

VLL/HSE/ENV/2020/1190

30th May, 2020

To
Additional Director,
Ministry of Environment Forest & Climate Change,
Eastern Region Office, A/3,
Chandrasekharpur,
Bhubaneswar -751023.

Sub: Six monthly compliance reports of 1 MTPA to 4 MTPA Alumina Refinery and 75 MW to 285 MW Captive Power Plant of **M/s Vedanta Limited** at Lanjigarh, Dist. Kalahandi, Odisha.

Ref: Environmental Clearance No. J-11011/53/2014-IA-II (I) dated 20th November 2015

Dear Sir,

We are herewith submitting the monitoring report of *October 2019 to March 2020* along with compliance status of the above environmental clearance conditions for your kind information.

Thanking you,

Yours faithfully,
For **Vedanta Limited, Lanjigarh**

B. Sivakumar

30/5/2020.



B Sivakumar
(Head HSE & S)
HeadHSE.VLL@vedanta.co.in

Encl: As above

Copy to:

1. Additional Director, Ministry of Environment Forest & Climate Change, Indira Paryavaran Bhawan, Jor Bagh Road, New Delhi - 110 003
2. Member Secretary, Central Pollution Control Board, Paribesh Bhawan, CBD-Cum-Office Complex, East Arjun Nagar, New Delhi-110032
3. Member Secretary, State Pollution Control Board, A-118, Nilakantha Nagar, Unit-VIII, Bhubaneswar-751012
4. Regional Office, State Pollution Control Board, 1st Lane, Kasturinagar, Rayagada.

Ministry of Environment & Forest
Regional Office
Monitoring Report
Part-I

DATA SHEET

- 1 Project Type Alumina Refinery with Captive Power Plant
- 2 Name of the Project Vedanta Limited, Lanjigarh
- 3 Clearance/Approval letter(S) , No data J-11011/53/2014-IA-II(I) dated 20th November,2015.
- 4 Locations
a) District(s) Kalahandi
b) State(s) Orissa
c) Lattitude/longtude Lat 19^o43' 01"
Long 83^o 24' 26"
- 5 Address for Correspondence
a) Address of concerned project Chief Head-Operations & Factory Manager, Vedanta Limited,Alumina Engineer (with pin code and Refinery Project,P.O.Lanjigarh, Dist.Kalahandi, Orissa- telephone/telex/fax number) 766027.Tel :06677-247312/13/14/15/16 Fax :06677-247311

b) Address of Executive Project Same as above engineer/Manager(with Pin Code& Telephone/ telex/ fax Nos.
- 6 Salient features
a) Of the project Production of 2.0MT Alumina per annum using Bayer's process & Coal fired steam and power plant.

b) Of the Environmental Management As given in chapter 3 (Environmental Management plan) of the plans Environmental Impact Assesment report for 6 MT alumina refinery and 285 MW captive power plant, Lanjigarh, Kalahandi, Orissa
- 7 Break up of the project area (in Ha)
Forest area Nil
Non- Forest area 833.31 Hectares
Total 833.31 Hectares



S. K. Moh

8 Break up of project affected : Village-wise details along with R&R package to be given Number of ousters:
population

Sl.no	Type	Kinari	Borbhata	Bandhaguda	Kothduar	Sindhbahal	Bundel	Total
1	SC-Homestead	0	0	0	12	8	0	20
	SC-Land Ousteers	12	7	8	14	8	0	49
2	SI-Homestead	51	0	0	1	5	0	57
	ST-Land Ousteers	17	7	19	36	24	34	137
3	OBC-Homestead	0	28	0	0	0	0	28
	OBC-Land Ousteers	20	4	22	11	7	0	64
4	Others-Homestead	0	0	0	0	0	0	0
	Others-Land Ousteers	0	0	5	4	0	0	9
	Total	100	46	54	78	52	34	364

9 Financial Details

a) Project cost as originally Planned and : Original Estimation =Rs. 4500Cr. (approx) as on 2002
subsequent revised Estimates and the
years of price reference

b) Allocation made for environmental : Construction completed
management plans, with item wise &
yearwise break up (in Lakh)

Sl.No.	Items	2004-05	2005-06	2006-07	2007-08
1	Environmental Monitoring and Appraisal Cost	12.00	15.00	120.00	15.12
2	Pollution control equipment and system	0.00	200.00	12836.00	50.00
3	Plantation and Green Belt Developmet	0.00	12.00	25.00	100.00
4	Corporate social responsibility	393.00	709.00	194.35	530.00
5	Pollution Control equipment and System Maintenance				1280.80
6	Red mud,fly ash and other solid waste handling				1000.00
	Total	405.00	936.00	13175.35	2975.92

c) Benefit cost ratio/internal rate of : Not Applicable.
Return & the year of assessment

d) Whether includes the cost of : Not Applicable.
environmental management as shown in
(b) above

e) Actual expenditure incurred on the : 4357.54 Crore (The same is Gross Block of Fixed assets as per SAP.)
project so far (Upto 30th Nov 2013)

10 Forest land requirement:

a) The status of approval for a diversion : No diversion of forest land is involved.
of forest land for non forest use

b) The status of compensatory : Not applicable.

c) The status of clear felling : Not applicable.

d) Comments on the viability & : Not applicable.
sustainability of compensatory
afforestation programme in the light of
actual filed experience so far

11 The status of clear felling in non-forest : Nil.
areas (such as sub-mergence area of
reservoir,approach roads), if any, with
quantitative information

12 Status of construction:

a) Date of commencement (actual and/or : 22nd September 2004
planned)

b) Date of completion (actual and/or : Plant commissioned on Aug 2007 & Commercial production started from Dec 2007
planned(1st phase)

13 Reason for the delay if the project is yet : Not applicable.
to start (Please attach a separate sheet if
required)



Environmental Budget

SI No	Activity	Expenditure FY 2019-20
1	Green Belt Development & Land scaping	107.46
2	O&M of STP & Biogas plant	32.19
3	Environmental monitoring cost	19.96
4	Water sprinkling system inside refinery	6.86
5	Environmental awareness program	4.59
6	CAAQMS, RTDAS & Piezometer	10.86
7	O&M of Red mud filters & mud shifting cost	1549.71
8	Corporate Social Responsibility	671.77
9	ESP Maintenance of Calciner	14.1
10	Purchase of Mist Cannons	27.0
11	CEMS of Calciner: Maintenance cost	27.25
12	Purchase of Bag Filters	0.56
13	IMS surveillance audit	3.75
14	Tailing dams audits & stability study	22.18
15	Waste Disposal Cost	10.0
16	Procurement of waste bins	4.20
17	Fencing cost of BRDA, PWL & GJJ area	61.0
18	Purchase of RMF filter cloths	462.02
19	Hiring & operation of Mist Cannons	51.0
20	Service cost towards Operation & Maintenance of Coal handling Plant & Ash Handling Plant	773.96
21	Spare cost of Coal Handling & Ash Handling Plant	237.62
22	Sprinkler cost at New coal shed	30.00
23	Clean Storm Pond dredging Cost	29.73
24	Fencing cost of Ash pond	17.55
25	2nd Ash disposal line Cost - Pedestrian work	8.05
26	Ash Dyke height raising	54.70
27	Inspection for ash dyke height increasing	3.54
28	Fly Ash Road Construction	25.13
29	Piezometer installation at Ash Pond	2.92
30	Water sprinkling at Ash pond	6.00
31	Drain cleaning at CHP	3.75
32	CEMS Maintenance Cost	9.63
33	Procurement of Noise Meter	2.74
34	AMC of Environmental Laboratory Equipments	0.88
35	Civil Maintenance cost (Flooring, sump pit & trench liner, RCC road, Sewage line etc.)	126
	Total	4418.6

Note : All the units are in Lakhs





Compliance
To
Environmental Clearance Conditions
Of
M/s Vedanta Limited, Lanjigarh

For the period: Oct'19 - Mar'20

(MoEF & CC Letter Ref No: J-11011/53/2014-IA-II (I), dated 20.11.2015)

Name of the Project: Vedanta Limited, Lanjigarh

Clearance Letter/s No. and date: J-11011/53/2014-IA-II (I), dated 20.11.2015

Period of Compliance Report: October'19 - March'20

Specific Conditions:

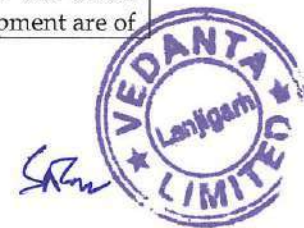
Sr. No.	Conditions	Compliance Status
1	The project proponent should install 24*7 air and water monitoring devices to monitor air emission and effluent discharge, as provided by CPCB and submit report to Ministry and its Regional Office.	Six Continuous Ambient Air Quality Monitoring Station (CAAQMS) has been installed inside the Refinery to monitor PM10, PM2.5, SO2, NOx & CO. The Real Time Data is being transmitted through Real Time Data Acquisition System (RTDAS) to OSPCB server continuously. Our refinery has been designed as per Zero Discharge Concept. Hence no effluent is being discharged. The monitoring reports of the above are submitted to Ministry and its Regional Office through half-yearly compliance reports.
2	The environmental clearance is for Phase - I (2MTPA) and Phase - II (4MTPA) of the project only. No expansion or modification shall be carried out without prior approval of the Ministry of Environment and Forests.	Noted
3	The complete details of land acquisition for 883 ha required for Phase - I and Phase - II shall be furnished to MOEF & CC and RO, Bhubaneswar as part of the Compliance report.	No additional land required for Phase-I. For Phase-II, 53.4 ha of additional land required for which Section 4(1) & Section 5(1) Notification under the Land Acquisition Act has been initiated. The same will be submitted after acquisition of land required for Phase-II & Phase-III.



Sr. No.	Conditions	Compliance Status
4	The land acquisition of 53.4 ha required for Phase - II shall be completed and details furnished to MOEF & CC, its RO at Bhubaneswar and to Odisha SPCB for grant of CTO before commissioning the 4 MTPA expansion project.	The process of acquiring 53.4 ha has been initiated through Section 4(1) & Section 6(1) Notification under the Land Acquisition Act (<i>was submitted in the six monthly compliance report dated 28th May 2016 as Annexure-I</i>). The details of the same will be furnished to MOEF&CC, its regional office, OSPCB for grant of CTO for 4 MTPA, once the process is completed.
5	For Phase - III (6MTPA), the proponent shall obtain amendment of EC after completion of land acquisition of the balance area of 666.03 ha details of which will be furnished to MOEF & CC.	The same will be done after complete acquisition of land. (Our Letter no. VLL/LAN/LLE/2020/21 dated 7 th May, 2020 has been submitted in this regard to MoEF & CC based on the conclusion of land requirement given by Industrial Promotion & Investment Corporation of Odisha (IPICOL), the nodal agency of Government of Odisha after carrying out due assessment through Engineers India Limited (EIL), a Government of India Undertaking, that the total requirement of land for expansion upto 6 MTPA is of only 666 acres i.e. 269.52 Ha (inclusive of ongoing acquisition of 53.5 Ha meant for Red Mud Disposal facility) and communicated to us vide their letter dated 18 th March, 2019. It has been further stated in the IPICOL letter of approval that the land requirement for rail project expansion will be separately assessed.)
6	Electrostatic Precipitator(s) shall be provided to Kiln and boiler stacks to control gaseous emissions within 50 mg/NM ³ . The height of the stacks shall be as per the CPCB guidelines. Gaseous emissions should be regularly monitored and records maintained and reports submitted to this Ministry including its Regional Office as part of the compliance report.	The Calciners and Boilers have been provided with ESPs having 99.5 % efficiency. The heights of the stacks are designed as per the CPCB guidelines. The monitoring report is being submitted to SPCB on monthly basis & to regional office MOEF vide half-yearly compliance report. In addition to the above, CEMS of all the stacks are connected to the RTDAS of the Board.
7	The estimated 4.8 MTPA of red mud generated in Phase - I and II shall be stored in the red mud pond only designed as per the guidelines with proper leachate collection system and ground water all around the red mud disposal area shall be monitored regularly and report submitted to the Odisha PCB/CPCB and Regional Office of the Ministry at Bhubaneswar. Proper care shall be taken to ensure no run off or seepage from the red mud disposal site to natural drainage. Sewage sludge shall be used as manure within the premises.	The red mud generated in Phase-I & Phase-II will be stored in red mud yard only through dry stacking of red mud. Observation bore wells have been installed around Bauxite residue disposal area (RMP) for monitoring of ground water quality & reports of the same are being submitted to SPCB on monthly basis & to regional office MOEF vide half-yearly compliance report. Bauxite residue disposal area (RMP) is designed and provided with HDPE liners to prevent any seepage. In addition garland drains are constructed along the periphery of Bauxite residue disposal area (RMP) and connected to collection pits with pumping facility to recycle back the seepage water if any.



Sr. No.	Conditions	Compliance Status
8	The red mud generated will have moisture and will not be in powder form but in cake form. The red mud from the storage area shall not be let off along with the rain water particularly during rainy season and an effective drainage plan has to be prepared to ensure that rainwater entering the project area is not contaminated with red mud.	To divert the rain water from red mud cake storage area, suitable garland drains are provided which are connected to the collection pits with pumping facility to recycle back the water to process.
9	The red mud slurry shall be converted into red mud powder using a high pressure filtration system by which, the red mud shall not be in a slurry form but in cake form and thereafter sold for use by cement manufactures, The stock piles shall be stored in areas which shall be lined.	Red mud slurry is being discharged through HCSD technology & as a step forward the red mud slurry is further processed with High Pressure Membrane Filtration Technology by Red Mud Filtration unit for dry stacking of red mud having 80% solids which eliminates completely the wet storage of red mud. This new system is first of its kind across the country.
10	A plan for utilization of red mud generated shall be implemented. Under the plan, the entire amount of red mud generated from the project would be sold to cement industry. MoU shall be signed with potential buyers including cement companies for long term supply of red mud.	Roadmap is prepared for utilization of Red mud. Purchase order from Cement company get placed based on the required quantity at each time. Studies are under progress for utilisation in Road construction and Iron recovery from Red mud.
11	Coal linkage shall be firmed up and furnished as part of the Compliance report. The details of coal linkage (source and quantity)/procurement details for Phase - I and Phase - II of the project shall be furnished as part of the compliance report to MOEFCC and to RO, Bhubaneswar. Details of Coal Characteristics also shall be furnished along with specific quantity from domestic market/linkage/imports.	Coal for the expanded refinery will be sourced from linkage with the CIL and imports. Present coal linkage documents i.e. FSA with MCL & CCL (<i>was submitted in the six monthly compliance report dated 28th November 2019 as Annexure - I (A), Annexure - I (B), Annexure - I (C)</i>) and is attached as Annexure - I (E) .The imported coal procurement agreement and amendment copy (<i>was submitted in the six monthly compliance report dated 28th November 2019 as Annexure - I (D)</i>) and is attached as Annexure- I (F) .The coal procurement details from Oct'19 to Mar'20 of domestic & imported coal are attached herewith Annexure - I .
12	All the fly ash generated from the Alumina Refinery shall be properly stored in ash storage pond and provided to cement and brick manufacturers for further utilization. Ash pond created for the existing project shall be used for storage of ash for the expansion project. Ash shall be evacuated through High Concentration Slurry Disposal (HCSD).	Ash is being disposed through High Concentration Slurry Disposal (HCSD) technology. Ash generated from refinery is being properly stored in ash pond and further the ash is also being used for the purpose of brick manufacturing, land development, dyke height raising & road making. 104% of the generated ash has been utilized in the FY2019-20 (till Mar'20).
13	Green belt shall be developed in 33% area to mitigate the effects of fugitive emissions as per the CPCB guidelines. Plant species form local area shall be selected in consultation with DFO for green belt development.	Green belt has been developed in & around the refinery, township, rehabilitation colony, Bauxite residue disposal area (RMP), PWL and Ash pond, covering an area of 278.216 Ha (till Mar'20) as per the CPCB guidelines. All the Plant species selected for green belt development are of



Sr. No.	Conditions	Compliance Status																									
		local varieties and has been planted in consultation with DFO. The year wise plantation details are given in Annexure-II.																									
14	Rehabilitation and Resettlement plan for the project affected population including tribal population should be implemented as per the policy of the Govt. of Odisha.	The same will be implemented as per the R & R policy of the Govt. of Odisha.																									
15	For undertaking Phase - I and Phase - II of the project, the project proponent shall finalize the MOUs/ Agreements for firm availability of bauxite of 5.2 MTPA for phase - I and 10.4 MTPA for Phase - II and details furnished to MOEFCC and its RO at Bhubaneswar.	We have been granted the Consent to Operate for capacity of 2MTPA (Phase-I) for which we require 5.2MTPA of bauxite. The details regarding procurement of bauxite from different sources has already been submitted as Annexure-V in the six monthly compliance report dated 28 th May 2016. However, the focus lies in procuring Bauxite from mines in Odisha, for which we are having agreement with Government of Odisha through OMC. The agreement copies was submitted in the six monthly compliance report dated 28 th November 2019 as Annexure -III (A) & Annexure -III (B).																									
16	All the recommendation made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the Aluminium sector shall be strictly implemented.	Under Corporate Responsibility for Environmental Protection (CREP) for the aluminium sector, Red mud is being disposed through HCSF technology into Red Mud Filtration unit where red mud cake is being formed through high pressure filtration technology.																									
17	The gaseous emissions (PM ₁₀ , PM _{2.5} , SO ₂ , NO _x) from various process units shall conform to the standards prescribed by the concerned authorities from time to time. The OSPCB may specify more stringent standards for the relevant parameters keeping in view the nature of the industry and its size and location. The particulate emissions from the plant shall not exceed 50mg/NM ³ . At no time the emissions 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.	<p>All the emission levels are well within the standards. All the pollution control systems are working with desired efficiency. 6 number of AAQ monitoring stations have been installed in consultation with SPCB. The AAQ monitoring is being carried out regularly and records also maintained. The summary of the monitoring AAQ data is as follows:</p> <table border="1" data-bbox="1216 1050 2033 1241"> <thead> <tr> <th>In mg/m³</th> <th>Industrial</th> <th>Standard Norm</th> <th>Residential</th> <th>Standard Norm</th> </tr> </thead> <tbody> <tr> <td>PM10</td> <td>65.0 - 78.0</td> <td>100</td> <td>54.0 - 75.0</td> <td>100</td> </tr> <tr> <td>PM2.5</td> <td>43.3 - 52.2</td> <td>60</td> <td>33.5 - 50.2</td> <td>60</td> </tr> <tr> <td>SO₂</td> <td>8.3 - 14.4</td> <td>80</td> <td>5.2 - 11.4</td> <td>80</td> </tr> <tr> <td>NO₂</td> <td>14.1 - 26.4</td> <td>80</td> <td>13.3 - 26.1</td> <td>80</td> </tr> </tbody> </table>	In mg/m ³	Industrial	Standard Norm	Residential	Standard Norm	PM10	65.0 - 78.0	100	54.0 - 75.0	100	PM2.5	43.3 - 52.2	60	33.5 - 50.2	60	SO ₂	8.3 - 14.4	80	5.2 - 11.4	80	NO ₂	14.1 - 26.4	80	13.3 - 26.1	80
In mg/m ³	Industrial	Standard Norm	Residential	Standard Norm																							
PM10	65.0 - 78.0	100	54.0 - 75.0	100																							
PM2.5	43.3 - 52.2	60	33.5 - 50.2	60																							
SO ₂	8.3 - 14.4	80	5.2 - 11.4	80																							
NO ₂	14.1 - 26.4	80	13.3 - 26.1	80																							
18	In-plant control measures for checking fugitive emissions from spillage/raw materials handling etc. should be provided and particulate matter from Bauxite transport and crushing shall be	In-plant control measures have been provided to control the fugitive emissions. (Dust Suppression System of Dry fog type are provided at all transfer points at Bauxite Handling Area & Coal Handling area, Wet																									



Sr. No.	Conditions	Compliance Status
	provided with highly efficient bag filters and covered conveyers and adequate water sprinkling shall be done.	Scrubbers at Lime Plant, Bag Filter for Alumina Handling Plant, water sprinkler system through sprinklers and & mobile mist cannon on stockpiles have been installed in bauxite stockpile areas and sprinklers have been installed at Coal Handling area). To reduce the fugitive emissions through vehicular movement, in plant concrete roads have been laid and water sprinkling is done through mobile water tankers. All the raw material movement into the plant including bauxite is being done through rail. Stockpiles of bauxite are provisioned with permanent water sprinkling system and conveyed through closed conveyor system.
19	The additional water requirement to be met from River Tel for Phase - I and Phase - II shall not exceed the quantity sanctioned by the State Government from River Tel.	Noted.
20	The requirement of make-up water at present is 0.20 cumecs and shall not exceed 0.40 cumecs for the Phase - II expansion. The total make-up water requirement for the 6 MTPA project shall not exceed 0.6 cumecs.	Noted.
21	The existing raw water reservoir (2.1 lakh m ³ capacity), storm water pond (75.000 m ³ capacity) caustic water pond (94,350 m ³ capacity), red mud pond (7.2 lakh m ³ capacity) totaling 39 lakh m ³ shall be utilized as rain water harvesting ponds. In addition, about 1 lakh m ³ of rainwater shall be harvested from township which will be recharged to groundwater to meet the domestic requirement of an estimated 2300 people for a complete year. With this water harvesting measures the PP shall reduce fresh water consumption to an extent of about 40%.	Rain water collection is being practiced through raw water reservoir, storm water pond, caustic water pond, and red mud pond. Rain water harvesting project through ground water recharge has been implemented at township.
22	The plant will operate on a zero-discharge concept and all treated water shall be recycled and reused. No effluents shall be discharged outside the premises during the non-monsoon period and during the monsoon period water should be discharged only after proper treatment and meeting the norms of the OPCB/CPCB. There shall be separate drain for storm water/rainwater. The company shall construct separate RCC drains for carrying storm water inside the plant. Decanted water from red mud pond is collected in the Process	The plant is operating with zero discharge concepts by 100% recycle of waste water as well as other sources of effluents. No discharge is being made to outside water bodies from any of the facilities of the plant. Separate drains have been constructed in the entire plant area for collection of storm water (Storm water drain) and process water (Caustic drain). Storm water drains are connected to Clear water pond and caustic drains to caustic pond.



Sr. No.	Conditions	Compliance Status
	Water Lake during the monsoon and the same water recycled back to the process through pumping arrangements. The concrete drains shall be de-silted and regular supervision of the areas shall be carried out so that blocking of drains may be avoided for quick discharge of rainwater.	At present, the process water lake is used only for storing rain runoff water from the red mud pond. This stored water is fully recycled and used in the process. Regular activities like de-siltation & cleaning have been carried out prior to monsoon to avoid blocking of drains.
23	Of the total area of 1552.65 ha., an area of 512.37 ha (33%) shall be developed into green belt. Of this, a total of 215.20 ha green belt have been developed and the balance area of 297.17 ha shall also be brought under plantation, which includes plantation in a width of 15-20m along the remaining boundary wall of 3km of the 8km.	Green belt will be developed as mentioned in the condition once the total land acquisition has been completed.
24	Material transportation shall be by rail for which a dedicated railway line for transportation of both raw materials and product shall be established. Material handling areas shall have DFS.	All the material movement including raw materials and final product are being done through a dedicated railway management system. All the material handling areas i.e. coal handling area, bauxite handling area are provisioned with Dust Suppression System of Dry fog type.
25	The company shall comply with all the commitment made during public hearing/public consultation.	Noted
26	The details of quantity and source of bauxite procured shall be submitted as part of the six-monthly compliance report.	The details regarding procurement of bauxite from different sources has already been submitted as Annexure-V in the six monthly compliance report dated 28 th May 2016. The bauxite procurement details from Oct'19 to Mar'20 are attached herewith Annexure - IV.
27	Provisions shall be made for the housing of construction Labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.	Noted
28	At least 2.5% of the total cost of the project (Rs 10,000 crores) shall be e-marked towards the Enterprise Social Commitment (ESC) based on local needs. The proponent shall prepare a detailed CSR plan for every next five years for the existing-cum-expansion project, which includes village-wise, sector-wise (Health, Education, Sanitation, Health, Skill Development and infrastructure requirements such as	Towards Enterprise Social Commitment (ESC) in addition to CSR plan of the company, the details has been submitted to the MOEF&CC vide letter no. VLL/HSE/ENV/2020/1160 dated 30.01.2020. Keeping in view of the social development, LPADF is formed under the chairmanship of RDC, Berhampur as per the guidance of Hon. Supreme court of India. AS per the decision of the LPADF, various sector-wise



Sr. No.	Conditions	Compliance Status
	strengthening of village roads, avenue plantation, etc.) activities in consultation with the local communities and administration. The CSR plan will include the amount of 2% retain annual profits as provided for in clause 135 of the Companies Act, 2013 which provides for 2% of the average net profits of previous 3 year towards CSR activities for life of the project. A separate budget head shall be created and the annual capital and revenue expenditure on various activities of the Plan shall be submitted as part of the Compliance Report to RO, Bhubaneswar. The details of the CSR Plan shall also be uploaded on the company website and shall also be provided in the Annual report of the Company.	development activities are being taken up at both the district level. The CSR expenditure for FY 2019-20 has been attached in Annexure-V .

General Conditions

Sl no.	Conditions	Compliance Status
1	No further expansion or modification in the plant shall be carried out without prior approval of the Ministry of Environment and Forests.	Noted
2	At least four ambient air quality monitoring stations should be established in the downward direction as well as where maximum ground level concentration of PM10, PM2.5, SO ₂ and NO _x are anticipated in consultation with the SPCB. Data on ambient air quality and stack emission shall be regularly submitted to this Ministry including its Regional office at Bhubaneswar and the SPCB/CPCB once in six months.	Six AAQ monitoring stations have been installed in consultation with SPCB at various locations in & around the refinery. The AAQ monitoring is being carried out as per the guidelines of National Ambient Air Quality Standards. The monitoring reports for ambient air quality and stack emissions are being submitted to SPCB on monthly basis & to regional office MOEF vide half-yearly compliance report.
3	Industrial wastewater shall be properly collected, treated so as to conform to the standards prescribed under GSR 422 (E) dated 19 th May, 1993 and 31 st December, 1993 or as amended from time to time. The treated wastewater shall be utilized for plantation purpose.	The plant is operating with zero discharge concept by 100% recycle of industrial waste water. Hence, no discharge is being made to outside water bodies or used for any other purposes.



Sl no.	Conditions	Compliance Status									
4	The overall noise levels in and around the plant area shall 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 levels should conform to the standards prescribed under EPA Rules, 1989 v/z. 75 dBA (daytime) and 70 dBA (nighttime).	<p data-bbox="1236 319 2033 470">During detailed engineering stage, care has been taken by providing suitable acoustic measures to contain noise level up to 85 dB(A) in frequented areas and to contain plant overall noise level of 75dB(A) during daytime and 70dB(A) during night time. The noise monitored data is as follows:</p> <table border="1" data-bbox="1236 470 2033 566"> <thead> <tr> <th data-bbox="1236 470 1512 502"></th> <th data-bbox="1512 470 1769 502">Daytime dB</th> <th data-bbox="1769 470 2033 502">Nighttime-dB</th> </tr> </thead> <tbody> <tr> <td data-bbox="1236 502 1512 534">Industrial</td> <td data-bbox="1512 502 1769 534">70.0 - 71.5</td> <td data-bbox="1769 502 2033 534">64.1 - 65.2</td> </tr> <tr> <td data-bbox="1236 534 1512 566">Residential</td> <td data-bbox="1512 534 1769 566">44.6 - 54.1</td> <td data-bbox="1769 534 2033 566">32.2 - 44.1</td> </tr> </tbody> </table>		Daytime dB	Nighttime-dB	Industrial	70.0 - 71.5	64.1 - 65.2	Residential	44.6 - 54.1	32.2 - 44.1
	Daytime dB	Nighttime-dB									
Industrial	70.0 - 71.5	64.1 - 65.2									
Residential	44.6 - 54.1	32.2 - 44.1									
5	Occupational health surveillance of the workers be done on a regular basis and records maintained as per the factories Act.	Occupational health surveillance of the workers is being done on regular basis as mandatory by The Factories Act, 1948 & Odisha Factory rules 1950. The records are being maintained and are being submitted to The Director, Factories & Boilers.									
6	The company shall develop rain water harvesting structures to harvest the rain water for utilization in the lean season besides recharging the ground water table.	Rain water collection is being practiced through rain water harvesting structures like raw water reservoir, storm water pond, caustic water pond, and red mud pond. In addition to this, rain water harvesting project has been implemented at township to recharge the ground water table.									
7	The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report. Further, the company must undertake socioeconomic development activities in the surrounding village like community development programs, educational programs, drinking water supply and health care etc.	Noted									
8	Requisite funds shall be e-marked towards capital cost and recurring cost and recurring cost/ annum for environmental pollution control measures to implement the conditions stipulated by the Ministry as well as the State Government. An implementation schedule for implementing all the conditions stipulated herein shall be submitted to the Regional Office of the Ministry at Bhubaneswar. The funds so provided shall not be diverted for any other purpose.	All the conditions imposed by MOEF and SPCB have been completed and no fund has been diverted.									



Sl no.	Conditions	Compliance Status
9	A Copy of clearance letter shall be sent by the proponent to concern panchayat, Zilla parishad/Municipal corporation, urban local body and the local Ngo, if any from whom suggestion/representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.	As there was no suggestion / representations from any such agencies, hence letter of clearance has not been sent. The clearance letter has been uploaded on the website of the company i.e. http://www.vedantaaluminium.com .
10	The project proponent shall upload the status of the compliance of the stipulated environment clearance conditions, including result of monitoring data on their website and shall update the same periodically, it shall simultaneously be sent to the Regional Office of the MOEF & CC at Bhubaneswar, the respective Zonal Office of CPCB and SPCB. The criteria pollutant levels namely: PM10, SO2, NOx (Ambient level as well as Stack Emissions) or critical sectoral parameter indicated for the project shall be monitored and displayed at convenient location near the main gate of the company in the public domain.	Noted. The company has installed six CAAQMS where the parameters PM10, PM2.5, SO2, NO2, CO are being monitored and the same is being displayed near the main gate of the company.
11	The project proponent shall also submit six monthly report on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by email) to the regional office of MOEFCC, the respective Zonal office of the CPCB & SPCB. The regional office of this ministry at Bhubaneswar/CPCB/SBCB shall monitor the stipulated conditions.	The same will be done on regular basis while submitting six monthly report.
12	The environment statement for each financial year ending 31 st March in FORM- V as is mandated to be submitted by the project proponent to the concerned State Pollution control Board as prescribed under the Environment Protection Rules 1986 as amended subsequently, shall also be put on the website of the company along with the status of compliance of environmental conditions and shall also be sent to the respective regional office of the MOEF at Bhubaneswar by email.	Noted
13	The project proponent shall inform the public the project has been accorded Environmental Clearance by the Ministry and copies of the clearance letter are the available with the SPCB and may also be seen at the website of the Ministry of the Environment and Forests at http://envfor.nic.in . This shall	The granted environmental clearance has been uploaded in the company website for the information to the public. The same has been advertised in two local newspapers 'The Odisha Bhaskar' and 'The Darshan' in both English & vernacular language (Odia) on 27th November 2015. And the



Sl no.	Conditions	Compliance Status
	be advertised within 7 days from the date of the issue of the clearance letter, at least in two local newspapers that are widely circulated in the region of which one shall be vernacular language of the locality concerned and the copy of the same should be forwarded to the regional office at Bhubaneswar.	copy of the same was submitted as annexure-VI in the Half yearly compliance report submitted on 28 th May 2016.
14	Project authorities shall inform the Regional Office as well as the Ministry, the date of the financial closure and final approval of the project by the concerned authorities and the commencing the land development work.	Noted

Conditions stipulated in the Environmental Clearances of Thermal Power Plants and Coal Mines in line with the Fly Ash Notification, and subsequent amendments

Sl no.	Conditions	Compliance Status
1	The guidelines prepared by CPCB for disposal of flyash for reclamation of low lying areas and in stowing/backfilling of abandoned mines/quarries shall be followed during disposal of ash in abandoned or working mines, as annexed.	Not Applicable.
2	There should at least be clearance of 500 m of safe distance be maintained from River and water body in case of ash disposal in abandoned mines to prevent embankment failures and flyash flowing into the nearby water body.	Not Applicable.
3	The top layer of the flyash disposal area in the abandoned mines shall be kept moist during disposal.	Not Applicable.



Sl no.	Conditions	Compliance Status
4	Top layer of the disposed area should have 70 cm overburden or gravels/stones and then 30 cm sweet soil cover. Subsequently, the vegetation shall be raised on the soil cover.	Not Applicable.
5	Bioaccumulation and bio-magnification tests shall be conducted on surrounding flora and fauna (tree leaves, vegetation, crop yields and cattle population) during pre-monsoon and post monsoon to find out any trace metals escaped through groundwater or runoff.	Not Applicable.
6	Surface runoff and supernatant water, in any case shall not be let into the surrounding areas. It shall be collected by providing adequate drains around the mine. The supernatant water along with surface runoff shall be treated and re-used for mixing ash and plant operations.	Not Applicable.
7	To the extent possible, only decanted water from mine, make up water from treated effluents such as cooling tower blow down and treated sewage water shall be used for making ash slurry.	Not Applicable.
8	Flyash to be used as soil conditioner in agriculture needs and to be applied in controlled manner to limit excessive application so as to prevent soil degradation. The optimize proportion of ash to be applied which is to be certified by the State Agricultural Universities/Colleges based on the soil testing.	Not Applicable.
9	Approval from DGMS shall be obtained before disposing the ash in the mine voids.	Not Applicable.
10	Technology for conversion of fly ash into coarse granules for stowing in the underground mines to be explored.	Not Applicable.
11	All the power plants should install different silos for dry collection of flyash.	Complied.
12	Records pertaining to details of month-wise quantity of flyash disposed and water consumption along with nature/source of water shall be maintained and submitted to Ministry/Regional Office annually.	Complied and attached as Annexure-VI



S. S. S.

Sl no.	Conditions	Compliance Status
13	Before starting the disposal of ash into mine voids, the NOC/Permission from the mine owner is to be obtained incase the mine closure activities are not completed or State Government incase the mine has been handed over to the State Govt. after its closure. A copy of such NOC/Permission is to be submitted to the Ministry and its Regional Offices.	Not Applicable.



