

**Half Yearly Report of Compliance on Environmental Clearance condition  
for Smelter Plant, NALCO, Angul for the period April 2024 to September 2024.  
Ref: EC No. J-11011/20/2004-IA.II (I), dated. 22.06.2004**

Sl. No.	Condition Type	Condition Details	Self-Compliance
1.	Air quality monitoring and preservation	A. (i) The gaseous emissions from various process units should conform to the standards prescribed from time to time. The State Board may specify more stringent standards for the relevant parameters keeping in view the nature of the industry, its size and location. At no time the emission level should go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the unit, the respective unit should not be restarted until the control measures are rectified to achieve the desired efficiency. Ambient air quality monitoring stations should be set up in consultation with the Odisha Pollution Control Board. Data should be regularly monitored and records maintained and report submitted to the Ministry/CPCB/SPCB once in six months.	<p>(a) Norm has been prescribed for emission of particulate matter and Fluoride from Pot room and Bake Oven. All the norms for different pollutants are being achieved and appropriate steps are being taken for maintaining these emission levels. For the period <b>April 2024 to September 2024</b> the report of emission of particulate matter is given at <b>Annexure- III</b> and emission of Fluoride is given at <b>Annexure-IV</b>.</p> <p>(b) 7 Nos. of ambient air quality monitoring stations (3 Nos. of stations of CPP which are within 3 Km of Smelter + 4 Nos. of stations of Smelter Plant) exist. The location of the monitoring stations have been finalized jointly with Odisha State Pollution Control Board.</p> <p>(c) Four online ambient air quality monitoring station around Smelter Plant have been commissioned &amp; operational. The data from the monitoring stations are uploaded in the OSPCB and CPCB servers continuously. The Ambient Air Quality Monitoring Report (Online data) for the period <b>April 2024 to September 2024</b> is given at <b>Annexure-IX</b>.</p>
2.	Water quality monitoring and preservation	A.(ii) There should be no discharge of process effluent. As reflected in the EIA/ EMP report, the proposed Smelter Plant shall be designed for zero discharge. In addition, effort should be made to re-use waste water from the existing plant. Waste water from the domestic effluent after treatment in Sewage Treatment Plant should conform to the prescribed standards. The treated effluent should be used for green belt development.	Smelter plant does not have any process effluent. However, surface waste is generated due to blowdown, leakage, floor washings etc. and collected in Holding pools and further treated through Ion Exchange Defluoridation Plant and Emrion Nano Defluoridation Plant. Zero discharge during non-monsoon has been achieved since 15.12.2009. Recycled water is being used for green belt development, cooling tower make up and firefighting etc.

3.	Air quality monitoring and preservation	A. (iii) In plant control measures for checking fugitive emissions from spillage/raw material handling should be provided. Fluoride emissions should be monitored from the existing pot room, proposed pot room and in the forage around the Smelter complex and the data submitted regularly to the Ministry/ RO Bhubaneswar and SPCB. Further, dry scrubbing system to control the emissions from the pot lines should be provided. The fluoride emissions shall not exceed 0.8Kg/t of aluminum produced. Further, the emissions through the Fume Treatment Plant Should not exceed 0.30Kg/t of aluminium produced. Fugitive fluoride emission from the pot rooms should be monitored and report submitted regularly to Ministry /RO, Bhubaneswar and SPCB. The particulate emissions from the Bake Oven Plant Should not exceed 50mg/Nm <sup>3</sup> .	Steps are being taken to minimize fugitive emission from various sources. De-dusting systems have been installed at each material transfer points. Monitoring of Fugitive emission from Pot rooms of existing plant and forage monitoring around Smelter Plant are being carried out regularly. Monthly report of the same has been submitted to OSPCB. The total fluoride emission, FTP stack emission, Bake Oven stack emission and fugitive fluoride emission from Pot Rooms reports for the period <b>April 2024 to September 2024</b> are given in <b>Annexure – IV</b> .  Level of fluoride is being monitored in grass samples in 6 nos. of surrounding villages i.e. Bonda, Tulsipal, Lenguliabeda, Banarpal, Turang & Balramprasad, covering all directions every month. During <b>April 2024 to September 2024</b> , the average level of fluoride in grass samples in those villages are given in <b>Annexure-V</b> .
4.	Air quality monitoring and preservation	A.(iv) The Poly-aromatic Hydrocarbons from the carbon plant (anode bake oven) should not exceed 2mg/Nm <sup>3</sup> . The data on PAH should be monitored quarterly and report submitted to the Ministry/ RO, Bhubaneswar and SPCB.	During <b>April 2024 to September 2024</b> PAH emission from Bake Oven stack-1& 2 have been monitored and report is given at <b>Annexure-VIII</b> .
5.	Waste management	A.(v) The spent pot lining generated from the Smelter should be properly treated by setting up of spent pot lining treatment plant to remove fluoride and cyanide and disposed off in a secured landfill site. The location of a land fill site should be approved by the Odisha State Pollution Control Board. The ground water quality around the land fill site should be monitored and data submitted to the Ministry/SPCB	The spent pot-lining material generated during de-lining of pots is stored in concrete sheds after segregation of carbon portion from refractory portion separately. The carbon portion of SPL is disposed to M/s Green Energy Resources Ltd. (agency, authorized by CPCB & OSPCB) for detoxification and energy recovery. Nalco has also constructed a double layer secured engineered landfill for storage of SPL as per direction of OSPCB which was full during operation from 2011 to 2017. The surrounding site upto a radius of 5 KM is regularly monitored for any contamination by engaging a third party empaneled in the list of OSPCB. Copy of the ground water analysis report is attached at the <b>Annexure-XI</b> .

6.	Greenbelt	A. (vi) A green belt of adequate width and density should be developed within and around the plant premises as per the CPCB guidelines	Plantation during <b>April 2024 to September 2024</b> is <b>1780</b> nos. Cumulative <b>17,71, 575</b> nos. of trees have been planted till date with survival rate of 69.1%. In Smelter and Township, as prescribed, plantation density of 1000 trees per acre is being maintained.
7.	Human health environment	A. (vii) Occupational Health Surveillance of the workers should be done on a regular basis and records maintained as per the Factories Act	During <b>April 2024 to September 2024</b> , Total <b>2309</b> workers (regular employees: 968 & contractual workers: 1341) were undergone Periodical Medical Examination (PME).
8.	Water quality monitoring and preservation	A.(viii) Company should undertake rain water-harvesting measures to re-charge the ground water and action plan in this regard should be submitted to the Ministry.	NALCO does recognize the importance of rain water harvesting and water conservation in national perspective. There are three numbers of holding pools of total capacity 1,89,000 Cum, which store surface runoffs and subsequently the stored water is treated in Defluoridation plants & are used as makeup water in cooling tower & horticulture. However, ground water recharging within the smelter plant area is not technically feasible due to design restriction in operation of pots.
9.	Statutory compliance	A.(ix) M/s NALCO should comply with the conditions stipulated by the Forest and Environment Department, Govt. of Odisha vide their letter No. 7695 /F&E dated 28th May 2004 regarding preparation of Regional Environmental Management Plan for Angul –Talcher area by earmarking separate funds and progress made in this regard should be intimated to this Ministry.	Complied. Progress report is enclosed at <b>Annexure-II.</b>
10.	Corporate environmental responsibility	A. (x) All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Aluminium Sector should be strictly implemented.	The status of compliance of CREP requirements is given at <b>Annexure-I.</b>
11.	Statutory compliance	B. (i) The project authorities must strictly adhere to the stipulations made by the Odisha Pollution Control Board and the state Government.	All the conditions of SPCB & State Govt. are being complied.
12.	Statutory compliance	B. (ii) No further expansion or modifications in the plant should be carried out without prior approval of the Ministry of Environment And Forests.	Noted
13.	Air quality monitoring and preservation	B. (iii) Adequate ambient air quality – monitoring stations should be established in the downward direction as well as where maximum ground level concentration of SPM, SO <sub>2</sub> , NO <sub>x</sub>	7 nos. of ambient air quality monitoring stations (3 nos. of stations of CPP which are within 3 Km of Smelter + 4 nos. of stations of Smelter Plant) exist. The location of the monitoring stations

		are anticipated in consultation with the State Pollution Control Board. Data on ambient air quality, fugitive emission and stack emissions should be regularly submitted to this Ministry including its Regional Office at Bhubaneswar and the State Pollution Control Board/Central Pollution Control Board once in six months.	<p>have been finalized in joint consultation with Odisha State Pollution Control Board and all the mentioned factors have been taken into consideration while locating the stations.</p> <p>The results of stack emission for the period <b>April 2024 to September 2024</b> are within norm (<b>Refer Annexure III &amp; IV</b>). Air Quality Monitoring Report (Online data) for the period <b>April 2024 to September 2024</b> is given at <b>Annexure-IX</b>.</p> <p>The data from online monitoring stations are sent to OSPCB and CPCB servers continuously.</p>
14.	Water quality monitoring and preservation	B. (iv) Industrial waste water should be properly collected, treated so as to conform to the standards prescribed under GSR 422(E) Dated 19 May 1993 and 31st December, 1993 or as amended from time to time. The treated waste water should be utilized for plantation purpose.	<p>The industrial waste (surface) water is properly collected &amp; treated so as to meet the prescribed norms. The waste water analysis report during the period <b>April 2024 to September 2024</b> is given at <b>Annexure-VI</b>.</p> <p>A recycling sump of 2 x 480 m<sup>3</sup> capacity for recycling of the treated surface water has already been constructed. Recycled water is being used for horticulture, anode cooling and vehicle washing purpose.</p> <p>Smelter Plant has installed Emrion NANO technology based ETP system for treatment of surface water of holding pools which is being used currently to cater the cooling water requirement of Smelter. Installation &amp; Commissioning was completed on 28.02.2017 and the Plant is running since 25.03.2017.</p>
15.	Noise monitoring & prevention	B. (v) The overall noise level in and around the plant area should be kept well within the standards (85 dBA) by providing noise control measures including acoustic hoods, silencers, enclosures etc. on all sources of noise generation. The ambient noise level should conform to the standards prescribed under EPA Rules, 1989, viz. 75 dBA (daytime) and 70 dBA (nighttime).	<p>The ambient noise level is measured at four locations around Smelter Plant i.e. (i)CISF Barrack, Smelter Plant, (ii)Pump House, S&amp;P Township, (iii)CISF Barrack, CPP and (iv)Rolling Plant. The noise level is within the permissible norms. During <b>April 2024 to September 2024</b> average noise levels are given in <b>Annexure-VII</b>.</p>
16.	Waste management	B. (vi) M/s NALCO should comply with the Hazardous Waste (Management & Handling)Rule, 2003	NALCO Smelter has received authorization for management and handling of hazardous & other wastes

		and Hazardous Chemical Rules/Manufacture Storage and Import of Hazardous Chemicals Rules,2000 and amendments there under.	which is valid upto 31st March 2024 and is complying all the conditions therein. The requirements of Hazardous Chemical Rules/Manufacture Storage and Import of Hazardous Chemicals Rules' 2000 and amendments are complied.
17.	Corporate environmental responsibility	B. (vii) The project proponent shall also comply with all the environmental protection measures and safe guards recommended in the EIA/EMP report. Further, the company must undertake socio-economic development activities in the surrounding villages like community development programmes, educational programmes, drinking water supply and health care etc	The recommendations of EIA/EMP report are being implemented. A substantial amount is being spent for peripheral development activities in surrounding villages in provision of roads, tube wells, school buildings, health care, distribution of seedlings, relief work, drinking & piped water supply, community buildings, animal health camps, community plantation, sanitation & cleaning of villages etc. including other CSR Activities. Besides, Financial assistance is provided to Dist. Admn. for Independence day celebration, promotion of art and culture, District Mahotsav, Best Matriculate awards, Financial Assistance for block level science exhibition, Red Cross Blood Bank, Physically Challenged camps, Relief measures for fire victims/calamities etc. Total expenditure towards peripheral development around S&P Complex is <b>Rs 80.91 lakh</b> during <b>April 2024 to September 2024</b> . Details are given in <b>Annexure-X</b> .
18.	Statutory compliance	B.(viii) The project authorities will provide adequate funds both recurring and non-recurring to implement the conditions stipulated by the Ministry of Environment and Forests as well as the State Government along with the implementation schedule for all the conditions stipulated herein. The funds so provided should not be diverted for any other purposes.	Complied.
19.	Statutory compliance	B. (ix) The Regional Office of the Ministry of Bhubaneswar/Central Pollution Control Board /State Pollution Control Board will monitor the stipulated conditions. A six monthly compliance report and the monitored data along with statistical interpretation should be submitted to them regularly.	Monitoring data is being sent to OSPCB every month. The monitoring data along with status of compliance of conditions of environmental clearance is being sent to Regional Office, MoEF every six months.

20.	Statutory compliance	B. (x) The Project Proponent should inform the public that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the State Pollution Control Board /Committee and may also be seen at Website of the Ministry of Environment and Forests at <a href="http://envfor.nic.in">http://envfor.nic.in</a> . This should be advertised within seven days from the date of issue of the clearance letter, at least in two local news papers that are widely circulated in the region of which one shall be in the vernacular language of the locality concerned and a copy of the same should be forwarded to the Regional Office	Complied.
21.	Statutory compliance	B. (xi) The Project Authorities should inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	Complied.

