

ADITYA BIRLA



HINDALCO

To,

30-05-2023

**The Addl. Principal Chief Conservator of Forest (C),
Ministry of Env., Forest and Climate Change,
Regional Office (WCZ)
Ground Floor, East Wing, New Secretariat Building,
Civil Line, Nagpur-440001 (MS)**

Sub: - Status of compliance of EC condition (Half yearly status of compliance report) in respect of Samri Bauxite Mine (Lease area- 2146.746 Ha.) of M/s Hindalco Industries Limited of Chhattisgarh state for the period from October-2022 to March-2023.

Ref No: - Environment Clearance Letter No-J-11015/353/2007-IA. II (M) dated July 27, 2007

Dear Sir,

We do herewith submit half yearly status of EC compliance report in respect of Samri Bauxite Mine, Lease area - 2146.746 Ha, of M/s Hindalco Industries Limited P.O- Kusmi, Dist.- Balrampur- Ramanujganj, Chhattisgarh state, PIN-497224 for the period from October-2022 to March-2023. The lease details is as below:-

Lease area	Production Capacity	Lease Period
2146.746 Ha.	500000 Tonnes	24.06.1998 to 23.06.2048 (50 years)

We trust that the measures taken towards environment safeguard comply with the stipulated environmental conditions. We assure that we comply all the conditions laid down in the consent letter and also abide to follow all the Rules and Regulations.

Thanking you,

Yours's faithfully

For, Hindalco Industries Limited

(Vijay Chauhan)

Agent of Mines

E-Mail – chauhan.vijaykumar@adityabirla.com

Agent of Mines
Samri Mines Division
Hindalco Industries Ltd

Name of the Project : Samri Bauxite Mines (2146.746Ha. Capacity-5.00LTPA),
M/s Hindalco Industries Ltd

Environment Clearance No & date : J-11015/353/2007 – IA.(IIM) dated 27.07.2007

Period of compliance Report : 1st October 2022 to 31st March 2023

A. Specific Conditions

Condition-1: Environmental clearance is subject to obtaining clearance under the Wildlife (Protection) Act, 1972 from the competent authority.

Reply to Condition 1: The Wildlife Management plan has been prepared and approved by competent Authority vide letter no. 12-13-2967 dated 07.10.2013. The copy attached as **Annexure A**.

Condition-2: Environmental clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ petition (Civil) No. 460 of 2004 as may be applicable to this project.

Reply to Condition 2: Noted.

Condition-3: Conservation plan for schedule I fauna shall be prepared in consultation with Wildlife Department and submitted to the ministry for record.

Reply to Condition 3: The Conservation plan for schedule I fauna have been prepared and approved by competent authority submitted to ministry. The detail list of flora and fauna along with the approved conservation plan is attached as **Annexure B**.

Condition-4: A comprehensive report on the details of land oustees, their socio-economic profile and action plan for their rehabilitation including formation of self-help group who can facilitate promotion of economic opportunity to local indigenous people shall be submitted to the Ministry for record.

Reply to Condition 4: A copy of report has been submitted to ministry. As a part of CSR activities company has formed SHG group to facilitate promotion of economic opportunity to local indigenous people. In total there are 21 no. of SHGs and 212 Beneficiaries who are directly engaged in income generation activities. *Detailed list of SHG is enclosed as Annexure C.*

Condition-5: Top soil, if any shall be stacked properly with proper slope with adequate safeguards and shall be backfilled (wherever applicable) for reclamation and rehabilitation of mined out area.

Reply to Condition 5: The top soil generated during mining operation is being concurrently spread on backfilled area to restore its original forms

immediately. However if required it will be stacked properly with proper slope and adequate safeguards.



Backfilling Photos

Condition-6: Over burden (OB) shall be stacked at earmarked dump site (s) only and shall not be kept active for long period. The maximum height of the dump shall not exceed 30m, each stage shall preferably be of 10m and over all slope of the dump shall not exceed 28°. The OB dump shall be backfilled. In critical areas, use of geo textiles shall be undertaken for stabilization of the dump. The OB dumps shall be scientifically vegetated with suitable native species to prevent erosion and surface run off. Monitoring and management of rehabilitated areas shall continue until the vegetation becomes self-sustaining. Compliance status shall be submitted to the Ministry of Environment & Forests on six monthly basis.

Reply to Condition 6: Presently there is no active OB dump at mines. As per approved Mining Plan OB generated during mine operation is being utilized for concurrently back filling of the mined-out area for reclamation purpose. Small old inactive OB dump has been stabilized by vegetation with suitable native species to prevent erosion and surface run off. Garland drain with check dam have been provided to arrest silt and sediments flowing from above mentioned OB dump.



Plantation in Old OB Dump

Condition-7: Garland drains shall be constructed to arrest silt and sediment flows from soil and mineral dump. The water so collected shall be utilized for watering the mine area, roads, greens belt development etc. The drains shall be regularly desilted particularly after monsoon and maintained properly.

Garland drain size, gradient and length shall be constructed for both mine pit and for waste dump 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 pits shall be constructed at the corners of the garlands drains and desilted at regular intervals.

Reply to Condition 7:

Garland drains & Parapet wall of appropriate size, gradient and length have been made around the active mining pits coupled with arrester to arrest silt from run-off and drains are being maintained and desilted at regular intervals before monsoon. The Water so collected is being used for plantation and in sprinkling of the Haul Road. Rainwater pond of adequate capacity has also been developed.



Photographs of garland drains and parapet walls

Condition-8: Slope of the mining bench and ultimate pit limit shall be as per the mining scheme approved by Indian Bureau of Mines.

Reply to Condition 8: The slope of Mining bench and ultimate pit is being maintained as per provision of approved mining scheme.

Condition-9: Drilling and blasting (if any) shall be conducted by using dust extractors/wet drilling.

Reply to Condition 9: Wet drilling technique is being used in drilling operations.



Condition-10: Plantation shall be raised in 53.87 ha of the ML area, haul roads, OB dump sites etc. Green belt development shall be carried out considering CPCB guidelines including selection of plant species and in consultation with the local DFO/Agriculture Department. Herbs and shrubs shall also form a part of afforestation programme beside tree plantation. The density of the trees shall be around 2500 plants per ha. The company shall involve local people with the help of self-help group for plantation.

Reply to Condition 10: We have already achieved the target area asked for plantation. However, we are continuing the plantation to restore the biodiversity. In the FY 2022-23 total 36511 nos. of saplings have been planted over an area of 9.898 ha and in total till now about 150.895 ha area has been afforested with approx. 352960 nos. of saplings. The plantation in reclaimed area is carried out as per plan and being carried out as suggested by local government authority. The density is being maintained about 2500 saplings per hectare with the species like Karanj, mango, babul, bakayan, Pears, Jamun, Amla & guava, etc. Apart from this, Tea plantation project has been started in Samri with a focus on Local Economic Development. We planted 16,000 Tea saplings on 2 Ha. of reclaimed land. Social forestry is also being encouraged among the local villagers. Year wise plantation is enclosed as **Annexure D**. Also, the plantation is done involving local people mainly for green belt afforestation program.



Greenbelt Area



Plant Sampling culture in our Nursery

Condition-11: 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.

Reply to Condition 11: Two nos. of rainwater harvesting Ponds of an area of 2.18Ha. & 1.52 Ha. and well of size 5Ft.X10Ft. have been constructed as conservation measures in mined out area for the conservation/augmentation of ground water resources. This further adds to Water Credit of the lease area.



Rain Water Harvesting Pond



Recharge well

Condition-12: Regular monitoring of ground water level and quality shall be carried out 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 MOEF, Central Ground Water Authority and Regional Director Central Ground Water Board.

Reply to Condition 12: Ground water quality monitoring is being carried out regularly on quarterly basis. The analysis reports are being submitted to CECB, Raipur. Regular monitoring of ground water level is being carried out by piezometer installed at strategic location in the lease area and is found below the level of mining operation. The ground water Quality report and the GW level data is attached in **Annexure E**.

Condition-13: Prior permission from the competent authority shall be obtained for drawl of ground water, if any.

Reply to Condition 13: Ground water NOC has been obtained from CGWA vide letter no. CGWA/NOC/MIN/REN/2/2023/7572 dated 03.04.2023 with validity up to 28.04.2025. Also digital water meters with telemetric system

have been installed in the lease area at strategic location for monitoring water consumption. The GW NOC copy attached as **Annexure-F**.

Condition-14: Vehicular emissions shall be kept under control and regularly monitored. Vehicles used for transportation ores and others shall have valid permissions as prescribed under Central Motor Vehicle Rules, 1989 and its amendments. Measures shall be taken for maintenance of vehicles used in mining operations and in transportation of mineral. The vehicles transporting ores shall be covered with a tarpaulin or other suitable enclosures so that no dust particles/ fine matters escape during the course of transportation. No overloading of ores for transportation shall be committed.

Reply to Condition 14: Regular and periodic maintenance of HEMM is being carried out for control of vehicular emission in mines area. The bauxite ore are transported in trucks with tarpaulin cover up to EUP/Railway siding to prevent dust emission. Vehicle used for transportation are having valid permit and PUC. No overloading of ores for transportation is allowed to prevent spillage of material.



Condition-15: 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 mine closure for approval.

Reply to Condition 15: We accept the condition. A progressive mine closure plan approved by IBM is in place. IBM is competent authority to approve the final mine closure plan. Based on the present resource estimate, and peak rated production capacity, the tentative balance life of mine is around 25.1 years. Final Mine closure plan along with details of Corpus fund will be submitted within prescribed timelines in accordance with law to competent authority.

B. General Conditions

Condition-1: No change in mining technology and scope of working shall be made without prior approval of the Ministry of Environment & Forests.

Reply to Condition 1: Noted.

Condition-2: No change in the calendar plan including excavation, quantum of mineral bauxite ore shall be made.

Reply to Condition 2: Calendar plan (IBM Approved Mining Plan/scheme) prepared for the mine is being followed.

Condition-3: Conservation measures for protection of flora and fauna in the core and buffer zone shall be drawn up in consultation with the local forest and wildlife department.

Reply to Condition 3: Company has already deposited Rs.1.6 crore to competent authority for the implementation of measures for the protection of flora and fauna under approved wildlife conservation plan. The suggestions of local forest department are being implemented for conservation of flora and fauna in and around lease hold area. Important measure being implemented for conservation of flora and fauna are as follows.

- a) Company has provided solar LED torch and florescent Jackets to Staff of forest department, Ambikapur for patrolling and monitoring the movement of wildlife, encroachment, cutting, poaching, fire etc.
- b) Veterinary camp is being conducted for immunization of cattle with the help of block veterinary staff.
- c) Awareness programme related to wildlife conservation is being conducted.
- d) Eco-development activities like poultry, piggery, bee keeping etc. are being organized.
- e) Controlled blasting is being carried out to reduce vibration and noise. Such operation is being carried out in day time only and its use is minimized.
- f) Plantation is regular activity along with the development of greenbelt all around the Lease Area
- g) “Aditya Udyan” has been developed on 2.6Ha. of Reclaimed land and a wide variety of fruits saplings like Mango, Guava, Litchi and pears are planted along with a centrally developed Rose garden.
- h) Integrated Fish Farming has been started at Aditya Udyan, Gopatu in Samri operational area and 25000 fish spawns has been released, with an objective to help the local communities for diversification of Income Sources. This has been done in consultation with Govt. body.
- i) With a vision on sustainability, we have also developed a BioPak that transcends the bounds of traditional parks. With 15 acres of reclaimed mined land this please is a testament to the resilience of nature and a beacon for the future. This has been developed with an objective of Economic development, Environmental education, Health and recreation

and a place for community engagement and further to pave way for Mine tourism – an upcoming concept of time.

- j) We have also carried out plantation outside our lease area in various School, NGOs etc. on special occasion as an initiative to spread awareness about the importance of afforestation.



Aditya Udyan



Samri Bio-Park

Condition-4: Four ambient air quality-monitoring stations shall be established in the core zone as well as in the buffer zone for RPM, SPM, SO₂, 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.

Reply to Condition 4: Ambient Air quality monitoring has been established at strategic locations and the monitoring is being carried out as per guidelines. For the purpose, we have engaged NABL accredited laboratory M/s. Anacon Laboratories Pvt. Ltd. for conducting regular environmental monitoring. Analysis Report (from October 22 to March 2023) is enclosed as **Annexure-G**.

Condition-5: Data on ambient air quality (RPM, SPM, SO₂, and NO_x) should be regularly submitted to the Ministry including its Regional office located at Bhopal and the State Pollution Control Board / Central Pollution Control Board once in six months.

Reply to Condition 5: Data of ambient air quality (RPM, SPM, SO₂, and NO_x) are being submitted to CECB and are being submitted to other regulatory authorities as per guidelines. Data of ambient air quality (RPM, SPM, SO₂ and NO_x) from October 22 to March 23 is enclosed as **Annexure-G**.

Condition-6: Fugitive dust emission from all the sources shall be controlled regularly. Water spraying arrangements on haul roads, loading and unloading and at transfer points shall be provided and properly maintained.

Reply to Condition 6: Wet drilling, regular water spraying with 12 KL portable water tanker in the mine lease hold area is being carried out regularly to control the fugitive emission at source. Rainwater collected into the mine pit is being utilized for dust suppression purpose. Black top road has been constructed up to pit head to reduce dust problem.



Water Sprinkling in haul road



Black top Road to the mines

Condition-7: Measures shall be taken for control of noise levels below 85dBA in the work environment. Workers engaged in operations of HEMM, etc. shall be provided with ear plugs / muffs.

Reply to Condition 7: The noise level in working area is being maintained below the prescribed limit. As protective measures, workers engaged in operations of HEMM, etc. is being provided with ear plugs / muffs. The proper maintenance of HEMM is being carried out to control noise emission.



Plantation for Noise Acoustic barrier

Condition-8: 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 shall be installed before discharge of workshop effluents.

Reply to Condition 8: There is no waste water generated from the mining operation. So, there is no liquid discharge from mine. Waste water generated from the workshop is being treated in the Oil & grease separation Pit and the water after treatment is being used in dust suppression in the haul road.

Condition-9: Personal working in dusty areas shall be provided with protective respiratory devices and they shall also be imparted adequate training and information on safety and health aspects.

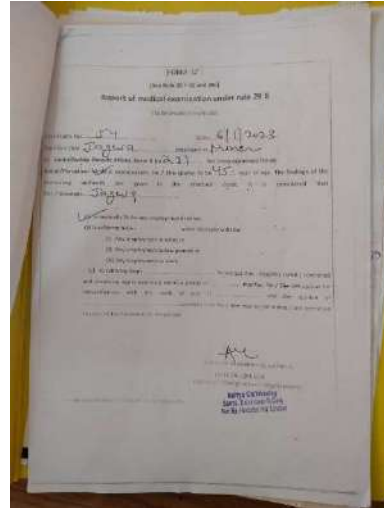
Reply to Condition 9: Company has provided adequate personal protective equipment to all workers and it is also ensured that they use the same. Regular awareness training are also being imparted to them for safety & health in our Group vocational training Centre as per guidelines.

All employees working in our mining lease area, undergo IME/PME at regular interval to observe any contractions due to exposure to dust and other occupational hazards.

**EC Compliance for Samri Bauxite Mine (Mine Lease Area of 2146.746 Ha),
Tehsil - Kusmi, District – Balrampur-Ramanujanj, State – Chhattisgarh
M/s. Hindalco Industries Limited Compliance Period: October 2022 – March 2023**



Safety Talk before execution of the Job



PME copy

Condition-10: Occupational health surveillance program of the workers shall be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.

Reply to Condition 10: Periodical and Initial medical examination of all workers are being carried out as per provision of Mines Act.

Condition-11: A separate environmental management cell with suitable qualified personnel shall be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.

Reply to Condition 11: Environment cell is already in place at Samri Mines Division headed by Head (Mines) and comprises of suitable qualified persons. Constitution of Environment Management cell is enclosed in **Annexure-H**.

Condition-12: The project authorities shall inform to the Regional Office of the Ministry located at Bhopal regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development work.

Reply to Condition 12: Financial closure plan not applicable as it is an operational mine.

Condition-13: The funds earmarked for environmental protection measures shall be kept in separate account and should not be diverted for other purpose. Year wise expenditure shall be reported to the Ministry and its Regional Office located at Bhopal.

Reply to Condition 13: Adequate fund provision is already earmarked for environmental protection measures and will not be diverted to other purpose.

The year wise expenditure is being submitted to concern authorities as per guidelines. The copy of environment expenditure is enclosed as **Annexure J**.

Condition-14: The project authorities shall inform to the Regional Office located at Bhopal regarding date of financial closures and final approval of the project by the concerned authorities and the date of start of land development.

Reply to Condition 14: Financial closure plan not applicable as it is an operational mine.

Condition-15: The Regional Office of this Ministry located at Bhopal 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.

Reply to Condition 15: All cooperation is being extended to regulatory authorities.

Condition-16: A copy of clearance letter will be marked to concerned Panchayat / local NGO, if any, from whom suggestion / representation has been received while processing the proposal.

Reply to Condition 16: We have forwarded the copy of clearance letter to Panchayat /local NGO in our area. The copy of same has already been submitted to your good office.

Condition-17: State Pollution Control Board should display a copy of the clearance letter at the Regional office, District Industry Centre and Collector's office/Tehsildar's office for 30 days.

Reply to Condition 17: The copy has been displayed by CECB in Surguja Collectorate.

Condition-18: 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 7 days 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> and a copy of the same shall be forwarded to the Regional Office of this Ministry located Bhopal.

Reply to Condition 18: The information regarding environment clearance has been published in two local newspapers Hari Bhumi & Ambika Vani. The copy of same has been already submitted to your good office. News paper clip is enclosed in **Annexure I**.

Condition-19: The Ministry or any other competent authority may alter/modify the above conditions or stipulate any further condition in the interest of environment protection.

Reply to Condition 19: Noted

Condition-20: Concealing factual data or submission of false/fabricated data and failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of Environment (Protection) Act, 1986.

Reply to Condition 20: Noted

Condition-21: The above conditions shall be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and the Public Liability Insurance Act, 1991 along with their amendments and rules.

Reply to Condition : Noted

Hope the above compliance will be found in order.

Yours truly,

(For Hindalco Industries Limited)



(Vijay Chauhan)

Agent of Mines

Agent of Mines

Samri Mines Division
Hindalco Industries Ltd

Encl.: As above

कार्यालय वन्य प्राणी संरक्षण (वन्यप्राणी प्रबंधन एवं जीव विविधता
संरक्षण सह मुख्य वन्यप्राणी अभिरक्षक), छत्तीसगढ़
अरण्य भवन, मेडिकल कॉलेज रोड, रायपुर

ईमेल - pccfwl@nsrf.com

IPN 0771-2552228, Fax (0771-2552227)

क्रमांक/व.प्रा./प्रबंध- 12/13/2767

रायपुर दिनांक 07/10/2013

प्रति,

संचालक,
इन्वायरनमेंट क्लीयरेंस सेल
भारत सरकार, वन एवं पर्यावरण मंत्रालय,
पर्यावरण भवन, सी.जी.ओ. कॉम्प्लेक्स,
लोधी रोड, नई दिल्ली-111003

विषय :- छत्तीसगढ़ के बलरामपुर जिले (तत्कालीन सरगुजा जिला) में स्थित सामरी बॉक्साइट
माईन्स, कुदाग बॉक्साइट माईन्स एवं टाटीझरिया बॉक्साइट माईन्स की क्षमता बढ़ाये हेतु
इन्वायरनमेंट क्लीयरेंस।

- संदर्भ:-
1. पर्यावरण व वन मंत्रालय, भारत सरकार का पत्र क्रमांक J-11015/353/2007-IA.II(M) दिनांक 27 जुलाई 2007.
 2. पर्यावरण व वन मंत्रालय, भारत सरकार का पत्र क्रमांक J-11015/337/2007-IA.II(M) दिनांक 27 जुलाई 2007.
 3. पर्यावरण व वन मंत्रालय, भारत सरकार का पत्र क्रमांक J-11015/337/2007-IA.II(M) दिनांक 9 अगस्त 2007.