SRM

ANNEXURE - I

<i>DETAILS OF COAL PROCUREMENTS FOR FY 2019-20 (from Oct'19 to Mar'20)</i>		
MONTH	DOMESTIC (In MT.)	IMPORTED(In MT.)
Oct-19	28303	11836
Nov-19	31326	30405
Dec-19	37871	42962
Jan-20	77925	38925
Feb-20	52769	53203
Mar-20	73241	11525



ANNEXURE-II

PLANTATION IN AND AROUND VEDANTA LTD, LANJIGARH

Name of the Industry	Year	Area in Ha	No of Plantation	Replacement*
VEDANTA LIMITED Lanjigarh, Kalahandi	Till 31 st March 2006	32.3	79200	0
	2006-07	14	37800	0
	2007-08	34	57300	0
	2008-09	37	64535	0
	2009-10	0	0	0
	2010-11	13.866	19409	0
	2011-12	37.2	53459	7100
	2012-13	7.2	17100	85416
	2013-14	14.6	24089	10205
	2014-15	36	73930	50030
	2015-16	10	20000	20500
	2016-17	25	58600	10500
	2017-18	16	35000	49000
	2018-19	1	2500	33040
2019-20 (Upto Mar'20)	0	0	25900	
Total		278.216	542922	291691

* The replacement is only for gap filling and has not been included in total calculation.



ANNEXURE- IV

BAUXITE PROCUREMENT (OCT'19 - MAR'20)	
Sources	In MT
Kawarda Balco	211908
Mainpat Balco	15531
OMC-VL	1011130
Alcoa-Brazil	30019
EGA-Guinea	1230113
RTA-Guinea	281628
Grand Total	2780330



S/Rm

CSR EXPENDITURE FY 2019-20

S.No	CSR Projects Categories	CSR Project or Activity Identified	Implementing Agency	FY20 Budget (In lakhs)	FY20 Actual (In lakhs)
A		EDUCATION			
A1	EDUCATION	Child Care Centre	FIDR	63	58.3
A2		Support to school (teachers)	Direct	14	10.59
A3		10th coaching Program Shiksha Sambal	FIDR	18	14.85
A4		Scholarships - VGA and DAV MS	Direct	5	4.12
B		HEALTH			
B1	HEALTH	Promoting Preventive health through Vedanta Hospital	PVO	370	325.86
B2		Ambulance Services	Sumitra Ambulance Services	17	17.57
B3		Maa Santoshi Jankalyan Hospital, Bankakundru	Maa Santoshi jankalyan Foundation Hospital	13.25	11.53
B4		Drinking Water	RWSS & Direct through contractor	12	6.47
C		LIVELIHOOD			
C1	WOMEN EMPOWERMENT	SAKHI SHG strengthening & mobilization	Mahashakti Foundation	31.25	24.86
C2		Dhokra Art & Tribal Art	Mahashakti Foundation	30	15.98
D		PRAGATI			
D1	Rural Infrastructure	Village Infrastructure & school Infra	Direct	183.5	131.27
D2	Sports & Culture	Tournaments	Direct	9.75	4.24
E	Program Management	Assessment, Audit, Village Coordinator, Stakeholder Engagement	Direct	82.25	46.13
F	Admin Cost	Admin Salary	Direct	84.9	-
		Total Cost		933.9	671.77



ANNEXURE- VI

Month	Total ash generated (MT)	Total ash utilized (MT)	% of ash utilization	Water Consumption (m ³)	Nature/Source of Water
Apr-19	24349	24851	102.1	15996	Plant Water recycled/reuse
May-19	28641	28661	100.1	12592	
Jun-19	25535	25647	100.4	15800	
Jul-19	28779	24187	84.0	17132	
Aug-19	24877	22433	90.2	13687	
Sep-19	22569	21735	96.3	17831	
Oct-19	26066	26508	101.7	15317	
Nov-19	25476	27248	107.0	6629	
Dec-19	22795	32733	143.6	14037	
Jan-20	24850	33044	133.0	14994	
Feb-20	22215	28564	128.6	16009	
Mar-20	27026	20271	75.0	18022	
FY2019 20	303178	315882	104.2	178046	

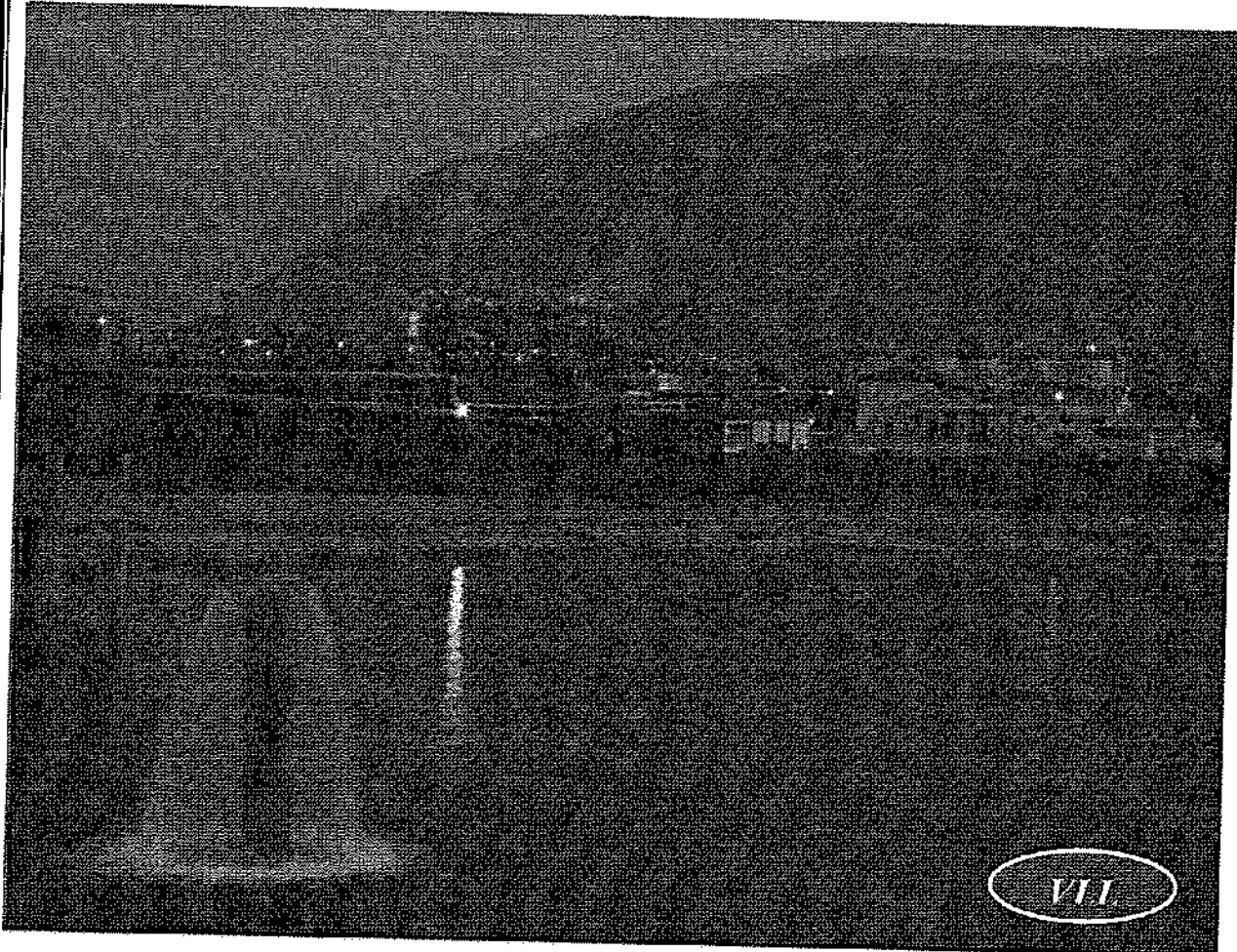
S. Ram



ENVIRONMENTAL SEASONAL REPORT

SEASONAL REPORT

October 2019 to December 2019



VII

Address

Via: Viswanathpur, P.O.Lanjigarh-766027

Dist. Kalahandi,ORISSA

Tel: + 91 6677 247312/13/14/15/16

Fax: +91 6677 247311

January - 2020

MICRO-METEOROLOGICAL DATA AT SITE

Period: 1st October 2019 to 31st December 2019

Location: Plant Site

Month	Temperature (°C)		Relative Humidity (%)		Rainfall (mm)
	Max	Min	Max	Min	Total
October	30.14	21.50	64.65	95.60	130
November	28.28	16.95	55.0	92.27	1
December	14.45	26.38	55.59	91.38	0.2
			Total rainfall		

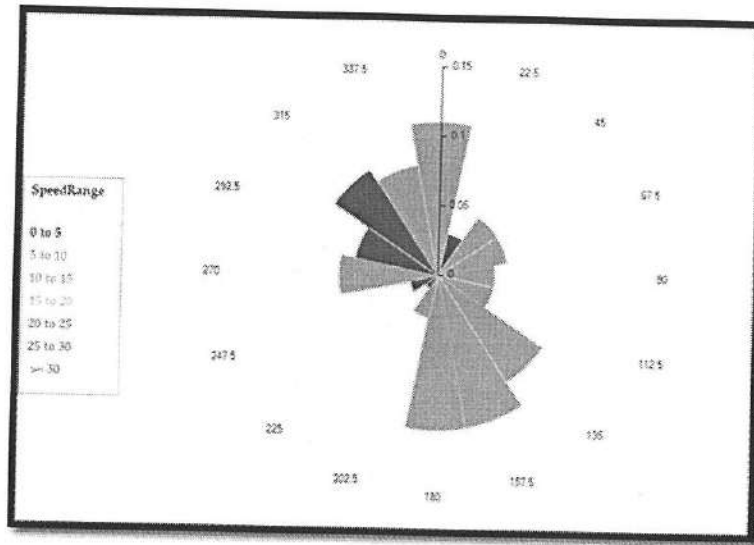
SUMMARY OF WIND PATTERN IN STUDY AREA

Season	First Predominant Wind Direction	Second Predominant Wind Direction	Predominant Wind Speeds (m/sec)	Calm (%)
Oct` 19 to Dec` 19	SSE (11.4%)	S (10.64%)	N (10.42%)	0

Wind Pattern during the Season

During the period the average winds from SSE direction were observed for 11.4 % of the total time. In S direction the winds were also observed for 10.64 % of the total time. The other direction and percentage frequencies were observed from N (10.42%), NW (9.49%), SE (9.45%), and NNW (7.78 %). The calm conditions were observed to be for 0.0 % of the total time.





WINDROSE DIAGRAM FOR THE SEASON – (Oct'19 to Dec'19)



SUMMARY OF AMBIENT AIR QUALITY RESULTSConcentrations are expressed in $\mu\text{g}/\text{m}^3$

Location	PM ₁₀			PM _{2.5}			SO ₂			NO _x		
	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg
Plant Site	78.0	65.0	73.4	52.2	43.3	48.6	12.3	8.3	10.1	26.2	19.2	22.3
Lanjigarh	75.0	63.0	71.3	50.2	41.1	47.3	11.4	7.3	9.2	26.1	17.4	20.6
Belamba	70.0	56.0	64.2	46.2	37.5	41.8	9.2	5.2	7.1	22.6	13.3	16.9
Niyamgiri Vedanta Nagar	72.0	64.0	68.2	46.4	42.0	44.1	11.1	6.2	8.4	23.0	15.2	18.1
Mid-Day Meal	73.0	61.0	67.7	48.3	39.3	44.5	10.4	5.3	7.8	24.3	16.1	19.0
Chhatrapur	69.0	59.0	64.3	46.2	38.1	42.1	9.4	6.1	7.6	23.2	14.2	18.4
	56.0-78.0			37.5-52.2			5.2-12.3			13.3-26.2		



Seasonal Report (Oct`19 to Dec`19)

**ONLINE STACK MONITORING TEST RESULT OF CALCINER AND CF BOILER FOR THE
MONTH OF OCTOBER 2019**

Date of sampling	Calciner 1				Calciner 2				CFB Stack			
	SO2	NOx	CO	PM	SO2	NOx	CO	PM	SO2	NOx	CO	PM
Unit	ppm	ppm	%	mg/Nm ³	ppm	ppm	%	mg/Nm ³	mg/Nm ³	mg/Nm ³	mg/Nm ³	mg/Nm ³
01-Oct-19	-	-	0.04	40	-	-	0.01	26	1863.49	411.54	9.90	75.66
02-Oct-19	-	-	0.04	33	-	-	0.01	19	1932.36	446.50	9.56	76.51
03-Oct-19	-	-	0.04	33	-	-	0.01	30	1942.17	456.06	6.90	75.74
04-Oct-19	-	-	0.03	36	-	-	0.01	39	1726.62	422.79	10.35	68.17
05-Oct-19	-	-	0.03	37	-	-	0.01	40	1863.49	411.54	9.90	75.66
06-Oct-19	-	-	0.04	37	-	-	0.01	40	1932.36	446.50	9.56	76.51
07-Oct-19	-	-	0.02	38	-	-	0.01	41	1942.17	456.06	6.90	75.74
08-Oct-19	-	-	0.02	36	-	-	0.01	39	1907.94	459.14	13.10	65.29
09-Oct-19	-	-	0.02	36	-	-	0.01	39	1867.46	457.84	11.44	62.25
10-Oct-19	-	-	0.01	36	-	-	0.01	39	1888.34	399.10	13.91	61.75
11-Oct-19	-	-	0.02	37	-	-	0.01	40	1911.78	390.22	10.87	58.68
12-Oct-19	-	-	0.01	37	-	-	0.01	40	1961.76	462.13	6.19	62.98
13-Oct-19	-	-	0.02	38	-	-	0.01	41	1845.22	393.36	12.35	58.44
14-Oct-19	-	-	0.02	39	-	-	0.01	41	1965.21	410.62	8.71	74.70
15-Oct-19	-	-	0.01	44	-	-	0.01	45	1736.76	387.26	14.21	76.05
16-Oct-19	-	-	0.01	39	-	-	0.01	42	1728.32	457.85	6.30	74.16
17-Oct-19	-	-	0.01	33	-	-	0.01	31	1640.86	458.57	8.22	67.77
18-Oct-19	-	-	0.01	26	-	-	0.01	21	1779.66	419.89	22.53	69.45
19-Oct-19	-	-	0	19	-	-	0.01	20	1852.35	438.33	33.63	56.29
20-Oct-19	-	-	0	19	-	-	0.01	22	1923.95	405.47	14.22	31.77
21-Oct-19	-	-	0	19	-	-	0.01	23	1950.04	402.58	13.15	32.39
22-Oct-19	-	-	0	20	-	-	0.01	23	1613.05	446.40	12.44	42.96
23-Oct-19	-	-	0.00	0.00	-	-	0.00	0.00	1597.80	386.05	56.14	48.85
24 Oct 19	-	-	0.00	0.00	-	-	0.00	0.00	30.09	19.48	6.32	0.00
25-Oct-19	-	-	0	20	-	-	0	26	306.52	33.67	44.50	0.00
26-Oct-19	-	-	0	18	-	-	0	25	1484.37	325.70	99.47	116.19
27-Oct-19	-	-	0	19	-	-	0	27	1671.53	385.47	44.40	63.75
28-Oct-19	-	-	0.27	20	-	-	0	27	1694.98	415.30	16.11	28.06
29-Oct-19	-	-	0	22	-	-	0	27	1673.94	435.74	20.99	29.12
30-Oct-19	-	-	0	23	-	-	0.01	34	1705.03	429.06	12.10	30.30
31-Oct-19	-	-	0	22	-	-	0.01	31	1690.91	386.67	8.50	28.61

Note: *Gaseous analysers for Calciner 1 & 2 was under maintenance from dt: 01-10-2019 to dt: 31-10-2019 & Plant was not under operation on dt: 23-10-2019 & dt: 25-10-2019.

** From 1st Oct'19 to 19th Oct'19, Boiler-1 (without ESP retrofit) was in operation as Boiler-2(having ESP retrofit) was under maintenance.



Seasonal Report (Oct`19 to Dec`19)

**ONLINE STACK MONITORING TEST RESULT OF CALCINER AND CF BOILER FOR THE
MONTH OF NOVEMBER 2019**

Date of sampling	Calciner 1				Calciner 2				CFB Stack			
	SO2	NOx	CO	PM	SO2	NOx	CO	PM	SO2	NOx	CO	PM
Parameter	ppm	ppm	%	mg/Nm ³	ppm	ppm	%	mg/Nm ³	mg/Nm ³	mg/Nm ³	mg/Nm ³	mg/Nm ³
Unit	ppm	ppm	%	mg/Nm ³	ppm	ppm	%	mg/Nm ³	mg/Nm ³	mg/Nm ³	mg/Nm ³	mg/Nm ³
01-Nov-19	403.55	19.81	0.45	18	400.87	39.77	0.03	27	1670.77	416.89	26.58	27.42
02-Nov-19	469.63	23.54	0.24	25	408.21	44.89	0.01	29	1561.26	399.61	8.15	23.95
03-Nov-19	518.65	27.38	0	21	414.75	42.32	0.01	27	1575.21	414.92	12.65	25.37
04-Nov-19	513.55	20.94	0	20	446.41	41.97	0.01	27	1851.12	416.50	17.27	27.84
05-Nov-19	489.7	20.74	0	22	439.56	50.62	0.01	30	1899.80	390.85	19.02	27.18
06-Nov-19	497.45	18.51	0	21	445.13	49.18	0.13	31	1789.67	421.02	7.35	25.37
07-Nov-19	501.83	18.25	0	19	423.92	39.72	0.01	27	1800.54	379.70	4.26	18.34
08-Nov-19	431.4	19.95	0.01	22	409.06	35.26	0	27	1719.09	430.69	10.94	19.91
09-Nov-19	462.52	10.71	0	20	425.71	38.01	0	28	1756.19	427.86	8.82	26.03
10-Nov-19	557.49	19.79	0	19	427.57	37.38	0	27	1764.54	460.37	8.58	28.71
11-Nov-19	604.86	30.92	0.01	19	386.59	32.06	0.01	26	1751.18	402.24	7.11	27.18
12-Nov-19	725.05	39.72	0	19	370.68	32.74	0.02	25	1796.82	380.53	6.23	27.02
13-Nov-19	662.91	32.08	0	19	375.48	32.78	0.03	25	1808.25	373.71	8.32	26.52
14-Nov-19	663.94	64.41	0.02	21	380.54	34.72	0	28	1928.25	377.18	3.53	25.21
15-Nov-19	450.34	39.45	0.35	22	477.66	34.22	0.26	31	1819.66	389.86	3.99	26.04
16-Nov-19	558.43	45.64	0.57	22	589.2	56.61	0.01	29	1819.17	410.62	9.20	27.09
17-Nov-19	567.43	50.25	0.01	22	642.67	69.58	0	29	1880.04	380.71	7.36	28.50
18-Nov-19	695.3	63.29	0	21	657.73	80.69	0	29	1944.04	428.24	38.41	30.28
19-Nov-19	325.9	31.97	0	21	707.78	81.56	0	30	1967.45	403.32	38.28	26.85
20-Nov-19	505.49	38.52	0	21	732.76	86.82	0	30	1863.51	363.19	41.68	24.16
21-Nov-19	281.06	28.22	0	24	680.83	83.37	0	30	1853.30	450.59	18.75	23.91
22-Nov-19	315.89	35.08	0	30	608.31	86.37	0	31	1736.95	395.48	15.14	27.56
23-Nov-19	342.28	66.02	0	28	580.54	88.54	0	31	1777.57	381.51	6.45	30.30
24-Nov-19	568.37	64.72	0	28	593.85	91.17	0	31	1740.92	460.31	5.13	29.57
25-Nov-19	425.4	41.5	0.0	24.8	590.7	95.7	0.0	30.1	1834.58	477.46	10.14	29.44
26-Nov-19	362.3	31.3	0.0	27.1	613.9	95.4	0.0	32.1	1882.55	456.97	7.37	29.75
27-Nov-19	463.9	29.8	0.0	24.7	734.5	76.4	0.0	31.3	1632.43	433.16	5.37	30.82
28-Nov-19	556.1	35.0	0.0	23.5	894.5	67.3	0.0	29.4	1464.07	479.92	4.83	26.95
29-Nov-19	434.6	26.4	0.0	23.1	973.4	68.0	0.0	28.8	1471.78	434.95	13.44	31.33
30-Nov-19	380.47	26.58	0	25	468.05	49.58	0	30	1538.74	402.85	9.13	30.39



**ONLINE STACK MONITORING TEST RESULT OF CALCINER AND CF BOILER FOR THE
MONTH OF DECEMBER 2019**

Date of sampling	Calciner 1				Calciner 2				CFB Stack			
	SO2	NOx	CO	PM	SO2	NOx	CO	PM	SO2	NOx	CO	PM
Parameter	ppm	ppm	%	mg/Nm3	ppm	ppm	%	mg/Nm3	mg/Nm3	mg/Nm3	mg/Nm3	mg/Nm3
01-Dec-19	335.76	21.42	0	19	333.69	25.70	0.01	32	1530.86	414.37	6.72	30.40
02-Dec-19	614.55	41.42	0.01	20	647.62	49.78	0.01	24	1430.91	412.87	11.14	28.64
03-Dec-19	580.80	42.53	0.01	22	515.50	50.07	0.01	28	1421.07	418.34	5.80	29.05
04-Dec-19	717.92	57.14	0.02	24	624.34	68.07	0.01	35	1419.70	385.44	7.11	30.38
05-Dec-19	229.01	42.34	0.01	23	673.39	63.38	0.01	28	1148.34	255.33	45.21	18.56
06-Dec-19	420.01	28.73	0.01	21	647.66	73.65	0.01	28	1411.04	387.65	30.27	24.51
07-Dec-19	396.76	58.26	0.01	22	369.00	82.23	0.01	27	1366.95	476.80	5.24	30.82
08-Dec-19	259.51	46.08	0.01	22	387.96	81.96	0.01	45	1261.41	324.04	14.35	27.06
09-Dec-19	561.65	67.17	0.02	25	460.20	98.22	0.01	39	1155.93	330.85	58.90	33.88
10-Dec-19	517.30	56.65	0.02	24	562.98	99.98	0.01	33	1121.62	344.56	11.17	27.37
11-Dec-19	494.89	66.17	0.01	23	556.96	97.76	0.01	32	1312.65	371.16	7.68	24.10
12-Dec-19	499.29	68.35	0.01	24	566.68	97.80	0.02	32	1435.09	344.76	10.53	25.00
13-Dec-19	435.32	60.11	0.02	24	268.83	46.55	0.01	32	1565.49	309.75	22.47	25.47
14-Dec-19	520.6	68.11	0.03	24	477.30	78.42	0.01	32	1610.51	301.00	8.81	26.66
15-Dec-19	504.79	55.09	0.03	31	569.36	91.39	0.01	31	1613.28	298.59	3.92	28.68
16-Dec-19	336.00	50.70	0.03	33	513.08	84.39	0.01	33	1866.31	319.45	9.86	29.57
17-Dec-19	376.08	35.46	0.03	31	598.25	78.95	0	30	1798.09	327.58	11.88	30.47
18-Dec-19	395.54	36.81	0.03	27	639.51	82.17	0	29	1732.90	342.51	6.16	24.54
19-Dec-19	414.91	61.89	0.03	26	593.59	93.82	0	31	1598.17	294.08	4.18	26.69
20-Dec-19	364.66	38.37	0.02	23	656.26	105.72	0	28	1602.70	316.90	5.74	25.54
21-Dec-19	471.34	59.60	0.03	23	668.71	103.77	0	29	1767.05	370.70	4.49	15.15
22-Dec-19	570.45	64.56	0.03	23	688.28	103.95	0	29	1754.81	355.92	5.71	12.90
23-Dec-19	562.53	58.68	0.02	24	723.64	109.55	0	29	1947.26	357.00	7.10	12.41
24-Dec-19	571.22	59.30	0.02	25	731.69	107.16	0	30	1807.91	325.55	6.80	12.19
25-Dec-19	558.39	57.62	0.02	25	729.80	104.69	0	30	1850.91	317.57	6.92	13.80
26-Dec-19	385.27	50.29	0.02	25	735.04	99.94	0.01	31	1970.83	359.43	6.44	16.17
27-Dec-19	430.71	63.53	0.03	25	656.34	84.38	0.01	32	1975.33	354.28	6.10	22.20
28-Dec-19	423.84	65.16	0.02	25	612.34	66.92	0	31	1953.57	360.99	4.75	18.98
29-Dec-19	400.82	54.14	0.02	25	609.43	61.23	0.01	31	1777.66	347.26	7.65	17.56
30-Dec-19	291.77	45.45	0.02	25	563.54	55.21	0.01	32	1921.39	344.67	2.98	17.31
31-Dec-19	465.77	55.07	0.03	24	567.53	59.25	0.01	34	1875.34	329.90	18.55	17.01



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101. ODISHA

TEST REPORT



NABL ULR NO : TC704319000002845P

Test Report No : 293 | 3264B1D KLPL/10/19/ENVN/00396A **Issue Date** : 05-Nov-2019

Rerefrnce : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 31-Oct-2019 **Commenced On** : 07-Oct-2019 **Completion On**: 12-Oct-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : CHHATRAPUR VILLAGE, 01.10.2019				
Sulphur Dioxide	µg/m ³	80	7.23	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nitrogen Dioxide	µg/m ³	80	16.17	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM10)	µg/m ³	100	59.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM2.5)	µg/m ³	60	38.14	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.47	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.6	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ammonia (NH3)	µg/m ³	400	< 10.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nickel (Ni)	µg/m ³	20	< 4.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Arujaha
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



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KLPL- 338798A of 1



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101. ODISHA

TEST REPORT



NABL ULR NO : TC70431900002845P

Test Report No : 293 | 3264B1D KLPL/10/19/ENVN/00396K

Issue Date : 05-Nov-2019

Rerefrence : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 21-Oct-2019

Commenced On : 21-Oct-2019

Completion On: 26-Oct-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : CHHATRAPUR VILLAGE, 15.10.2019				
Sulphur Dioxide	µg/m ³	80	8.03	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nitrogen Dioxide	µg/m ³	80	14.20	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM10)	µg/m ³	100	63.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM2.5)	µg/m ³	60	42.20	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.49	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.8	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ammonia (NH3)	µg/m ³	400	< 10.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nickel (Ni)	µg/m ³	20	< 4.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Ananda
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



B1D28455435

KLPL- 338038A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101. ODISHA

TEST REPORT



NABL ULR NO : TC704319000002845P

Test Report No : 293 | 3264B1D KLPL/10/19/ENVN/00396Q

Issue Date : 05-Nov-2019

Rerference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 28-Oct-2019

Commenced On : 28-Oct-2019

Completion On : 02-Nov-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : CHHATRAPUR VILLAGE, 22.10.2019				
Sulphur Dioxide	µg/m ³	80	6.21	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nitrogen Dioxide	µg/m ³	80	15.45	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM10)	µg/m ³	100	65.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM2.5)	µg/m ³	60	43.30	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.50	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.9	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ammonia (NH3)	µg/m ³	400	< 10.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nickel (Ni)	µg/m ³	20	< 4.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

D. Sambas Ananda
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



B1D28455435

KLPL- 338033A of 1



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000002845P

Test Report No : 293 | 3264B1D KLPL/10/19/ENVN/00396V

Issue Date : 05-Nov-2019

Rerefrence : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI,ODISHA-766027.

Date of receipt : 02-Nov-2019

Commenced On : 02-Nov-2019

Completion On : 05-Nov-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure : KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : CHHATRAPUR VILLAGE, 29.10.2019				
Sulphur Dioxide	µg/m ³	80	7.32	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nitrogen Dioxide	µg/m ³	80	16.38	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM10)	µg/m ³	100	64.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM2.5)	µg/m ³	60	39.31	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.49	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.8	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ammonia (NH3)	µg/m ³	400	< 10.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nickel (Ni)	µg/m ³	20	< 4.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

D. S. Ganeswar Prasad
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



B1D28455435

KLPL- 338027A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000002845P

Test Report No : 293 | 3264B1D KLPL/10/19/ENVN/00396B

Issue Date : 05-Nov-2019

Rereference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 07-Oct-2019

Commenced On : 07-Oct-2019

Completion On : 12-Oct-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure : KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : LANJIGARH VILLAGE, 03.10.2019				
Sulphur Dioxide	µg/m ³	80	8.43	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nitrogen Dioxide	µg/m ³	80	18.20	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM10)	µg/m ³	100	66.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM2.5)	µg/m ³	60	44.26	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.48	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	6.1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ammonia (NH3)	µg/m ³	400	< 10.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nickel (Ni)	µg/m ³	20	< 4.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Rout
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



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KLPL- 3380#7A of 1



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000002845P

Test Report No : 293 | 3264B1D KLPL/10/19/ENVN/00396G

Issue Date : 05-Nov-2019

Rerefrence : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 14-Oct-2019

Commenced On : 14-Oct-2019

Completion On : 19-Oct-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

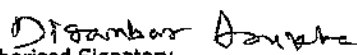
Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : LANJIGARH VILLAGE, 10.10.2019				
Sulphur Dioxide	µg/m ³	80	9.05	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nitrogen Dioxide	µg/m ³	80	20.31	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM10)	µg/m ³	100	63.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM2.5)	µg/m ³	60	41.11	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.47	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	6.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ammonia (NH3)	µg/m ³	400	< 10.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nickel (Ni)	µg/m ³	20	< 4.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****


Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



B1D28455435

KLPL- 338042A of 1



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000002845P

Test Report No : 293 | 3264B1D KLPL/10/19/ENVN/00396M **Issue Date** : 05-Nov-2019

Rereference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 21-Oct-2019 **Commenced On** : 21-Oct-2019 **Completion On**: 26-Oct-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
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Parameters	Unit	Standard Value	Results	Test Method
Location & Date : LANJIGARH VILLAGE, 17.10.2019				
Sulphur Dioxide	µg/m ³	80	8.24	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nitrogen Dioxide	µg/m ³	80	18.21	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM10)	µg/m ³	100	69.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM2.5)	µg/m ³	60	47.42	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.50	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	6.3	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ammonia (NH3)	µg/m ³	400	< 10.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nickel (NI)	µg/m ³	20	< 4.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Ananda
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



B1D28455435
KLPL- 338026A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000002845P

Test Report No : 293 | 3264B1D KLPL/10/19/ENVN/00396S

Issue Date : 05-Nov-2019

Rerefrence : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 28-Oct-2019

Commenced On : 28-Oct-2019

Completion On: 02-Nov-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : LANJIGARH VILLAGE, 24.10.2019				
Sulphur Dioxide	µg/m ³	80	7.32	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nitrogen Dioxide	µg/m ³	80	17.35	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM10)	µg/m ³	100	72.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM2.5)	µg/m ³	60	48.26	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.52	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	6.4	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ammonia (NH3)	µg/m ³	400	< 10.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nickel (Ni)	µg/m ³	20	< 4.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Dasgupta
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



B1D28455435

KLPL- 338020A of 1



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000002845P

Test Report No : 293 | 3264B1D KLPL/10/19/ENVN/00396D **Issue Date** : 05-Nov-2019

Rerefrence : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 07-Oct-2019 **Commenced On** : 07-Oct-2019 **Completion On** : 12-Oct-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref. To Sampling Procedure : KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : BELAMBRA VILLAGE, 05.10.2019				
Sulphur Dioxide	µg/m ³	80	6.18	CPCB Guidelnes of Ambient Air Pollutants Volume-I & II
Nitrogen Dioxide	µg/m ³	80	14.17	CPCB Guidelnes of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM10)	µg/m ³	100	56.0	CPCB Guidelnes of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM2.5)	µg/m ³	60	37.50	CPCB Guidelnes of Ambient Air Pollutants Volume-I & II
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.42	CPCB Guidelnes of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01. Hrs.)	µg/m ³	180	3.2	CPCB Guidelnes of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	CPCB Guidelnes of Ambient Air Pollutants Volume-I & II
Ammonia (NH3)	µg/m ³	400	< 10.0	CPCB Guidelnes of Ambient Air Pollutants Volume-I & II
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelnes of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelnes of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	CPCB Guidelnes of Ambient Air Pollutants Volume-I & II
Nickel (Ni)	µg/m ³	20	< 4.0	CPCB Guidelnes of Ambient Air Pollutants Volume-I & II

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Asuleha
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000002845P

Test Report No : 293 | 3264B1D KLPL/10/19/ENVN/003961 **Issue Date** : 05-Nov-2019

Rereference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 14-Oct-2019 **Commenced On** : 14-Oct-2019 **Completion On**: 19-Oct-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : BELAMBA VILLAGE, 12.10.2019				
Sulphur Dioxide	µg/m ³	80	7.14	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nitrogen Dioxide	µg/m ³	80	13.29	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM10)	µg/m ³	100	58.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM2.5)	µg/m ³	60	38.30	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.43	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.3	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ammonia (NH3)	µg/m ³	400	< 10.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nickel (NI)	µg/m ³	20	< 4.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Anurupa
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000002845P

Test Report No : 293 | 3264B1D KLPL/10/19/ENVN/003960

Issue Date : 05-Nov-2019

Rerefrence : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 21-Oct-2019

Commenced On : 21-Oct-2019

Completion On : 26-Oct-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref. To Sampling Procedure : KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
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Location & Date : BELAMBA VILLAGE, 19.10.2019