<b>COMPLIANCE STATUS OF CREP</b>				
<b>Sl. No.</b>	<b>Issues</b>	<b>Action Points</b>	<b>Targets</b>	<b>Status</b>
1	Technology	Allowing new Potlines only with Pre-baked Technology	Environmental clearance for new potlines to be given by MoEF, after June 2003, only with pre-baked technology.	Not applicable
2	Fluoride Emissions	Prescribing maximum size of the plant	Maximum size of the plant shall be decided based on the assimilative capacity of each plant location	Not applicable
		Revision of fluoride emission standards	<b>For Soderberg Technology</b> 2.8 kg/T by December 2005 [1.0 kg/T (VSS) & 1.30 kg/t (HSS) by December 2010]*	Not applicable
			<b>For Pre-baked Technology</b> <b>0.8 kg/T</b>	Complied <b>(Annexure-IV)</b>
		Phasing out Wet Scrubbing System for fluoride	By December 2006	Not applicable
		Allowing new Potlines only with Dry Scrubbing System	Environmental clearance for new Potlines shall be given by MoEF, after June 2003, only with Dry Scrubbing System	--
		Monitoring of fugitive emissions from pot rooms	To start with Indal or any other better method & submit data from January 2004, regularly to SPCBs & CPCB	Data is being submitted to MoEF and OSPCB from October 2004.
3	Fluoride Consumption	Fluoride consumption per tonne of aluminium Produced (as F)	<b>[For Soderberg Technology</b> 15 kg/T by December 2005	Not applicable
			<b>For Pre-baked Technology</b> 10 kg/T by December 2005]*	For <b>April 2024 to September 2024</b> , Specific Consumption as F is <b>15.607</b> kg/T.  (Technically not feasible to achieve 10 kg/T standard with the present AP-18 Technology and available raw materials used. )

COMPLIANCE STATUS OF CREP				
Sl. No.	Issues	Action Points	Targets	Status
4	Ambient Fluoride	<p>Forage fluoride standards</p> <p>Measurement of forage fluoride</p>	<ul style="list-style-type: none"> <li>• Twelve consecutive months average - 40 ppm</li> <li>• Two consecutive months Average – 60 ppm</li> <li>• One month – 80 ppm</li> </ul> <p>To start monitoring and submit data from January 2004, regularly to SPCBs &amp; CPCB. The locations of monitoring may be selected in collaboration with SPCBs &amp; CPCB</p>	The monitoring is being done for grass samples in surrounding villages and the results are within norms.(Annexure-IX)
5	Spent Pot Lining (SPL)	Setting up a centralized SPL treatment & disposal facility with aluminium fluoride recovery and utilization of SPL in steel / cement industries	[Proposal to be prepared]	Not applicable to Smelter.
		Limit for pot life (for new pots installed after December 31, 2003)	[2500 days (average)]	Average failed pot life of NALCO smelter during <b>April 2024 to September 2024</b> is <b>4222.22</b> days.
		SPL (Carbon & Refractory) to be disposed in Secured Landfill.	With immediate effect	Complied
6	Red Mud	<p>Phasing out Wet disposal</p> <p>Red Mud Utilisation</p>	<p>To achieve minimum 50% solids in red mud by Dec 2005</p> <p>A proposal for practical utilisation to be prepared by Aluminium Association of India within six months</p>	Not applicable
7	Anode Baking Oven	Achieving particulate matter limit of 50 mg/Nm <sup>3</sup>	By Dec. 2005	Complied.

**ACTION PLAN FOR ENVIRONMENT MANAGEMENT OF ANGUL- TALCHER-MERAMUNDULI AREA****(AS SUGGESTED BY REMP STUDY PREPARED BY INDIAN SCHOOL OF MINES)**

<b>Sl. No.</b>	<b>Suggested action plan</b>	<b>Implementing agency</b>	<b>Status</b>
01	Increase in process efficiency and improvement in the performance of control devices for Fluoride emission (gaseous and particulate) control	NALCO smelter	Advanced fume treatment plants utilizing the latest dry scrubbing technology having more than 99.7% efficiency with online monitoring system have been installed in Potlines to control fluoride emission. There are eight such fume treatment plants in Potlines. Besides there are two such plants in Bake Oven-1 and 2 respectively.
02	Zero discharge of effluent by smelter unit of NALCO	NALCO smelter	NALCO smelter has established zero discharge system during non monsoon period since December 2009.
03	Adequate treatment of township effluent before it is used on land	NALCO Smelter	An STP of 5 MLD capacity is in operation to treat the sewage generated in the township.
04	Provision of community level Defluoridation Plant in the Fluoride affected villages	NALCO smelter in association with District Administration	NALCO is supplying treated drinking water to 25 villages around smelter.
05	Upgradation of dust collection systems	All industrial units	Installation of 82000 m3/hr, 62000 m3/hr bag filters and 12,000 m3/hr bag filters at anode butt crusher of Rodding Shop- 1.
07	Development of adequate green belts around industries.	Industries	Plantation during <b>April 2024 to September 2024</b> is <b>1780</b> nos. Cumulative <b>17,71, 575</b> nos. of trees have been planted till date with survival rate of 69.1%. In Smelter and Township, as prescribed, plantation density of 1000 trees per acre is being maintained.
08	Effective equipments maintenance should be done on regular basis to improve noise situation	All industrial units	Complied.
09	Develop thickly vegetated premises in industries and important road crossings	All industrial units and local administration	Plantation during <b>April 2024 to September 2024</b> is <b>1780</b> nos. Cumulative <b>17,71, 575</b> nos. of trees have been planted till date with survival rate of 69.1%. In Smelter and Township, as prescribed, plantation density of 1000 trees per acre is being maintained.
10	Containment of fugitive emission	All industrial units	NALCO has adopted complete hooding of pots along with maintaining negative pressure inside it as a part of controlling measures to fugitive emission. Besides, all materials transfer points are completely enclosed and are connected to dedusting systems to prevent fugitive emission.

**ANNEXURE-III**

<b>Particulate Matter Emission From Bake Oven Stack (All units are in mg/Nm<sup>3</sup>)</b>								
Location	Norm	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Average
BKO-I	50 mg/Nm <sup>3</sup>	35.765	29.315	43.61	38.53	36.45	37.145	<b>36.802</b>
BKO-II	50 mg/Nm <sup>3</sup>	39.25	40.53	36.23	43.08	36.895	26.91	<b>37.149</b>
<b>Particulate Matter Emission From Potline FTP Stacks (All units are in mg/Nm<sup>3</sup>)</b>								
LOCATION	Norm	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Average
FTP-1	100mg/NM <sup>3</sup>	29.88	39.65	39.83	41.465	33	27.415	35.205
FTP-2	100mg/NM <sup>3</sup>	22.415	37.47	36.90	30.145	29.03	25.985	30.324
FTP-3	100mg/NM <sup>3</sup>	28.935	39.55	36.98	30.765	22.51	30.495	31.538
FTP-4	100mg/NM <sup>3</sup>	17.035	23.705	31.83	35.375	23.935	27.99	26.645
FTP-5	100mg/NM <sup>3</sup>	31.94	51.675	49.63	35.15	39.235	42.025	41.608
FTP-6	100mg/NM <sup>3</sup>	32.65	55.59	42.31	37.33	38.775	47.82	42.412
FTP-7	100mg/NM <sup>3</sup>	32.93	42.035	30.63	43.885	40.4	43.755	38.939
FTP-8	100mg/NM <sup>3</sup>	27.755	57.105	57.06	50.285	27.185	43.835	43.87

**ANNEXURE- IV**

<b>FLUORIDE EMISSION FROM STACKS (All units are in Kg/T of Aluminium Produce)</b>								
LOCATION	Norm	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Average
<b>A ) POTLINE</b>								
Fluoride Emission from FTP 1 to 8 Stacks	0.3 kg/T of Al	0.175	0.194	0.254	0.2	0.186	0.172	0.196
Fugitive Emission of Fluoride from each Potroom.	0.4Kg/T of Al	0.372	0.273	0.373	0.267	0.29	0.286	0.310
<b>B) BAKE OVEN</b>								
Fluoride emission from FTC Stacks 1 & II of Bake Ovens	0.1 Kg/T of Al	0.019	0.014	0.008	0.013	0.012	0.017	0.0138
<b>C) Total Fluoride Emission.</b>	<b>0.8 Kg/T of Al</b>	<b>0.566</b>	<b>0.481</b>	<b>0.635</b>	<b>0.48</b>	<b>0.488</b>	<b>0.475</b>	<b>0.520</b>

**ANNEXURE-V**

FORAGE FLUORIDE MONITORING (GRASS SAMPLES) REPORTS							
(All values are in ppm)							
Norm: Single month-80 ppm, Average of 2 consecutive months: 60 ppm, Average Annual: 40 ppm							
Sl.No.	Location / villages	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24
1.	Bonda	39.10	39.40	28.30	39.50	37.50	38.50
2.	Tulsipal	38.20	38.75	33.60	37.00	39.60	39.10
3.	Languliabeda	39.40	39.20	35.70	35.50	38.30	38.00
4.	Banarpal	38.50	39.40	37.00	36.50	38.00	39.20
5.	Turang	39.10	38.70	39.00	39.80	38.40	37.60
6.	Balramprasad	38.60	39.00	38.80	34.50	39.40	38.40

**ANNEXURE-VI**

WASTE WATER ANALYSIS REPORT									
Parameters	Unit	Norm	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Average
pH		6.5 to 9.0	6.60	6.60	6.40	6.50	7.10	7.50	6.78
TSS	mg/l	100	2.00	2.00	2.00	8.00	9.00	1.00	4
BOD	mg/l	30	7.00	7.00	6.00	5.00	5.00	4.00	5.67
Fecal Coliform	MPN/100ml	100	88.00	86.00	90.00	86.00	89.00	86.00	87.5

**ANNEXURE-VII**

AMBIENT NOISE LEVEL								
Month	Smelter CISF Barrack		Township Pump House		CPP CISF Barrack		Rolling Plant	
	Day Time (Norm-75 dBA)	Night Time (Norm-70 dBA)	Day Time (Norm-75 dBA)	Night Time (Norm-70 dBA)	Day Time (Norm-75 dBA)	Night Time (Norm-70 dBA)	Day Time (Norm-75 dBA)	Night Time (Norm-70 dBA)
Apr-24	41.00	40.20	41.20	40.40	41.40	40.20	41.00	40.00
May-24	41.20	40.40	41.00	40.60	41.60	40.40	41.20	40.30
Jun-24	41.40	40.20	41.60	40.20	41.00	40.00	41.40	40.40
Jul-24	41.60	40.30	41.40	40.20	41.50	40.20	41.40	40.20
Aug-24	41.40	40.20	41.00	40.00	41.80	40.30	41.20	40.00
Sep-24	41.60	40.20	41.40	40.10	41.40	40.20	41.50	40.20

**PAH emission from Bake Oven stack-I**  
**All units are in -microgram/Nm<sup>3</sup>, (Norm - 2 mg/ Nm<sup>3</sup>)**

<b>Date of Sampling:</b>		19.04.2024	29.07.2024
<b>Date of Report:</b>		11.05.2024	09.08.2024
<b>Sl No.</b>	<b>Parameters</b>	<b>Bake oven - I</b>	<b>Bake oven - I</b>
1	Acenaphthene	<0.2	<0.2
2	Acenaphthylene	<0.2	<0.2
3	Anthracene	<0.2	<0.2
4	Benzo(a) Anthracene	<0.2	<0.2
5	Benzo(a) Pyrene	<0.2	<0.2
6	Benzo(b) fluoranthene	<0.2	<0.2
7	Benzo(k) fluoranthene	<0.2	<0.2
8	Chrysene	<0.2	<0.2
9	Dibenz (A, H) Anthracene	<0.2	<0.2
10	Fluoranthene	<0.2	<0.2
11	Fluorene	<0.2	<0.2
12	Indeno(1,2,3-C,D) Pyrene	<0.2	<0.2
13	Napthalene	<0.2	<0.2
14	Phenanthrene	<0.2	<0.2
15	Pyrene	<0.2	<0.2

**PAH emission from Bake Oven stack-II**  
**All units are in -microgram/Nm<sup>3</sup>, (Norm - 2 mg/ Nm<sup>3</sup>)**

<b>Date of Sampling:</b>		19.04.2024	29.07.2024
<b>Date of Report:</b>		11.05.2024	09.08.2024
<b>Sl No.</b>	<b>Parameters</b>	<b>Bake oven - II</b>	<b>Bake oven - II</b>
1	Acenaphthene	<0.2	<0.2
2	Acenaphthylene	<0.2	<0.2
3	Anthracene	<0.2	<0.2
4	Benzo(a) Anthracene	<0.2	<0.2
5	Benzo(a) Pyrene	<0.2	<0.2
6	Benzo(b) fluoranthene	<0.2	<0.2
7	Benzo(k) fluoranthene	<0.2	<0.2
8	Chrysene	<0.2	<0.2
9	Dibenz (A, H) Anthracene	<0.2	<0.2
10	Fluoranthene	<0.2	<0.2
11	Fluorene	<0.2	<0.2
12	Indeno(1,2,3-C,D) Pyrene	<0.2	<0.2
13	Napthalene	<0.2	<0.2
14	Phenanthrene	<0.2	<0.2
15	Pyrene	<0.2	<0.2

**Ambient Air Quality Monitoring Report (Online data)****Norm (24Hrs. average):**PM<sub>10</sub>-100(μg/m<sup>3</sup>), PM<sub>2.5</sub>-60(μg/m<sup>3</sup>), CO-4.0 (mg/m<sup>3</sup>), SO<sub>2</sub>-80 (μg/m<sup>3</sup>), NO<sub>x</sub>-80 (μg/m<sup>3</sup>)