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कृपया आपके उपरोक्त संदर्भित पत्रों का अवलोकन करने का कष्ट करें। जिसके द्वारा बलरामपुर जिले
(पुराने सरगुजा जिले) के सामरी बॉक्साइट खुली खदान (1 LTPA) की क्षमता बढ़ाकर (SLTPA) करने, कुदाग बॉक्साइट
खदान (0.4 LTPA) की क्षमता बढ़ाकर (0.6 LTPA) करने तथा टाटीझरिया बॉक्साइट खदान (0.5 TPA) की क्षमता बढ़ाकर
(4 TPA) करने के परियोजना प्रस्ताव के संबंध में वन्य प्राणी (संरक्षण) अधिनियम, 1972 के तहत अनुसूची-1 के वन्यप्राणियों
हेतु "वन्य प्राणी संरक्षण व प्रबंधन योजना" तैयार की जाकर इस कार्यालय की सहमति दिये जाने का लेख किया है।

1. विषयांकित परियोजना हेतु खदान के लीज के अनुबंध दिसंबर 1996 एवं जून 1998 में हस्ताक्षरित
हुये थे। सामरी क्षेत्र में भारत सरकार पर्यावरण व वन मंत्रालय के आदेश क्रमांक J-11015/353/2007-
IA.II/M दिनांक 27 जुलाई, 2007 द्वारा 2146.746 हे. में, कुदाग क्षेत्र में भारत सरकार पर्यावरण व वन
मंत्रालय आदेश क्रमांक J-11015/354/2007-IA.II/M दिनांक 27 जुलाई 2007 द्वारा 377.116 हे. में, तथा
टाटीझरिया में भारत सरकार पर्यावरण व वन मंत्रालय के आदेश क्रमांक J-11015/337/2007-IA.II/M
दिनांक 9 अगस्त 2007 द्वारा 1218.762 हे. में बॉक्साइट खनन की स्वीकृति प्राप्त कर संस्था द्वारा खनन
का कार्य किया जा रहा है।

2. वर्तमान प्रस्ताव में उपरोक्त क्षेत्रों में वन्य प्राणी संरक्षण के लिए 10 LPTA से बढ़ाकर 50 LPTA किया जाना, कुदांग के लिए 0 LPTA से बढ़ाकर 100 LPTA किया जाना एवं तटीय क्षेत्रों के लिए 50,000 TPA से बढ़ाकर 4,00,000 TPA किया जाना प्रस्तावित है। भारत सरकार पर्यावरण व वन मंत्रालय के द्वारा उपरोक्त क्षेत्रों में वन्य प्राणी संरक्षण की स्वीकृति क्रमशः आदेश क्रमांक J-11015/353/2007-IA.II/M दिनांक 27 जुलाई 2007, J-11015/354/2007-IA.II/M दिनांक 27 जुलाई 2007 एवं J-11015/337/2007-IA.II/M दिनांक 9 अगस्त 2007 द्वारा कुछ शर्तों के साथ दी गई है, जिसमें एक महत्वपूर्ण शर्त यह भी उल्लेखित है कि संबंधित क्षेत्र में वन्य प्राणी (संरक्षण) अधिनियम के शेड्यूल 1 के पाये जाने वाले वन्य प्राणियों के संरक्षण हेतु प्रबंध योजना तैयार की जाकर राज्य के मुख्य वन्य जीव अभिरक्षक के अभिमत सहित प्रस्तुत किया जाये। जिसके पालन में संस्था द्वारा एक वन्य प्राणी संरक्षण योजना तैयार की गयी है।
3. खनन क्षमता बढ़ाने से संबंधित प्रस्तावित तीनों ही परियोजनाओं के एक दूसरे से 4 कि.मी. की परिधि में स्थित होने एवं सभी के बफर क्षेत्र ओवरलैपिंग होने के कारण सभी के लिये संयुक्त रूप से वन्य प्राणी संरक्षण व प्रबंधन योजना तैयार की जाकर महाप्रबंधक, (खादान), हिन्डालको इन्डस्ट्रीज के पत्र क्रमांक HIL/SAM/300/2013 दिनांक 2.03.2013 द्वारा प्रस्तुत किया गया है जिसका समग्र रूप से परीक्षण किया गया। प्रस्तावित परियोजनाओं के कोर क्षेत्र से 10 कि.मी. की परिधि में आने वाले ओवरलैपिंग बफर क्षेत्र में वन्य प्राणियों एवं उपलब्ध वनस्पतियों का सर्वे किया जाकर पाये गये स्पेसिज को परियोजना प्रस्ताव में अनेक्स-4 के में उल्लेखित किया गया है।
4. उल्लेखित सूची में वन्य प्राणी (संरक्षण) अधिनियम के शेड्यूल 1 के वन्य प्राणी नहीं पाये गये हैं। परंतु इस कार्यालय द्वारा वन संरक्षक (वन्य प्राणी), सरगुजा से विगत दस वर्षों में वन्य प्राणियों द्वारा की गई क्षति की जानकारी चाही गयी। वन संरक्षक ने अपने पत्र क्रमांक 749 दिनांक 24.05.2012 से यह जानकारी उपलब्ध कराया है कि उक्त क्षेत्र में हाथियों का वर्ष 2005 में दो बार, वर्ष 2006 में आठ बार, 2007 में एक बार, 2008 में दो बार, 2009 में सात बार आना जाना हुआ है। इसी प्रकार भालुओं के द्वारा वर्ष 2007-08 में आठ, वर्ष 2008-09 में पाँच, वर्ष 2009-10 में छः एवं 2010-11 में 4 जनहानि व जनघायल के प्रकरण तथा वर्ष 2007-08 तथा 2008-09 में तेंदुआ द्वारा पशु हानि के दो प्रकरण तथा लकड़बग्घे के कारण एक प्रकरण दर्ज किये गये हैं। इस प्रकार वन्य प्राणी (संरक्षण) अधिनियम के शेड्यूल 1 के उपरोक्त उल्लेखित वन्य प्राणियों के परियोजना क्षेत्र में आने जाने के प्रमाण पाये गये हैं। प्रस्तावित क्षेत्र से 6 से 7 कि.मी.की दूरी पर झारखंड राज्य में भेंड़िया अभ्यारण्य भी स्थापित है। अतः संस्था द्वारा दस वर्षों के लिये वन्य प्राणी संरक्षण व प्रबंध योजना श्री पी. के. सेन पूर्व वन्य प्राणी अभिरक्षक, झारखंड से तैयार कराया जाकर प्रस्तुत किया गया है। जिसका समग्र व विस्तृत अध्ययन किया गया। प्रबंधन योजना में प्रस्तावित प्रबंधन संबंधित मुख्य गतिविधियों का विवरण निम्नानुसार है।
5. योजना में वन्य प्राणियों के लिये जलग्रहण क्षेत्र विकास, रहवास-विकास, पेयजल व्यवस्था, विभाग के क्षेत्रीय अमले के सहयोग से क्षेत्र में पेट्रोलिंग व मॉनिटरिंग, अग्नि सुरक्षा, ईको विकास की गतिविधियों, स्थानीय ग्रामीणों के लिये आजीविका सृजन, टीकाकरण, जनजागृति कार्यक्रम जैसी गतिविधियों का

समावेश करते हुये 04 वर्षों के लिए प्रथम वर्ष का कार्य प्रस्तावित किया गया है। जिसका क्रियान्वयन वन विभाग के द्वारा किया जायेगा। प्रस्तावित पाठ्यक्रम का विवरण निम्नांकित है -

Sr. No.	Works to be done	Cost for Four years (Rs. in lakhs)					Remarks
		1 st Year	2 nd Year	3 rd Year	4 th Year	Total	
1	Plantation including soil and moisture Conservation works as per norms of forest department surrounding the lease hold	5.00	5.00	5.00	5.00	20.00	
2	Silvicultural Operation on degraded forest Land and cut back in rooted waste	2.00	2.00	2.00	2.00	8.00	
3	Habitat Management Eradication of unwanted species in buffer Zone area, Fire Protection work including wages for fire watchman, Creation of Fire line etc. surrounding lease hold and in buffer area.	2.50	2.50	2.50	2.50	10.00	
4	Monitoring - One Staff of forest department to monitor movement of wild life, encroachment, illicit cutting, poaching, fire etc. including Salary of 1 staff	3.00	3.00	3.00	3.00	12.00	
5	Construction of water holes, their maintenance and patrolling (One per Annum)	10.00	10.00	10.00	10.00	40.00	
6	Eco-development activities like poultry, piggery, bee keeping etc.	5.00	5.00	5.00	5.00	20.00	
7	Vocational Training to weaker section, females, old persons and minors of the surrounding villages in three centre in the buffer Zone of the mining lease @ 50000/- per centre.	3.00	3.00	3.00	3.00	12.00	
8	Veterinary camp for immunization of Cattle with the help of block veterinary staff.	2.00	2.00	2.00	2.00	8.00	
9	Awareness Programme including Signages, distribution of Pamphlets related to wild life conservation etc.	2.50	2.50	2.50	2.50	10.00	
10	Provision for conservation of Biodiversity among flora and fauna of the area & Preparation of Biodiversity register	20.00	0.00	0.00	0.00	20.00	The amount is to be deposited in the account of Biodiversity Board as this work is to be done by Biodiversity management committees (BMC's)
Total		55.00	35.00	35.00	35.00	160.00	

परियोजना की लागत रु. 160.00 लाख अनुमानित है। परियोजना के क्रियान्वयन के समय जो भी लागत आयगी वह विभाग के अडेक्स के हिसाब से वृद्धि होगी। परियोजना के क्रियान्वयन के समय जो भी लागत आयगी वह परियोजना प्रस्तावकों को वन विभाग में एकमुश्त जमा करानी होगी। जिससे मूल्य वृद्धि के प्रभाव को समाप्त किया जा सके। वन विभाग एकमुश्त जमा की गई राशि से वन्यप्राणी संरक्षण योजना क्रियान्वित करेगा।

7. अनुमोदित वन्यप्राणी संरक्षण योजना की एक प्रति संलग्न प्रेषित है। कृपया वन्यप्राणी संरक्षण योजना में प्रावधानित राशि रु. 160.00 लाख एकमुश्त जमा कराने हेतु परियोजना प्रस्तावकों को आदेशित करने का कष्ट करें।

संलग्न:-उपरोक्तानुसार।

Aprakash
(रामप्रकाश) 07/10/13

प्रधान मुख्य वन संरक्षक (वन्यप्राणी)
छत्तीसगढ़, रायपुर

रायपुर दिनांक 07/10/2013

पृष्ठा क्रमांक/व.प्रा./प्रबंध-12/13/2968.

प्रतिलिपि :-

1. प्रमुख सचिव, छत्तीसगढ़ शासन, वन विभाग, महानदी मंत्रालय भवन, नया रायपुर की ओर मय योजना की प्रति सहित सूचनार्थ प्रेषित।
2. श्री एम. के. नार्यंक, जी. एम. माइन्स हिन्डालको इन्डस्ट्रीज लिमिटेड, सामरी बॉक्साईट माइन्स, पोस्ट-कुसमी, जिला-सरगुजा, छत्तीसगढ़ की ओर मय योजना की प्रति सहित सूचनार्थ प्रेषित।

Aprakash
प्रधान मुख्य वन संरक्षक (वन्यप्राणी) 07/10/13
छत्तीसगढ़, रायपुर

SAMRI BAUXITE MINE

Annexure - B

Annexure-6
Details of Flora and Fauna

समावेश करते हुये 04 वर्षों के लिए प्रस्तावित कार्य प्रस्तावित अधिकारियों की मदद से जिसका क्रियान्वयन वन विभाग के द्वारा किया जायेगा। प्रस्तावित पाठ्यक्रमों का विवरण निम्नांकित है -

Sr. No.	Works to be done	Cost for Four years (Rs. in lakhs)					Remarks
		1 st Year	2 nd Year	3 rd Year	4 th Year	Total	
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9	Awareness Programme including Signages, distribution of Pamphlets related to wild life conservation etc.	2.50	2.50	2.50	2.50	10.00	
10	Provision for conservation of Biodiversity among flora and fauna of the area & Preparation of Biodiversity register	20.00	0.00	0.00	0.00	20.00	The amount is to be deposited in the account of Biodiversity Board as this work is to be done by Biodiversity management committees (BMC's)
Total		55.00	35.00	35.00	35.00	160.00	

ANNEXURE-6
DETAILS OF FLORA & FAUNA

TABLE-1
DETAILS OF DOMINANT PLANT SPECIES IN MINE LEASE AREA (CORE ZONE)

Name of the plant Species	Local Name	Family
<i>Butea monosperma</i>	Palas	Fabaceae
<i>Acacia Arabica</i>	Babul	Mimosaceae
<i>Leucena leucophloe</i>	Sabulal	Mimosaceae
<i>Mangifera indica</i>	Aam	Anacardiaceae
<i>Citrus lemon</i>	Nimbu	Rutaceae
<i>Emblica officinalis</i>	Amia	Euphorbiaceae
<i>Ficus hispida</i>	Jungli anjir	Moraceae
<i>Spondias cythera</i>	Kathjamun	Myrtaceae
<i>Terminalia catapa</i>	Badam	Combretaceae
<i>Apluda mutica</i>	Grass	Poaceae
<i>Chloris dolichosta</i>	Grass	Poaceae
<i>Dichanthium annulatum</i>	Grass	Poaceae
<i>Inpurta cylendrica</i>	Grass	Poaceae
<i>Themeda quadrivalvis</i>	Grass	Poaceae
<i>Aristida adscensionsis</i>	Grass	Poaceae
<i>Eragrostis bifera</i>	Grass	Poaceae
<i>Eragrostis tenella</i>	Grass	Poaceae
<i>Setaria glauca</i>	Grass	Cyperaceae
<i>Hyssanolaena maxima</i>	Grass	Graminae
<i>Parthenium hysterophorus</i>	Congress grass	Compositae
<i>Cassia tora</i>	-	Caesalpinaceae
<i>Delonix regia</i>	Kachnar	Caesalpinaceae
<i>Dalbergia Sissoo</i>	Sisoo	Caesalpinaceae

TABLE-2
FLORA/VEGETATION IN STUDY AREA (BUFFER ZONE)

Sr. No.	Technical Name	Family	Life Form
I. Agricultural Crops			
1	<i>Hordium vulgare</i>	Poaceae	Hemicryptophyte
2	<i>Sorghum vulgare</i>	Poaceae	Hemicryptophyte
3	<i>Triticum vulgare</i>	Poaceae	Hemicryptophyte
4	<i>Zea mays</i>	Poaceae	Hemicryptophyte
5	<i>Oryza sativa</i>	Poaceae	Hemicryptophyte
6	<i>Pennisetum typhoideum</i>	Poaceae	Hemicryptophyte
II. Commercial Crops (including Vegetables)			
7	<i>Abelmoschus indicus</i>	Malvaceae	Therophyte
8	<i>Allium cepa</i>	Liliaceae	Geophyte
9	<i>Allium sativum</i>	Liliaceae	Geophyte
10	<i>Annona squamosa</i>	Annonaceae	Phanerophyte
11	<i>Arachis hypogia</i>	Fabaceae	Geophyte
12	<i>Citharanthes pusillus</i>	Compositae	Therophyte
13	<i>Cicer arietinum</i>	Fabaceae	Hemicryptophyte
14	<i>Citrus lemon</i>	Ruataceae	Therophyte
15	<i>Colacasia esculenta</i>	Areaceae	Geophyte
16	<i>Coreandrum sativum</i>	Umbelliferae	Hemicryptophyte
17	<i>Daucus carota</i>	Umbelliferae	Geophyte
18	<i>Lycopersicum esculentus</i>	Solanaceae	Therophyte
19	<i>Mangifera indica</i>	Anacardiaceae	Phanerophyte
20	<i>Momordia charantia</i>	Cucurbitaceae	Therophyte
21	<i>Pisum sativum</i>	Fabaceae	Therophyte
22	<i>Psidium guava</i>	Myrtaceae	Phanerophyte
23	<i>Solanum tuberosum</i>	Solanaceae	Geophyte
24	<i>Litchi chinensis</i>	Sapindaceae	Phanerophyte
III. Plantations			
25	<i>Bauhinia cormbosa</i>	Caesalpinaceae	Phanerophyte
26	<i>Acacia nilotica</i>	Mimosaceae	Phanerophyte
27	<i>Albizia lebbeck</i>	Mimosaceae	Phanerophyte
28	<i>Albizia odorattissima</i>	Mimosaceae	Phanerophyte
29	<i>Albizia procera</i>	Mimosaceae	Phanerophyte

Sr. No.	Technical Name	Family	Life Form
30	<i>Azadirachta indica</i>	Meliaceae	Phanerophyte
31	<i>Bauhinia variegata</i>	Caesalpinaceae	Phanerophyte
32	<i>Bauhinia purpuria</i>	Caesalpinaceae	Phanerophyte
33	<i>Bambusa arundanaceae</i>	Poaceae	Phanerophyte
34	<i>Butea monosperma</i>	Caesalpinaceae	Phanerophyte
35	<i>Butea frondosa</i>	Caesalpinaceae	Phanerophyte
36	<i>Eucalyptus sp</i>	Myrtaceae	Phanerophyte
37	<i>Delonix regia</i>	Caesalpinaceae	Phanerophyte
38	<i>Leucena leucophloe</i>	Caesalpinaceae	Phanerophyte
IV. Natural Vegetation/Forest Type			
39	<i>Abrus precatorius</i>	Fabaceae	Therophyte
40	<i>Abutilon indicum</i>	Malvaceae	Phanerophyte
41	<i>Acacia Arabica</i>	Mimosaceae	Phanerophyte
42	<i>Acacia auriculiformis</i>	Mimosaceae	Phanerophyte
43	<i>Acacia catechu</i>	Mimosaceae	Phanerophyte
44	<i>Acacia intinsia</i>	Mimosaceae	Phanerophyte
45	<i>Acacia fernacea</i>	Mimosaceae	Phanerophyte
46	<i>Acacia leucophloe</i>	Mimosaceae	Phanerophyte
47	<i>Acalypha lanceolata</i>	Mimosaceae	Phanerophyte
48	<i>Acanthospermum hispidum</i>	Euphorbiaceae	Therophyte
49	<i>Achyranthes aspera</i>	Compositae	Therophyte
50	<i>Adathoda vasica</i>	Amaranthaceae	Therophyte
51	<i>Adina cordifolia</i>	Acanthaceae	Therophyte
52	<i>Aegle marmelos</i>	Rubiaceae	Phanerophyte
53	<i>Aerva lanata</i>	Rutaceae	Phanerophyte
54	<i>Ageratum conyzoides</i>	Compositae	Phanerophyte
55	<i>Ailanthus excelsa</i>	Compositae	Therophyte
56	<i>Alangium salivus</i>	Simaroubaceae	Phanerophyte
57	<i>Albizia odoratissima</i>	Alangiceae	Phanerophyte
58	<i>Albizia procera</i>	Caesalpinaceae	Phanerophyte
59	<i>Alstonia scholaris</i>	Caesalpinaceae	Phanerophyte
60	<i>Alternanthera sessilis</i>	Apocyanaceae	Phanerophyte
61	<i>Alysicarpus hamosus</i>	Amaranthaceae	Therophyte
62	<i>Anogeissus latifolia</i>	Fabaceae	Therophyte
63	<i>Anogeissus serica</i>	Combretaceae	Phanerophyte
64	<i>Argemone mexicana</i>	Combretaceae	Phanerophyte
65	<i>Azadirachta indica</i>	Papevaraceae	Phanerophyte
66	<i>Barleria prionites</i>	Meliaceae	Phanerophyte
67	<i>Bidens biternata</i>	Acanthaceae	Therophyte
68	<i>Blepharis asperima</i>	Compositae	Therophyte
69	<i>Blepharis madaraspatens</i>	Acanthaceae	Phanerophyte
70	<i>Blumea lacera</i>	Acanthaceae	Therophyte
71	<i>Boerheavia chinensis</i>	Compositae	Therophyte
72	<i>Boerheavia diffusa</i>	Nycataginaceae	Therophyte
73	<i>Bombax ceiba</i>	Nyctaginaceae	Therophyte
74	<i>Borreria hispida</i>	Bombacaceae	Phanerophyte
75	<i>Borreria stricta</i>	Rubiaceae	Therophyte
76	<i>Boswellia serrata</i>	Rubiaceae	Therophyte
77	<i>Brassica campestris</i>	Burseraceae	Phanerophyte
78	<i>Bridelia retusa</i>	Cruciferae	Therophyte
79	<i>Bridelia superba</i>	Euphorbiaceae	Phanerophyte
80	<i>Caesalpina pulcherima</i>	Euphorbiaceae	Phanerophyte
81	<i>Calotropis procera</i>	Caesalpinaceae	Phanerophyte
82	<i>Canthium diddynam</i>	Asclpiadaceae	Phanerophyte
83	<i>Capparis aphylla</i>	Rubiaceae	Phanerophyte
84	<i>Capparis deciduas</i>	Capparidaceae	Phanerophyte
85	<i>Carissa carandus</i>	Capparidaceae	Therophyte
86	<i>Carissa spinarium</i>	Apocyanaceae	Phanerophyte
87	<i>Casuarina graveolens</i>	Apocyanaceae	Phanerophyte
88	<i>Cassia absus</i>	Samydiaceae	Phanerophyte
89	<i>Cassia absus</i>	Caesalpinaceae	Phanerophyte
90	<i>Cassia auriculata</i>	Caesalpinaceae	Phanerophyte
91	<i>Cassia occidentalis</i>	Caesalpinaceae	Therophyte
92	<i>Cassia tora</i>	Caesalpinaceae	Therophyte
93	<i>Cestrum diurnum</i>	Caesalpinaceae	Therophyte
94	<i>Cestrum noctrunum</i>	Rubiaceae	Phanerophyte
		Rubiaceae	Therophyte

Sr. No.	Technical Name	Family	Life Form
95	<i>Chloris variegata</i>	Poaceae	Therophyte
96	<i>Cissus quadrangularis</i>	Vitaceae	Therophyte
97	<i>Citrus limon</i>	Rutaceae	Phanerophyte
98	<i>Cleome gynandra</i>	Capparidaceae	Therophyte
99	<i>Combretum ovalifolium</i>	Rubiaceae	Phanerophyte
100	<i>Cordia myxa</i>	Rubiaceae	Phanerophyte
101	<i>Crotalaria medicagenia</i>	Fabaceae	Therophyte
102	<i>Croton bonplandinum</i>	Amaryllidaceae	Therophyte
103	<i>Cuscuta reflexa</i>	Cuscutaceae	Epiphyte
104	<i>Datura fastuosa</i>	Solanaceae	Therophyte
105	<i>Datura metel</i>	Solanaceae	Therophyte
106	<i>Desmodium triflorum</i>	Asclepiadaceae	Therophyte
107	<i>Diospyros melanoxylon</i>	Lythraceae	Phanerophyte
108	<i>Diospyros Montana</i>	Lythraceae	Phanerophyte
109	<i>Echinops echinatus</i>	Compositae	Therophyte
110	<i>Eclipta prostrate</i>	Compositae	Hemicryptophyte
111	<i>Emblica officinale</i>	Euphorbiaceae	Phanerophyte
112	<i>Emilia lajerium</i>	Compositae	Hemicryptophyte
113	<i>Erythrina indica</i>	Papilionaceae	Phanerophyte
114	<i>Euphorbia geniculata</i>	Euphorbiaceae	Therophyte
115	<i>Euphorbia hirta</i>	Euphorbiaceae	Therophyte
116	<i>Euphorbia hyperocifolia</i>	Euphorbiaceae	Therophyte
117	<i>Euphorbia neruri</i>	Euphorbiaceae	Therophyte
118	<i>Euphorbia nivula</i>	Euphorbiaceae	Therophyte
119	<i>Euphorbia piluliflora</i>	Euphorbiaceae	Hemicryptophyte
120	<i>Euphorbia tricauli</i>	Euphorbiaceae	Hemicryptophyte
121	<i>Evolvulus alsinoides</i>	Convolvulaceae	Therophyte
122	<i>Evolvulus numularis</i>	Convolvulaceae	Therophyte
123	<i>Feronia elephantum</i>	Rutaceae	Phanerophyte
124	<i>Ficus benghalensis</i>	Moraceae	Phanerophyte
125	<i>Ficus carica</i>	Moraceae	Phanerophyte
126	<i>Ficus glomerata</i>	Moraceae	Phanerophyte
127	<i>Ficus hispida</i>	Moraceae	Phanerophyte
128	<i>Ficus racemosus</i>	Moraceae	Phanerophyte
129	<i>Ficus religiosa</i>	Moraceae	Phanerophyte
130	<i>Ficus gibbosa</i>	Moraceae	Phanerophyte
131	<i>Gardenia latifolia</i>	Rubiaceae	Phanerophyte
132	<i>Gardenia lucida</i>	Rubiaceae	Phanerophyte
133	<i>Garuga pinnata</i>	Burseraceae	Phanerophyte
134	<i>Glossocardia boswellia</i>	Compositae	Hemicryptophyte
135	<i>Gmelina arborea</i>	Rubiaceae	Phanerophyte
136	<i>Gomphrena globosa</i>	Amaranthaceae	Therophyte
137	<i>Gossypium herbaceum</i>	Malvaceae	Therophyte
138	<i>Grewia abutilifolia</i>	Tiliaceae	Phanerophyte
139	<i>Grewia salivifolia</i>	Tiliaceae	Phanerophyte
140	<i>Grewia subinaqualis</i>	Tiliaceae	Phanerophyte
141	<i>Gynandropis gynandra</i>	Capparidaceae	Hemicryptophyte
142	<i>Helictis isora</i>	Rubiaceae	Phanerophyte
143	<i>Heliotropium indicum</i>	Rubiaceae	Hemicryptophyte
144	<i>Heliotropium ovalifolium</i>	Rubiaceae	Hemicryptophyte
145	<i>Hemidesmus indicus</i>	Asclepiadaceae	Phanerophyte
146	<i>Hibiscus caesus</i>	Malvaceae	Hemicryptophyte
147	<i>Holarrhena antidycenterica</i>	Asclepiadaceae	Phanerophyte
148	<i>Holostemma annularia</i>	Asclepiadaceae	Phanerophyte
149	<i>Hygrophylla auriculata</i>	Acanthaceae	Hemicryptophyte
150	<i>Hyptis suaveolens</i>	Labiatae	Therophyte
151	<i>Ichnocarpus frutens</i>	Poaceae	Hemicryptophyte
152	<i>Impatiens balsamania</i>	Balsaminaceae	Therophyte
153	<i>Indigofera hirsute</i>	Caesalpinaceae	Therophyte
154	<i>Indigofera limnacea</i>	Caesalpinaceae	Therophyte
155	<i>Indigofera tinctoria</i>	Caesalpinaceae	Therophyte
156	<i>Ipomea aquatica</i>	Convolvulaceae	Hydrophyte
157	<i>Ipomea coccinea</i>	Convolvulaceae	Therophyte
158	<i>Ipomea tuba</i>	Convolvulaceae	Hemicryptophyte
159	<i>Ixora arborea</i>	Rubiaceae	Phanerophyte
160	<i>Ixora parviflora</i>	Rubiaceae	Phanerophyte