Sulphur Dioxide	µg/m ³	80	5.43	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nitrogen Dioxide	µg/m ³	80	15.17	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM10)	µg/m ³	100	61.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM2.5)	µg/m ³	60	39.48	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.45	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.4	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ammonia (NH3)	µg/m ³	400	< 10.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nickel (Ni)	µg/m ³	20	< 4.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Das
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



B1D28455435

KLPL- 338034A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000002845P

Test Report No : 293 | 3264B1D KLPL/10/19/ENVN/00396X

Issue Date : 05-Nov-2019

Rereference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 02-Nov-2019 **Commenced On** : 02-Nov-2019

Completion On : 05-Nov-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure : KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : BELAMBA VILLAGE, 31.10.2019				
Sulphur Dioxide	µg/m ³	80	6.21	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nitrogen Dioxide	µg/m ³	80	16.26	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM10)	µg/m ³	100	65.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM2.5)	µg/m ³	60	43.49	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.48	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.6	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ammonia (NH3)	µg/m ³	400	< 10.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nickel (Ni)	µg/m ³	20	< 4.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

D. Sambhu Acharya

Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



B1D28455435

KLPL- 338025A of 1



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101. ODISHA

TEST REPORT



NABL ULR NO : TC704319000002845P

Test Report No : 293 | 3264B1D KLPL/10/19/ENVN/00396F

Issue Date : 05-Nov-2019

Rerference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 14-Oct-2019

Commenced On : 14-Oct-2019

Completion On: 19-Oct-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref. To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
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Location & Date : MID DAY MEAL, 09.10.2019

Sulphur Dioxide	µg/m ³	80	7.07	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nitrogen Dioxide	µg/m ³	80	18.37	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM10)	µg/m ³	100	61.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM2.5)	µg/m ³	60	39.31	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.64	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ammonia (NH3)	µg/m ³	400	< 10.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nickel (Ni)	µg/m ³	20	< 4.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Arueta
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



B1D28455435

KLPL- 338043A of 1



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70431900002845P

Test Report No : 293 | 3264B1D KLPL/10/19/ENVN/00396L

Issue Date : 05-Nov-2019

Rerefrence : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 21-Oct-2019

Commenced On : 21-Oct-2019

Completion On: 26-Oct-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : MID DAY MEAL, 16.10.2019				
Sulphur Dioxide	$\mu\text{g}/\text{m}^3$	80	9.40	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nitrogen Dioxide	$\mu\text{g}/\text{m}^3$	80	17.25	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM10)	$\mu\text{g}/\text{m}^3$	100	64.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM2.5)	$\mu\text{g}/\text{m}^3$	60	43.11	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Carbon Monoxide (CO) (01 Hrs.)	mg/m^3	04	0.66	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	$\mu\text{g}/\text{m}^3$	180	3.2	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	$\mu\text{g}/\text{m}^3$	1.0	< 0.02	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ammonia (NH3)	$\mu\text{g}/\text{m}^3$	400	< 10.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzene (C6 H6)	$\mu\text{g}/\text{m}^3$	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	$\mu\text{g}/\text{m}^3$	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	$\mu\text{g}/\text{m}^3$	06	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nickel (NI)	$\mu\text{g}/\text{m}^3$	20	< 4.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Dipankar Dasgupta

Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



B1D28455435
KLPL- 338037A₁₁



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101. ODISHA

TEST REPORT



NABL ULR NO : TC704319000002845P

Test Report No : 293 | 3264B1D KLPL/10/19/ENVN/00396R

Issue Date : 05-Nov-2019

Rerefrence : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 28-Oct-2019

Commenced On : 28-Oct-2019

Completion On : 02-Nov-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : MID DAY MEAL, 23.10.2019				
Sulphur Dioxide	µg/m ³	80	8.40	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nitrogen Dioxide	µg/m ³	80	19.25	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM10)	µg/m ³	100	67.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM2.5)	µg/m ³	60	46.22	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.68	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.3	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ammonia (NH3)	µg/m ³	400	< 10.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nickel (Ni)	µg/m ³	20	< 4.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Anur
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000002845P

Test Report No : 293 | 326481D KLPL/10/19/ENVN/00396W **Issue Date** : 05-Nov-2019

Rerefrence : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 02-Nov-2019 **Commenced On** : 02-Nov-2019 **Completion On** : 05-Nov-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
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Location & Date : MID DAY MEAL, 30.10.2019

Parameters	Unit	Standard Value	Results	Test Method
Sulphur Dioxide	µg/m ³	80	7.52	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nitrogen Dioxide	µg/m ³	80	18.45	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM10)	µg/m ³	100	70.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM2.5)	µg/m ³	60	48.26	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.69	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.5	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ammonia (NH3)	µg/m ³	400	< 10.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nickel (Ni)	µg/m ³	20	< 4.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

D. Jambur Danda
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101. ODISHA

TEST REPORT



NABL ULR NO : TC704319000002845P

Test Report No : 293 | 3264B1D KLPL/10/19/ENVN/00396C **Issue Date** : 05-Nov-2019

Rerference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 07-Oct-2019 **Commenced On** : 07-Oct-2019 **Completion On** : 12-Oct-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : REHABILITATION COLONY, 04.10.2019				
Sulphur Dioxide	µg/m ³	80	9.36	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nitrogen Dioxide	µg/m ³	80	15.18	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM10)	µg/m ³	100	64.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM2.5)	µg/m ³	60	42.20	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.77	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.7	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ammonia (NH3)	µg/m ³	400	< 10.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nickel (Ni)	µg/m ³	20	< 4.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Das
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70431900002845P

Test Report No : 293 | 3264B1D KLPL/10/19/ENVN/00396H

Issue Date : 05-Nov-2019

Rereference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 14-Oct-2019

Commenced On : 14-Oct-2019

Completion On: 19-Oct-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref. To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : REHABILITATION COLONY, 11.10.2019				
Sulphur Dioxide	µg/m ³	80	8.11	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nitrogen Dioxide	µg/m ³	80	16.35	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM10)	µg/m ³	100	67.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM2.5)	µg/m ³	60	44.06	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.79	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.9	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ammonia (NH3)	µg/m ³	400	< 10.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nickel (NI)	µg/m ³	20	< 4.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

D. G. Sankar
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



B1D28455435

KLPL- 338041A of 1



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000002845P

Test Report No : 293 | 3264B1D KLPL/10/19/ENVN/00396N

Issue Date : 05-Nov-2019

Rerefrence : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 21-Oct-2019

Commenced On : 21-Oct-2019

Completion On : 26-Oct-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure : KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
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Location & Date : REHABILITATION COLONY, 18.10.2019

Sulphur Dioxide	µg/m ³	80	7.29	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nitrogen Dioxide	µg/m ³	80	17.11	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM10)	µg/m ³	100	72.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM2.5)	µg/m ³	60	46.22	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.81	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	6.2	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ammonia (NH3)	µg/m ³	400	< 10.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nickel (Ni)	µg/m ³	20	< 4.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Ananta
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000002845P

Test Report No : 293 | 3264B1D KLPL/10/19/ENVN/00396T

Issue Date : 05-Nov-2019

Rerefrence : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 28-Oct-2019

Commenced On : 28-Oct-2019

Completion On : 02-Nov-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
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Location & Date : REHABILITATION COLONY, 25.10.2019

Parameters	Unit	Standard Value	Results	Test Method
Sulphur Dioxide	µg/m ³	80	6.26	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nitrogen Dioxide	µg/m ³	80	16.40	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM10)	µg/m ³	100	70.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM2.5)	µg/m ³	60	44.26	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.80	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	6.1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ammonia (NH3)	µg/m ³	400	< 10.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nickel (Ni)	µg/m ³	20	< 4.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Dipankar Baulaha
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



B1D28455435

KLPL- 338029A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000002845P

Test Report No : 293 | 3264B1D KLPL/10/19/ENVN/00396E **Issue Date** : 05-Nov-2019

Rerefrence : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 14-Oct-2019 **Commenced On** : 14-Oct-2019 **Completion On**: 19-Oct-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-05

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : PLANT SITE, 07.10.2019				
Sulphur Dioxide	µg/m ³	80	8.28	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nitrogen Dioxide	µg/m ³	80	20.33	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM10)	µg/m ³	100	65.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM2.5)	µg/m ³	60	43.30	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	1.49	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	11.9	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ammonia (NH3)	µg/m ³	400	< 10.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nickel (Ni)	µg/m ³	20	5.4	CPCB Guidelines of Ambient Air Pollutants Volume-I & II

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Dhambor Ananta
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



B1D28455435

KLPL- 338044A of 1



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000002845P

Test Report No : 293 | 3264B1D KLPL/10/19/ENVN/00396J **Issue Date** : 05-Nov-2019

Rereference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 21-Oct-2019 **Commenced On** : 21-Oct-2019 **Completion On**: 26-Oct-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : PLANT SITE, 14.10.2019				
Sulphur Dioxide	µg/m ³	80	10.36	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nitrogen Dioxide	µg/m ³	80	22.30	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM10)	µg/m ³	100	71.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM2.5)	µg/m ³	60	46.03	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	1.53	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	12.3	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ammonia (NH3)	µg/m ³	400	< 10.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nickel (Ni)	µg/m ³	20	5.8	CPCB Guidelines of Ambient Air Pollutants Volume-I & II

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

D. S. G. S. S. S.
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



B1D28455435
 KLPL- 338039A-1



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101. ODISHA

TEST REPORT



NABL ULR NO : TC704319000002845P

Test Report No : 293 | 3264B1D KLPL/10/19/ENVN/00396P

Issue Date : 05-Nov-2019

Rerefrence : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 28-Oct-2019

Commenced On : 28-Oct-2019

Completion On: 02-Nov-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref. To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : PLANT SITE, 21.10.2019				
Sulphur Dioxide	µg/m ³	80	11.30	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nitrogen Dioxide	µg/m ³	80	23.37	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM10)	µg/m ³	100	76.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM2.5)	µg/m ³	60	50.21	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	1.58	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	12.6	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ammonia (NH3)	µg/m ³	400	< 10.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nickel (Ni)	µg/m ³	20	6.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Adhikari
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



B1D28455435

KLPL- 338033A Page 1 of 1



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000002845P

Test Report No : 293 | 3264B1D KLPL/10/19/ENVN/00396U

Issue Date : 05-Nov-2019

Rereference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 02-Nov-2019

Commenced On : 02-Nov-2019

Completion On: 05-Nov-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
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Location & Date : PLANT SITE, 28.10.2019

Sulphur Dioxide	µg/m ³	80	9.32	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nitrogen Dioxide	µg/m ³	80	21.09	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM10)	µg/m ³	100	72.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Particulate Matter (PM2.5)	µg/m ³	60	51.07	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	1.54	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	12.2	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ammonia (NH3)	µg/m ³	400	< 10.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Nickel (Ni)	µg/m ³	20	5.95	CPCB Guidelines of Ambient Air Pollutants Volume-I & II

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



B1D28455435
KLPL- 338028A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70431900002868F

Test Report No : 1456 | 3243B34KLPL/10/19/WATER/01677 **Issue Date : 07-Nov-2019**
Reference : 6600011158 DTD- 11.12.2018
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 31-Oct-2019 **Test Commenced On : 31-Oct-2019** **Test Completion On: 07-Nov-2019**
Sample Description : SURFACE WATER

Sample Condition : SEALED IN 1LTR PET BOTTLE
Sample Identification * : SURFACE WATER **Sampling Date : 30-Oct-2019**
Batch No , Lot No : NA **MFG Date : NA** **EXP Date : NA**
Received Quantity : 1LTR X 2 **Place of Collection : STREAM NEAR RENGOPALI**
Sample Collected By : By KLPL
Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
i Total Coliforms	MPN/100ml.	5000	70	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
i Sulphate as SO4	mg/l, Max	400	< 1.0	APHA 23rd Edition (4500-So42 - -E), 2017
ii Nitrate as NO3	mg/l, Max	50	0.08	APHA 23rd Edition (4500-NO3 - -E), 2017
iii Electrical Conductivity	µs/cm	-	55	APHA 23rd Edition (2510 B) 2017
iv Fluoride as F	mg/l, Max	1.5	< 0.05	APHA 23rd Edition (4500-F - -D,-C), 2017
v Total Dissolved Solid	mg/l, Max	1500	48	APHA 23rd Edition (2540 C), 2017
vi Calcium as Ca	mg/l, Max	-	6.4	APHA 23rd Edition (3500-Ca-B), 2017
vii Magnesium as Mg	mg/l, Max	-	3.89	APHA 23rd Edition (3500-Mg-B), 2017
viii Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B- B), 2017
ix Dissolved Oxygen	mg/l, Max	4.0	7.0	APHA 23rd Edition(4500-O-C), 2017
x Biochemical Oxygen Demand(For 3 days 27deg C)	mg/l, Max	--	10	APHA 23rd Edition 2012(5210 B), 2017
xi Total Hardness as CaCO3	mg/l, Max	--	44	APHA 23rd Edition (2340 C), 2017
xii Chloride (as Cl)	mg/l, Max	600	10	IS 3025 (Part 32):1988, RA 2009
xiii Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
xiv Iron (as Fe)	mg/l, Max	50	0.35	APHA-23rd Edition (3500-Fe-B , 3111 B) 2017
xv Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
xvi Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
xvii Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xviii Free Ammonia (as NH3)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
xix Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 B) 2017
xx Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
xxi Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2005
xxii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440

1456 | 3243B34 Page 1 of 2
BBSR
KLPL-338/13A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1456 | 3243B34KLPL/10/19/WATER/01677



Parameters	Unit	Requirement	Result	Test Method
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.0001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0005	--
xxvi SODIUM ABSORPTION RATIO	--	--	0.26	--
xxvii barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTISIDE	mg/l	--	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006
ii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iii Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
iv pH Value	--	6.5-8.5	7.6	APHA 23rd Edition (4500-H+-B), 2017
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	uCi/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Beta-Emitters	uCi/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27) :1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digamber Anurba
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70431900002866F

Test Report No : 1454 | 3241B32KLPL/10/19/WATER/01675 **Issue Date** : 07-Nov-2019
Reference : 6600011158 DTD- 11.12.2018
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 31-Oct-2019 **Test Commenced On** : 31-Oct-2019 **Test Completion On**: 07-Nov-2019
Sample Description : SURFACE WATER

Sample Condition : SEALED IN 1LTR PET BOTTLE
Sample Identification * : SURFACE WATER **Sampling Date** : 30-Oct-2019
Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA
Received Quantity : 1LTR X 1 **Place of Collection** : STREAM NEAR TENTULIPADAR.
Sample Collected By : By KLPL
Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
i Total Coliforms	MPN/100ml.	5000	30	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
i Chloride as Cl	mg/l, Max	600	12	APHA 23rd Edition (4500-Cl - -B), 2017
ii Sulphate as SO4	mg/l, Max	400	1.0	APHA 23rd Edition (4500-So42 - -E), 2017
iii Nitrate as NO3	mg/l, Max	50	0.12	APHA 23rd Edition (4500-NO3 - -E), 2017
iv Electrical Conductivity	us/cm	-	54	APHA 23rd Edition (2510 B) 2017
v Fluoride as F	mg/l, Max	1.5	0.09	APHA 23rd Edition (4500-F - -D,-C), 2017
vi Total Dissolved Solid	mg/l, Max	1500	44	APHA 23rd Edition (2540 C), 2017
vii Calcium as Ca	mg/l, Max	-	4.8	APHA 23rd Edition (3500-Ca-B), 2017
viii Magnesium as Mg	mg/l, Max	-	2.92	APHA 23rd Edition (3500-Mg-B), 2017
ix Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B- B), 2017
x Dissolved Oxygen	mg/l, Max	4.0	6.7	APHA 23rd Edition(4500-O-C), 2017
xi Biochemical Oxygen Demand(For 3 days 27deg C)	mg/l, Max	--	8	APHA 23rd Edition 2012(5210 B), 2017
xii Total Hardness as CaCO3	mg/l, Max	--	24	APHA 23rd Edition (2340 C), 2017
xiii Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
xiv Iron (as Fe)	mg/l, Max	50	0.1	APHA-23rd Edition (3500-Fe-B , 3111 B) 2017
xv Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
xvi Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
xvii Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xviii Free Ammonia (as NH3)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
xix Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 B) 2017
xx Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
xxi Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2005
xxii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440

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KLPL-338117A





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1454 | 3241B32KLPL/10/19/WATER/01675



Parameters	Unit	Requirement	Result	Test Method
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0006	--
xxvi SODIUM ABSORPTION RATIO	--	--	0.29	--
xxvii barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTISIDE	mg/l	--	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.9	APHA 23rd Edition (4500-H+-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	uCi/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Beta-Emitters	uCi/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27) :1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Anulcha
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70431900002867F

Test Report No : 1455 | 3242B33KLPL/10/19/WATER/01676 **Issue Date** : 07-Nov-2019

Reference : 6600011158 DTD- 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 31-Oct-2019 **Test Commenced On** : 31-Oct-2019 **Test Completion On**: 07-Nov-2019

Sample Description : SURFACE WATER

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : SURFACE WATER **Sampling Date** : 30-Oct-2019

Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA

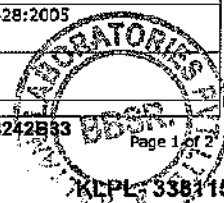
Received Quantity : 1LTR X 2 **Place of Collection** : STREAM NEAR KENDUBADI

Sample Collected By : By KLPL

Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
i Total Coliforms	MPN/100ml.	5000	50	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
i Chloride as Cl	mg/l, Max	600	8.0	APHA 23rd Edition (4500-Cl - -B), 2017
ii Sulphate as SO4	mg/l, Max	400	< 1.0	APHA 23rd Edition (4500-So42 - -E), 2017
iii Nitrate as NO3	mg/l, Max	50	0.06	APHA 23rd Edition (4500-NO3 - -E), 2017
iv Electrical Conductivity	µs/cm	-	28	APHA 23rd Edition (2510 B) 2017
v Fluoride as F	mg/l, Max	1.5	< 0.05	APHA 23rd Edition (4500-F - -D,-C), 2017
vi Total Dissolved Solid	mg/l, Max	1500	28	APHA 23rd Edition (2540 C), 2017
vii Calcium as Ca	mg/l, Max	-	3.2	APHA 23rd Edition (3500-Ca-B), 2017
viii Magnesium as Mg	mg/l, Max	-	2.92	APHA 23rd Edition (3500-Mg-B), 2017
ix Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B- B), 2017
x Dissolved Oxygen	mg/l, Max	4.0	6.5	APHA 23rd Edition(4500-O-C), 2017
xi Biochemical Oxygen Demand(For 3 days 27deg C)	mg/l, Max	---	10	APHA 23rd Edition 2012(5210 B), 2017
xii Total Hardness as CaCO3	mg/l, Max	---	20	APHA 23rd Edition (2340 C), 2017
xiii Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
xiv Iron (as Fe)	mg/l, Max	50	0.09	APHA-23rd Edition (3500-Fe-B , 3111 B) 2017
xv Manganese (as Mn)	mg/l, Max	---	< 0.1	IS 3025 (Part 59):2006 RA 2012
xvi Selenium (as Se)	mg/l. Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
xvii Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xviii Free Ammonia (as NH3)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
xix Oil & Grease	mg/l, Max	---	< 0.025	APHA-23rd Edition (5520 B) 2017
xx Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
xxi Anionic Surface Active Agents (as MBAS)	mg/l	---	< 0.1	Annex K of IS 13428:2005
xxii Polynuclear Aromatic Hydrocarbon	mg/l, Max	---	< 0.0001	APHA 6440

1455 | 3242B33



KLPL-338115A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1455 | 3242B33KLPL/10/19/WATER/01676



Parameters	Unit	Requirement	Result	Test Method
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0020	--
xxvi SODIUM ABSORPTION RATIO	--	--	0.97	--
xxvii barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTISIDE	mg/l	--	< 0.0001	USEPA

PHYSICAL PARAMETER

i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.7	APHA 23rd Edition (4500-H+-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006

RADIOACTIVITY SUBSTANCES

i Alpha-Emitters	uCi/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Beta-Emitters	uCi/mL	0.01	BDL	IS 14194 (PART-2):2013

TOXIC SUBSTANCES

i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27) :1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Arulaha
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000002869F

Test Report No : 1457 | 3244B35KLPL/10/19/WATER/01678 **Issue Date** : 07-Nov-2019

Reference : 6600011158 DTD- 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 31-Oct-2019 **Test Commenced On** : 31-Oct-2019 **Test Completion On**: 07-Nov-2019

Sample Description : **SURFACE WATER**

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : **SURFACE WATER** **Sampling Date** : 30-Oct-2019

Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA

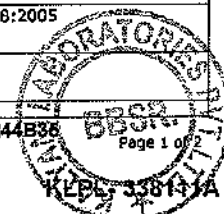
Received Quantity : 1LTR X 2 **Place of Collection** : VAMSADHARA RIVER NEAR BALABHADRAPUR

Sample Collected By : By KLPL

Ref. To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
i Total Coliforms	MPN/100ml.	5000	50	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
i Sulphate as SO4	mg/l, Max	400	14	APHA 23rd Edition (4500-So42 - -E), 2017
ii Nitrate as NO3	mg/l, Max	50	0.6	APHA 23rd Edition (4500-NO3 - -E), 2017
iii Electrical Conductivity	µs/cm	-	134	APHA 23rd Edition (2510 B) 2017
iv Fluoride as F	mg/l, Max	1.5	< 0.05	APHA 23rd Edition (4500-F - -D,-C), 2017
v Total Dissolved Solid	mg/l, Max	1500	110	APHA 23rd Edition (2540 C), 2017
vi Calcium as Ca	mg/l, Max	-	20.8	APHA 23rd Edition (3500-Ca-B), 2017
vii Magnesium as Mg	mg/l, Max	-	10.69	APHA 23rd Edition (3500-Mg-B), 2017
viii Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B- B), 2017
ix Dissolved Oxygen	mg/l, Max	4.0	6.8	APHA 23rd Edition(4500-O-C), 2017
x Biochemical Oxygen Demand(For 3 days 27deg C)	mg/l, Max	--	15	APHA 23rd Edition 2012(5210 B), 2017
xi Total Hardness as CaCO3	mg/l, Max	--	96	APHA 23rd Edition (2340 C), 2017
xii Chloride (as Cl)	mg/l, Max	600	16	IS 3025 (Part 32):1988, RA 2009
xiii Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
xiv Iron (as Fe)	mg/l, Max	50	0.12	APHA-23rd Edition (3500-Fe-B , 3111 B) 2017
xv Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
xvi Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
xvii Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xviii Free Ammonia (as NH3)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
xix Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 B) 2017
xx Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
xxi Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2005
xxii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440

1457 | 3244B35





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1457 | 3244B35KLPL/10/19/WATER/01678



Parameters	Unit	Requirement	Result	Test Method
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0015	--
xxvi SODIUM ABSORPTION RATIO	--	--	0.66	--
xxvii barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTISIDE	mg/l	--	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
ii Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
iii pH Value	--	6.5-8.5	7.9	APHA 23rd Edition (4500-H+-B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2005
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	uCi/ml	0.001	BDL	IS 14194 (PART-2):2013
ii Beta-Emitters	uCi/ml	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27) :1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Das
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd



KALYANI LABORATORIES PVT. LTD.



78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : **TC70431900002871P**

Test Report No : **1458 | 3245B37KLPL/10/19/WATER/01679** **Issue Date** : 08-Nov-2019

Reference : 6600011158 DTD- 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 31-Oct-2019 **Test Commenced On** : 31-Oct-2019 **Test Completion On**: 07-Nov-2019

Sample Description : **SURFACE WATER**

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : **SURFACE WATER** **Sampling Date** : 30-Oct-2019

Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA

Received Quantity : 1LTR X 2 **Place of Collection** : VAMSADHARA RIVER NEAR NARAYANAPUR

Sample Collected By : By KLPL (UPSTREAM)

Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
i Feacal Coliform	MPN/100ml.	5000	26	IS 1622 : 1981 RA 2009
CHEMICAL PARAMETER				
i Sulphate as SO ₄	mg/l, Max	400	5.0	APHA 23rd Edition (4500-So4 - -E), 2017
ii Nitrate as NO ₃	mg/l, Max	50	0.33	APHA 23rd Edition (4500-NO3 - -E), 2017
iii Electrical Conductivity	µs/cm	-	110	APHA 23rd Edition (2510 B) 2017
iv Fluoride as F	mg/l, Max	1.5	< 0.05	APHA 23rd Edition (4500-F - -D,-C), 2017
v Total Dissolved Solid	mg/l, Max	1500	96	APHA 23rd Edition (2540 C), 2017
vi Calcium as Ca	mg/l, Max	-	24	APHA 23rd Edition (3500-Ca-B), 2017
vii Magnesium as Mg	mg/l, Max	-	5.83	APHA 23rd Edition (3500-Mg-B), 2017
viii Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B- B), 2017
ix Dissolved Oxygen	mg/l, Max	4.0	6.1	APHA 23rd Edition(4500-O-C), 2017
x Biochemical Oxygen Demand(For 3 days 27deg C)	mg/l, Max	--	2.9	APHA 23rd Edition 2012(5210 B), 2017
xi Total Hardness as CaCO ₃	mg/l, Max	--	84	APHA 23rd Edition (2340 C), 2017
xii Chloride (as Cl)	mg/l, Max	600	20	IS 3025 (Part 32):1988, RA 2009
xiii Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
xiv Iron (as Fe)	mg/l, Max	50	5.22	APHA-23rd Edition (3500-Fe-B , 3111 B) 2017
xv Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
xvi Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
xvii Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xviii Free Ammonia (as NH ₃)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
xix Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 B) 2017
xx Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
xxi Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2005
xxii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440

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KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1458 | 3245B37KLPL/10/19/WATER/01679



Parameters	Unit	Requirement	Result	Test Method
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.00003	--
xxvi SODIUM ABSORPTION RATIO	--	--	0.14	--
xxvii barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTISIDE	mg/l	--	< 0.0001	USEPA

PHYSICAL PARAMETER

i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.4	APHA 23rd Edition (4500-H+-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 6): 1984, RA 2006

RADIOACTIVITY SUBSTANCES

i Alpha-Emitters	uCi/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Beta-Emitters	uCi/mL	0.01	BDL	IS 14194 (PART-2):2013

TOXIC SUBSTANCES

i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27) :1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1986 RA 2009

Remarks : nil

Any unusual feature observed during determination : nil

***** End of Test Report *****

Digambar Anubha
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70431900002872F

Test Report No : 1459 | 3246B38KLPL/10/19/WATER/01680 **Issue Date** : 08-Nov-2019

Reference : 6600011158 DTD- 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 31-Oct-2019 **Test Commenced On** : 31-Oct-2019 **Test Completion On**: 07-Nov-2019

Sample Description : **SURFACE WATER**

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : **SURFACE WATER** **Sampling Date** : 30-Oct-2019

Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA

Received Quantity : 1LTR X 1 **Place of Collection** : VAMSADHARA RIVER NEAR CHHATRAPUR CULVERT(DOWNSTREAM)

Sample Collected By : By KLPL

Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
i Total Coliforms	MPN/100ml.	5000	34	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
i Silver (as Ag)	mg/l	--	< 0.01	--
ii Sulphate as SO4	mg/l, Max	400	4.0	APHA 23rd Edition (4500-So42 - -E), 2017
iii Nitrate as NO3	mg/l, Max	50	0.40	APHA 23rd Edition (4500-NO3 - -E), 2017
iv Electrical Conductivity	us/cm	-	187	APHA 23rd Edition (2510 B) 2017
v Fluoride as F	mg/l, Max	1.5	0.11	APHA 23rd Edition (4500-F - -D,-C), 2017
vi Total Dissolved Solid	mg/l, Max	1500	140	APHA 23rd Edition (2540 C), 2017
vii Calcium as Ca	mg/l, Max	-	20.8	APHA 23rd Edition (3500-Ca-B), 2017
viii Magnesium as Mg	mg/l, Max	-	6.80	APHA 23rd Edition (3500-Mg-B), 2017
ix Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B- B), 2017
x Dissolved Oxygen	mg/l, Max	4.0	6.3	APHA 23rd Edition(4500-O-C), 2017
xi Biochemical Oxygen Demand(For 3 days 27deg C)	mg/l, Max	--	2.7	APHA 23rd Edition 2012(5210 B), 2017
xii Total Hardness as CaCO3	mg/l, Max	--	80	APHA 23rd Edition (2340 C), 2017
xiii Chloride (as Cl)	mg/l, Max	600	18	IS 3025 (Part 32):1988, RA 2009
xiv Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
xv Iron (as Fe)	mg/l, Max	50	5.35	APHA-23rd Edition (3500-Fe-B , 3111 B) 2017
xvi Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
xvii Selenium (as Se)	mg/l. Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
xviii Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xix Free Ammonia (as NH3)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
xx Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 B) 2017
xxi Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
xxii Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2005

1459 | 3246B38

KLPL-338129A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1459 | 3246B38KLPL/10/19/WATER/01680



Parameters	Unit	Requirement	Result	Test Method
xxiii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0018	--
xxvi SODIUM ABSORPTION RATIO	--	--	0.87	--
xxvii barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTICIDE	mg/l	--	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.5	APHA 23rd Edition (4500-H+-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 6): 1984, RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	uC/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Beta-Emitters	uC/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27) :1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Jaiswal
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000002875F

Test Report No : 1462 | 3249B3BKPL/10/19/WATER/O1683 **Issue Date** : 08-Nov-2019

Reference : 6600011158 DTD- 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 31-Oct-2019 **Test Commenced On** : 31-Oct-2019 **Test Completion On**: 07-Nov-2019

Sample Description : SURFACE WATER

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : SURFACE WATER **Sampling Date** : 30-Oct-2019

Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA

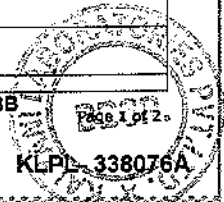
Received Quantity : 1LTR X 2 **Place of Collection** :TURINALA NEAR RAGHUNATHPUR DT-30.10.2019

Sample Collected By : By KLPL

Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
i Total Coliforms	MPN/100ml.	5000	90	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
i Chloride as Cl	mg/l, Max	600	26	APHA 23rd Edition (4500-Cl - -B), 2017
ii Sulphate as SO4	mg/l, Max	400	5.0	APHA 23rd Edition (4500-So42 - -E), 2017
iii Nitrate as NO3	mg/l, Max	50	0.45	APHA 23rd Edition (4500-NO3 - -E), 2017
iv Electrical Conductivity	µs/cm	-	136	APHA 23rd Edition (2510 B) 2017
v Fluoride as F	mg/l, Max	1.5	0.12	APHA 23rd Edition (4500-F - -D,-C), 2017
vi Total Dissolved Solid	mg/l, Max	1500	130	APHA 23rd Edition (2540 C), 2017
vii Calcium as Ca	mg/l, Max	-	32	APHA 23rd Edition (3500-Ca-B), 2017
viii Magnesium as Mg	mg/l, Max	-	5.83	APHA 23rd Edition (3500-Mg-B), 2017
ix Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B- B), 2017
x Dissolved Oxygen	mg/l, Min	4.0	6.9	APHA 23rd Edition(4500-O-C), 2017
xi Biochemical Oxygen Demand(For 3 days 27deg C)	mg/l, Max	--	2.0	APHA 23rd Edition 2012(5210 B), 2017
xii Total Hardness as CaCO3	mg/l, Max	--	104	APHA 23rd Edition (2340 C), 2017
xiii Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
xiv Iron (as Fe)	mg/l, Max	50	0.61	APHA-23rd Edition (3500-Fe-B , 3111 B) 2017
xv Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
xvi Selenium (as Se)	mg/l. Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
xvii Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xviii Free Ammonia (as NH3)	mg/l, Max	--	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
xix Oil & Grease	mg/l, Max	-	< 0.025	APHA-23rd Edition (5520 B) 2017
xx Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
xxi Anionic Surface Active Agents (as MBAS)	mg/l	-	< 0.1	Annex K of IS 13428:2005
xxii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440

1462 | 3249B3B



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KLPL-338076A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1462 | 3249B3BKPL/11/19/WATER/01683



Parameters	Unit	Requirement	Result	Test Method
xxiii Silver (as Ag)	mg/l	-	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	-	0.0011	--
xxvi SODIUM ABSORPTION RATIO	--	--	0.47	--
xxvii barium	mg/l	-	< 0.2	--
xxviii TOTAL PESTISIDE	mg/l	-	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.3	APHA 23rd Edition (4500-H+-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	uC/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Beta-Emitters	uC/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27) :1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000002876F

Test Report No : 1463 | 3250B3CKLPL/10/19/WATER/01684

Issue Date : 08-Nov-2019

Reference : 6600011158 DTD- 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 31-Oct-2019 **Test Commenced On** : 31-Oct-2019

Test Completion On : 07-Nov-2019

Sample Description : SURFACE WATER

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : SURFACE WATER

Sampling Date : 30-Oct-2019

Batch No , Lot No : NA

MFG Date : NA

EXP Date : NA

Received Quantity : 1LTR X 1

Place of Collection : POND NEAR HAREKRUSHNAPUR

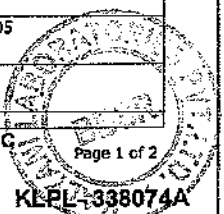
Sample Collected By : By KLPL

Ref.To Sampling Procedure : KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
i Total Coliforms	MPN/100ml.	5000	110	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
i Chloride as Cl	mg/l, Max	600	18	APHA 23rd Edition (4500-Cl - -B), 2017
ii Sulphate as SO4	mg/l, Max	400	3.0	APHA 23rd Edition (4500-SO42 - -E), 2017
iii Nitrate as NO3	mg/l, Max	50	0.3	APHA 23rd Edition (4500-NO3 - -E), 2017
iv Electrical Conductivity	µs/cm	-	120	APHA 23rd Edition (2510 B) 2017
v Fluoride as F	mg/l, Max	1.5	0.14	APHA 23rd Edition (4500-F - -D,-C), 2017
vi Total Dissolved Solid	mg/l, Max	1500	110	APHA 23rd Edition (2540 C), 2017
vii Calcium as Ca	mg/l, Max	-	16	APHA 23rd Edition (3500-Ca-B), 2017
viii Magnesium as Mg	mg/l, Max	-	12.64	APHA 23rd Edition (3500-Mg-B), 2017
ix Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B- B), 2017
x Dissolved Oxygen	mg/l, Min	4.0	7.0	APHA 23rd Edition(4500-O-C), 2017
xi Biochemical Oxygen Demand(For 3 days 27deg C)	mg/l, Max	--	< 1.0	APHA 23rd Edition 2012(5210 B), 2017
xii Total Hardness as CaCO3	mg/l, Max	--	92	APHA 23rd Edition (2340 C), 2017
xiii Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
xiv Iron (as Fe)	mg/l, Max	50	1.35	APHA-23rd Edition (3500-Fe-B , 3111 B) 2017
xv Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
xvi Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
xvii Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xviii Free Ammonia (as NH3)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
xix Oil & Grease	mg/l, Max	-	< 0.025	APHA-23rd Edition (5520 B) 2017
xx Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
xxi Anionic Surface Active Agents (as MBAS)	mg/l	-	< 0.1	Annex K of IS 13428:2005
xxii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440

1463 | 3250B3C

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KLPL-338074A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1463 | 3250B3CKLPL/11/19/WATER/01684



Parameters	Unit	Requirement	Result	Test Method
xxiii Silver (as Ag)	mg/l	-	< 0.01	-
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	-	0.0009	-
xxvi SODIUM ABSORPTION RATIO	--	--	0.41	-
xxvii barium	mg/l	-	< 0.2	-
xxviii TOTAL PESTISIDE	mg/l	-	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.1	APHA 23rd Edition (4500-H+-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	uC/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Beta-Emitters	uC/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27) :1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Pooja Nayak
8/11/2019

Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70431900002855P

Test Report No : 1444 | 3223B27KLPL/10/19/WATER/01657 **Issue Date** : 07-Nov-2019

Reference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027

Date of receipt : 31-Oct-2019 **Test Commenced On** : 31-Oct-2019 **Test Completion On**: 07-Nov-2019

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : GROUND WATER

Sampling Date : 30-Oct-2019

Batch No, Lot No : NA

MFG Date : NA-

EXP Date : NA

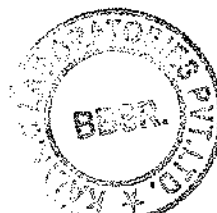
Received Quantity : 1LTR X 2

Place of Collection : OBSERVATION BOREWELL RED MUD POND(WEST)

Sample Collected By : By KLPL

Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
i Total alkalinity (as CaCO ₃),	mg/l, Max	200	192	IS 3025 (Part 23):1986 RA 2009
ii Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
iii Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
iv Total hardness (as CaCO ₃),	mg/l, Max	200	196	IS 3025 (Part 21):2009
v Zinc (as Zn)	mg/l, Max	5	0.047	IS 3025 (Part 49):1994 RA 2009
PHYSICAL PARAMETER				
i Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii pH value	---	6.5-8.5	6.74	IS 3025 (Part-11):1983, RA 2012
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



1444 | 3223B27



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101. ODISHA

Kalyani Laboratories

Test Report No : **1444 | 3223B27KLPL/10/19/WATER/01657**



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Arulcha
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70431900002856P

Test Report No : 1445 | 3224B28KLPL/10/19/WATER/01658 **Issue Date** : 07-Nov-2019

Reference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO - LANJIGARH, DIST. - KALAHANDI, ODISHA-766027.

