ➤ Essay & Drawing Competitions conducted among school students on Swachhata
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		<ul style="list-style-type: none">➤ 28 students are provided with financial assistance for their higher study and education.➤ 10 Peripheral schools were distributed with sweets on Republic Day Celebration.➤ Four Schools were supplied with Water Cooler cum Purifiers to provide safe drinking water to the school children.➤ During this Independence Day and republic day, peripheral schools were distributed with sweets➤ Teachers Day was celebrated at Chandragiri High School on 5th of Sept. 2025 to felicitate the efforts of teachers in shaping the future of students and for their dedication and hard work.➤ To enhance the quality of education in the mines peripheral schools and to create an interest among the students towards education, 500 students of 7 Schools were supplied with Study materials like School Bags, Umbrellas and Water bottles.➤ 318 students of Class 10th of 6 schools were distributed TBW test papers for appearing the board examination. It will help students to prepare themselves by enabling them access to quality practice materials.➤ To ensure safe, functional, and child-friendly learning environment, three child-friendly Anganwadi centers were developed in Dangeskhal, Chandragiri, & Kashipur BHQ.➤ Similarly, Bala paintings were developed in three schools—Paikakupakhal, Jogiparitunda & Andirakanch.➤ To enhance the quality of education for Class I–X students in government schools, a digital learning programme was implemented across two schools Saraswati Sishu Vidya Mandir, Kashipur; Project Upper Primary School & Jogiparitunda➤ Children’s day was celebrated in 7 mines peripheral schools to celebrate the innocence, creativity, and joy that children bring into the world, making them feel valued and special through creating a joyful, informal atmosphere where teachers and students connect beyond the classroom setting.
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		<ul style="list-style-type: none"> ➤ Sports competition was organized in 9 mining peripheral schools to develop sportsmanship and appropriate behavior in competitive environments, ➤ To encourage the holistic development of school students by promoting sportsmanship, creativity, confidence, and motivation organized Annual Function in one school i.e. at Chandragiri school. ➤ To provide safe & hygiene drinking water to the school children, Solar based drinking water facility has been provided to the schools of Jogiparitunda and Chandragiri high schools. ➤ Scholarships were provided to 12 students from 7 villages amounting to Rs 185000/- and financial assistance of Rs 3,90,000 was extended to 33 students from 14 villages. ➤ To improve school safety by preventing unauthorized access, six boundary walls were constructed across schools to clearly demarcate premises and prevent unauthorized entry. <p>Provision of drinking water:</p> <ul style="list-style-type: none"> ➤ Installation of one Bore well at Tikirapada village to provide drinking water supplies for the villagers. ➤ Setting up ten solar based water supply system at Dwimundi, Dongasil & Jogiparitunda villages for drinking water supply. ➤ Installation of Seventy-one tube wells in its peripheral villages to ensure supply of safe drinking water to the villagers. ➤ Repairing of defunct tube wells from time to time as per the request of villagers ➤ Construction of Swajaldhara (Gravity flow) for supply of water in six different villages. (Dwimundi, Pandakapadar, Dhadpas, Badlijharan, Ghatiguda & Tikirapada) ➤ Installation of 07 New tube wells, 2 Solar Based Drinking Water Projects, 1 Swajaldhara & 32 tube well repairing done in peripheral villages to ensure safe drinking water for villagers.
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		<ul style="list-style-type: none"> ➤ Installation of nine solar based drinking water systems and five tube wells in different mines peripheral villages during FY 2023-24. ➤ Solar based drinking water structure installed in 5 villages ➤ Six Tube Wells are installed in Lundrukana, barjakhal, Nuagaon, Dhangdishil, Jhodipadar & K.Panjara Villages. Ten defunct tube wells were repaired during the period. ➤ Swajal Dhara in 2 village and Solar based drinking water in 5 villages has done. ➤ Installation of two solar operated irrigation infrastructure at Maikanch and Kukudagad village. ➤ 2 Swajal Dhara in 2 village and nine Solar based drinking water in 11 villages has done. ➤ Similarly, 15 new tubewell in 13 village has installed.
4	Rehabilitation & resettlement package if applicable shall be strictly adhered in accordance to the decision of Government.	No displacement has occurred due to the project; therefore, the Rehabilitation and Resettlement (R&R) package is not applicable.
5	The mine shall not disturb the streams originating from the hill slopes and foothills and also no mining discharge shall be made to them.	No natural watercourse or water resources are obstructed due to mining operations. Necessary care has been taken during monsoon to divert /channelize run off water to the excavated pits, so that it does not carry any sediment to obstruct / affect the water bodies at the foot hill. There is no perennial river/nallah that exists at the ML especially on the surface plateau. However, there are small natural depressions, may called as gullies, develops preferably in the rainy days during inflow/outflow of rainwater at the slope of the ML, which is a part of project area, are being provided with check dam & plantations of indigenous species to arrest the erosion & sediment flow into the perennial nallah available at the bottom of the ML.

6	The timing of blasting shall be intimated to the villagers in its immediate vicinity through its representatives stationed in the villages.	<p>Blasting is being done during shift change between 1:00 PM to 2:00 PM. No Blasting is done beyond daylight hours.</p> <p>Further, controlled blasting is being practiced with use of NONELs for sequential blasting to reduce ground vibrations and to arrest fly rocks and boulders. Necessary information has been given by sirens and physical guarding through security department during blasting. Notice also has been displayed at the main entrance gate regarding the timing of blasting.</p>
7	The Mines shall intensify development activity in the villages lying on the foothills of the project and in its immediate vicinity i.e. 10 km radius.	<p>Various development activities in the field of Education, Health Care, Sustainable Livelihoods, Village Infrastructure development and social interventions have been undertaken intensively in the villages lying on the foothills of the project and its immediate vicinity. Activities undertaken are as follows:</p> <p>Education:</p> <ul style="list-style-type: none"> ✓ Extending financial assistance to the land loser and economically backward families and meritorious students for Higher Education under Utkal Scholarship. ✓ Supply of 50 sets of furniture (Desks & Benches) to the Upgraded High School Chandragiri and 30 sets to Paikakupakhal PUP School. ✓ Organized Awareness Rallies and Prabesh Utshabs for increasing school enrolment. ✓ Conducted Parents Counselling Meets to reduce school dropouts. ✓ Strengthening School Management Committees ✓ Construction of Boundary walls, additional classrooms, and CC Roads inside the school campus. ✓ Repairing and Painting of school Buildings ✓ Supply of Uniforms, textbooks, School bags, and sports materials to the peripheral schools ✓ Supply of uniforms to the children of Anganwadi Centers.

		<ul style="list-style-type: none"> ✓ Supply of furniture, first-aid boxes & home solar lights for the schools ✓ Creating Education Awareness through street plays, wall writings. ✓ One Remedial Coaching Center is running at Paikakupakhal village by taking 35 students of that village. ✓ Repairing of roof along with veranda and Painting of one classroom at Maikanch UGME School. ✓ Setting up two libraries at UGME School, Maikanch and Saraswati Sishu Mandir, Kashipur to enhance reading, comprehension, free expression and thereby create a strong academic foundation of students. ✓ Established two Mini Science Centers at Govt. High Schools of Maikanch & Kashipur. ✓ Conducted teachers' orientation program on the methodology of teaching in Libraries developed under Pustakalya Project and on the operation of Mini Science Centers promoted in schools. ✓ Conducted essay & drawing competition on Swachhata among the students of four different peripheral schools. ✓ Running of another two remedial coaching centers at Andirakanch. ✓ Organized Sports competition among the school students of five schools like Maikanch & Chandragiri High Schools and PUP schools of Andirakanch, Paikakupakhal & Karanjakupakhal, ✓ Supplied 20 sets desk and benches to Hatikhaman and Maligaon schools. ✓ Supplied study materials like School bag, umbrella, and water bottle to 350 students of five school of five core village. ✓ Installation of solar system at Chandragiri High School to ensure consistent electric supply. ✓ Teachers Day was celebrated in four mines peripheral schools where all the teachers were felicitated in the presence of all the school students.
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		<ul style="list-style-type: none">✓ Essay & Drawing Competitions on Swachhata were conducted in four peripheral schools where total 163 students have participated and made aware on Swachhata✓ Capacity building programmes were conducted for the Education Facilitators of Remedial Coaching Centers✓ Development of child friendly Anganwadi centres at Paikakupakhal✓ Three Anganwadi centres of Andirakanch, Paikakupakhal and Karanjakupakhal were repaired✓ Independence Day was observed at all the Remedial Coaching Centers✓ To attract small children towards pre-school education and to provide them with a joyful atmosphere, Child friendly Anganwadi Centers have been promoted with Bala paintings in seven peripheral villages.✓ To promote digital literacy, Digital Classrooms with Maths Labs have been created in Chandragiri and Maikanch High Schools.✓ To provide safe drinking water to the school children, supported RO facility to the 4 schools.✓ Essay & Drawing Competitions conducted among school students on Swachhata✓ 10 Peripheral schools were distributed with sweets on Republic Day Celebration✓ Four Schools were supplied with Water Cooler cum Purifiers to provide safe drinking water to the school children.✓ During this Independence Day, peripheral schools were distributed with sweets✓ Teachers Day was celebrated at Chandragiri High School on 5th of Sept. 2025 to felicitate the efforts of teachers in shaping the future of students and for their dedication and hard work.➤ To enhance the quality of education in the mines peripheral schools and to create an interest among the students towards education, 500 students of 7 Schools were supplied with Study materials like School Bags, Umbrellas and Water bottles.
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		<ul style="list-style-type: none">➤ 318 students of Class 10th of 6 schools were distributed TBW test papers for appearing the board examination. It will help students to prepare themselves by enabling them access to quality practice materials.➤ To ensure safe, functional, and child-friendly learning environment, three child-friendly Anganwadi centres were developed in Dangeskhal, Chandragiri, & Kashipur BHQ.➤ Similarly, Bala paintings were developed in three schools—Paikakupakhal, Jogiparitunda & Andirakanch.➤ To enhance the quality of education for Class I–X students in government schools, a digital learning programme was implemented across three schools Saraswati Sishu Vidya Mandir, Kashipur; Project Upper Primary School, Jogiparitunda and Upgraded High School.➤ Children’s days were celebrated in 7 mines peripheral schools to celebrate the innocence, creativity, and joy that children bring into the world, making them feel valued and special through creating a joyful, informal atmosphere where teachers and students connect beyond the classroom setting.➤ Sports competition was organized in 9 mining peripheral schools to develop sportsmanship and appropriate behavior in competitive environments,➤ To encourage the holistic development of school students by promoting sportsmanship, creativity, confidence, and motivation organized Annual Function in one school i.e. at Chandragiri school.➤ To provide safe & hygiene drinking water to the school children, Solar based drinking water facility has been provided to the schools of Jogiparitunda and Chandragiri high schools.➤ Scholarships were provided to 12 students from 7 villages amounting to Rs 185000/- and financial assistance of Rs 3,90,000 was extended to 33 students from 14 villages.➤ To improve school safety by preventing unauthorized access, six boundary walls were constructed across schools to clearly demarcate premises and prevent unauthorized entry.
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		<p>Health Care:</p> <ul style="list-style-type: none">✓ During covid-19 pandemic situation/announcement has been carried out in 20 peripheral villages in order to create awareness among the villagers. During public announcement, villagers were distributed with leaflets carrying awareness messages. More than ten thousand face masks were supplied to the villagers of 15 peripheral villages including govt. officials and hospitals. Fumigation has been carried out in five villages to ensure disinfection of the area. Awareness meetings were organized in different villages from time to time.✓ Extending treatment services to the villagers of villages lying on the foothills of the project through First Aid center set up at Mines top.✓ Engagement of one Mobile Health Care Unit (MHU) extending services to 37 remote villages from 10 strategic locations.✓ Round-the-clock services extended by one Ambulance for referral Patients✓ Extending financial support for maintenance of one Ambulance donated to CHC, Kashipur✓ Repairing of 62 defunct tube wells in different mines peripheral villages.✓ Nine dustbins were constructed in different locations of Dhuturapas & Peringini villages to facilitate cleanliness of the village.✓ Construction of Masonary drains in Chandragiri & Paikakupakhal villages.✓ Extending financial assistance to poor and needy people for medical treatment.✓ Organizing Multispecialty Health Camp at Cluster level on quarterly basis.✓ Creating health awareness through rallies, awareness camps competitions, sanitation drives, and street play etc.✓ Disinfection of drains, tube well platforms and water logging areas to guard against the spread of disease.✓ Conducted eye cataract surgery by 49 people from different villages & 106 No. of persons were provided with spectacles.
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		<ul style="list-style-type: none"> ✓ Facilitated construction of 93 toilets in five villages in collaboration with Swachha Bharat Mission ✓ Established “Nirogshala” – Static Health Centers at Paikakupakhal & Andirakanch Villages to extend health treatment services to the villagers at their doorsteps. ✓ Organized blood donation camp at Nuapada club house where 80 donors were donating their blood. ✓ Installation of 24 New tube wells,11 solar based drinking water projects & 1 Swajaldhara in peripheral villages to ensure safe drinking water for the villagers. ✓ Ten TB patients of Kashipur block are being supported with Nutrition food baskets to help them to ensure good health and fast recovery. ✓ 434 no's of drinking water sources of 41 villages in Kashipur block were chlorinated ✓ Created awareness on tuberculosis in 25 mines periphery villages through street plays. ✓ Developed wall paintings on Diarrhoea & ODF in seven mines periphery villages. ✓ Adopted Lundrukana village as Open Defecation Free (ODF) Village. ✓ National Nutrition Week was celebrated at Paikakupakhal Anganwadi Center by taking all the Pregnant and Lactating Mothers of that village in the presence of Anganwadi Worker, ASHA & other Community leaders of that village ✓ National Nutrition Month was also celebrated at block level in collaboration with Women & Child Development deptt. All AWWS, ASHAs and officials from Health and W&CD deptt were present in this occasion ✓ One Awareness Programme was organised on Swachhata at Hatikhaman Village in the presence of all the villagers
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		<ul style="list-style-type: none"> ✓ Awareness Campaign on Vitamin D3 & B12 was launched at Hatikhaman village & it covered almost 69 Villages of both Kashipur and Th.Rampur blocks. ✓ One Block level Workshop on Diarrhoea Prevention & Sickle Cell Anaemia was conducted at Kashipur by taking all the ASHAs & Anganwadi Workers of our Mines Peripheral villages. ✓ Organized one blood donation camp at Mines Top. ✓ Solar based drinking water structure installed in 5 villages ✓ Six Tube Wells are installed in Lundrukana, barjakhal, Nuagaon, Dhangdishil, Jhodipadar & K.Panjara Villages. Ten defunct tube wells were repaired during the period. ✓ One Multispecialty Health Camp was organized at Nuagaon village where 511 patients from eight villages were attended and availed the services of Specialist Doctors from Medicine, Gynic, Eye, Skin and Pediatric. ✓ 34 differently abled people were supported with assistive devices and healthy life kits which include wheelchairs, crutches, special chairs, rollators etc based on their assessment which enhanced their mobility and independence. ✓ District level Awareness Meet on Newborn baby was organized at Kodipari in collaboration with health dept. of Govt. Odisha ✓ Organized one more blood donation camp at Mines Top. ✓ One Multispecialty Health Camp was organized at Chandragiri village where 572 patients from 31 villages attended and availed the services of Specialist Doctors from Medicine, Gynic, Eye, Skin and Pediatric. ✓ Organized one more blood donation camp at Mines Top. ✓ Three defunct tube wells of Maikanch & Lundrukana villages were repaired to ensure supply of safe drinking water to the villagers ✓ National nutrition month was celebrated at Nuagaon village .
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		<ul style="list-style-type: none"> ✓ 7 cataract Patients were facilitated to LV Prasad Eye Institute for eye check up ➤ Extended financial assistance to the 7 poor and needy families of peripheral villages for medical treatment. ➤ Running of two Nirogshala in Andirakanch & Paikakupakhal village. During the year 10000+ patients were treated in these Nirogshala. ➤ Provided ambulance services to 75+ patients of different mines peripheral villages. ➤ 2 cataract Patients were facilitated to LV Prasad Eye Institute for eye Operation, and 05 patients were supplied spectacles in improving their eye vision. ➤ Two Swajal Dhara and nine Solar Based Drinking Water Project were inaugurated at Kalyachanchara and Railghati. ➤ Three defunct tube wells of Maikanch & Lundrukana villages were repaired to ensure supply of safe drinking water to the villagers. ➤ One Multispecialty Health Camp was organized at Chandragiri village where 619 patients from 28 villages attended and availed the services of Specialist Doctors from Medicine, Gynec, Eye, Skin and Pediatric. ➤ On the eve of Gandhi Jayanti during Swachhata Pakhwada, Swachhata Activities were carried out in Tribal dominated Railghati village with the support of Community members ➤ Similarly, 15 new tubewell in 13 village has installed. ➤ A total of 49 drains were constructed across surrounding villages to improve sanitation and ensure effective wastewater management. ➤ A total of 250 adolescent girls from three mining-peripheral high schools participated in menstrual hygiene awareness sessions, during which sanitary pads were distributed. ➤ Street plays were conducted in 15 villages to raise awareness about sickle cell anemia, educating rural communities on its risks, symptoms, and prevention through engaging, culturally relevant performances that encouraged early detection and preventive action.
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		<p>Sustainable Livelihoods:</p> <ul style="list-style-type: none"> ✓ Supply of improved varieties of vegetable seeds, pesticides, micronutrients, and other inputs like sprayer machines to the farmers of sixteen peripheral villages during kharif and rabi season every year to increase their income through commercial vegetable cultivation. ✓ 213 farm families of six different villages have been supported for orchard development and 12 landless families for Goat Rearing under Project WADI in collaboration with NABARD. ✓ 436 farmers of ten different villages were supported for orchard development with saplings, fertilizers, pesticides, fencing, Agri implements and irrigation facilities. ✓ Women Self Help Group of Hatikhman Village is supported for Pisciculture as an Income Generation Activity. ✓ Imparted tailoring and applique training to 181 girls/women of mines peripheral villages. ✓ Provided Irrigation facilities by construction of check dams, irrigation channels & Water Storage Tanks. Farmers Committees were provided with Diesel Pump Sets, HDPE Pipes with Sprinklers and installation of river lift irrigation, micro lift irrigation, solar based irrigations and deep borewells in our peripheral villages. ✓ Capacity Building of farmers through different trainings, exposure visits and extending hand holding supports to the members of different farmers clubs, pani panchayats, udyan vikash samitis, producers' groups etc. Promoted in our periphery. ✓ Livestock vaccination cum health camps have been organized in different mines peripheral villages at a regular interval of time. ✓ Production of applique materials at Nuagaon. Formation of a Producer group by taking 30 women Producers. Explored Market linkages with Pipili & Utkalika, BBSR. Total products are worth Rs. 52000/- has been sold during the FY.
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		<ul style="list-style-type: none"> ✓ Tailoring training center of Paikakupakhal developed as a small garment manufacturing Unit under Project Sakasham -II. Orders received from different vendors of Rayagada to earn their livelihood. ✓ Initiated Agro Forestry project and Suryadaya project to engage women members of Paikakupakhal. Apart from this, Organizing different awareness program as well as capacity building training for the members of both the project. ✓ Villagers of Andirakanch & Paikakupakhal were supplied with 2575 mango & 1115 Cashew saplings for promotion of fruit orchards in their respective villages. ✓ 4000 Mango Sapling and 3200 cashew grafting were supplied to 259 farmers of 4 villages under Project Plantation ✓ 137 farmers of eight different villages were supported for lemon grass cultivation in 203.88 acres of land. Installation of two lemon grass Oil extraction units at Jogiparitunda & Nuagaon villages. ✓ Avenue Plantation has been undertaken in 5 kms from Jogiparitunda chowk to Lundrukana chowk(3350 nos. of plants) ✓ Sanitary napkin production unit was launched at Paikakupakhal village by taking 30 women members of that village. ✓ Paper plate Making unit is running at Jogiparitunda village where 22 women members of Paikakupakhal village were engaged. ✓ Project Prakriti lasa was launched at Jogiparitunda village by taking 20 girls from that village. ✓ Terracotta Pottery training started at Kumbharsila village covering 50+ artisans ✓ Six Livestock Health Camps were organised at Andirakanch & Jogiparitunda villages where total 801 cattle population of 128 farmers were treated by the veterinary staff of Kashipur. ✓ More than 105 women farmers of Nuagaon, Munusgaon, Adri & Gopinathpur were trained on formation and management of Farmers Producers groups.
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		<ul style="list-style-type: none"> ✓ Existing Terracotta work shed at Kumbharsila has been renovated, artisan is provided one-month extensive training along with supply of terracotta machineries ✓ Applique training has launched at Naringijodi village by taking 25 beneficiaries ✓ Five nos. of Lemon Grass Producers Groups were formed ✓ Two days training Programme on Value addition of lemon grass oil (Pain balm, Insect Repellent, & Disinfectant) was organized at Nuagaon ✓ Skill development training o Light Motor Vehicle Driving was done at Nuagon village by taking 30 youths of 5 villages ✓ 30 Unemployed Youths of five peripheral villages were supplied with Learning License and training Completion Certificates in a Valediction Ceremony of LMV Driving training. ✓ Launching of the 2nd batch of LMV Driving Training at Nuagaon, supported by Dishayu Enterprises, and distribution of Certificates and Driving Licenses to 30 trainees in the 1st batch ✓ During the period, total 98659 pieces of paper plates and 12670 bowls were produced and 35582 paper plates and bowls were sold. ✓ 274 nos. of Jute Bags and 240 nighty were produced during the period. ✓ 336 applique products were produced during the period. ✓ During the period, 16635 sanitary napkin Pads were produced by the women producers of Paikakupakhal village. ✓ 50 kg incense sticks were produced during the period. ✓ 6700 nos Deepa and 755 nos different terracotta items were produced and 2nd phase training programme for Potters on Modern terracotta items has been done
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		<ul style="list-style-type: none">✓ Installation of two solar operated irrigation infrastructure at Maikanch and Kukudagad villages✓ Ginger cultivation of 1.5 acres of land and 6500 nos pineapple in 2 acres of land has been cultivated under project Agro Forestry.✓ High-yielding vegetable seeds were distributed to 178 farmers across 11 villages during the Kharif season, along with training on scientific cultivation practices.✓ To promote clean cooking practices, as part of the Baphlimali bauxite mines CSR initiative of Utkal Alumina, 78 smokeless chulhas were distributed to tribal women across two villages, along with user-awareness sessions.✓ Participated district level Chaiti mela at Rayagada and also organized mela in our both the colony of Utkal Alumina during Diwali, Independence Day, MEMC, Safety Week.✓ To ensure year-round water availability, 9 irrigation channels and 3 check dams were constructed in Baphlimali mine-periphery villages, benefiting 210 farmers and irrigating over 185 acres of agricultural land.✓ The incense stick manufacturing unit in Andirakanch village has empowered 34 rural women through skill development and collective enterprise with annual production of 945 kg.✓ A women-led paper plate manufacturing unit was established to provide 22 rural women with skill-based, eco-friendly livelihood opportunities.✓ A women-led sanitary napkin production unit was established to promote sustainable livelihoods and menstrual hygiene in rural communities. Twenty-nine women were trained, producing 10,289 packets
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Village Infrastructure development:

- ✓ To enhance the quality of life of villagers, we have undertaken village infrastructure development jobs like Construction of Cement Concrete Roads, Causeways, Steps to river, Rest house, Boundary Walls, Culverts, Bridges, Community Centers, Street lighting, drains, bus stops and Protection Walls etc. in different peripheral villages.
- ✓ Four bus stop were constructed in mines peripheral villages
- ✓ 30 nos Solar streetlight has installed Paikakupakhal to Chandragiri chowk
- ✓ A road has been constructed from Barjakhhal village to Mines
- ✓ Constructed community hall at Andirakanch
- ✓ 30 nos Street light has been installed from Paikakupakhal to Chandragiri Chowk
- ✓ 18 nos. of Solar Street lights were installed at Upper Dandabad, Tala Dandabad Dhuturapas & Barjakhhal Villages
- ✓ Constructed 2 Community Centre at Maligaon and Andirakanch
- ✓ During this year, multiple rural infrastructure works were completed, including 124 CC roads, 10 culverts, 9 staircases, 90 protection walls, 5 chandinis, 4 market sheds, 1 Community Gudi, 3 community mandaps, 14 earthen roads, 1 bus stop, 8 sitting altars, 3 WBM roads, and 2 bathing ghats, strengthening connectivity and essential community facilities.
- ✓ Another 44 nos. of Solar Street lights were installed at Upper Dandabad, Tala Dandabad, Dhuturapas & Barjakhhal Villages.

Social Interventions:

- ✓ Organizing Block level rural volleyball tournament by taking youths of sixteen different villages.

		<ul style="list-style-type: none"> ✓ Extending financial support to organize Panchayat, Block as well as District level tournaments. ✓ Supply of sports materials to the youths of peripheral villages ✓ Extending financial support for observing different puja and festivals in the villages ✓ Organizing Various social functions such as Raja Utsav, Diwali etc. in villages ✓ Promoting local folk dance Dhimsa by enabling the village youths to take part in different competitions. ✓ Observation of Independence Day at Suryodaya project site by taking both the project members (Agroforestry & Suryodaya) ✓ Organized one volleyball tournament & one Cricket tournament at Paikakupakhal village. ✓ Observed International Women's Day at Andirakanch where 1500 women from 14 different villages were presented during the program. ✓ Created Awareness of Girl Child Marriage through street plays in fifteen different villages. ✓ Youths of 18 villages were supplied with volleyball and net. ✓ Promotion of Dhimsa Dance under Ama Nrutya Ama Sanskruti. ✓ Diwali celebrated with the villagers of Paikakupakhal village in a grand way. ✓ On every alternate Wednesday CSR and Admin personnel are handling the grievance of mines area villagers at CSR office. ✓ Awarded with Best CSR Excellence Award for Health Care by ASSOCHAM at New Delhi. ✓ Mahatma award for CSR excellence received by CSR on 1st October in an event organized at India international centre New Delhi ✓ Supplied one sound system to the youth of Barjakhal ✓ 2 Nos Open Gym was installed at Barjakhal and Andirakanch ✓ One block level volleyball tournament was organized at Paikakupakhal village with the financial support of Utkal Alumina. ✓ World Environment Day was observed by the women members at the sanitary napkin production centre
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		<ul style="list-style-type: none"> ✓ Different Puja and Festivals like Raja, Diwali, Ganesh Puja, Rakshyabadhan were supported and attended by CSR officials. ✓ International Women’s Day was celebrated at Baphlimali Bauxite Mines under the theme “Give to Gain,” bringing together around 800 women from 10 peripheral villages. ✓ Installation of another open-air gym at Paikakupakha ✓ Youths of 7 villages were supplied with volleyball and net. ✓ Another 2 sound systems were supplied to the villagers of Chandragiri & Y.Kebidi villages. ✓ Celebrated Diwali at Paikakupakhal ✓ Utkal Alumina organized street plays on Safety Awareness for the community. ✓ 356 blankets were distributed to elderly people, widows, and other needy individuals from five villages. ✓ General safety awareness program conducted at Andirakanch & P. Kupakhal villages facilitated by Safety Officers from Maitri Infra, KRR, and LPT. ✓ The Self-Defence Training Programme under Project Samwaad was conducted across four high schools.
8	<p>The project proponent should provide garland drains around the mining pit to prevent entry of rainy water. Adequate check dams shall be provided to prevent the wash out of soils etc. from mines and solid waste dumping sites to surrounding fields.</p>	<p>Garland drains and adequate check dams have been provided to prevent the ingress of rainwater into the mining pits and to control the washing away of soil from mines and waste dumps into surrounding areas.</p> <p>During the monsoon, necessary measures are taken to divert and channelize runoff water into excavated pits, ensuring that sediments do not impact water bodies at the foothills. To control silt and sediment flow, multiple check dams and siltation ponds have been constructed and are regularly maintained. Additionally, pumps are installed in siltation ponds to transfer collected water</p>

		to open and non-working pit areas for groundwater recharge. These practices are being continuously implemented alongside mining operations.
9	After the mining operation is over the project proponent should reclaim the mined out area with overburden, top soil followed by plantation.	<p>As per the mining plan, backfilling of mined-out areas commenced from the 4th year (i.e., 01.04.2016) by utilizing the entire quantity of overburden in the voids. The topsoil generated during ongoing mining operations is being concurrently used for backfilling and plantation activities.</p> <p>Up to March 2026, a total of 181.00 Ha has been backfilled, out of which 123.78 Ha has been afforested. These activities are ongoing and are expected to be completed fully within the scheme period as per the approved plan. Post-mining, the entire area will be reclaimed in accordance with the conceptual plan of the mining scheme.</p>
10	The mine shall obtain necessary clearances such as Forest clearance, wild life clearance, clearance from water resources department, etc. from the appropriate authorities	<p>Necessary clearances such as Forest clearance, wildlife clearance, clearance from water resources department, etc. have been obtained from the appropriate authorities. Details of the letter no and date of approval is enlisted below.</p> <p>Forest Stage 2 Clearance: 8-18/2016-FC/02.02.2018</p> <p>Wildlife clearance: 5608/IWL-SSP-80/2016/27.06.2017</p> <p>Water Resource Department: Agreement with Harabhangi Irrigation Division, Adava, Gajapati on 24.12.2024 valid up to 17.01.2028</p> <p>Environment Clearance: J-11015/650/2007-IA-II(M)/19.02.2009</p> <p>Consent to Establish: 14388/Ind-II-NOC-4432/16.08.2007.</p> <p>Consent to operate: 3859/IND-I-CON - 5450 dated 25.02.2025 with consent order No. 2765 which is valid up to 31.03.2027</p>

11	The project proponent shall provide alternate grazing field for the cattle in consultation with the District Administration	<p>The entire plateau within the mining lease area comprises mineralized and non-mineralized zones covered with hard laterite, which generally restricts natural tree growth.</p> <p>However, the development of an alternate grazing field has been considered through plantation of fodder species over approximately 3 hectares at the extreme southern part of the mining lease area. The area has been demarcated, and necessary measures are being undertaken to prevent soil erosion and facilitate the growth of grass.</p>
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Status of the issues raised during the Public Hearing held on 20.04.2007 for the Environmental Assessment of the expansion of Baphlimali Bauxite Mines of M/s Utkal Alumina International Ltd. (from 3.0 MTPA to 8.5 MTPA) over an area of 492.82 Ha at Baphlimali Hill, Thuamul Rampur Tehsil, Kalahandi District.

Sl. No.	Issues raised in Public Hearing	Status of Compliance as of 31.03.2026
1	Allocation of funds for peripheral development	Funds are allocated annually for the peripheral development of the surrounding areas. The allocated budget is utilized in accordance with Government guidelines across sectors such as education, healthcare, sustainable livelihoods, village infrastructure development, and social interventions.
2	Electricity	Roadside electrification is being carried out in nearby villages in coordination with the concerned Government departments.
3	Water Supply	Thirteen tube wells and five solar based drinking water supply system have been installed in peripheral villages like Kendumundi, Kanarpas, Suryagarh & Durmusi

		<p>of Th.Rampur block of Kalahandi district. Apart from this, defunct tube wells have also been repaired from time to time with the support of Self-Employed Mechto to ensure the availability of the nation of different tube wells through the support of our MHU team has been carried out every year for ensuring availability of safe drinking water.</p>
4	Health	<ul style="list-style-type: none"> ➤ During COVID-19 Pandemic Situation, Public announcement has been carried out along with leaflet distribution and fixation of banners in 30 villages of three GPs to create awareness on COVID. Besides, 15000 face masks & 3500 soaps have been supplied to the villagers including Govt. officials, fumigation carried out in four villages. Extended financial support to Th.Rampur block for production and distribution of 60000 masks through Women Self Help Groups of this area. ➤ Diarrhea Control activities such as cleaning of village surroundings, disinfection of water logging areas, chlorination of water sources, providing water cans, installation of new tube wells, distribution of halogen tablets, extending treatment services to the diarrhea affected persons through organizing health camps etc. have been carried out in Diarrhea affected villages. ➤ First-Aid Center established at Mines top is extending treatment services to the villagers of mines adjacent villages. ➤ One MHU Vehicle is engaged by our company to extend treatment services to 34 remote villages of Th. Rampur block. ➤ Apart from treatment services, this MHU is also conducting health awareness camps, home visits and chlorination of water sources as well as disinfection of water logging areas. ➤ Facilitated construction of 40 individual toilets in Durmusi with the support of RWSS dept. ➤ Facilitated immunization programme in 26 villages in convergence with health dept. Under Inradhanush programme. ➤ In order to ensure smooth drainage of rainwater masonry, drains have been constructed in the villages.