Sr. No.	Technical Name	Family	Life Form
161	<i>Ixora singapuriensis</i>	Rubiaceae	Phanerophyte
162	<i>Jasminum arborens</i>	Oleaceae	Phanerophyte
163	<i>Jatropha gossypifolia</i>	Euphorbiaceae	Therophyte
164	<i>Jussiaea suffruticosa</i>	Onagraceae	Hydrophyte
165	<i>Justia diffusa</i>	Acanthaceae	Therophyte
166	<i>Justicia diffusa</i>	Acanthaceae	Therophyte
167	<i>Lactuca punctata</i>	Compositae	Therophyte
168	<i>Lansea coramandalica</i>	Anacardiaceae	Phanerophyte
169	<i>Lansea grandis</i>	Anacardiaceae	Phanerophyte
170	<i>Lansea procumbens</i>	Anacardiaceae	Therophyte
171	<i>Lantana camara</i>	Verbinaceae	Phanerophyte
172	<i>Lawsonia inermis</i>	Lythraceae	Phanerophyte
173	<i>Lepidogathis cristata</i>	Acanthaceae	Therophyte
174	<i>Leptodenia reticulata</i>	Asclepiadaceae	Phanerophyte
175	<i>Leucas aspera</i>	Labiatae	Therophyte
176	<i>Leucas longifolia</i>	Labiatae	Therophyte
177	<i>Leucas longifolia</i>	Labiatae	Therophyte
178	<i>Leucena leucophloe</i>	Caesalpinaceae	Phanerophyte
179	<i>Linderbergia indica</i>	Scrophulariaceae	Therophyte
180	<i>Lindernbergia ciliate</i>	Scrophulariaceae	Therophyte
181	<i>Lophophora tridinatus</i>	Scrophulariaceae	Geophyte
182	<i>Luffa acutangularia</i>	Cucurbitaceae	Therophyte
183	<i>Lycopersicum esculentus</i>	Solanaceae	Therophyte
184	<i>Madhuca latifolia</i>	Sapotaceae	Phanerophyte
185	<i>Mallotus philippinus</i>	Euphorbiaceae	Phanerophyte
186	<i>Malvastrum coramandalicum</i>	Malvaceae	Therophyte
187	<i>Mangifera indica</i>	Anacardiaceae	Phanerophyte
188	<i>Marselia quadrifolia</i>	Marseliaceae	Phanerophyte
189	<i>Melia azadirachta</i>	Meliaceae	Phanerophyte
190	<i>Memordica diocea</i>	Cucurbitaceae	Therophyte
191	<i>Merremia emerginata</i>	Convolvulaceae	Therophyte
192	<i>Michaelia champaca</i>	Annonaceae	Phanerophyte
193	<i>Millingtonia harten</i>	Bignoniaceae	Phanerophyte
194	<i>Mimosa hamata</i>	Mimosaceae	Therophyte
195	<i>Mitragyna parviflora</i>	Rubiaceae	Phanerophyte
196	<i>Mollugo cerviana</i>	Aizoaceae	Therophyte
197	<i>Mollugo hirta</i>	Aizoaceae	Therophyte
198	<i>Moringa oleifera</i>	Moringaceae	Phanerophyte
199	<i>Morus alba</i>	Moraceae	Phanerophyte
200	<i>Mucuna prurita</i>	Papilionaceae	Hemicryptophyte
201	<i>Murraya exotica</i>	Rutaceae	Phanerophyte
202	<i>Murraya koenigii</i>	Rutaceae	Phanerophyte
203	<i>Musa paradisiaca</i>	Musaceae	Therophyte
204	<i>Nymphia sp</i>	Magnoliaceae	Hydrophyte
205	<i>Ocimum americanum</i>	Labiatae	Therophyte
206	<i>Ocimum basilium</i>	Labiatae	Therophyte
207	<i>Ocimum canum</i>	Labiatae	Therophyte
208	<i>Ocimum sanctum</i>	Labiatae	Therophyte
209	<i>Oldenlandia umbellate</i>	Convolvulaceae	Therophyte
210	<i>Oldenlandia corymbosa</i>	Rubiaceae	Therophyte
211	<i>Ooqenia oojensis</i>	Papilionaceae	Phanerophyte
212	<i>Opuntia dillinii</i>	Opuntiaceae	Therophyte
213	<i>Opuntia elator</i>	Cacataceae	Therophyteq
214	<i>Oxalis corniculata</i>	Oxalidaceae	Therophyte
215	<i>Panicum milliria</i>	Poaceae	Hemicryptophyte
216	<i>Panicum notatum</i>	Poaceae	Hemicryptophyte
217	<i>Papaver somniferum</i>	Papaveraceae	Hemicryptophyte
218	<i>Parkinsonia aculata</i>	Mimosaceae	Phanerophyte
219	<i>Parthenium hysterophorus</i>	Compositae	Therophyte
220	<i>Paspalum strobilanthus</i>	Passifloraceae	Hemicryptophyte
221	<i>Passiflora foetida</i>	Passifloraceae	Phanerophyte
222	<i>Pavonia zeylanica</i>	Malvaceae	Phanerophyte
223	<i>Peltophorum ferrusinum</i>	Caesalpinaceae	Phanerophyte
224	<i>Phoenix aculis</i>	Palmae	Phanerophyte
225	<i>Phyllanthus asperulatus</i>	Euphorbiaceae	Phanerophyte
226	<i>Phyllanthus emblica</i>	Euphorbiaceae	Phanerophyte

Sr. No.	Technical Name	Family	Life Form
227	<i>Phyllanthus niruri</i>	Euphorbiaceae	Therophyte
228	<i>Phyllanthus reticulatus</i>	Euphorbiaceae	Therophyte
229	<i>Physalis minima</i>	Solanaceae	Therophyte
230	<i>Pithecolobium dulce</i>	Mimosaceae	Phanerophyte
231	<i>Polyalthia longifolia</i>	Annonaceae	Phanerophyte
232	<i>Polygala ererptera</i>	Polygalaceae	Therophyte
233	<i>Pongamia pinnata</i>	Fabaceae	Phanerophyte
234	<i>Portulaca oleracea</i>	Portulacaceae	Therophyte
235	<i>Psidium guava</i>	Myrtaceae	Phanerophyte
236	<i>Punica granatum</i>	Puniaceae	Therophyte
237	<i>Randia dumetorum</i>	Rubiaceae	Phanerophyte
238	<i>Rosa indica</i>	Rosaceae	Therophyte
239	<i>Rosa machata</i>	Rosaceae	Therophyte
240	<i>Saccharum munja</i>	Poaceae	Hemicryptophyte
241	<i>Saccharum officinarum</i>	Poaceae	Therophyte
242	<i>Salmalia malabarica</i>	Salmaliaceae	Phanerophyte
243	<i>Sapindus emarginatus</i>	Sapindaceae	Phanerophyte
244	<i>Schleichera trijuga</i>	Combretaceae	Phanerophyte
245	<i>Schrebera swietenoides</i>	Sapindaceae	Phanerophyte
246	<i>Schleichera oleosa</i>	Sapindaceae	Phanerophyte
247	<i>Sesamum indicum</i>	Pedaliaceae	Hemicryptophyte
248	<i>Shorea robusta</i>	Dipterocarpaceae	Phanerophyte
249	<i>Sida orientalis</i>	Malvaceae	Phanerophyte
250	<i>Sida ornatifolia</i>	Malvaceae	Hemicryptophyte
251	<i>Solanum nigrum</i>	Solanaceae	Therophyte
252	<i>Solanum xanthocarpum</i>	Solanaceae	Therophyte
253	<i>Sterculia villosa</i>	Tiliaceae	Therophyte
254	<i>Stereospermum chelinoides</i>	Bignoniaceae	Phanerophyte
255	<i>Syzygium cumini</i>	Myrtaceae	Phanerophyte
256	<i>Tamarindus indica</i>	Caesalpinaceae	Phanerophyte
257	<i>Tecomella undulate</i>	Bignoniaceae	Therophyte
258	<i>Tectona grandis</i>	Verbinaceae	Phanerophyte
259	<i>Tephrosia purpuria</i>	Fabaceae	Therophyte
260	<i>Terminalia bellarica</i>	Combretaceae	Phanerophyte
261	<i>Terminalia chebula</i>	Combretaceae	Phanerophyte
262	<i>Terminalia tomentosa</i>	Combretaceae	Phanerophyte
263	<i>Tinospora cordifolia</i>	Rhamnaceae	Therophyte
264	<i>Traquus biflorus</i>	Poaceae	Hemicryptophyte
265	<i>Tribulus terrestris</i>	Zygophyllaceae	Therophyte
266	<i>Tridax procumbens</i>	Compositae	Therophyte
267	<i>Triumferta pilosa</i>	Tiliaceae	
268	<i>Vernonia cinera</i>	Compositae	Therophyte
269	<i>Vicoa indica</i>	Compositae	Phanerophyte
270	<i>Vitex Negundo</i>	Verbinaceae	Phanerophyte
271	<i>Vitex negundo</i>	Verbinaceae	Therophyte
272	<i>Vitis vermicifera</i>	Vitaceae	Therophyte
273	<i>Vivevera zizanioides</i>	Poaceae	Therophyte
274	<i>Wrightia tomentosa</i>	Apocyanaceae	Phanerophyte
275	<i>Xanthium strumariumk</i>	Compositae	Therophyte
276	<i>Yucca gloriosa</i>	Agavaceae	Therophyte
277	<i>Zizyphus jujube</i>	Rhamnaceae	Phanerophyte
278	<i>Zizyphus mauritiana</i>	Rhamanaceae	Phanerophyte
V. Grasslands			
279	<i>Apluda mutica</i>	Poaceae	Hemicryptophyte
280	<i>Chloris dolichosta</i>	Poaceae	Hemicryptophyte
281	<i>Cyanodactylon sp</i>	Poaceae	Geophyte
282	<i>Dichanthium annulatum</i>	Poaceae	Hemicryptophyte
283	<i>Inpurta cylendrica</i>	Poaceae	Hemicryptophyte
284	<i>Sachharum spontanseum</i>	Poaceae	Hemicryptophyte
285	<i>Themeda quadrivalvis</i>	Poaceae	Hemicryptophyte
286	<i>Aristida adscensionis</i>	Poaceae	Hemicryptophyte
287	<i>Cenchrus ciliaris</i>	Poaceae	Therophyte
288	<i>Cenchrus setifera</i>	Poaceae	Therophyte
289	<i>Cymbopogon jwarancusa</i>	Cyperaceae	Hemicryptophyte
290	<i>Cyperus aristatus</i>	Cyperaceae	Therophyte
291	<i>Cyperus triceps</i>	Cyperaceae	Therophyte

Sr. No.	Technical Name	Family	Life Form
292	<i>Dactylectinium annualatum</i>	Poaceae	Therophyte
293	<i>Digitaria bicornis</i>	Poaceae	Hemicryptophyte
294	<i>Digitaria Segetaria</i>	Poaceae	Hemicryptophyte
295	<i>Eragrostis biferia</i>	Poaceae	Therophyte
296	<i>Eragrostis tenella</i>	Poaceae	Therophyte
297	<i>Ischaemum rugosum</i>	Poaceae	Hemicryptophyte
298	<i>Setaria glauca</i>	Cyperaceae	Hemicryptophyte
299	<i>Eulaliopsis binata</i>	Graminae	Hemicryptophyte
300	<i>Thysanolaena maxima</i>	Graminae	Hemicryptophyte
	Endangered plants	No endangered plant species observed during study period and also from records of Botanical Survey of India (Red data of Books of Indian Plants)	

TABLE-3
FAUNA AND THEIR CONSERVATION STATUS FROM MINE LEASE AREA (CORE ZONE)

Technical Name	English Name/ Local Name	Wild Life Protection Act (1972) Status
Aves		
<i>Phalacrocorax niger</i>	Little cormorant	Sch-IV
<i>Nycticorax nycticorax</i>	Night heron	Sch-IV
<i>Ardeola grayii grayii</i>	Paddy bird	Sch-IV
<i>Bubulcus ibis coromandus</i>	Cattle egret	Sch-IV
<i>Eudynamys scolopacea</i>	Indian koel	Sch-IV
<i>Meops philippinus philippinus</i>	Bluetailed bee-eater	Sch-IV
<i>Dinopium benghalense tehminae</i>	Malabar golden backed Woodpecker	Sch-IV
<i>Acridotheres tristis tristis</i>	Common myna	Sch-IV
<i>Nectarinia minima</i>	Small sunbird	Sch-IV
<i>Passer domesticus indicus</i>	Indian house sparrow	Sch-IV
Butterflies		
<i>Hypolimnas bolina Lin.</i>	Great orange fly	-
<i>Euploea core Cramer</i>	Common crow	-
<i>Neptis hylas Moore</i>	Common sailor	-
<i>Eurema hecabe Lin.</i>	Common grass yellow	-
<i>Parantica aglea Stoll.</i>	Glassy tiger	-
Mammals		
<i>Funambulus palmarum</i>	Squirrel	-
<i>Sus sucrofa</i>	Wild pig	Sch-IV
<i>Herpestes edwardii</i>	Common mongoose	Sch-III
<i>Vulpus benghalensis</i>	Wild fox	Sch-IV
<i>Hystrix indica</i>	Porcupine	Sch-II

TABLE-4
FAUNA AND THEIR CONSERVATION STATUS IN STUDY AREA (BUFFER ZONE)

Technical Name	English Name/Local Name	Wild Life Protection Act (1972)
Aves		
<i>Phalacrocorax niger</i>	Little cormorant	Sch-IV
<i>Ardea purpurea manilensis</i>	Eastern purple heron	Sch-IV
<i>Nycticorax nycticorax</i>	Night heron	Sch-IV
<i>Ardeola grayii grayii</i>	Paddy bird	Sch-IV
<i>Dupetor flavicollis</i>	Black bittern	Sch-IV
<i>Ardea alba modesta</i>	Large egret	Sch-IV
<i>Bubulcus ibis coromandus</i>	Cattle egret	Sch-IV
<i>Milvus migrans govinda</i>	Common pariah kite	Sch-IV
<i>Haliastur indus indus</i>	Brahminy kite	Sch-IV
<i>Vanellus indicus indicus</i>	Redwattled lapwing	Sch-IV
<i>Tringa hypoleucos</i>	Common sandpiper	Sch-IV
<i>Gelochelidon nilotica nilotica</i>	Gullbilled tern	Sch-IV
<i>Eudynamys scolopacea</i>	Indian koel	Sch-IV
<i>Halcyon smyrnensis fusca</i>	Indian white breasted Kingfisher	Sch-IV
<i>Meops philippinus philippinus</i>	Bluetailed bee-eater	Sch-IV

Technical Name	English Name/Local Name	Wild Life Protection Act (1972)
<i>Coracias benghalensis indica</i>	Southern Indian Roller	Sch-IV
<i>Dinopium benghalense tehminae</i>	Malabar golden backed Woodpecker	Sch-IV
<i>Acridotheres tristis tristis</i>	Common myna	Sch-IV
<i>Corvus splendens protegatus</i>	Ceylon house crow	Sch-IV
<i>Nectarinia minima</i>	Small sunbird	Sch-IV
<i>Nectarinia zeylonica sola</i>	Indian purple rumped sunbird	Sch-IV
<i>Arachnothera longirostris longirostris</i>	Little spinder hunter	Sch-IV
<i>Passer domesticus indicus</i>	Indian house sparrow	Sch-IV
<i>Copsychus saularis ceylonensis</i>	Southern magpie-robin	Sch-IV
<i>Orthotomus sutorius</i>	Tailor bird guzurata	Sch-IV
<i>Pavocristatus</i>	Peacock	Part-III of Sch-I
Amphibians		
<i>Rana tigrina</i>	Common frog	Sch-IV
<i>Bufo melanostictus</i>	Toad	Sch-IV
Reptiles		
<i>Calotes versicolor</i>	Lizard	Sch-IV
<i>Calotes versicolor</i>	Common garden lizard	Sch-IV
<i>Chamaeleon zeylanicus</i>	Indian chamaeleon	Sch-II
<i>Lycodon spp.</i>	Wolf snake	Sch-III
<i>Boiga spp.</i>	Cat snake	Sch-III
<i>Bangarus spp.</i>	Krait	Sch-II
<i>Naja naja</i>	Indian cobra	Sch-III
<i>Viperia spp.</i>	Russels viper	Sch-III
<i>Python sp</i>	Python sp	Sch-I
Butterflies		
<i>Pachliopta hector Lin.</i>	Crimson rose	-
<i>Papilio demoleus Lin.</i>	Lime butterfly	-
<i>Graphium agamemnon Lin.</i>	Tailed jay	-
<i>Junonia almana Lin.</i>	Peacock pansy	-
<i>Hypolimnas bolina Lin.</i>	Great egg fly	-
<i>Euploea core Cramer</i>	Common crow	-
<i>Neptis hylas Moore</i>	Common sailor	-
<i>Eurema hecabe Lin.</i>	Common grass yellow	-
<i>Catopsilia sp.</i>	Emigrant	-
Mammals		
<i>Rattus sp.</i>	Rat	Sch-IV
<i>Lepus nigricollis</i>	Hare	Sch-IV
<i>Canis auries</i>	Jackal	Sch-III
<i>Presbytis entellus</i>	Langur	Sch-II
<i>Presbytis phayrei</i>	Monkey	Sch-I
<i>Funambulus spp.</i>	Squirrel	Sch-IV
<i>Funambulus palmarum</i>	Squirrel	Sch-IV
<i>Sus sucrofa</i>	Wild pig	Sch-III
<i>Rattus norvegicus</i>	Field mouse	Sch-V
<i>Rattus rattus</i>	House rat	Sch-V
<i>Rhinolopus spp.</i>	Bat	Sch-V
<i>Hipposiderus spp.</i>	Bat	Sch-V
<i>Herpestes edwardii</i>	Common mongoose	Sch-IV
<i>Bandicota indica</i>	Bandicoot	Sch-V
<i>Bandicota bengalensis</i>	Bandicoot	Sch-V
<i>Vulpus benghalensis</i>	Wild fox	Sch-III
<i>Melurus ursinus</i>	Bear	Sch-III
<i>Hystrix indica</i>	Porcupine	Sch-IV
<i>Axis axis</i>	Spotted deer	Sch-III
<i>Canis lupaspallipes</i>	Indian wolf	Part-I of Sch-I
<i>Mellivora capensis</i>	Indian Ratel	Part-I of Sch-I
<i>Elephas maximus</i>	Indian Elephant	Part-I of Sch-I
<i>Felis chaus</i>	Jungle cat	Part-II of sch-II
<i>Paradoxurus hermophroiditus</i>	Indian Small civet	Part-I of sch-I
<i>Muntiacus muntiacus</i>	Barking deer	Sch-III
<i>Macaca mulata</i>	Monkey	Part-I of Sch-I

Self Help Group (SHGs) , Samri

No. of SHGs	21
No of Beneficiaries	212
No of group linked with bank	17
Average Saving / Group – Rs. 12,000/-	Rs. 12000/-
Facility provided to groups	Register, Passbook, Dari, Sewing Machine, Income Generation training and other exposure programme like linkages with bank and training with NRLM
Groups engaged in income generation activities	21

SHGs Details
(Samri)