Date of receipt : 31-Oct-2019 **Test Commenced On** : 31-Oct-2019 **Test Completion On**: 07-Nov-2019

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : GROUND WATER

Sampling Date : 30-Oct-2019

Batch No , Lot No : NA

MFG Date : NA

EXP Date : NA

Received Quantity : 1LTR X 2

Place of Collection : OBSERVATION BORE WELL RED MOD POND
BASANTAPADA SIDE(EAST)

Sample Collected By : By KLPL

Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
i Total alkalinity (as CaCO ₃),	mg/l, Max	200	156	IS 3025 (Part 23):1986 RA 2009
ii Total hardness (as CaCO ₃),	mg/l, Max	200	112	IS 3025 (Part 21):2009
iii Zinc (as Zn)	mg/l, Max	5	0.019	IS 3025 (Part 49):1994 RA 2009
iv Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
i Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii pH value	---	6.5-8.5	6.5	IS 3025 (Part-11):1983, RA 2012
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



1445 | 3224B28



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Kalyani Laboratories

Test Report No : 1445 | 3224B28KLPL/10/19/WATER/01658



Parameters	Unit	Requirement	Result	Test Method
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Remarks : nil

Any unusual feature observed during determination : nil

***** End of Test Report *****

Digambar Aroutaha
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101. ODISHA

TEST REPORT



NABL ULR NO : TC704319000002857P

Test Report No : 1446 | 3225B29KLPL/10/19/WATER/01659 **Issue Date** : 07-Nov-2019
Reference : 6600011158 / 11.12.2018
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 31-Oct-2019 **Test Commenced On** : 31-Oct-2019 **Test Completion On**: 07-Nov-2019
Sample Description : **DRINKING WATER (IS 10500:2012)**

Sample Condition : SEALED IN 1LTR PET BOTTLE
Sample Identification * : **GROUND WATER** **Sampling Date** : 30-Oct-2019
Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA
Received Quantity : 1LTR X 2 **Place of Collection** : OBSERVATION BOREWELL RED MUD POND MATERIAL GATE SIDE(NORTH)
Sample Collected By : By KLPL
Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
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CHEMICAL PARAMETER				
i	Total alkalinity (as CaCO ₃),	mg/l, Max	200	168 IS 3025 (Part 23):1986 RA 2009
ii	Total hardness (as CaCO ₃),	mg/l, Max	200	144 IS 3025 (Part 21):2009
iii	Zinc (as Zn)	mg/l, Max	5	0.021 IS 3025 (Part 49):1994 RA 2009
iv	Total Chromium	mg/l, Max	0.05	< 0.02 IS 3025 (PART 52): 2003 RA 2009
v	Aluminum (as Al)	mg/l, Max	0.03	< 0.02 IS 3025 (PART 55):2003 RA 2009

PHYSICAL PARAMETER				
i	Colour	Hazen, Max	5	< 1.0 IS 3025 (Part 4):1983 RA 2012
ii	Odour	---	Agreeable	AGREEABLE IS 3025 (Part 5):1983 RA 2012
iii	pH value	---	6.5-8.5	6.6 IS 3025 (Part-11):1983, RA 2012
iv	Taste	---	Agreeable	AGREEABLE IS 3025 (Parts 8):1984 RA 2006

RADIOACTIVITY SUBSTANCES				
i	Alpha-Emitters	Bq/l, Max	0.1	< 0.004 IS 14194 (Part-2):2013
ii	Beta-Emitters	Bq/l, Max	1.0	< 0.02 IS 14194 (Part-1):2013

TOXIC SUBSTANCES				
i	Cyanide (as CN)	mg/l, Max	0.05	< 0.01 IS 3025 (Part 27):1986 RA 2009
ii	Lead (as Pb)	mg/l, Max	0.01	< 0.005 IS 3025 (Part 47):1994 RA 2009
iii	Mercury (as Hg)	mg/l, Max	0.001	< 0.0005 IS 3025 (Part 48):1994 RA 2009
iv	Total arsenic (as As)	mg/l, Max	0.01	< 0.001 IS 3025 (Part 37):1988 RA 2009
v	Nickel (as Ni)	mg/l, Max	0.02	< 0.01 IS 3025 (Part 54): 2003 RA 2009
vi	Cadmium (as Cd)	mg/l, Max	0.003	< 0.001 IS 3025 (Part 41):1992 RA 2009



1446 | 3225B29



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1446 | 3225B29KLPL/10/19/WATER/01659



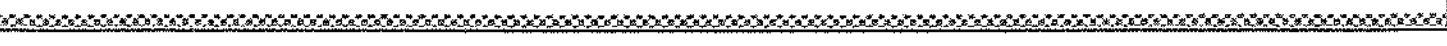
Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Ananta
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000002858P

Test Report No : 1447 | 3226B2AKLPL/10/19/WATER/01660

Issue Date : 07-Nov-2019

Reference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 31-Oct-2019 **Test Commenced On** : 31-Oct-2019 **Test Completion On**: 07-Nov-2019

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : GROUND WATER

Sampling Date : 30-Oct-2019

Batch No , Lot No : NA

MFG Date : -

EXP Date : NA

Received Quantity : 1LTR X 2

Place of Collection : OBSERVATION BORE WELL RED MOD POND RENGOPALI SIDE(SOUTH)

Sample Collected By : By KLPL

Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
i Total alkalinity (as CaCO ₃),	mg/l, Max	200	173	IS 3025 (Part 23):1986 RA 2009
ii Total hardness (as CaCO ₃),	mg/l, Max	200	156	IS 3025 (Part 21):2009
iii Zinc (as Zn)	mg/l, Max	5	0.024	IS 3025 (Part 49):1994 RA 2009
iv Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
I Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii Odour	---	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii pH value	---	6.5-8.5	6.7	IS 3025 (Part-11):1983, RA 2012
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
I Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
II Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



1447 | 3226B2A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1447 | 3226B2AKLPL/10/19/WATER/01660



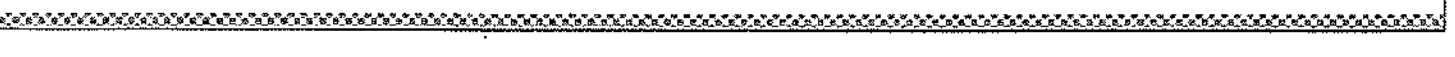
Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

D. G. Jambor Anilika
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000002859P

Test Report No : 1448 | 3227B2BKPL/10/19/WATER/01661 **Issue Date** : 07-Nov-2019

Reference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 31-Oct-2019 **Test Commenced On** : 31-Oct-2019 **Test Completion On**: 07-Nov-2019

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : GROUND WATER

Sampling Date : 30-Oct-2019

Batch No , Lot No : NA

MFG Date : NA

EXP Date : NA

Received Quantity : 1LTR X 2

Place of Collection : OBSERVATION BORE WELL PROCESS WATER LAKE (NORTH)

Sample Collected By : By KLPL

Ref. To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
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CHEMICAL PARAMETER

i	Total alkalinity (as CaCO ₃),	mg/l, Max	200	79	IS 3025 (Part 23):1986 RA 2009
ii	Total hardness (as CaCO ₃),	mg/l, Max	200	56	IS 3025 (Part 21):2009
iii	Zinc (as Zn)	mg/l, Max	5	0.014	IS 3025 (Part 49):1994 RA 2009
iv	Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v	Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009

PHYSICAL PARAMETER

i	Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii	Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii	pH value	---	6.5-8.5	6.5	IS 3025 (Part-11):1983, RA 2012
iv	Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006

RADIOACTIVITY SUBSTANCES

i	Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii	Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013

TOXIC SUBSTANCES

i	Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii	Cyanide (as CN)	mg/l, Max	0.05	< 0.001	IS 3025 (Part 27):1986 RA 2009
iii	Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv	Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v	Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi	Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



1448 | 3227B2B

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KLPL- 338172A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1448 | 3227B2BKLPL/10/19/WATER/01661



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Anuraha
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70431900002860P

Test Report No : 1449 | 3228B2CKLPL/10/19/WATER/01662 **Issue Date** : 07-Nov-2019

Reference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 31-Oct-2019 **Test Commenced On** : 31-Oct-2019 **Test Completion On**: 07-Nov-2019

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : GROUND WATER **Sampling Date** : 30-Oct-2019

Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA

Received Quantity : 1LTR X 2 **Place of Collection** : OBSERVATION BOREWELL PROCESS WATER LAKE (EAST)

Sample Collected By : By KLPL

Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
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CHEMICAL PARAMETER

i	Total alkalinity (as CaCO ₃),	mg/l, Max	200	113	IS 3025 (Part 23):1986 RA 2009
ii	Total hardness (as CaCO ₃),	mg/l, Max	200	92	IS 3025 (Part 21):2009
iii	Zinc (as Zn)	mg/l, Max	5	0.017	IS 3025 (Part 49):1994 RA 2009
iv	Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v	Aluminium (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009

PHYSICAL PARAMETER

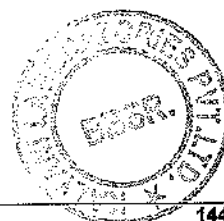
i	Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii	Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii	pH value	---	6.5-8.5	6.7	IS 3025 (Part-11):1983, RA 2012
iv	Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006

RADIOACTIVITY SUBSTANCES

i	Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii	Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013

TOXIC SUBSTANCES

i	Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii	Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii	Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv	Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v	Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi	Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



1449 | 3228B2C

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KLPL- 338170A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101. ODISHA

Test Report No : 1449 | 3228B2CKLPL/10/19/WATER/01662



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

D. Sankar Ananta
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000002861P

Test Report No : 1450 | 3229B2DKLPL/10/19/WATER/01663 **Issue Date** : 07-Nov-2019

Reference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 31-Oct-2019 **Test Commenced On** : 31-Oct-2019 **Test Completion On**: 07-Nov-2019

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : GROUND WATER **Sampling Date** : 30-Oct-2019

Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA

Received Quantity : 1LTR X 2 **Place of Collection** : OBSERVATION BORE WELL ASHPOND KASIBADI SIDE (WEST)

Sample Collected By : By KLPL

Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
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CHEMICAL PARAMETER

i	Total alkalinity (as CaCO3),	mg/l, Max	200	166	IS 3025 (Part 23):1986 RA 2009
ii	Total hardness (as CaCO3),	mg/l, Max	200	96	IS 3025 (Part 21):2009
iii	Zinc (as Zn)	mg/l, Max	5	0.02	IS 3025 (Part 49):1994 RA 2009
iv	Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v	Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009

PHYSICAL PARAMETER

i	Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii	Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii	pH value	---	6.5-8.5	6.7	IS 3025 (Part-11):1983, RA 2012
iv	Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006

RADIOACTIVITY SUBSTANCES

i	Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii	Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013

TOXIC SUBSTANCES

i	Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii	Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii	Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv	Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v	Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi	Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



1450 | 3229B2D



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101. ODISHA

Kalyani Laboratories

Test Report No : 1450 | 3229B2DKLPL/10/19/WATER/01663



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

D. G. Ambur A. S. A. S. A.
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101. ODISHA

TEST REPORT



NABL ULR NO : TC704319000002862P

Test Report No : 1451 | 3230B2EKLPL/10/19/WATER/01664 **Issue Date** : 07-Nov-2019

Reference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 31-Oct-2019 **Test Commenced On** : 31-Oct-2019 **Test Completion On** : 07-Nov-2019

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : GROUND WATER

Sampling Date : 30-Oct-2019

Batch No , Lot No : NA

MFG Date : NA

EXP Date : NA

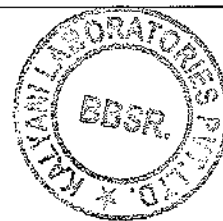
Received Quantity : 1LTR X 2

Place of Collection : OBSERVATION BORE WELL ASHPOND KENDUGUDA SIDE(EAST)

Sample Collected By : By KLPL

Ref.To Sampling Procedure : KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
i Total alkalinity (as CaCO ₃),	mg/l, Max	200	187	IS 3025 (Part 23):1986 RA 2009
ii Total hardness (as CaCO ₃),	mg/l, Max	200	188	IS 3025 (Part 21):2009
iii Zinc (as Zn)	mg/l, Max	5	0.026	IS 3025 (Part 49):1994 RA 2009
iv Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
i Colour	Hezen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii pH value	---	6.5-8.5	7.0	IS 3025 (Part-11):1983, RA 2012
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	<0.0005	IS 3025 (Part 48):1994 RA 2009
v Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



1451 | 3230B2E

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KLPL- 338166A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101. ODISHA

Test Report No : 1451 | 3230B2EKLPL/10/19/WATER/01664



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Aulaha
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000002863P

Test Report No : 1452 | 3231B2FKLPL/10/19/WATER/01665 **Issue Date** : 07-Nov-2019

Reference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 31-Oct-2019 **Test Commenced On** : 31-Oct-2019 **Test Completion On** : 07-Nov-2019

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : GROUND WATER

Sampling Date : 30-Oct-2019

Batch No , Lot No : NA

MFG Date : NA

EXP Date : NA

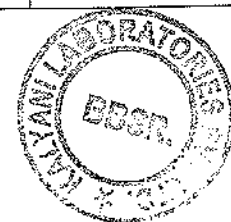
Received Quantity : 1LTR X 2

Place of Collection : OBSERVATION BOREWELL ASHPOND (NORTH)

Sample Collected By : By KLPL

Ref. To Sampling Procedure : KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
i Total alkalinity (as CaCO ₃),	mg/l, Max	200	86	IS 3025 (Part 23):1986 RA 2009
ii Total hardness (as CaCO ₃),	mg/l, Max	200	64	IS 3025 (Part 21):2009
iii Zinc (as Zn)	mg/l, Max	5	0.011	IS 3025 (Part 49):1994 RA 2009
iv Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
i Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii pH value	---	6.5-8.5	6.9	IS 3025 (Part-11):1983, RA 2012
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



1452 | 3231B2F

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KLPL- 338164A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1452 | 3231B2FKLPL/10/19/WATER/01665



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Routah
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000002864P

Test Report No : 1453 | 3232B30KLPL/10/19/WATER/01666 **Issue Date** : 07-Nov-2019

Reference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 31-Oct-2019 **Test Commenced On** : 31-Oct-2019 **Test Completion On** : 07-Nov-2019

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : GROUND WATER

Sampling Date : 30-Oct-2019

Batch No , Lot No : NA

MFG Date : NA

EXP Date : NA

Received Quantity : 1LTR X 2

Place of Collection : OBSERVATION BORE WELL DIRTY WATER POND

Sample Collected By : By Customer

Ref.To Sampling Procedure:

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
i Total alkalinity (as CaCO ₃),	mg/l, Max	200	190	IS 3025 (Part 23):1986 RA 2009
ii Total hardness (as CaCO ₃),	mg/l, Max	200	160	IS 3025 (Part 21):2009
iii Zinc (as Zn)	mg/l, Max	5	0.034	IS 3025 (Part 49):1994 RA 2009
iv Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
i Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii pH value	---	6.5-8.5	7.5	IS 3025 (Part-11):1983, RA 2012
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 0):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



1453 | 3232B30

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KLPL- 338162A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101. ODISHA

Test Report No : 1453 | 3232B30KLPL/10/19/WATER/01666



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Acharya
 Authorized Signatory
 For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003099P
Test Report No : 342 | 3538C1B KLPL/11/19/ENVN/00404A **Issue Date** : 05-Dec-2019
Rereference : 6600011158 / 11.12.2018
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.
Date of receipt : 11-Nov-2019 **Commenced On** : 11-Nov-2019 **Completion On**: 16-Nov-2019

Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 1 NO.
Ref. To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : CHHATRAPUR VILLAGE, 05.11.2019				
Sulphur Dioxide	µg/m ³	80	6.13	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	17.25	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	64.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	43.30	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.49	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.8	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	<10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Anubha
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



C1B30996033

KLPL- 338689A11



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003099P

Test Report No : 342 | 3538C1B KLPL/11/19/ENVN/00404G

Issue Date : 05-Dec-2019

Rerference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.

Date of receipt : 18-Nov-2019

Commenced On : 18-Nov-2019

Completion On: 23-Nov-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : CHHATRAPUR VILLAGE, 12.11.2019				
Sulphur Dioxide	µg/m ³	80	7.20	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	19.25	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	67.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	44.26	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.50	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.9	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	<10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Digambar Anandha
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



C1B30996033

KLPL- 338683A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003099P

Test Report No : 342 | 3538C1B KLPL/11/19/ENVN/00404M

Issue Date : 05-Dec-2019

Rerference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.

Date of receipt : 25-Nov-2019

Commenced On : 25-Nov-2019

Completion On: 30-Nov-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : CHHATRAPUR VILLAGE, 19.11.2019				
Sulphur Dioxide	µg/m ³	80	6.40	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	18.46	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	63.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	46.22	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.51	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.85	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	<10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzo (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Aoulaha
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



C1B30996033
KLPL- 338676A
Page 1 of 1



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003099P

Test Report No : 342 | 3538C1B KLPL/11/19/ENVN/00404S Issue Date : 05-Dec-2019
 Rerefrence : 6600011158 / 11.12.2018
 Customer Name : VEDANTA LIMITED, LANJIGARH
 Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.
 Date of receipt : 02-Dec-2019 Commenced On : 02 Dec 2019 Completion On: 05-Dec-2019

Sample Name : AMBIENT AIR QUALITY MONITORING
 Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
 Quantity : 1 NO.
 Ref.To Sampling Procedure: KLPL/SOP/AIR-05

Parameters	Unit	Standard Value	Results	Test Method
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Location & Date : CHHATRAPUR VILLAGE, 26.11.2019

Sulphur Dioxide	µg/m ³	80	7.16	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	20.27	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	66.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	45.06	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.49	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.95	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	<10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

D. G. Saha
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003099P

Test Report No : 342 | 3538C1B KLPL/11/19/ENVN/00404

Issue Date : 05-Dec-2019

Rereference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.

Date of receipt : 11-Nov-2019

Commenced On : 11-Nov-2019

Completion On: 16-Nov-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : PLANT SITE, 04.11.2019				
Sulphur Dioxide	µg/m ³	80	9.16	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	19.17	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	71.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	46.03	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	1.51	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	12.1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	<10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	5.6	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Arujha
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



C1B30996033

KLPL- 338690A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003099P

Test Report No : 342 | 3538C1B KLPL/11/19/ENVN/00404F

Issue Date : 05-Dec-2019

Rereference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.

Date of receipt : 18-Nov-2019

Commenced On : 18-Nov-2019

Completion On: 23-Nov-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : PLANT SITE, 11.11.2019				
Sulphur Dioxide	µg/m ³	80	10.26	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	21.36	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	73.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	49.12	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	1.52	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01Hrs.)	µg/m ³	180	12.2	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	<10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	5.65	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Ananta
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



C1B30996033

KLPL- 338684A

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KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003099P
Test Report No : 342 | 3538C1B KLPL/11/19/ENVN/00404L **Issue Date** : 05-Dec-2019
Rerefrence : 6600011158 / 11.12.2018
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.
Date of receipt : 25-Nov-2019 **Commenced On** : 25-Nov-2019 **Completion On**: 30-Nov-2019

Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 1 NO.
Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : PLANT SITE, 18.11.2019				
Suiphur Dioxide	µg/m ³	80	8.32	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	20.41	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	74.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	49.12	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	1.51	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01Hrs.)	µg/m ³	180	12.1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	<10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	5.68	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Jyoti
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



C1B30996033

KLPL- 338894A/1



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003099P

Test Report No : 342 | 3538C1B KLPL/11/19/ENVN/00404R Issue Date : 05-Dec-2019
 Rerefrence : 6600011158 / 11.12.2018
 Customer Name : VEDANTA LIMITED, LANJIGARH
 Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.
 Date of receipt : 02-Dec-2019 Commenced On : 02-Dec-2019 Completion On: 05-Dec-2019

Sample Name : AMBIENT AIR QUALITY MONITORING
 Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
 Quantity : 1 NO.
 Ref. To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
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Location & Date : PLANT SITE, 25.11.2019				
Sulphur Dioxide	µg/m ³	80	9.44	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	22.16	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	73.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	47.22	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	1.53	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	12.1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	<10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	5.62	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Jaiswal
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



C1B30996033
 KLPL- 3385B2A of



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003099P

Test Report No : 342 | 3538C1B KLPL/11/19/ENVN/00404D

Issue Date : 05-Dec-2019

Rereference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.

Date of receipt : 11-Nov-2019

Commenced On : 11-Nov-2019

Completion On: 16-Nov-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref. To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : REHABILITATION COLONY, 08.11.219				
Sulphur Dioxide	µg/m ³	80	7.29	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	18.30	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	68.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	44.06	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.78	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01-Hrs.)	µg/m ³	180	5.8	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	<10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Joubhe
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



C1B30996033

KLPL- 338686A

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KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003099P

Test Report No : 342 | 3538C1B KLPL/11/19/ENVN/00404J

Issue Date : 05-Dec-2019

Rereference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.

Date of receipt : 18-Nov-2019

Commenced On : 18-Nov-2019

Completion On : 23-Nov-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : REHABILITATION COLONY, 15.11.219				
Sulphur Dioxide	µg/m ³	80	8.40	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	18.46	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	67.0	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	46.22	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.79	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.9	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	<10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Dreambar Aoulaha
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



C1B30996033

KLPL- 338680A

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KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003099P

Test Report No : 342 | 3538C1B KLPL/11/19/ENVN/00404P

Issue Date : 05-Dec-2019

Rerefrence : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.

Date of receipt : 25-Nov-2019

Commenced On : 25-Nov-2019

Completion On: 30-Nov-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : REHABILITATION COLONY, 22.11.219				
Sulphur Dioxide	µg/m ³	80	6.21	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	16.26	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	65.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	43.49	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.78	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.8	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	<10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Anurupa
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



C1B30996033
KLPL- 338532A
Page 1 of 1



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003099P

Test Report No : 342 | 3538C1B KLPL/11/19/ENVN/00404V

Issue Date : 05-Dec-2019

Rerference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.

Date of receipt : 02-Dec-2019

Commenced On : 02-Dec-2019

Completion On: 05-Dec-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

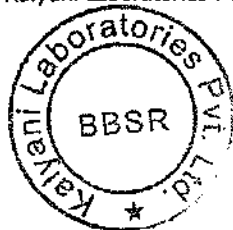
Parameters	Unit	Standard Value	Results	Test Method
Location & Date : REHABILITATION COLONY, 29.11.219				
Sulphur Dioxide	µg/m ³	80	7.24	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	17.0	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	69.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	42.20	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.77	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.9	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	<10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Anilika
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



C1B30996033

KLPL- 338678A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003099P

Test Report No : 342 | 3538C1B KLPL/11/19/ENVN/00404E **Issue Date** : 05-Dec-2019

Reference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.

Date of receipt : 11-Nov 2019 **Commenced On** : 11-Nov-2019 **Completion On**: 16-Nov-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
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Location & Date : BELAMBA VILLAGE, 09.11.2019				
Sulphur Dioxide	µg/m ³	80	6.43	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	16.57	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	63.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	42.20	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.44	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.4	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	<10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

D. G. Sankar Boudha
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003099P

Test Report No : 342 | 3538C1B KLPL/11/19/ENVN/00404K **Issue Date** : 05-Dec-2019

Rerefrence : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.

Date of receipt : 18-Nov-2019 **Commenced On** : 18-Nov-2019 **Completion On**: 23-Nov-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : BELAMBA VILLAGE, 16.11.2019				
Sulphur Dioxide	µg/m ³	80	7.04	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	17.07	IS 5182 (PART 5) :2006
Particulate Matter (PM10)	µg/m ³	100	65.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	43.30	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.45	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.5	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	<10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Di Gombur Anupha
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



C1B30996033

KLPL- 338692A of 1



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003099P

Test Report No : 342 | 3538C1B KLPL/11/19/ENVN/00404Q Issue Date : 05-Dec-2019

Rerefrence : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.

Date of receipt : 25-Nov-2019 Commenced On : 25-Nov-2019 Completion On: 30-Nov-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref. To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : BELAMBA VILLAGE, 23.11.2019				
Sulphur Dioxide	µg/m ³	80	5.20	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	15.32	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	67.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	46.22	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.46	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.4	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	<10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Digambur Das
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



C1B30996033

KLPL- 338583A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003099P

Test Report No : 342 | 3538C1B KLPL/11/19/ENVN/00404W

Issue Date : 05-Dec-2019

Rerefence : 6600011158 / 11.12.2018.

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.

Date of receipt : 02-Dec-2019

Commenced On : 02-Dec-2019

Completion On: 05-Dec-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref. To Sampling Procedure: KLPL/SOP/AIR-06

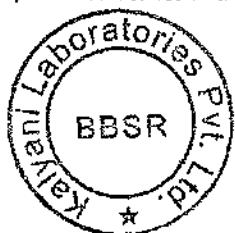
Parameters	Unit	Standard Value	Results	Test Method
Location & Date : BELAMBA VILLAGE, 30.11.2019				
Sulphur Dioxide	µg/m ³	80	7.32	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	16.38	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	68.0	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	41.67	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.47	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.5	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	<10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	05	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Digambar Anusha
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



C1B30996033
KLPL- 338677A
Page 1 of 1



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101. ODISHA

TEST REPORT



NABL ULR NO : TC704319000003099P

Test Report No : 342 | 3538C1B KLPL/11/19/ENVN/00404B **Issue Date** : 05-Dec-2019

Rerefrence : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-756207.

Date of receipt : 11-Nov-2019 **Commenced On** : 11-Nov-2019 **Completion On** : 16-Nov-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref. To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : MID DAY MEAL, 06.11.2019				
Sulphur Dioxide	µg/m ³	80	7.20	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	16.11	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	67.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	42.02	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.67	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.3	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	<10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Anandha
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



C1B30996033
KLPL- 33868A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003099P

Test Report No : 342 | 3538C1B KLPL/11/19/ENVN/00404H

Issue Date : 05-Dec-2019

Rerefrence : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.

Date of receipt : 18-Nov-2019 Commenced On : 18-Nov-2019

Completion On: 23-Nov-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : MID DAY MEAL, 13.11.2019				
Sulphur Dioxide	µg/m ³	80	6.18	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	18.21	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	69.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	45.06	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.68	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.4	CPCB Guidelines of Ambient Air Pollutants volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	<10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

D. G. Sambar
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



C1B30996033
KLPL- 338682A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101. ODISHA

TEST REPORT



NABL ULR NO : TC704319000003099P
Test Report No : 342 | 3538C1B KLPL/11/19/ENVN/00404N **Issue Date** : 05-Dec-2019
Rerefrence : 6600011158 / 11.12.2018
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.
Date of receipt : 25-Nov-2019 **Commenced On** : 25-Nov-2019 **Completion On** : 30-Nov-2019

Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE.ABSORBING SOLUTIONS REFRIGERATED
Quantity : 1 NO.
Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : MID DAY MEAL, 20.11.2019				
Sulphur Dioxide	µg/m ³	80	5.31	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	17.25	IS 5182 (PART 5) :2006
Particulate Matter (PM10)	µg/m ³	100	64.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	47.22	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	0.5	0.67	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01.Hrs.)	µg/m ³	180	3.3	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Anupha
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



C1B30996033

KLPL- 338612A Page 1 of 1



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT

NABL ULR NO : TC704319000003099P



Test Report No : 342 | 3538C1B KLPL/11/19/ENVN/00404T Issue Date : 05-Dec-2019
 Rerefrence : 6600011158 / 11.12.2018
 Customer Name : VEDANTA LIMITED, LANJIGARH
 Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.
 Date of receipt : 02-Dec-2019 Commenced On : 02-Dec-2019 Completion On: 05-Dec-2019

Sample Name : AMBIENT AIR QUALITY MONITORING
 Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
 Quantity : 1 NO.
 Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : MID DAY MEAL, 27.11.2019				
Sulphur Dioxide	µg/m ³	80	6.21	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	18.29	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	65.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	43.30	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.68	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.4	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	<10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidellnes of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (NI)	µg/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Adulata
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



C1B30996033

KLPL- 338580A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003099P

Test Report No : 342 | 3538C1B KLPL/11/19/ENVN/00404C **Issue Date** : 05-Dec-2019

Rerefrence : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766207.

Date of receipt : 11-Nov-2019 **Commenced On** : 11-Nov-2019 **Completion On**: 16-Nov-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : LANJIGARH VILLAGE, 07.11.2019				
Sulphur Dioxide	µg/m ³	80	8.19	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	20.31	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	72.0	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	47.02	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.50	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01-Hrs.)	µg/m ³	180	6.3	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	<10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Anilaha
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



C1B30996033

KLPL- 338687A of 1



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101. ODISHA

TEST REPORT



NABL ULR NO : TC704319000003099P

Test Report No : 342 | 3538C1B KLPL/11/19/ENVN/00404I

Issue Date : 05-Dec-2019

Rereference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766207.

Date of receipt : 18-Nov-2019

Commenced On : 18-Nov-2019

Completion On : 23-Nov-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref. To Sampling Procedure : KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : LANJIGARH VILLAGE, 14.11.2019				
Sulphur Dioxide	µg/m ³	80	9.19	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	21.32	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	70.0	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	48.26	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.51	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01.Hrs.)	µg/m ³	180	6.4	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	<10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Anurtha
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



C1B30996033

KLPL- 338681A

Page 1 of 1



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003099P

Test Report No : 342 | 3538C1B KLPL/11/19/ENVN/004040

Issue Date : 05-Dec-2019

Rerefrence : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.

Date of receipt : 25-Nov-2019

Commenced On : 25-Nov-2019

Completion On: 30-Nov-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : LANJIGARH VILLAGE, 21.11.2019				
Sulphur Dioxide	µg/m ³	80	8.21	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	21.36	IS 5182 (PART 5) :2006
Particulate Matter (PM10)	µg/m ³	100	73.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	48.47	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.51	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	6.35	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	<10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (NI)	µg/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Anubha
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



C1B30996033

KLPL- 338674A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003099P

Test Report No : 342 | 3538C1B KLPL/11/19/ENVN/00404U

Issue Date : 05-Dec-2019

Reference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.