		<ul style="list-style-type: none">➤ Financial assistance has been given to the poor and needy people for medical treatment.➤ 50 TB patients at Kalahandi district are being supporting as Ni-Kshay Mitra under project 'TB Mukht Bharat Abhiyaan' of Govt. of India. UAIL will continue supporting this additional nutrition supplement to these people till next one year and help them to ensure good health and fast recovery.➤ Six New Tube well installed in rural remote areas to ensure safe drinking water for villagers.➤ Organized multi-specialty health camp based on the disease pattern or symptom identified by the Mobile Health Unit. Almost 656 patients attended this camp.➤ One Nirogshala, (Static Health Center) was launched at Gopinathpur of Th.Rampur block, Kalahandi district to provide healthcare services at the doorsteps.➤ Launching of one Ambulance service at Gopinathpur village.➤ Seven Cataract Patients were operated on at Junagarh and twenty-five eye patients were supplied with spectacles to address their low vision.➤ 301 nos of drinking water sources of 34 villages in Th. Rampur block were chlorinated.➤ Organized two multi-specialty health camps at Brahmanichanchara and Maligaon. Almost 1200 patients attended camp.➤ Created awareness on Tuberculosis & Diarrhoea in Mines peripheral villages through street plays.➤ Developed wall paintings on Diarrhoea & ODF in mines periphery villages.➤ Created Awareness Programme on Vitamin B12 & D3 in 38 villages➤ 40 differently abled people were supported with assistive devices and healthy life kits which include wheelchairs, crutches, special chairs, rollators etc based on their assessment which enhanced their mobility and independence.
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		<ul style="list-style-type: none"> ➤ One Hearse Van (Dead Body Carrier) was handed over to CHC, Th.Rampur in the presence of BDO, Tahasildar, MLA representative and other dignitaries of the local area. ➤ As per MLA recommendation, Diarrhea Prevention Activities like Awareness camp, Treatment, Distribution of Pamphlet's, Demonstration of Preparation of Homemade ORS were conducted in 10 villages. ➤ Street plays were conducted in 15 villages to raise awareness about sickle cell anemia, educating rural communities on its risks, symptoms, and prevention through engaging, culturally relevant performances that encouraged early detection and preventive action. ➤ Provided ambulance services to 175+ patients of different mines peripheral villages. ➤ Running of one Nirogshala in Gopinathpur village. During the year total 5000+ patients were treated in these Nirogshala. ➤ Two Solar Based Drinking Water Project were inaugurated in Adri and Badabafra villages. ➤ Similarly, 2 new tubewell in 2 villages has installed. ➤ A total of 12 drains were constructed across surrounding villages to improve sanitation and ensure effective wastewater management. ➤ A total of 82 adolescent girls from Adri high school participated in menstrual hygiene awareness sessions, during which sanitary pads were distributed.
5	Employment	A total of 341 persons is engaged/employed, of which 18 are from the buffer zone.
6	Protection of religious places	Protection of religious sites has been ensured.

7	Improvement of Roads	Improvement of village infrastructure has been undertaken through the construction of Cement Concrete roads, causeways, culverts, and earthen bridges in villages such as Kendumundi, Kanarpas, Chirika, Durmusi, and Adri (including Gunjamali Pada and Harijan Pada), based on the requests of the local communities.
8	Education	<ul style="list-style-type: none"> ❖ To increase school enrolment, we are organizing an awareness rally and prabesh utshabs in our peripheral schools every year and supplying school bags, study materials etc. during this occasion. Similarly, to reduce school dropouts' parents counseling meets were organized every year. Efforts have been made to strengthen school management committees. Schools were supplied with sports materials to attract the students towards schools. School furniture has been supplied to one of the private high schools of Karlapat GP. Awareness of Education has been created among the villagers through street plays and wall writings. ❖ Established one Mini Science Center and one Library at Govt. High School, Adri. ❖ Organized Essay & drawing competition on Swachhata among the students of Adri UGHS. ❖ Organized sports competition among the school students at Adri high school ❖ Supplied 80 sets of desks and benches to Adri, Kendumundi, Suryagarh and Durmusi schools.

		<ul style="list-style-type: none"> ❖ Four remedial coaching centers have been launched at Kendumundi, Suryagarh, Kanarpas and Durmusi villages. ❖ Study Materials were supplied to the 250 students at Durmusi, Kendumundi, Chirka and Suryagarh school. ❖ Rs. 10,00,000/- extended to district employment agency, Kalahandi for NEET/JEE Coaching ❖ To attract small children towards pre-school education and to provide them with a joyful atmosphere, Child-friendly Anganwadi Centers have been promoted with Bala paintings in four peripheral villages. ❖ To promote digital literacy, Digital Classrooms with Maths Labs have been created in Adri High School. ❖ To provide safe drinking water for the school children, supported RO facility in Adri High School. ❖ 6 students are provided with financial assistance for their higher education. ❖ Supplied Water Cooler cum Purifiers to Adri High School to provide safe drinking water to the school children. ❖ During this Independence Day and republic day, peripheral schools were distributed with sweets. ❖ 120 students of Class 10th of 6 schools were distributed TBW test papers for appearing the board examination. It will help students to prepare themselves by enabling them access to quality practice materials. ❖ To provide financial support for JEE/NEET coaching programme to be conducted through EduNext Rs. 10,0000/- has funded to district employment agency for NEET/JEE Coaching ❖ To ensure safe, functional, and child-friendly learning environment, two child-friendly Anganwadi centers were developed in Th. Rampur BHQ, and Gopinathpur. ❖ Similarly, Bala paintings were developed in Kendumundi school for creating engaging learning spaces.
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		<ul style="list-style-type: none"> ❖ To enhance the quality of education for Class I–X students in government schools, a digital learning programme was implemented in Thuamul Rampur school. ❖ Children’s day was celebrated in 7 mines peripheral schools to celebrate the innocence, creativity, and joy that children bring into the world, making them feel valued and special through creating a joyful, informal atmosphere where teachers and students connect beyond the classroom setting. ❖ Sports competition was organized in Adri high school to develop sportsmanship and appropriate behavior in competitive environments. ❖ To encourage the holistic development of school students by promoting sportsmanship, creativity, confidence, and motivation organized Annual Function in Adri high school. ❖ Scholarships were provided to 5 students from 4 villages amounting to Rs 255000/-
9	Alternate Grazing Field	<p>The entire plateau within the mining lease area comprises mineralized and non-mineralized zones covered with hard laterite, which generally restricts natural tree growth.</p> <p>However, the development of an alternate grazing field has been considered through plantation of fodder species over approximately 3 hectares at the extreme southern part of the mining lease area. The area has been demarcated, and necessary measures are being undertaken to prevent soil erosion and facilitate the growth of grass.</p>
10	Plantation	<p>During FY 2025–26, up to the end of March 2026, approximately 90,496 saplings have been planted across slope areas, safety zones within the mining lease, backfilled areas, roads, and avenue plantations. The remaining areas will be covered progressively in a phased manner as per the approved Review of Mining Plan.</p>

		In addition, around 3,500 saplings have been distributed to peripheral villagers as part of community plantation initiatives.
11	Compensation for the displaced	No displacement has occurred due to the project; therefore, compensation for displaced persons is not applicable.
12	Local Office and Grievance Cell	A Grievance Cell has been established by the company with representatives from the Mines, CSR, and Administration departments. The cell primarily addresses issues related to employment and peripheral development and operates from the CSR office.
13	Protection of environment	Suitable environmental management plans have been developed and are continuously upgraded to mitigate impacts on air, water, and soil. All conditions stipulated under statutory authorizations are being complied with, ensuring environmental protection, restoration, and continual improvement at Baphlimali Bauxite Mines.
14	Other Peripheral Development	<ul style="list-style-type: none"> ✓ Under Farm based livelihood activities, 160 HHs were supported for improved paddy cultivation, 30 HHs for improved pulses cultivation, 57 HHs for Promotion of Nutrition Gardens, 25 HHs for Integrated vegetable cultivation, 20 HHs for orchard development, 20 HHs for Goat rearing, and 50 HHs for Poultry rearing in the villages of Kendumundi, Kanarpas, Chirika, Durmusi & Suryagarh. ✓ Nine Ponds were de-silted in the villages like Gopinathpur, Phatkimahul, Chingdiphas, Musajhal, Adri, Kendumundi and Rajamunda of Th.Rampur block. ✓ Provided skill development training on Light Motor Vehicle Driving to 60 unemployed youths of 10 different peripheral villages.

		<ul style="list-style-type: none"> ✓ Promoted lemongrass cultivation in 142 acres of land with 74 farmers from nine villages. Also Organizing Exposure visit & Capacity building training for the farmers. ✓ One lemon grass oil extraction plant was established at Gunjamalipada of Adri to provide extraction facility at the doorsteps. ✓ Distributed weeders, HDPE Pipes, and Irrigation Pump sets to the lemon grass farmers of different villages. ✓ Installed Solar based Irrigation System at Tentulipada for irrigating the lemon grass field. ✓ Promoted Fruit Orchards in 42 acres of land with 70 farmers of 4 different villages under project Sambhab. ✓ Cricket kit provided to Thuamul Rampur for district level tournament, Kalahandi. ✓ Sound System and commercial utensils were supplied to the villagers of Suryagarh Village ✓ Three Lemon Grass Producers Groups of Adri & Gopinathpur were supported with 6.12 lakhs from Odisha Livelihood Mission for their Institution Building and Capacity Building ✓ Six Sprinkler sets were installed at field level to provide irrigation to the lemon grass field. ✓ Supplied one sound system to the youth of Barjakhhal & Durmusi villages. ✓ One open Gym was installed at Suryagarh village ✓ 4 irrigation channels were constructed in 4 villages. ✓ Similarly, seven check dams were constructed in five villages ✓ Another open Gym was installed at D.Cheptaghat village ✓ To promote clean cooking practices, as part of the Baphlimali bauxite mines CSR initiative of Utkal Alumina, 122 smokeless chulhas were distributed to tribal women across three villages, along with user-awareness sessions. ✓ 144 blankets were distributed to elderly people, widows, and other needy individuals Kanarpas, Durumusi, and Chirka villages.
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		<ul style="list-style-type: none">✓ The Self-Defence Training Programme under Project Samwaad was conducted across four high schools.✓ 3 sound systems were supplied to the villagers of Durmusi & Kendumundi villages.✓ Participated in district level Ghumura mela at Kalahandi.
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Annexure-2

DETAILS OF GARLAND DRAIN, RETAINING WALL, SETTLING POND AND CHECK DAM

Sl. No	Type of works	Particulars		
		Length	Width (avg)	Height (avg)
01	Retaining wall around Ore stack yard	787 Mtrs.	0.8 Mtrs.	1 Mtrs.
02	Drain work at ore stack yard	773 Mtrs.	2.7 Mtrs.	1 Mtrs.
03	Wall beside the cave	330 Mtrs.	0.8 Mtrs.	1 Mtrs.
04	Three settling pond on South -East Block-	40 Mtrs.	8 Mtrs.	2.2 Mtrs.
05	Parapet wall between service center facility to mine entrance	1501 Mtrs.	0.8 Mtrs.	1 Mtrs.
06	Check dam across the slope near mines entrance	75 Mtrs.	0.8 Mtrs.	1 Mtrs.
07	Drain around the crusher area	306 Mtrs.	2 Mtrs.	1 Mtrs.
08	Concrete drain near crusher	50 Mtrs.	1.5 Mtrs.	1 Mtrs.
09	Earthen drain near crusher area	520 Mtrs.	1.5 Mtrs.	1 Mtrs.
10	Parapet wall around the peripheral zone (Kalahandi)	500 Mtrs.	1.5 Mtrs.	2 Mtrs.
11	One nos. concrete weir across the natural seasonal nallah at south zone area	105 Mtrs.	1.2 Mtrs.	2.5 Mtrs.
12	Implementation of gabion along pit periphery (Back side of Sindhoor Tree)	500 Mtrs.	1 Mtrs.	1 Mtrs.
13	Settling pond near mines entrance	26 Mtrs.	43 Mtrs.	3.5 Mtrs.
14	Settling pond near MRSS building	26 Mtrs.	43 Mtrs.	3.5 Mtrs.
15	Settling Pond near Crusher	42 Mtrs	18 Mtrs	3.5 Mtrs
16	Two Concrete drain near MRSS	290 Mtrs.	1.5 Mtrs.	1.5 Mtrs.
17	Check Dam over slope area Northeast Side (48 Nos.)	200 Mtrs.	1 Mtrs.	1 Mtrs.
18	Garland Drain around the Active mining Pit & stack yard area	3042 Mtrs.	0.5 Mtrs.	0.7 Mtrs.

ANNEXURE-III

Verification report on implementation of recommendations suggested in scientific study of surface & ground water management at Baphlimali Bauxite

Mine, studied by NIT, Rourkela



Ref: UAIL-Mines/BBM/28/2020

14th January 2020

To

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

Sub: submission of verification report of NIT, Rourkela pertaining to the special condition no. 13 of CTO

Ref: (i) Consent Letter No. 2608/IND-I-CON/5450 Dt.14.03.2019, Consent Order No. 2765

(ii) Our CTO renewal online Application No. 2354845 Dt.19.12.2018

Dear Sir,

With reference to the special condition no. 13 of CTO and clarification raised against our CTO for renewal, we are submitting herewith the verification report of NIT, Rourkela, regarding implementation status of recommendation suggested in the technical study of surface and ground water management of our mines by NIT, Rourkela.

This is for your information and kind perusal.

Yours faithfully,

For Utkal Alumina International Limited


(Dr Rama Chandra Rout)
Asst. Vice President- Corporate Affairs, Bhubaneswar

Copy to: Regional Office, OSPCB, Rayagada.

Encl: As Above



राष्ट्रीय प्रौद्योगिकी संस्थान
NATIONAL INSTITUTE OF TECHNOLOGY
राउरकेला ROURKELA - 769008, ओडिशा ODISHA



NITR/MN/HBS/2020/L/0023

Date: January 13, 2020

Dr. H. B. Sahu

Associate Professor
Department of Mining Engineering
NIT, Rourkela – 769 008
& Principal Investigator

Subject: Verification of Implementation of the recommendation of the Scientific study of Surface and Ground Water Management at Baphlimali Bauxite Mine of M/s Utkal Alumina International Limited

Dear Sir,

Attached please find the report of the verification of *implementation of the recommendations of the Scientific study of Surface and Ground Water Management at Baphlimali Bauxite Mine* which was submitted in December 2016.

Thanking you and with regards.

Yours Sincerely,

Dr. H. B. Sahu

To,
Mr. Mukesh Kumar Jha
General Manager (Mines)
Baphlimali Bauxite Mines, UAIL
At: Doraguda
Post : Kucheipadar- 765 015
Dist.: Rayagada

**Verification Report on the Implementation of the Scientific
Study of Surface and Ground Water Management at
Baphimali Bauxite Mine, UAIL**



**DEPARTMENT OF MINING ENGINEERING
NATIONAL INSTITUTE OF TECHNOLOGY
ROURKELA – 769 008
January 2020**

Verification Report on the Implementation of the Scientific Study of Surface and Ground Water Management at Baphlimali Bauxite Mine, UAIL

1. Background

The technical study of surface and ground water management at Baphlimali bauxite mine, UAIL; was carried out during 2015-16. As per the requirement of Consent to Operate, stipulated by State Pollution Control Board, Bhubaneswar; the verification of the implementation of the recommendation of the scientific study is required to be carried out. In light of the above, a team comprising of Prof. H. B. Sahu, Department of Mining Engineering; and Prof. Sk Md Equeenuddin, Associate Professor, Department of Earth and Atmospheric Sciences; carried out the physical verification taking into account the plans and sections, site visit and discussion with the mine officials.