<b>Ambient Air Quality Monitoring Report for CAAQMS-1 (Nalconagar Township)</b>					
<b>MONTH</b>	<b>PM10 (μg/m<sup>3</sup>)</b>	<b>PM2.5 (μg/m<sup>3</sup>)</b>	<b>CO (μg/m<sup>3</sup>)</b>	<b>SO2 (μg/m<sup>3</sup>)</b>	<b>NOX (μg/m<sup>3</sup>)</b>
Apr-24	64.84	40.51	0.794	20.46	25.51
May-24	85.32	40.21	0.457	23.59	34.59
Jun-24	76.25	32.24	0.357	21.37	23.45
Jul-24	78.25	29.34	0.314	28.67	24.15
Aug-24	72.42	30.87	0.841	26.17	22.47
Sep-24	87.45	30.14	0.415	20.34	24.18

<b>Ambient Air Quality Monitoring Report for CAAQMS-2 (Defluoridation Plant)</b>					
<b>MONTH</b>	<b>PM10 (μg/m<sup>3</sup>)</b>	<b>PM2.5 (μg/m<sup>3</sup>)</b>	<b>CO (mg/m<sup>3</sup>)</b>	<b>SO2 (μg/m<sup>3</sup>)</b>	<b>NOX (μg/m<sup>3</sup>)</b>
Apr-24	55.48	36.48	1.009	27.311	47.609
May-24	80.16	57.34	1.249	26.489	45.27
Jun-24	56.24	37.18	1.024	24.38	45.82
Jul-24	51.24	31.71	1.034	24.21	43.62
Aug-24	59.14	32.47	1.048	26.25	45.21
Sep-24	65.24	27.14	0.985	25.47	45.23

<b>Ambient Air Quality Monitoring Report for CAAQMS-3 (Rolling Plant)</b>					
<b>MONTH</b>	<b>PM10 (μg/m<sup>3</sup>)</b>	<b>PM2.5 (μg/m<sup>3</sup>)</b>	<b>CO (mg/m<sup>3</sup>)</b>	<b>SO2 (μg/m<sup>3</sup>)</b>	<b>NOX (μg/m<sup>3</sup>)</b>
Apr-24	60.321	28.4	1.352	22.04	29.14
May-24	60.24	29.14	1.367	20.34	30.25
Jun-24	58.41	27.34	1.348	20.34	21.52
Jul-24	60.14	26.41	1.204	25.34	40.31
Aug-24	60.21	30.24	1.451	23.14	31.54
Sep-24	60.17	28.37	1.264	22.84	34.17

<b>Ambient Air Quality Monitoring Report for CAAQMS-4 (CISF Colony)</b>					
<b>MONTH</b>	<b>PM10 (μg/m<sup>3</sup>)</b>	<b>PM2.5 (μg/m<sup>3</sup>)</b>	<b>CO (mg/m<sup>3</sup>)</b>	<b>SO2 (μg/m<sup>3</sup>)</b>	<b>NOX (μg/m<sup>3</sup>)</b>
Apr-24	61.52	32.35	1.613	27.82	34.19
May-24	65.27	33.14	3.015	42.31	53.14
Jun-24	54.61	32.28	3.021	18.94	50.17
Jul-24	62.37	34.82	3.086	26.49	45.27
Aug-24	60.94	31.24	3.012	23.17	45.17
Sep-24	54.21	31.28	0.984	30.15	34.56

**Peripheral Development Expenditure details (From April 2024 to September 2024)**

<b>CSR EXPENDITURE AT S&amp;P COMPLEX, ANGUL (From April 2024 to September 2024)</b>		
<b>Sl. No.</b>	<b>Task (s) completed</b>	<b>Expenditure incurred during April 2024 to September 2024 (Rs.in lakh)</b>
	<b><i>Promoting Preventive Health Care and Sanitation and Making Available Safe Drinking Water (Item (i) of Schedule VII)</i></b>	
1	Operation of 3 Nos Mobile Health Unit (MHU) at peripheral villages of S&P Complex & Coal Mines Division	23.90
2	Operation of Specialist OPD centre at S&P Complex, Angul	22.61
3	Supply of drinking water through tanker to identified peripheral villages at S&P Complex, NALCO during Summer-2024	19.49
	<b><i>Promotion of Education and Enhancing Vocational Skill (item-(ii) of Schedule VII)</i></b>	
4	Release of scholarship for "NALCO KI LADLI" program at S&P Complex, Angul for FY 2023-24	8.82
5	NALCO Best Matriculate Award for outstanding students from Peripheral High Schools, for the year 2024 at S&P Complex, NALCO, Angul	2.04
	<b><i>Rural Development Projects (Item (x) of Schedule VII)</i></b>	
6	Installation of solar streetlights in Karnapur GP	4.05
	<b>TOTAL</b>	<b>80.91</b>
<b>Beneficiaries of MHU and Specialist OPD Centre from April 2024 to September 2024</b>		
1	<b>(3 MHUs in 44 Villages)</b>	
	No of Beneficiaries	24408
	No of Camps	791
2	<b>SPECIALIST OPD CENTRE, S&amp;P Complex</b>	
	No of Beneficiaries	8252
<b>Total Beneficiaries</b>		<b>32660</b>



# Mitra S. K. Private Limited

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[CIN: U51909WB1956PTC023037]

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## TEST REPORT

**Name & Address of the Customer :**

**National Aluminium Company Limited**

Smelter Plant

Nalconagar, Angul

Odisha - 759145

**Report No. : BBS/100**

**Date : 07.06.2024**

**Sample No. : MSKGL/ED/2024-25/05/01105**

**Sample Description : Ground Water**

**Sampling Location : Inside Plant Tubewell 1-BW-3**

**Date of sampling : 30.05.2024**

### CHEMICAL ANALYSIS RESULT AS PER IS: 10500 – 2012

<u>SL. No.</u>	<u>Test Parameters</u>	<u>Unit</u>	<u>Requirement (Acceptable Limit)</u>	<u>Permissible limit in the absence of alternate Source</u>	<u>Result</u>
1.	pH value at 26°C	---	6.5 - 8.5	No Relaxation	7.64
2.	Turbidity	N.T.U	1	5	3.2
3.	Calcium (as Ca)	mg/l	75	200	35.0
4.	Chloride ( as Cl)	mg/l	250	1000	84.0
5.	Flouride ( as F)	mg/l	1.0	1.5	BDL(DL:0.1)
6.	Total Hardness (as CaCO <sub>3</sub> )	mg/l	200	600	360.0
7.	Cyanide ( as CN)	mg/l	0.05	No Relaxation	BDL(DL:0.01)
8.	Conductivity	us/cm	----	----	890.0
9.	Chemical Oxygen Demand (as COD)	mg/l	----	----	6.4

Report Prepared by:



**For Mitra S. K. Private Limited**

Authorized Signatory

# Mitra S. K. Private Limited

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## TEST REPORT

**Name & Address of the Customer :**  
**National Aluminium Company Limited**  
Smelter Plant  
Nalconagar, Angul  
Odisha - 759145

**Report No. :** BBS/101  
**Date :** 07.06.2024  
**Sample No. :** MSKGL/ED/2024-25/05/01106  
**Sample Description :** Ground Water  
**Sampling Location :** Inside Plant Tubewell 2-BW-4  
**Date of sampling :** 30.05.2024


### CHEMICAL ANALYSIS RESULT AS PER IS: 10500 – 2012

<u>SL. No.</u>	<u>Test Parameters</u>	<u>Unit</u>	<u>Requirement (Acceptable Limit)</u>	<u>Permissible limit in the absence of alternate Source</u>	<u>Result</u>
1.	pH value at 26°C	---	6.5 - 8.5	No Relaxation	7.55
2.	Turbidity	N.T.U	1	5	2.7
3.	Calcium (as Ca)	mg/l	75	200	30.0
4.	Chloride ( as Cl)	mg/l	250	1000	46.0
5.	Flouride ( as F)	mg/l	1.0	1.5	BDL(DL:0.1)
6.	Total Hardness (as CaCO <sub>3</sub> )	mg/l	200	600	187.0
7.	Cyanide ( as CN)	mg/l	0.05	No Relaxation	BDL(DL:0.01)
8.	Conductivity	us/cm	----	----	320.0
9.	Chemical Oxygen Demand (as COD)	mg/l	----	----	BDL(DL:4.0)

Report Prepared by: 



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## TEST REPORT

**Name & Address of the Customer :**  
**National Aluminium Company Limited**  
Smelter Plant  
Nalconagar, Angul  
Odisha - 759145

**Report No. :** BBS/102  
**Date :** 07.06.2024  
**Sample No. :** MSKGL/ED/2024-25/05/01107  
**Sample Description :** Ground Water  
**Sampling Location :** Inside Plant Tubewell 3-BW-5  
**Date of sampling :** 30.05.2024

### CHEMICAL ANALYSIS RESULT AS PER IS: 10500 – 2012

<u>SL. No.</u>	<u>Test Parameters</u>	<u>Unit</u>	<u>Requirement (Acceptable Limit)</u>	<u>Permissible limit in the absence of alternate Source</u>	<u>Result</u>
1.	pH value at 26°C	---	6.5 - 8.5	No Relaxation	7.71
2.	Turbidity	N.T.U	1	5	BDL(DL:1.0)
3.	Calcium (as Ca)	mg/l	75	200	76.0
4.	Chloride ( as Cl)	mg/l	250	1000	110.0
5.	Flouride ( as F)	mg/l	1.0	1.5	BDL(DL:0.1)
6.	Total Hardness (as CaCO <sub>3</sub> )	mg/l	200	600	396.0
7.	Cyanide ( as CN)	mg/l	0.05	No Relaxation	BDL(DL:0.01)
8.	Conductivity	us/cm	----	----	970.0
9.	Chemical Oxygen Demand (as COD)	mg/l	----	----	8.0

Report Prepared by: 



**For Mitra S. K. Private Limited**

  
Authorized Signatory

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## TEST REPORT

**Name & Address of the Customer :**  
**National Aluminium Company Limited**  
Smelter Plant  
Nalconagar, Angul  
Odisha - 759145

**Report No. :** BBS/103  
**Date :** 07.06.2024  
**Sample No. :** MSKGL/ED/2024-25/05/01108  
**Sample Description :** Ground Water  
**Sampling Location :** Gopinathpur Open Well  
**Date of sampling :** 30.05.2024

### CHEMICAL ANALYSIS RESULT AS PER IS: 10500 – 2012

<u>SL. No.</u>	<u>Test Parameters</u>	<u>Unit</u>	<u>Requirement (Acceptable Limit)</u>	<u>Permissible limit in the absence of alternate Source</u>	<u>Result</u>
1.	pH value at 26°C	---	6.5 - 8.5	No Relaxation	6.84
2.	Turbidity	N.T.U	1	5	BDL(DL:1.0)
3.	Calcium (as Ca)	mg/l	75	200	66.0
4.	Chloride ( as Cl)	mg/l	250	1000	82.0
5.	Flouride ( as F)	mg/l	1.0	1.5	0.35
6.	Total Hardness (as CaCO <sub>3</sub> )	mg/l	200	600	410.0
7.	Cyanide ( as CN)	mg/l	0.05	No Relaxation	BDL(DL:0.01)
8.	Conductivity	us/cm	----	----	1080.0
9.	Chemical Oxygen Demand (as COD)	mg/l	----	----	6.7

Report Prepared by: 



**For Mitra S. K. Private Limited**

  
Authorized Signatory

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## TEST REPORT

**Name & Address of the Customer :**  
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Nalconagar, Angul  
Odisha - 759145

**Report No. :** BBS/104  
**Date :** 07.06.2024  
**Sample No. :** MSKGL/ED/2024-25/05/01109  
**Sample Description :** Ground Water  
**Sampling Location :** Kulad Near College Tube Well  
**Date of sampling :** 30.05.2024

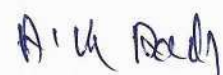
### CHEMICAL ANALYSIS RESULT AS PER IS: 10500 – 2012

<u>SL. No.</u>	<u>Test Parameters</u>	<u>Unit</u>	<u>Requirement (Acceptable Limit)</u>	<u>Permissible limit in the absence of alternate Source</u>	<u>Result</u>
1.	pH value at 26°C	---	6.5 - 8.5	No Relaxation	7.98
2.	Turbidity	N.T.U	1	5	1.4
3.	Calcium (as Ca)	mg/l	75	200	54.0
4.	Chloride ( as Cl)	mg/l	250	1000	176.0
5.	Flouride ( as F)	mg/l	1.0	1.5	BDL(DL:0.1)
6.	Total Hardness (as CaCO <sub>3</sub> )	mg/l	200	600	298.0
7.	Cyanide ( as CN)	mg/l	0.05	No Relaxation	BDL(DL:0.01)
8.	Conductivity	us/cm	----	----	680.0
9.	Chemical Oxygen Demand (as COD)	mg/l	----	----	BDL(DL:4.0)

Report Prepared by: 



**For Mitra S. K. Private Limited**

  
Authorized Signatory

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## TEST REPORT

**Name & Address of the Customer :**  
**National Aluminium Company Limited**  
Smelter Plant  
Nalconagar, Angul  
Odisha - 759145

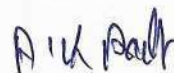
**Report No. :** BBS/105  
**Date :** 07.06.2024  
**Sample No. :** MSKGL/ED/2024-25/05/01110  
**Sample Description :** Ground Water  
**Sampling Location :** Gadarkhai Village Tube Well  
**Date of sampling :** 30.05.2024