Sl.No	SHG Name	Village Name	District Name	No Of Members	A/C Details		Economic Activity Name	Year of Formation
					Members Savings in Bank A/C	Bank Loan Received		
1	Gulmohar Self Help group	Amtahi	Balrampur	10	7000.00	-	Agriculture	13/09/2016
2	Sitara Self Help Group	Amtahi	Balrampur	10	16000.00	250000.00	Stitching Centre	18/06/2013
3	Chand Self Help Group	Amtahi	Balrampur	10	15500.00	350000.00	Stitching Centre	13/05/2013
4	Muskan Self Help Group	Amtahi	Balrampur	10	12500.00	50000.00	Mid day meal Programme	18/2/2013
5	Chameil Self Group	Navatoli (Amtahi)	Balrampur	10	9900.00	-	Agriculture	13/07/2018
6	Nirmala Self Help Group	Amtahi	Balrampur	10	9450.00	50000.00	Agriculture	14/06/2012
7	Parwati Self Help Group	Amtahi	Balrampur	10	2500.00	-	Agriculture	20/05/2013
8	Nigrani Self Group	Amtahi	Balrampur	10	7580.00	50000.00	Stitching Centre	19/03/2013
9	Chandni Self Help Group	Amtahi	Balrampur	10	21600.00	-	Stitching Centre	14/07/2018
10	Swajaldhara Self Help Group	Amtahi	Balrampur	10	11712.00	-	Agriculture	14/06/2013
11	Savitr Self Help Group	Amtahi	Balrampur	10	12580.00	-	Agriculture	19/09/2012
12	Indira Gandhi Self Help Group	Rajendrapur	Balrampur	10	12000.00	-	Agriculture	6/8/2012
13	Sonam Self Help Group	Rajendrapur	Balrampur	10	5000.00	-	Agriculture	9/5/2013
14	Basanti Self Help Group	Rajendrapur (Pakrtoi)	Balrampur	12	22586.00	-	Agriculture	12/1/2013
15	Saraswati Self Help Group	Dumekholi	Balrampur	10	14500.00	-	Agriculture	3/6/2017
16	Chameil Self Help Group	Kuku	Balrampur	10	9000.00	-	Agriculture	5/6/2017
17	Champa Self Help Group	Kuku	Balrampur	10	15000.00	-	Agriculture	18/06/2016
18	Genda Self Help Group	Tulvihar, Kuku	Balrampur	10	13500.00	-	Agriculture	4/5/2010
19	Chandra Mukhi Self Help Group	Samri (West)	Balrampur	10	7000.00	-	Agriculture	24/02/2006
20	Teti Devi Self Help Group	Kuku	Balrampur	10	9000.00	-	Agriculture	15/07/2011
21	Khusbu Self Help Group	Rajendrapur (Pakrtoi)	Balrampur	10	9500.00	-	Agriculture	18/06/2007

HINDALCO INDUSTRIES LIMITED
SAMRI BAUXITE MINES DIVISION

Year wise /lease wise Afforestation details

Year	Samri lease		Kudag lease		Tatijharia		Total	
	No. of Saplings	Area in Ha.	No. of Saplings	Area in Ha.	No. of Saplings	Area in Ha.	No. of Saplings	Area in Ha.
1998-2017	167211	68.154	117570	49.98	78925	32.06	363706	150.194
2017-18	11681	4.97	2960	1.22	8868	3.54	23509	9.73
2018-19	19730	7.9	2780	1.11	19967	7.99	42477	17
2019-20	34360	31.59	2980	1.2	32715	18.97	70055	51.76
2020-21	36160	16.918	4865	2.405	28739	12.819	69764	32.142
2021-22	47307	11.465	3270	0.354	21947	5.557	72524	17.376
2022-23	36511	9.898	5020	1.519	17110	5.628	58641	17.045
Total	352960	150.895	139445	57.788	208271	86.564	700676	295.247


Agent of Mines
Samri Mines Division
Hindalco Industries Ltd

Hindalco Industrial Limited

Samri Mines Division

Ground Water Level Data FY 2022-23

Samri Mine Lease Piezometer Reading	
Date	Height(m)
April-22	25.3
May-22	26.22
June-22	26.62
July-22	25.67
August-22	25.65
September-22	26.25
October-22	27.73
November-22	27.23
December-22	26.59
January-2023	26.51
February-2023	27.45
March-2023	29.2
Yearly Average	26.70

Table 6 Report on Chemical Examination of Water (December-2022)

Location:	GW1) Ground Water Location:- GNC Camp Sample Source:- Borewell Water
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TEST RESULTS

Page 1 of 3

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4		Test Results
				Acceptable Limit	Permissible Limit #	
I Biological Testing 1. Water						
1	Total coliform	Per 100 ml	IS 15185 : 2016	Absent	Absent	Absent
2	<i>Escherichia coli</i>	Per 100 ml	IS 15185 : 2016	Absent	Absent	Absent
II Chemical Testing 1. Water						
3	Alkalinity (as CaCO ₃)	mg/l	IS 3025 (Part 23) : 1986	200	600	194
4	Ammonia (as N)	mg/l	IS 3025 (Part 34) : 1988	0.5	No relaxation	BDL (DL - 0.1)
5	Anionic surface active agents (as MBAS)	mg/l	IS 13428 : 2005 Annex K	0.2	1.0	BDL (DL - 0.01)
6	Colour	Hazen units	IS 3025 (Part 4) : 2021	5	15	1
7	Cyanide (as CN)	mg/l	IS 3025 (Part 27) : 1986	0.05	No relaxation	BDL (DL - 0.005)
8	Chloride (as Cl)	mg/l	IS 3025 (Part 32) : 1988	250	1000	32.58
9	Calcium (as Ca)	mg/l	IS 3025 (Part 40) : 1991	75	200	54.17
10	Chloramines (as Cl ₂)	mg/l	IS 3025 (Part 26) : 2021	4.0	No relaxation	BDL (DL - 0.1)
11	Free residual chlorine	mg/l	IS 3025 (Part 26) : 2021	Min. 0.2	1	BDL (DL - 0.1)
12	Fluoride (as F)	mg/l	IS 3025 (Part 60) : 2008	1.0	1.5	0.16
13	Magnesium (as Mg)	mg/l	IS 3025 (Part 46) : 1994	30	100	13.58
14	Nitrate (as NO ₃)	mg/l	APHA 23 rd Edition	45	No relaxation	BDL (DL - 2)
15	Odour	-	IS 3025 (Part 5) : 2018	Agreeable	Agreeable	Agreeable
16	pH	-	IS 3025 (Part 11) : 2022	6.5 to 8.5	No relaxation	7.67 at 25°C
17	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part 43) : 1992	0.001	0.002	BDL (DL - 0.001)
18	Sulphate (as SO ₄)	mg/l	IS 3025 (Part 24) : 2022	200	400	16.43
19	Sulphide (as H ₂ S)	mg/l	IS 3025 (Part 29) : 1986	0.05	No relaxation	BDL (DL - 0.03)
20	Taste	-	IS 3025 (Part 8) : 1984	Agreeable	Agreeable	Agreeable
21	Total dissolved solids	mg/l	IS 3025 (Part 16) : 1984	500	2000	451
22	Turbidity	NTU	IS 3025 (Part 10) : 1984	1	5	0.4
23	Total hardness (as CaCO ₃)	mg/l	IS 3025 (Part 21) : 2009	200	600	191.20
24	Mineral Oil	mg/l	ANtr/7.2/RES/06: 2018	0.5	No relaxation	BDL (DL - 0.001)
II Chemical Testing 2. Residues In Water						
25	Arsenic (as As)	mg/l	IS 3025 (Part 37) : 2022	0.01	No relaxation	BDL (DL - 0.01)
26	Aluminium (as Al)	mg/l	IS 3025 (Part 2) : 2019	0.03	0.2	BDL (DL - 0.01)
27	Barium (as Ba)	mg/l	IS 3025 (Part 2) : 2019	0.7	No relaxation	BDL (DL - 0.01)
28	Boron (as B)	mg/l	IS 3025 (Part 2) : 2019	0.5	2.4	BDL (DL - 0.1)
29	Copper (as Cu)	mg/l	IS 3025 (Part 2) : 2019	0.05	1.5	BDL (DL - 0.03)
30	Cadmium (as Cd)	mg/l	IS 3025 (Part 2) : 2019	0.003	No relaxation	BDL (DL - 0.001)
31	Iron (as Fe)	mg/l	IS 3025 (Part 2) : 2019	1.0	No relaxation	0.18
32	Lead (as Pb)	mg/l	IS 3025 (Part 2) : 2019	0.01	No relaxation	BDL (DL - 0.001)
33	Manganese (as Mn)	mg/l	IS 3025 (Part 2) : 2019	0.1	0.3	BDL (DL - 0.05)
34	Mercury (as Hg)	mg/l	IS 3025 (Part 48) : 1994	0.001	No relaxation	BDL (DL - 0.0005)
35	Molybdenum (as Mo)	mg/l	IS 3025 (Part 2) : 2019	0.07	No relaxation	BDL (DL - 0.01)
36	Nickel (as Ni)	mg/l	IS 3025 (Part 2) : 2019	0.02	No relaxation	BDL (DL - 0.01)
37	Selenium (as Se)	mg/l	IS 3025 (Part 56) : 2003	0.01	No relaxation	BDL (DL - 0.001)
38	Silver (as Ag)	mg/l	IS 13428 : 2005	0.1	No relaxation	BDL (DL - 0.001)
39	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2) : 2019	0.05	No relaxation	BDL (DL - 0.03)
40	Zinc (as Zn)	mg/l	IS 3025 (Part 2) : 2019	5	15	BDL (DL - 0.1)



**Hindalco Industries Limited Samri
Mining Environmental Status
Report for October-2022 to December-2022**

**Details of
Salient Features**

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
II	Chemical Testing					
	2. Residues In Water					
41	Polychlorinated biphenyls					
	2,2',5-trichlorobiphenyl	µg/l	ANtr/7.2/RES/04: 2018	0.5	No relaxation	BDL (DL - 0.03)
	2,4,4'-trichlorobiphenyl	µg/l	ANtr/7.2/RES/04: 2018			BDL (DL - 0.03)
	2,2',5,5'-tetrachlorobiphenyl	µg/l	ANtr/7.2/RES/04: 2018			BDL (DL - 0.03)
	2,2',4,5,5'-pentachlorobiphenyl	µg/l	ANtr/7.2/RES/04: 2018			BDL (DL - 0.03)
	2,2',3,4,4',5'-hexachlorobiphenyl	µg/l	ANtr/7.2/RES/04: 2018			BDL (DL - 0.03)
	2,2',4,4',5,5'-hexachlorobiphenyl	µg/l	ANtr/7.2/RES/04: 2018			BDL (DL - 0.03)
	2,2',3,4,4',5,5'-heptachlorobiphenyl	µg/l	ANtr/7.2/RES/04: 2018			BDL (DL - 0.03)
42	Polynuclear aromatic hydrocarbons					
	Naphthalene	µg/l	ANtr/7.2/RES/03: 2018	0.1	No relaxation	BDL (DL - 0.03)
	Acenaphthylene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Acenaphthene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Fluorene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Anthracene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Phenanthrene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Fluoranthene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Pyrene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Benzo(a)anthracene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Chrysene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Benzo(a)pyrene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Benzo(b)fluoranthene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Benzo(k)fluoranthene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Indeno(123,cd)pyrene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Dibenzo(a,h)anthracene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Benzo(ghi)perylene	µg/l	ANtr/7.2/RES/03: 2018	BDL (DL - 0.03)		
43	Trihalomethanes					
i	Bromoform	mg/l	ANtr/7.2/RES/05: 2018	0.1	No relaxation	BDL (DL -0.05)
ii	Dibromochloromethane	mg/l		0.1	No relaxation	BDL (DL -0.05)
iii	Bromodichloromethane	mg/l		0.06	No relaxation	BDL (DL -0.05)
iv	Chloroform	mg/l		0.2	No relaxation	BDL (DL -0.05)
44	Pesticide Residues Organochlorine					
i	Alpha-HCH	µg/l	ANtr/7.2/RES/01: 2018	0.01	No relaxation	BDL (DL - 0.01)
ii	Beta HCH	µg/l	ANtr/7.2/RES/01: 2018	0.04	No relaxation	BDL (DL - 0.03)
iii	Gamma - HCH (Lindane)	µg/l	ANtr/7.2/RES/01: 2018	2	No relaxation	BDL (DL - 0.03)
iv	Delta- HCH	µg/l	ANtr/7.2/RES/01: 2018	0.04	No relaxation	BDL (DL - 0.03)
v	Alachlor	µg/l	ANtr/7.2/RES/01: 2018	20	No relaxation	BDL (DL - 0.03)
vi	Aldrin	µg/l	ANtr/7.2/RES/01: 2018	0.03	No relaxation	BDL (DL - 0.03)
vii	Dieldrin	µg/l	ANtr/7.2/RES/01: 2018	0.03	No relaxation	BDL (DL - 0.03)
viii	Butachlor	µg/l	ANtr/7.2/RES/01: 2018	125	No relaxation	BDL (DL - 0.03)
ix	p,p'-DDE	µg/l	ANtr/7.2/RES/01: 2018	1	No relaxation	BDL (DL - 0.03)
x	o,p'-DDE	µg/l	ANtr/7.2/RES/01: 2018	1	No relaxation	BDL (DL - 0.03)
xi	p,p'-DDD	µg/l	ANtr/7.2/RES/01: 2018	1	No relaxation	BDL (DL - 0.03)
xii	o,p'-DDD	µg/l	ANtr/7.2/RES/01: 2018	1	No relaxation	BDL (DL - 0.03)
xiii	o,p'- DDT	µg/l	ANtr/7.2/RES/01: 2018	1	No relaxation	BDL (DL - 0.03)
xiv	p,p'- DDT	µg/l	ANtr/7.2/RES/01: 2018	1	No relaxation	BDL (DL - 0.03)
xv	Endosulphan					
	Alpha-Endosulphan	µg/l	ANtr/7.2/RES/01: 2018	0.4	No relaxation	BDL (DL - 0.03)
	Beta-Endosulphan					
	Endosulphan sulphate					



**Hindalco Industries Limited Samri
Mining Environmental Status
Report for October-2022 to December-2022**

**Details of
Salient Features**

TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4		Test Results
				Acceptable Limit	Permissible Limit #	
44	Pesticide Residues Organophosphorus					
xvi	2,4-Dichlorophenoxyacetic acid	µg/l	ANtr/7.2/RES/02 : 2018	30	No relaxation	BDL (DL - 0.03)
xvii	Monocrotophos	µg/l	ANtr/7.2/RES/02 : 2018	1	No relaxation	BDL (DL - 0.03)
xviii	Atrazine	µg/l	ANtr/7.2/RES/02 : 2018	2	No relaxation	BDL (DL - 0.03)
xix	Parathion methyl	µg/l	ANtr/7.2/RES/02 : 2018	0.3	No relaxation	BDL (DL - 0.03)
xx	Paraoxon methyl	µg/l	ANtr/7.2/RES/02 : 2018	-	-	BDL (DL - 0.03)
xxi	Isoproturon	µg/l	ANtr/7.2/RES/02 : 2018	9	No relaxation	BDL (DL - 0.03)
xxii	Malathion	µg/l	ANtr/7.2/RES/02 : 2018	190	No relaxation	BDL (DL - 0.03)
xxiii	Malaoxon	µg/l	ANtr/7.2/RES/02 : 2018	-	-	BDL (DL - 0.03)
xxiv	Ethion	µg/l	ANtr/7.2/RES/02 : 2018	3	No relaxation	BDL (DL - 0.03)
xxv	Chlorpyrifos	µg/l	ANtr/7.2/RES/02 : 2018	30	No relaxation	BDL (DL - 0.03)
xxvi	Phorate	µg/l	ANtr/7.2/RES/02 : 2018	2	No relaxation	BDL (DL - 0.03)
	Phorate-sulfone					
	Phorate-sulfoxide					

NOTES: ● Please see watermark “Original Test Report” to confirm the authenticity of this report. ● Results shall be referred to tested sample(s) and applicable to tested parameters only. ● Test report shall not be reproduced except in full without prior written approval of Anacon Labs. ● Liability of Anacon Labs is limited to invoiced amount only. ● Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. ● #Permissible limit in absence of an alternate source for drinking water. ● ‘mg/l’ is equivalent to ‘ppm’. ● ‘µg/l’ is equivalent to ‘ppb’. ● **BDL- Below detection limit.** ● **DL- DL Indicates detection limit of instrument /method and shall be considered as ‘absent’.** ● Result for test no. 11 is not relevant. ● **ANqr RES:- Inhouse validated method.**

REMARKS: As requested by the client, sample was tested for above parameters only. **Sample complies with IS:10500:2012, for tests conducted, indicating that it is fit for drinking purpose with respect to tested parameters.**

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

Report on Chemical Examination of Water (December-2022)

Location:	DW1) Drinking Water Location:- Water ATM Outlet Sample Source:- Borewell Water
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TEST RESULTS

Page 1 of 3

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4		Test Results
				Acceptable Limit	Permissible Limit #	
I Biological Testing 1. Water						
1	Total coliform	Per 100 ml	IS 15185 : 2016	Absent	Absent	Absent
2	<i>Escherichia coli</i>	Per 100 ml	IS 15185 : 2016	Absent	Absent	Absent
II Chemical Testing 1. Water						
3	Alkalinity (as CaCO ₃)	mg/l	IS 3025 (Part 23) : 1986	200	600	82.6
4	Ammonia (as N)	mg/l	IS 3025 (Part 34) : 1988	0.5	No relaxation	BDL (DL – 0.1)
5	Anionic surface active agents (as MBAS)	mg/l	IS 13428 : 2005 Annex K	0.2	1.0	BDL (DL – 0.01)
6	Colour	Hazen units	IS 3025 (Part 4) : 2021	5	15	1
7	Cyanide (as CN)	mg/l	IS 3025 (Part 27) : 1986	0.05	No relaxation	BDL (DL – 0.005)
8	Chloride (as Cl)	mg/l	IS 3025 (Part 32) : 1988	250	1000	17.36
9	Calcium (as Ca)	mg/l	IS 3025 (Part 40) : 1991	75	200	21.94
10	Chloramines (as Cl ₂)	mg/l	IS 3025 (Part 26) : 2021	4.0	No relaxation	BDL (DL – 0.1)
11	Free residual chlorine	mg/l	IS 3025 (Part 26) : 2021	Min. 0.2	1	BDL (DL – 0.1)
12	Fluoride (as F)	mg/l	IS 3025 (Part 60) : 2008	1.0	1.5	0.18
13	Magnesium (as Mg)	mg/l	IS 3025 (Part 46) : 1994	30	100	8.37
14	Nitrate (as NO ₃)	mg/l	APHA 23 rd Edition	45	No relaxation	BDL (DL – 2)
15	Odour	-	IS 3025 (Part 5) : 2018	Agreeable	Agreeable	Agreeable
16	pH	-	IS 3025 (Part 11) : 2022	6.5 to 8.5	No relaxation	6.97 at 25°C
17	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part 43) : 1992	0.001	0.002	BDL (DL – 0.001)
18	Sulphate (as SO ₄)	mg/l	IS 3025 (Part 24) : 2022	200	400	11.34
19	Sulphide (as H ₂ S)	mg/l	IS 3025 (Part 29) : 1986	0.05	No relaxation	BDL (DL – 0.03)
20	Taste	-	IS 3025 (Part 8) : 1984	Agreeable	Agreeable	Agreeable
21	Total dissolved solids	mg/l	IS 3025 (Part 16) : 1984	500	2000	216
22	Turbidity	NTU	IS 3025 (Part 10) : 1984	1	5	0.2
23	Total hardness (as CaCO ₃)	mg/l	IS 3025 (Part 21) : 2009	200	600	89.22
24	Mineral Oil	mg/l	ANtr/7.2/RES/06: 2018	0.5	No relaxation	BDL (DL – 0.001)
II Chemical Testing 2. Residues In Water						
25	Arsenic (as As)	mg/l	IS 3025 (Part 37) : 2022	0.01	No relaxation	BDL (DL - 0.01)
26	Aluminium (as Al)	mg/l	IS 3025 (Part 2) : 2019	0.03	0.2	BDL (DL - 0.01)
27	Barium (as Ba)	mg/l	IS 3025 (Part 2) : 2019	0.7	No relaxation	BDL (DL - 0.01)
28	Boron (as B)	mg/l	IS 3025 (Part 2) : 2019	0.5	2.4	BDL (DL - 0.1)
29	Copper (as Cu)	mg/l	IS 3025 (Part 2) : 2019	0.05	1.5	BDL (DL - 0.03)
30	Cadmium (as Cd)	mg/l	IS 3025 (Part 2) : 2019	0.003	No relaxation	BDL (DL - 0.001)
31	Iron (as Fe)	mg/l	IS 3025 (Part 2) : 2019	1.0	No relaxation	0.09
32	Lead (as Pb)	mg/l	IS 3025 (Part 2) : 2019	0.01	No relaxation	BDL (DL - 0.001)
33	Manganese (as Mn)	mg/l	IS 3025 (Part 2) : 2019	0.1	0.3	BDL (DL – 0.05)
34	Mercury (as Hg)	mg/l	IS 3025 (Part 48) : 1994	0.001	No relaxation	BDL (DL - 0.0005)
35	Molybdenum (as Mo)	mg/l	IS 3025 (Part 2) : 2019	0.07	No relaxation	BDL (DL - 0.01)
36	Nickel (as Ni)	mg/l	IS 3025 (Part 2) : 2019	0.02	No relaxation	BDL (DL - 0.01)
37	Selenium (as Se)	mg/l	IS 3025 (Part 56) : 2003	0.01	No relaxation	BDL (DL - 0.001)
38	Silver (as Ag)	mg/l	IS 13428 : 2005	0.1	No relaxation	BDL (DL - 0.001)
39	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2) : 2019	0.05	No relaxation	BDL (DL - 0.03)
40	Zinc (as Zn)	mg/l	IS 3025 (Part 2) : 2019	5	15	BDL (DL - 0.1)