2. OBJECTIVES OF THE PROJECT

Verification of status of implementation of the Scientific study on Surface and Ground Water Management at Baphlimali Bauxite Mine, UAIL with reference

3. RECOMMENDATIONS

Observation 1:

It is seen that the active mining area occupies a very small space at the moment. The runoff generated from the active mining area (6.21 Lakh m³) is very insignificant compared to that of total leasehold area during the monsoon, which is 90.07 lakh m³.

Observation 2:

The maximum runoff likely to be generated in a single month in the monsoon is likely to be 25.51 Lakh m³ considering the rainfall intensity to be 349mm, which is the maximum average rainfall in this area over 12 year period.

Recommendation 1:

The maximum runoff likely to be generated in R1 region per hour during the monsoon is 3403m³ considering a maximum rainfall of 40mm per hour. The existing settling pit near the crusher of 12 m x 8m size with a depth of 4m is inadequate to handle the runoff likely to be generated. Its size is required to be enhanced to (42m x 20m x 4m) to accommodate the expected runoff. A garland drain of 277m x 1m x 1m is to be provided in the eastern boundary to channelize the runoff to the sump. The water from the sump is to be pumped to quarry 1 after settling.

Current Status: Implemented.

The dimensions of the existing settling pit has been enhanced to 44mx20mx4m (Fig.1) to accommodate the expected runoff during monsoon. One 50hp pump have been installed to pump out the water to quarry 1 after settling. A garland drain of 520m length has been constructed along the eastern boundary to channelize the runoff to the sump.



Figure 1: View of settling pit and pumps near the crusher

Recommendation 2:

The maximum runoff likely to be generated in R2 region during monsoon is 6680 m³/hr. This runoff is likely to be contaminated by loading and ancillary activities. It is proposed to have two settling ponds near the mine entrance of 1800m³ capacity each (30m x 15m x 4m) to handle the runoff. Garland drains of 545m x 1m x 1m is required to be constructed to channelize the runoff to the settling ponds. The water after settling may be allowed to flow outside since it has been found that there is no significant contamination of the water bodies downstream.

Current Status: Implemented

The existing settling pit near the mine entrance has been enhanced to 40m x 21m x 4m to accommodate 3360 m³ of runoff (Fig.2). A new settling pit of 38m x 20m x 4m depth has been constructed to accommodate 3040 m³ of runoff (Fig.3). Two 75hp pumps have been installed in the 2nd settling pit to pump the runoff to Quarry 1. Two concrete garland drains of an aggregate length of 290m and earthen garland drains of 600m have been constructed in this region to channelize the runoff to these settling pits (Fig.4).



Figure 2: View of the reconstructed settling pit near the mine entrance



Figure 3: View of the newly constructed 2nd settling pit near the mine entrance



Figure 4: View of garland drains constructed in the R2 region

Recommendation 3:

The expected runoff in R3 region is 8444 m³ per hour. A drain of 1170m having width and depth of 4m and 2m respectively is proposed to be constructed in R3 region on the western side parallel to the existing of conveyor belt to arrest the surface runoff generated within this region and channelize it to quarry 1. As the flow of runoff is towards the bauxite storage, crusher and conveyor belt, therefore there is maximum possibility of intermixing of surface runoff with that of bauxite ore. The bauxite storage site, and crusher plant and ancillary facilities are covering very small portions of the total area of R3 region. Culverts/hume pipes are required to be provided where the drain crosses the road.

Current Status: Implemented

Garland drains of adequate dimensions have been constructed in this region (Fig.5). Earthen retaining wall and garland drain has been provided around the bauxite storage area to prevent the intermixing of the runoff. Hume pipe has been provided at the locations where the drains cross the road.



Figure 5: View of earthen retaining wall and garland drains near the bauxite storage area and crusher

Recommendation 4:

The regions R4, R5 and R6 regions are in virgin state. The runoff from these regions may be allowed to follow the natural topography. There are some small seasonal nallahs that are created during the monsoon, which carries the surface runoff to the nearby valleys.

Current Status: There is no change in this region.

Recommendation 5:

Most part of R8 is in a virgin state. The runoff from this region is channelized to the valley after the settlement of suspended solids in small settling pits constructed near the boundary. A sewage treatment plant (STP) of 75KLD capacity is under construction to handle the waste water from the domestic and office areas which is adequate.

Current Status: The runoff from this region is settled in the settling pits. The construction of STP near the administrative building has been completed. Meanwhile, more plantations have been carried out in this region along with the establishment of a nursery. The area is now greener than before.

Recommendations 6:

A retaining wall has been provided below the Rayagada dump (Dump I). However, it is damaged in different locations, allowing the mixing of runoff from the virgin areas of R8 before flowing to the valley. Since the quality of runoff from virgin areas is relatively uncontaminated, it should be allowed to flow without mixing with the runoff from the dump. It

is suggested that the retaining wall around the periphery of the dump should be properly maintained to avoid the direct mixing of the runoff with that of the virgin areas.

Current Status: Implemented.

The retaining walls have been properly maintaining with reconstruction of the damaged portions (Fig. 6). The natural runoff from the virgin areas do not mix with the runoff from the dump and flows to the valley after being settled in the renovated settling pits (Fig.7).



Figure 6: Photographic view of reconstruction of the retaining wall



Figure 7: Renovated settling pits

Recommendation 7:

A part of the runoff from this dump is flowing to the quarry. However, nearly 4500 m³ of runoff per hour is expected to flow outside during peak monsoon period. Therefore, a sedimentation pond of 45m x 25m x 4m is proposed to be constructed below the dump. Zigzag flow pattern may be followed in the garland drains below the dumps to arrest the suspended solids before it reaches the settling pond, which will enhance the capacity of the settling pit.

Current Status: Implemented.

An additional settling pit of 46m x 28m x 4m has been constructed as per the recommendation (Fig. 8). The runoff from the dump is being channelized to the settling pit.



Figure 8: Settling pond near Rayagada dump.

Recommendation 8:

The runoff from Kalahandi Dump (Dump II) is being channelized to Kalahandi Quarry (Quarry II). The total runoff from the quarry and the dump in monsoon is likely to be 1.34 Lakh m³. The quarry sump has the capacity to accommodate 1.54 Lakh m³ of runoff during the monsoon (120m x 80 m x 16m). It was noticed that most of the water in the mine sump percolates downward, and there is very small amount of water present in the mine even during the monsoon.

Current Status:

The Kalahandi quarry sump has adequate capacity to store the runoff generated during the monsoon.

Recommendation 9:

There is a seasonal nallah in R7 region. It was noted that the nallah is seasonal one and exists only during the monsoon. Three check dams have been constructed on this nallah. The dimension of the check dams varies between 50 to 60 m in length, 2m width and 1 to 1.5m in

height (Fig. 3). However, during mine visits, it was noticed that there are cracks in the bottom parts of the dams which is allowing seepage of the water to the downstream. These may be properly constructed so that they will work as permanent storage reservoirs. These have the capability to store 75,000 m³ to 1,35,000 m³ of runoff. To meet part of the mine water demand the height of the check dams may be enhanced to 4m so that it can store upto 3,60,000 m³ of runoff during monsoon.

Current Status: Implemented

The existing check dams in this region have been reconstructed with repairing of the cracks that were existing the bottom part of these dams. The heights of these dams have been enhanced to 4m to accommodate the runoff likely to be generated during the monsoon. A view of the check dams before and after reconstruction has been presented in Figure 9a and 9b respectively.



Figure 9a: Photographic view of damaged check dam during 2016



Figure 9b: Photographic view of the reconstructed check dam

Recommendation 10:

Retaining walls are required to be provided in the top soils storage and crushed bauxite storage sites, so that the natural runoff coming from the topmost part of the mine does not mix with it.

Current status: Implemented. Top soil dump has already been re-handled and utilized for the plantation purpose.

Recommendation 11:

All the existing mine sumps, garland drains, sedimentation ponds created on the surface should be de-silted before monsoon and a record of the same should be maintained in the respective mine office. Wherever possible, the sumps may be deepened to accommodate more surface runoff quantity.

Status: Implemented

All the existing mine sumps, garland drains, sedimentation ponds created on the surface is being de-silted before monsoon and a record of the same being maintained.

Recommendation 12:

In order to avoid accidental entry of any person or cattle into the sedimentation ponds, proper fencing should be carried out. Warning signs should also be displayed near the water bodies along with their depth.

Status: Implemented

The sedimentation ponds have been properly fenced to prevent accidental entry of any person or cattle with a depth measurement scale in the middle of the pond (Fig. 10).



Figure 10: Fencing around the settling pit

Recommendation 13:

Plantation, grassing and soil water conservation measures like contour trenches(2ft wide x 2ft depth x continuous or staggered 2ft wide x 2ft depth x 2m length at 6m slope interval) and bund (2 ft high), agave plantation, silt arrestors, check dametc should be carried out in all the external o/b dumps slopes to minimize siltationduring monsoon, otherwise the capacity of garland drain to carry the surfacerunoff will decrease and will lead to flooding and discharged to nearby areasinstead of being channelled to the sump. Proper retaining wall or gabion wall orcatch drain (1.5m x 1.5m cross section) should be provided at the toe of the OBdumps to arrest the siltation during heavy rains and these catch drains should be cleaned before onset of monsoon each year.

Status: Implemented

Garland drains, settling tanks and check dams of appropriate size, gradient and lengthhas been constructed both around the mine pit and the over burden dump to preventun off of water and flow of sediments directly into the natural nallah and other water bodies. The garland drains are being desilted regularly before onset of monsoon.

Additional Observations:

During site visit the following additional observations were made:


Concrete drains of 160m length, 1.5m width and 1m depth has been provided on the side of approach road to the mine entrance.


A network of pumps and pipelines has been provided to channelize the runoff from the settling pits to the Quarries.

Vast amount of plantation has been carried out on the backfilled areas of the mine (Fig. 11).



Figure 11: Photographic view of the plantation in the backfilled areas of the mine


12.07.2020
Dr. H. B. Sahu
Associate Professor and Head
Department of Mining Engineering
Principal Investigator


13-07-2020
Dr. Sk. Md. Equeenuddin
Associate Professor
Dept of Earth and Atmospheric Sciences
Co-Principal Investigator



Ref: Envlab/26-27/TR-02303

Date: 10.04.2026

ANNEXURE-IV

Ambient Air Quality (AAQ) Monitoring Results
Period: October'25 - March'26 (Monthly Average Values)

(Core Zone)

AAQ-S1: Mining Pit (N19°20.773' E82°58.332')	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³	O ₃ µg/m ³
Oct-25	46.0	20.7	12.8	16.7	0.20	<5.0
Nov-25	50.2	25.1	15.7	19.4	0.27	<5.0
Dec-25	58.5	32.9	15.1	19.7	0.29	<5.0
Jan-26	63.8	38.1	15.4	19.9	0.31	<5.0
Feb-26	67.4	39.3	15.3	20.6	0.29	<5.0
Mar-26	64.8	37.2	13.9	19.2	0.26	<5.0
Six Monthly Average	58.5	32.2	14.7	19.2	0.27	<5.0
AAQ-S2: Near Crusher (N19°20.915' E82°58.543')	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³	O ₃ µg/m ³
Oct-25	43.1	18.2	11.4	15.8	0.19	<5.0
Nov-25	50.1	24.8	14.5	18.9	0.26	<5.0
Dec-25	59.2	32.1	14.3	20.3	0.28	<5.0
Jan-26	63.2	36.2	14.7	20.6	0.31	<5.0
Feb-26	65.6	37.2	15.0	20.1	0.29	<5.0
Mar-26	63.3	35.3	14.2	19.2	0.26	<5.0
Six Monthly Average	57.4	30.6	14.0	19.1	0.26	<5.0
AAQ-S3: Near Weigh Bridge (N19°21.079' E82°58.775')	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³	O ₃ µg/m ³
Oct-25	44.3	19.7	11.3	16.3	0.20	<5.0
Nov-25	50.0	25.4	13.9	18.8	0.25	<5.0
Dec-25	58.1	32.2	14.4	19.2	0.28	<5.0
Jan-26	62.3	36.1	15.6	20.0	0.33	<5.0
Feb-26	66.7	36.8	16.0	20.4	0.30	<5.0
Mar-26	64.7	35.1	15.3	19.6	0.27	<5.0
Six Monthly Average	57.7	30.9	14.4	19.0	0.27	<5.0

Note: No deviation from the NAAQS is observed and all the values are within the standard prescribed under National Ambient Air Quality Standards (NAAQS)





Ref: Envlab/26-27/TR-02304

Date: 10.04.2026

ANNEXURE-IV

Ambient Air Quality (AAQ) Monitoring Results
Period: October'25 - March'26 (Monthly Average Values)

(Core Zone)

AAQ-S4: Near Admin Office (N19°20.366' E82°58.874')	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³	O ₃ µg/m ³
Oct-25	42.0	20.1	11.8	15.6	0.19	<5.0
Nov-25	50.3	27.4	14.1	17.8	0.26	<5.0
Dec-25	53.0	29.1	15.7	19.4	0.29	<5.0
Jan-26	55.1	31.2	16.9	20.7	0.34	<5.0
Feb-26	62.0	35.2	15.5	20.6	0.31	<5.0
Mar-26	60.3	33.5	14.8	19.8	0.27	<5.0
Six Monthly Average	53.8	29.4	14.8	19.0	0.27	<5.0
NAAQ Standard	100	60	80	80	4	100
Testing method	Gravimetric ISO 5182 (Part-23) RA2019	Gravimetric ISO 5182 (Part-24) RA2019	Improved West and Geake method ISO 5182 (Part-2) RA 2017	Modified Jacob & Hochheiser (Na- Arsenite) ISO 5182 (Part-6) RA 2012	NDIR Spectro scopy ISO 5182(Pa rt 10) RA2009	Chemical Method

Note: No deviation from the NAAQS is observed and all the values are within the standard prescribed under National Ambient Air Quality Standards (NAAQS)





Ref: Envlab/26-27/TR-02305

Date: 10.04.2026

ANNEXURE-V

Ambient Air Quality (AAQ) Monitoring Results
Period: October'25 - March'26 (Monthly Average Values)
(Buffer Zone)

AAQ-BZ-S5: Adri Village (N 19°21.928' E 82°56.705')	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³
Oct-25	39.1	18.4	8.1	13.0	0.19
Nov-25	50.2	28.9	11.3	16.1	0.25
Dec-25	54.0	29.2	12.8	15.3	0.31
Jan-26	57.4	32.5	13.9	16.6	0.35
Feb-26	59.2	34.3	12.8	16.0	0.29
Mar-26	56.3	31.9	12.0	15.2	0.26
Six Monthly Average	52.7	29.2	11.8	15.4	0.27
AAQ-BZ-S6: Chandragiri (N 19°23.107' E 82°59.221')	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³
Oct-25	39.0	19.1	8.2	13.7	0.19
Nov-25	50.0	29.1	11.6	16.9	0.24
Dec-25	53.4	29.1	11.7	16.6	0.29
Jan-26	54.8	30.8	12.1	16.9	0.32
Feb-26	56.0	32.0	12.6	17.4	0.29
Mar-26	54.0	30.2	11.6	16.1	0.26
Six Monthly Average	51.2	28.4	11.3	16.3	0.27
AAQ-BZ-S7: Paikupakhal (N 19°20.197' E 82°59.589')	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³
Oct-25	40.1	19.1	9.1	13.1	0.20
Nov-25	50.0	28.8	11.7	15.9	0.27
Dec-25	51.6	28.0	12.5	15.7	0.29
Jan-26	53.2	29.5	13.6	17.0	0.32
Feb-26	54.1	30.6	13.3	16.6	0.29
Mar-26	52.4	28.9	12.6	15.9	0.27
Six Monthly Average	50.2	27.5	12.2	15.7	0.27

Note: No deviation from the NAAQS is observed and all the values are within the standard prescribed under National Ambient Air Quality Standards (NAAQS)





Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Ref: Envlab/26-27/TR-02306

Date: 10.04.2026

ANNEXURE-V

Ambient Air Quality (AAQ) Monitoring Results
Period: October'25 - March'26 (Monthly Average Values)

(Buffer Zone)