### CHEMICAL ANALYSIS RESULT AS PER IS: 10500 – 2012

<u>SL. No.</u>	<u>Test Parameters</u>	<u>Unit</u>	<u>Requirement (Acceptable Limit)</u>	<u>Permissible limit in the absence of alternate Source</u>	<u>Result</u>
1.	pH value at 26°C	---	6.5 - 8.5	No Relaxation	7.96
2.	Turbidity	N.T.U	1	5	2.4
3.	Calcium (as Ca)	mg/l	75	200	77.0
4.	Chloride ( as Cl)	mg/l	250	1000	118.0
5.	Flouride ( as F)	mg/l	1.0	1.5	0.21
6.	Total Hardness (as CaCO <sub>3</sub> )	mg/l	200	600	310.0
7.	Cyanide ( as CN)	mg/l	0.05	No Relaxation	BDL(DL:0.01)
8.	Conductivity	us/cm	----	----	905.0
9.	Chemical Oxygen Demand (as COD)	mg/l	----	----	BDL(DL:4.0)

Report Prepared by: 

For Mitra S. K. Private Limited



Authorized Signatory



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## TEST REPORT

**Name & Address of the Customer :**  
**National Aluminium Company Limited**  
Smelter Plant  
Nalconagar, Angul  
Odisha - 759145

**Report No. :** BBS/106  
**Date :** 07.06.2024  
**Sample No. :** MSKGL/ED/2024-25/05/01111  
**Sample Description :** Ground Water  
**Sampling Location :** Jhajiribahal Hanuman Murti  
Tubewell  
**Date of sampling :** 30.05.2024

### CHEMICAL ANALYSIS RESULT AS PER IS: 10500 – 2012

<u>SL. No.</u>	<u>Test Parameters</u>	<u>Unit</u>	<u>Requirement (Acceptable Limit)</u>	<u>Permissible limit in the absence of alternate Source</u>	<u>Result</u>
1.	pH value at 26°C	---	6.5 - 8.5	No Relaxation	8.14
2.	Turbidity	N.T.U	1	5	BDL(DL:1.0)
3.	Calcium (as Ca)	mg/l	75	200	62.0
4.	Chloride ( as Cl)	mg/l	250	1000	92.0
5.	Flouride ( as F)	mg/l	1.0	1.5	0.19
6.	Total Hardness (as CaCO <sub>3</sub> )	mg/l	200	600	421.0
7.	Cyanide ( as CN)	mg/l	0.05	No Relaxation	BDL(DL:0.01)
8.	Conductivity	us/cm	----	----	1078.0
9.	Chemical Oxygen Demand (as COD)	mg/l	----	----	9.7

Report Prepared by: 



**For Mitra S. K. Private Limited**

  
Authorized Signatory

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## TEST REPORT

**Name & Address of the Customer :**  
**National Aluminium Company Limited**  
Smelter Plant  
Nalconagar, Angul  
Odisha - 759145

**Report No. :** BBS/107  
**Date :** 07.06.2024  
**Sample No. :** MSKGL/ED/2024-25/05/01112  
**Sample Description :** Ground Water  
**Sampling Location :** Bonda Near School Tubewell  
**Date of sampling :** 30.05.2024

### CHEMICAL ANALYSIS RESULT AS PER IS: 10500 – 2012

<u>SL. No.</u>	<u>Test Parameters</u>	<u>Unit</u>	<u>Requirement (Acceptable Limit)</u>	<u>Permissible limit in the absence of alternate Source</u>	<u>Result</u>
1.	pH value at 26°C	---	6.5 - 8.5	No Relaxation	7.65
2.	Turbidity	N.T.U	1	5	2.1
3.	Calcium (as Ca)	mg/l	75	200	42.0
4.	Chloride ( as Cl)	mg/l	250	1000	38.0
5.	Flouride ( as F)	mg/l	1.0	1.5	0.29
6.	Total Hardness (as CaCO <sub>3</sub> )	mg/l	200	600	240.0
7.	Cyanide ( as CN)	mg/l	0.05	No Relaxation	BDL(DL:0.01)
8.	Conductivity	us/cm	----	----	730.0
9.	Chemical Oxygen Demand (as COD)	mg/l	----	----	BDL(DL:4.0)

Report Prepared by:



For Mitra S. K. Private Limited

Authorized Signatory

# Mitra S. K. Private Limited

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## TEST REPORT

**Name & Address of the Customer :**  
**National Aluminium Company Limited**  
Smelter Plant  
Nalconagar, Angul  
Odisha - 759145

**Report No. :** BBS/108  
**Date :** 07.06.2024  
**Sample No. :** MSKGL/ED/2024-25/05/01113  
**Sample Description :** Ground Water  
**Sampling Location :** Mandabereni Tubewell  
**Date of sampling :** 30.05.2024

### CHEMICAL ANALYSIS RESULT AS PER IS: 10500 – 2012

<u>SL. No.</u>	<u>Test Parameters</u>	<u>Unit</u>	<u>Requirement (Acceptable Limit)</u>	<u>Permissible limit in the absence of alternate Source</u>	<u>Result</u>
1.	pH value at 26°C	---	6.5 - 8.5	No Relaxation	7.22
2.	Turbidity	N.T.U	1	5	2.9
3.	Calcium (as Ca)	mg/l	75	200	80.0
4.	Chloride ( as Cl)	mg/l	250	1000	64.0
5.	Flouride ( as F)	mg/l	1.0	1.5	0.36
6.	Total Hardness (as CaCO <sub>3</sub> )	mg/l	200	600	520.0
7.	Cyanide ( as CN)	mg/l	0.05	No Relaxation	BDL(DL:0.01)
8.	Conductivity	us/cm	----	----	1210.0
9.	Chemical Oxygen Demand (as COD)	mg/l	----	----	10.0

Report Prepared by:



**For Mitra S. K. Private Limited**

Authorized Signatory

# Mitra S. K. Private Limited

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## TEST REPORT

**Name & Address of the Customer :**  
**National Aluminium Company Limited**  
Smelter Plant  
Nalconagar, Angul  
Odisha - 759145

**Report No. :** BBS/109  
**Date :** 07.06.2024  
**Sample No. :** MSKGL/ED/2024-25/05/01114  
**Sample Description :** Surface Water  
**Sampling Location :** RPO Outside SW-1  
**Date of sampling :** 30.05.2024

## ANALYSIS RESULT

<u>SL. No.</u>	<u>Test Parameters</u>	<u>Unit</u>	<u>Standard as per Sch.VI of EP Rules, 1986 (Inland Surface Water)</u>	<u>Result</u>
1.	pH value at 26°C	---	5.5 – 9.0	6.89
2.	Turbidity	N.T.U	----	58.0
3.	Calcium (as Ca)	mg/l	----	34.0
4.	Chloride ( as Cl)	mg/l	----	56.0
5.	Flouride ( as F)	mg/l	2.0	0.66
6.	Total Hardness (as CaCO <sub>3</sub> )	mg/l	----	210.0
7.	Cyanide ( as CN)	mg/l	0.2	BDL(DL:0.01)
8.	Conductivity	us/cm	----	520.0
9.	Chemical Oxygen Demand (as COD)	mg/l	----	24.0

Report Prepared by: 



**For Mitra S. K. Private Limited**

  
Authorized Signatory

# Mitra S. K. Private Limited

Plot No-687/2428, Ekamra Villa Square,  
Jaydev Vihar, 1<sup>st</sup> Floor, IRC Village,  
Bhubaneswar, Khordha, Odisha-751015  
[CIN: U51909WB1956PTC023037]



T : (0674) 2360917, 9777450189  
F : (0674) 2362918

## TEST REPORT

**Name & Address of the Customer :**  
**National Aluminium Company Limited**  
Smelter Plant  
Nalconagar, Angul  
Odisha - 759145

**Report No. :** BBS/110  
**Date :** 07.06.2024  
**Sample No. :** MSKGL/ED/2024-25/05/01115  
**Sample Description :** Surface Water  
**Sampling Location :** RPO Outside SW-2  
**Date of sampling :** 30.05.2024

### ANALYSIS RESULT

<u>SL. No.</u>	<u>Test Parameters</u>	<u>Unit</u>	<u>Standard as per Sch.VI of EP Rules, 1986 (Inland Surface Water)</u>	<u>Result</u>
1.	pH value at 26°C	---	5.5 – 9.0	7.81
2.	Turbidity	N.T.U	----	76.0
3.	Calcium (as Ca)	mg/l	----	44.0
4.	Chloride ( as Cl)	mg/l	----	62.0
5.	Flouride ( as F)	mg/l	2.0	0.41
6.	Total Hardness (as CaCO <sub>3</sub> )	mg/l	----	180.0
7.	Cyanide ( as CN)	mg/l	0.2	BDL(DL:0.01)
8.	Conductivity	us/cm	----	397.0
9.	Chemical Oxygen Demand (as COD)	mg/l	----	22.0

Report Prepared by:



**For Mitra S. K. Private Limited**

Authorized Signatory



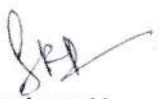
**TEST REPORT**




ULR No. : TC1211624000010791F		Format No.: QLB/MSP/QA/012/F001/00	
Test Report No: QLB/TR/EW/2024/0830/005 P1		Report issue date: 05/09/2024	
Sample Submitted/Drawn: Drawn			
<b>Customer Detail:</b>			
Name: National Aluminium Company Limited			
Address: Smelter Plant, Anugul, Odisha, India-759145			
<b>Sample Details:</b>			
Sample Name/type #:	Ground Water	Item code#:	NA
Sample qty. received:	2 ltr	Sample registration no.:	QLB/EW/2024/0830/005
Batch no/lot no#:	Gopinathpur Open Well	Sample conditions:	Good
Mfg. license no. #:	NA	Packing description:	Intact
Mfg. date/Exp. date#:	NA	Sample receipt date:	30/08/2024
Ref (WO no.)#:	NA	Sample registration date:	30/08/2024
<b>Sampling Details:</b>			
Sampling done by:	Sibaprasad Moharana	Sampling plan/method:	QLB/SOP/EW/002
Date & time of sampling:	28/08/2024, 09:10	Sample item:	Ground Water
Location of sampling:	Gopinathpur Open Well	Quantity sampled:	2 ltr
Environmental conditions during sampling:	Temperature-30°C, Relative Humidity-80%	Any deviation occurred during sampling:	NO

Analysis start date: 30/08/2024      Analysis end date: 05/09/2024

Sr. No	Test Parameters	Unit of measurement (UOM)	Test Method	Acceptance Limit	Permissible Limit	Test Result
<b>Discipline: Chemical</b>						
<b>Group : Water</b>						
1	Electrical Conductivity	µs/cm	IS: 3025 (Part- 14): 2013	NA	NA	1658.0 at 25 °C
2	Turbidity	NTU	IS 3025 (Part-10): 1984	Max:1.0	Max:5.0	<0.5
3	pH Value	-	IS: 3025 (Part-11): 2022	6.5 - 8.5	No Relaxation	7.46 at 25 °C
4	Cyanide (as CN)	mg/L	IS 3025 :Part 27 :Sec 1 : 2021	Max:0.05	No Relaxation	<0.01
5	Fluoride (as F)	mg/L	IS 3025 (Part-60): 2008	Max:1.0	Max:1.5	<0.1
6	Chloride (as Cl)	mg/L	IS 3025 (Part-32): 1988	Max:250	Max:1000	170.0
7	Calcium (as Ca)	mg/L	IS 3025 ( Part -40):1991	Max:75.0	Max:200	128.0
8	Total Hardness (as CaCO3)	mg/L	IS 3025 (Part-21): 2009	Max:200	Max:600	491.0

  
**Reviewed by**  
Name : Mrs. Smruti Rekha Parida  
Designation : Jr. Executive-QA

  
**Authorized by**  
Name : Mr. Partha Ulal  
Designation : Manager-E & W  
Discipline : Chemical

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## TEST REPORT



ULR No. : TC1211624000010791F

Format No.: QLB/MSP/QA/012/F001/00

Test Report No: QLB/TR/EW/2024/0830/005 P1

Report issue date: 05/09/2024

Sample Submitted/Drawn: Drawn

Symbol/s:# Information provided by customer for which the laboratory has no control,\*\*Test subcontracted.

Remarks : 1.0 NA: Not Applicable, 2.0: Specification given as per IS 10500 : 2012.

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



Reviewed by  
Name : Mrs. Smruti Rekha Parida  
Designation : Jr. Executive-QA



Authorized by  
Name : Mr. Partha Ulal  
Designation : Manager-E & W  
Discipline : Chemical

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**TEST REPORT**

ULR No. : NA  
Test Report No: QLB/TR/EW/2024/0830/005 P2  
Sample Submitted/Drawn: Drawn

Format No.: QLB/MSP/QA/012/F001/00  
Report issue date: 05/09/2024

**Customer Detail:**

Name: National Aluminium Company Limited  
Address: Smelter Plant, Anugul, Odisha, India-759145

**Sample Details:**

Sample Name/type #: Ground Water  
Sample qty. received: 2 ltr  
Batch no/lot no#: Gopinathpur Open Well  
Mfg. license no.: NA  
Mfg. date/Exp. date#: NA  
Ref (WO no.)#: NA

Item code#: NA  
Sample registration no.: QLB/EW/2024/0830/005  
Sample conditions: Good  
Packing description: Intact  
Sample receipt date: 30/08/2024  
Sample registration date: 30/08/2024

**Sampling Details:**

Sampling done by: Sibaprasad Moharana  
Date & time of sampling: 28/08/2024, 09:10  
Location of sampling: Gopinathpur Open Well  
Environmental conditions during sampling: Temperature-30°C, Relative Humidity-80%

Sampling plan/method: QLB/SOP/EW/002  
Sample item: Ground Water  
Quantity sampled: 2 ltr  
Any deviation occurred during sampling: NO

**Analysis Details:**


Analysis start date: 30/08/2024  
Analysis end date: 05/09/2024


Sr. No	Test Parameters	Unit of measurement (UOM)	Test Method	Acceptance Limit	Permissible Limit	Test Result
Discipline: Chemical						
Group : Water						
1	COD	mg/l	IS 3025 (Part-58):2006	NA	NA	10.2

Symbol/s: # Information provided by customer for which the laboratory has no control, \*\*Test subcontracted.