Date of receipt : 02-Dec-2019

Commenced On : 02-Dec-2019

Completion On: 05-Dec-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref. To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : LANJIGARH VILLAGE, 28.11.2019				
Sulphur Dioxide	µg/m ³	80	9.27	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	22.34	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	75.0	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	50.0	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.53	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	6.45	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	<10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Signature
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003132F

Test Report No : 1595 | 3510C3CKLPL/11/19/WATER/01840 **Issue Date** : 06-Dec-2019

Reference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 29-Nov-2019 **Test Commenced On** : 29-Nov-2019 **Test Completion On**: 05-Dec-2019

Sample Description : SURFACE WATER

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : SURFACE WATER

Sampling Date : 28-Nov-2019

Batch No , Lot No : NA

MFG Date : NA

EXP Date : NA

Received Quantity : 1LTR X 1

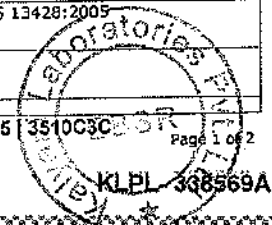
Place of Collection : TURI NALA NEAR RAGHUNATHPUR DT-28.11.2019

Sample Collected By : By KLPL

Ref. To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
i Total Coliforms	MPN/100ml.	5000	80	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
i Chloride as Cl	mg/l, Max	600	6	APHA 23rd Edition (4500-Cl - -B), 2017
ii Sulphate as SO4	mg/l, Max	400	3	APHA 23rd Edition (4500-So42 - -E), 2017
iii Nitrate as NO3	mg/l, Max	50	0.38	APHA 23rd Edition (4500-NO3 - -E), 2017
iv Electrical Conductivity	µs/cm	-	99	APHA 23rd Edition (2510 B) 2017
v Fluoride as F	mg/l, Max	1.5	0.09	APHA 23rd Edition (4500-F - -D,-C), 2017
vi Total Dissolved Solid	mg/l, Max	1500	82	APHA 23rd Edition (2540 C), 2017
vii Calcium as Ca	mg/l, Max	-	17.6	APHA 23rd Edition (3500-Ca-B), 2017
viii Magnesium as Mg	mg/l, Max	-	1.94	APHA 23rd Edition (3500-Mg-B), 2017
ix Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B- B), 2017
x Dissolved Oxygen	mg/l, Min	4.0	7.3	APHA 23rd Edition(4500-O-C), 2017
xi Biochemical Oxygen Demand(For 3 days 27deg C)	mg/l, Max	--	1	APHA 23rd Edition 2012(5210 B), 2017
xii Total Hardness as CaCO3	mg/l, Max	--	52	APHA 23rd Edition (2340 C), 2017
xiii Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
xiv Iron (as Fe)	mg/l, Max	50	0.55	APHA-23rd Edition (3500-Fe-B , 3111 B) 2017
xv Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
xvi Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
xvii Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xviii Free Ammonia (as NH3)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
xix Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 B) 2017
xx Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
xxi Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2005
xxii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440

1595 | 3510C3CKLPL
Page 1 of 2
KLPL 368569A





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1595 | 3510C3CKLPL/11/19/WATER/01840



Parameters	Unit	Requirement	Result	Test Method
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0013	--
xxvi SODIUM ABSORPTION RATIO	--	--	0.78	--
xxvii barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTISIDE	µg/l	--	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.3	APHA 23rd Edition (4500-H+-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	µC/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Beta-Emitters	µC/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27) :1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : nil

Any unusual feature observed during determination : nil

***** End of Test Report *****

Digambar Anuraha

Authorized Signatory
For Kalyani Laboratories Pvt. Ltd



TEST REPORT

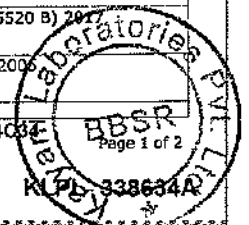


NABL ULR NO : TC704319000003124F

Test Report No : 1589 | 3504C34KLPL/11/19/WATER/01B34 **Issue Date** : 06-Dec-2019
Reference : 5600011158 / 11.12.2018
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 29-Nov-2019 **Test Commenced On** : 29-Nov-2019 **Test Completion On**: 05-Dec-2019
Sample Description : **SURFACE WATER**

Sample Condition : SEALED IN 1LTR PET BOTTLE
Sample Identification * : **SURFACE WATER** **Sampling Date** : 28-Nov-2019
Batch No, Lot No : NA **MFG Date** : NA **EXP Date** : NA
Received Quantity : 1LTR X 2 **Place of Collection** : STREAM NEAR TENTULIPADAR DT-28.11.2019
Sample Collected By : By KLPL
Ref. To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
i Total Coliforms	MPN/100ml.	5000	33	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
i Chloride as Cl	mg/l, Max	600	8	APHA 23rd Edition (4500-Cl - -B), 2017
ii Sulphate as SO4	mg/l, Max	400	1	APHA 23rd Edition (4500-So42 - -E), 2017
iii Nitrate as NO3	mg/l, Max	50	0.1	APHA 23rd Edition (4500-NO3 - -E), 2017
iv Electrical Conductivity	µs/cm	-	44	APHA 23rd Edition (2510 B) 2017
v Fluoride as F	mg/l, Max	1.5	0.07	APHA 23rd Edition (4500-F - -D,-C), 2017
vi Total Dissolved Solid	mg/l, Max	1500	40	APHA 23rd Edition (2540 C), 2017
vii Calcium as Ca	mg/l, Max	-	9.6	APHA 23rd Edition (3500-Ca-B), 2017
viii Magnesium as Mg	mg/l, Max	-	2.92	APHA 23rd Edition (3500-Mg-B), 2017
ix Dissolved Oxygen	mg/l, Min	4.0	6.3	APHA 23rd Edition(4500-O-C), 2017
x Biochemical Oxygen Demand(For 3 days 27deg C)	mg/l, Max	--	2	APHA 23rd Edition 2012(5210 B), 2017
xi Total Hardness as CaCO3	mg/l, Max	--	36	APHA 23rd Edition (2340 C), 2017
xii Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
xiii Iron (as Fe)	mg/l, Max	50	0.08	APHA-23rd Edition (3500-Fe-B, 3111 B) 2017
xiv Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
xv Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
xvi Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
xvii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440
xviii Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B- B), 2017
xix Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xx Free Ammonia (as NH3)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
xxi Oil & Grease	mg/l, Max	--	< 0	APHA-23rd Edition (5520 B) 2017
xxii Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.025	Annex K of IS 13428:2009





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101. ODISHA

Test Report No

1589 | 3504C34KLPL/11/19/WATER/01834



Parameters	Unit	Requirement	Result	Test Method
xxlii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0007	--
xxvi SODIUM ABSORPTION RATIO	--	--	0.51	--
xxvii barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTISIDE	µg/l	--	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.6	APHA 23rd Edition (4500-H+-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	µC/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Beta-Emitters	µC/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
ii Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
iii Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009
iv Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
v Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
vi Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009

Remarks : nil

Any unusual feature observed during determination : nil

***** End of Test Report *****

Digambar Das

Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003125F

Test Report No : 1590 | 3505C35KLPL/11/19/WATER/01835 **Issue Date** : 06-Dec-2019

Reference : 6500011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 29-Nov-2019 **Test Commenced On** : 29-Nov-2019 **Test Completion On**: 05-Dec-2019

Sample Description : SURFACE WATER

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : SURFACE WATER

Sampling Date : 28-Nov-2019

Batch No , Lot No : NA

MFG Date : NA

EXP Date : NA

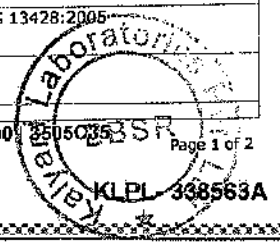
Received Quantity : 1LTR X 1

Place of Collection : STREAM NEAR KENDUBADI DT-28.11.2019

Sample Collected By : By KLPL

Ref. To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
i Total Coliforms	MPN/100ml.	5000	40	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
i Chloride as Cl	mg/l, Max	600	14	APHA 23rd Edition (4500-Cl - -B), 2017
ii Sulphate as SO4	mg/l, Max	400	< 1.0	APHA 23rd Edition (4500-SO42 - -E), 2017
iii Nitrate as NO3	mg/l, Max	50	0.05	APHA 23rd Edition (4500-NO3 - -E), 2017
iv Electrical Conductivity	us/cm	-	29	APHA 23rd Edition (2510 B) 2017
v Fluoride as F	mg/l, Max	1.5	< 0.05	APHA 23rd Edition (4500-F - -D,-C), 2017
vi Total Dissolved Solid	mg/l, Max	1500	28	APHA 23rd Edition (2540 C), 2017
vii Calcium as Ca	mg/l, Max	-	6.4	APHA 23rd Edition (3500-Ca-B), 2017
viii Magnesium as Mg	mg/l, Max	-	2.92	APHA 23rd Edition (3500-Mg-B), 2017
ix Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B- B), 2017
x Dissolved Oxygen	mg/l, Min	4.0	6.5	APHA 23rd Edition(4500-O-C), 2017
xi Biochemical Oxygen Demand(For 3 days 27deg C)	mg/l, Max	--	3	APHA 23rd Edition 2012(5210 B), 2017
xii Total Hardness as CaCO3	mg/l, Max	--	28	APHA 23rd Edition (2340 C), 2017
xiii Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
xiv Iron (as Fe)	mg/l, Max	50	0.06	APHA-23rd Edition (3500-Fe-B , 3111 B) 2017
xv Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
xvi Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
xvii Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xviii Free Ammonia (as NH3)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
xix Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 B) 2017
xx Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
xxi Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2005
xxii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1590 | 3505C35KLPL/11/19/WATER/01835



Parameters	Unit	Requirement	Result	Test Method
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0005	--
xxvi SODIUM ABSORPTION RATIO	--	--	0.41	--
xxvii barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTISIDE	µg/l	--	< 0.0001	USEPA

PHYSICAL PARAMETER

i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.9	APHA 23rd Edition (4500-H+-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006

RADIOACTIVITY SUBSTANCES

i Alpha-Emitters	uCi/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Beta-Emitters	uCi/mL	0.01	BDL	IS 14194 (PART-2):2013

TOXIC SUBSTANCES

i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27) :1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : nil

Any unusual feature observed during determination : nil

***** End of Test Report *****

Digambar Anilata

Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003128F

Test Report No : 1593 | 3508C38KLPL/11/19/WATER/01838 **Issue Date** : 06-Dec-2019

Reference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 29-Nov-2019 **Test Commenced On** : 29-Nov-2019 **Test Completion On** : 05-Dec-2019

Sample Description : **SURFACE WATER**

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : **SURFACE WATER**

Sampling Date : 28-Nov-2019

Batch No , Lot No : NA

MFG Date : NA

EXP Date : NA

Received Quantity : 1LTR X 1

Place of Collection : VAMSADHARA RIVER NEAR NARAYANPUR
CULVERT(UPSTREAM) DT-28.11.2019

Sample Collected By : By KLPL

Ref.To Sampling Procedure : KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
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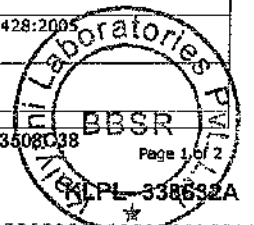
BACTERIOLOGICAL QUALITY

i	Total Coliforms	MPN/100ml.	5000	27	IS: 1622:1981 RA 2009
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CHEMICAL PARAMETER

i	Chloride as Cl	mg/l, Max	500	14	APHA 23rd Edition (4500-Cl --B), 2017
ii	Sulphate as SO4	mg/l, Max	400	4.0	APHA 23rd Edition (4500-So42 --E), 2017
iii	Nitrate as NO3	mg/l, Max	50	0.3	APHA 23rd Edition (4500-NO3 --E), 2017
iv	Electrical Conductivity	µs/cm	-	110	APHA 23rd Edition (2510 B) 2017
v	Fluoride as F	mg/l, Max	1.5	< 0.05	APHA 23rd Edition (4500-F --D,-C), 2017
vi	Total Dissolved Solid	mg/l, Max	1500	86	APHA 23rd Edition (2540 C), 2017
vii	Calcium as Ca	mg/l, Max	-	17.6	APHA 23rd Edition (3500-Ca-B), 2017
viii	Magnesium as Mg	mg/l, Max	-	5.83	APHA 23rd Edition (3500-Mg-B), 2017
ix	Baron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B- B), 2017
x	Dissolved Oxygen	mg/l, Min	4.0	7.7	APHA 23rd Edition(4500-O-C), 2017
xi	Biochemical Oxygen Demand(For 3 days 27deg C)	mg/l, Max	--	2	APHA 23rd Edition 2012(5210 B), 2017
xii	Total Hardness as CaCO3	mg/l, Max	--	68	APHA 23rd Edition (2340 C), 2017
xiii	Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
xiv	Iron (as Fe)	mg/l, Max	50	5.1	APHA-23rd Edition (3500-Fe-B , 3111 B) 2017
xv	Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
xvi	Selenium (as Se)	mg/l, Max	0.01	, 0.01	IS 3025 (Part 56):2003 RA 2009
xvii	Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xviii	Free Ammonia (as NH3)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
xix	Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 B) 2017
xx	Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
xxi	Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2005
xxii	Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440

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KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1593 | 3508C38KLPL/11/19/WATER/01838



Parameters	Unit	Requirement	Result	Test Method
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0015	--
xxvi SODIUM ABSORPTION RATIO	--	--	0.79	--
xxvii barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTISIDE	µg/l	--	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.8	APHA 23rd Edition (4500-H+-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	µC/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Beta-Emitters	µC/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27) :1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : nil

Any unusual feature observed during determination : nil

***** End of Test Report *****

Dipankar Boudha
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003127P

Test Report No : 1592 | 3507C37KLPL/11/19/WATER/01837 Issue Date : 06-Dec-2019

Reference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED,ILANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI,ODISHA-766027.

Date of receipt : 29-Nov-2019 Test Commenced On : 29-Nov-2019 Test Completion On: 05-Dec-2019

Sample Description : SURFACE WATER

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : SURFACE WATER

Sampling Date : 28-Nov-2019

Batch No , Lot No : NA

MFG Date : NA

EXP Date : NA

Received Quantity : 1LTR X 1

Place of Collection :VAMSADHARA RIVER NEAR BALABHADRAPUR DT-28.11.2019

Sample Collected By : By KLPL

Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
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BACTERIOLOGICAL QUALITY

i	Total Coliforms	MPN/100ml.	5000	40	IS: 1622:1981 RA 2009
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CHEMICAL PARAMETER

i	Chloride as Cl	mg/l, Max	600	8	APHA 23rd Edition (4500-Cl - -B), 2017
ii	Sulphate as SO4	mg/l, Max	400	12	APHA 23rd Edition (4500-So42 - -E), 2017
iii	Nitrate as NO3	mg/l, Max	50	0.5	APHA 23rd Edition (4500-NO3 - -E), 2017
iv	Electrical Conductivity	µs/cm	-	118	APHA 23rd Edition (2510 B) 2017
v	Fluoride as F	mg/l, Max	1.5	< 0.05	APHA 23rd Edition (4500-F - -D,-C), 2017
vi	Total Dissolved Solid	mg/l, Max	1500	100	APHA 23rd Edition (2540 C), 2017
vii	Calcium as Ca	mg/l, Max	-	22.4	APHA 23rd Edition (3500-Ca-B), 2017
viii	Magnesium as Mg	mg/l, Max	-	1.94	APHA 23rd Edition (3500-Mg-B), 2017
ix	Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B- B), 2017
x	Dissolved Oxygen	mg/l, Min	4.0	7.1	APHA 23rd Edition(4500-O-C), 2017
xi	Biochemical Oxygen Demand(For 3 days 27deg C)	mg/l, Max	--	3	APHA 23rd Edition 2012(5210 B), 2017
xii	Total Hardness as CaCO3	mg/l, Max	--	64	APHA 23rd Edition (2340 C), 2017
xiii	Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
xiv	Iron (as Fe)	mg/l, Max	50	0.11	APHA-23rd Edition (3500-Fe-B , 3111 B) 2017
xv	Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
xvi	Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
xvii	Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xviii	Free Ammonia (as NH3)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
xix	Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 B) 2017
xx	Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
xxi	Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2005
xxii	Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440

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KLPL- 338633A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No

1592 | 3507C37KLPL/11/19/WATER/01837



Parameters	Unit	Requirement	Result	Test Method
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0014	--
xxvi SODIUM ABSORPTION RATIO	--	--	0.76	--
xxvii barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTISIDE	µg/l	--	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.85	APHA 23rd Edition (4500-H+ -B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	uCi/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Beta-Emitters	uCi/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27) :1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : nil

Any unusual feature observed during determination : nil

***** End of Test Report *****

Digambar Arulaha

Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003126F

Test Report No : 1591 | 3506C36KLPL/11/19/WATER/01836

Issue Date : 06-Dec-2019

Reference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 29-Nov-2019

Test Commenced On : 29-Nov-2019

Test Completion On: 05-Dec-2019

Sample Description : SURFACE WATER

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : SURFACE WATER

Sampling Date : 28-Nov-2019

Batch No , Lot No : NA

MFG Date : NA

EXP Date : NA

Received Quantity : 1LTR X 1

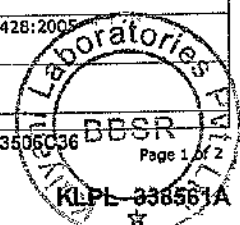
Place of Collection : STREAM NEAR RENGOPALI DT-28.11.2019

Sample Collected By : By KLPL

Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
i Total Coliforms	MPN/100ml.	5000	60	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
i Chloride as Cl	mg/l, Max	600	8	APHA 23rd Edition (4500-Cl - -B), 2017
ii Sulphate as SO4	mg/l, Max	400	< 1.0	APHA 23rd Edition (4500-So42 - -E), 2017
iii Nitrate as NO3	mg/l, Max	50	0.06	APHA 23rd Edition (4500-NO3 - -E), 2017
iv Electrical Conductivity	µs/cm	-	40	APHA 23rd Edition (2510 B) 2017
v Fluoride as F	mg/l, Max	1.5	< 0.05	APHA 23rd Edition (4500-F - -D,-C), 2017
vi Total Dissolved Solid	mg/l, Max	1500	36	APHA 23rd Edition (2540 C), 2017
vii Calcium as Ca	mg/l, Max	-	4.8	APHA 23rd Edition (3500-Ca-B), 2017
viii Magnesium as Mg	mg/l, Max	-	2.92	APHA 23rd Edition (3500-Mg-B), 2017
ix Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B- B), 2017
x Dissolved Oxygen	mg/l, Min	4.0	6.8	APHA 23rd Edition(4500-O-C), 2017
xi Biochemical Oxygen Demand(For 3 days 27deg C)	mg/l, Max	--	2	APHA 23rd Edition 2012(5210 B), 2017
xii Total Hardness as CaCO3	mg/l, Max	--	24	APHA 23rd Edition (2340 C), 2017
xiii Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
xiv Iron (as Fe)	mg/l, Max	50	0.3	APHA-23rd Edition (3500-Fe-B , 3111 B) 2017
xv Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
xvi Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
xvii Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xviii Free Ammonia (as NH3)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
xix Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 B) 2017
xx Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
xxi Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2005
xxii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440

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KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No

1591 | 3506C36KLPL/11/19/WATER/01836



Parameters	Unit	Requirement	Result	Test Method
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0005	--
xxvi SODIUM ABSORPTION RATIO	--	--	0.44	--
xxvii barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTISIDE	ug/l	--	< 0.0001	USEPA

PHYSICAL PARAMETER

i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.0	APHA 23rd Edition (4500-H+-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006

RADIOACTIVITY SUBSTANCES

i Alpha-Emitters	uCi/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Beta-Emitters	uCi/mL	0.01	BDL	IS 14194 (PART-2):2013

TOXIC SUBSTANCES

i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27) :1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : nil

Any unusual feature observed during determination : nil

***** End of Test Report *****

Digambar Anubha

Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003131F

Test Report No : 1594 | 3509C3BKPL/11/19/WATER/01839

Issue Date : 06-Dec-2019

Reference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 29-Nov-2019 **Test Commenced On** : 29-Nov-2019

Test Completion On: 05-Dec-2019

Sample Description : SURFACE WATER

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : SURFACE WATER

Sampling Date : 28-Nov-2019

Batch No , Lot No : NA

MFG Date : NA

EXP Date : NA

Received Quantity : 1LTR X 1

Place of Collection : VAMASDHARA RIVER NEAR CHHATRAPUR CULVERT (DOWNSTREAM) DT-28.11.2019

Sample Collected By : By KLPL

Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
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BACTERIOLOGICAL QUALITY

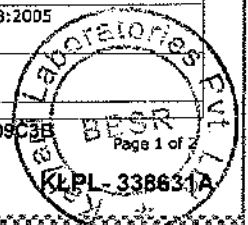
i	Total Coliforms	MPN/100ml.	5000	26	IS: 1622:1981 RA 2009
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CHEMICAL PARAMETER

i	Chloride as Cl	mg/l, Max	600	20	APHA 23rd Edition (4500-Cl - -B), 2017
ii	Sulphate as SO4	mg/l, Max	400	2	APHA 23rd Edition (4500-So42 - -E), 2017
iii	Nitrate as NO3	mg/l, Max	50	0.35	APHA 23rd Edition (4500-NO3 - -E), 2017
iv	Electrical Conductivity	µs/cm	-	131	APHA 23rd Edition (2510 B) 2017
v	Fluoride as F	mg/l, Max	1.5	0.1	APHA 23rd Edition (4500-F - -D,-C), 2017
vi	Total Dissolved Solid	mg/l, Max	1500	94	APHA 23rd Edition (2540 C), 2017
vii	Calcium as Ca	mg/l, Max	-	24	APHA 23rd Edition (3500-Ca-B), 2017
viii	Magnesium as Mg	mg/l, Max	-	1.94	APHA 23rd Edition (3500-Mg-B), 2017
ix	Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B- B), 2017
x	Dissolved Oxygen	mg/l, Min	4.0	8.5	APHA 23rd Edition(4500-D-C), 2017
xi	Biochemical Oxygen Demand(For 3 days 27deg C)	mg/l, Max	--	3	APHA 23rd Edition 2012(5210 B), 2017
xii	Total Hardness as CaCO3	mg/l, Max	--	68	APHA 23rd Edition (2340 C), 2017
xiii	Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
xiv	Iron (as Fe)	mg/l, Max	50	5.15	APHA-23rd Edition (3500-Fe-B , 3111 B) 2017
xv	Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
xvi	Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
xvii	Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xviii	Free Ammonia (as NH3)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
xix	Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 B) 2017
xx	Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
xxi	Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2005
xxii	Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440

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KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1594 | 3509C3BKLPL/11/19/WATER/01839



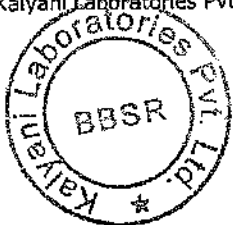
Parameters	Unit	Requirement	Result	Test Method
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0021	--
xxvi SODIUM ABSORPTION RATIO	--	--	1.11	--
xxvii barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTISIDE	µg/l	--	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.9	APHA 23rd Edition (4500-H+-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	µC/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Beta-Emitters	µC/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27) :1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : nil

Any unusual feature observed during determination : nil

***** End of Test Report *****

Digambar Ananta
 Authorized Signatory
 For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101. ODISHA

TEST REPORT



NABL ULR NO : TC704319000003133F

Test Report No : 1596 | 3511C3DKLPL/11/19/WATER/01841

Issue Date : 06-Dec-2019

Reference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 29-Nov-2019 **Test Commenced On** : 29-Nov-2019

Test Completion On : 05-Dec-2019

Sample Description : SURFACE WATER

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : SURFACE WATER

Sampling Date : 28-Nov-2019

Batch No , Lot No : NA

MFG Date : NA

EXP Date : NA

Received Quantity : 1LTR X 1

Place of Collection : POND NEAR HAREKRUSHNAPUR DT-28.11.2019

Sample Collected By : By KLPL

Ref.To Sampling Procedure : KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
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BACTERIOLOGICAL QUALITY

i	Total Coliforms	MPN/100ml.	5000	90	IS: 1622:1981 RA 2009
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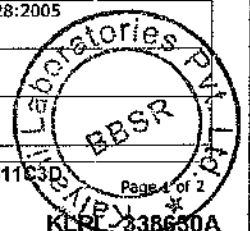
CHEMICAL PARAMETER

i	Chloride as Cl	mg/l, Max	600	10	APHA 23rd Edition (4500-Cl - -B), 2017
ii	Sulphate as SO4	mg/l, Max	400	1.5	APHA 23rd Edition (4500-So42 - -E), 2017
iii	Nitrate as NO3	mg/l, Max	50	0.25	APHA 23rd Edition (4500-NO3 - -E), 2017
iv	Electrical Conductivity	µs/cm	-	119	APHA 23rd Edition (2510 B) 2017
v	Fluoride as F	mg/l, Max	1.5	0.12	APHA 23rd Edition (4500-F - -D,-C), 2017
vi	Total Dissolved Solid	mg/l, Max	1500	106	APHA 23rd Edition (2540 C), 2017
vii	Calcium as Ca	mg/l, Max	-	20.8	APHA 23rd Edition (3500-Ca-B), 2017
viii	Magnesium as Mg	mg/l, Max	-	1.94	APHA 23rd Edition (3500-Mg-B), 2017
ix	Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B- B), 2017
x	Dissolved Oxygen	mg/l, Min	4.0	7.8	APHA 23rd Edition(4500-O-C), 2017
xi	Biochemical Oxygen Demand(For 3 days 27deg C)	mg/l, Max	--	4	APHA 23rd Edition 2012(5210 B), 2017
xii	Total Hardness as CaCO3	mg/l, Max	--	60	APHA 23rd Edition (2340 C), 2017
xiii	Copper (as Cu)	mg/l, Max	1.5	< 0.02	IS 3025 (Part 42):1992 RA 2009
xiv	Iron (as Fe)	mg/l, Max	50	1.3	APHA-23rd Edition (3500-Fe-B , 3111 B) 2017
xv	Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
xvi	Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
xvii	Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xviii	Free Ammonia (as NH3)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
xix	Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 B) 2017
xx	Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2005
xxi	Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440
xxii	Silver (as Ag)	mg/l	--	< 0.01	--

1596 | 3511C3DKLPL

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KLPL 238630A





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1596 | 3511C3DKLPL/11/19/WATER/01841



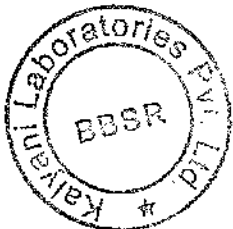
Parameters	Unit	Requirement	Result	Test Method
xxiii Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxiv PERCENT SODIUM (%)	%	--	0.0013	--
xxv SODIUM ABSORPTION RATIO	--	--	0.73	--
xxvi barium	mg/l	--	< 0.2	--
xxvii TOTAL PESTISIDE	µg/l	--	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.2	APHA 23rd Edition (4500-H+-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	µC/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Beta-Emitters	µC/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27) :1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Anukha
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003112P

Test Report No : 1582 | 3497C28KLPL/11/19/WATER/01827 **Issue Date** : 06-Dec-2019

Reference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 29-Nov-2019 **Test Commenced On** : 29-Nov-2019 **Test Completion On**: 05-Dec-2019

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : GROUND WATER **Sampling Date** : 28-Nov-2019

Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA

Received Quantity : 1LTR X 1 **Place of Collection** : OBSERVATION BOREWELL RED MUD POND RENGOPALI SIDE (SOUTH)

Sample Collected By : By KLPL

Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
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CHEMICAL PARAMETER

i	Total alkalinity (as CaCO ₃),	mg/l, Max	200	139	IS 3025 (Part 23):1986 RA 2009
ii	Total hardness (as CaCO ₃),	mg/l, Max	200	112	IS 3025 (Part 21):2009
iii	Zinc (as Zn)	mg/l, Max	5	0.022	IS 3025 (Part 49):1994 RA 2009
iv	Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v	Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009

PHYSICAL PARAMETER

i	Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii	Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii	pH value	---	6.5-8.5	7.0	IS 3025 (Part-11):1983, RA 2012
iv	Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006

RADIOACTIVITY SUBSTANCES

i	Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii	Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013

TOXIC SUBSTANCES

i	Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii	Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii	Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv	Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v	Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi	Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



1582 | 3497C28

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KLPL- 338570A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1582 | 3497C28KLPL/11/19/WATER/01827



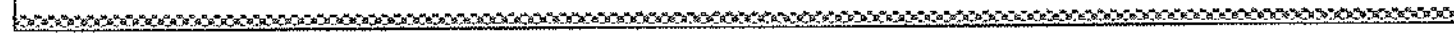
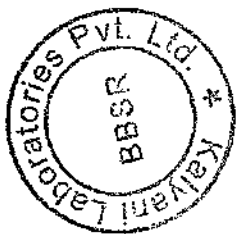
Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Diagrambar Anuleha
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003107P

Test Report No : 1577 | 3496C23KLPL/11/19/WATER/01826

Issue Date : 05-Dec-2019

Reference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 29-Nov-2019 Test Commenced On : 29-Nov-2019

Test Completion On: 05-Dec-2019

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : GROUND WATER

Sampling Date : 28-Nov-2019

Batch No , Lot No : NA

MFG Date : NA

EXP Date : NA

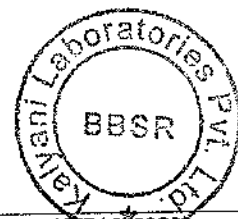
Received Quantity : 1LTR X 1

Place of Collection : OBSERVATION BORE WELL RED MUD POND MATERIAL GATE SIDE(NORTH)

Sample Collected By : By KLPL

Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
i Total alkalinity (as CaCO ₃),	mg/l, Max	200	187	IS 3025 (Part 23):1986 RA 2009
ii Total hardness (as CaCO ₃),	mg/l, Max	200	148	IS 3025 (Part 21):2009
iii Zinc (as Zn)	mg/l, Max	5	0.023	IS 3025 (Part 49):1994 RA 2009
iv Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v Aluminium (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
i Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii Odour	---	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii pH value	---	6.5-8.5	6.5	IS 3025 (Part-11):1983, RA 2012
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



1577 | 3496C23



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Kalyani Laboratories

Test Report No : 1577 | 3496C23KLPL/11/19/WATER/01826



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Nayak
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003106P

Test Report No : 1576 | 3495C22KLPL/11/19/WATER/01825 **Issue Date** : 05-Dec-2019

Reference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 29-Nov-2019 **Test Commenced On** : 29-Nov-2019 **Test Completion On**: 05-Dec-2019

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : GROUND WATER **Sampling Date** : 28-Nov-2019

Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA

Received Quantity : 1LTR X 1 **Place of Collection** : OBSERVATION BORE WELL RED MUD POND

Sample Collected By : By KLPL **BASANTAPADA SIDE (EAST) DT-28.11.2019**

Ref. To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
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CHEMICAL PARAMETER

i	Total alkalinity (as CaCO ₃),	mg/l, Max	200	154	IS 3025 (Part 23):1986 RA 2009
ii	Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
iii	Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
iv	Total hardness (as CaCO ₃),	mg/l, Max	200	116	IS 3025 (Part 21):2009
v	Zinc (as Zn)	mg/l, Max	5	0.02	IS 3025 (Part 49):1994 RA 2009

PHYSICAL PARAMETER

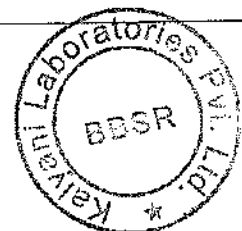
i	Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii	Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii	pH value	---	6.5-8.5	6.55	IS 3025 (Part-11):1983, RA 2012
iv	Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006

RADIOACTIVITY SUBSTANCES

i	Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii	Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013

TOXIC SUBSTANCES

i	Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii	Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii	Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv	Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v	Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi	Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



1576 | 3495C22

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KLPL- 338574A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1576 | 3495C22KLPL/11/19/WATER/01825



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Das
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003105P

Test Report No : 1575 | 3494C21KLPL/11/19/WATER/01824 Issue Date : 05-Dec-2019

Reference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 29-Nov-2019 Test Commenced On : 29-Nov-2019 Test Completion On: 05-Dec-2019

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : GROUND WATER

Sampling Date : 28-Nov-2019

Batch No , Lot No : NA

MFG Date : NA

EXP Date : NA

Received Quantity : 1LTR X 1

Place of Collection : OBSERVATION BORE WELL RED MUD POND(WEST)
DT-28.11.2019

Sample Collected By : By KLPL

Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
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CHEMICAL PARAMETER

i	Total alkalinity (as CaCO ₃),	mg/l, Max	200	194	IS 3025 (Part 23):1986 RA 2009
ii	Total hardness (as CaCO ₃),	mg/l, Max	200	196	IS 3025 (Part 21):2009
iii	Zinc (as Zn)	mg/l, Max	5	0.049	IS 3025 (Part 49):1994 RA 2009
iv	Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v	Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009

PHYSICAL PARAMETER

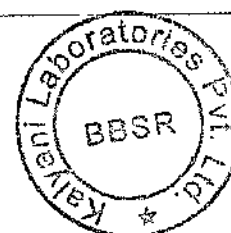
i	Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii	Odour	---	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii	pH value	---	6.5-8.5	6.9	IS 3025 (Part-11):1983, RA 2012
iv	Taste	---	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006

RADIOACTIVITY SUBSTANCES

i	Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii	Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013

TOXIC SUBSTANCES

i	Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii	Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii	Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv	Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v	Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi	Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



1575 | 3494C21

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KLPL- 338595A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1575 | 3494C21KLPL/11/19/WATER/01824



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Ananta
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003122P

Test Report No : 1587 | 3502C32KLPL/11/19/WATER/01832

Issue Date : 06-Dec-2019

Reference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 29-Nov-2019 Test Commenced On : 29-Nov-2019

Test Completion On: 05-Dec-2019

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : GROUND WATER

Sampling Date : 28-Nov-2019

Batch No , Lot No : NA

MFG Date : NA

EXP Date : NA

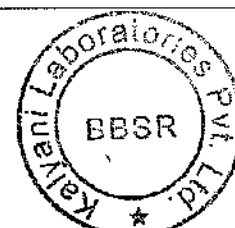
Received Quantity : 1LTR X 1

Place of Collection : OBSERVATION BOREWELL ASHPOND (NORTH)
DT-28.11.2019

Sample Collected By : By KLPL

Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
i Total alkalinity (as CaCO ₃),	mg/l, Max	200	48	IS 3025 (Part 23):1986 RA 2009
ii Total hardness (as CaCO ₃),	mg/l, Max	200	28	IS 3025 (Part 21):2009
iii Zinc (as Zn)	mg/l, Max	5	0.009	IS 3025 (Part 49):1994 RA 2009
iv Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
i Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii pH value	---	6.5-8.5	6.9	IS 3025 (Part-11):1983, RA 2012
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