AAQ-BZ-S8: Andirakanch (N 19°19.079' E 83°0.738')	PM ₁₀ µg/m ³	PM _{2.5} µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³
Oct-25	39.0	18.3	8.7	12.9	0.19
Nov-25	50.8	29.8	12.7	16.8	0.19
Dec-25	52.3	28.6	12.9	17.2	0.28
Jan-26	54.5	30.7	13.4	17.5	0.35
Feb-26	56.1	32.3	11.8	15.6	0.30
Mar-26	54.0	30.5	10.9	14.3	0.28
Six Monthly Average	51.1	28.4	11.7	15.7	0.26
NAAQ Standard	100	60	80	80	4
Testing method	Gravimetric ISO 5182 (Part-23) RA2019	Gravimetric ISO 5182 (Part-24) RA2019	Improved West and Geake method ISO 5182 (Part- 2) RA 2017	Modified Jacob & Hochheiser (Na-Arsenite) ISO 5182 (Part- 6) RA 2012	NDIR Spectroscopy ISO 5182(Part 10) RA2009

Note: No deviation from the NAAQS is observed and all the values are within the standard prescribed under National Ambient Air Quality Standards (NAAQS)





Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Ref: Envlab/26-27/TR-02307

10.04.2026

Date:

ANNEXURE-VI

Stream Flow Monitoring Results

Period: October'25 - March'26 (Monthly Average Values)

Sl. No	Stream Location	Oct-25	Nov-25	Dec-25	Jan-26	Feb-26	Mar-26	Six Monthly Average	
		Stream Flow (m ³ /hr.)	Stream Flow (m ³ /hr.)	Stream Flow (m ³ /hr.)	Stream Flow (m ³ /hr.)	Stream Flow (m ³ /hr.)	Stream Flow (m ³ /hr.)	Stream Flow (m ³ /hr.)	Stream flow (Cusec)
1	SW1: Paikupakhal Nala (N19°20.056' E82°59.776')	108	134	122	108	122	108	117.0	1.15
2	SW2: Near Dandabada Nala (N19°22.940' E82°57.515')	270	225	240	270	240	180	237.5	2.33
3	SW3: Chandragiri Nala (N19°23.078' E83°0.248')	6630	6048	5742	5775	5544	5280	5836.5	57.26
4	SW4: Mishripada Nala (N19°22.829' E82°59.268')	5394	5445	5304	5916	5355	6264	5613.0	55.06
5	SW5: Surjagada nalla	3375	3120	3300	3276	2850	3024	3157.5	30.98
6	SW6: Barjakhal nalla	653	673	730	734	713	821	720.7	7.07





ANNEXURE-VII

Surface Water Quality

Period: October'25 - March'26 (Monthly Average Values)

SW1: Sana River (Up Stream) (N 19°17.015' E 83°0.879')

Sl. No.	Parameter	Unit	Standards as per IS-2296:1992 Class - 'C'	Analysis Results SW1						Six Months Average
				Oct-25	Nov-25	Dec-25	Jan-26	Feb-26	Mar-26	
1	Colour	Hazen, max	300	5	5	5	5	5	5	5
2	Odour	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	pH value	--	6.5-8.5	6.58	6.87	7.12	7.22	7.31	7.43	7.09
4	Suspended Solids	mg/l, max	--	78	67	54	48	42	38	54.50
5	Total dissolved solids	mg/l, max	1500	443	422	398	372	341	367	390.46
6	Temperature	0c	--	24.5	24.1	23.8	23.6	24.3	26.2	24.42
7	Conductivity	µs/cm	--	652	620	585	546	521	512	572.67
8	Ammoniacal Nitrogen (as NH ₄ -N)	mg/l, max	--	8.1	8.4	9.1	10.2	10.8	10.6	9.53
9	Total Kjeldahl Nitrogen (as N)	mg/l, max	--	12.4	12.8	12.9	14.4	15.2	14.8	13.76
10	Oil & Grease	mg/l, max	0.1	ND	ND	ND	ND	ND	ND	ND
11	Dissolved Oxygen (as DO)	mg/l, min	4	5.8	5.7	5.9	6.2	6.4	6.2	6.03
12	Biochemical Oxygen Demand (as BOD at 270C For 3 days)	mg/l, max	3.0	2.1	2.3	2.7	2.4	2.5	2.3	2.38
13	Chemical Oxygen Demand (as COD)	mg/l, max	--	9.6	9.1	10.5	10.8	11.1	10.8	10.32
14	Free Ammonia (as NH ₃)	mg/l, max	--	ND	ND	ND	ND	ND	ND	ND
15	Total Residual Chlorine (as RFC)	mg/l, min	--	0.05	0.04	0.05	0.08	0.07	0.05	0.06
16	Iron (as Fe)	mg/l, max	50	0.22	0.24	0.28	0.32	0.35	0.38	0.30
17	Fluoride (as F)	mg/l, max	1.5	0.26	0.28	0.31	0.36	0.38	0.32	0.32
18	Hexavalent Chromium (as Cr+6)	mg/l, max	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
19	Cyanide (as CN)	mg/l, max	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
20	Sulphate (as S)	mg/l, max	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
21	Nitrate (as NO ₃)	mg/l, max	50	9.8	9.2	9.6	10.1	10.5	10.8	10.00
22	Dissolved Phosphate (as PO ₄)	mg/l, max	--	0.52	0.55	0.52	0.48	0.42	0.38	0.48
23	Phenolic Compound (as C ₆ H ₅ OH)	mg/l, max	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
24	Bio-assay Test	mg/l, max	90% survival of fish after 96 hrs. in 100% effluent	98%	98%	98%	98%	98%	98%	98%
25	Selenium (as S)	mg/l, max	0.05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
26	Manganese (as Mn)	mg/l, max	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
27	Copper (as Cu)	mg/l, max	1.5	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
28	Zinc (as Zn)	mg/l, max	15	0.35	0.32	0.42	0.52	0.46	0.52	0.43
29	Cadmium	mg/l, max	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
30	Lead (as Pb)	mg/l, max	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
31	Mercury (as Hg)	mg/l, max	--	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
32	Nickel (as Ni)	mg/l, max	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
33	Arsenic (as As)	mg/l, max	0.2	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
34	Total Chromium (as TCr)	mg/l, max	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Reviewed by
BBSR

Approved by
BBSR



Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Ref: Envlab/26-27/TR-02309

Date: 10.04.2026

ANNEXURE-VII

Surface Water Quality

Period: October'25 - March'26 (Monthly Average Values)

SW2: Sana River (Down Stream) (N 19°16.602' E 82°59.812')

Sl. No.	Parameter	Unit	Standards as per IS-2296:1992 Class - 'C'	Analysis Results SW2						Six Months Average
				Oct-25	Nov-25	Dec-25	Jan-26	Feb-26	Mar-26	
1	Color	Hazen, max	300	10	10	10	10	10	10	10
2	Odour	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	pH value	--	6.5-8.5	6.52	6.72	7.14	7.25	7.33	7.48	7.07
4	Suspended Solids	mg/l, max	--	69	58	46	42	39	32	47.67
5	Total dissolved solids	mg/l, max	1500	441	420	404	376	354	372	394.47
6	Temperature	0c	--	25.5	24.5	23.6	23.5	24.6	26.3	24.67
7	Conductivity	µs/cm	--	648	618	594	552	532	520	577.33
8	Ammoniacal Nitrogen (as NH4-N)	mg/l, max	--	8.0	8.2	8.5	9.6	10.2	10.8	9.22
9	Total Kjeldahl Nitrogen (as N)	mg/l, max	--	12.3	12.5	12.2	13.6	14.3	15.2	13.35
10	Oil & Grease	mg/l, max	0.1	ND	ND	ND	ND	ND	ND	ND
11	Dissolved Oxygen (as DO)	mg/l, min	4	6.3	6.2	6.3	6.5	6.8	6.4	6.42
12	Biochemical Oxygen Demand (as BOD at 270C For 3 days)	mg/l, max	3.0	1.8	2.1	2.4	2.1	2.2	1.9	2.08
13	Chemical Oxygen Demand (as COD)	mg/l, max	--	8.6	8.2	8.6	9.1	9.8	9.2	8.92
14	Free Ammonia (as NH3)	mg/l, max	--	ND	ND	ND	ND	ND	ND	ND
15	Total Residual Chlorine (as RFC)	mg/l, min	--	0.04	0.05	0.04	0.06	0.05	0.02	0.04
16	Iron (as Fe)	mg/l, max	50	0.28	0.31	0.36	0.32	0.38	0.41	0.34
17	Fluoride (as F)	mg/l, max	1.5	0.24	0.25	0.28	0.32	0.36	0.31	0.29
18	Hexavalent Chromium (as Cr+6)	mg/l, max	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
19	Cyanide (as CN)	mg/l, max	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
20	Sulphate (as S)	mg/l, max	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
21	Nitrate (as NO3)	mg/l, max	50	10.4	10.1	10.4	10.8	11.6	11.2	10.75
22	Dissolved Phosphate (as PO4)	mg/l, max	--	0.48	0.42	0.38	0.32	0.38	0.32	0.38
23	Phenolic Compound (as C6H5OH)	mg/l, max	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
24	Bio-assay Test	mg/l, max	90% survival of fish after 96 hrs. in 100% effluent	99%	99%	99%	99%	99%	99%	99%
25	Selenium (as S)	mg/l, max	0.05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
26	Manganese (as Mn)	mg/l, max	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
27	Copper (as Cu)	mg/l, max	1.5	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
28	Zinc (as Zn)	mg/l, max	15	0.26	0.31	0.36	0.48	0.45	0.48	0.39
29	Cadmium	mg/l, max	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
30	Lead (as Pb)	mg/l, max	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
31	Mercury (as Hg)	mg/l, max	--	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
32	Nickel (as Ni)	mg/l, max	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
33	Arsenic (as As)	mg/l, max	0.2	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
34	Total Chromium (as TCr)	mg/l, max	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05

Reviewed by

Approved by



Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Ref: Envlab/26-27/TR-02310

Date: 10.04.2026

ANNEXURE-VII

Surface Water Quality

Period: October'25 - March'26 (Monthly Average Values)

SW3: Kandabindha (Up Stream) (N 19°22.014' E 83°0.248')

Sl. No.	Parameter	Unit	Standards as per IS-2296:1992 Class - 'C'	Analysis Results SW3						Six Months Average
				Oct-25	Nov-25	Dec-25	Jan-26	Feb-26	Mar-26	
1	Color	Hazen, max	300	5	5	5	5	5	5	5
2	Odour	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	pH value	--	6.5-8.5	6.55	6.86	7.2	7.31	7.38	7.41	7.12
4	Suspended Solids	mg/l, max	--	82	73	64	58	52	46	62.50
5	Total dissolved solids	mg/l, max	1500	466	426	390	365	338	365	391.75
6	Temperature	0c	--	24.4	23.4	23.7	23.4	25.1	26.8	24.47
7	Conductivity	µs/cm	--	686	626	574	536	514	502	573.00
8	Ammoniacal Nitrogen (as NH ₄ -N)	mg/l, max	--	7.4	7.6	7.9	8.8	9.2	9.9	8.47
9	Total Kjeldahl Nitrogen (as N)	mg/l, max	--	11.5	11.6	11.3	12.4	12.9	13.8	12.24
10	Oil & Grease	mg/l, max	0.1	ND	ND	ND	ND	ND	ND	ND
11	Dissolved Oxygen (as DO)	mg/l, min	4	6.1	6.3	6.4	6.7	6.5	6.1	6.35
12	Biochemical Oxygen Demand (as BOD at 270C For 3 days)	mg/l, max	3.0	2.0	1.9	2.5	2.2	2.3	2.1	2.17
13	Chemical Oxygen Demand (as COD)	mg/l, max	--	9.2	8.8	9.2	9.6	10.1	9.6	9.42
14	Free Ammonia (as NH ₃)	mg/l, max	--	ND	ND	ND	ND	ND	ND	ND
15	Total Residual Chlorine (as RFC)	mg/l, min	--	0.06	0.03	0.04	0.06	0.06	0.05	0.05
16	Iron (as Fe)	mg/l, max	50	0.32	0.34	0.31	0.36	0.39	0.43	0.36
17	Fluoride (as F)	mg/l, max	1.5	0.32	0.33	0.36	0.38	0.41	0.38	0.36
18	Hexavalent Chromium (as Cr+6)	mg/l, max	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
19	Cyanide (as CN)	mg/l, max	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
20	Sulphate (as S)	mg/l, max	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
21	Nitrate (as NO ₃)	mg/l, max	50	13.8	12.5	12.8	13.2	13.7	14.1	13.35
22	Dissolved Phosphate (as PO ₄)	mg/l, max	--	0.54	0.58	0.46	0.42	0.45	0.41	0.48
23	Phenolic Compound (as C ₆ H ₅ OH)	mg/l, max	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
24	Bio-assay Test	mg/l, max	90% survival of fish after 96 hrs. in 100% effluent	97%	97%	97%	97%	97%	97%	97%
25	Selenium (as S)	mg/l, max	0.05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
26	Manganese (as Mn)	mg/l, max	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
27	Copper (as Cu)	mg/l, max	1.5	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
28	Zinc (as Zn)	mg/l, max	15	0.34	0.33	0.37	0.42	0.39	0.42	0.38
29	Cadmium	mg/l, max	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
30	Lead (as Pb)	mg/l, max	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
31	Mercury (as Hg)	mg/l, max	--	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
32	Nickel (as Ni)	mg/l, max	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
33	Arsenic (as As)	mg/l, max	0.2	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
34	Total Chromium (as TCr)	mg/l, max	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05





Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Ref: Envlab/26-27/TR-02311

Date: 10.04.2026

ANNEXURE-VII

Surface Water Quality

Period: October'25 - March'26 (Monthly Average Values)

SW4: Kandabindha (Down Stream) (N 19°23.078' E 83°0.248')

Sl. No.	Parameter	Unit	Standards as per IS-2296:1992 Class - 'C'	Analysis Results SW4						Six Months Average
				Oct-25	Nov-25	Dec-25	Jan-26	Feb-26	Mar-26	
1	Color	Hazen, max	300	10	10	10	10	10	10	10
2	Odour	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	pH value	--	6.5-8.5	7.12	7.24	7.33	7.42	7.45	7.58	7.36
4	Suspended Solids	mg/l, max	--	61	56	48	43	41	39	48.00
5	Total dissolved solids	mg/l, max	1500	477	452	432	403	371	396	421.89
6	Temperature	0c	--	23.8	22.8	23.1	23.3	25.4	26.1	24.08
7	Conductivity	µs/cm	--	702	664	636	592	564	548	617.67
8	Ammoniacal Nitrogen (as NH4-N)	mg/l, max	--	6.2	6.4	7.1	8.2	8.8	9.5	7.70
9	Total Kjeldahl Nitrogen (as N)	mg/l, max	--	9.8	9.6	10.1	11.6	12.4	13.5	11.16
10	Oil & Grease	mg/l, max	0.1	ND	ND	ND	ND	ND	ND	ND
11	Dissolved Oxygen (as DO)	mg/l, min	4	5.7	5.8	6.1	6.5	6.6	6.2	6.15
12	Biochemical Oxygen Demand (as BOD at 270C For 3 days)	mg/l, max	3.0	2.2	2.4	2.3	2.4	2.4	2.0	2.28
13	Chemical Oxygen Demand (as COD)	mg/l, max	--	10.2	9.8	10.1	10.2	10.6	10.1	10.17
14	Free Ammonia (as NH3)	mg/l, max	--	ND	ND	ND	ND	ND	ND	ND
15	Total Residual Chlorine (as RFC)	mg/l, min	--	0.04	0.05	0.03	0.05	0.06	0.04	0.05
16	Iron (as Fe)	mg/l, max	50	0.26	0.28	0.37	0.41	0.42	0.44	0.36
17	Fluoride (as F)	mg/l, max	1.5	0.28	0.26	0.28	0.31	0.42	0.36	0.32
18	Hexavalent Chromium (as Cr+6)	mg/l, max	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
19	Cyanide (as CN)	mg/l, max	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
20	Sulphate (as S)	mg/l, max	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
21	Nitrate (as NO3)	mg/l, max	50	14.1	13.8	14.1	14.3	14.9	15.3	14.42
22	Dissolved Phosphate (as PO4)	mg/l, max	--	0.36	0.41	0.34	0.31	0.42	0.38	0.37
23	Phenolic Compound (as C6H5OH)	mg/l, max	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
24	Bio-assay Test	mg/l, max	90% survival of fish after 96 hrs. in 100% effluent	98%	98%	98%	98%	98%	98%	98%
25	Selenium (as S)	mg/l, max	0.05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
26	Manganese (as Mn)	mg/l, max	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
27	Copper (as Cu)	mg/l, max	1.5	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
28	Zinc (as Zn)	mg/l, max	15	0.32	0.35	0.41	0.48	0.36	0.38	0.38
29	Cadmium	mg/l, max	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
30	Lead (as Pb)	mg/l, max	0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
31	Mercury (as Hg)	mg/l, max	--	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
32	Nickel (as Ni)	mg/l, max	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
33	Arsenic (as As)	mg/l, max	0.2	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
34	Total Chromium (as TCr)	mg/l, max	--	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05





Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Ref: Envlab/26-27/TR-02312

Date: 10.04.2026

ANNEXURE-VIII

Ground Water Quality

Period: October'25 - March'26 (Monthly Average Values)

GW1: Paikupakhal (N19°20.197' E82°59.589')

Sl. No.	Parameter	Unit	Standard as per IS 10500:2012, Amend. 2015 & 2018	Analysis Results GW1						Six Months Average
				Oct-25	Nov-25	Dec-25	Jan-26	Feb-26	Mar-26	
Organoleptic & Physical Parameters										
1	Colour	Hazen	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2	Odour	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	pH value	--	6.5-8.5	7.23	7.32	7.41	7.52	7.61	7.73	7.47
4	Turbidity	NTU, max	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	Total Dissolved Solids	mg/l	500	324	331	306	281	272	291	300.9
6	Temperature	0C	-	23.8	24.1	23.8	24.1	25.2	26.4	24.6
7	Conductivity	µS/cm	-	515	525	486	445	426	442	473.2
General Parameters Concerning Substances Undesirable in Excessive Amounts										
8	Calcium (as Ca)	mg/l, max	75	25.4	26.2	28.2	26.5	21.8	23.7	25.3
9	Chloride (as Cl)	mg/l, max	250	43.6	44.2	46.6	49.2	52.2	54.2	48.3
10	Copper (as Cu)	mg/l, max	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
11	Fluoride (as F)	mg/l, max	1.0	0.22	0.26	0.31	0.35	0.41	0.36	0.32
12	Free residual Chlorine	mg/l, min	0.2	0.18	0.17	0.18	0.16	0.12	0.11	0.15
13	Iron (as Fe)	mg/l, max	1.0	0.18	0.21	0.25	0.31	0.36	0.34	0.28
14	Magnesium (as Mg)	mg/l, max	30	17.9	18.3	18.8	18.2	17.6	18.5	18.2
15	Manganese (as Mn)	mg/l, max	0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
16	Mineral oil	mg/l, max	0.5	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
17	Acidity	mg/l, max	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
18	Phenolic Compounds	mg/l, max	0.001	<0.05	<0.05	<0.001	<0.001	<0.001	<0.001	<0.05
19	Selenium (as Se)	mg/l, max	0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
20	Sulphate (as SO ₄)	mg/l, max	200	14.8	14.1	13.8	13.2	12.6	12.2	13.5
21	Total Alkalinity	mg/l, max	200	152	162	172	178	163	168	165.8
22	Total Hardness	mg/l, max	200	141	148	161	141	132	152	145.8
23	Zinc (as Zn)	mg/l, max	5.0	0.28	0.32	0.38	0.42	0.54	0.48	0.40
Parameters Concerning Toxic Substances										
24	Cadmium (as Cd)	mg/l, max	0.003	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
25	Cyanide (as CN)	mg/l, max	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
26	Lead (as Pb)	mg/l, max	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
27	Mercury (as Hg)	mg/l, max	0.001	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
28	Total arsenic	mg/l, max	0.01	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
29	Pesticide	mg/l, max	0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
BACTERIOLOGICAL QUALITY										
30	Total Coli forms	MPN/100 ml	Shall not be detected in any 100 ml sample	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1





Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Ref: Envlab/26-27/TR-02313

Date: 10.04.2026

ANNEXURE-VIII

Ground Water Quality

Period: October'25 - March'26 (Monthly Average Values)

GW2: Andirakanch (N19°19.079' E83°00.738')

Sl. No.	Parameter	Unit	Standard as per IS 10500:2012, Amend. 2015 & 2018	Analysis Results GW2						Six Months Average
				Oct-25	Nov-25	Dec-25	Jan-26	Feb-26	Mar-26	
Organoleptic & Physical Parameters										
1	Color	Hazen	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2	Odour	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	pH value	--	6.5-8.5	7.21	7.36	7.43	7.54	7.65	7.78	7.50
4	Turbidity	NTU, max	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	Total Dissolved Solids	mg/l	500	338	343	328	306	287	318	320.0
6	Temperature	0C	-	23.6	24.3	24.2	23.8	25.6	26.8	24.7
7	Conductivity	µS/cm	-	536	545	521	486	455	473	502.7
General Parameters Concerning Substances Undesirable in Excessive Amounts										
8	Calcium (as Ca)	mg/l, max	75	23.6	24.4	26.5	24.5	20.6	22.7	23.7
9	Chloride (as Cl)	mg/l, max	250	42.2	43.1	48.2	49.6	54.3	56.2	48.9
10	Copper (as Cu)	mg/l, max	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
11	Fluoride (as F)	mg/l, max	1.0	0.18	0.22	0.26	0.32	0.38	0.32	0.28
12	Free residual Chlorine	mg/l, min	0.2	0.21	0.20	0.19	0.18	0.16	0.13	0.18
13	Iron (as Fe)	mg/l, max	1.0	0.16	0.18	0.22	0.28	0.38	0.36	0.26
14	Magnesium (as Mg)	mg/l, max	30	15.2	15.6	16.1	15.5	14.3	15.2	15.3
15	Manganese (as Mn)	mg/l, max	0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
16	Mineral oil	mg/l, max	0.5	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
17	Acidity	mg/l, max	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
18	Phenolic Compounds	mg/l, max	0.001	<0.05	<0.05	<0.001	<0.001	<0.001	<0.001	<0.05
19	Selenium (as Se)	mg/l, max	0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
20	Sulphate (as SO4)	mg/l, max	200	16.5	15.5	14.2	13.6	12.9	11.8	14.1
21	Total Alkalinity	mg/l, max	200	148	151	163	172	167	172	162.2
22	Total Hardness	mg/l, max	200	119.0	128.0	134.0	125.0	115	135	126.0
23	Zinc (as Zn)	mg/l, max	5.0	0.35	0.41	0.36	0.38	0.41	0.39	0.38
Parameters Concerning Toxic Substances										
24	Cadmium (as Cd)	mg/l, max	0.003	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
25	Cyanide (as CN)	mg/l, max	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
26	Lead (as Pb)	mg/l, max	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
27	Mercury (as Hg)	mg/l, max	0.001	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
28	Total arsenic	mg/l, max	0.01	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
29	Pesticide	mg/l, max	0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
BACTERIOLOGICAL QUALITY										
30	Total Coli forms	MPN/100 ml	Shall not be detected in any 100 ml sample	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1





Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Ref: Envlab/26-27/TR-02314

Date: 10.04.2026

ANNEXURE-VIII

Ground Water Quality

Period: October'25 - March'26 (Monthly Average Values)

GW3: Malligaon (N19°21.359' E82°59.889')

Sl. No.	Parameter	Unit	Standard as per IS 10500:2012, Amend. 2015 & 2018	Analysis Results GW3						Six Months Average
				Oct-25	Nov-25	Dec-25	Jan-26	Feb-26	Mar-26	
Organoleptic & Physical Parameters										
1	Color	Hazen	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2	Odour	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	pH value	--	6.5-8.5	7.31	7.48	7.51	7.62	7.75	7.79	7.58
4	Turbidity	NTU, max	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	Total Dissolved Solids	mg/l	500	310	314	295	274	259	292	290.6
6	Temperature	0C	-	24.2	24.2	24.6	23.7	24.8	26.1	24.6
7	Conductivity	µS/cm	-	492	498	468	435	416	432	456.8
General Parameters Concerning Substances Undesirable in Excessive Amounts										
8	Calcium (as Ca)	mg/l, max	75	27.4	28.2	29.6	27.5	23.4	25.6	27.0
9	Chloride (as Cl)	mg/l, max	250	32.2	33.5	36.3	38.4	41.3	44.6	37.7
10	Copper (as Cu)	mg/l, max	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
11	Fluoride (as F)	mg/l, max	1.0	0.23	0.28	0.33	0.38	0.46	0.42	0.35
12	Free residual Chlorine	mg/l, min	0.2	0.24	0.19	0.16	0.15	0.12	0.14	0.17
13	Iron (as Fe)	mg/l, max	1.0	0.20	0.22	0.28	0.33	0.36	0.32	0.29
14	Magnesium (as Mg)	mg/l, max	30	13.1	13.5	13.8	13.2	12.8	13.6	13.3
15	Manganese (as Mn)	mg/l, max	0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
16	Mineral oil	mg/l, max	0.5	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
17	Acidity	mg/l, max	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
18	Phenolic Compounds	mg/l, max	0.001	<0.05	<0.05	<0.001	<0.001	<0.001	<0.001	<0.05
19	Selenium (as Se)	mg/l, max	0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
20	Sulphate (as SO4)	mg/l, max	200	17.5	16.8	15.6	14.5	13.6	12.6	15.1
21	Total Alkalinity	mg/l, max	200	155	163	183	186	172	182	173.5
22	Total Hardness	mg/l, max	200	132	136	141	128	118	141	132.7
23	Zinc (as Zn)	mg/l, max	5.0	0.26	0.34	0.32	0.36	0.46	0.42	0.36
Parameters Concerning Toxic Substances										
24	Cadmium (as Cd)	mg/l, max	0.003	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
25	Cyanide (as CN)	mg/l, max	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
26	Lead (as Pb)	mg/l, max	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
27	Mercury (as Hg)	mg/l, max	0.001	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
28	Total arsenic	mg/l, max	0.01	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
29	Pesticide	mg/l, max	0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
BACTERIOLOGICAL QUALITY										
30	Total Coli forms	MPN/100 ml	Shall not be detected in any 100 ml sample	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1





Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Ref: Envlab/26-27/TR-02315

Date: 10.04.2026

ANNEXURE-VIII

Ground Water Quality

Period: October'25 - March'26 (Monthly Average Values)

GW4: Kendumundi (N19°21.359' E82°59.889')

Sl. No.	Parameter	Unit	Standard as per IS 10500:2012, Amend. 2015 & 2018	Analysis Results GW4						Six Months Average
				Oct-25	Nov-25	Dec-25	Jan-26	Feb-26	Mar-26	
Organoleptic & Physical Parameters										
1	Color	Hazen	5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
2	Odour	--	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable
3	pH value	--	6.5-8.5	7.07	7.12	7.24	7.38	7.46	7.52	7.30
4	Turbidity	NTU, max	1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
5	Total Dissolved Solids	mg/l	500	293	297	285	262	253	274	277.2
6	Temperature	0C	-	24.6	24.1	23.8	23.6	25.1	26.6	24.6
7	Conductivity	µS/cm	-	465	471	452	412	386	402	431.3
General Parameters Concerning Substances Undesirable in Excessive Amounts										
8	Calcium (as Ca)	mg/l, max	75	16.8	27.6	29.4	27.3	23.8	25.9	25.1
9	Chloride (as Cl)	mg/l, max	250	31.5	32.8	37.2	37.8	40.6	42.8	37.1
10	Copper (as Cu)	mg/l, max	0.05	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
11	Fluoride (as F)	mg/l, max	1.0	0.18	0.24	0.35	0.36	0.42	0.38	0.32
12	Free residual Chlorine	mg/l, min	0.2	0.14	0.16	0.15	0.18	0.14	0.16	0.16
13	Iron (as Fe)	mg/l, max	1.0	0.21	0.24	0.31	0.35	0.40	0.38	0.32
14	Magnesium (as Mg)	mg/l, max	30	13.8	14.3	14.9	14.4	13.6	14.1	14.2
15	Manganese (as Mn)	mg/l, max	0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
16	Mineral oil	mg/l, max	0.5	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02
17	Acidity	mg/l, max	-	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
18	Phenolic Compounds	mg/l, max	0.001	<0.05	<0.05	<0.001	<0.001	<0.001	<0.001	<0.05
19	Selenium (as Se)	mg/l, max	0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
20	Sulphate (as SO4)	mg/l, max	200	18.2	17.5	16.8	16.2	15.4	14.2	16.4
21	Total Alkalinity	mg/l, max	200	121	128	135	145	134	144	134.5
22	Total Hardness	mg/l, max	200	105	124	152	134	121	146	130.3
23	Zinc (as Zn)	mg/l, max	5.0	0.37	0.39	0.37	0.42	0.38	0.36	0.38
Parameters Concerning Toxic Substances										
24	Cadmium (as Cd)	mg/l, max	0.003	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
25	Cyanide (as CN)	mg/l, max	0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
26	Lead (as Pb)	mg/l, max	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
27	Mercury (as Hg)	mg/l, max	0.001	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
28	Total arsenic	mg/l, max	0.01	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004	<0.004
29	Pesticide	mg/l, max	0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
BACTERIOLOGICAL QUALITY										
30	Total Coli forms	MPN/100 ml	Shall not be detected in any 100 ml sample	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1	<1.1





Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Ref: Envlab/26-27/TR-02316

Date: 10.04.2026

ANNEXURE-IX

Ground Water Level Monitoring Results

Period: October'25 - March'26 (Monthly Average Values)

Sl. No.	Monitoring Location	GPS Coordinate	Result (Meter)						
			Oct-25	Nov-25	Dec-25	Jan-26	Feb-26	Mar-26	Six Months Average
			Water Level (Meter)	Water Level (Meter)	Water Level (Meter)	Water Level (Meter)	Water Level (Meter)	Water Level (Meter)	Water Level (Meter)
1	Paikupakhal (Buffer Zone)	Latitude: N19°20.197' Longitude: E82°59.589' Altitude: 874.17 m.	5.0	4.7	4.4	4.2	4.0	3.8	4.4
2	Andirakanch (Buffer Zone)	Latitude: N19°19.079' Longitude: E83°00.738' Altitude: 739.45 m.	3.65	3.52	3.43	3.36	3.25	3.16	3.4
3	Malligaon (Buffer Zone)	Latitude: N19°21.359' Longitude: E82°59.889' Altitude: 699.82 m.	16.1	15.8	15.6	15.2	14.8	14.4	15.3
4	Kendumundi (Buffer Zone)	Latitude: N19°20.862' Longitude: E82°55.272' Altitude: 663.96 m.	7.45	7.36	7.55	7.44	7.24	7.05	7.35



ANNEXURE-X

Surface Water Withdrawal Agreement

OFFICE OF THE SUPERINTENDING ENGINEER,
HARABHANGI IRRIGATION DIVISION, ADAVA, GAJAPATI,
Mail ID-eeharabhang@gmail.com

Letter no. 2955/ WE dated, 24.12.2024

To

The Chief Engineer, Water Services,
O/o the Engineer-in-Chief, Water Resources,
Odisha, Bhubaneswar.

Sub :- Submission of renewed of agreement as per clause 18 of the Agreement of
M/s Utkal Alumina International Ltd, Doraguda, Rayagada.

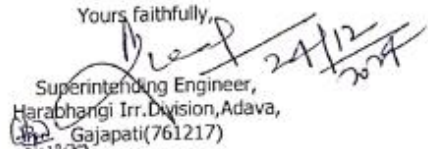
Sir,

In inviting a kind reference to the letter on the above cited subject, I am to submit herewith the copy of renewed agreement as per clause 18 of the Agreement drawn with M/s Utkal Alumina International Ltd, Doraguda, Rayagada on dated 24.12.2024 for drawal of 9.00 Cusecs of Surface water from San River upstream of Indravati River along with Xerox copy of Bank Guarantee and FDR for favour of kind information and necessary action.

Encl:-

1. Xerox copy of Agreement for Industrial use 11 (Pages)
2. Xerox copy of Bank Guarantee No.00240100002468 dated 10.12.2024 amounting to Rs.4,88,24,779/- valid up to 17.01.2028.
3. Xerox copy of F.D.R. bearing No. 43621231412 dated 13.12.2024 amounting to Rs.1,62,74,926/-

Yours faithfully,


Superintending Engineer,
Harabhangi Irr. Division, Adava,
Gajapati(761217)

Memo No.2956/WE dated, 24.12.2024

Copy along with copy of enclosure submitted to Engineer-in-Chief-cum-Special Secretary to Government, Department of Water Resources Odisha, Bhubaneswar for favour of kind information and necessary action.