Remarks : 1.0 NA: Not Applicable, 2.0: Specification given as per IS 10500 : 2012.

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

  
Reviewed by  
Name : Mrs. Smruti Rekha Parida  
Designation : Jr. Executive-QA

  
Authorized by  
Name : Mr. Partha Ulal  
Designation : Manager-E & W  
Discipline : Chemical

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**TEST REPORT**



ULR No. : TC1211624000010792F  
Test Report No: QLB/TR/EW/2024/0830/006 P1  
Sample Submitted/Drawn: Drawn

Format No.: QLB/MSP/QA/012/F001/00  
Report issue date: 05/09/2024

**Customer Detail:**

Name: National Aluminium Company Limited  
Address: Smelter Plant, Anugul, Odisha, India-759145

**Sample Details:**

Sample Name/type #:	Ground Water	Item code#:	NA
Sample qty. received:	2 ltr	Sample registration no.:	QLB/EW/2024/0830/006
Batch no/lot no#:	Kulda Near College Tubewell	Sample conditions:	Good
Mfg. license no. #:	NA	Packing description:	Intact
Mfg. date/Exp. date#:	NA	Sample receipt date:	30/08/2024
Ref.(WO no.)#:	NA	Sample registration date:	30/08/2024


**Sampling Details:**

Sampling done by:	Sibaprasad Moharana	Sampling plan/method:	QLB/SOP/EW/002
Date & time of sampling:	28/08/2024, 09:25	Sample item:	Ground Water
Location of sampling:	Kulda Near College Tubewell	Quantity sampled:	2 ltr
Environmental conditions during sampling:	Temperature-30°C, Relative Humidity-80%	Any deviation occurred during sampling:	NO

**Analysis Details:**

Analysis start date: 30/08/2024  
Analysis end date: 05/09/2024

Sr. No	Test Parameters	Unit of measurement (UOM)	Test Method	Acceptance Limit	Permissible Limit	Test Result
	<b>Discipline: Chemical</b>					
	<b>Group : Water</b>					
1	Electrical Conductivity	µs/cm	IS: 3025 (Part- 14): 2013	NA	NA	1225.0 at 25 °C
2	Turbidity	NTU	IS 3025 (Part-10): 1984	Max:1.0	Max:5.0	0.96
3	pH Value	-	IS: 3025 (Part-11): 2022	6.5 - 8.5	No Relaxation	7.38 at 25 °C
4	Cyanide (as CN)	mg/L	IS 3025 :Part 27 :Sec 1 : 2021	Max:0.05	No Relaxation	<0.01
5	Calcium (as Ca)	mg/L	IS 3025 ( Part -40):1991	Max:75.0	Max:200	71.6
6	Chloride (as Cl)	mg/L	IS 3025 (Part-32): 1988	Max:250	Max:1000	78.3
7	Total Hardness (as CaCO <sub>3</sub> )	mg/L	IS 3025 (Part-21): 2009	Max:200	Max:600	316.0
8	Fluoride (as F)	mg/L	IS 3025 (Part-60): 2008	Max:1.0	Max:1.5	<0.1

  
**Reviewed by**  
Name : Mrs. Smruti Rekha Parida  
Designation : Jr. Executive-QA



**Authorized by**  
Name : Mr. Partha Ulal  
Designation : Manager-E & W  
Discipline : Chemical

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## TEST REPORT



ULR No. : TC1211624000010792F

Format No.: QLB/MSP/QA/012/F001/00

Test Report No: QLB/TR/EW/2024/0830/006 P1

Report issue date: 05/09/2024


Sample Submitted/Drawn: Drawn


Symbol/s:# Information provided by customer for which the laboratory has no control,\*\*Test subcontracted.

Remarks : 1.0 NA: Not Applicable, 2.0: Specification given as per IS 10500 : 2012.

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



  
**Reviewed by**  
Name : Mrs. Smruti Rekha Parida  
Designation : Jr. Executive-QA

  
**Authorized by**  
Name : Mr. Partha Ulal  
Designation : Manager-E & W  
Discipline : Chemical

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## TEST REPORT

ULR No. : NA		Format No.: QLB/MSP/QA/012/F001/00	
Test Report No: QLB/TR/EW/2024/0830/006 P2		Report issue date: 05/09/2024	
Sample Submitted/Drawn: Drawn			
<b>Customer Detail:</b>			
Name: National Aluminium Company Limited			
Address: Smelter Plant, Anugul, Odisha, India-759145			
<b>Sample Details:</b>			
Sample Name/type #:	Ground Water	Item code#:	NA
Sample qty. received:	2 ltr	Sample registration no.:	QLB/EW/2024/0830/006
Batch no/lot no#:	Kulda Near College Tubewell	Sample conditions:	Good
Mfg. license no. #:	NA	Packing description:	Intact
Mfg. date/Exp. date#:	NA	Sample receipt date:	30/08/2024
Ref (WO no.)#:	NA	Sample registration date:	30/08/2024
<b>Sampling Details:</b>			
Sampling done by:	Sibaprasad Moharana	Sampling plan/method:	QLB/SOP/EW/002
Date & time of sampling:	28/08/2024 09:25	Sample item:	Ground Water
Location of sampling:	Kulda Near College Tubewell	Quantity sampled:	2 ltr
Environmental conditions during sampling:	Temperature-30°C, Relative Humidity-80%	Any deviation occurred during sampling:	NO

### Analysis Details:

Analysis start date: 30/08/2024      Analysis end date: 05/09/2024


Sr. No	Test Parameters	Unit of measurement (UOM)	Test Method	Acceptance Limit	Permissible Limit	Test Result
	Discipline: Chemical					
	Group : Water					
1	COD	mg/l	IS 3025 (Part-58):2006	NA	NA	22.4

**Symbols:** # Information provided by customer for which the laboratory has no control, \*\*Test subcontracted.

**Remarks:** 1.0 NA: Not Applicable, 2.0: Specification given as per IS 10500 : 2012.

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

**Reviewed by**  
Name : Mrs. Smruti Rekha Parida  
Designation : Jr. Executive-QA

  
**Authorized by**  
Name : Mr. Partha Ulal  
Designation : Manager-E & W  
Discipline : Chemical

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## TEST REPORT



ULR No. : TC1211624000010793F		Format No.: QLB/MSP/QA/012/F001/00	
Test Report No: QLB/TR/EW/2024/0830/007 P1		Report issue date: 05/09/2024	
Sample Submitted/Drawn: Drawn			
<b>Customer Detail:</b>			
Name: National Aluminium Company Limited			
Address: Smelter Plant, Anugul, Odisha, India-759145			
<b>Sample Details:</b>			
Sample Name/type #:	Ground Water	Item code#:	NA
Sample qty. received:	2 ltr	Sample registration no.:	QLB/EW/2024/0830/007
Batch no/lot no#:	RPU-1	Sample conditions:	Good
Mfg. license no. #:	NA	Packing description:	Intact
Mfg. date/Exp. date#:	NA	Sample receipt date:	30/08/2024
ef (WO no.)#:	NA	Sample registration date:	30/08/2024
<b>Sampling Details:</b>			
Sampling done by:	Sibaprasad Moharana	Sampling plan/method:	QLB/SOP/EW/002
Date & time of sampling:	28/08/2024, 09:40	Sample item:	Ground Water
Location of sampling:	RPU-1	Quantity sampled:	2 ltr
Environmental conditions during sampling:	Temperature-30°C, Relative Humidity-80%	Any deviation occurred during sampling:	NO

### Analysis Details:

Analysis start date: 30/08/2024 Analysis end date: 04/09/2024

Sr. No	Test Parameters	Unit of measurement (UOM)	Test Method	Acceptance Limit	Permissible Limit	Test Result
	<b>Discipline: Chemical</b>					
	<b>Group : Water</b>					
1	Physical Parameters	NA	IS: 3025 (Part-14): 2013	NA	NA	1000.0 at 25 °C
2	Turbidity	NTU	IS 3025 (Part-10): 1984	Max:1.0	Max:5.0	1.57
3	pH Value	-	IS: 3025 (Part-11): 2022	6.5 - 8.5	No Relaxation	7.17
4	Chloride (as Cl)	mg/L	IS 3025 (Part-32): 1988	Max:250	Max:1000	135.0
5	Fluoride (as F)	mg/L	IS 3025 (Part-60): 2008	Max:1.0	Max:1.5	<0.1
6	Calcium (as Ca)	mg/L	IS 3025 (Part-40): 1991	Max:75.0	Max:200	106.0
7	Total Hardness (as CaCO <sub>3</sub> )	mg/L	IS 3025 (Part-21): 2009	Max:200	Max:600	362.0
8	Cyanide (as CN)	mg/L	IS 3025 :Part 27 :Sec 1 : 2021	Max:0.05	No Relaxation	<0.01

Reviewed by  
Name : Mrs. Smruti Rekha Parida  
Designation : Jr. Executive-QA



Authorized by  
Name : Mr. Partha Ulal  
Designation : Manager-E & W  
Discipline : Chemical

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## TEST REPORT



ULR No. : TC1211624000010793F

Format No.: QLB/MSP/QA/012/F001/00

Test Report No: QLB/TR/EW/2024/0830/007 P1

Report issue date: 05/09/2024

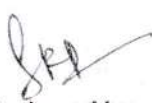
Sample Submitted/Drawn: Drawn


Symbol/s:# Information provided by customer for which the laboratory has no control,\*\*Test subcontracted.

Remarks : 1.0 NA: Not Applicable, 2.0: Specification given as per IS 10500 : 2012.

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



  
**Reviewed by**  
Name : Mrs. Smruti Rekha Parida  
Designation : Jr. Executive-QA

  
**Authorized by**  
Name : Mr. Partha Ulal  
Designation : Manager-E & W  
Discipline : Chemical

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**TEST REPORT**

ULR No. : NA		Format No.: QLB/MSP/QA/012/F001/00	
Test Report No: QLB/TR/EW/2024/0830/007 P2		Report issue date: 05/09/2024	
Sample Submitted/Drawn: Drawn			
<b>Customer Detail:</b>			
Name: National Aluminium Company Limited			
Address: Smelter Plant, Anugul, Odisha, India-759145			
<b>Sample Details:</b>			
Sample Name/type #:	Ground Water	Item code#:	NA
Sample qty. received:	2 ltr	Sample registration no.:	QLB/EW/2024/0830/007
Batch no/lot no#:	RPU-1	Sample conditions:	Good
Mfg. license no.#:	NA	Packing description:	Intact
Mfg. date/Exp. date#:	NA	Sample receipt date:	30/08/2024
Ref (WO no.)#:	NA	Sample registration date:	30/08/2024
<b>Sampling Details:</b>			
Sampling done by:	Sibaprasad Moharana	Sampling plan/method:	QLB/SOP/EW/002
Date & time of sampling:	28/08/2024, 09:40	Sample item:	Ground Water
Location of sampling:	RPU-1	Quantity sampled:	2 ltr
Environmental conditions during sampling:	Temperature-30°C, Relative Humidity-80%	Any deviation occurred during sampling:	NO

**Analysis Details:**

Analysis start date: 30/08/2024


Analysis end date: 04/09/2024


Sr. No	Test Parameters	Unit of measurement (UOM)	Test Method	Acceptance Limit	Permissible Limit	Test Result
	Discipline: Chemical					
	Group : Water					
1	COD	mg/l	IS 3025 (Part-58):2006	NA	NA	12.2

Symbols: # Information provided by customer for which the laboratory has no control, \*\*Test subcontracted.

Remarks : 1.0 NA: Not Applicable, 2.0: Specification given as per IS 10500 : 2012.