1587 | 3502C32

Page 1 of 2

KLPL- 338599A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1587 | 3502C32KLPL/11/19/WATER/01832



Parameters	Unit	Requirement	Result	Test Method
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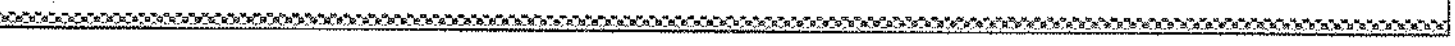
Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Anubala

Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003121P

Test Report No : 1586 | 3501C31KLPL/11/19/WATER/01831 **Issue Date** : 06-Dec-2019

Reference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027

Date of receipt : 29-Nov-2019 **Test Commenced On** : 29-Nov-2019 **Test Completion On** : 05-Dec-2019

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : GROUND WATER **Sampling Date** : 28-Nov-2019

Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA

Received Quantity : 1LTR X 1 **Place of Collection** : OBSERVATION BORE WELL ASHPOND KENDUGUDA

Sample Collected By : By KLPL **SIDE(EAST) DT-28.11.2019**

Ref.To Sampling Procedure : KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
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CHEMICAL PARAMETER

i	Total alkalinity (as CaCO3),	mg/l, Max	200	191	IS 3025 (Part 23):1986 RA 2009
ii	Total hardness (as CaCO3),	mg/l, Max	200	192	IS 3025 (Part 21):2009
iii	Zinc (as Zn)	mg/l, Max	5	0.027	IS 3025 (Part 49):1994 RA 2009
iv	Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v	Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009

PHYSICAL PARAMETER

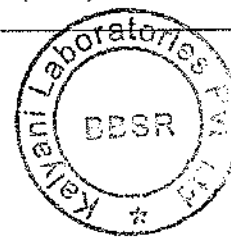
i	Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii	Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii	pH value	---	6.5-8.5	7.4	IS 3025 (Part-11):1983, RA 2012
iv	Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006

RADIOACTIVITY SUBSTANCES

i	Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii	Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013

TOXIC SUBSTANCES

i	Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii	Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii	Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv	Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v	Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi	Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1586 | 3501C31KLPL/11/19/WATER/01831



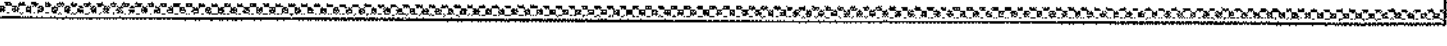
Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Disambhar Anisha
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003120P

Test Report No : 1585 | 3500C30KLPL/11/19/WATER/01830

Issue Date : 06-Dec-2019

Reference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 29-Nov-2019 Test Commenced On : 29-Nov-2019

Test Completion On: 05-Dec-2019

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : GROUND WATER

Sampling Date : 28-Nov-2019

Batch No , Lot No : NA

MFG Date : NA

EXP Date : NA

Received Quantity : 1LTR X 1

Place of Collection : OBSERVATION BOREWELL WATER ASHPOND
KASIBADI SIDE(WEST) DT-28.11.2019

Sample Collected By : By KLPL

Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
i Total alkalinity (as CaCO ₃),	mg/l, Max	200	187	IS 3025 (Part 23):1986 RA 2009
ii Total hardness (as CaCO ₃),	mg/l, Max	200	176	IS 3025 (Part 21):2009
iii Zinc (as Zn)	mg/l, Max	5	0.023	IS 3025 (Part 49):1994 RA 2009
iv Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
i Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii pH value	---	6.5-8.5	7.2	IS 3025 (Part-11):1983, RA 2012
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



1585 | 3500C30



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1585 | 3500C30KLPL/11/19/WATER/01830



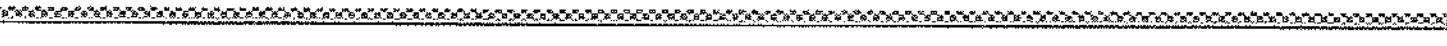
Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Jaiswal
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003117P

Test Report No : 1584 | 3499C2DKLPL/11/19/WATER/01829 Issue Date : 06-Dec-2019

Reference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 29-Nov-2019 Test Commenced On : 29-Nov-2019 Test Completion On: 05-Dec-2019

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : GROUND WATER Sampling Date : 28-Nov-2019

Batch No , Lot No : NA MFG Date : NA EXP Date : NA

Received Quantity : 1LTR X 1 Place of Collection : OBSERVATION BOREWELL PROCESS WATER LAKE(EAST)

Sample Collected By : By KLPL

Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
i Total alkalinity (as CaCO ₃),	mg/l, Max	200	86	IS 3025 (Part 23):1986 RA 2009
ii Total hardness (as CaCO ₃),	mg/l, Max	200	64	IS 3025 (Part 21):2009
iii Zinc (as Zn)	mg/l, Max	5	0.015	IS 3025 (Part 49):1994 RA 2009
iv Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
i Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii pH value	---	6.5-8.5	7.3	IS 3025 (Part-11):1983, RA 2012
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



1584 | 3499C2D



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1584 | 3499C2DKLPL/11/19/WATER/01829



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Jaisaha
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003114P

Test Report No : 1583 | 3498C2AKLPL/11/19/WATER/01828 **Issue Date** : 06-Dec-2019

Reference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 29-Nov-2019 **Test Commenced On** : 29-Nov-2019 **Test Completion On**: 05-Dec-2019

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : **GROUND WATER** **Sampling Date** : 28-Nov-2019

Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA

Received Quantity : 1LTR X 1 **Place of Collection** : OBSERVATION BOREWELL PROCESS WATER LAKE(NORTH) DT-28.11.2019

Sample Collected By : By KLPL

Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
i Total alkalinity (as CaCO ₃),	mg/l, Max	200	57	IS 3025 (Part 23):1986 RA 2009
ii Total hardness (as CaCO ₃),	mg/l, Max	200	40	IS 3025 (Part 21):2009
iii Zinc (as Zn)	mg/l, Max	5	0.012	IS 3025 (Part 49):1994 RA 2009
iv Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
i Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii pH value	---	6.5-8.5	6.6	IS 3025 (Part-11):1983, RA 2012
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



1583 | 3498C2A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Kalyani Laboratories

Test Report No : 1583 | 3498C2AKLPL/11/19/WATER/01828



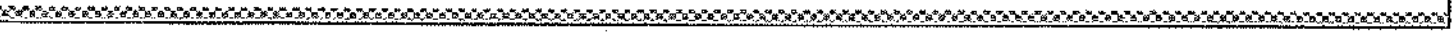
Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Arya
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd



KALYANI LABORATORIES PVT. LTD.



78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003123P

Test Report No : 1588 | 3503C33KLPL/11/19/WATER/01833 **Issue Date** : 06-Dec-2019

Reference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 29-Nov-2019 **Test Commenced On** : 29-Nov-2019 **Test Completion On**: 05-Dec-2019

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : GROUND WATER **Sampling Date** : 28-Nov-2019

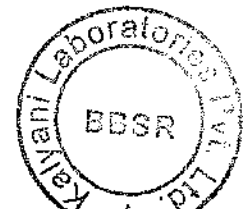
Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA

Received Quantity : 1LTR X 1 **Place of Collection** : OBSERVATION BOREWELL DIRTY WATER POND

Sample Collected By : By KLPL **DT-28.11.2019**

Ref.To Sampling Procedure:

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
i Total alkalinity (as CaCO ₃),	Mg/l,max	200	194	IS 3025 (Part 23):1986 RA 2009
ii Total hardness (as CaCO ₃),	Mg/l,max	200	192	IS 3025 (Part 21):2009
iii Zinc (as Zn)	Mg/l,max	5	0.038	IS 3025 (Part 49):1994 RA 2009
iv Total Chromium	Mg/l,max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v Aluminum (as Al)	Mg/l,max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
i Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii Odour	-	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii pH value	-	6.5-8.5	7.5	IS 3025 (Part-11):1983, RA 2012
iv Taste	-	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	Mg/l,max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	Mg/l,max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii Lead (as Pb)	Mg/l,max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	Mg/l,max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v Total arsenic (as As)	Mg/l,max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi Nickel (as Ni)	Mg/l,max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



1588-3503033



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1588 | 3503C33KLPL/11/19/WATER/01833



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambhar Anurkha
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003135P

Test Report No : 1598 | 3488C3FKLPL/11/19/WATER/01818 Issue Date : 07-Dec-2019

Reference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 29-Nov-2019 Test Commenced On : 29-Nov-2019 Test Completion On: 06-Dec-2019

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : GROUND WATER

Sampling Date : 28-Nov-2019

Batch No , Lot No : NA

MFG Date : NA

EXP Date : NA

Received Quantity : 1LTR X 1

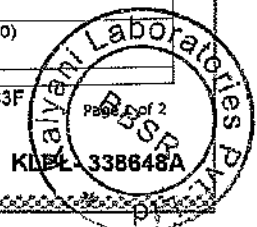
Place of Collection :BORE WELL WATER LANJIGARH DT-28.11.2019

Sample Collected By : By KLPL

Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
i Total Coliforms	MPN/100 ml	Shall not be detected in any 100 ml sample	ABSENT	IS 1622:1981 RA 2009
ii Faecal Coliform	MPN/100ml	Shall not be detected in any 100 ml sample	ABSENT	IS 1622:1981 RA 2009
CHEMICAL PARAMETER				
i Lead (Pb)	mg/l, max	0.01	< 0.005	IS 3025 (Part 47)
ii Arsenic (As)	mg/l, max	0.01	< 0.001	IS 3025 (Part 37):1988, RA 2009
iii Nitrate as NO3	mg/l, Max	45	4.5	IS 3025 (PART 34): 1988 RA 2003
iv Calcium (as Ca)	mg/l, Max	75	64	IS 3025 (Part 40):1991 RA 2009
v Chloride (as Cl)	mg/l, Max	250	78	IS 3025 (Part 32):1988 RA 2009
vi Copper (as Cu)	mg/l, Max	0.05	< 0.02	IS 3025 (Part 42):1992 RA 2009
vii Fluoride (as F)	mg/l, Max	1	0.1	IS 3025 (Part 60):2008
viii Free residual chlorine	mg/l, Min	0.2	0.2	IS 3025 (Part 26):1986 RA 2009
ix Iron (as Fe)	mg/l, Max	1	0.12	IS 3025 (Part 53):2003 RA 2014
x Magnesium (as Mg)	mg/l, Max	30	8.75	IS 3025 (Part 46):1994 RA 2003
xi Manganese (as Mn)	mg/l, Max	0.1	< 0.05	IS 3025 (Part 59):2006 RA 2012
xii Selenium (as Se)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 56):2003 RA 2009
xiii Sulphate (as SO4)	mg/l, Max	200	6.0	IS 3025 (Part 24):1986 RA 2009
xiv Total alkalinity (as CaCO3),	mg/l, Max	200	198	IS 3025 (Part 23):1986 RA 2009
xv Total hardness (as CaCO3),	mg/l, Max	200	196	IS 3025 (Part 21):2009
xvi Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
xvii Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
xviii Anionic Surface Active Agents (as MBAS)	mg/l, Max	0.2	< 0.1	Annex - K OF IS 13428:2005 RA 2009
xix Boron (as B)	mg/l, Max	0.5	< 0.1	Annex H OF IS 13428 : 2005 RA 2009
xx phosphate as (PO4)	mg/l	---	< 0.1	APHA 22nd Edition (4500-P-D)
xxi Polynuclear Aromatic Hydrocarbon	mg/l, Max	0.0001	< 0.0001	APHA 22nd Edition (6440)

1598 | 3488C3F





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1598 | 3488C3FKLPL/11/19/WATER/01818



Parameters	Unit	Requirement	Result	Test Method
xxii Mercury	mg/l, max	0.001	< 0.0005	IS 3025 (Part 48)
xxiii TOTAL PESTISIDE	mg/l, max	0.0005	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Conductivity	ms/cm	---	0.489	IS 3025 (Part 11):1983 RA 2012
ii Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
iii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iv pH value	---	6.5-8.5	7.2	IS 3025 (Part-11):1983, RA 2012
v Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
vi Turbidity	NTU, Max	1	0.1	IS 3025 (Part 10):1984 RA 2006
vii Total dissolved solids	mg/l, Max	500	300	IS 3025 (Part 16):1984 RA 2006
viii Temperature	deg C	--	24	---

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Anilaha
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003137P

Test Report No : 1600 | 3490C41KLPL/11/19/WATER/01820 **Issue Date** : 07-Dec-2019

Reference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 29-Nov-2019 **Test Commenced On** : 29-Nov-2019 **Test Completion On** : 06-Dec-2019

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : GROUND WATER

Sampling Date : 28-Nov-2019

Batch No, Lot No : NA

MFG Date : NA

EXP Date : NA

Received Quantity : 1LTR X 1

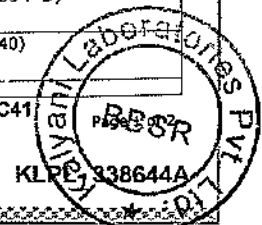
Place of Collection : BORE WELL AT CHHATRAPUR DT-28.11.2019

Sample Collected By : By KLPL

Ref.To Sampling Procedure : KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
i Total Coliforms	MPN/100 ml	Shall not be detected in any 100 ml sample	ABSENT	IS 1622:1981 RA 2009
ii Faecal Coliform	MPN/100ml	Shall not be detected in any 100 ml sample	ABSENT	IS 1622:1981 RA 2009
CHEMICAL PARAMETER				
i Lead (Pb)	mg/l, max	0.01	< 0.005	IS 3025 (Part 47)
ii Arsenic (As)	mg/l, max	0.01	< 0.001	IS 3025 (Part 37):1988, RA 2009
iii Nitrate as NO3	mg/l, Max	45	2.6	IS 3025 (PART 34): 1988 RA 2003
iv Calcium (as Ca)	mg/l, Max	75	51.2	IS 3025 (Part 40):1991 RA 2009
v Chloride (as Cl)	mg/l, Max	250	14	IS 3025 (Part 32):1988 RA 2009
vi Copper (as Cu)	mg/l, Max	0.05	< 0.02	IS 3025 (Part 42):1992 RA 2009
vii Fluoride (as F)	mg/l, Max	1	0.4	IS 3025 (Part 60):2008
viii Free residual chlorine	mg/l, Min	0.2	0.2	IS 3025 (Part 26):1986 RA 2009
ix Iron (as Fe)	mg/l, Max	1	< 0.05	IS 3025 (Part 53):2003 RA 2014
x Magnesium (as Mg)	mg/l, Max	30	13.61	IS 3025 (Part 46):1994 RA 2003
xi Manganese (as Mn)	mg/l, Max	0.1	< 0.05	IS 3025 (Part 59):2006 RA 2012
xii Selenium (as Se)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 56):2003 RA 2009
xiii Sulphate (as SO4)	mg/l, Max	200	5	IS 3025 (Part 24):1986 RA 2009
xiv Total alkalinity (as CaCO3),	mg/l, Max	200	187	IS 3025 (Part 23):1986 RA 2009
xv Total hardness (as CaCO3),	mg/l, Max	200	184	IS 3025 (Part 21):2009
xvi Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
xvii Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
xviii Anionic Surface Active Agents (as MBAS)	mg/l, Max	0.2	< 0.1	Annex - K OF IS 13428:2005 RA 2009
xix Boron (as B)	mg/l, Max	0.5	< 0.1	Annex H OF IS 13428 : 2005 RA 2009
xx phosphate as (PO4)	mg/l	---	< 0.1	APHA 22nd Edition (4500-P-D)
xxi Polynuclear Aromatic Hydrocarbon	mg/l, Max	0.0001	< 0.0001	APHA 22nd Edition (6440)

1600 | 3490C41





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1600 | 3490C41KLPL/11/19/WATER/01820



Parameters	Unit	Requirement	Result	Test Method
xxii Mercury	mg/l, max	0.001	< 0.0005	IS 3025 (Part 48)
xxiii TOTAL PESTISIDE	mg/l, max	0.0005	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Conductivity	ms/cm	---	0.357	IS 3025 (Part 11):1983 RA 2012
ii Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
iii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iv pH value	---	6.5-8.5	7.4	IS 3025 (Part-11):1983, RA 2012
v Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
vi Turbidity	NTU, Max	1	0.1	IS 3025 (Part 10):1984 RA 2006
vii Total dissolved solids	mg/l, Max	500	250	IS 3025 (Part 16):1984 RA 2006
viii Temperature	deg C	--	24	---

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Boudha
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003136F

Test Report No : 1599 | 3489C40KLPL/11/19/WATER/01819 **Issue Date** : 07-Dec-2019

Reference : 5600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 29-Nov-2019 **Test Commenced On** : 29-Nov-2019 **Test Completion On** : 06-Dec-2019

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : **GROUND WATER** **Sampling Date** : 28-Nov-2019

Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA

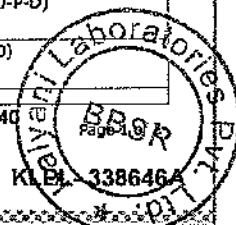
Received Quantity : 1LTR X 1 **Place of Collection** : BORE WELL AT RENGOPALI DT-28.11.2019

Sample Collected By : By KLPL

Ref.To Sampling Procedure : KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
i Total Coliforms	MPN/100 ml	Shall not be detected in any 100 ml sample	ABSENT	IS 1622:1981 RA 2009
ii Faecal Coliform	MPN/100ml	Shall not be detected in any 100 ml sample	ABSENT	IS 1622:1981 RA 2009
CHEMICAL PARAMETER				
i Lead (Pb)	mg/l, max	0.01	< 0.005	IS 3025 (Part 47)
ii Arsenic (As)	mg/l, max	0.01	< 0.001	IS 3025 (Part 37):1988, RA 2009
iii Nitrate as NO3	mg/l, Max	45	0.6	IS 3025 (PART 34): 1988 RA 2003
iv Calcium (as Ca)	mg/l, Max	75	22.4	IS 3025 (Part 40):1991 RA 2009
v Chloride (as Cl)	mg/l, Max	250	6	IS 3025 (Part 32):1988 RA 2009
vi Copper (as Cu)	mg/l, Max	0.05	< 0.02	IS 3025 (Part 42):1992 RA 2009
vii Fluoride (as F)	mg/l, Max	1	0.08	IS 3025 (Part 60):2008
viii Free residual chlorine	mg/l, Min	0.2	0.2	IS 3025 (Part 26):1986 RA 2009
ix Iron (as Fe)	mg/l, Max	1	< 0.05	IS 3025 (Part 53):2003 RA 2014
x Magnesium (as Mg)	mg/l, Max	30	2.92	IS 3025 (Part 46):1994 RA 2003
xi Manganese (as Mn)	mg/l, Max	0.1	< 0.05	IS 3025 (Part 59):2005 RA 2012
xii Selenium (as Se)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 56):2003 RA 2009
xiii Sulphate (as SO4)	mg/l, Max	200	2	IS 3025 (Part 24):1986 RA 2009
xiv Total alkalinity (as CaCO3),	mg/l, Max	200	84	IS 3025 (Part 23):1986 RA 2009
xv Total hardness (as CaCO3),	mg/l, Max	200	68	IS 3025 (Part 21):2009
xvi Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
xvii Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
xviii Anionic Surface Active Agents (as MBAS)	mg/l, Max	0.2	< 0.1	Annex - K OF IS 13428:2005 RA 2009
xix Boron (as B)	mg/l, Max	0.5	< 0.1	Annex H OF IS 13428 : 2005 RA 2009
xx phosphate as (PO4)	mg/l	---	< 0.1	APHA 22nd Edition (4500-P-D)
xxi Polynuclear Aromatic Hydrocarbon	mg/l, Max	0.0001	< 0.0001	APHA 22nd Edition (5440)

1599 | 3489C40





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1599 | 3489C40KLPL/11/19/WATER/01819



Parameters	Unit	Requirement	Result	Test Method
xxli Mercury	mg/l, max	0.001	< 0.0005	IS 3025 (Part 4B)
xxiii TOTAL PESTISIDE	mg/l, max	0.0005	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Conductivity	ms/cm	---	0.100	IS 3025 (Part 11):1983 RA 2012
ii Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
iii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iv pH value	---	6.5-8.5	6.6	IS 3025 (Part-11):1983, RA 2012
v Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
vi Turbidity	NTU, Max	1	0.1	IS 3025 (Part 10):1984 RA 2006
vii Total dissolved solids	mg/l, Max	500	88	IS 3025 (Part 16):1984 RA 2006
viii Temperature	deg C	--	24	---

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Aruleha
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101. ODISHA

TEST REPORT



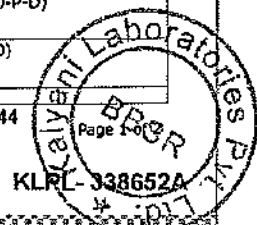
NABL ULR NO : TC704319000003140F

Test Report No : 1603 | 3493C44KLPL/11/19/WATER/01823 Issue Date : 07-Dec-2019
 Reference : 6600011158 / 11.12.2018
 Customer Name : VEDANTA LIMITED, LANJIGARH
 Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
 Date of receipt : 29-Nov-2019 Test Commenced On : 29-Nov-2019 Test Completion On: 06-Dec-2019
 Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE
 Sample Identification * : GROUND WATER Sampling Date : 28-Nov-2019
 Batch No , Lot No : NA MFG Date : NA EXP Date : NA
 Received Quantity : 1LTR X 1 Place of Collection : BOREWELL AT BANDHAGUDA DT-28.11.2019
 Sample Collected By : By KLPL
 Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
i Total Coliforms	MPN/100 ml	Shall not be detected in any 100 ml sample	ABSENT	IS 1622:1981 RA 2009
ii Faecal Coliform	MPN/100ml	Shall not be detected in any 100 ml sample	ABSENT	IS 1622:1981 RA 2009
CHEMICAL PARAMETER				
i Lead (Pb)	mg/l, max	0.01	< 0.005	IS 3025 (Part 47)
ii Arsenic (As)	mg/l, max	0.01	< 0.001	IS 3025 (Part 37):1988, RA 2009
iii Nitrate as NO3	mg/l, Max	45	2.4	IS 3025 (PART 34): 1988 RA 2003
iv Calcium (as Ca)	mg/l, Max	75	30.4	IS 3025 (Part 40):1991 RA 2009
v Chloride (as Cl)	mg/l, Max	250	14	IS 3025 (Part 32):1988 RA 2009
vi Copper (as Cu)	mg/l, Max	0.05	< 0.02	IS 3025 (Part 42):1992 RA 2009
vii Fluoride (as F)	mg/l, Max	1	0.15	IS 3025 (Part 60):2008
viii Free residual chlorine	mg/l, Min	0.2	0.2	IS 3025 (Part 26):1986 RA 2009
ix Iron (as Fe)	mg/l, Max	1	< 0.05	IS 3025 (Part 53):2003 RA 2014
x Magnesium (as Mg)	mg/l, Max	30	5.83	IS 3025 (Part 46):1994 RA 2003
xi Manganese (as Mn)	mg/l, Max	0.1	< 0.05	IS 3025 (Part 59):2006 RA 2012
xii Selenium (as Se)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 56):2003 RA 2009
xiii Sulphate (as SO4)	mg/l, Max	200	5.0	IS 3025 (Part 24):1986 RA 2009
xiv Total alkalinity (as CaCO3),	mg/l, Max	200	114	IS 3025 (Part 23):1986 RA 2009
xv Total hardness (as CaCO3),	mg/l, Max	200	92	IS 3025 (Part 21):2009
xvi Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
xvii Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
xviii Anionic Surface Active Agents (as MBAS)	mg/l, Max	0.2	< 0.1	Annex - K OF IS 13428:2005 RA 2009
xix Boron (as B)	mg/l, Max	0.5	< 0.1	Annex H OF IS 13428 : 2005 RA 2009
xx phosphate as (PO4)	mg/l	---	< 0.1	APHA 22nd Edition (4500-P-D)
xxi Polynuclear Aromatic Hydrocarbon	mg/l, Max	0.0001	< 0.0001	APHA 22nd Edition (6440)

1603 | 3493C44





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101. ODISHA

Test Report No : 1603 | 3493C44KLPL/11/19/WATER/01823



Parameters	Unit	Requirement	Result	Test Method
xxii Mercury	mg/l, max	0.001	< 0.0005	IS 3025 (Part 48)
xxiii TOTAL PESTISIDE	mg/l, max	0.0005	< 0.0001	JSEPA
PHYSICAL PARAMETER				
i Conductivity	ms/cm	---	0.185	IS 3025 (Part 11):1983 RA 2012
ii Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
iii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iv pH value	---	6.5-8.5	7.0	IS 3025 (Part-11):1983, RA 2012
v Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
vi Turbidity	NTU, Max	1	0.7	IS 3025 (Part 10):1984 RA 2006
vii Total dissolved solids	mg/l, Max	500	140	IS 3025 (Part 16):1984 RA 2006
viii Temperature	deg C	--	24	---

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Anjali
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101. ODISHA

TEST REPORT



NABL ULR NO : TC704319000003139F

Test Report No : 1602 | 3492C43KLPL/11/19/WATER/01822 Issue Date : 07-Dec-2019

Reference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 29-Nov-2019 Test Commenced On : 29-Nov-2019 Test Completion On: 06-Dec-2019

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : GROUND WATER Sampling Date : 28-Nov-2019

Batch No , Lot No : NA MFG Date : NA EXP Date : NA

Received Quantity : 1LTR X 1 Place of Collection : BORE WELL AT BATERLIMA DT-28.11.2019

Sample Collected By : By KLPL

Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters Unit Requirement Result Test Method

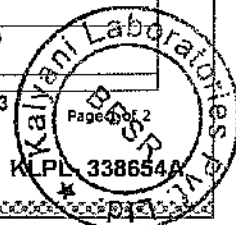
BACTERIOLOGICAL QUALITY

Parameters	Unit	Requirement	Result	Test Method
i Total Coliforms	MPN/100 ml	Shall not be detected in any 100 ml sample	ABSENT	IS 1622:1981 RA 2009
ii Faecal Coliform	MPN/100ml	Shall not be detected in any 100 ml sample	ABSENT	IS 1622:1981 RA 2009

CHEMICAL PARAMETER

Parameters	Unit	Requirement	Result	Test Method
i Lead (Pb)	mg/l, max	0.01	< 0.005	IS 3025 (Part 47)
ii Arsenic (As)	mg/l, max	0.01	< 0.001	IS 3025 (Part 37):1986,RA 2009
iii Nitrate as NO3	mg/l, Max	45	5.0	IS 3025 (PART 34): 1988 RA 2003
iv Calcium (as Ca)	mg/l, Max	75	43.2	IS 3025 (Part 40):1991 RA 2009
v Chloride (as Cl)	mg/l, Max	250	28	IS 3025 (Part 32):1988 RA 2009
vi Copper (as Cu)	mg/l, Max	0.05	< 0.02	IS 3025 (Part 42):1992 RA 2009
vii Fluoride (as F)	mg/l, Max	1	0.35	IS 3025 (Part 60):2008
viii Free residual chlorine	mg/l, Min	0.2	0.3	IS 3025 (Part 26):1986 RA 2009
ix Iron (as Fe)	mg/l, Max	1	0.62	IS 3025 (Part 53):2003 RA 2014
x Magnesium (as Mg)	mg/l, Max	30	12.64	IS 3025 (Part 46):1994 RA 2003
xi Manganese (as Mn)	mg/l, Max	0.1	< 0.05	IS 3025 (Part 59):2006 RA 2012
xii Selenium (as Se)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 56):2003 RA 2009
xiii Sulphate (as SO4)	mg/l, Max	200	15	IS 3025 (Part 24):1986 RA 2009
xiv Total alkalinity (as CaCO3),	mg/l, Max	200	154	IS 3025 (Part 23):1986 RA 2009
xv Total hardness (as CaCO3),	mg/l, Max	200	160	IS 3025 (Part 21):2009
xvi Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
xvii Aluminium (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
xviii Anionic Surface Active Agents (as MBAS)	mg/l, Max	0.2	< 0.1	Annex - K OF IS 13428:2005 RA 2009
xix Boron (as B)	mg/l, Max	0.5	< 0.1	Annex H OF IS 13428 : 2005 RA 2009
xx phosphate as (PO4)	mg/l	---	< 0.1	APHA 22nd Edition (4500-P-D)
xxi Polynuclear Aromatic Hydrocarbon	mg/l, Max	0.0001	< 0.0001	APHA 22nd Edition (6440)

1602 | 3492C43





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1602 | 3492C43KLPL/11/19/WATER/01822



Parameters	Unit	Requirement	Result	Test Method
xxii Mercury	mg/l, max	0.001	< 0.0005	IS 3025 (Part 48)
xxiii TOTAL PESTISIDE	mg/l, max	0.0005	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Conductivity	ms/cm	---	0.254	IS 3025 (Part 11):1983 RA 2012
ii Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
iii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iv pH value	---	6.5-8.5	7.1	IS 3025 (Part-11):1983, RA 2012
v Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
vi Turbidity	NTU, Max	1	0.4	IS 3025 (Part 10):1984 RA 2006
vii Total dissolved solids	mg/l, Max	500	220	IS 3025 (Part 16):1984 RA 2006
viii Temperature	deg C	--	24	---

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Acharya
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003138F

Test Report No : 1601 | 3491C42KLPL/11/19/WATER/01821 **Issue Date** : 07-Dec-2019

Reference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 29-Nov-2019 **Test Commenced On** : 29-Nov-2019 **Test Completion On** : 06-Dec-2019

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : GROUND WATER **Sampling Date** : 28-Nov-2019

Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA

Received Quantity : 1LTR X 1 **Place of Collection** : BORE WELL AT CHANALIMA DT-28.11.2019

Sample Collected By : By KLPL

Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
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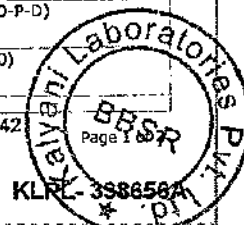
BACTERIOLOGICAL QUALITY

i	Total Coliforms	MPN/100 ml	Shall not be detected in any 100 ml sample	ABSENT	IS 1622:1981 RA 2009
ii	Faecal Coliform	MPN/100ml	Shall not be detected in any 100 ml sample	ABSENT	IS 1622:1981 RA 2009

CHEMICAL PARAMETER

i	Lead (Pb)	mg/l, max	0.01	< 0.005	IS 3025 (Part 47)
ii	Arsenic (As)	mg/l, max	0.01	< 0.001	IS 3025 (Part 37):1988, RA 2009
iii	Nitrate as NO3	mg/l, Max	45	0.3	IS 3025 (PART 34): 1988 RA 2003
iv	Calcium (as Ca)	mg/l, Max	75	25.6	IS 3025 (Part 40):1991 RA 2009
v	Chloride (as Cl)	mg/l, Max	250	30	IS 3025 (Part 32):1988 RA 2009
vi	Copper (as Cu)	mg/l, Max	0.05	< 0.02	IS 3025 (Part 42):1992 RA 2009
vii	Fluoride (as F)	mg/l, Max	1	< 0.05	IS 3025 (Part 60):2008
viii	Free residual chlorine	mg/l, Min	0.2	0.2	IS 3025 (Part 26):1986 RA 2009
ix	Iron (as Fe)	mg/l, Max	1	0.6	IS 3025 (Part 53):2003 RA 2014
x	Magnesium (as Mg)	mg/l, Max	30	1.94	IS 3025 (Part 46):1994 RA 2003
xi	Manganese (as Mn)	mg/l, Max	0.1	< 0.05	IS 3025 (Part 59):2006 RA 2012
xii	Selenium (as Se)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 56):2003 RA 2009
xiii	Sulphate (as SO4)	mg/l, Max	200	< 1.0	IS 3025 (Part 24):1986 RA 2009
xiv	Total alkalinity (as CaCO3),	mg/l, Max	200	40	IS 3025 (Part 23):1986 RA 2009
xv	Total hardness (as CaCO3),	mg/l, Max	200	72	IS 3025 (Part 21):2009
xvi	Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
xvii	Aluminum (as Al)	mg/l, Max	0.05	< 0.02	IS 3025 (PART 55):2003 RA 2009
xviii	Anionic Surface Active Agents (as MBAS)	mg/l, Max	0.2	< 0.1	Annex - K OF IS 13428:2005 RA 2009
xix	Boron (as B)	mg/l, Max	0.5	< 0.1	Annex H OF IS 13428 : 2005 RA 2009
xx	phosphate as (PO4)	mg/l	---	0.1	APHA 22nd Edition (4500-P-D)
xxi	Polynuclear Aromatic Hydrocarbon	mg/l, Max	0.0001	< 0.0001	APHA 22nd Edition (6440)

1601 | 3491C42



KLPL-338658A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1601 | 3491C42KLPL/11/19/WATER/01821



Parameters	Unit	Requirement	Result	Test Method
xxii Mercury	mg/l, max	0.001	< 0.0005	IS 3025 (Part 48)
xxiii TOTAL PESTISIDE	mg/l, max	0.0005	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Conductivity	ms/cm	---	0.095	IS 3025 (Part 11):1983 RA 2012
ii Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
iii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iv pH value	---	6.5-8.5	7.0	IS 3025 (Part-11):1983, RA 2012
v Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
vi Turbidity	NTU, Max	1	0.9	IS 3025 (Part 10):1984 RA 2006
vii Total dissolved solids	mg/l, Max	500	78	IS 3025 (Part 16):1984 RA 2006
viii Temperature	deg C	--	24	--

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Diamban Nayak
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003134P