Encl:- As above.

Memo No.2957/WE dated, 24.12.2024

Copy along with copy of enclosure submitted to Engineer-in-Chief,(P&D) Odisha, Bhubaneswar for favour of kind information and necessary action.

Encl:- As above.

Memo No.2958/WE dated, 24.12.2024

Copy along with copy of enclosure submitted to Chief Engineer & Basin Manager, RBVN Basin, Berhampur/ Additional Chief Engineer, VN Basin, Paralkhemundi for favour of kind information and necessary action.

Encl:- As above.

Memo No.2959/WE dated, 24.12.2024

Copy along with copy of enclosure forwarded to M/s Utkal Alumina International Pvt. Ltd., Doraguda, Rayagada for information and necessary action.

Encl:- As above.



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FORM 'K'

{See Rule 23-A (2) (e) & rule 26}

AGREEMENT FOR SUPPLY OF WATER FOR THE PURPOSE OF INDUSTRIAL COMMERCIAL USE

THIS AGREEMENT is made on the 24th day of December Two Thousand Twenty-Four (2024) between **Shri. Rabi Narayana Mishra S/o Dr. Sanatan Mishra** by profession Unit Head and President, permanent resident of Flat No:U/09, Netaji Subhas Enclave, Gadakana, Mancheswar, Bhubaneswar-751017 Odisha. Presently residing at "C" type building, Oshapada Residential Campus, M/s. Utkal Alumina International Ltd, PS. Doraguda, Dist.- Rayagada, Pin-765015, the authorized representative of M/s **Utkal Alumina International Limited**, having its plant at Doraguda (Hereinafter called the 'Applicant') of the First part.

AND

Sri. Bishnu Charan Sahu, Son of Late Rabindra Nath Sahu, resident of At/PO/PS: Buguda, Dist. Ganjam, Odisha—by profession Superintending Engineer, Harabhangi Irrigation Division, Adava, Dist:-Gajapati, Odisha (hereinafter referred to as the 'Sureties') of the second part: AND the Governor of Odisha which expression unless repugnant to the context, shall include his successors and assigns (hereinafter called 'the Government') of the third part:

WHEREAS, the applicant has made an application dtd.05.11.2024 for renewal of the earlier agreement supply of water from Government water

1 | Page

Rabi narayan Mishra



[Handwritten signature]
Superintending Engineer
Harabhangi Irrigation Division
Adava, Gajapati



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G 902936

source/from San River upstream of Indravati River for the period as mentioned in the schedule here to annexed:

AND WHEREAS, the sureties have agreed to stand surety for payment of rates charged for such supply in the manner hereinafter appearing and the Government has agreed to supply water for the purpose specified in the schedule annexed hereto:

SCHEDULE

Purpose for which water will be supplied	Volume of water if any	Period of supply	The place at which it will be supplied
(1)	(2)	(3)	(4)
Industrial purpose for Refinery & Mines of M/s Utkal Alumina International Ltd.	9.0 cusec or 777600 cft/day	Continuous as per availability from the source	To Plant site at Doraguda & Mines at Baphalimali



Rabi narayan Mishra

Deep
Superintending Engineer
Harahangangabon Division
Adova, Gajapati
24/12/2018

ANNEXURE-XI
CONSENT TO OPERATE(CTO)



CONSENT ORDER
BAPHLIMALI BAUXITE MINES OF M/S. UTKAL ALUMINA INTERNATIONAL LTD.

Page 1 of 13

BY REGD. POST WITH AD

STATE POLLUTION CONTROL BOARD, ODISHA

[DEPARTMENT OF FOREST, ENVIRONMENT & CLIMATE CHANGE, GOVERNMENT OF ODISHA]
A/118, Nilakantha Nagar, Unit-VIII, Bhubaneswar-751012
Phone-2561909. Fax: 2562822, 2560955 E-mail: paribesh1@ospboard.org, Website: www.ospboard.org

CONSENT ORDER

No. 3859 / IND-I-CON-5450 Date 25.02.2025

CONSENT ORDER NO. 2765

Sub: Consent for discharge of sewage and trade effluent under section 25/26 of Water (PCP) Act, 1974 and for existing / new operation of the plant under section 21 of Air (PCP) Act, 1981.

Ref: Your online application **No. 6011183, Dated 19-12-2024 and online reply dated 10-02-2025.**

Consent to operate is hereby granted under section 25/26 of Water (Prevention & Control of Pollution) Act, 1974 and under section 21 of Air (Prevention & Control of Pollution) Act, 1981 and rules framed thereunder to

Name of the Industry: **BAPHLIMALI BAUXITE MINES OF M/S. UTKAL ALUMINA INTERNATIONAL LTD.**

Name of the Occupier & Designation: **SRI SURYAKANTA MISHRA, DIRECTOR**

Address: **VILL: PAIKKUPAKHAL, PO: MAIKANCH, DIST: RAYAGADA**

This consent order is valid for the period upto **31.03.2027.**

This consent order supersedes the earlier consent order issued vide letter No.4157, Dated 20.03.2023.

Details of Products Manufactured

Sl. No	Product	Quantity
01.	Bauxite	8.0 MTPA

This consent order is valid for the specified outlets, discharge quantity and quality, specified chimney/stack, emission quantity and quality of emissions as specified below. This consent is granted subject to the general and special conditions stipulated therein.



Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Ref: Envlab/26-27/TR-02317

Date: 10.04.2026

ANNEXURE-XII

Treated Water (STP Outlet) Baphalimali Mines Period: October'25 - March'26 (Monthly Average Values)										
SL. No.	Parameters	Units	Standards (Inland Surface Water) Part-A	Oct-25	Nov-25	Dec-25	Jan-26	Feb-26	Mar-26	Six Months Average
1	pH value		5.5-9.0	6.65	6.78	7.32	7.38	7.42	7.56	7.18
2	Faecal Coliform	MPN/100ml	--	64	42	54	42	35	40	46.1
3	Oil & Grease	mg/l, Max	10	ND	ND	ND	ND	ND	ND	ND
4	N-Total	mg/l, Max	--	5.4	5.9	6.3	7.8	8.6	7.5	6.9
5	COD	mg/l, Max	250	12.6	10.5	11.2	13.1	11.6	12.2	11.8
6	BOD, 3 Days at 27°C	mg/l, Max	30	2.8	2.5	2.8	2.6	2.4	2.6	2.6
7	Total Suspended Solid	mg/l, Max	100	82	76	64	52	35	32	56.8
8	Ammoniacal Nitrogen (as NH ₃ -N)	mg/l, Max	100	3.5	3.8	4.2	5.2	5.8	5.2	4.6





Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Ref: Envlab/26-27/TR-02318

Date: 10.04.2026

ANNEXURE-XIII

Treated Water (ETP Outlet) Baphalimali Mines Period: October'25 - March'26 (Monthly Average Values)										
SL. No.	Parameters	Units	Standards (Inland Surface Water) Part-A	Oct-25	Nov-25	Dec-25	Jan-26	Feb-26	Mar-26	Six Months Average
1	pH value		5.5-9.0	6.73	6.92	7.16	7.28	7.34	7.42	7.1
2	Faecal Coliform	MPN/100ml	--	Absent	Absent	Absent	Absent	Absent	Absent	Absent
3	Oil & Grease	mg/l, Max	10	ND	ND	ND	ND	ND	ND	ND
4	N-Total	mg/l, Max	--	9.6	10.1	12.2	13.5	11.6	9.1	11.0
5	COD	mg/l, Max	250	16.6	17.2	18.4	19.2	17.5	18.1	17.8
6	BOD, 3 Days at 27°C	mg/l, Max	30	4.0	3.8	4.4	4.8	4.3	3.8	4.1
7	Total Suspended Solid	mg/l, Max	100	18.6	17.2	16.5	15.5	13.2	11.6	15.4
8	Ammoniacal Nitrogen (as NH ₃ -N)	mg/l, Max	100	7.8	8.2	7.6	8.4	7.3	6.4	7.6



ANNEXURE-XIV

FINANCIAL FORECAST OF ACTIVITIES TO BE UNDERTAKEN AT THE PROJECT AREA

(To be implemented by the Project proponent)

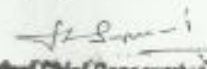
Sl. No.	Item of work to be undertaken	Unit	Amount in Lacs	Remarks
1	Soil & Moisture Conservation Measures			
	a) Construction of loose boulder Check dam across the seasonal nala, drainage line and semi perennial nala occurring along the slopy area of the lease. 1 mtr span 60 nos @ Rs. 3600/- each = 2.16 lacs 2 mtr span 40 nos @ Rs. 7113/- each = 2.8452 lacs 3 mtr span 26 nos @ Rs.14 920/- each = 3.9 lacs	126 nos	8.9052	Annexure-B-IV, V & VI
	b) Contour Bonding		3.0000	
2	Fire Protection Measures			
	Provision for a fire watch tower on North-west side of the lease near the boundary on LS-		5.0000	
	Deployment of a fire fighting squad consisting of 5 members with provision of vehicle etc. as per approved cost norm of CWLW, Odisha for five fire months @ 3.50 lacs per annum. 3.50 lacs x 10 years =	1 squad	35.0000	Annexure-A-V
3	Prevention of fall & entry to mining pits by wild animals.			
	Construction of balance RR Stone masonry $\frac{1\text{mtr}+0.75\text{mtr}}{2} \times 1\text{mtr}$ @ 4.00 lacs per km Where necessary along the boundary for 10km.	10km	40.0000	
4	Development of Green Belt.			
	Green Belt through ANR practices with Gap Plantation and through Block plantation (50+50) in safety zone of 7.5 mtr width over a length of 22km = 8.25ha. ANR Pratices with plantation @ 400 plants per ha. @ Rs. 38,806/- per ha =3,20,150/- 8.25ha Block Plantation on Bald hill cost norm with 1600 plants per ha inside the non-forest land @ 2,86,421/- = 23,62,973/-		26.8312	Annexure-A-I & II
5	Cost of one latest Model SUV (SCORPIO-S-10) vehicle to be handed over to the DFO, Rayagada	01 no	16.0000	
6	Interventions for regulating impact of mining activities.			
	Interventions for regulating light, water, air, noise pollution, dump stabilisation & waste management will be carried out at the project cost as per the approved environmental management plan.		Implement ation at the project cost according to the approved EMP.	
Total			134.7364	

(Rupees one crore thirty four lakhs seventy three thousand six hundred forty) only

For Utkal Alumina International Ltd.

 Authorized Signatory

43

Approved

 Principal Chief Conservator of Forests
 (Wildlife) & Chief Wildlife Warden
 Odisha, Bhubaneswar

ANNEXURE-XV

OFFICE OF THE PRINCIPAL CHIEF CONSERVATOR OF FORESTS
(WILDLIFE) & CHIEF WILDLIFE WARDEN, ODISHA

BDA APARTMENT, 5TH FLOOR, PRAKRUTI BHAWAN, NILAKANTHA NAGAR, BBSR-12

Ph. No.0674-2564587, FAX No.0674-2565062

(Website:odishawildlife.org, E. mail: odishawildlife@gmail.com)

No. 5608 /1WL-SSP-80/2016

Dated, Bhubaneswar, the 27 Jun, 2017

To

✓ The Asst. Vice President, Mines,
M/s Utkal Alumina International Ltd.,
J-6, Jayadev Vihar,
Bhubaneswar - 751013

Sub: *Proposal for diversion of 233.343 ha. of DLC forest land including safety zone of 10.283 ha in village Paik-Kupakhal, Dhuturapas and Karanj-Kupakhal under Kasipur Tahsil of Rayagada District within total mining lease area of 1388.74 ha for bauxite mining in their Baphilimali Bauxite Mines in Kalahandi and Rayagada Districts of Odisha by M/s Utkal Alumina International Ltd. - Approval of Site Specific Wildlife Conservation Plan*

Sir,

It is to inform you that you have to implement a Site Specific Wildlife Conservation Plan for your Baphilimali Bauxite Mines in Kalahandi and Rayagada Districts to address the impact on wildlife within the surrounding area and the recommendation of State Govt. for implementation of such a plan while forwarding the above diversion proposal to Govt. of India, MoEF&CC vide their letter No.12569/F&E dt 11.07.2016.

2. The Site Specific Wildlife Conservation Plan in respect of the above project has been approved by the undersigned with financial forecast of **₹670.451 lakh** (Rupees six crore seventy lakh forty-five thousand one hundred) only for the following activities.

a.	For activities to be implemented by the user agency in project area	₹134.736 lakh
b.	For activities to be implemented by DFO, Rayagada Division in project impact area	₹226.622 lakh
c.	For activities to be implemented by DFO, Kalahandi South Division In project impact area	₹309.093 lakh
Grand Total:		₹670.451 lakh

ANNEXURE-XVI

Submission of Digital processing of Mine lease area Report



Ref: UAIL-Mines/BBM/53/2023

14th October 2023

To

The Addl. Principal Chief Conservator of Forest
Ministry of Environment Forests and Climate Change
Govt. of India
Eastern Regional Office, A/3, Chandrasekharpur
Bhubaneswar- 751023

Subject: Digital processing of the entire lease area using remote sensing technique for monitoring land use pattern with respect to our Baphlimali Bauxite Mine of M/s Utkal Alumina International Limited, Rayagada, Odisha with production capacity of 8.5 MTPA.

Ref: Environment Clearance- No. J-11015/650/2007-1A. II(M) dated 19.02.2009

Dear Sir,

Please find enclosed herewith the Land use report & the land use map of lease area, as a part of the compliance to the Special Condition No. XXXII of EC granted with respect to Baphlimali Bauxite Mine of M/s Utkal Alumina International Ltd. for an annual production capacity of 8.5 MTPA.

This is for your kind information and perusal.

Thanking You

Yours faithfully,

For Utkal Alumina International Limited

Mukesh Kumar Jha

Head- Mines

Baphlimali Bauxite Mine

Encl: As Above

Copy to:

1. The Member secretary State Pollution Control Board, Odisha Parivesh Bhawan, A/118 Nilakanthanagar, unit- VIII Bhubaneswar- 751012
2. Regional Office, OSPCB, Rayagada.
3. Roetz_bsr-mef@nic.in , parivesh1@ospcboard.org & rospcb.rayagada@ospcboard.org



Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Ref: Envlab/26-27/TR-02319

Date: 10.04.2026

ANNEXURE-XVII

Noise Monitoring Results															
Period: Oct'25 - Mar'26 (Monthly Average Values)															
CORE ZONE NOISE															
Sl. No	Noise Monitoring Locations	Oct-25		Nov-25		Dec-25		Jan-26		Feb-26		Mar-26		Six Months Average	
		Results in dB(A)Leq		Results in dB(A)Leq		Results in dB(A)Leq		Results in dB(A)Leq		Results in dB(A)Leq		Results in dB(A)Leq		Six Months Average	
		Day Time	Night Time	Day Time	Night Time	Day Time	Night Time	Day Time	Night Time	Day Time	Night Time	Day Time	Night Time	Day	Night
1	Drilling Operation	67.2	46.5	72.2	47.2	70.2	45.8	71.2	46.2	68.6	67.5	65.6	52.2	69.2	48.6
2	Loader Operation	64.4	48.6	66.2	49.4	68.7	52.2	66.4	51.3	65.4	64.3	62.3	51.1	65.6	50.8
3	Shovel Operation	63.3	47.7	64.7	48.8	71.1	51.2	68.5	50.4	62.3	61.2	63.8	50.6	65.6	49.8
4	Dumper Operation	65.8	53.5	65.2	55.2	66.4	58.4	65.5	55.6	60.2	59.1	61.2	54.4	64.1	54.7
5	Crusher Operation	66.7	52.4	67.2	53.3	69.3	51.1	67.2	52.2	67.8	66.7	65.6	51.2	67.3	52.4
6	Workshop Area	67.4	56.2	64.4	57.4	65.6	56.5	66.3	53.8	69.4	68.3	67.7	50.6	66.8	55.0
7	Middle of Quarry	64.3	58.4	68.6	61.2	66.4	54.5	67.5	52.6	62.2	61.1	65.6	49.9	65.8	54.5
Ambient Air Quality Standards in respect of Noise for Industrial Area														75	70
Note: No deviation from the AAQ standard in respect of Noise is observed and all the values are within the standard prescribed.															





Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Ref: Envlab/26-27/TR-02320

Date: 10.04.2026

ANNEXURE-XVII

Noise Monitoring Results Period: Oct'25 - Mar'26 (Monthly Average Values) BUFFER ZONE NOISE															
Sl. No	Noise Monitoring Locations	Oct-25		Nov-25		Dec-25		Jan-26		Feb-26		Mar-26		Six Months Average	
		Results in dB(A)Leq		Results in dB(A)Leq		Results in dB(A)Leq		Results in dB(A)Leq		Results in dB(A)Leq		Results in dB(A)Leq		Six Months Average	
		Day Time	Night Time	Day Time	Night Time	Day Time	Night Time	Day Time	Night Time	Day Time	Night Time	Day Time	Night Time	Day	Night
1	Village Paikupakhhal	51.6	44.4	52.2	43.2	54.3	42.5	52.5	44.2	51.4	44.8	50.6	42.3	52.1	43.6
2	Village Andirakanch	53.3	40.5	54.4	41.6	52.6	43.2	53.2	43.6	52.5	43.6	51.2	41.6	52.9	42.4
3	Village ADRI	52.2	42.2	51.6	43.2	52.4	44.1	53.6	43.8	52.5	44.2	50.6	40.4	52.2	43.0
4	Village Chandragiri	54.4	41.1	52.2	44.5	53.3	42.3	52.8	43.7	51.6	42.1	51.4	42.6	52.6	42.7
Ambient Air Quality Standards in respect of Noise for Residential Area														55	45
Note: No deviation from the AAQ standard in respect of Noise is observed and all the values are within the standard prescribed.															



ADITYA BIRLA



UTKAL ALUMINA

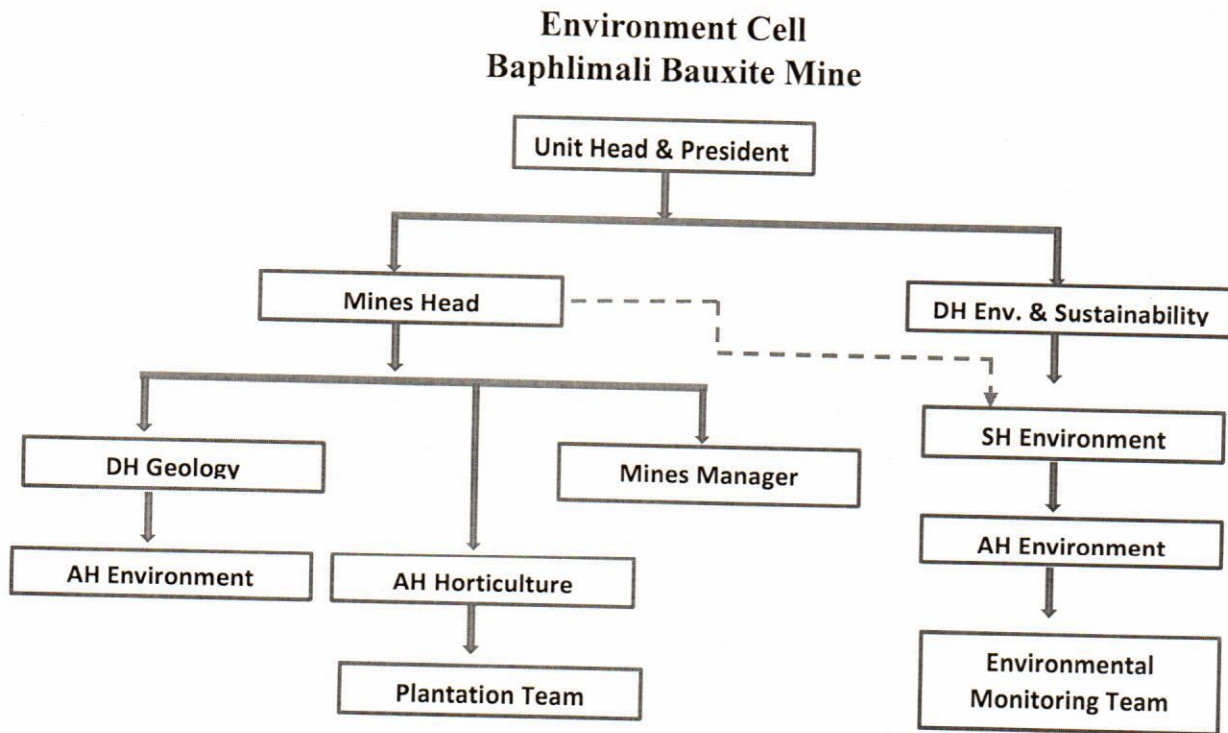
Annexure-XVIII

OFFICE ORDER

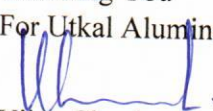
Date: 26th May 2025

According to the Environment clearance condition & to look after the compliances with respect to environment, an environmental cell at Baphlimali Bauxite Mine of M/s Utkal Alumina International Limited has been constituted.

The name & designations of the Environment Cell members with organization structure are enlisted below.



Thanking You
For Utkal Alumina International Limited


Vijay Chauhan
Head- Baphlimali Bauxite Mine

Utkal Alumina International Limited

ANNEXURE-XIX

Expenditure for Environment Protection Measures			
Sl. No.	Particulars of Environment Expenditure	FY2025-26(Rs. In Lakhs)	
		Capital Cost	Recurring Cost
1	Backfilling and Land Reclamation (Mineral conservation, zero waste mining, topsoil and over burden management etc.)		2344.64
2	Afforestation-Plantation & Horticulture		236.63
3	Air Pollution Control Measure		120.54
4	Water Pollution Control Measures (ETP, STP, Storm water settling pit, garland drains and Rainwater harvesting etc.)		105.31
5	Waste Management (hazardous & non-hazardous, e-waste including zero waste mining etc.)		11.43
6	Noise Pollution and vibration Control Measures		74.11
7	Environmental Monitoring and Measurement (Third party monitoring, AMC, procurement of equipment's/consumables/spares/calibration)		97.48
8	Environmental Awareness & Eco-development (events and celebration, Eco-park and sustainability projects etc.)		38.23
9	Renewable Energy (Solar power, wind power etc.)		5.10
10	Statutory Expenses (awards & accolades, certification, renewal fees, Study etc.).		63.07
	Total	105.79	3096.54



Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Report. No: Envlab/26-27/TR-02607

Date: 10.04.2026

ANNEXURE-XX

Fugitive Emission Monitoring Results

Period: October'25 to March'26 (Monthly Average Values)

Sampling Location	Parameter						
	Suspended Particulate Matter (SPM) ($\mu\text{g}/\text{m}^3$)						
	OCT-25	NOV-25	DEC-25	JAN-26	FEB-26	MAR-26	Six Months Average
F1-Crusher Point Latitude : N 19°19.079' Longitude : E 83°0.738' Altitude : 739.14m.	SPM-242 Max-264 Min-227	SPM-244 Max-258 Min-232	SPM-240 Max-251 Min-224	SPM-235 Max-243 Min-227	SPM-227 Max-241 Min-217	SPM-221 Max-241 Min-206	235.0
F2-Drilling Point Latitude : N 19°21.105' Longitude : E 82°57.906' Altitude : 987.55m	SPM-239.8 Max-257 Min-226	SPM-235.5 Max-249 Min-218	SPM-227.1 Max-251 Min-204	SPM-228.6 Max-245 Min-211	SPM-224 Max-236 Min-215	SPM-216 Max-228 Min-204	228.5
F3-Near LDC Latitude : N 19°20.942' Longitude : E 82°58.664' Altitude : 989.07m	SPM-229.4 Max-243 Min-219	SPM-239.8 Max-258 Min-219	SPM-236.3 Max-248 Min-224	SPM-235.4 Max-245 Min-227	SPM-231.1 Max-242 Min-215	SPM-223.1 Max-238 Min-211	232.5
F4-Near Transport Point Latitude : N 19°21.779' Longitude : E 82°58.774' Altitude : 992.43m	SPM-218.9 Max-242 Min-194	SPM-234.4 Max-255 Min-221	SPM-235.7 Max-261 Min-216	SPM-232.8 Max-246 Min-216	SPM-229.5 Max-241 Min-218	SPM-224.6 Max-238 Min-206	229.3
F5: Haul Road Latitude : N19.347047 Longitude: 82.972627 Altitude : 948.8m	SPM-232 Max-256 Min-214	SPM-234 Max-248 Min-204	SPM-233.6 Max-253 Min-202	SPM-227.4 Max-242 Min-205	SPM-223.4 Max-238 Min-213	SPM-215.4 Max-226 Min-206	227.6
MoEF & CC Notification 03 rd Feb, 2006	1200 $\mu\text{g}/\text{m}^3$						
Testing Method	Gravimetric Method						





Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Report. No: Envlab/26-27/TR-02608

Date:10.04.2026

ANNEXURE-XX

Fugitive Emission Monitoring Results

Period: October'25 to March'26 (Monthly Average Values)

Sampling Location	Parameter						
	Respirable Particulate Matter(RPM) ($\mu\text{g}/\text{m}^3$)						
	OCT-25	NOV-25	DEC-25	JAN-26	FEB-26	MAR-26	Six Months Average
F1-Crusher Point Latitude : N 19°19.079' Longitude : E 83°0.738' Altitude : 739.14m.	SPM-90.8 Max-98 Min-85	SPM-97.6 Max-103 Min-92.8	SPM-91.2 Max-97 Min-86	SPM-93.9 Max-97 Min-90.8	SPM-90.9 Max-96.4 Min-86.8	SPM-88.2 Max-96.4 Min-82.4	92.0
F2-Drilling Point Latitude : N 19°21.105' Longitude : E 82°57.906' Altitude : 987.55m	SPM-90 Max-96 Min-79	SPM-94.2 Max-99.6 Min-87.2	SPM-86.1 Max-97 Min-73	SPM-91.5 Max-98 Min-84.4	SPM-89.7 Max-94.4 Min-86	SPM-86.4 Max-91.2 Min-81.6	89.6
F3-Near LDC Latitude : N 19°20.942' Longitude : E 82°58.664' Altitude : 989.07m	SPM-87.8 Max-96 Min-79	SPM-95.9 Max-103.2 Min-87.6	SPM-89 Max-95 Min-83	SPM-94.2 Max-98 Min-90.8	SPM-92.5 Max-96.8 Min-86	SPM-89.3 Max-95.2 Min-84.4	91.4
F4-Near Transport Point Latitude : N 19°21.779' Longitude : E 82°58.774' Altitude : 992.43m	SPM-86.1 Max-94 Min-78	SPM-93.8 Max-102.0 Min-88.4	SPM-84.9 Max-92 Min-70	SPM-93.1 Max-98.4 Min-86.4	SPM-91.8 Max-96.4 Min-87.2	SPM-89.9 Max-95.2 Min-82.4	89.9
F5: Haul Road Latitude : N19.347047 Longitude: 82.972627 Altitude : 948.8m	SPM-89 Max-78 Min-96	SPM-93.6 Max-99.2 Min-81.6	SPM-88 Max-100.8 Min-79	SPM-91 Max-96.8 Min-82	SPM-89.4 Max-95.2 Min-85.2	SPM-86.2 Max-90.4 Min-82.4	89.5
MoEF & CC Notification 03 rd Feb, 2006	1200 $\mu\text{g}/\text{m}^3$						
Testing Method	Gravimetric Method						





Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Report. No: Envlab/26-27/TR-02605

Date:10.04.2026

ANNEXURE-XXI

Personal Dust Level Monitoring

Period: October'25 to March'26 (Monthly Average Values)

Sl. No	Monitoring Location	Parameter: Personal Respirable Dust (mg/m^3)						Six Months Average
		OCT-25	NOV-25	DEC-25	JAN-26	FEB-26	MAR-26	Personal Respirable Dust (mg/m^3)
1	Dumper Operator	0.068	0.072	0.078	0.074	0.076	0.072	0.073
2	Crusher Operator	0.076	0.074	0.068	0.072	0.068	0.065	0.071
3	Near Drilling Machine	0.072	0.068	0.064	0.060	0.063	0.066	0.066
4	Loader Operator	0.071	0.073	0.069	0.064	0.069	0.071	0.070
5	Working Pit	0.077	0.070	0.072	0.076	0.072	0.068	0.073
6	Dispatch Area	0.072	0.068	0.075	0.072	0.068	0.063	0.070
7	Dump Yard	0.084	0.089	0.084	0.078	0.071	0.068	0.079
8	Shovel Operator	0.080	0.075	0.083	0.076	0.069	0.071	0.076
9	Haul Road	0.068	0.071	0.091	0.083	0.072	0.064	0.075
10	Ore Stack Yard	0.055	0.058	0.064	0.061	0.068	0.066	0.062

DGMS Standard : Average Concentration during each shift $3\text{mg}/\text{m}^3$

Note: No deviation from the DGMS Standard is observed and all the values are within the standard prescribed under DGMS.





Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

Report. No: Envlab/26-27/TR-02606

Date:10.04.2026

ANNEXURE-XXI

Personal Dust Level Monitoring

Period: October'25 to March'26 (Monthly Average Values)

Sl. No	Monitoring Location	Parameter: Personal Respirable Dust (mg/m ³)						Six Months Average
		OCT-25	NOV-25	DEC-25	JAN-26	FEB-26	MAR-26	Respirable free Silica (%)
1	Dumper Operator	0.72	0.75	0.77	0.81	0.73	0.73	0.75
2	Crusher Operator	0.78	0.81	0.84	0.76	0.83	0.83	0.81
3	Near Drilling Machine	0.64	0.65	0.71	0.62	0.75	0.75	0.69
4	Loader Operator	0.68	0.72	0.68	0.68	0.62	0.67	0.68
5	Working Pit	0.82	0.68	0.74	0.81	0.75	0.75	0.76
6	Dispatch Area	0.72	0.67	0.82	0.75	0.83	0.83	0.77
7	Dump Yard	0.88	0.85	0.88	0.75	0.76	0.76	0.81
8	Shovel Operator	0.74	0.72	0.85	0.72	0.77	0.71	0.75
9	Haul Road	0.72	0.66	0.84	0.84	0.76	0.76	0.76
10	Ore Stack Yard	0.52	0.55	0.62	0.58	0.86	0.86	0.67

DGMS Standard : Average Concentration during each shift for free silica in airborne dust is 5% or less

Note: No deviation from the DGMS Standard is observed and all the values are within the standard prescribed under DGMS.



PHOTOS

PHOTO 1: Showing Check dam



PHOTO 2: Showing garland drain along the storage stake yard.



PHOTO 3: Showing Settling Ponds

Settling Pond-2 Near Mines Entrance





Settling Pit Near Crusher House



PHOTO 4: Showing Settling Pond Desilting



PHOTO 5: Showing Plantation in Backfilled Area



PHOTO 6: Showing Plantation in Mine Lease



PHOTO 7: Showing Nursery inside Mine Lease



PHOTO 8: Showing 28KL Mobile sprinkler



PHOTO 9: Showing Fixed Sprinklers



PHOTO 10: Showing Piezometers inside lease



PHOTO 11: Surface Rainwater Harvesting Structure.



PHOTO 12: Showing drilling machine with dust Extractor.



PHOTO 13: Showing Fixed sprinklers in stockpile area.



PHOTO 14: Showing Covered Long-Distance Conveyor (LDC)



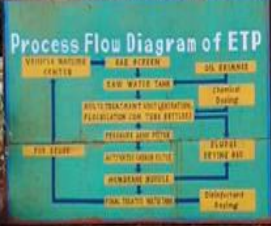
PHOTO 15: Showing Dry fog system in Fixed Crushing plant.



PHOTO 16: Showing 75 KLD Sewage Treatment Plant (STP)



PHOTO 17: Showing 15 KLD Effluent Treatment Plant (ETP)



UTKAL ALUMINA INTERNATIONAL LIMITED
BAPHLIMALI BAUXITE MINE
KALAHATI, JHARKHAND

Notice

With effect from 01.01.2024

1. Change in process

2. Details of the change

EFFLUENT TREATMENT PLANT
(15 KL/d)
BAPHLIMALI BAUXITE MINE
UTKAL ALUMINA INTERNATIONAL LTD