**Hindalco Industries Limited Samri
Mining Environmental Status
Report for October-2022 to December-2022**

**Details of
Salient Features**

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
II	Chemical Testing					
	2. Residues In Water					
41	Polychlorinated biphenyls					
	2,2',5-trichlorobiphenyl	µg/l	ANtr/7.2/RES/04: 2018	0.5	No relaxation	BDL (DL - 0.03)
	2,4,4'-trichlorobiphenyl	µg/l	ANtr/7.2/RES/04: 2018			BDL (DL - 0.03)
	2,2',5,5'-tetrachlorobiphenyl	µg/l	ANtr/7.2/RES/04: 2018			BDL (DL - 0.03)
	2,2',4,5,5'-pentachlorobiphenyl	µg/l	ANtr/7.2/RES/04: 2018			BDL (DL - 0.03)
	2,2',3,4,4',5'-hexachlorobiphenyl	µg/l	ANtr/7.2/RES/04: 2018			BDL (DL - 0.03)
	2,2',4,4',5,5'-hexachlorobiphenyl	µg/l	ANtr/7.2/RES/04: 2018			BDL (DL - 0.03)
	2,2',3,4,4',5,5'-heptachlorobiphenyl	µg/l	ANtr/7.2/RES/04: 2018			BDL (DL - 0.03)
42	Polynuclear aromatic hydrocarbons					
	Naphthalene	µg/l	ANtr/7.2/RES/03: 2018	0.1	No relaxation	BDL (DL - 0.03)
	Acenaphthylene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Acenaphthene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Fluorene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Anthracene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Phenanthrene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Fluoranthene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Pyrene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Benzo(a)anthracene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Chrysene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Benzo(a)pyrene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Benzo(b)fluoranthene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Benzo(k)fluoranthene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Indeno(123,cd)pyrene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Dibenzo(a,h)anthracene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Benzo(ghi)perylene	µg/l	ANtr/7.2/RES/03: 2018	BDL (DL - 0.03)		
43	Trihalomethanes					
i	Bromoform	mg/l	ANtr/7.2/RES/05: 2018	0.1	No relaxation	BDL (DL -0.05)
ii	Dibromochloromethane	mg/l		0.1	No relaxation	BDL (DL -0.05)
iii	Bromodichloromethane	mg/l		0.06	No relaxation	BDL (DL -0.05)
iv	Chloroform	mg/l		0.2	No relaxation	BDL (DL -0.05)
44	Pesticide Residues Organochlorine					
i	Alpha-HCH	µg/l	ANtr/7.2/RES/01: 2018	0.01	No relaxation	BDL (DL - 0.01)
ii	Beta HCH	µg/l	ANtr/7.2/RES/01: 2018	0.04	No relaxation	BDL (DL - 0.03)
iii	Gamma - HCH (Lindane)	µg/l	ANtr/7.2/RES/01: 2018	2	No relaxation	BDL (DL - 0.03)
iv	Delta- HCH	µg/l	ANtr/7.2/RES/01: 2018	0.04	No relaxation	BDL (DL - 0.03)
v	Alachlor	µg/l	ANtr/7.2/RES/01: 2018	20	No relaxation	BDL (DL - 0.03)
vi	Aldrin	µg/l	ANtr/7.2/RES/01: 2018	0.03	No relaxation	BDL (DL - 0.03)
vii	Dieldrin	µg/l	ANtr/7.2/RES/01: 2018	0.03	No relaxation	BDL (DL - 0.03)
viii	Butachlor	µg/l	ANtr/7.2/RES/01: 2018	125	No relaxation	BDL (DL - 0.03)
ix	p,p'-DDE	µg/l	ANtr/7.2/RES/01: 2018	1	No relaxation	BDL (DL - 0.03)
x	o,p'-DDE	µg/l	ANtr/7.2/RES/01: 2018	1	No relaxation	BDL (DL - 0.03)
xi	p,p'-DDD	µg/l	ANtr/7.2/RES/01: 2018	1	No relaxation	BDL (DL - 0.03)
xii	o,p'-DDD	µg/l	ANtr/7.2/RES/01: 2018	1	No relaxation	BDL (DL - 0.03)
xiii	o,p'- DDT	µg/l	ANtr/7.2/RES/01: 2018	1	No relaxation	BDL (DL - 0.03)
xiv	p,p'- DDT	µg/l	ANtr/7.2/RES/01: 2018	1	No relaxation	BDL (DL - 0.03)
xv	Endosulphan					
	Alpha-Endosulphan	µg/l	ANtr/7.2/RES/01: 2018	0.4	No relaxation	BDL (DL - 0.03)
	Beta-Endosulphan					
	Endosulphan sulphate					



**Hindalco Industries Limited Samri
Mining Environmental Status
Report for October-2022 to December-2022**

**Details of
Salient Features**

TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4		Test Results
				Acceptable Limit	Permissible Limit #	
44	Pesticide Residues Organophosphorus					
xvi	2,4-Dichlorophenoxyacetic acid	µg/l	ANtr/7.2/RES/02 : 2018	30	No relaxation	BDL (DL - 0.03)
xvii	Monocrotophos	µg/l	ANtr/7.2/RES/02 : 2018	1	No relaxation	BDL (DL - 0.03)
xviii	Atrazine	µg/l	ANtr/7.2/RES/02 : 2018	2	No relaxation	BDL (DL - 0.03)
xix	Parathion methyl	µg/l	ANtr/7.2/RES/02 : 2018	0.3	No relaxation	BDL (DL - 0.03)
xx	Paraoxon methyl	µg/l	ANtr/7.2/RES/02 : 2018	-	-	BDL (DL - 0.03)
xxi	Isoproturon	µg/l	ANtr/7.2/RES/02 : 2018	9	No relaxation	BDL (DL - 0.03)
xxii	Malathion	µg/l	ANtr/7.2/RES/02 : 2018	190	No relaxation	BDL (DL - 0.03)
xxiii	Malaoxon	µg/l	ANtr/7.2/RES/02 : 2018	-	-	BDL (DL - 0.03)
xxiv	Ethion	µg/l	ANtr/7.2/RES/02 : 2018	3	No relaxation	BDL (DL - 0.03)
xxv	Chlorpyrifos	µg/l	ANtr/7.2/RES/02 : 2018	30	No relaxation	BDL (DL - 0.03)
xxvi	Phorate	µg/l	ANtr/7.2/RES/02 : 2018	2	No relaxation	BDL (DL - 0.03)
	Phorate-sulfone					
	Phorate-sulfoxide					

NOTES: ● Please see watermark “Original Test Report” to confirm the authenticity of this report. ● Results shall be referred to tested sample(s) and applicable to tested parameters only. ● Test report shall not be reproduced except in full without prior written approval of Anacon Labs. ● Liability of Anacon Labs is limited to invoiced amount only. ● Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. ● #Permissible limit in absence of an alternate source for drinking water. ● ‘mg/l’ is equivalent to ‘ppm’. ● ‘µg/l’ is equivalent to ‘ppb’. ● **BDL- Below detection limit.** ● **DL- DL Indicates detection limit of instrument /method and shall be considered as ‘absent’.** ● Result for test no. 11 is not relevant. ● **ANqr RES:- Inhouse validated method.**

REMARKS: As requested by the client, sample was tested for above parameters only. **Sample complies with IS:10500:2012, for tests conducted, indicating that it is fit for drinking purpose with respect to tested parameters.**

-----END OF REPORT-----



Table 6 Report on Chemical Examination of Water (March-2023)

Location:	GW1) Ground Water Location:- GNC Camp Sample Source:- Borewell Water
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TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4		Test Results
				Acceptable Limit	Permissible Limit #	
I Biological Testing 1. Water						
1	Total coliform	Per 100 ml	IS 15185 : 2016	Absent	Absent	Absent
2	<i>Escherichia coli</i>	Per 100 ml	IS 15185 : 2016	Absent	Absent	Absent
II Chemical Testing 1. Water						
3	Alkalinity (as CaCO ₃)	mg/l	IS 3025 (Part 23) : 1986	200	600	187
4	Ammonia (as N)	mg/l	IS 3025 (Part 34) : 1988	0.5	No relaxation	BDL (DL - 0.1)
5	Anionic surface active agents (as MBAS)	mg/l	IS 13428 : 2005 Annex K	0.2	1.0	BDL (DL - 0.01)
6	Colour	Hazen units	IS 3025 (Part 4) : 2021	5	15	1
7	Cyanide (as CN)	mg/l	IS 3025 (Part 27) : 1986	0.05	No relaxation	BDL (DL - 0.005)
8	Chloride (as Cl)	mg/l	IS 3025 (Part 32) : 1988	250	1000	26.52
9	Calcium (as Ca)	mg/l	IS 3025 (Part 40) : 1991	75	200	53.17
10	Chloramines (as Cl ₂)	mg/l	IS 3025 (Part 26) : 2021	4.0	No relaxation	BDL (DL - 0.1)
11	Free residual chlorine	mg/l	IS 3025 (Part 26) : 2021	Min. 0.2	1	BDL (DL - 0.1)
12	Fluoride (as F)	mg/l	IS 3025 (Part 60) : 2008	1.0	1.5	0.18
13	Magnesium (as Mg)	mg/l	IS 3025 (Part 46) : 1994	30	100	12.64
14	Nitrate (as NO ₃)	mg/l	APHA 23 rd Edition	45	No relaxation	BDL (DL - 2)
15	Odour	-	IS 3025 (Part 5) : 2018	Agreeable	Agreeable	Agreeable
16	pH	-	IS 3025 (Part 11) : 2022	6.5 to 8.5	No relaxation	7.73 at 25°C
17	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part 43) : 1992	0.001	0.002	BDL (DL - 0.001)
18	Sulphate (as SO ₄)	mg/l	IS 3025 (Part 24) : 2022	200	400	18.52
19	Sulphide (as H ₂ S)	mg/l	IS 3025 (Part 29) : 1986	0.05	No relaxation	BDL (DL - 0.03)
20	Taste	-	IS 3025 (Part 8) : 1984	Agreeable	Agreeable	Agreeable
21	Total dissolved solids	mg/l	IS 3025 (Part 16) : 1984	500	2000	463
22	Turbidity	NTU	IS 3025 (Part 10) : 1984	1	5	0.6
23	Total hardness (as CaCO ₃)	mg/l	IS 3025 (Part 21) : 2009	200	600	184.81
24	Mineral Oil	mg/l	ANtr/7.2/RES/06: 2018	0.5	No relaxation	BDL (DL - 0.001)
II Chemical Testing 2. Residues In Water						
25	Arsenic (as As)	mg/l	IS 3025 (Part 37) : 2022	0.01	No relaxation	BDL (DL - 0.01)
26	Aluminium (as Al)	mg/l	IS 3025 (Part 2) : 2019	0.03	0.2	BDL (DL - 0.01)
27	Barium (as Ba)	mg/l	IS 3025 (Part 2) : 2019	0.7	No relaxation	BDL (DL - 0.01)
28	Boron (as B)	mg/l	IS 3025 (Part 2) : 2019	0.5	2.4	BDL (DL - 0.1)
29	Copper (as Cu)	mg/l	IS 3025 (Part 2) : 2019	0.05	1.5	BDL (DL - 0.03)
30	Cadmium (as Cd)	mg/l	IS 3025 (Part 2) : 2019	0.003	No relaxation	BDL (DL - 0.001)
31	Iron (as Fe)	mg/l	IS 3025 (Part 2) : 2019	1.0	No relaxation	0.14
32	Lead (as Pb)	mg/l	IS 3025 (Part 2) : 2019	0.01	No relaxation	BDL (DL - 0.001)
33	Manganese (as Mn)	mg/l	IS 3025 (Part 2) : 2019	0.1	0.3	BDL (DL - 0.05)
34	Mercury (as Hg)	mg/l	IS 3025 (Part 48) : 1994	0.001	No relaxation	BDL (DL - 0.0005)
35	Molybdenum (as Mo)	mg/l	IS 3025 (Part 2) : 2019	0.07	No relaxation	BDL (DL - 0.01)
36	Nickel (as Ni)	mg/l	IS 3025 (Part 2) : 2019	0.02	No relaxation	BDL (DL - 0.01)
37	Selenium (as Se)	mg/l	IS 3025 (Part 56) : 2003	0.01	No relaxation	BDL (DL - 0.001)
38	Silver (as Ag)	mg/l	IS 13428 : 2005	0.1	No relaxation	BDL (DL - 0.001)
39	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2) : 2019	0.05	No relaxation	BDL (DL - 0.03)
40	Zinc (as Zn)	mg/l	IS 3025 (Part 2) : 2019	5	15	BDL (DL - 0.1)



**Hindalco Industries Limited Samri
Mining Environmental Status
Report for January-2023 to March-2023**

**Details of
Salient Features**

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
II	Chemical Testing					
	2. Residues In Water					
41	Polychlorinated biphenyls					
	2,2',5-trichlorobiphenyl	µg/l	ANtr/7.2/RES/04: 2018	0.5	No relaxation	BDL (DL - 0.03)
	2,4,4'-trichlorobiphenyl	µg/l	ANtr/7.2/RES/04: 2018			BDL (DL - 0.03)
	2,2',5,5'-tetrachlorobiphenyl	µg/l	ANtr/7.2/RES/04: 2018			BDL (DL - 0.03)
	2,2',4,5,5'-pentachlorobiphenyl	µg/l	ANtr/7.2/RES/04: 2018			BDL (DL - 0.03)
	2,2',3,4,4',5'-hexachlorobiphenyl	µg/l	ANtr/7.2/RES/04: 2018			BDL (DL - 0.03)
	2,2',4,4',5,5'-hexachlorobiphenyl	µg/l	ANtr/7.2/RES/04: 2018			BDL (DL - 0.03)
	2,2',3,4,4',5,5'-heptachlorobiphenyl	µg/l	ANtr/7.2/RES/04: 2018			BDL (DL - 0.03)
42	Polynuclear aromatic hydrocarbons					
	Naphthalene	µg/l	ANtr/7.2/RES/03: 2018	0.1	No relaxation	BDL (DL - 0.03)
	Acenaphthylene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Acenaphthene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Fluorene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Anthracene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Phenanthrene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Fluoranthene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Pyrene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Benzo(a)anthracene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Chrysene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Benzo(a)pyrene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Benzo(b)fluoranthene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Benzo(k)fluoranthene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Indeno(123,cd)pyrene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Dibenzo(a,h)anthracene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Benzo(ghi)perylene	µg/l	ANtr/7.2/RES/03: 2018	BDL (DL - 0.03)		
43	Trihalomethanes					
i	Bromoform	mg/l	ANtr/7.2/RES/05: 2018	0.1	No relaxation	BDL (DL -0.05)
ii	Dibromochloromethane	mg/l		0.1	No relaxation	BDL (DL -0.05)
iii	Bromodichloromethane	mg/l		0.06	No relaxation	BDL (DL -0.05)
iv	Chloroform	mg/l		0.2	No relaxation	BDL (DL -0.05)
44	Pesticide Residues Organochlorine					
i	Alpha-HCH	µg/l	ANtr/7.2/RES/01: 2018	0.01	No relaxation	BDL (DL - 0.01)
ii	Beta HCH	µg/l	ANtr/7.2/RES/01: 2018	0.04	No relaxation	BDL (DL - 0.03)
iii	Gamma - HCH (Lindane)	µg/l	ANtr/7.2/RES/01: 2018	2	No relaxation	BDL (DL - 0.03)
iv	Delta- HCH	µg/l	ANtr/7.2/RES/01: 2018	0.04	No relaxation	BDL (DL - 0.03)
v	Alachlor	µg/l	ANtr/7.2/RES/01: 2018	20	No relaxation	BDL (DL - 0.03)
vi	Aldrin	µg/l	ANtr/7.2/RES/01: 2018	0.03	No relaxation	BDL (DL - 0.03)
vii	Dieldrin	µg/l	ANtr/7.2/RES/01: 2018	0.03	No relaxation	BDL (DL - 0.03)
viii	Butachlor	µg/l	ANtr/7.2/RES/01: 2018	125	No relaxation	BDL (DL - 0.03)
ix	p,p'-DDE	µg/l	ANtr/7.2/RES/01: 2018	1	No relaxation	BDL (DL - 0.03)
x	o,p'-DDE	µg/l	ANtr/7.2/RES/01: 2018	1	No relaxation	BDL (DL - 0.03)
xi	p,p'-DDD	µg/l	ANtr/7.2/RES/01: 2018	1	No relaxation	BDL (DL - 0.03)
xii	o,p'-DDD	µg/l	ANtr/7.2/RES/01: 2018	1	No relaxation	BDL (DL - 0.03)
xiii	o,p'- DDT	µg/l	ANtr/7.2/RES/01: 2018	1	No relaxation	BDL (DL - 0.03)
xiv	p,p'- DDT	µg/l	ANtr/7.2/RES/01: 2018	1	No relaxation	BDL (DL - 0.03)
xv	Endosulphan					
	Alpha-Endosulphan	µg/l	ANtr/7.2/RES/01: 2018	0.4	No relaxation	BDL (DL - 0.03)
	Beta-Endosulphan					
	Endosulphan sulphate					



**Hindalco Industries Limited Samri
Mining Environmental Status
Report for January-2023 to March-2023**

**Details of
Salient Features**

TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4		Test Results
				Acceptable Limit	Permissible Limit #	
44	Pesticide Residues Organophosphorus					
xvi	2,4-Dichlorophenoxyacetic acid	µg/l	ANtr/7.2/RES/02 : 2018	30	No relaxation	BDL (DL - 0.03)
xvii	Monocrotophos	µg/l	ANtr/7.2/RES/02 : 2018	1	No relaxation	BDL (DL - 0.03)
xviii	Atrazine	µg/l	ANtr/7.2/RES/02 : 2018	2	No relaxation	BDL (DL - 0.03)
xix	Parathion methyl	µg/l	ANtr/7.2/RES/02 : 2018	0.3	No relaxation	BDL (DL - 0.03)
xx	Paraoxon methyl	µg/l	ANtr/7.2/RES/02 : 2018	-	-	BDL (DL - 0.03)
xxi	Isoproturon	µg/l	ANtr/7.2/RES/02 : 2018	9	No relaxation	BDL (DL - 0.03)
xxii	Malathion	µg/l	ANtr/7.2/RES/02 : 2018	190	No relaxation	BDL (DL - 0.03)
xxiii	Malaoxon	µg/l	ANtr/7.2/RES/02 : 2018	-	-	BDL (DL - 0.03)
xxiv	Ethion	µg/l	ANtr/7.2/RES/02 : 2018	3	No relaxation	BDL (DL - 0.03)
xxv	Chlorpyrifos	µg/l	ANtr/7.2/RES/02 : 2018	30	No relaxation	BDL (DL - 0.03)
xxvi	Phorate	µg/l	ANtr/7.2/RES/02 : 2018	2	No relaxation	BDL (DL - 0.03)
	Phorate-sulfone					
	Phorate-sulfoxide					

NOTES: ● Please see watermark "Original Test Report" to confirm the authenticity of this report. ● Results shall be referred to tested sample(s) and applicable to tested parameters only. ● Test report shall not be reproduced except in full without prior written approval of Anacon Labs. ● Liability of Anacon Labs is limited to invoiced amount only. ● Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. ● #Permissible limit in absence of an alternate source for drinking water. ● 'mg/l' is equivalent to 'ppm'. ● 'µg/l' is equivalent to 'ppb'. ● **BDL**- Below detection limit. ● **DL**- DL Indicates detection limit of instrument /method and shall be considered as 'absent'. ● Result for test no. 11 is not relevant. ● **ANqr RES**:- Inhouse validated method.

REMARKS: As requested by the client, sample was tested for above parameters only. **Sample complies with IS:10500:2012, for tests conducted, indicating that it is fit for drinking purpose with respect to tested parameters.**

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



**Hindalco Industries Limited Samri
Mining Environmental Status
Report for January-2023 to March-2023**

**Details of
Salient Features**

Report on Chemical Examination of Water (March-2023)

Location:	DW1) Drinking Water Location:- Water ATM Outlet Sample Source:- Borewell Water
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TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4		Test Results
				Acceptable Limit	Permissible Limit #	
I	Biological Testing 1. Water					
1	Total coliform	Per 100 ml	IS 15185 : 2016	Absent	Absent	Absent
2	<i>Escherichia coli</i>	Per 100 ml	IS 15185 : 2016	Absent	Absent	Absent
II	Chemical Testing 1. Water					
3	Alkalinity (as CaCO ₃)	mg/l	IS 3025 (Part 23) : 1986	200	600	116.32
4	Ammonia (as N)	mg/l	IS 3025 (Part 34) : 1988	0.5	No relaxation	BDL (DL – 0.1)
5	Anionic surface active agents (as MBAS)	mg/l	IS 13428 : 2005 Annex K	0.2	1.0	BDL (DL – 0.01)
6	Colour	Hazen units	IS 3025 (Part 4) : 2021	5	15	1
7	Cyanide (as CN)	mg/l	IS 3025 (Part 27) : 1986	0.05	No relaxation	BDL (DL – 0.005)
8	Chloride (as Cl)	mg/l	IS 3025 (Part 32) : 1988	250	1000	23.67
9	Calcium (as Ca)	mg/l	IS 3025 (Part 40) : 1991	75	200	46.82
10	Chloramines (as Cl ₂)	mg/l	IS 3025 (Part 26) : 2021	4.0	No relaxation	BDL (DL – 0.1)
11	Free residual chlorine	mg/l	IS 3025 (Part 26) : 2021	Min. 0.2	1	BDL (DL – 0.1)
12	Fluoride (as F)	mg/l	IS 3025 (Part 60) : 2008	1.0	1.5	0.21
13	Magnesium (as Mg)	mg/l	IS 3025 (Part 46) : 1994	30	100	9.38
14	Nitrate (as NO ₃)	mg/l	APHA 23 rd Edition	45	No relaxation	BDL (DL – 2)
15	Odour	-	IS 3025 (Part 5) : 2018	Agreeable	Agreeable	Agreeable
16	pH	-	IS 3025 (Part 11) : 2022	6.5 to 8.5	No relaxation	6.72 at 25°C
17	Phenolic compounds (as C ₆ H ₅ OH)	mg/l	IS 3025 (Part 43) : 1992	0.001	0.002	BDL (DL – 0.001)
18	Sulphate (as SO ₄)	mg/l	IS 3025 (Part 24) : 2022	200	400	13.58
19	Sulphide (as H ₂ S)	mg/l	IS 3025 (Part 29) : 1986	0.05	No relaxation	BDL (DL – 0.03)
20	Taste	-	IS 3025 (Part 8) : 1984	Agreeable	Agreeable	Agreeable
21	Total dissolved solids	mg/l	IS 3025 (Part 16) : 1984	500	2000	257
22	Turbidity	NTU	IS 3025 (Part 10) : 1984	1	5	0.3
23	Total hardness (as CaCO ₃)	mg/l	IS 3025 (Part 21) : 2009	200	600	155.56
24	Mineral Oil	mg/l	ANtr/7.2/RES/06: 2018	0.5	No relaxation	BDL (DL – 0.001)
II	Chemical Testing 2. Residues In Water					
25	Arsenic (as As)	mg/l	IS 3025 (Part 37) : 2022	0.01	No relaxation	BDL (DL - 0.01)
26	Aluminium (as Al)	mg/l	IS 3025 (Part 2) : 2019	0.03	0.2	BDL (DL - 0.01)
27	Barium (as Ba)	mg/l	IS 3025 (Part 2) : 2019	0.7	No relaxation	BDL (DL - 0.01)
28	Boron (as B)	mg/l	IS 3025 (Part 2) : 2019	0.5	2.4	BDL (DL - 0.1)
29	Copper (as Cu)	mg/l	IS 3025 (Part 2) : 2019	0.05	1.5	BDL (DL - 0.03)
30	Cadmium (as Cd)	mg/l	IS 3025 (Part 2) : 2019	0.003	No relaxation	BDL (DL - 0.001)
31	Iron (as Fe)	mg/l	IS 3025 (Part 2) : 2019	1.0	No relaxation	0.17
32	Lead (as Pb)	mg/l	IS 3025 (Part 2) : 2019	0.01	No relaxation	BDL (DL - 0.001)
33	Manganese (as Mn)	mg/l	IS 3025 (Part 2) : 2019	0.1	0.3	BDL (DL - 0.05)
34	Mercury (as Hg)	mg/l	IS 3025 (Part 48) : 1994	0.001	No relaxation	BDL (DL - 0.0005)
35	Molybdenum (as Mo)	mg/l	IS 3025 (Part 2) : 2019	0.07	No relaxation	BDL (DL - 0.01)
36	Nickel (as Ni)	mg/l	IS 3025 (Part 2) : 2019	0.02	No relaxation	BDL (DL - 0.01)
37	Selenium (as Se)	mg/l	IS 3025 (Part 56) : 2003	0.01	No relaxation	BDL (DL - 0.001)
38	Silver (as Ag)	mg/l	IS 13428 : 2005	0.1	No relaxation	BDL (DL - 0.001)
39	Total Chromium (as Cr)	mg/l	IS 3025 (Part 2) : 2019	0.05	No relaxation	BDL (DL - 0.03)
40	Zinc (as Zn)	mg/l	IS 3025 (Part 2) : 2019	5	15	BDL (DL - 0.1)