Test Report No : 1597 | 3487C3EKLPL/11/19/WATER/01817

Issue Date : 07-Dec-2019

Reference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 29-Nov-2019

Test Commenced On : 29-Nov-2019

Test Completion On : 06-Dec-2019

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : GROUND WATER

Sampling Date : 28-Nov-2019

Batch No , Lot No : NA

MFG Date : NA

EXP Date : NA

Received Quantity : 1LTR X 1

Place of Collection : PLANT SITE DT-28.11.2019

Sample Collected By : By KLPL

Ref.To Sampling Procedure : KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
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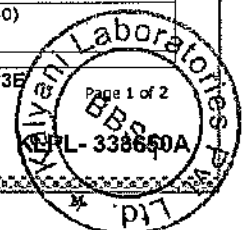
BACTERIOLOGICAL QUALITY

i	Total Coliforms	MPN/100 ml	Shall not be detected in any 100 ml sample	ABSENT	IS 1622:1981 RA 2009
ii	Faecal Coliform	MPN/100ml	Shall not be detected in any 100 ml sample	ABSENT	IS 1622:1981 RA 2009

CHEMICAL PARAMETER

i	Lead (Pb)	mg/l, max	0.01	< 0.005	IS 3025 (Part 47)
ii	Arsenic (As)	mg/l, max	0.01	< 0.001	IS 3025 (Part 37):1988, RA 2009
iii	Nitrate as NO3	mg/l, Max	45	0.75	IS 3025 (PART 34): 1988 RA 2003
iv	Calcium (as Ca)	mg/l, Max	75	27.2	IS 3025 (Part 40):1991 RA 2009
v	Chloride (as Cl)	mg/l, Max	250	6	IS 3025 (Part 32):1988 RA 2009
vi	Copper (as Cu)	mg/l, Max	0.05	< 0.02	IS 3025 (Part 42):1992 RA 2009
vii	Fluoride (as F)	mg/l, Max	1	0.09	IS 3025 (Part 60):2008
viii	Free residual chlorine	mg/l, Min	0.2	0.2	IS 3025 (Part 26):1986 RA 2009
ix	Iron (as Fe)	mg/l, Max	1	0.8	IS 3025 (Part 53):2003 RA 2014
x	Magnesium (as Mg)	mg/l, Max	30	4.86	IS 3025 (Part 46):1994 RA 2003
xi	Manganese (as Mn)	mg/l, Max	0.1	< 0.1	IS 3025 (Part 59):2006 RA 2012
xii	Selenium (as Se)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 56):2003 RA 2009
xiii	Sulphate (as SO4)	mg/l, Max	200	4.0	IS 3025 (Part 24):1986 RA 2009
xiv	Total alkalinity (as CaCO3),	mg/l, Max	200	125	IS 3025 (Part 23):1986 RA 2009
xv	Total hardness (as CaCO3),	mg/l, Max	200	88	IS 3025 (Part 21):2009
xvi	Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
xvii	Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
xviii	Anionic Surface Active Agents (as MBAS)	mg/l, Max	0.2	< 0.1	Annex - K OF IS 13428:2005 RA 2009
xix	Boron (as B)	mg/l, Max	0.5	< 0.1	Annex H OF IS 13428 : 2005 RA 2009
xx	phosphate as (PO4)	mg/l	---	< 0.1	APHA 22nd Edition (4500-P-D)
xxi	Polynuclear Aromatic Hydrocarbon	mg/l, Max	0.0001	< 0.0001	APHA 22nd Edition (6440)

1597 | 3487C3E



Page 1 of 2



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1597 | 3487C3EKLPL/11/19/WATER/01817



Parameters	Unit	Requirement	Result	Test Method
xxii Mercury	mg/l, max	0.001	< 0.0005	IS 3025 (Part 48)
xxiii TOTAL PESTISIDE	mg/l, max	0.0005	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Conductivity	ms/cm	---	0.143	IS 3025 (Part 11):1983 RA 2012
ii Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
iii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iv pH value	---	6.5-8.5	6.8	IS 3025 (Part-11):1983, RA 2012
v Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
vi Turbidity	NTU, Max	1	0.9	IS 3025 (Part 10):1984 RA 2006
vii Total dissolved solids	mg/l, Max	500	132	IS 3025 (Part 16):1984 RA 2006
viii Temperature	deg C	--	24	---

Remarks : nil

Any unusual feature observed during determination : nil

***** End of Test Report *****

Digambar Boudha
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003145P

Test Report No : 344 | 3642C49 KLPL/11/19/ENVN/00435

Issue Date : 07-Dec-2019

Rerference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 30-Nov-2019 Commenced On : 30-Nov-2019

Completion On: 30-Nov-2019

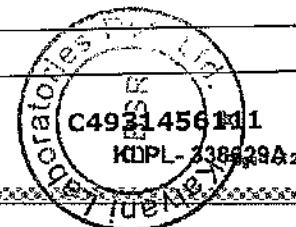
Sample Name : NOISE

Sample Condition : --

Quantity : 10 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : BALABHADRAPUR , 28.11.2019				
Noise Level Indl. Area (Day)	dB	55	53.0	IS 9989:1981 (RA 2014)
Noise Level Indl. Area (Night)	dB	45	38.8	IS 9989:1981 (RA 2014)
Location & Date : BASANTAPADA , 28.11.2019				
Noise Level Indl. Area (Day)	dB	55	49.0	IS 9989:1981 (RA 2014)
Noise Level Indl. Area (Night)	dB	45	34.5	IS 9989:1981 (RA 2014)
Location & Date : CHHATRAPUR , 28.11.2019				
Noise Level Indl. Area (Day)	dB	55	47.9	IS 9989:1981 (RA 2014)
Noise Level Indl. Area (Night)	dB	45	35.8	IS 9989:1981 (RA 2014)
Location & Date : HAREKRISHANAPUR , 28.11.2019				
Noise Level Indl. Area (Day)	dB	55	51.8	IS 9989:1981 (RA 2014)
Noise Level Indl. Area (Night)	dB	45	37.9	IS 9989:1981 (RA 2014)
Location & Date : KASIBADI , 28.11.2019				
Noise Level Indl. Area (Day)	dB	55	49.5	IS 9989:1981 (RA 2014)
Noise Level Indl. Area (Night)	dB	45	36.3	IS 9989:1981 (RA 2014)
Location & Date : LANJIGARH , 29.11.2019				
Noise Level Indl. Area (Day)	dB	55	53.7	IS 9989:1981 (RA 2014)
Noise Level Indl. Area (Night)	dB	45	43.6	IS 9989:1981 (RA 2014)
Location & Date : MASKAPADAR , 29.11.2019				
Noise Level Indl. Area (Day)	dB	55	50.0	IS 9989:1981 (RA 2014)
Noise Level Indl. Area (Night)	dB	45	40.0	IS 9989:1981 (RA 2014)
Location & Date : NIYAMAGIRI VEDANTA NAGAR , 29.11.2019				
Noise Level Indl. Area (Day)	dB	55	52.6	IS 9989:1981 (RA 2014)
Noise Level Indl. Area (Night)	dB	45	40.5	IS 9989:1981 (RA 2014)
Location & Date : PLANT SITE , 29.11.2019				
Noise Level Indl. Area (Day)	dB	75	70.0	IS 9989:1981 (RA 2014)
Noise Level Indl. Area (Night)	dB	70	64.1	IS 9989:1981 (RA 2014)
Location & Date : RENGOPALI , 29.11.2019				
Noise Level Indl. Area (Day)	dB	55	52.1	IS 9989:1981 (RA 2014)





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003145P

Test Report No : 344 | 3642C49 KLPL/11/19/ENVN/00435 Issue Date : 07-Dec-2019
 Rerefrence : 6600011158 / 11.12.2018
 Customer Name : VEDANTA LIMITED, LANJIGARH
 Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
 Date of receipt : 30-Nov-2019 Commenced On : 30-Nov-2019 Completion On: 30-Nov-2019

Sample Name : NOISE
 Sample Condition : --
 Quantity : 1 NO.
 Ref.To Sampling Procedure: KLPL/SOP/AIR-06

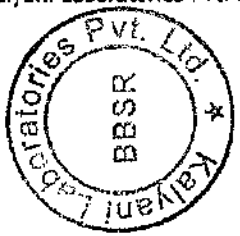
Parameters	Unit	Standard Value	Results	Test Method
Noise Level Indl. Area (Night)	dB	45	34.0	IS 9989:1981 (RA 2014)

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Aroulha
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



C4931456111
 KLPL- 338828A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003141P

Test Report No : 343 | 3609C45 KLPL/11/19/ENVN/00423 **Issue Date** : 07-Dec-2019

Rerefrence : 6600011158 DTD- 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 11-Nov-2019 **Commenced On** : 11-Nov-2019 **Completion On**: 14-Nov-2019

Sample Name : FLUE GAS | STACK MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : CALCINER UNIT-I, 06.11.2019				
Sulphur Dioxide	mg/Nm ³	-	740.3	IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	39.7	KLPL/SOP/AIR-06
Carbon Dioxide	%	-	18.0	KLPL/SOP/AIR-06
Velocity	m/sec	-	29.02	KLPL/SOP/AIR-06
Oxygen	%	-	4.28	KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	--	--	441	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	342.2	IS 11255 (part-7):2005
Quantity of Gas Flow	Nm ³ / hr	-	4379125	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.0473	KLPL/SOP/AIR-06
Pressure	mmH ₂ O	--	50.19	KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Acharya
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



C4531416105
KLPL- 338635A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003141P

Test Report No : 343 | 3609C45 KLPL/11/19/ENVN/00423A

Issue Date : 07-Dec-2019

Rerefrence : 6600011158 DTD- 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 11-Nov-2019

Commenced On : 11-Nov-2019

Completion On: 14-Nov-2019

Sample Name : FLUE GAS | STACK MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : POWER PLANT UNIT-2 , 08.11.2019				
Sulphur Dioxide	mg/Nm ³	-	755.5	IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	47.9	KLPL/SOP/AIR-06
Carbon Dioxide	%	-	10.5	KLPL/SOP/AIR-06
Velocity	m/sec	-	8.02	KLPL/SOP/AIR-06
Oxygen %	%	-	5.5	KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	--	--	412	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	329.7	IS 11255 (part-7):2005
Quantity of Gas Flow	Nm ³ / hr	-	1589702	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.048	KLPL/SOP/AIR-06
Pressure	mmH ₂ O	--	4.11	KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Aoukha
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



C4531416105

KLPL- 338642A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST-REPORT



NABL ULR NO : TC704319000003141P

Test Report No : 343 | 3609C45 KLPL/11/19/ENVN/00423B **Issue Date** : 07-Dec-2019

Rerefrence : 6600011158 DTD- 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 16-Nov-2019 **Commenced On** : 16-Nov-2019 **Completion On**: 19-Nov-2019

Sample Name : FLUE GAS | STACK MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST

Quantity : 1 NO.

Ref. To Sampling Procedure: KLPL/SOP/AIR-06

Location & Date : POWER PLANT UNIT-3 , 13.11.2019

Sulphur Dioxide	mg/Nm ³	-	742.5	IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	41.3	KLPL/SOP/AIR-06
Carbon Dioxide	%	-	10.1	KLPL/SOP/AIR-06
Velocity	m/sec	-	8.13	KLPL/SOP/AIR-06
Oxygen	%	-	5.1	KLPL/SOP/AIR-06
Stack Temperature In Deg kelvin	--	--	408	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	330.6	IS 11255 (part-7):2005
Quantity of Gas Flow	Nm ³ / hr	-	1616347	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.0495	KLPL/SOP/AIR-06
Pressure	mmH ₂ O	--	4.26	KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

D Sambas Anujata

Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



C4531416105

KLPL- 339722A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003141P

Test Report No : 343 | 3609C45 KLPL/11/19/ENVN/00423C

Issue Date : 07-Dec-2019

Rereference : 6600011158 DTD- 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 16-Nov-2019

Commenced On : 16-Nov-2019

Completion On: 19-Nov-2019

Sample Name : FLUE GAS | STACK MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

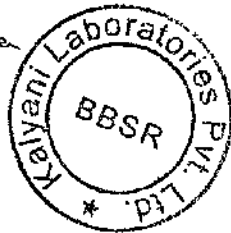
Parameters	Unit	Standard Value	Results	Test Method
Location & Date : CALCINER UNIT-II, 14.11.2019				
Sulphur Dioxide	mg/Nm ³	-	744.9	IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	37.7	KLPL/SOP/AIR-06
Carbon Dioxide	%	-	14.4	KLPL/SOP/AIR-06
Velocity	m/sec	-	27.26	KLPL/SOP/AIR-06
Oxygen	%	-	4.68	KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	--	--	458	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	329.4	IS 11255 (part-7):2005
Quantity of Gas Flow	Nm ³ / hr	-	4014199	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.0355	KLPL/SOP/AIR-06
Pressure	mmH ₂ O	--	42.63	KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambhar Anurkha
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003141P

Test Report No : 343 | 3609C45 KLPL/11/19/ENVN/00423C

Issue Date : 07-Dec-2019

Rerefrence : 6600011158 DTD- 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 25-Nov-2019

Commenced On : 25-Nov-2019

Completion On: 28-Nov-2019

Sample Name : FLUE GAS | STACK MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

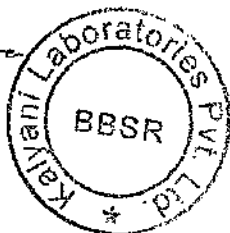
Parameters	Unit	Standard Value	Results	Test Method
Location & Date : CALCINER UNIT-II, 22.11.2019				
Sulphur Dioxide	mg/Nm ³	-	749.2	IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	41.6	KLPL/SOP/AIR-06
Carbon Dioxide	%	-	14.5	KLPL/SOP/AIR-06
Velocity	m/sec	-	18.48	KLPL/SOP/AIR-06
Oxygen	%	-	4.71	KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	--	--	438	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	334.1	IS 11255 (part-7):2005
Quantity of Gas Flow	Nm ³ / hr	-	2836098	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.0362	KLPL/SOP/AIR-06
Pressure	mmH ₂ O	--	20.5	KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Dipankar Pradhan
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



C4531416105
KLPL- 338639A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003141P

Test Report No : 343 | 3609C45 KLPL/11/19/ENVN/00423E

Issue Date : 07-Dec-2019

Rereference : 6600011158 DTD- 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 25-Nov-2019

Commenced On : 25-Nov-2019

Completion On : 28-Nov-2019

Sample Name : FLUE GAS | STACK MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Location & Date : POWER PLANT UNIT-2, 23.11.2019

Sulphur Dioxide	mg/Nm ³	-	760.3	IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	47.0	KLPL/SOP/AIR-06
Carbon Dioxide	%	-	10.65	KLPL/SOP/AIR-06
Velocity	m/sec	-	6.31	KLPL/SOP/AIR-06
Oxygen	%	-	5.58	KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	--	--	409	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	335.7	IS 11255 (part-7):2005
Quantity of Gas Flow	Nm ³ / hr	-	1251440	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.0497	KLPL/SOP/AIR-06
Pressure	mmH ₂ O	---	2.56	KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Anilata
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



C4531416105

Page 1 of 1

KLPL- 339720A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003141P

Test Report No : 343 | 3609C45 KLPL/11/19/ENVN/00423F **Issue Date** : 07-Dec-2019

Rereference : 6600011158 DTD- 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 30-Nov-2019 **Commenced On** : 30--Nov-2019 **Completion On**: 03-Dec-2019

Sample Name : **FLUE GAS | STACK MONITORING**

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Location & Date : POWER PLANT UNIT-3 , 27.11.2019

Sulphur Dioxide	mg/Nm ³	-	748.2	IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	46.6	KLPL/SOP/AIR-06
Carbon Dioxide	%	-	10.2	KLPL/SOP/AIR-06
Velocity	m/sec	-	7.69	KLPL/SOP/AIR-06
Oxygen	%	-	5.2	KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	--	--	417	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	337.1	IS 11255 (part-7):2005
Quantity of Gas Flow	Nm ³ / hr	-	1506013	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.0525	KLPL/SOP/AIR-06
Pressure	mmH2O	--	3.73	KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Ananda
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



C4531416105

KLPL- 339718A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003141P

Test Report No : 343 | 3609C45 KLPL/11/19/ENVN/00423G

Issue Date : 07-Dec-2019

Rerefrence : 6600011158 DTD- 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 30-Nov-2019 Commenced On : 30-Nov-2019

Completion On: 03-Dec-2019

Sample Name : FLUE GAS | STACK MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

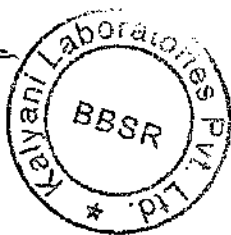
Parameters	Unit	Standard Value	Results	Test Method
Location & Date : CALCINER UNIT-I, 29.11.2019				
Sulphur Dioxide	mg/Nm ³	-	750.0	IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	44.8	KLPL/SOP/AIR-06
Carbon Dioxide	%	-	18.1	KLPL/SOP/AIR-06
Velocity	m/sec	-	20.98	KLPL/SOP/AIR-06
Oxygen	%	-	4.32	KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	--	--	453	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	348.3	IS 11255 (part-7):2005
Quantity of Gas Flow	Nm ³ / hr	-	3092400	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.048	KLPL/SOP/AIR-06
Pressure	mmH ₂ O	--	25.53	KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Joubla
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



C4531416105
KLPL- 338636A



KALYANI LABORATORIES PVT. LTD.

78911, PAHALI, BHUBANESWAR-751011, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003299P
Test Report No : 368 | 3862CE3 KLPL/12/19/ENVN/00467
Amendment No : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.
Date of receipt : 09-Dec-2019 **Commenced On** : 09-Dec-2019 **Completion On** : 14-Dec-2019
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 1 NO.
Ref. To Sampling Procedure : KLPL/SOP/AIR-05

Issue Date : 04-Jan-2020
Amendment Date : -

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : CHHATRAPUR VILLAGE, 03.12.2019				
Sulphur Dioxide	µg/m ³	80	8.21	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	18.13	IS 5182 (PART 6) : 2005
Particulate Matter (PM10)	µg/m ³	100	60.0	IS 5182(PART-23) : 2005
Particulate Matter (PM2.5)	µg/m ³	60	39.14	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.47	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.9	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	05	< 1.0	KLPL/SOP/AIR-10
Nickel (NI)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL
..... End of Test Report

Digambar Aruha
 Analysed By
 For Kalyani Laboratories Pvt. Ltd.

Digambar
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



CE332996343
 KLPL- 339013A



KALYANI LABORATORIES PVT. LTD.

75/14, PAHAL, RIB BANSI SWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000003299P
Test Report No : 368 | 3862CE3 KLPL/12/19/ENVN/00457A **Issue Date** : 04-Jan-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PD.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.
Date of receipt : 09-Dec-2019 **Commenced On** : 09-Dec-2019 **Completion On** : 14-Dec-2019
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 1 NO.
Ref.To Sampling Procedure : KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : MID DAY MEAL, 04.12.2019				
Sulphur Dioxide	µg/m ³	80	9.07	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	16.59	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	69.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	43.30	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.69	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.2	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	mg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL
..... End of Test Report

Digambar Anubha
Analysed By
For Kalyani Laboratories Pvt. Ltd.

Digambar
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



CE332996343
KLPL- 339100A
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KALYANI LABORATORIES PVT. LTD.

78941, PAHALI, BIRJANI SWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003299P
 Test Report No : 368 | 3862CE3 KLPL/12/19/ENVN/004678 Issue Date : 04-Jan-2020
 Amendment No : - Amendment Date : -
 Reference : ORDER NO-6600013488 DT-16.12.2019
 Customer Name : VEDANTA LIMITED, LANJIGARH
 Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.
 Date of receipt : 09-Dec-2019 Commenced On : 09-Dec-2019 Completion On: 14-Dec-2019
 Sample Name : AMBIENT AIR QUALITY MONITORING
 Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
 Quantity : 1 NO.
 Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : LANJIGARH VILLAGE, 05.12.2019				
Sulphur Dioxide	µg/m ³	80	10.13	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	19.10	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	72.0	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	46.42	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.49	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	6.5	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (NI)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL
..... End of Test Report

Digambar Anubala
Analysed By
For Kalyani Laboratories Pvt. Ltd.

[Signature]
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



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KALYANI LABORATORIES PVT. LTD.

78941, PAHALI, BHUBANESWAR 752101, ODISHA

NABL ULR NO : TC704320000003299P

TEST REPORT



Test Report No : 368 | 3862CE3 KLPL/12/19/ENVN/00467C

Issue Date : 04-Jan-2020

Amendment No : -

Amendment Date : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.

Date of receipt : 09-Dec-2019

Commenced On : 09-Dec-2019

Completion On : 14-Dec-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : REHABILITATION COLONY, 06.12.2019				
Sulphur Dioxide	µg/m ³	80	9.20	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	17.28	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	67.0	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	42.02	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.76	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	7.8	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzo (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



CE332996343
KLPL- 339098A



KALYANI LABORATORIES PVT. LTD.

78/94, PAHAL, BHUBANESWAR-752101, ODISHA

Kalyani Laboratories

TEST REPORT



NABL ULR NO : TC704320000003299P

Test Report No : 368 | 3862CE3 KLPL/12/19/ENVN/00467D

Amendment No : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.

Date of receipt : 09-Dec-2019

Commenced On : 09-Dec-2019

Completion On : 14-Dec-2019

Issue Date : 04-Jan-2020

Amendment Date : -

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure : KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : BELAMBA VILLAGE, 07.12.2019				
Sulphur Dioxide	µg/m ³	80	7.35	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	16.05	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	64.0	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	39.14	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.43	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.2	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL
..... End of Test Report

Digambar Das
Analysed By
For Kalyani Laboratories Pvt. Ltd.

M. Prasad
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



CE332996343
KLPL- 339097A



KALYANI LABORATORIES PVT. LTD.

78/11, PAHALI, BHUBANESWAR-751001, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003299P
Test Report No : 368 | 3862CE3 KLPL/12/19/ENVN/00467E
Amendment No : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.
Date of receipt : 16-Dec-2019 **Commenced On** : 15-Dec-2019 **Completion On** : 21-Dec-2019
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 1 NO.
Ref.To Sampling Procedure : KLPL/SOP/AIR-06

Issue Date : 04-Jan-2020
Amendment Date : -

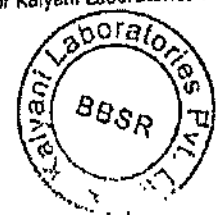
Parameters	Unit	Standard Value	Results	Test Method
Location & Date : PLANT SITE, 09.12.2019				
Sulphur Dioxide	µg/m ³	80	10.08	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	22.18	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	76.0	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	51.29	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	1.55	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	13.1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzo (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (NI)	ng/m ³	20	4.3	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL
..... End of Test Report

Digambar Anubhai
 Analysed By
 For Kalyani Laboratories Pvt. Ltd.

[Signature]
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



CE332996343
 KLPL- 338096A



KALYANI LABORATORIES PVT. LTD.

78944, PAHALI, BHB DANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000003295P
Test Report No : 368 | 3862CE3 KLPL/12/19/ENVN/00467P
Amendment No : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.
Date of receipt : 16-Dec-2019 **Commenced On** : 16-Dec-2019 **Completion On** : 21-Dec-2019
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 1 NO.
Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Issue Date : 04-Jan-2020

Amendment Date : -

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : CHHATRAPUR VILLAGE, 10.12.2019				
Sulphur Dioxide	µg/m ³	80	9.40	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	19.26	IS 5182 (PART 6) :2005
Particulate Matter (PM10)	µg/m ³	100	64.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	38.14	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.48	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	2.6	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (NI)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL
..... End of Test Report

Dipankar Anand
Analysed By
For Kalyani Laboratories Pvt. Ltd.

Dipankar Anand
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



CE332996343
KLPL- 339095A

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KALYANI LABORATORIES PVT. LTD.

78/11, PAHALI, BILUBANESWAR, JSR/DI, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003299P

Test Report No : 36B | 3862CE3 KLPL/12/19/ENVH/00467G

Issue Date : 04-Jan-2020

Amendment No : -

Amendment Date : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : YEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.

Date of receipt : 16-Dec-2019

Commenced On : 16-Dec-2019

Completion On : 21-Dec-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : MID DAY MEAL, 11.12.2019				
Sulphur Dioxide	µg/m ³	80	10.40	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	20.43	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	71.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	46.22	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.71	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.9	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Digambar Anubh
Analysed By
For Kalyani Laboratories Pvt. Ltd.

Digambar Anubh
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



CE332996343
KLPL-339094A

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KALYANI LABORATORIES PVT. LTD.

78214, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000009299P
 Test Report No : 3GB | 3B62CE3 KLPL/12/19/ENVN/00467H Issue Date : 01-Jan-2020
 Amendment No : - Amendment Date : -
 Reference : ORDER NO-6600013488 DT-16.12.2019
 Customer Name : YEDANTA LIMITED, LANJIGARH
 Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766207.
 Date of receipt : 16-Dec-2019 Commenced On : 16-Dec-2019 Completion On: 21-Dec-2019
 Sample Name : AMBIENT AIR QUALITY MONITORING
 Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
 Quantity : 1 NO.
 Ref. To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : LANJIGARH VILLAGE, 12.12.2019				
Sulphur Dioxide	µg/m ³	80	11.23	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	22.46	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	74.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	48.04	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.51	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.2	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	05	< 1.0	KLPL/SOP/AIR-10
Nickel (NI)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



CE332996343
KLPL- 339093A



KALYANI LABORATORIES PVT. LTD.

789/H, PAHAL, BIL BASISWAR, 752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003299P
Test Report No : 368 | 3862CE3 KLPL/12/19/ENVN/004671 **Issue Date** : 04-Jan-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.
Date of receipt : 16-Dec-2019 **Commenced On** : 16-Dec-2019 **Completion On** : 21-Dec-2019
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 1 NO.
Ref.To Sampling Procedure: KLPL/SOP/AIR-05

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : REHABILITATION COLONY, 13.12.2019				
Sulphur Dioxide	µg/m ³	80	10.17	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	21.18	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	68.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	43.30	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.77	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	6.5	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzo (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL
..... End of Test Report

Digambar Anand
Analysed By
For Kalyani Laboratories Pvt. Ltd.

Digambar Anand
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



CE332996343
KLPL- 339092A
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KALYANI LABORATORIES PVT. LTD.

78941, PAHAL, BHUBANESWAR-751001, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003299P

Test Report No : 369 | 3862CE3 KLPL/12/19/ENVN/004673

Issue Date : 04-Jan-2020

Amendment No : -

Amendment Date : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.

Date of receipt : 16-Dec-2019 Commenced On : 16-Dec-2019

Completion On: 21-Dec-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref. To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : BELAMBA VILLAGE, 14.12.2019				
Sulphur Dioxide	µg/m ³	80	9.11	IS 5102(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	20.33	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	65.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	42.38	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.45	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.9	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

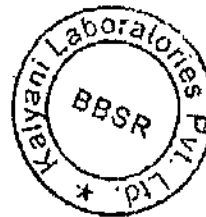
Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



CE332996343
KLPL- 339091A



KALYANI LABORATORIES PVT. LTD.

78911, PAHAL, DIB BANESWAR, 752101, ODISHA

Kalyani Laboratories

TEST REPORT



NABL ULR NO : TC704320000003299P
Test Report No : 368 | 3862CE3 KLPL/12/19/ENVN/00467K **Issue Date** : 04-Jan-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.
Date of receipt : 23-Dec-2019 **Commenced On** : 23-Dec-2019 **Completion On** : 28-Dec-2019
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 1 NO.
Ref.To Sampling Procedure : KLPL/SOP/AIR-06

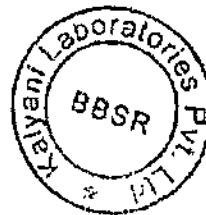
Parameters	Unit	Standard Value	Results	Test Method
Location & Date : PLANT SITE, 16.12.2019				
Sulphur Dioxide	µg/m ³	80	11.18	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	25.20	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	78.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	52.18	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	1.57	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	14.4	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	4.8	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL
..... End of Test Report

Digambar Anand
Analysed By
For Kalyani Laboratories Pvt. Ltd.

[Signature]
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



CE332996343
KLPL- 339090



KALYANI LABORATORIES PVT. LTD.

78944, PAHAL, BHUBANESWAR-751061, ODISHA

TEST REPORT



NABL ULR NO : TC70432000003299P
Test Report No : 368 | 3662CE3 KLPL/12/19/ENVN/00467L **Issue Date** : 04-Jan-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766207.
Date of receipt : 23-Dec-2019 **Commented On** : 23-Dec-2019 **Completion On** : 28-Dec-2019
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 1 NO.
Ref. To Sampling Procedure : KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : CHHATRAPUR VILLAGE, 17.12.2019				
Sulphur Dioxide	µg/m ³	80	8.24	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	22.25	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	69.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	42.35	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.51	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.2	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzo (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (NI)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL
..... End of Test Report

Disambhar Rout
Analysed By
For Kalyani Laboratories Pvt. Ltd.

Disambhar Rout
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



CE332996343
KLPL- 339044A of 1



KALYANI LABORATORIES PVT. LTD.

78944, PAHALI, BIR BANESWAR-751101, ODISHA

NABL ULR NO : TC704320000003299P

TEST REPORT



Test Report No : 368 | 3862CE3 KLPL/12/19/ENVN/00467M

Issue Date : 04-Jan-2020

Amendment No : -

Amendment Date : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7562027.

Date of receipt : 23-Dec-2019

Commenced On : 23-Dec-2019

Completion On: 28-Dec-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : MID DAY MEAL, 18.12.2019				
Sulphur Dioxide	µg/m ³	80	9.03	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	23.37	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	73.0	IS 5182(PART-23) :2005
Particulate Matter (PM2.5)	µg/m ³	60	47.42	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.73	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	6.5	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzo (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



CE332996343
KLPL- 339087A



KALYANI LABORATORIES PVT. LTD.

78041, PAHALI, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003299P

Test Report No : 368 | 3862CE3 KLPL/12/19/ENVN/00467N Issue Date : 04-Jan-2020
 Amendment No : - Amendment Date : -
 Reference : ORDER NO-6600013488 DT-16.12.2019
 Customer Name : VEDANTA LIMITED, LANJIGARH
 Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.
 Date of receipt : 23-Dec-2019 Commenced On : 23-Dec-2019 Completion On: 28-Dec-2019
 Sample Name : AMBIENT AIR QUALITY MONITORING
 Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
 Quantity : 1 NO.
 Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : LANJIGARH VILLAGE, 19.12.2019				
Sulphur Dioxide	µg/m³	80	10.36	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m³	80	24.25	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m³	100	75.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m³	60	50.21	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m³	04	0.53	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m³	160	7.8	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



CE332996343
KLPL-339086A



KALYANI LABORATORIES PVT. LTD.

78N41, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000003299P
Test Report No : 368 | 3862CE3 KLPL/12/19/ENVN/004670
Amendment No : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.
Date of receipt : 23-Dec-2019
Commenced On : 23-Dec-2019
Completion On : 28-Dec-2019
Issue Date : 04-Jan-2020
Amendment Date : -

Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 1 NO.
Ref. To Sampling Procedure : KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : REHABILITATION COLONY, 20.12.2019				
Sulphur Dioxide	µg/m ³	80	11.13	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	20.24	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	69.0	IS 5182(PART-23) : 2005
Particulate Matter (PM2.5)	µg/m ³	60	45.26	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.79	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	7.8	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL
..... End of Test Report

Analysed By
Dipankar Ananta
For Kalyani Laboratories Pvt. Ltd.

[Signature]
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



CE332996343
KLPL- 339085A



KALYANI LABORATORIES PVT. LTD.

78944, PAHAL, BIR BANJESWAR, 751011, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003299P
 Test Report No : 368 | 3862CE3 KLPL/12/19/ENVN/00467P
 Amendment No : -
 Reference : ORDER NO-6600013488 DT-16.12.2019
 Customer Name : VEDANTA LIMITED, LANJIGARH
 Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.
 Date of receipt : 23-Dec-2019
 Commenced On : 23-Dec-2019
 Completion On: 28-Dec-2019
 Sample Name : AMBIENT AIR QUALITY MONITORING
 Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
 Quantity : 1 NO.
 Ref.To Sampling Procedure: KLPL/SOP/AIR-0G

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : BELAMBA VILLAGE, 21.12.2019				
Sulphur Dioxide	µg/m ³	80	8.10	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	19.10	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	68.0	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	44.06	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.47	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.2	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL
..... End of Test Report

Digambar Anandha
Analysed By
For Kalyani Laboratories Pvt. Ltd.

Meghna
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



CE332996343
KLPL-339084A



KALYANI LABORATORIES PVT. LTD.

782 H. PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003299P

Test Report No : 368 | 3B62CE3 KLPL/12/19/ENVN/00467Q **Issue Date** : 04-Jan-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-5600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.

Date of receipt : 30-Dec-2019 **Commenced On** : 30-Dec-2019 **Completion On** : 03-Jan-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : PLANT SITE, 23.12.2019				
Sulphur Dioxide	µg/m ³	80	12.26	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	24.08	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	77.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	50.21	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	1.56	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	15.7	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzo (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	4.6	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Digambar Acharya
Analysed By
For Kalyani Laboratories Pvt. Ltd.

Digambar Acharya
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



CE332996343
KLPL- 339083A



KALYANI LABORATORIES PVT. LTD.

78941, PAHALI, BHUBANESWAR-751011, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003299P
Test Report No : 368 | 3862CE3 KLPL/12/19/ENVN/00467R **Issue Date** : 04-Jan-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.
Date of receipt : 30-Dec-2019 **Commenced On** : 30-Dec-2019 **Completion On** : 03-Jan-2019
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 1 NO.
Ref.To Sampling Procedure : KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : CHHATRAPUR VILLAGE, 24.12.2019				
Sulphur Dioxide	µg/m ³	80	9.36	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	23.17	IS 5182 (PART 6) :2005
Particulate Matter (PM10)	µg/m ³	100	68.0	IS 5182(PART-23) :2005
Particulate Matter (PM2.5)	µg/m ³	60	43.30	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.50	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.9	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Digambar Anujaha
 Analysed By
 For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



CE332996343
 KLPL- 339082A

KALYANI LABORATORIES PVT. LTD.