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

  
Reviewed by  
Name : Mrs. Smruti Rekha Parida  
Designation : Jr. Executive-QA

  
Authorized by  
Name : Mr. Partha Ulal  
Designation : Manager-E & W  
Discipline : Chemical

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## TEST REPORT



ULR No. : TC1211624000010794F  
Test Report No: QLB/TR/EW/2024/0830/008 P1  
Sample Submitted/Drawn: Drawn

Format No.: QLB/MSP/QA/012/F001/00  
Report issue date: 05/09/2024

### Customer Detail:

Name: National Aluminium Company Limited  
Address: Smelter Plant, Anugul, Odisha, India-759145

### Sample Details:

Sample Name/type #:	Ground Water	Item code#:	NA
Sample qty. received:	3 ltr	Sample registration no.:	QLB/EW/2024/0830/008
Batch no/lot no#:	RPU-2	Sample conditions:	Good
Mfg. license no. #:	NA	Packing description:	Intact
Mfg. date/Exp. date#:	NA	Sample receipt date:	30/08/2024
Ref (WO no.)#:	NA	Sample registration date:	30/08/2024

### Sampling Details:

Sampling done by:	Sibaprasad Moharana	Sampling plan/method:	QLB/SOP/EW/002
Date & time of sampling:	28/08/2024 10:00	Sample item:	Ground Water
Location of sampling:	RPU-2	Quantity sampled:	2 ltr
Environmental conditions during sampling:	Temperature-30°C, Relative Humidity-80%	Any deviation occurred during sampling:	NO

### Analysis Details:

Analysis start date: 30/08/2024      Analysis end date: 05/09/2024

Sr. No	Test Parameters	Unit of measurement (UOM)	Test Method	Acceptance Limit	Permissible Limit	Test Result
<b>Discipline: Chemical</b>						
<b>Group : Water</b>						
1	Electrical Conductivity	µs/cm	IS: 3025 (Part- 14): 2013	NA	NA	572.0 at 25 °C
2	Turbidity	NTU	IS 3025 (Part-10): 1984	Max:1.0	Max:5.0	3.16
3	pH Value	-	IS: 3025 (Part-11): 2022	6.5 - 8.5	No Relaxation	7.68 at 25 °C
4	Cyanide (as CN)	mg/L	IS 3025 :Part 27 :Sec 1 : 2021	Max:0.05	No Relaxation	<0.01
5	Chloride (as Cl)	mg/L	IS 3025 (Part-32): 1988	Max:250	Max:1000	31.3
6	Calcium (as Ca)	mg/L	IS 3025 ( Part -40):1991	Max:75.0	Max:200	30.0
7	Fluoride (as F)	mg/L	IS 3025 (Part-60): 2008	Max:1.0	Max:1.5	<0.1
8	Total Hardness (as CaCO <sub>3</sub> )	mg/L	IS 3025 (Part-21): 2009	Max:200	Max:600	162.0

**Reviewed by**  
Name : Mrs. Smruti Rekha Parida  
Designation : Jr. Executive-QA



**Authorized by**  
Name : Mr. Partha Ulal  
Designation : Manager-E & W  
Discipline : Chemical

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## TEST REPORT



ULR No.: TC1211624000010794F  
Test Report No: QLB/TR/EW/2024/0830/008 P1  
Sample Submitted/Drawn: Drawn


Format No.: QLB/MSP/QA/012/F001/00  
Report issue date: 05/09/2024


Symbol/s:# Information provided by customer for which the laboratory has no control,\*\*Test subcontracted.

Remarks : 1.0 NA: Not Applicable, 2.0: Specification given as per IS 10500 : 2012.

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



  
Reviewed by  
Name : Mrs. Smruti Rekha Parida  
Designation : Jr. Executive-QA

  
Authorized by  
Name : Mr. Partha Ulal  
Designation : Manager-E & W  
Discipline : Chemical

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**TEST REPORT**

ULR No. : NA		Format No.: QLB/MSP/QA/012/F001/00	
Test Report No: QLB/TR/EW/2024/0830/008 P2		Report issue date: 05/09/2024	
Sample Submitted/Drawn: Drawn			
<b>Customer Detail:</b>			
Name: National Aluminium Company Limited			
Address: Smelter Plant, Anugul, Odisha, India-759145			
<b>Sample Details:</b>			
Sample Name/type #:	Ground Water	Item code#:	NA
Sample qty. received:	3 ltr	Sample registration no.:	QLB/EW/2024/0830/008
Batch no/lot no#:	RPU-2	Sample conditions:	Good
Mfg.license no.#:	NA	Packing description:	Intact
Mfg. date/Exp. date#:	NA	Sample receipt date:	30/08/2024
Ref (WO no.)#:	NA	Sample registration date:	30/08/2024
<b>Sampling Details:</b>			
Sampling done by:	Sibaprasad Moharana	Sampling plan/method:	QLB/SOP/EW/002
Date & time of sampling:	28/08/2024, 10:00	Sample item:	Ground Water
Location of sampling:	RPU-2	Quantity sampled:	2 ltr
Environmental conditions during sampling:	Temperature-30°C, Relative Humidity-80%	Any deviation occurred during sampling:	NO

**Analysis Details:**

Analysis start date: 30/08/2024

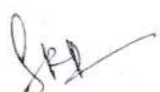
Analysis end date: 05/09/2024


Sr. No	Test Parameters	Unit of measurement (UOM)	Test Method	Acceptance Limit	Permissible Limit	Test Result
	<b>Discipline: Chemical</b>					
	<b>Group : Water</b>					
1	COD	mg/l	IS 3025 (Part-58):2006	NA	NA	<5.0

Symbol/s:# Information provided by customer for which the laboratory has no control,\*\*Test subcontracted.

Remarks : 1.0 NA: Not Applicable, 2.0: Specification given as per IS 10500 : 2012.

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

  
Reviewed by  
Name : Mrs. Smruti Rekha Parida  
Designation : Jr. Executive-QA

  
Authorized by  
Name : Mr. Partha Ulal  
Designation : Manager-E & W  
Discipline : Chemical

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## TEST REPORT



ULR No. : TC1211624000010795F      Format No.: QLB/MSP/QA/012/F001/00  
Test Report No: QLB/TR/EW/2024/0830/009 P1      Report issue date: 05/09/2024  
Sample Submitted/Drawn: Drawn

### Customer Detail:

Name: National Aluminium Company Limited  
Address: Smelter Plant, Anugul, Odisha, India-759145

### Sample Details:

Sample Name/type #:	Ground Water	Item code#:	NA
Sample qty. received:	2 ltr	Sample registration no.:	QLB/EW/2024/0830/009
Batch no/lot no#:	RPU-3	Sample conditions:	Good
Mfg. license no. #:	NA	Packing description:	Intact
Mfg. date/Exp. date#:	NA	Sample receipt date:	30/08/2024
Ref (WO no.)#:	NA	Sample registration date:	30/08/2024

### Sampling Details:

Sampling done by:	Chandan Debnath	Sampling plan/method:	QLB/SOP/EW/002
Date & time of sampling:	28/08/2024, 10:25	Sample item:	Ground Water
Location of sampling:	RPU-3	Quantity sampled:	2 ltr
Environmental conditions during sampling:	Temperature-31°C, Relative Humidity-81%	Any deviation occurred during sampling:	NO

### Analysis Details:

Analysis start date: 30/08/2024      Analysis end date: 05/09/2024

Sr. No	Test Parameters	Unit of measurement (UOM)	Test Method	Acceptance Limit	Permissible Limit	Test Result
	<b>Discipline: Chemical</b>					
	<b>Group : Water</b>					
1	Electrical Conductivity	µs/cm	IS: 3025 (Part- 14): 2013	NA	NA	414.0 at 25 °C
2	pH Value	-	IS: 3025 (Part-11): 2022	6.5 - 8.5	No Relaxation	7.26 at 25 °C
3	Turbidity	NTU	IS 3025 (Part-10): 1984	Max:1.0	Max:5.0	2.71
4	Chloride (as Cl)	mg/L	IS 3025 (Part-32): 1988	Max:250	Max:1000	27.4
5	Calcium (as Ca)	mg/L	IS 3025 ( Part -40):1991	Max:75.0	Max:200	36.6
6	Total Hardness (as CaCO <sub>3</sub> )	mg/L	IS 3025 (Part-21): 2009	Max:200	Max:600	171.0
7	Fluoride (as F)	mg/L	IS 3025 (Part-60): 2008	Max:1.0	Max:1.5	<0.1
8	Cyanide (as CN)	mg/L	IS 3025 :Part 27 :Sec 1 : 2021	Max:0.05	No Relaxation	<0.01

**Reviewed by**  
Name : Mrs. Smruti Rekha Parida  
Designation : Jr. Executive-QA



**Authorized by**  
Name : Mr. Partha Ulal  
Designation : Manager-E & W  
Discipline : Chemical

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**TEST REPORT**



ULR No. : TC1211624000010795F

Format No.: QLB/MSP/QA/012/F001/00

Test Report No: QLB/TR/EW/2024/0830/009 P1

Report issue date: 05/09/2024

Sample Submitted/Drawn: Drawn

Symbol/s: # Information provided by customer for which the laboratory has no control, \*\*Test subcontracted.

Remarks : 1.0 NA: Not Applicable, 2.0: Specification given as per IS 10500 : 2012.

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



Reviewed by  
Name : Mrs. Smruti Rekha Parida  
Designation : Jr. Executive-QA



Authorized by  
Name : Mr. Partha Ulal  
Designation : Manager-E & W  
Discipline : Chemical

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**TEST REPORT**

ULR No. : NA		Format No.: QLB/MSP/QA/012/F001/00	
Test Report No: QLB/TR/EW/2024/0830/009 P2		Report issue date: 05/09/2024	
Sample Submitted/Drawn: Drawn			
<b>Customer Detail:</b>			
Name: National Aluminium Company Limited			
Address: Smelter Plant, Anugul, Odisha, India-759145			
<b>Sample Details:</b>			
Sample Name/type #:	Ground Water	Item code#:	NA
Sample qty. received:	2 ltr	Sample registration no.:	QLB/EW/2024/0830/009
Batch no/lot no#:	RPU-3	Sample conditions:	Good
Mfg. license no. #:	NA	Packing description:	Intact
Mfg. date/Exp. date#:	NA	Sample receipt date:	30/08/2024
Ref (WO no.)#:	NA	Sample registration date:	30/08/2024
<b>Sampling Details:</b>			
Sampling done by:	Chandan Debnath	Sampling plan/method:	QLB/SOP/EW/002
Date & time of sampling:	28/08/2024, 10:25	Sample item:	Ground Water
Location of sampling:	RPU-3	Quantity sampled:	2 ltr
Environmental conditions during sampling:	Temperature-31°C, Relative Humidity-81%	Any deviation occurred during sampling:	NO

**Analysis Details:**


Analysis start date: 30/08/2024 Analysis end date: 05/09/2024


Sr. No	Test Parameters	Unit of measurement (UOM)	Test Method	Acceptance Limit	Permissible Limit	Test Result
	Discipline: Chemical					
	Group : Water					
1	COD	mg/l	IS 3025 (Part-58):2006	NA	NA	14.3

Symbol/s:# Information provided by customer for which the laboratory has no control,\*\*Test subcontracted.

Remarks : 1.0 NA: Not Applicable, 2.0: Specification given as per IS 10500 : 2012.

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

  
**Reviewed by**  
Name : Mrs. Smruti Rekha Parida  
Designation : Jr. Executive-QA

  
**Authorized by**  
Name : Mr. Partha Ulal  
Designation : Manager-E & W  
Discipline : Chemical

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## TEST REPORT



ULR No. : TC1211624000010796F

Format No.: QLB/MSP/QA/012/F001/00

Test Report No: QLB/TR/EW/2024/0830/010 P1

**Report issue date: 05/09/2024**

Sample Submitted/Drawn: Drawn

**Customer Detail:**

**Name:** National Aluminium Company Limited

**Address:** Smelter Plant, Anugul, Odisha, India-759145

**Sample Details:**

Sample Name/type #: Ground Water

Item code#: NA

Sample qty. received: 2 ltr

**Sample registration no.:** QLB/EW/2024/0830/010

Batch no/lot no<sup>#</sup>: Gadarkhai Village Tubewell

**Sample conditions:** Good

Mfg. license no. #: NA

<b>Packing description:</b>	Intact
-----------------------------	--------

Mfg. date/Exp. date#: NA

Sample receipt date: 30/08

Ref (WO no.)#: NA

Sample registration date: 30/08/2024

### Sampling Details

---

### Sampling Details:

**Sampling done by:** Chandan Debnath

**Sampling plan/method:** OLB/SOP/EW/002

Date & time of sampling: 28/08/2024, 10:40

Sample item: Ground Water

**Location of sampling:** Gadarkhai Village Tubewell

Quantity sampled: 2 ltr

**Environmental conditions** Temperature-31°C. Relative

Any deviation occurred during

during sampling: Humidity-81%

sampling:


### Analysis Details:

**Analysis start date:** 30/08/2024

Analysis end date: 05/09/2024

Sr. No	Test Parameters	Unit of measurement (UOM)	Test Method	Acceptance Limit	Permissible Limit	Test Result
	<b>Discipline: Chemical</b>					
	<b>Group : Water</b>					
1	Electrical Conductivity	µs/cm	IS: 3025 (Part- 14): 2013	NA	NA	1644.0 at 25 °C
2	pH Value	-	IS: 3025 (Part-11): 2022	6.5 - 8.5	No Relaxation	7.14 at 25 °C
3	Turbidity	NTU	IS 3025 (Part-10): 1984	Max:1.0	Max:5.0	1.57
4	Cyanide (as CN)	mg/L	IS 3025 :Part 27 :Sec 1 : 2021	Max:0.05	No Relaxation	<0.01
5	Fluoride (as F)	mg/L	IS 3025 (Part-60): 2008	Max:1.0	Max:1.5	<0.1
6	Chloride (as Cl)	mg/L	IS 3025 (Part-32): 1988	Max:250	Max:1000	247.0
7	Calcium (as Ca)	mg/L	IS 3025 ( Part -40):1991	Max:75.0	Max:200	138.0
8	Total Hardness (as CaCO3)	mg/L	IS 3025 (Part-21): 2009	Max:200	Max:600	508.0

Reviewed by  
Name : Mrs. Smruti Rekha Parida  
Designation : Jr. Executive-QA

 **Authorized by**  
**Name : Mr. Partha Ulal**  
**Designation : Manager-E & W**  
**Discipline : Chemical**

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## TEST REPORT



ULR No. : TC1211624000010796F

Format No.: QLB/MSP/QA/012/F001/00

Test Report No: QLB/TR/EW/2024/0830/010 P1

Report issue date: 05/09/2024


Sample Submitted/Drawn: Drawn


Symbol/s:# Information provided by customer for which the laboratory has no control, \*\*Test subcontracted.