**Hindalco Industries Limited Samri
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**Details of
Salient Features**

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4		Test Result
				Acceptable Limit	Permissible Limit #	
II	Chemical Testing					
	2. Residues In Water					
41	Polychlorinated biphenyls					
	2,2',5-trichlorobiphenyl	µg/l	ANtr/7.2/RES/04: 2018	0.5	No relaxation	BDL (DL - 0.03)
	2,4,4'-trichlorobiphenyl	µg/l	ANtr/7.2/RES/04: 2018			BDL (DL - 0.03)
	2,2',5,5'-tetrachlorobiphenyl	µg/l	ANtr/7.2/RES/04: 2018			BDL (DL - 0.03)
	2,2',4,5,5'-pentachlorobiphenyl	µg/l	ANtr/7.2/RES/04: 2018			BDL (DL - 0.03)
	2,2',3,4,4',5'-hexachlorobiphenyl	µg/l	ANtr/7.2/RES/04: 2018			BDL (DL - 0.03)
	2,2',4,4',5,5'-hexachlorobiphenyl	µg/l	ANtr/7.2/RES/04: 2018			BDL (DL - 0.03)
	2,2',3,4,4',5,5'-heptachlorobiphenyl	µg/l	ANtr/7.2/RES/04: 2018			BDL (DL - 0.03)
42	Polynuclear aromatic hydrocarbons					
	Naphthalene	µg/l	ANtr/7.2/RES/03: 2018	0.1	No relaxation	BDL (DL - 0.03)
	Acenaphthylene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Acenaphthene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Fluorene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Anthracene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Phenanthrene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Fluoranthene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Pyrene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Benzo(a)anthracene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Chrysene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Benzo(a)pyrene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Benzo(b)fluoranthene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Benzo(k)fluoranthene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Indeno(123,cd)pyrene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Dibenzo(a,h)anthracene	µg/l	ANtr/7.2/RES/03: 2018			BDL (DL - 0.03)
	Benzo(ghi)perylene	µg/l	ANtr/7.2/RES/03: 2018	BDL (DL - 0.03)		
43	Trihalomethanes					
i	Bromoform	mg/l	ANtr/7.2/RES/05: 2018	0.1	No relaxation	BDL (DL -0.05)
ii	Dibromochloromethane	mg/l		0.1	No relaxation	BDL (DL -0.05)
iii	Bromodichloromethane	mg/l		0.06	No relaxation	BDL (DL -0.05)
iv	Chloroform	mg/l		0.2	No relaxation	BDL (DL -0.05)
44	Pesticide Residues Organochlorine					
i	Alpha-HCH	µg/l	ANtr/7.2/RES/01: 2018	0.01	No relaxation	BDL (DL - 0.01)
ii	Beta HCH	µg/l	ANtr/7.2/RES/01: 2018	0.04	No relaxation	BDL (DL - 0.03)
iii	Gamma - HCH (Lindane)	µg/l	ANtr/7.2/RES/01: 2018	2	No relaxation	BDL (DL - 0.03)
iv	Delta- HCH	µg/l	ANtr/7.2/RES/01: 2018	0.04	No relaxation	BDL (DL - 0.03)
v	Alachlor	µg/l	ANtr/7.2/RES/01: 2018	20	No relaxation	BDL (DL - 0.03)
vi	Aldrin	µg/l	ANtr/7.2/RES/01: 2018	0.03	No relaxation	BDL (DL - 0.03)
vii	Dieldrin	µg/l	ANtr/7.2/RES/01: 2018	0.03	No relaxation	BDL (DL - 0.03)
viii	Butachlor	µg/l	ANtr/7.2/RES/01: 2018	125	No relaxation	BDL (DL - 0.03)
ix	p,p'-DDE	µg/l	ANtr/7.2/RES/01: 2018	1	No relaxation	BDL (DL - 0.03)
x	o,p'-DDE	µg/l	ANtr/7.2/RES/01: 2018	1	No relaxation	BDL (DL - 0.03)
xi	p,p'-DDD	µg/l	ANtr/7.2/RES/01: 2018	1	No relaxation	BDL (DL - 0.03)
xii	o,p'-DDD	µg/l	ANtr/7.2/RES/01: 2018	1	No relaxation	BDL (DL - 0.03)
xiii	o,p'- DDT	µg/l	ANtr/7.2/RES/01: 2018	1	No relaxation	BDL (DL - 0.03)
xiv	p,p'- DDT	µg/l	ANtr/7.2/RES/01: 2018	1	No relaxation	BDL (DL - 0.03)
xv	Endosulphan					
	Alpha-Endosulphan	µg/l	ANtr/7.2/RES/01: 2018	0.4	No relaxation	BDL (DL - 0.03)
	Beta-Endosulphan					
	Endosulphan sulphate					



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Report for January-2023 to March-2023**

**Details of
Salient Features**

TEST RESULTS

S.N.	Test Parameter	Measurement Unit	Test Method	Requirement as per IS 10500 : 2012 (Drinking Water Specifications) Including Amendment No. 4		Test Results
				Acceptable Limit	Permissible Limit #	
44	Pesticide Residues Organophosphorus					
xvi	2,4-Dichlorophenoxyacetic acid	µg/l	ANtr/7.2/RES/02 : 2018	30	No relaxation	BDL (DL - 0.03)
xvii	Monocrotophos	µg/l	ANtr/7.2/RES/02 : 2018	1	No relaxation	BDL (DL - 0.03)
xviii	Atrazine	µg/l	ANtr/7.2/RES/02 : 2018	2	No relaxation	BDL (DL - 0.03)
xix	Parathion methyl	µg/l	ANtr/7.2/RES/02 : 2018	0.3	No relaxation	BDL (DL - 0.03)
xx	Paraoxon methyl	µg/l	ANtr/7.2/RES/02 : 2018	-	-	BDL (DL - 0.03)
xxi	Isoproturon	µg/l	ANtr/7.2/RES/02 : 2018	9	No relaxation	BDL (DL - 0.03)
xxii	Malathion	µg/l	ANtr/7.2/RES/02 : 2018	190	No relaxation	BDL (DL - 0.03)
xxiii	Malaoxon	µg/l	ANtr/7.2/RES/02 : 2018	-	-	BDL (DL - 0.03)
xxiv	Ethion	µg/l	ANtr/7.2/RES/02 : 2018	3	No relaxation	BDL (DL - 0.03)
xxv	Chlorpyrifos	µg/l	ANtr/7.2/RES/02 : 2018	30	No relaxation	BDL (DL - 0.03)
xxvi	Phorate	µg/l	ANtr/7.2/RES/02 : 2018	2	No relaxation	BDL (DL - 0.03)
	Phorate-sulfone					
	Phorate-sulfoxide					

NOTES: ● Please see watermark "Original Test Report" to confirm the authenticity of this report. ● Results shall be referred to tested sample(s) and applicable to tested parameters only. ● Test report shall not be reproduced except in full without prior written approval of Anacon Labs. ● Liability of Anacon Labs is limited to invoiced amount only. ● Non-perishable and perishable sample(s) shall be disposed off after 30 days and 15 days respectively from the date of issue of Test Report, unless specified otherwise. ● #Permissible limit in absence of an alternate source for drinking water. ● 'mg/l' is equivalent to 'ppm'. ● 'µg/l' is equivalent to 'ppb'. ● **BDL- Below detection limit.** ● **DL- DL Indicates detection limit of instrument /method and shall be considered as 'absent'.** ● Result for test no. 11 is not relevant. ● **ANqr RES:- Inhouse validated method.**

REMARKS: As requested by the client, sample was tested for above parameters only. **Sample complies with IS:10500:2012, for tests conducted, indicating that it is fit for drinking purpose with respect to tested parameters.**

-----END OF REPORT-----



भारत सरकार
जल शक्ति मंत्रालय
जल संसाधन, नदी विकास
और गंगा संरक्षण विभाग
केन्द्रीय भूमि जल प्राधिकरण
Government of India
Ministry of Jal Shakti
Department of Water Resources,
River Development & Ganga Rejuvenation
Central Ground Water Authority

Annexure-F

(भूजल निकासी हेतु अनापत्ति प्रमाण पत्र)

NO OBJECTION CERTIFICATE (NOC) FOR GROUND WATER ABSTRACTION

Project Name:	Samri Bauxite Mine Of M/s Hindalco Industries Limited		
Project Address:	Village Samri Block Kusmi		
Village:	Samari	Block:	Kusmi
District:	Balrampur	State:	Chhattisgarh
Pin Code:			
Communication Address:	Hindalco Industries Limited, Samri Mines Division, Baba Chowk,, At And Post - Kusmi, , Balrampur, Chhattisgarh - 497224		
Address of CGWB Regional Office :	Central Ground Water Board North Central Chhattisgarh, 2nd Floor, Lk Corporate And Logistic Park, Dhamtari Road, Nh-30, Dumartarai, Raipur, Chhattisgarh - 492015		

1. NOC No.:	CGWA/NOC/MIN/REN/2/2023/7572	2. Date of Issuance	03/04/2023										
3. Application No.:	21-4/1435/CT/MIN/2018	4. Category: (GWRE 2020)	Safe										
5. Project Status:	Existing Ground Water	6. NOC Type:	Renewal										
7. Valid from:	29/04/2023	8. Valid up to:	28/04/2025										
9. Ground Water Abstraction Permitted:													
Fresh Water		Saline Water		Dewatering		Total							
m ³ /day	m ³ /year	m ³ /day	m ³ /year	m ³ /day	m ³ /year	m ³ /day	m ³ /year						
5.40	1674.00												
10. Details of ground water abstraction /Dewatering structures													
Total Existing No.:7							Total Proposed No.:0						
	DW	DCB	BW	TW	MP	MPu	DW	DCB	BW	TW	MP	MPu	
Abstraction Structure*	1	0	1	5	0	0	0	0	0	0	0	0	
*DW- Dug Well; DCB-Dug-cum-Bore Well; BW-Bore Well; TW-Tube Well; MP-Mine Pit;MPu-Mine Pumps													
11. Ground Water Abstraction/Restoration Charges paid (Rs.):							1674.00						

(Compliance Conditions given overleaf)

This is an auto generated document & need not to be signed.

18/11, जामनगर हाउस, मानसिंह रोड, नई दिल्ली - 110011 / 18/11, Jamnagar House, Mansingh Road, New Delhi-110011

Phone: (011) 23383561 Fax: 23382051, 23386743

Website: cgwa-noc.gov.in

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Validity of this NOC shall be subject to compliance of the following conditions:

Mandatory conditions:

- 1) Installation of tamper proof digital water flow meter with telemetry on all the abstraction structure(s) shall be mandatory for all users seeking No Objection Certificate and intimation regarding their installation shall be communicated to the CGWA within 30 days of grant of No Objection Certificate.
- 2) Proponents shall mandatorily get water flow meter calibrated from an authorized agency once in a year.
- 3) Construction of purpose-built observation wells (piezometers) for ground water level monitoring shall be mandatory as per Section 14 of Guidelines. Water level data shall be made available to CGWA through web portal. Detailed guidelines for construction of piezometers are given in Annexure-II of the guidelines.
- 4) Proponents shall monitor quality of ground water from the abstraction structure(s) once in a year. Water samples from bore wells/ tube wells / dug wells shall be collected during April/May every year and analysed in NABL accredited laboratories for basic parameters (cations and anions), heavy metals, pesticides/ organic compounds etc. Water quality data shall be made available to CGWA through the web portal.
- 5) In case of mining projects, additional key wells shall be established in consultation with the Regional Director, CGWB for ground water level monitoring four (4) times a year (January, May, August and November) in core as well as buffer zones of the mine.
- 6) In case of mining project the firm shall submit water quality report of mine discharge/ seepage from Govt. approved/ NABL accredited lab.
- 7) The firm shall report compliance of the NOC conditions online in the website (www.cgwa-noc.gov.in) within one year from the date of issue of this NOC.
- 8) Industries abstracting ground water in excess of 100 m³/d shall undertake annual water audit through certified auditors and submit audit reports within three months of completion of the same to CGWA. All such industries shall be required to reduce their ground water use by at least 20% over the next three years through appropriate means.
- 9) Application for renewal can be submitted online from 90 days before the expiry of NOC. Ground water withdrawal, if any, after expiry of NOC shall be illegal & liable for legal action as per provisions of Environment (Protection) Act, 1986.
- 10) This NOC is subject to prevailing Central/State Government rules/laws/norms or Court orders related to construction of tube well/ground water abstraction structure / recharge or conservation structure/discharge of effluents or any such matter as applicable.

General conditions:

- 11) No additional ground water abstraction and/or de-watering structures shall be constructed for this purpose without prior approval of the Central Ground Water Authority (CGWA).
- 12) The proponent shall seek prior permission from CGWA for any increase in quantum of groundwater abstraction (more than that permitted in NOC for specific period).
- 13) Proponents shall install roof top rain water harvesting in the premise as per the existing building bye laws in the premise.
- 14) The project proponent shall take all necessary measures to prevent contamination of ground water in the premises failing which the firm shall be responsible for any consequences arising thereupon.
- 15) In case of industries that are likely to contaminate the ground water, no recharge measures shall be taken up by the firm inside the plant premises. The runoff generated from the rooftop shall be stored and put to beneficial use by the firm.
- 16) Wherever feasible, requirement of water for greenbelt (horticulture) shall be met from recycled / treated waste water.
- 17) Wherever the NOC is for abstraction of saline water and the existing wells (s) is /are yielding fresh water, the same shall be sealed and new tubewell(s) tapping saline water zone shall be constructed within 3 months of the issuance of NOC. The firm shall also ensure safe disposal of saline residue, if any.
- 18) Unexpected variations in inflow of ground water into the mine pit, if any, shall be reported to the concerned Regional Director, Central Ground Water Board.
- 19) In case of violation of any NOC conditions, the applicant shall be liable to pay the penalties as per Section 16 of Guidelines.
- 20) This NOC does not absolve the proponents of their obligation / requirement to obtain other statutory and administrative clearances from appropriate authorities.
- 21) The issue of this NOC does not imply that other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would consider the project on merits and take decisions independently of the NOC.
- 22) In case of change of ownership, new owner of the industry will have to apply for incorporation of necessary changes in the No Objection Certificate with documentary proof within 60 days of taking over possession of the premises.
- 23) This NOC is being issued without any prejudice to the directions of the Hon'ble NGT/court orders in cases related to ground water or any other related matters.
- 24) Proponents, who have installed/constructed artificial recharge structures in compliance of the NOC granted to them previously and have availed rebate of upto 50% (fifty percent) in the ground water abstraction charges/ground water restoration charges, shall continue to regularly maintain artificial recharge structures.
- 25) Industries which are likely to cause ground water pollution e.g. Tanning, Slaughter Houses, Dye, Chemical/ Petrochemical, Coal washeries, pharmaceutical, other hazardous units etc. (as per CPCPE list) need to undertake necessary well head protection measures to ensure prevention of ground water pollution as per Annexure III of the guidelines.
- 26) In case of new infrastructure projects having ground water abstraction of more than 20 m³/day, the firm/entity shall ensure implementation of dual water supply system in the projects.
- 27) In case of infrastructure projects, paved/parking area must be covered with interlocking/perforated tiles or other suitable measures to ensure groundwater infiltration/harvesting.
- 28) In case of coal and other base metal mining projects, the project proponent shall use the advance dewatering technology (by construction of series of dewatering abstraction structures) to avoid contamination of surface water.
- 29) The NOC issued is conditional subject to the conditions mentioned in the Public notice dated 27.01.2021 failing which penalty/EC/cancellation of NOC shall be imposed as the case may be.
- 30) This NOC is issued subject to the clearance of Expert Appraisal Committee (EAC) (if applicable).

(Non-compliance of the conditions mentioned above is likely to result in the cancellation of NOC and legal action against the proponent.)

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MONITORED PARAMETERS AND FREQUENCY OF SAMPLING

1.7 Methods and Instruments used for Sampling

The air samples were analyzed as per methods specified by Central Pollution Control Board (CPCB). The levels of Particulate Matter (PM₁₀), Sulphur Dioxide (SO₂), Oxides of Nitrogen (NO₂), Carbon Monoxide (CO), Pb, Hg, As and Cr were monitored for establishing the baseline status. PM₁₀ was collected with the help of Respirable Particulate Sampler operating 24 hours by drawing air which passes through the cyclone at the rate of 1.0 -1.3 m³/min which collects the particles less than 10 µm diameter over glass fibre filter paper. The dust deposited over the filter paper is measured as PM₁₀ and the smaller particulates from 2.5 µm are collected into the Membrane Filter Paper. The dust fall rate was measured using dust fall jar. The jar was exposed for one month in the mining area and Samri-Gopatu during pre and post monsoon period. The jar was filled with 2 lit of distilled water. The water in the jar is mixed with copper sulphate solution (0.02 N solutions) to prevent any growth of algae. The water level in the jar is constantly maintained in such a way that 2 lit of water is always retained. The measurement techniques used for various pollutants and other details are given in **(Table 3)**.

Earmarked samples were collected for Particulate Matter-PM₁₀, Particulate Matter-PM_{2.5}, SO₂ and NO₂ for 24 hourly and CO 8 hourly. Collected samples were sent to Laboratories for analysis.

**Table 3.0
Measurement Techniques for various pollutants**

Sl. No.	Parameter	Technique	Technical Protocol	Minimum Reportable Value (µg/m³)
1.	Respirable Particulate Matter	Respirable Dust Sampler (Gravimetric Method)	IS-5182 (Part-23)	5
2.	Particulate Matter 2.5	Respirable Dust Sampler (Gravimetric Method)	USEPA-40 (Part-50)	5
3.	Sulphur Dioxide	Modified West and Gaeke	IS-5182 (Part - II)	4
4.	Oxide of Nitrogen	Jacob & Hochheiser Method	IS-5182 (Part - VI)	4
5.	Carbon Monoxide	NDIR Spectroscopy	IS-5182 (Part - X)	2
6.	Pb, As, Hg, Cr	Acid Digestion Method	EPA Method	0.1



**Hindalco Industries Limited Samri
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**Details of
Salient Features**

Table 4

Statistical Analysis

Location	Month & Year	PM-10 ($\mu\text{g}/\text{m}^3$)	PM-2.5 ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO ₂ ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	Pb ($\mu\text{g}/\text{m}^3$)	Hg ($\mu\text{g}/\text{m}^3$)	As (ng/m^3)	Cr ($\mu\text{g}/\text{m}^3$)
Core Zone										
Samri-Gopatu/ Nr.weigh bridge	Oct-2022	61.9	25.2	11.6	23.5	0.288	0.017	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
	Nov-2022	58.9	23.9	13.7	26.1	0.279	0.019	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
	Dec-2022	57.1	23.9	14.3	23.4	0.220	0.017	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
Rajendrapur/ Nr.Mining Area	Oct-2022	60.2	20.5	10.6	20.9	0.265	0.016	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
	Nov-2022	61.9	25.3	15.4	23.4	0.237	0.017	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
	Dec-2022	59.9	25.0	16.2	22.8	0.209	0.017	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
Kutku Village/ Nr.V.T. Center	Oct-2022	53.4	18.7	8.0	17.3	0.247	BDL (DL-0.01)	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
	Nov-2022	49.5	17.8	7.3	16.2	0.185	BDL (DL-0.01)	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
	Dec-2022	50.8	16.6	8.4	15.3	0.185	BDL (DL-0.01)	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
Dumerkholi/Nr. Mining Area	Oct-2022	51.7	18.8	8.9	16.5	0.214	BDL (DL-0.01)	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
	Nov-2022	60.4	21.7	9.3	19.0	0.237	0.017	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
	Dec-2022	59.0	21.7	14.6	21.9	0.162	0.015	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
CPCB Standards		100 (24 hrs)	60 (24 hrs)	80 (24 hrs)	80 (24 hrs)	2 (8 hrs)	1.0 (24 hrs)	---	6.0 (annual)	---
Minimum		49.5	16.6	7.3	15.3	0.162	BDL (DL-0.01)	---	---	---
Maximum		61.9	25.3	16.2	26.1	0.288	0.019	---	---	---
Average		57.1	21.6	11.5	20.5	0.227	0.017	---	---	---
98% le		61.9	25.3	16.0	25.5	0.286	0.019	---	---	---

NOTE: ● BDL- Below detection limit ● DL- Indicates detection limit of instrument/method and shall be considered as 'absent'.

- The Average Concentration of PM₁₀ within the Core Zone of Samri Lease is 57.1 $\mu\text{g}/\text{m}^3$.
- The Average Concentration of PM_{2.5} within the Core Zone of Samri Lease is 21.6 $\mu\text{g}/\text{m}^3$.
- The Average Concentration of SO₂ within the Core Zone of Samri Lease is 11.5 $\mu\text{g}/\text{m}^3$.
- The Average Concentration of NO₂ within the Core Zone of Samri Lease is 20.5 $\mu\text{g}/\text{m}^3$.
- The Average Concentration of CO within the Core Zone of Samri Lease is 0.227 $\mu\text{g}/\text{m}^3$.
- The Average Concentration of Pb within the Core Zone of Samri Lease is 0.017 $\mu\text{g}/\text{m}^3$.