Remarks : 1.0 NA: Not Applicable, 2.0: Specification given as per IS 10500 : 2012.

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



  
**Reviewed by**  
Name : Mrs. Smruti Rekha Parida  
Designation : Jr. Executive-QA

  
**Authorized by**  
Name : Mr. Partha Ulal  
Designation : Manager-E & W  
Discipline : Chemical

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**TEST REPORT**

ULR No. : NA		Format No.: QLB/MSP/QA/012/F001/00	
Test Report No: QLB/TR/EW/2024/0830/010 P2		Report issue date: 05/09/2024	
Sample Submitted/Drawn: Drawn			
<b>Customer Detail:</b>			
Name: National Aluminium Company Limited			
Address: Smelter Plant, Anugul, Odisha, India-759145			
<b>Sample Details:</b>			
Sample Name/type #:	Ground Water	Item code#:	NA
Sample qty. received:	2 ltr	Sample registration no.:	QLB/EW/2024/0830/010
Batch no/lot no#:	Gadarkhai Village Tubewell	Sample conditions:	Good
Mfg. license no. #:	NA	Packing description:	Intact
Mfg. date/Exp. date#:	NA	Sample receipt date:	30/08/2024
Ref (WO no.)#:	NA	Sample registration date:	30/08/2024
<b>Sampling Details:</b>			
Sampling done by:	Chandan Debnath	Sampling plan/method:	QLB/SOP/EW/002
Date & time of sampling:	28/08/2024, 10:40	Sample item:	Ground Water
Location of sampling:	Gadarkhai Village Tubewell	Quantity sampled:	2 ltr
Environmental conditions during sampling:	Temperature-31°C, Relative Humidity-81%	Any deviation occurred during sampling:	NO

**Analysis Details:**

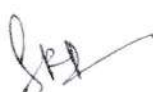
Analysis start date: 30/08/2024 Analysis end date: 05/09/2024


Sr. No	Test Parameters	Unit of measurement (UOM)	Test Method	Acceptance Limit	Permissible Limit	Test Result
	Discipline: Chemical					
	Group : Water					
1	COD	mg/l	IS 3025 (Part-58):2006	NA	NA	10.2

Symbol/s:# Information provided by customer for which the laboratory has no control,\*\*Test subcontracted.

Remarks : 1.0 NA: Not Applicable, 2.0: Specification given as per IS 10500 : 2012.

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

  
Reviewed by  
Name : Mrs. Smruti Rekha Parida  
Designation : Jr. Executive-QA

  
Authorized by  
Name : Mr. Partha Ulal  
Designation : Manager-E & W  
Discipline : Chemical

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## TEST REPORT



ULR No. : TC1211624000010797F      Format No.: QLB/MSP/QA/012/F001/00  
Test Report No: QLB/TR/EW/2024/0830/011 P1      Report issue date: 05/09/2024  
Sample Submitted/Drawn: Drawn

**Customer Detail:**

Name: National Aluminium Company Limited  
Address: Smelter Plant, Anugul, Odisha, India-759145

**Sample Details:**

Sample Name/type #:	Ground Water	Item code#:	NA
Sample qty. received:	2 ltr	Sample registration no.:	QLB/EW/2024/0830/011
Batch no/lot no#:	Jhagaribahal Near Hanuman Tubewell	Sample conditions:	Good
Mfg. license no.#:	NA	Packing description:	Intact
Mfg. date/Exp. date#:	NA	Sample receipt date:	30/08/2024
Ref (WO no.)#:	NA	Sample registration date:	30/08/2024

**Sampling Details:**

Sampling done by:	Chandan Debnath	Sampling plan/method:	QLB/SOP/EW/002
Date & time of sampling:	28/08/2024, 10:55	Sample item:	Ground Water
Location of sampling:	Jhagaribahal Near Hanuman Tubewell	Quantity sampled:	2 ltr
Environmental conditions during sampling:	Temperature-31°C, Relative Humidity-81%	Any deviation occurred during sampling:	NO

**Analysis Details:**

Analysis start date: 30/08/2024      Analysis end date: 05/09/2024

Sr. No	Test Parameters	Unit of measurement (UOM)	Test Method	Acceptance Limit	Permissible Limit	Test Result
<b>Discipline: Chemical</b>						
<b>Group : Water</b>						
1	Electrical Conductivity	µs/cm	IS: 3025 (Part- 14): 2013	NA	NA	832.0 at 25 °C
2	Turbidity	NTU	IS 3025 (Part-10): 1984	Max:1.0	Max:5.0	<0.5
3	pH Value	-	IS: 3025 (Part-11): 2022	6.5 - 8.5	No Relaxation	7.36 at 25 °C
4	Cyanide (as CN)	mg/L	IS 3025 :Part 27 :Sec 1 : 2021	Max:0.05	No Relaxation	<0.01
5	Total Hardness (as CaCO <sub>3</sub> )	mg/L	IS 3025 (Part-21): 2009	Max:200	Max:600	233.0
6	Calcium (as Ca)	mg/L	IS 3025 ( Part -40):1991	Max:75.0	Max:200	69.9
7	Chloride (as Cl)	mg/L	IS 3025 (Part-32): 1988	Max:250	Max:1000	60.7
8	Fluoride (as F)	mg/L	IS 3025 (Part-60): 2008	Max:1.0	Max:1.5	0.17

**Reviewed by**  
Name : Mrs. Smruti Rekha Parida  
Designation : Jr. Executive-QA



**Authorized by**  
Name : Mr. Partha Ulal  
Designation : Manager-E & W  
Discipline : Chemical

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**TEST REPORT**



ULR No. : TC1211624000010797F

Test Report No: QLB/TR/EW/2024/0830/011 P1

Sample Submitted/Drawn: Drawn

Format No.: QLB/MSP/QA/012/F001/00

Report issue date: 05/09/2024

Symbol/s:# Information provided by customer for which the laboratory has no control,\*\*Test subcontracted.

Remarks : 1.0 NA: Not Applicable, 2.0: Specification given as per IS 10500 : 2012.

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



Reviewed by  
Name : Mrs. Smruti Rekha Parida  
Designation : Jr. Executive-QA



Authorized by  
Name : Mr. Partha Ulal  
Designation : Manager-E & W  
Discipline : Chemical

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**TEST REPORT**

ULR No. : NA		Format No.: QLB/MSP/QA/012/F001/00	
Test Report No: QLB/TR/EW/2024/0830/011 P2		Report issue date: 05/09/2024	
Sample Submitted/Drawn: Drawn			
<b>Customer Detail:</b>			
Name: National Aluminium Company Limited			
Address: Smelter Plant, Anugul, Odisha, India-759145			
<b>Sample Details:</b>			
Sample Name/type #:	Ground Water	Item code#:	NA
Sample qty. received:	2 ltr	Sample registration no.:	QLB/EW/2024/0830/011
Batch no/lot no#:	Jhagaribahal Near Hanuman Tubewell	Sample conditions:	Good
Mfg. license no.#:	NA	Packing description:	Intact
Mfg. date/Exp. date#:	NA	Sample receipt date:	30/08/2024
Ref (WO no.)#:	NA	Sample registration date:	30/08/2024
<b>Sampling Details:</b>			
Sampling done by:	Chandan Debnath	Sampling plan/method:	QLB/SOP/EW/002
Date & time of sampling:	28/08/2024, 10:55	Sample item:	Ground Water
Location of sampling:	Jhagaribahal Near Hanuman Tubewell	Quantity sampled:	2 ltr
Environmental conditions during sampling:	Temperature-31°C, Relative Humidity-81%	Any deviation occurred during sampling:	NO

**Analysis Details:**

Analysis start date: 30/08/2024

Analysis end date: 05/09/2024


Sr. No	Test Parameters	Unit of measurement (UOM)	Test Method	Acceptance Limit	Permissible Limit	Test Result
	<b>Discipline: Chemical</b>					
	<b>Group : Water</b>					
1	COD	mg/l	IS 3025 (Part-58):2006	NA	NA	10.2

Symbol/s:# Information provided by customer for which the laboratory has no control,\*\*Test subcontracted.

Remarks : 1.0 NA: Not Applicable, 2.0: Specification given as per IS 10500 : 2012.

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

Reviewed by  
Name : Mrs. Smruti Rekha Parida  
Designation : Jr. Executive-QA

  
Authorized by  
Name : Mr. Partha Ulal  
Designation : Manager-E & W  
Discipline : Chemical

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**TEST REPORT**





ULR No. : TC1211624000010798F		Format No.: QLB/MSP/QA/012/F001/00	
Test Report No: QLB/TR/EW/2024/0830/012 P1		Report issue date: 05/09/2024	
Sample Submitted/Drawn: Drawn			
<b>Customer Detail:</b>			
Name: National Aluminium Company Limited			
Address: Smelter Plant, Anugul, Odisha, India-759145			
<b>Sample Details:</b>			
Sample Name/type #:	Ground Water	Item code#:	NA
Sample qty. received:	2 ltr	Sample registration no.:	QLB/EW/2024/0830/012
Batch no/lot no#:	Bonda Near School Tubwell	Sample conditions:	Good
Mfg. license no. #:	NA	Packing description:	Intact
Mfg. date/Exp. date#:	NA	Sample receipt date:	30/08/2024
Ref (WO no.)#:	NA	Sample registration date:	30/08/2024
<b>Sampling Details:</b>			
Sampling done by:	Chandan Debnath	Sampling plan/method:	QLB/SOP/EW/002
Date & time of sampling:	28/08/2024, 11:30	Sample item:	Ground Water
Location of sampling:	Bonda Near School Tubwell	Quantity sampled:	2 ltr
Environmental conditions during sampling:	Temperature-32°C, Relative Humidity-80%	Any deviation occurred during sampling:	NO

**Analysis Details:**

Analysis start date: 30/08/2024      Analysis end date: 04/09/2024

Sr. No	Test Parameters	Unit of measurement (UOM)	Test Method	Acceptance Limit	Permissible Limit	Test Result
	<b>Discipline: Chemical</b>					
	<b>Group : Water</b>					
1	Electrical Conductivity	µs/cm	IS: 3025 (Part- 14): 2013	NA	NA	902.0 at 25 °C
2	pH Value	-	IS: 3025 (Part-11): 2022	6.5 - 8.5	No Relaxation	7.19 at 25 °C
3	Turbidity	NTU	IS 3025 (Part-10): 1984	Max:1.0	Max:5.0	4.44
4	Cyanide (as CN)	mg/L	IS 3025 :Part 27 :Sec 1 : 2021	Max:0.05	No Relaxation	<0.01
5	Chloride (as Cl)	mg/L	IS 3025 (Part-32): 1988	Max:250	Max:1000	66.5
6	Fluoride (as F)	mg/L	IS 3025 (Part-60): 2008	Max:1.0	Max:1.5	<0.1
7	Total Hardness (as CaCO <sub>3</sub> )	mg/L	IS 3025 (Part-21): 2009	Max:200	Max:600	329.0
8	Calcium (as Ca)	mg/L	IS 3025 ( Part -40):1991	Max:75.0	Max:200	71.6

  
**Reviewed by**  
Name : Mrs. Smruti Rekha Parida  
Designation : Jr. Executive-QA

  
**Authorized by**  
Name : Mr. Partha Ulal  
Designation : Manager-E & W  
Discipline : Chemical

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**TEST REPORT**



ULR No. : TC1211624000010798F

Format No.: QLB/MSP/QA/012/F001/00

Test Report No: QLB/TR/EW/2024/0830/012 P1

Report issue date: 05/09/2024


Sample Submitted/Drawn: Drawn


Symbol/s:# Information provided by customer for which the laboratory has no control, \*\*Test subcontracted.

Remarks : 1.0 NA: Not Applicable, 2.0: Specification given as per IS 10500 : 2012.

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



  
**Reviewed by**  
Name : Mrs. Smruti Rekha Parida  
Designation : Jr. Executive-QA

  
**Authorized by**  
Name : Mr. Partha Ulal  
Designation : Manager-E & W  
Discipline : Chemical

**Disclaimer :**

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**TEST REPORT**

ULR No. : NA		Format No.: QLB/MSP/QA/012/F001/00	
Test Report No: QLB/TR/EW/2024/0830/012 P2		Report issue date: 05/09/2024	
Sample Submitted/Drawn: Drawn			
<b>Customer Detail:</b>			
Name: National Aluminium Company Limited			
Address: Smelter Plant, Anugul, Odisha, India-759145			
<b>Sample Details:</b>			
Sample Name/type #:	Ground Water	Item code#:	NA
Sample qty. received:	2 ltr	Sample registration no.:	QLB/EW/2024/0830/012
Batch no/lot no#:	Bonda Near School Tubwell	Sample conditions:	Good
Mfg. license no. #:	NA	Packing description:	Intact
Mfg. date/Exp. date#:	NA	Sample receipt date:	30/08/2024
Ref (WO no.)#:	NA	Sample registration date:	30/08/2024
<b>Sampling Details:</b>			
Sampling done by:	Chandan Debnath	Sampling plan/method:	QLB/SOP/EW/002
Date & time of sampling:	28/08/2024, 11:30	Sample item:	Ground Water
Location of sampling:	Bonda Near School Tubwell	Quantity sampled:	2 ltr
Environmental conditions during sampling:	Temperature-32°C, Relative Humidity-80%	Any deviation occurred during sampling:	NO

**Analysis Details:**

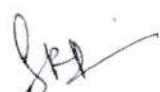
Analysis start date: 30/08/2024 Analysis end date: 04/09/2024


Sr. No	Test Parameters	Unit of measurement (UOM)	Test Method	Acceptance Limit	Permissible Limit	Test Result
	<b>Discipline: Chemical</b>					
	<b>Group : Water</b>					
1	COD	mg/l	IS 3025 (Part-58):2006	NA	NA	8.2

Symbol/s:# Information provided by customer for which the laboratory has no control,\*\*Test subcontracted.