Conclusion:-The Average Concentration within the Core Zone of Samri Lease during this period (Oct-Nov-Dec-2022). It is within permissible limits as per CPCB Standards.



**Hindalco Industries Limited Samri
Mining Environmental Status
Report for October-2022 to December-2022**

**Details of
Salient Features**

Location	Month & Year	PM-10 ($\mu\text{g}/\text{m}^3$)	PM-2.5 ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO ₂ ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	Pb ($\mu\text{g}/\text{m}^3$)	Hg ($\mu\text{g}/\text{m}^3$)	As (ng/m^3)	Cr ($\mu\text{g}/\text{m}^3$)
Buffer Zone										
Sairaidh Campus	Oct-2022	59.8	21.6	10.1	20.4	0.184	BDL (DL-0.01)	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
	Nov-2022	51.3	17.3	7.5	16.6	0.172	BDL (DL-0.01)	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
	Dec-2022	50.9	16.7	7.3	16.8	0.166	BDL (DL-0.01)	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
Tatijharia Village/Nr. Weigh Bridge	Oct-2022	58.0	22.8	13.3	23.2	0.180	0.016	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
	Nov-2022	61.6	20.6	9.8	20.0	0.207	0.017	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
	Dec-2022	61.4	21.2	10.6	18.3	0.203	0.016	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
Piprapat/ Nr. Mining Area	Oct-2022	56.9	23.5	12.7	23.7	0.193	0.018	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
	Nov-2022	64.1	21.8	10.3	19.8	0.217	0.016	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
	Dec-2022	62.8	19.7	10.6	19.0	0.205	0.018	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
Virhorepat Village	Oct-2022	54.2	20.8	10.3	19.3	0.166	0.016	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
	Nov-2022	63.0	22.1	10.7	20.3	0.226	0.019	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
	Dec-2022	60.0	21.1	10.9	19.0	0.214	0.015	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
CPCB Standards		100 (24 hrs)	60 (24 hrs)	80 (24 hrs)	80 (24 hrs)	2 (8 hrs)	1.0 (24 hrs)	---	6.0 (annual)	---
Minimum		50.9	16.7	7.3	16.6	0.166	BDL (DL-0.01)	---	---	---
Maximum		64.1	23.5	13.3	23.7	0.226	0.019	---	---	---
Average		58.7	20.8	10.3	19.7	0.194	0.017	---	---	---
98% le		63.9	23.3	13.2	23.6	0.224	0.019	---	---	---

NOTE: ● BDL- Below detection limit ● DL- Indicates detection limit of instrument/method and shall be considered as 'absent'.

- The Average Concentration of PM₁₀ within the Buffer Zone of Samri Lease is 58.7 $\mu\text{g}/\text{m}^3$.
- The Average Concentration of PM_{2.5} within the Buffer Zone of Samri Lease is 20.8 $\mu\text{g}/\text{m}^3$.
- The Average Concentration of SO₂ within the Buffer Zone of Samri Lease is 10.3 $\mu\text{g}/\text{m}^3$.
- The Average Concentration of NO₂ within the Buffer Zone of Samri Lease is 19.7 $\mu\text{g}/\text{m}^3$.
- The Average Concentration of CO within the Buffer Zone of Samri Lease is 0.194 $\mu\text{g}/\text{m}^3$.
- The Average Concentration of Pb within the Buffer Zone of Samri Lease is 0.017 $\mu\text{g}/\text{m}^3$.

Conclusion: - The Average Concentration within the Buffer Zone of Samri Lease during this period (October-November-December-2022). It is within permissible limits as per CPCB Standards.

Month-wise Summary of Statistical Analysis

1.8. Samri Lease (Core Zone):-

1.8.1 Ambient Air Quality:

Ambient air quality has been generated as per NAAQS 2009 for the month of October-November-December-2022. PM₁₀, PM_{2.5}, SO₂, NO₂ & CO. The values obtained were then compared vis-a-vis the standards prescribed by CPCB for Industrial/ Rural / Residential uses.

Presentation of Results:

The summary of Ambient Air Quality monitoring results from October-2022 to December-2022 are presented in detail in Table 4.0. 98th percentile; maximum and minimum values etc. have been computed from the collected raw data for all the AAQ monitoring station. The data has been compared with the standards prescribed by Central Pollution Control Board (CPCB)/NAAQS for residential and rural zone.

A. Particulate Matter-PM₁₀:

The minimum and maximum concentrations for Particulate Matter-PM₁₀ were recorded as 49.5 µg/m³ and 61.9µg/m³ at Kutku Village/Nr.V.T.Center and Rajendrapur/Nr.Mining area location respectively. The average concentration of PM₁₀ was 57.1 µg/m³.

B. ParticulateMatter-PM_{2.5}:

The minimum and maximum concentrations for Particulate Matter-PM_{2.5} were recorded as 16.6 µg/m³ & 25.3 µg/m³ at Kutku Village/Nr.V.T.Center and Rajendrapur/Nr.Mining area respectively . The average concentration of PM_{2.5} was 21.6 µg/m³.

C. Sulphur Dioxide (SO₂):

The minimum and maximum for SO₂ concentrations were recorded as 7.3 µg/m³ and 16.2 µg/m³ respectively. at Kutku Village/Nr.V.T.Center and Rajendrapur/Nr.Mining area respectively. The average concentration of SO₂ was 11.5 µg/m³.

D. Nitrogen Dioxide (NO₂):

The minimum and maximum for NO₂ concentrations were recorded as 15.3µg/m³ and 26.1µg/m³. The minimum and maximum concentration was recorded at Kutku Village/Nr.V.T.Center and Samri-Gopatu/Nr. weigh bridge. The average concentration of NO₂ was 20.5 µg/m³.

E. Carbon Monoxide (CO):

The minimum and maximum for CO concentrations were recorded as 0.162mg/m³ and 0.288 mg/m³. The minimum concentration was recorded at Dumerkholi/Nr.Mining area and maximum concentration was also recorded at Samri-Gopatu/Nr. weigh bridge location. The average concentration of CO was 0.227 mg/m³.



F. Lead (Pb):

Maximum Lead detected in PM₁₀ samples was 0.019 µg/m³ at Samri-Gopatu/Nr. weigh bridge location.

No lead could be detected in PM_{2.5} samples at any of the Ambient Air samples at any of the locations.

G. Mercury(Hg):

Mercury was not detected at any of the locations in PM₁₀ samples as well as PM_{2.5} Samples.

H. Arsenic (As):

Arsenic was not detected at any of the locations in PM₁₀ samples as well as PM_{2.5} Samples.

I. Chromium(Cr):

Chromium was not detected at any of the locations in PM₁₀ samples as well as PM_{2.5} Samples.

MONITORED PARAMETERS AND FREQUENCY OF SAMPLING

1.7 Methods and Instruments used for Sampling

The air samples were analyzed as per methods specified by Central Pollution Control Board (CPCB). The levels of Particulate Matter (PM₁₀), Sulphur Dioxide (SO₂), Oxides of Nitrogen (NO₂), Carbon Monoxide (CO), Pb, Hg, As and Cr were monitored for establishing the baseline status. PM₁₀ was collected with the help of Respirable Particulate Sampler operating 24 hours by drawing air which passes through the cyclone at the rate of 1.0 -1.3 m³/min which collects the particles less than 10 µm diameter over glass fibre filter paper. The dust deposited over the filter paper is measured as PM₁₀ and the smaller particulates from 2.5 µm are collected into the Membrane Filter Paper. The dust fall rate was measured using dust fall jar. The jar was exposed for one month in the mining area and Samri-Gopatu during pre and post monsoon period. The jar was filled with 2 lit of distilled water. The water in the jar is mixed with copper sulphate solution (0.02 N solutions) to prevent any growth of algae. The water level in the jar is constantly maintained in such a way that 2 lit of water is always retained. The measurement techniques used for various pollutants and other details are given in **(Table 3)**.

Earmarked samples were collected for Particulate Matter-PM₁₀, Particulate Matter-PM_{2.5}, SO₂ and NO₂ for 24 hourly and CO 8 hourly. Collected samples were sent to Laboratories for analysis.

Table 3.0
Measurement Techniques for various pollutants

Sl. No.	Parameter	Technique	Technical Protocol	Minimum Reportable Value (µg/m³)
1.	Respirable Particulate Matter	Respirable Dust Sampler (Gravimetric Method)	IS-5182 (Part-23)	5
2.	Particulate Matter 2.5	Respirable Dust Sampler (Gravimetric Method)	USEPA-40 (Part-50)	5
3.	Sulphur Dioxide	Modified West and Gaeke	IS-5182 (Part - II)	4
4.	Oxide of Nitrogen	Jacob & Hochheiser Method	IS-5182 (Part - VI)	4
5.	Carbon Monoxide	NDIR Spectroscopy	IS-5182 (Part - X)	2
6.	Pb, As, Hg, Cr	Acid Digestion Method	EPA Method	0.1



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**Details of
Salient Features**

Table 4

Statistical Analysis

Location	Month & Year	PM-10 ($\mu\text{g}/\text{m}^3$)	PM-2.5 ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO ₂ ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	Pb ($\mu\text{g}/\text{m}^3$)	Hg ($\mu\text{g}/\text{m}^3$)	As (ng/m^3)	Cr ($\mu\text{g}/\text{m}^3$)
Core Zone										
Samri-Gopatu/ Nr.weigh bridge	Jan-2023	59.5	21.9	10.6	18.3	BDL (DL-0.5)	0.015	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
	Feb-2023	59.2	21.0	10.4	19.8	BDL (DL-0.5)	0.018	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
	March-2023	61.2	23.8	11.5	23.0	BDL (DL-0.5)	0.019	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
Rajendrapur/ Nr.Mining Area	Jan-2023	51.4	19.1	7.9	16.8	BDL (DL-0.5)	0.017	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
	Feb-2023	53.2	17.8	7.8	16.4	BDL (DL-0.5)	0.016	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
	March-2023	53.2	17.8	8.1	17.0	BDL (DL-0.5)	0.018	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
Kutku Village/ Nr.V.T. Center	Jan-2023	57.4	22.2	9.4	20.0	BDL (DL-0.5)	BDL (DL-0.01)	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
	Feb-2023	59.6	21.4	10.0	19.9	BDL (DL-0.5)	BDL (DL-0.01)	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
	March-2023	59.3	19.7	9.6	18.3	BDL (DL-0.5)	BDL (DL-0.01)	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
Dumerkholi/Nr. Mining Area	Jan-2023	58.5	18.2	9.4	18.9	BDL (DL-0.5)	BDL (DL-0.01)	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
	Feb-2023	59.4	20.6	10.1	19.7	BDL (DL-0.5)	0.018	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
	March-2023	60.6	21.1	10.5	20.5	BDL (DL-0.5)	0.015	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
CPCB Standards		100 (24 hrs)	60 (24 hrs)	80 (24 hrs)	80 (24 hrs)	2 (8 hrs)	1.0 (24 hrs)	---	6.0 (annual)	---
Minimum		51.4	17.8	7.8	16.4	---	---	---	---	---
Maximum		61.2	23.8	11.5	23.0	---	0.019	---	---	---
Average		57.7	20.4	9.6	19.1	---	0.017	---	---	---
98% le		61.1	23.4	11.3	22.5	---	0.019	---	---	---

NOTE: ● BDL- Below detection limit ● DL- Indicates detection limit of instrument/method and shall be considered as 'absent'.

- The Average Concentration of PM₁₀ within the Core Zone of Samri Lease is 57.7 $\mu\text{g}/\text{m}^3$.
- The Average Concentration of PM_{2.5} within the Core Zone of Samri Lease is 20.4 $\mu\text{g}/\text{m}^3$.
- The Average Concentration of SO₂ within the Core Zone of Samri Lease is 9.6 $\mu\text{g}/\text{m}^3$.
- The Average Concentration of NO₂ within the Core Zone of Samri Lease is 19.1 $\mu\text{g}/\text{m}^3$.
- The Average Concentration of Pb within the Core Zone of Samri Lease is 0.017 $\mu\text{g}/\text{m}^3$.

Conclusion:-The Average Concentration within the Core Zone of Samri Lease during this period (Jan-Feb-March-2023). It is within permissible limits as per CPCB Standards.



**Hindalco Industries Limited Samri
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**Details of
Salient Features**

Location	Month & Year	PM-10 ($\mu\text{g}/\text{m}^3$)	PM-2.5 ($\mu\text{g}/\text{m}^3$)	SO ₂ ($\mu\text{g}/\text{m}^3$)	NO ₂ ($\mu\text{g}/\text{m}^3$)	CO (mg/m^3)	Pb ($\mu\text{g}/\text{m}^3$)	Hg ($\mu\text{g}/\text{m}^3$)	As (ng/m^3)	Cr ($\mu\text{g}/\text{m}^3$)
Buffer Zone										
Sairaidh Campus	Jan-2023	61.5	21.1	10.0	20.0	BDL (DL - 0.5)	BDL (DL-0.01)	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
	Feb-2023	56.2	19.6	9.2	19.6	BDL (DL - 0.5)	BDL (DL-0.01)	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
	March-2023	60.0	21.1	10.0	19.1	BDL (DL - 0.5)	BDL (DL-0.01)	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
Tatijharia Village/Nr. Weigh Bridge	Jan-2023	59.0	21.2	9.5	20.8	BDL (DL - 0.5)	0.018	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
	Feb-2023	61.0	22.8	10.7	20.2	BDL (DL - 0.5)	0.017	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
	March-2023	59.1	22.1	9.5	20.0	BDL (DL - 0.5)	0.017	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
Piprapat/ Nr. Mining Area	Jan-2023	57.3	19.5	9.4	19.1	BDL (DL - 0.5)	0.018	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
	Feb-2023	59.1	20.9	9.5	19.9	BDL (DL - 0.5)	0.017	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
	March-2023	62.0	23.8	10.8	21.9	BDL (DL - 0.5)	0.018	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
Virhorepat Village	Jan-2023	55.7	20.3	10.6	20.2	BDL (DL - 0.5)	0.017	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
	Feb-2023	54.6	20.0	9.3	18.8	BDL (DL - 0.5)	0.017	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
	March-2023	60.5	22.2	10.8	21.2	BDL (DL - 0.5)	0.017	BDL (DL-0.0005)	BDL (DL-0.1)	BDL (DL-0.03)
CPCB Standards		100 (24 hrs)	60 (24 hrs)	80 (24 hrs)	80 (24 hrs)	2 (8 hrs)	1.0 (24 hrs)	---	6.0 (annual)	---
Minimum		54.6	19.5	9.2	18.8	---	BDL (DL-0.01)	---	---	---
Maximum		62.0	23.8	10.8	21.9	---	0.018	---	---	---
Average		58.8	21.2	9.9	20.1	---	0.017	---	---	---
98% le		61.9	23.6	10.8	21.7	---	0.018	---	---	---

NOTE: ● BDL- Below detection limit ● DL- Indicates detection limit of instrument/method and shall be considered as 'absent'.

- The Average Concentration of PM₁₀ within the Buffer Zone of Samri Lease is 58.8 $\mu\text{g}/\text{m}^3$.
- The Average Concentration of PM_{2.5} within the Buffer Zone of Samri Lease is 21.2 $\mu\text{g}/\text{m}^3$.
- The Average Concentration of SO₂ within the Buffer Zone of Samri Lease is 9.9 $\mu\text{g}/\text{m}^3$.
- The Average Concentration of NO₂ within the Buffer Zone of Samri Lease is 20.1 $\mu\text{g}/\text{m}^3$.
- The Average Concentration of Pb within the Buffer Zone of Samri Lease is 0.017 $\mu\text{g}/\text{m}^3$.

Conclusion: - The Average Concentration within the Buffer Zone of Samri Lease during this period (January-Feb-March-2023). It is within permissible limits as per CPCB Standards.



Month-wise Summary of Statistical Analysis

1.8. Samri Lease (Core Zone):-

1.8.1 Ambient Air Quality:

Ambient air quality has been generated as per NAAQS 2009 for the month of January-February-March-2023. PM₁₀, PM_{2.5}, SO₂, NO₂ & CO. The values obtained were then compared vis-a-vis the standards prescribed by CPCB for Industrial/ Rural / Residential uses.

Presentation of Results:

The summary of Ambient Air Quality monitoring results from January-2023 to March-2023 are presented in detail in Table 4.0. 98th percentile; maximum and minimum values etc. have been computed from the collected raw data for all the AAQ monitoring station. The data has been compared with the standards prescribed by Central Pollution Control Board (CPCB)/NAAQS for residential and rural zone.

A. Particulate Matter-PM₁₀:

The minimum and maximum concentrations for Particulate Matter-PM₁₀ were recorded as 51.4 µg/m³ and 61.2 µg/m³ at Rajendrapur/Nr. Mining area and Samri-Gopatu/Nr. weigh bridge area location respectively. The average concentration of PM₁₀ was 57.7 µg/m³.

B. Particulate Matter-PM_{2.5}:

The minimum and maximum concentrations for Particulate Matter-PM_{2.5} were recorded as 17.8 µg/m³ & 23.8 µg/m³ at Rajendrapur/Nr. Mining area and Samri-Gopatu/Nr. weigh bridge area location respectively. The average concentration of PM_{2.5} was 20.4 µg/m³.

C. Sulphur Dioxide (SO₂):

The minimum and maximum for SO₂ concentrations were recorded as 7.8 µg/m³ and 11.5 µg/m³ respectively. Rajendrapur/Nr. Mining area and Samri-Gopatu/Nr. weigh bridge area location respectively. The average concentration of SO₂ was 9.6 µg/m³.

D. Nitrogen Dioxide (NO₂):

The minimum and maximum for NO₂ concentrations were recorded as 16.4 µg/m³ and 23.0 µg/m³. The minimum and maximum concentration was recorded at Rajendrapur/Nr. Mining area and Samri-Gopatu/Nr. weigh bridge area location respectively. The average concentration of NO₂ was 19.1 µg/m³.

E. Carbon Monoxide (CO):

No CO could be detected in the Ambient Air samples at any of the locations.



F. Lead (Pb):

Maximum Lead detected in PM₁₀ samples was 0.019 µg/m³ at Samri-Gopatu/Nr. weigh bridge location.

No lead could be detected in PM_{2.5} samples at any of the Ambient Air samples at any of the locations.

G. Mercury(Hg):

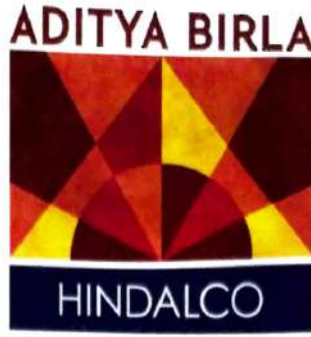
Mercury was not detected at any of the locations in PM₁₀ samples as well as PM_{2.5} Samples.

H. Arsenic (As):

Arsenic was not detected at any of the locations in PM₁₀ samples as well as PM_{2.5} Samples.

I. Chromium(Cr):

Chromium was not detected at any of the locations in PM₁₀ samples as well as PM_{2.5} Samples.



Annexure-H

Hindalco Industries Limited
Mines Division, Samri

Date: 04.01.2023

Environment Management Cell

An Environment Management Cell is reconstituted by the following members which is compliance of the EC Conditions for the Samri, Tatijharia and Kudag Bauxite Mines.

Sl. No.	Name	Designation	Position
01	Mr. Vijay Chauhan	Agent of Mines	Chairman
02	Mr. Amit Tiwari	Manager-Mines	Secretary
03	Mr. Praween Pradhan	Manager-Geology	Member
04	Mrs. Madhusmita Parida	Asst. Manager-Env	Member
05	Mr. Ashutosh Saha	Asst. Manager-Sustainability	Member
06	Dr. Ajay Kumar	Medical Officer	Member
07	Mr. K K Singh	Dy. Manager	Member

For Hindalco Industries Ltd.