Remarks : 1.0 NA: Not Applicable, 2.0: Specification given as per IS 10500 : 2012.

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

  
Reviewed by  
Name : Mrs. Smruti Rekha Parida  
Designation : Jr. Executive-QA

  
Authorized by  
Name : Mr. Partha Ulal  
Designation : Manager-E & W  
Discipline : Chemical

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**TEST REPORT**



ULR No. : TC1211624000010799F

Format No.: QLB/MSP/QA/012/F001/00

Test Report No: QLB/TR/EW/2024/0830/013 P1

Report issue date: 05/09/2024

Sample Submitted/Drawn: Drawn

**Customer Detail:**

Name: National Aluminium Company Limited

Address: Smelter Plant, Anugul, Odisha, India-759145

**Sample Details:**

Sample Name/type #: Ground Water

Item code#: NA

Sample qty. received: 2 ltr

Sample registration no.: QLB/EW/2024/0830/013

Batch no/lot no#: Mandabarine Tubewell

Sample conditions: Good

Mfg. license no.#: NA

Packing description: Intact

Mfg. date/Exp. date#: NA

Sample receipt date: 30/08/2024

Ref (WO no.)#: NA

Sample registration date: 30/08/2024

**Sampling Details:**

Sampling done by: Chandan Debnath

Sampling plan/method: QLB/SOP/EW/002

Date & time of sampling: 28/08/2024 12:10

Sample item: Ground Water

Location of sampling: Mandabarine Tubewell

Quantity sampled: 2 ltr

Environmental conditions during sampling: Temperature-31°C, Relative

Any deviation occurred during sampling: NO


Humidity-81%


**Analysis Details:**

Analysis start date: 30/08/2024

Analysis end date: 05/09/2024

Sr. No	Test Parameters	Unit of measurement (UOM)	Test Method	Acceptance Limit	Permissible Limit	Test Result
<b>Discipline: Chemical</b>						
<b>Group : Water</b>						
1	Electrical Conductivity	µs/cm	IS: 3025 (Part- 14): 2013	NA	NA	851.0 at 25 °C
2	pH Value	-	IS: 3025 (Part-11): 2022	6.5 - 8.5	No Relaxation	6.76 at 25 °C
3	Turbidity	NTU	IS 3025 (Part-10): 1984	Max:1.0	Max:5.0	2.37
4	Cyanide (as CN)	mg/L	IS 3025 :Part 27 :Sec 1 : 2021	Max:0.05	No Relaxation	<0.01
5	Calcium (as Ca)	mg/L	IS 3025 ( Part -40):1991	Max:75.0	Max:200	73.2
6	Total Hardness (as CaCO <sub>3</sub> )	mg/L	IS 3025 (Part-21): 2009	Max:200	Max:600	254.0
7	Chloride (as Cl)	mg/L	IS 3025 (Part-32): 1988	Max:250	Max:1000	82.2
8	Fluoride (as F)	mg/L	IS 3025 (Part-60): 2008	Max:1.0	Max:1.5	<0.1

  
**Reviewed by**  
Name : Mrs. Smruti Rekha Parida  
Designation : Jr. Executive-QA

  
**Authorized by**  
Name : Mr. Partha Ulal  
Designation : Manager-E & W  
Discipline : Chemical

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## TEST REPORT



ULR No. : TC1211624000010799F

Format No.: QLB/MSP/QA/012/F001/00

Test Report No: QLB/TR/EW/2024/0830/013 P1

Report issue date: 05/09/2024

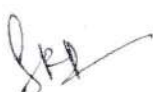
Sample Submitted/Drawn: Drawn


Symbol/s:# Information provided by customer for which the laboratory has no control, \*\*Test subcontracted.

Remarks : 1.0 NA: Not Applicable, 2.0: Specification given as per IS 10500 : 2012.

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



  
Reviewed by  
Name : Mrs. Smruti Rekha Parida  
Designation : Jr. Executive-QA

  
Authorized by  
Name : Mr. Partha Ulal  
Designation : Manager-E & W  
Discipline : Chemical

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## TEST REPORT

ULR No. : NA		Format No.: QLB/MSP/QA/012/F001/00	
Test Report No: QLB/TR/EW/2024/0830/013 P2		Report issue date: 05/09/2024	
Sample Submitted/Drawn: Drawn			
<b>Customer Detail:</b>			
Name: National Aluminium Company Limited			
Address: Smelter Plant, Anugul, Odisha, India-759145			
<b>Sample Details:</b>			
Sample Name/type #:	Ground Water	Item code#:	NA
Sample qty. received:	2 ltr	Sample registration no.:	QLB/EW/2024/0830/013
Batch no/lot no#:	Mandabarine Tubewell	Sample conditions:	Good
Mfg. license no.#:	NA	Packing description:	Intact
Mfg. date/Exp. date#:	NA	Sample receipt date:	30/08/2024
Ref (WO no.)#:	NA	Sample registration date:	30/08/2024
<b>Sampling Details:</b>			
Sampling done by:	Chandan Debnath	Sampling plan/method:	QLB/SOP/EW/002
Date & time of sampling:	28/08/2024 12:10	Sample item:	Ground Water
Location of sampling:	Mandabarine Tubewell	Quantity sampled:	2 ltr
Environmental conditions during sampling:	Temperature-31°C, Relative Humidity-81%	Any deviation occurred during sampling:	NO

### Analysis Details:


Analysis start date: 30/08/2024 Analysis end date: 05/09/2024


Sr. No	Test Parameters	Unit of measurement (UOM)	Test Method	Acceptance Limit	Permissible Limit	Test Result
	Discipline: Chemical					
	Group : Water					
1	COD	mg/l	IS 3025 (Part-58):2006	NA	NA	14.3

Symbol/s:# Information provided by customer for which the laboratory has no control,\*\*Test subcontracted.

Remarks : 1.0 NA: Not Applicable, 2.0: Specification given as per IS 10500 : 2012.

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

  
Reviewed by  
Name : Mrs. Smruti Rekha Parida  
Designation : Jr. Executive-QA

  
Authorized by  
Name : Mr. Partha Ulal  
Designation : Manager-E & W  
Discipline : Chemical

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## TEST REPORT



ULR No. : TC1211624000010801F		Format No.: QLB/MSP/QA/012/F001/00	
Test Report No: QLB/TR/EW/2024/0830/015		Report issue date: 05/09/2024	
Sample Submitted/Drawn: Drawn			
<b>Customer Detail:</b>			
Name: National Aluminium Company Limited			
Address: Smelter Plant, Anugul, Odisha, India-759145			
<b>Sample Details:</b>			
Sample Name/type #:	Surface Water	Item code#:	NA
Sample qty. received:	2 ltr	Sample registration no.:	QLB/EW/2024/0830/015
Batch no/lot no#:	Canel Side	Sample conditions:	Good
Mfg. license no. #:	NA	Packing description:	Intact
Mfg. date/Exp. date#:	NA	Sample receipt date:	30/08/2024
Ref (WO no.)#:	NA	Sample registration date:	30/08/2024
<b>Sampling Details:</b>			
Sampling done by:	Chandan Debnath	Sampling plan/method:	QLB/SOP/EW/002
Date & time of sampling:	28/08/2024, 15:30	Sample item:	Surface Water
Location of sampling:	Canel Side	Quantity sampled:	2 ltr
Environmental conditions during sampling:	Temperature-30°C, Relative Humidity-79%	Any deviation occurred during sampling:	NO

### Analysis Details:

Analysis start date: 30/08/2024      Analysis end date: 05/09/2024

Sr. No	Test Parameters	Unit of measurement (UOM)	Test Method	Specification	Test Result
<b>Discipline: Chemical</b>					
<b>Group : Water</b>					
1	COD	mg/L	IS 3025 (Part-58):2006	NA	16.3
2	Calcium as Ca	mg/l	IS 3025 ( Part - 40) : 1991	NA	34.9
3	Cyanide as CN	mg/L	IS 3025 :Part 27 :Sec 1 : 2021	NA	<0.01
4	Chloride as Cl	mg/L	IS 3025 (Part-32): 1988	NA	15.6
5	Electrical Conductivity	µs/cm	IS: 3025 (Part- 14): 2013	NA	343.0 at 25 °C
6	Fluoride as F	mg/L	IS 3025 (Part-60): 2008	NA	<0.1
7	Turbidity	NTU	IS 3025 (Part-10): 1984	NA	1.43
8	pH Value	-	IS: 3025 (Part-11): 2022	NA	7.43 at 25 °C
9	Total Hardness as CaCo3	mg/l	IS 3025 (Part-21): 2009	NA	121.0

**Reviewed by**  
Name : Mrs. Smruti Rekha Parida  
Designation : Jr. Executive-QA

**Authorized by**  
Name : Mr. Partha Ulal  
Designation : Manager-E & W  
Discipline : Chemical

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**TEST REPORT**



ULR No. : TC1211624000010801F

Format No.: QLB/MSP/QA/012/F001/00

Test Report No: QLB/TR/EW/2024/0830/015

Report issue date: 05/09/2024


Sample Submitted/Drawn: Drawn


Symbol/s: # Information provided by customer for which the laboratory has no control, \*\*Test subcontracted.

Remarks : 1.0 NA: Not Applicable.

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



  
**Reviewed by**  
Name : Mrs. Smruti Rekha Parida  
Designation : Jr. Executive-QA

  
**Authorized by**  
Name : Mr. Partha Ulal  
Designation : Manager-E & W  
Discipline : Chemical

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**TEST REPORT**



ULR No. : TC1211624000010800F  
Test Report No: QLB/TR/EW/2024/0830/014  
Sample Submitted/Drawn: Drawn

Format No.: QLB/MSP/QA/012/F001/00  
Report issue date: 05/09/2024

**Customer Detail:**

Name: National Aluminium Company Limited  
Address: Smelter Plant, Anugul, Odisha, India-759145

**Sample Details:**

Sample Name/type #: Surface Water  
Sample qty. received: 2 ltr  
Batch no/lot no#: Canel Side(RPU)  
Mfg. license no.#: NA  
Mfg. date/Exp. date#: NA  
Ref (WO no.)#: NA

Item code#: NA  
Sample registration no.: QLB/EW/2024/0830/014  
Sample conditions: Good  
Packing description: Intact  
Sample receipt date: 30/08/2024  
Sample registration date: 30/08/2024

**Sampling Details:**


Sampling done by: Chandan Debnath  
Date & time of sampling: 28/08/2024, 14:45  
Location of sampling: Canel Side(RPU)  
Environmental conditions during sampling: Temperature-30°C, Relative Humidity-79%


Sampling plan/method: QLB/SOP/EW/002  
Sample item: Surface Water  
Quantity sampled: 2 ltr  
Any deviation occurred during sampling: NO

**Analysis Details:**

Analysis start date: 30/08/2024  
Analysis end date: 05/09/2024

Sr. No	Test Parameters	Unit of measurement (UOM)	Test Method	Specification	Test Result
<b>Discipline: Chemical</b>					
<b>Group : Water</b>					
1	Cyanide as CN	mg/L	IS 3025 :Part 27 :Sec 1 : 2021	NA	<0.01
2	Turbidity	NTU	IS 3025 (Part-10): 1984	NA	4.89
3	Fluoride as F	mg/L	IS 3025 (Part-60): 2008	NA	0.31
4	Chloride as Cl	mg/L	IS 3025 (Part-32): 1988	NA	58.7
5	Electrical Conductivity	µs/cm	IS: 3025 (Part- 14): 2013	NA	846.0 at 25 °C
6	COD	mg/L	IS 3025 (Part-58):2006	NA	18.4
7	Calcium as Ca	mg/l	IS 3025 ( Part - 40) : 1991	NA	59.9
8	pH Value	-	IS: 3025 (Part-11): 2022	NA	7.94 at 25 °C
9	Total Hardness as CaCo3	mg/l	IS 3025 (Part-21): 2009	NA	195.0

  
Reviewed by  
Name : Mrs. Smruti Rekha Parida  
Designation : Jr. Executive-QA

  
Authorized by  
Name : Mr. Partha Ulal  
Designation : Manager-E & W  
Discipline : Chemical

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**TEST REPORT**



ULR No. : TC1211624000010800F

Format No.: QLB/MSP/QA/012/F001/00

Test Report No: QLB/TR/EW/2024/0830/014

Report issue date: 05/09/2024


Sample Submitted/Drawn: Drawn


Symbol/s:# Information provided by customer for which the laboratory has no control,\*\*Test subcontracted.

Remarks : 1.0 NA: Not Applicable.

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



  
**Reviewed by**  
**Name : Mrs. Smruti Rekha Parida**  
**Designation : Jr. Executive-QA**

  
**Authorized by**  
**Name : Mr. Partha Ulal**  
**Designation : Manager-E & W**  
**Discipline : Chemical**

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