Vijay Singh Chauhan
Agent of Mines
Head Mines

56 दजन जुआरया स 17 हजार बरामद

बड़े-छोटे जुआरी एक ही दिन पकड़े गए

हरिभूमि न्यून (अभिकल्पपुर)।

समगोपण अवकाल को टोकाकर घर परेला। इन जुआ फंड को पुलिस ने 11700 रुपय पर तोडा के बतले

लिए सवे 52 को रूपय स जात के बते जल किए गए हैं। पुलिस को यह बरामदाई तबि 9 घण्टे एव 9 बजे के बीच की है।



जो हुए वाली के सफाई करे डेड न जुआरियों को डककर लाना कर जमान रूपय स करे करे लेवा पाई है। इ सुकर जोडा सभ के समाय। घेसे लोग भी स खोलते पकड़े जाते बने के अदी तब नई बरिध विधियों में मन्त रहे है। इन को एक एक अवकाल जुआरियों में सभ सभे हुए है।

पुलिस अधीक्षक हेमकान्त राठी निदेश में सफुको जेजात हुए स नेहा में बीजे एन कार डककर जबर सिरोको, बिरोध कर के प्रभरी जनेजात सिह, हु एका के नेहा में निक्के इन बत ने सभसे पदते रिज बाध समीप दुका खेन रहे सवेस जारल, मनीष अवबल, सिह प्रवाल, अरोक जपपाल,

येस लोग भी खेलेते है जुआ

बरामद किया है। इसके बाद पुलिस को टोम सौबहाकर प्युन। मधरे पर जुआ खेल के सुरेस जकका, रजनी मधुपे, रमेश सिंह, पशोत खान, रूपत गुन, सरोप को बिघाता में खेजा इनके कब्जे से टोम सभन के

खान कुमार लखाध्याय, निरान सारव को भी इनके एकदम इनके कब्जे से लखान 250 रुपय एक सभा के घुसे जल किए गए हैं। सभी जुआरियों पर पुलिस ने 13 जुआ एक को बरामद की है।

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रूपय

सर्वसाधारण को सचित किया जाता है कि सनएल प्रबावरण मंत्रालय, नई दिल्ली से उनके पत्र क्रमांक जे.11015/353/2007-IA.II(M) दिनांक 27.07.2007 तथा जे.11015/354/2007-IA.II(M) दिनांक 27.07.2007 के तहत हिण्डालको इण्डस्ट्रीज लिमिटेड के सामरी तथा कुदाग बाक्साईट खादरालो के क्षमता विलान (0.50 मिलियन टन तथा 0.06 मिलियन टन बाक्साईट उत्पादन प्रतिवर्ष) हेतु पर्यावरणय स्वीकृति अनुमोदित होकर प्राप्त हो चुकी है। इससे स्वीकृति पत्र की प्रतिस्विप छग पर्यावरण संरक्षण मंडल कार्यालय में उपलब्ध है एवं सन गड पर्यावरण मंत्रालय को वेबसाईट <http://envfor.nic.in> पर देखी जा सकती है।

भवदीय
 हिण्डालको इण्डस्ट्रीज लिमिटेड
 सामरी खान प्रभाग

चिहने एवं शुक्र किया गया है। इसके अलावा को सिधान के लिए संसाधन हो उपलब्ध नहीं है। संसाधन की परतन नहीं रहने के कारण अर्द्धीजात के प्रतिस्पर्धाओं बने पर अर्द्धीजात संसाधन में अले थे कोर बिना शुध किए पतु कर पर सारा बते जाते थे। इनके संकेतकल की भी जानकारी नहीं थी गई। घेसे में प्रतिस्पर्धीनों को शक्ति अभिरे में है। छात्रों को कहना है कि 20 अरसे से शक्ति परीक्षे शुरू है। छात्रों की पढ़ाई नहीं हुई है किन्तु किसी तरह पर कर छात्रों की परीक्षा के जतनों पर सेने किन्तु प्रेषककल का पोडा भी गुन नहीं है। उन्होंने बताया कि प्रतिस्पर्धीनों के द्वारा एक टेल

ग्राफिटी परीक्षा के बिना परकर परीक्षा होवे को प्रतिस्पर्धीनोंके सहायुक्त दुबक सिचन में सारया। जितने संसाधन उपलब्ध बसको अभाव पर संभवतः करया गया है। परीक्षा को ही अहित धारतीय सत पर निषा की कमी है इसलिय परीक्षा को ही परीक्षा कराना संभव नहीं है। अवसा पर पुन छात्रों के प्र सिधयसत अरकरी, सुधीर सिह अरकरी चारक विकास मिश्र, स निंदक, किन सिखा, अनादित प वीरेश गुन, अमित रवि, ज्योत स संवेप सानी, रमेशवि मिश्र स बाको संख्या में अर्द्धीजात प्रतिस्पर्धी उपस्थित थे।

स्वतंत्रता सेनानियों को श्रद्धांजलि देने आज जुटेगे कार्यकर्ता
 सभिकपुर। स्वातंत्रता सेनानियों के स्मरण पर बरामदाई पर सभिकपुर 2 अगस्त को सुबह 10 बजे किन्तु कर्णाल कोरिडोर कोरिडोर में बरामदाई को को धारण। जसके अलावा कार्यकर्ता को अलाव सभिक निड सभिकपुर में भी किन्तु पर शुध कार्यक्रम केवा इतः गौतम बराम, सभिकपुरआन पर सि जतिन के सभी प्रतिस्पर्धीनों एवं अन्य कार्यकर्ता जने से एक कार्यक्रम उपस्थित सभ को अरकरी को है।

आवश्यकता

हरिभूमि अभिकल्पपुर जिला कार्यालय के प्रसार मार्केटिंग में कार्य करने के लिए बरामदा, योग्य तथा अनुभवी या केवल युवक य युवतियों को सीप अवसरदाकरा है

उम्मीदवारों में निम्नलिखित श्रेणियां होना आवश्यक है-

- 12 वीं या उच्चतर उत्तीर्ण होना चाहिए।
- आयु 30 वर्ष से अधिक नहीं होनी चाहिए।
- कंपनी द्वारा संघोषित इन्ट में कार्य कर सभे तथा प्रबंधित करने हेतु नगर से बाहर भी जा सकें।
- उचित विधि से सभसे हो।

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कार्य का समय
 प्रातः 9 से 2 बजे तक सीपन बरक सार्क 4 से 6 बजे तक सिचोडिंग

सिलन का समय
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बया। शासन ने रिग्डिम सुधारों को मजबूत करने का इरादा रखा है। नेशनल एग्रीकल्चरल डेवेलपमेंट बैंक, एनडीपीसी, एचडीपीसी, बालको, निहादिको सहित सभी क्षेत्रों के लोगों ने भाग लिया जो मंटे तक मजबूत आर्थिकता में अन्य सभी क्षेत्रों में उपस्थित थे।

प्रदेशीय अर्थव्यवस्था को सुदृढ़ बनाने के लिए 20 मई 1997 को तत्कालीन अर्थ मंत्रालय ने नेशनल रिग्डिम बैंक के पुनर्गठन का फैसला किया। बैंक के एक साल बाद ही किराने को बढ़ाने के लिए प्रस्तावित किए जाने लगे।

पच्छिम/ उत्तरीसहार प्रदेश के किसानों को खरीद कर लेना और उन्हें सुखमयी अजीत प्रमोद जोशी के सुपुत्र अमित जोशी का स्थानीय युवा कार्यकर्ताओं ने जन्म देकर बनाया। पच्छिम/ उत्तरीसहार प्रदेश के किसानों को खरीद कर लेना और उन्हें सुखमयी अजीत प्रमोद जोशी के सुपुत्र अमित जोशी का स्थानीय युवा कार्यकर्ताओं ने जन्म देकर बनाया।

अजीत जोशी के जन्मदिन के उपलक्ष्य पर अखिल भारतीय किसान संघ के वरिष्ठ कार्यकर्ता अचल मनीष अग्रवाल, एचि सादव, मिश्रा मुद्गी, सुदीप शेरवानी, शिव अचवाल, प्रदीप सिंघान, अशोक रोहिला एवं अन्य प्राथमिक कार्यकर्ता उपस्थित थे।

गीता को कटघोरा का प्रभार

अधिकारी नीतिन चंडिह को पदोन्नति मिलने वाली थी। लेकिन वे अभी स्थानांतरण के लिए मंदरा

कलेक्टर बनाए जाने के बाद से राजनाथराय अग्र कलेक्टर का पद विगत 2-3 माह से रिक्त था। श्री ए.एस.एस. कृष्णा अचर परिचोजना के अग्र लक्ष्य के पद पर प्राथमिक परीक्षा के पद पर प्रत्याक्ष प्रतीक विभाजन में प्रतिनिधित्व करे। इस बीच 2004 बीच के एच प्रिनु आइएस अफसरों को राजनाथ कलेक्टर के पद पर पदस्था किया गया है। आइएस अग्र कटघोरा को कटघोरा एवं अग्र कृष्णा को सारांग अग्र कलेक्टर अधिकारी बनाया गया है।

भलाई निगम के आयुक्त अए लगा रहे जोर

के दबाव नहीं कर रहे हैं। प्रदेश शासन द्वारा जारी आदेश के अनुसार राफने 198 बीघ के अधिकारी आइके रोशनाय को राजनाथराय का अग्र कलेक्टर पदस्था किया गया है। डीडी सिंह को जरापुर

स जिला अध्यक्ष ने दौरा स्याओं की जानकारी ली

से अपनी भावनाओं से अवगत हो ने पद को मजबूत रखे कि, ऊपर सभी सिक्क एवं केन्द्रीय योजनाएं दिया जाना। योजनाएं मिलने से प्रत्येक 20 से 2000 रुपए तक का होगा। महंगाई बढ़ने की घोषणा (हो)। प्रत्येक महंगाई बढ़ने के अनुसार शेन बाईए तथा श्री शशि केन्द्र को घोषणा के होना चाहिए। किस तरह से पी. एच।सी को सिद्धा विभाग में अग्रित जाती है उसी प्रकार हम फ्रीली पी.सी अधिकार क्षेत्र सुदृढ़ मिलनी

दूरे, भोपाल लखन, शिवगंज सिंह, मुनेश्वर सिंह, हरिनाथ सिंह, प्रदीप सिंह, प्रेमनाथ झाक रामलालू साहू, कृष्ण साहू, रामपाल साहू, राजेश पाण्डेय, पिलू राम सिंह, राजकुमार पंचत, बल्लभ सिंह, परमपति पंचत, श्रीमती मानमति अग्र, श्रीमती प्यारी टोमो, संदेश सिंह, श्रीमती कल्पलला जायसवाल, श्रीमती सुमिता पांडेय, पी. सु. यादव, मो. इमलाम अंसारी, शमान मालवण सिंह, उदयपुर लाल में सुखराम यादव, हरिश्चंद्र गुप्ता, मोहम्मद राजवाड़े, कलेक्टर सिंह, प्रवीर कुमार कश्यप, अलोइस टोमो, अमरनाथ पट्ट, प्रदीप कुमार यादव, शंकर शर्मा, अरुंधती, श्रीमती इंदिरा टोमो, रामलाल सिंह, छोटीलाल दूरे, सोमनाथ सिंह, सहपर सिंह, रामेश्वर, श्रीमती अश्विनी टोमो, धनेश्वर सिंह, सुहन राम तथा अधिकारिक संस्था में हर क्षेत्र में शिक्षक-शिक्षिकाएं उपस्थित थी। शिक्षकों के प्रस्ताव को उचित कार्यवाही हेतु इसकी सूचना हेतु प्रदेश अध्यक्ष सुरेश मिश्रा एवं उप-प्रधानमंत्री श्री. एच. सिंह को दे दी गई है। मुख्यमंत्री श्रीमती सुश्री शांती एवं उच्च-प्रधानमंत्री श्री. एच. सिंह को दे दी गई है। मुख्यमंत्री श्रीमती सुश्री शांती एवं उच्च-प्रधानमंत्री श्री. एच. सिंह को दे दी गई है।

खाद नहीं मिलने को लेकर कृषकों ने निकाली रैली

पच्छिम/ उत्तरीसहार प्रदेश के किसानों को खरीद कर लेना और उन्हें सुखमयी अजीत प्रमोद जोशी के सुपुत्र अमित जोशी का स्थानीय युवा कार्यकर्ताओं ने जन्म देकर बनाया। पच्छिम/ उत्तरीसहार प्रदेश के किसानों को खरीद कर लेना और उन्हें सुखमयी अजीत प्रमोद जोशी के सुपुत्र अमित जोशी का स्थानीय युवा कार्यकर्ताओं ने जन्म देकर बनाया।

किसानों ने खेत की किल्लत के लिए व्यापारियों से अधिकारियों द्वारा साठगांव तक खरीदारी की दिनांक पर अधिकारी अधिक मुद्दे समरा देख रहे हैं। पुराने आशवासन मिला एक-दो दिन में होगा उपलब्ध। किसानों ने खेत की किल्लत के लिए व्यापारियों से अधिकारियों द्वारा साठगांव तक खरीदारी की दिनांक पर अधिकारी अधिक मुद्दे समरा देख रहे हैं। पुराने आशवासन मिला एक-दो दिन में होगा उपलब्ध।

पंजाब में मुख्य रूप से विशाखपुर में असाधारण पी. दुर्गे, एच. पी. जो. सिंह, ए. के. जैन, के. जय शंकरा श्रीवास्तव, राजनाथ राजनाथ में प्रेमचंद शर्मा, डी. एच. डी. भगत, सतारराज राम, मुकुंद मोहनमय शर्मा, के. एन. राजेश्वर, आर. पी. सिंह, श्रीमती लक्ष्मी ने डी.एस.एस. साहू, राजकुमार प्रसाद, नारायण कुमार, मन्मथ



हिण्डालको इण्डरट्रीज लिमिटेड
(सामरी खान प्रभाग)

सूचना

सर्व सामग्री को सूचित किया जाता है कि प्रमोद प्रमोदना प्रमोदना, आई.टी.डी. से उनके पत्र क्रमांक नं. - 11015/353/2007-IA II(M) दिनांक 27.07.2007 तथा नं. - 11015/354/2007-IA II(M) दिनांक 27.07.2007 के तहत हिण्डालको इण्डरट्रीज लिमिटेड के सामरी खान कुदाम बाइसाईट खदानों के क्षमता विलोप (2000 मिलियन टन तथा 0.05 मिलियन टन बाइसाईट खदान प्रतिक्रम) हेतु पर्यावरणीय स्वीकृति अनुमति प्राप्त हो चुकी है। पर्यावरण स्वीकृति पत्र को प्रतिलिपि उठा, पर्यावरण संरक्षण मंडल कार्यालय में उपलब्ध है एवं वन एवं पर्यावरण मंत्रालय की वेबसाइट <http://envfor.nic.in> पर भी देखी जा सकती है।

अथर्व
हिण्डालको इण्डरट्रीज लिमिटेड
सामरी खान प्रभाग

आम्बिकावानी
3 अगस्त 2007

Hindalco Industries Limited
Samri Mines Division

Actual Expenditure incurred in Environment Management Plan

Total cost incurred for protection of Environment in Samri, Tatijharia & Kudag Bauxite mine of Hindalco Industries Limited of Chhattishgarh State during the FY 2022-23 (April-2022 to March-2023).

Sl. No.	Environment Protection Measure	Actual Cost (Lakh) FY 2022-23
01	Environment Monitoring	6.00
02	Greenbelt development	9.00
03	Reclamation/ rehabilitation of mined out area (Samri-9.187Ha., Kudag-1.9Ha., Tatijharia-3.397Ha.) Total- 14.484 Ha.	43.452
Total		58.452

- ❖ Environment Monitoring Job has been out sourced to Anacon Laboratory, recognized by MoEF & NABL.
- ❖ One centralized nursery has been established at Samri mines for Samri, Tatijharia & Kudag lease.
- ❖ Reclamation of mined out land has been out sourced along with production. Average cost of reclamation considered @ 3.00 lakh per ha.


Agent of Mines
Samri Mines Division
Hindalco Industries Ltd

Hindalco Industries Limited
Samri Mines Division

Lease wise production data FY 2022-2023

Lease Name	Production (MT)	Mined out Area, ha.	Reclaimed area Ha.
Samri	450950	14.853	9.187
Kudag	43800	2.544	1.900
Tatijharia	390300	14.318	3.397
Total	885050	31.715	14.484



Agent of Mines
Samri Mines Division
Hindalco Industries Ltd



CHHATTISGARH ENVIRONMENT CONSERVATION BOARD
Paryavas Bhawan, North Block, Sector - 19,
Nava Raipur Atal Nagar, District - Raipur (C.G.)
e-mail - hocecb@gmail.com

No. 6000/TS/CECB/2022
To,

Nava Raipur Atal Nagar, Dated: 29/11/2022

M/s Hindalco Industries Limited,
 (Samri Bauxite Mine),
 Village- Samri, Gopatu & Dumerkholi,
 Tehsil - Samri,
District - Balrampur-Ramanujganj (C.G.)

Sub: - Renewal of the consent of the Board under section 25 of the Water (Prevention and Control of Pollution) Act, 1974 and under section 21 of the Air (Prevention and Control of Pollution) Act, 1981.

- Ref: -
1. Consent of the Board issued under section 25 of the Water (Prevention and Control of Pollution) Act, 1974 vide letter no. 6876/TS/CECB/2007 Raipur, dated: 24/12/2007 and under section 21 of the Air (Prevention and Control of Pollution) Act, 1981 vide letter no. 6878/TS/CECB/2007 Raipur, dated: 24/12/2007.
 2. Last renewal of consent of the Regional Office issued under section 25 of the Water (Prevention and Control of Pollution) Act, 1974 vide letter no. 831/RO/TS/CECB/2017 Ambikapur, dated: 05/08/2017 and under section 21 of the Air (Prevention and Control of Pollution) Act, 1981 vide letter no. 831/RO/TS/CECB/2017 Ambikapur, dated: 05/08/2017.
 3. Your online application no. 10488933, dated: 29/07/2022 and subsequent correspondence ending dated: 16/08/2022.

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With reference to your above application, consents under section 25 of the Water (Prevention and Control of Pollution) Act, 1974 and under section 21 of the Air (Prevention and Control of Pollution) Act, 1981 are hereby renewed for period of five years from 01/12/2022 to 30/11/2027, subject to the fulfillment of the terms and conditions incorporated in the water consent letter no. 6876/TS/CECB/2007 Raipur, dated: 24/12/2007 and air consent letter no. 6878/TS/CECB/2007 Raipur, dated: 24/12/2007 and subsequent renewal(s)/amendment(s) issued by the Board and additional conditions mentioned below.

This renewal of consent is valid for production capacity of : -

Product	Production Capacity
Mining of Bauxite Ore	5.0 Lakhs Tonnes/Annum (Five Lakhs Tonnes Per Annum)

Additional Conditions

A. Water (Prevention and Control of Pollution) Act, 1974

1. Mine management shall operate and maintain the effluent treatment system effectively and regularly. Industry shall ensure treated effluent quality within the standards prescribed by Board published in Gazette Notification dated 25.03.1988. Treated effluent shall be used for dust suppression, domestic use, irrigation, other useful purposes etc. Industry shall not discharge any treated/unreated effluent into

- the river or any other surface water bodies. No effluent shall be discharged outside of the mine premises in any circumstances; hence zero discharge condition shall be maintained all the time.
2. Mine management shall install separate digital water meter for measurement of ground & surface water used.
 3. Mine management shall submit appraisal report for usage of water from competent authority.
 4. Mine management shall ensure maximum reuse of non-potable water.
 5. Mine management shall ensure safe and scientific arrangement for disposal of all solid wastes. Excavated area shall be reclaimed scientifically.
 6. All internal roads shall be maintained properly. Dust, muck & sludge generated due to transportation on the road shall be cleaned and disposed off properly.
 7. Mine management shall maintain good housekeeping within mine lease area.
 8. Mine management shall ensure transportation of ore and solid wastes etc. through mechanically covered vehicle on or before 12.07.2023. Mean while transportation of fuel and solid wastes (ash) etc. shall be carried out through safely and securely covered vehicle with tarpaulin or any other suitable materials.
 9. Mine management shall use fly ash brick, fly ash blocks or fly ash based products in their construction/ repairing activities.
 10. Mine management shall submit monitoring report of effluent regularly.
 11. Wide green belt of broad leaf local species shall be developed along the mine lease area. As far as possible maximum area of open spaces shall be utilized for plantation purposes. Mine management shall maintained plantation atleast in 1/3rd area of total mine lease area.
 12. Mine management shall submit Environment Statement to this Board as per provision of Environment (Protection) amendment Rule, 1993 for the previous year ending 31st March on or before 30th September every year.
 13. This renewal of consent is being issued under the "Scheme of Auto-Renewal of Consent" of the Board issued vide office order no. 5937 dated 29/01/2018 as per self certificate submitted by authorized signatory Mr. Vijay Kumar Singh Chauhan, General Manager, M/s Hindalco Industries Limited, (Samri Bauxite Mine), Village-Samri, Gopatu & Dumerkholi, Tehsil - Samri, District - Balrampur-Ramanujganj (C.G.).
 14. Chhattisgarh Environment Conservation Board reserves the rights to revoke the consent / renewal of consent at any time for any violation/non-compliance.
 15. In case, if the capital investment is increased by such amount that the total investment exceeds the range for which renewal fees has been paid, the industry shall have to pay the difference amount of renewal fees for the corresponding block years.
 16. In case, the prescribed fee payable is amended in future, the industry shall be liable to pay the difference amount for corresponding block years.

B. Air (Prevention and Control of Pollution) Act, 1981

1. Mine management shall operate & maintain the air pollution control system effectively & regularly. Effective steps shall be taken to control fugitive dust emission. Fixed type automatic water sprinkling system shall be installed at haul roads/other roads, ore stock yard etc. Dust suppression system (water sprinkling arrangement) shall be made more effective to ensure ambient air quality within prescribed limit in and around the mine area all the time.
2. Regular monitoring for the measurement of air pollutants level in ambient shall be carried out. Mine management shall submit air quality monitoring reports to the Board regularly

3. Mine management shall ensure safe and scientific arrangement for disposal of all solid wastes. Excavated area shall be reclaimed scientifically.
4. All internal roads shall be maintained properly. Dust, muck & sludge generated due to transportation on the road shall be cleaned and disposed off properly.
5. Mine management shall maintain good housekeeping within mine lease area.
6. Mine management shall ensure transportation of ore and solid wastes etc. through mechanically covered vehicle on or before 12.07.2023. Mean while transportation of ore and solid wastes (ash) etc. shall be carried out through safely and securely covered vehicle with tarpaulin or any other suitable materials.
7. Mine management shall use fly ash brick, fly ash blocks or fly ash based products in their construction/ repairing activities.
8. Mine management shall submit monitoring report of effluent regularly.
9. Wide green belt of broad leaf local species shall be developed along the mine lease area. As far as possible maximum area of open spaces shall be utilized for plantation purposes. Mine management shall maintained plantation atleast in 1/3rd area of total mine lease area.
10. Mine management shall submit Environment Statement to this Board as per provision of Environment (Protection) amendment Rule, 1993 for the previous year ending 31st March on or before 30th September every year.
11. This renewal of consent is being issued under the "Scheme of Auto-Renewal of Consent" of the Board issued vide office order no. 5937 dated 29/01/2018 as per self certificate submitted by authorized signatory Mr. Vijay Kumar Singh Chauhan, General Manager, M/s Hindalco Industries Limited, (Samri Bauxite Mine), Village-Samri, Gopatu & Dumerkholi, Tehsil - Samri, District - Balrampur-Ramanujganj (C.G.).
12. Chhattisgarh Environment Conservation Board reserves the rights to revoke the consent / renewal of consent at any time for any violation/non-compliance.
13. In case, if the capital investment is increased by such amount that the total investment exceeds the range for which renewal fees has been paid, the industry shall have to pay the difference amount of renewal fees for the corresponding block years.
14. In case, the prescribed fee payable is amended in future, the industry shall be liable to pay the difference amount for corresponding block years.

Please acknowledge the receipt of this letter.

For & on behalf of

Chhattisgarh Environment Conservation Board
Nava Raipur Atal Nagar, Raipur (C.G.)

Member Secretary

Chhattisgarh Environment Conservation Board
Nava Raipur Atal Nagar, Raipur (C.G.)

Nava Raipur Atal Nagar, Dated : 29/11/2022

Endt. No. 6001/TS/CECB/2022

Copy to: -

Regional Officer, Regional Office, Chhattisgarh Environment Conservation Board, Ambikapur (C.G.). Please ensure compliance and report, if any condition/conditions are violated by the industry.

Sd/-

Member Secretary

Chhattisgarh Environment Conservation Board
Nava Raipur Atal Nagar, Raipur (C.G.)