Kalyani Laboratories

TEST REPORT



NABL ULR NO : TC704320000003299P
Test Report No : 368 | 3862CE3 KLPL/12/19/ENVN/00467S
Amendment No :
Reference : ORDER NO-EE00013488 DT 16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO - LANJIGARH, DIST - KALAHANDI, ODISHA-7662027
Date of receipt : 30-Dec-2019 **Commenced On** : 30-Dec-2019 **Completion On** : 03-Jan-2020
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 1 NO.
Ref To Sampling Procedure : KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : LANJIGARH VILLAGE, 26.12.2019				
Sulphur Dioxide	µg/m ³	80	11.37	IS 5102(PART-2)-2001
Nitrogen Dioxide	µg/m ³	80	26.06	IS 5102 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	78.0	IS 5102(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	48.47	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.54	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	7.9	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzo (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Analysed By
 For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory 2/01/2020
 For Kalyani Laboratories Pvt. Ltd.



CE332996343
 KLPL- 338943A
Page 1 of 1



KALYANI LABORATORIES PVT. LTD.

78943, PAHAL, BIR BANISWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003299P

Test Report No : 368 | 3862CE3 KLPL/12/19/ENVN/00467T **Issue Date** : 04-Jan-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.

Date of receipt : 30-Dec-2019 **Commenced On** : 30-Dec-2019 **Completion On** : 03-Jan-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure : KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : REHABILITATION COLONY, 27.12.2019				
Sulphur Dioxide	µg/m ³	80	10.13	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	23.01	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	72.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	46.42	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.81	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	6.5	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Dibambra Anur
 Analysed By
 For Kalyani Laboratories Pvt. Ltd.

Prasanna
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



CE332996343
 KLPL- 339080A
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KALYANI LABORATORIES PVT. LTD.

78214, PAHAL, BHURANISWAR-752101 ODISHA

TEST REPORT



NABL ULR NO : TC704320000003299P

Test Report No : 368 | 3662CE3 KLPL/12/19/ENVN/00467U

Issue Date : 04-Jan-2020

Amendment No : -

Amendment Date : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766207.

Date of receipt : 30-Dec-2019

Commenced On : 30-Dec-2019

Completion On: 03-Jan-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : BELAMBA VILLAGE, 28.12.2019				
Sulphur Dioxide	µg/m ³	80	9.19	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	22.55	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	70.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	43.30	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.49	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	6.5	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

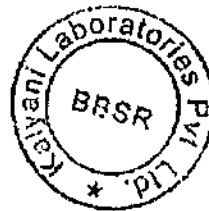
Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
Digambar Baulaha
For Kalyani Laboratories Pvt. Ltd.

Digambar Baulaha
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



CE332996343
KLPL- 339079A

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KALYANI LABORATORIES PVT. LTD.

78911, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003299P

Test Report No : 368 | 3862CE3 KLPL/12/19/ENVN/00467V

Issue Date : 04-Jan-2020

Amendment No : -

Amendment Date : -

Reference : ORDER NO-6600013489 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.

Date of receipt : 02-Jan-2019

Commenced On : 02-Jan-2019

Completion On: 04-Jan-2019

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : PLANT SITE, 30.12.2019				
Sulphur Dioxide	µg/m ³	80	11.15	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	26.21	IS 5182 (PART 5) :2006
Particulate Matter (PM10)	µg/m ³	100	75.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	47.42	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	1.53	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	13.1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-1 & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	4.2	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Digambar Anand
Analysed By
For Kalyani Laboratories Pvt. Ltd.

Digambar Anand
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



CE332996343
KLPL-339089A



KALYANI LABORATORIES PVT. LTD.

78,911, PALLAI, BHUPANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003299P
 Test Report No : 368 | 3862CE3 KLPL/12/19/ENVN/00467W Issue Date : 04-Jan-2020
 Amendment No : - Amendment Date : -
 Reference : ORDER NO-6600013488 DT-16.12.2019
 Customer Name : VEDANTA LIMITED, LANJIGARH
 Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.
 Date of receipt : 02-Jan-2019 Commenced On : 02-Jan-2019 Completion On: 04-Jan-2019
 Sample Name : AMBIENT AIR QUALITY MONITORING
 Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
 Quantity : 1 NO.
 Ref. To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : MID DAY MEAL, 31.12.2019				
Sulphur Dioxide	µg/m ³	80	8.10	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	24.27	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	72.0	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	50	42.38	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.72	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	6.5	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzo (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL
..... End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



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KLPL- 339088A



KALYANI LABORATORIES PVT. LTD.

78944, PAHALI, BHILAI, RAJESWAR, 75101, ODISHA

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TEST REPORT



NABL ULR NO : TC704320000003301P

Test Report No : 369 | 3863CE5 KLPL/12/19/ENVN/00468 **Issue Date** : 04-Jan-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 16-Dec-2019 **Commenced On** : 16-Dec-2019 **Completion On** : 20-Dec-2019

Sample Name : FLUE GAS | STACK MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST

Quantity : 1 NO.

Ref.To Sampling Procedure : KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : POWER PLANT UNIT-2, 13.12.2019				
Sulphur Dioxide	mg/Nm ³	-	741.6	IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	42.16	KLPL/SOP/AIR-06
Velocity	m/sec	-	6.83	KLPL/SOP/AIR-06
Oxygen	%	-	5.3	KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	--	--	409	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	-	318.2	IS 11255 (part-7):2005
carbon Dioxide	%	--	10.2	KLPL/SOP/AIR-06
Quantity of Gas Flow	Nm ³ / hr	-	1727478	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	-	0.045	KLPL/SOP/AIR-06
Pressure	mmH2O	--	5.01	KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL
..... End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorized Signatory
For Kalyani Laboratories Pvt. Ltd.



CE533016345
KLPL-339077A



KALYANI LABORATORIES PVT. LTD.

78911, PAHAL, BIRUBANSWAR, 752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000003301P

Test Report No : 369 | 3863CE5 KLPL/12/19/EHVN/00468A **Issue Date** : 04-Jan-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 16-Dec-2019 **Commenced On** : 16-Dec-2019 **Completion On** : 20-Dec-2019

Sample Name : FLUE GAS | STACK MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST

Quantity : 1 NO.

Ref. To Sampling Procedure : KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : CALCINER UNIT-I, 14.12.2019				
Sulphur Dioxide	mg/Nm ³	-	732.0	IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	35.7	KLPL/SOP/AIR-06
Velocity	m/sec	-	34.94	KLPL/SOP/AIR-06
Oxygen	%	-	4.25	KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	--	--	457	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	935.2	IS 11255 (part-7):2005
Carbon Dioxide	%	--	17.9	KLPL/SOP/AIR-06
Quantity of Gas Flow	Nm ³ / hr	-	5190646	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.046	KLPL/SOP/AIR-06
Pressure	mmH ₂ O	--	70.21	KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL
..... End of Test Report

Digambar Anblu
Analysed By
For Kalyani Laboratories Pvt. Ltd.

Dalmeel
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



CE533016345
KLPL- 339076A
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KALYANI LABORATORIES PVT. LTD.

78944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003301P

Test Report No : 369 | 3863CES KLPL/12/19/ENVN/00468B

Issue Date : 04-Jan-2020

Amendment No : -

Amendment Date : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 20-Dec-2019 Commenced On : 20-Dec-2019

Completion On: 24-Dec-2019

Sample Name : FLUE GAS | STACK MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : CALCINER UNIT-1, 18.12.2019				
Sulphur Dioxide	mg/Nm ³	-	738.5	IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	40.6	KLPL/SOP/AIR-06
Velocity	m/sec	-	34.38	KLPL/SOP/AIR-06
Oxygen	%	-	4.5	KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	--	--	451	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	341.2	IS 11255 (part-7):2005
carbon Dioxide	%	--	18.0	KLPL/SOP/AIR-06
Quantity of Gas Flow	Nm ³ / hr	-	4970435	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.0465	KLPL/SOP/AIR-06
Pressure	mmH ₂ O	--	68.86	KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By

For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



CE533016345
KLPL- 339075A

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KALYANI LABORATORIES PVT. LTD.

Kalyani Laboratories

TEST REPORT



NABL ULR NO : TC704320000003301P
Test Report No : 369 | 3863CE5 KLPL/12/19/ENVN/00468C
Amendment No :
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 20-Dec-2019 **Commenced On** : 20-Dec-2019 **Completion On** : 24-Dec-2019
Sample Name : FLUE GAS | STACK MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST
Quantity : 1 NO.
Ref. To Sampling Procedure : KLPL/SOP/AIR-06

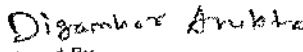
Issue Date : 04-Jan-2020

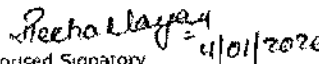
Amendment Date : -

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : POWER PLANT UNIT-3, 19.12.2019				
Sulphur Dioxide	mg/Nm ³	-	736.5	IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	41.0	KLPL/SOP/AIR-06
Velocity	m/sec	-	12.36	KLPL/SOP/AIR-06
Oxygen	%	-	5.0	KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	--	--	423	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	325.5	IS 11255 (part-7):2005
Carbon Dioxide	%	--	10.0	KLPL/SOP/AIR-06
Quantity of Gas Flow	Nm ³ / hr	-	2386254	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.0512	KLPL/SOP/AIR-06
Pressure	mmH ₂ O	--	9.5	KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL
 End of Test Report


 Analysed By
 For Kalyani Laboratories Pvt. Ltd.


 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



CE533016345
 KLPL-338813A



KALYANI LABORATORIES PVT. LTD.

78°44, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000003301P

Test Report No : 369 | 3863CES KLPL/12/19/ENVN/00468D **Issue Date** : 04-Jan-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 30-Dec-2019 **Commenced On** : 30-Dec-2019 **Completion On**: 03-Jan-2019

Sample Name : FLUE GAS | STACK MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST

Quantity : 1 NO.

Ref. To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : CALCINER UNIT-II, 27.12.2019				
Sulphur Dioxide	mg/Nm ³	-	737.1	IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	33.45	KLPL/SOP/AIR-06
Velocity	m/sec	-	18.10	KLPL/SOP/AIR-06
Oxygen	%	-	4.65	KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	°C	-	455	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	-	322.8	IS 11255 (part-7):2005
Carbon Dioxide	%	-	14.2	KLPL/SOP/AIR-06
Quantity of Gas Flow	Nm ³ / hr	-	5591160	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	-	0.0342	KLPL/SOP/AIR-06
Pressure	mmH ₂ O	-	83.83	KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL
..... End of Test Report

Digambar Brouha
Analysed By
For Kalyani Laboratories Pvt. Ltd.

Digambar Brouha
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



CE533016345
KLPL- 339073A
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KALYANI LABORATORIES PVT. LTD.

78,041, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000003301P
Test Report No : 369 | 3863CE5 KLPL/12/19/ENVN/00468E **Issue Date** : 04-Jan-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 30-Dec-2019 **Commenced On** : 30-Dec-2019 **Completion On** : 03-JAN-2019
Sample Name : FLUE GAS | STACK MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST
Quantity : 1 NO.
Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : POWER PLANT UNIT-3 , 28.12.2019				
Sulphur Dioxide	mg/Nm ³	-	731.2	IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	48.5	KLPL/SOP/AIR-06
Velocity	m/sec	-	12.88	KLPL/SOP/AIR-06
Oxygen	%	-	4.9	KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	--	--	411	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	320.2	IS 11255 (part-7):2005
carbon Dioxide	%	--	9.9	KLPL/SOP/AIR-06
Quantity of Gas Flow	Nm ³ / hr	-	2593718	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.051	KLPL/SOP/AIR-06
Pressure	mmH ₂ O	--	10.61	KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL

Dibambur Anisha
Analysed By
For Kalyani Laboratories Pvt. Ltd.

[Signature]
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



CE533016345
KLPL- 339072A



KALYANI LABORATORIES PVT. LTD.

TEST REPORT



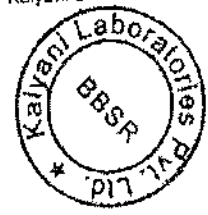
NABL ULR NO : TC704320000003301P
Test Report No : 369 | 3863CE5 KLPL/12/19/ENVN/00468F
Amendment No :
Reference : ORDER NO-6600013458 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST - KALAHANDI, ODISHA-766027.
Date of receipt : 01-Jan-2019 **Commenced On** : 01-Jan-2019 **Completion On** : 04-JAN-2019
Sample Name : FLUE GAS | STACK MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST
Quantity : 1 NO.
Ref.To Sampling Procedure : KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : POWER PLANT UNIT-3, 30.12.2019				
Sulphur Dioxide	mg/Nm ³	-	739.4	IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	45.7	KLPL/SOP/AIR-06
Velocity	m/sec	-	10.24	KLPL/SOP/AIR-06
Oxygen	%	-	5.1	KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	--	--	407	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	329.5	IS 11255 (part-7) 2005
Carbon Dioxide	%	--	10.3	KLPL/SOP/AIR-06
Quantity of Gas Flow	Nm ³ / hr	-	204776	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.0525	KLPL/SOP/AIR-06
Pressure	mmH ₂ O	--	6.77	KLPL/SOP/AIR-06

Remarks : NIL
 Any unusual feature observed during determination : NIL
 End of Test Report

Analysed By
 For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



CE533016345
 KLPL-338812A



KALYANI LABORATORIES PVT. LTD.

78944, PAHAL, BIRUPANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000003301P
 Test Report No : 369 | 3863CES KLPL/12/19/ENVN/00468G Issue Date : 04-Jan-2020
 Amendment No : - Amendment Date : -
 Reference : ORDER NO-6600013488 DT-16.12.2019
 Customer Name : VEDANTA LIMITED, LANJIGARH
 Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
 Date of receipt : 01-Jan-2019 Commenced On : 01-Jan-2019 Completion On: 04-Jan-2019
 Sample Name : FLUE GAS | STACK MONITORING
 Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST
 Quantity : 1 NO.
 Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : CALCINER UNIT-II, 31.12.2019				
Sulphur Dioxide	mg/Nm ³	-	742.3	IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	38.5	KLPL/SOP/AIR-06
Velocity	m/sec	-	26.87	KLPL/SOP/AIR-06
Oxygen	%	-	4.75	KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	--	--	461	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	327.5	IS 11255 (part-7):2005
carbon Dioxide	%	--	14.3	KLPL/SOP/AIR-06
Quantity of Gas flow	Nm ³ / hr	-	3891841	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.0349	KLPL/SOP/AIR-06
Pressure	mmH2O	--	41.16	KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL
..... End of Test Report

Digambar Anil
Analysed By
For Kalyani Laboratories Pvt. Ltd.

Digambar Anil
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



CE533016345
KLPL- 339078A
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KALYANI LABORATORIES PVT. LTD.

78741, PAHAL, BHURANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000003342P

Test Report No : 1729 | 3857DOEKLPL/12/19/WATER/02046 **Issue Date**: 06-Jan-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 31-Dec-2019 **Test Commenced On** : 31-Dec-2019 **Test Completion On**: 06-Jan-2020

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : GROUND WATER **Sampling Date** : 30-Dec-2019

Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA

Received Quantity : 1LTR X 1 **Place of Collection** : OBSERVATION BOREWELL DIRTY WATER POND DT-30.12.2019

Sample Collected By : By KLPL

Ref. To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
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CHEMICAL PARAMETER				
i	Total alkalinity (as CaCO ₃),	mg/l, Max	200	184 IS 3025 (Part 23):1986 RA 2009
ii	Total hardness (as CaCO ₃),	mg/l, Max	200	196 IS 3025 (Part 21):2009
iii	Zinc (as Zn)	mg/l, Max	5	0.036 IS 3025 (Part 49):1994 RA 2009
iv	Total Chromium	mg/l, Max	0.05	< 0.02 IS 3025 (PART 52): 2003 RA 2009
v	Aluminium (as Al)	mg/l, Max	0.03	< 0.02 IS 3025 (PART 55):2003 RA 2009

PHYSICAL PARAMETER				
i	Colour	Hazen, Max	5	< 1.0 IS 3025 (Part 4):1983 RA 2012
ii	Odour	--	Agreeable	AGREEABLE IS 3025 (Part 5):1983 RA 2012
iii	pH value	---	6.5-8.5	7.3 IS 3025 (Part-11):1983, RA 2012
iv	Taste	--	Agreeable	AGREEABLE IS 3025 (Parts 6):1984 RA 2006

RADIOACTIVITY SUBSTANCES				
i	Alpha-Emitters	Bq/l, Max	0.1	< 0.004 IS 14194 (Part-2):2013
ii	Beta-Emitters	Bq/l, Max	1.0	< 0.02 IS 14194 (Part-1):2013

TOXIC SUBSTANCES				
i	Cadmium (as Cd)	mg/l, Max	0.003	< 0.001 IS 3025 (Part 41):1992 RA 2009
ii	Cyanide (as CN)	mg/l, Max	0.05	< 0.01 IS 3025 (Part 27):1986 RA 2009
iii	Lead (as Pb)	mg/l, Max	0.01	< 0.005 IS 3025 (Part 47):1994 RA 2009
iv	Mercury (as Hg)	mg/l, Max	0.001	< 0.0005 IS 3025 (Part 48):1994 RA 2009
v	Total arsenic (as As)	mg/l, Max	0.01	< 0.001 IS 3025 (Part 37):1988 RA 2009
vi	Nickel (as Ni)	mg/l, Max	0.02	< 0.01 IS 3025 (Part 54): 2003 RA 2009



1729 | 3857DOE

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KLPL- 338967A



KALYANI LABORATORIES PVT. LTD.

78944, PATIAL, BIRJANESWAR-752101, ODISHA

Test Report No : 1729 | 3857DOEKLPL/12/19/WATER/02046



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Digambar Barik

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Recha Nayak

Authorized Signatory *6/01/2020*
For Kalyani Laboratories Pvt. Ltd



1729 | 3857DOE

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KLPL- 338966A



KALYANI LABORATORIES PVT. LTD.

78244, PALLA, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003341P
Test Report No : 1728 | 385600DKLPL/12/19/WATER/02045 **Issue Date:** 06-Jan-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6500013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 31-Dec-2019 **Test Commenced On** : 31-Dec-2019 **Test Completion On:** 06-Jan-2020
Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE
Sample Identification * : GROUND WATER **Sampling Date** : 28-Dec-2019
Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA
Received Quantity : 1LTR X 1 **Place of Collection** : OBSERVATION BOREWELL ASHPOND (NORTH)
Sample Collected By : By Customer
Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
i Total alkalinity (as CaCO ₃),	mg/l, Max	200	35	IS 3025 (Part 23):1986 RA 2009
ii Total hardness (as CaCO ₃),	mg/l, Max	200	64	IS 3025 (Part 21):2009
iii Zinc (as Zn)	mg/l, Max	5	0.011	IS 3025 (Part 49):1994 RA 2009
iv Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v Aluminium (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
i Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii pH value	---	6.5-8.5	6.5	IS 3025 (Part-11):1983, RA 2012
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii Lead (as Pb)	mg/l, Max	0.01	< 0.605	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



1728 | 385600D

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KLPL- 338968A



KALYANI LABORATORIES PVT. LTD.

78,944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1728 | 3856D0DKLPL/12/19/WATER/02045



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Digambar Bhusan
Analysed By
For Kalyani Laboratories Pvt. Ltd.

Pooja Nayak
Authorized Signatory *6/01/2020*
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/041, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000003340P

Test Report No : 1727 | 3855D0CKLPL/12/19/WATER/02044 **Issue Date**: 06-Jan-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 31-Dec-2019 **Test Commenced On** : 31-Dec-2019 **Test Completion On**: 06-Jan-2020

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : GROUND WATER **Sampling Date** : 30-Dec-2019

Batch No, Lot No : NA **MFG Date** : NA **EXP Date** : NA

Received Quantity : 1LTR X 1 **Place of Collection** : OBSERVATION BORE WELL ASHPOND KENDUGUDA SIDE(EAST) DT-30.12.2019

Sample Collected By : By KLPL

Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
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CHEMICAL PARAMETER

i	Total alkalinity (as CaCO ₃),	mg/l, Max	200	184	IS 3025 (Part 23):1986 RA 2009
ii	Total hardness (as CaCO ₃),	mg/l, Max	200	180	IS 3025 (Part 21):2009
iii	Zinc (as Zn)	mg/l, Max	5	0.025	IS 3025 (Part 49):1994 RA 2009
iv	Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v	Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009

PHYSICAL PARAMETER

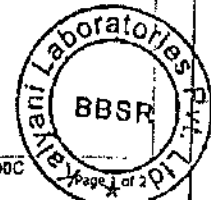
i	Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii	Odour	---	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii	pH value	---	6.5-8.5	7.1	IS 3025 (Part-11):1983, RA 2012
iv	Taste	---	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006

RADIOACTIVITY SUBSTANCES

i	Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii	Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013

TOXIC SUBSTANCES

i	Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii	Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii	Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv	Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 46):1994 RA 2009
v	Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi	Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



1727 | 3855D0C

KLPL-338971A



KALYANI LABORATORIES PVT. LTD.

78/044, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1727 | 3855D0CKLPL/12/19/WATER/02044



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Digambar Barik
Analysed By
For Kalyani Laboratories Pvt. Ltd.

Pretha Nayak
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd. 6/01/2020



1727 | 3855D0C

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KLPL- 338970A



KALYANI LABORATORIES PVT. LTD.

78944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003339P

Test Report No : 1726 | 3854DOBKLPL/12/19/WATER/02043 **Issue Date**: 06-Jan-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 31-Dec-2019 **Test Commenced On** : 31-Dec-2019 **Test Completion On**: 06-Jan-2020

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : GROUND WATER **Sampling Date** : 30-Dec-2019

Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA

Received Quantity : 1LTR X 1 **Place of Collection** : OBSERVATION BOREWELL WATER ASHPOND KASIBADI SIDE(WEST) DT-30.12.2019

Sample Collected By : By KLPL

Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
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CHEMICAL PARAMETER

i	Total alkalinity (as CaCO ₃),	mg/l, Max	200	140	IS 3025 (Part 23):1986 RA 2009
ii	Total hardness (as CaCO ₃),	mg/l, Max	200	116	IS 3025 (Part 21):2009
iii	Zinc (as Zn)	mg/l, Max	5	0.02	IS 3025 (Part 49):1994 RA 2009
iv	Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v	Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009

PHYSICAL PARAMETER

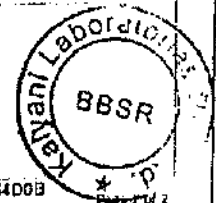
i	Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii	Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii	pH value	---	6.5-8.5	6.8	IS 3025 (Part-11):1983, RA 2012
iv	Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 6):1984 RA 2006

RADIOACTIVITY SUBSTANCES

i	Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii	Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013

TOXIC SUBSTANCES

i	Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii	Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii	Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv	Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v	Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi	Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



1726 | 3854DOB

KLPL- 338973A



KALYANI LABORATORIES PVT. LTD.

78, 944, PAHAL, BHUBANESWAR-751001, ODISHA

Test Report No : 1726 | 3854DOBKLPL/12/19/WATER/02043



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Dipankar Arunachal
Analysed By
For Kalyani Laboratories Pvt. Ltd.

Sechar Kalyan
6/01/2020
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78943, PAHAL, BHUBANESWAR-752101, ODISHA

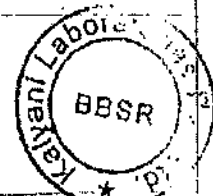
TEST REPORT



NABL ULR NO : TC70432000003338P
Test Report No : 1725 | 3853D0AKLPL/12/19/WATER/02042 **Issue Date:** 06-Jan-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 31-Dec-2019 **Test Commenced On** : 31-Dec-2019 **Test Completion On:** 06-Jan-2020
Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE **Sampling Date** : 30-Dec-2019
Sample Identification * : GROUND WATER
Batch No, Lot No : NA **MFG Date** : NA **EXP Date** : NA
Received Quantity : 1LTR X 1 **Place of Collection** : OBSERVATION BOREWELL PROCESS WATER LAKE(EAST) DT-30.12.2019
Sample Collected By : By KLPL
Ref. To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
i Total alkalinity (as CaCO ₃),	mg/l, Max	200	120	IS 3025 (Part 23):1986 RA 2009
ii Total hardness (as CaCO ₃),	mg/l, Max	200	108	IS 3025 (Part 21):2009
iii Zinc (as Zn)	mg/l, Max	5	0.019	IS 3025 (Part 49):1994 RA 2009
iv Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v Aluminium (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
i Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii pH value	---	6.5-8.5	6.6	IS 3025 (Part-11):1983, RA 2012
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



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KLPL- 338975A



KALYANI LABORATORIES PVT. LTD.

78,944, PAHAL, BHUBANESWAR-752101, ODISHA

Kalyani Laboratories

Test Report No : 1725 | 3853D0AKLPL/12/19/WATER/02042



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Digambar Ananta
Analysed By
For Kalyani Laboratories Pvt. Ltd.

Recha Nayak
Authorized Signatory *6/01/2020*
For Kalyani Laboratories Pvt. Ltd



1725 | 3853D0A

Page 2 of 2

KLPL- 338974A



KALYANI LABORATORIES PVT. LTD.

78044, PATIAL, BHU BANESWAR-752101, ODISHA

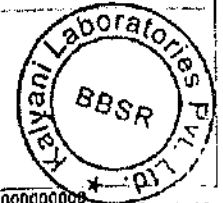
TEST REPORT



NABL ULR NO : TC70432000003337P
Test Report No : 1724 | KLPL/12/19/WATER/02041 **Issue Date:** 06-Jan-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027. **Test Completion On:** 06-Jan-2020
Date of receipt : 31-Dec-2019 **Test Commenced On** : 31-Dec-2019
Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE **Sampling Date** : 28-Dec-2019
Sample Identification * : GROUND WATER **EXP Date** : NA
Batch No , Lot No : NA **MFG Date** : NA
Received Quantity : 1LTR X 1 **Place of Collection** : OBSERVATION BOREWELL PROCESS WATER LAKE(NORTH) DT-28.12.2019
Sample Collected By : By KLPL
Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
i Total alkalinity (as CaCO ₃),	mg/l, Max	200	46	IS 3025 (Part 23):1986 RA 2009
ii Total hardness (as CaCO ₃),	mg/l, Max	200	44	IS 3025 (Part 21):2009
iii Zinc (as Zn)	mg/l, Max	5	0.01	IS 3025 (Part 49):1994 RA 2009
iv Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
i Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii pH value	---	6.5-8.5	6.5	IS 3025 (Part-11):1983, RA 2012
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



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KLPL- 338977A



KALYANI LABORATORIES PVT. LTD.

78044, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No

1724 | KLPL/12/19/WATER/02041



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

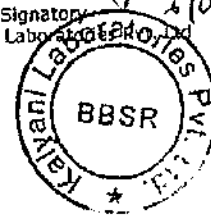
Digambar Ananta

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Sricha Nayak

Authorized Signatory
For Kalyani Laboratories Pvt. Ltd.

2/10/2020



1724 | 3852000000000

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KLPL- 338978A



KALYANI LABORATORIES PVT. LTD.

78944, PAHAL, BHUBANESWAR-752101, ODISHA

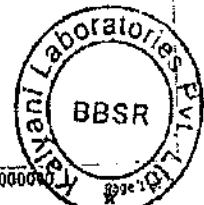
TEST REPORT



NABL ULR NO : TC70432000003336P
Test Report No : 1723 | 38510000000KLPL/12/19/WATER/02040 **Issue Date:** 06-Jan-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 31-Dec-2019 **Test Commenced On** : 31-Dec-2019 **Test Completion On:** 06-Jan-2020
Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE **Sampling Date** : 28-Dec-2019
Sample Identification * : GROUND WATER
Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA
Received Quantity : 1LTR X 1 **Place of Collection** : OBSERVATION BOREWELL RED MUD POND RENGOPALI SIDE DT-28.12.2019
Sample Collected By : By KLPL
Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
i Total alkalinity (as CaCO ₃),	mg/l, Max	200	176	IS 3025 (Part 23):1986 RA 2009
ii Total hardness (as CaCO ₃),	mg/l, Max	200	188	IS 3025 (Part 21):2009
iii Zinc (as Zn)	mg/l, Max	5	0.027	IS 3025 (Part 49):1994 RA 2009
iv Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v Aluminium (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
i Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1993 RA 2012
iii pH value	---	6.5-8.5	7.1	IS 3025 (Part-11):1993, RA 2012
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	Bq/l, Max	10.1	< 0.004	IS 14194 (Part-2):2013
ii Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



1723 | 38510000000

KLPL-338979A

KALYANI LABORATORIES PVT. LTD.

78044, PAHAL, BHUBANESWAR-752101, ODISHA

Kalyani Laboratories

Test Report No : 1723 | 38510000000KLPL/12/19/WATER/02040



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Disamber Ananta
Analysed By
For Kalyani Laboratories Pvt. Ltd.

Purna Chandra
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd. 8/01/2020



1723 | 38510000000

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KLPL- 338978A



KALYANI LABORATORIES PVT. LTD.

78004, PAHAL, BIRUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000009335P
Test Report No : 1722 | 38500000000KLPL/12/19/WATER/02039 **Issue Date:** 06-Jan-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 31-Dec-2019 **Test Commenced On** : 31-Dec-2019 **Test Completion On:** 06-Jan-2020
Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE
Sample Identification * : GROUND WATER **Sampling Date** : 28-Dec-2019
Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA
Received Quantity : 1LTR X 1 **Place of Collection** : OBSERVATION BORE WELL RED MUD POND MATERIAL GATE SIDE(NORTH) DT-28.12.2019
Sample Collected By : By KLPL
Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
i Total alkalinity (as CaCO ₃),	mg/l, Max	200	178	IS 3025 (Part 23):1986 RA 2009
ii Total hardness (as CaCO ₃),	mg/l, Max	200	156	IS 3025 (Part 21):2009
iii Zinc (as Zn)	mg/l, Max	5	0.025	IS 3025 (Part 49):1994 RA 2009
iv Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
i Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 3):1983 RA 2012
iii pH value	---	6.5-8.5	6.5	IS 3025 (Part-13):1983, RA 2012
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



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KLPL- 338981A



KALYANI LABORATORIES PVT. LTD.

78N44, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1722 | 3850000000KLPL/12/19/WATER/02039



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL
***** End of Test Report *****

Disambor Anilata
Analysed By
For Kalyani Laboratories Pvt. Ltd.

Reha Kalyan
Authorized Signatory 6/01/2020
For Kalyani Laboratories Pvt. Ltd



1722 | 38500000000

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KLPL- 338980A



KALYANI LABORATORIES PVT. LTD.

78944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000003334P
Test Report No : 1721 | 384900000KLPL/12/19/WATER/02038 **Issue Date**: 06-Jan-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 31-Dec-2019 **Test Commenced On** : 31-Dec-2019 **Test Completion On**: 06-Jan-2020
Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE **Sampling Date** : 28-Dec-2019
Sample Identification * : GROUND WATER **MFG Date** : NA **EXP Date** : NA
Batch No, Lot No : NA **Place of Collection** : OBSERVATION BORE WELL RED MUD POND(WEST)
Received Quantity : 1LTR X 1
Sample Collected By : By KLPL
Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
i Total alkalinity (as CaCO ₃).	mg/l, Max	200	190	IS 3025 (Part 23):1986 RA 2009
ii Total hardness (as CaCO ₃).	mg/l, Max	200	192	IS 3025 (Part 21):2009
iii Zinc (as Zn)	mg/l, Max	5	0.047	IS 3025 (Part 49):1994 RA 2009
iv Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
i Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii pH value	---	6.5-8.5	6.6	IS 3025 (Part-11):1983, RA 2012
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 6):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



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KLPL- 338983A

KALYANI LABORATORIES PVT. LTD.

Kalyani Laboratories

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1721 | 3849000000KLPL/12/19/WATER/02038



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Digambar Ananta
Analysed By
For Kalyani Laboratories Pvt. Ltd.

Pooja Nayak
Authorized Signatory 28/10/2020
For Kalyani Laboratories Pvt. Ltd



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Page 2 of 2

KLPL- 338982A



KALYANI LABORATORIES PVT. LTD.

789 H, PAHAL, BHUBANESWAR-75101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000009349P

Test Report No : 1736 [KLPL/12/19/WATER/02054] **Issue Date**: 07-Jan-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 31-Dec-2019 **Test Commenced On** : 31-Dec-2019 **Test Completion On**: 06-Jan-2020

Sample Description : SURFACE WATER

Sample Condition : SEALED IN ILTR PET BOTTLE

Sample Identification * : SURFACE WATER **Sampling Date** : 30-Dec-2019

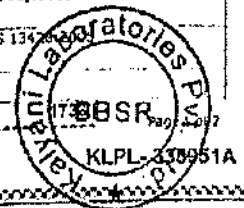
Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA

Received Quantity : 1LTR X 2 **Place of Collection** :TURI NALA NEAR RAGHUNATHPUR DT-30.12.2019

Sample Collected By : By KLPL

Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
i Total Coliforms	MPN/100ml.	5000	90	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
i Chloride as Cl	mg/l, Max	600	5.7	APHA 23rd Edition (4500-Cl - -B), 2017
ii Sulphate as SO4	mg/l, Max	400	5.0	APHA 23rd Edition (4500-So42 - -E), 2017
iii Nitrate as NO3	mg/l, Max	50	0.4	APHA 23rd Edition (4500-NO3 - -E), 2017
iv Electrical Conductivity	µs/cm	-	104	APHA 23rd Edition (2510 B) 2017
v Fluoride as F	mg/l, Max	1.5	0.1	APHA 23rd Edition (4500-F - -D,-C), 2017
vi Total Dissolved Solid	mg/l, Max	1500	88	APHA 23rd Edition (2540 C), 2017
vii Calcium as Ca	mg/l, Max	-	17.6	APHA 23rd Edition (3500-Ca-B), 2017
viii Magnesium as Mg	mg/l, Max	-	4.86	APHA 23rd Edition (3500-Mg-B), 2017
ix Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B-B), 2017
x Dissolved Oxygen	mg/l, Max	4.0	7.0	APHA 23rd Edition(4500-D-C), 2017
xi Biochemical Oxygen Demand (For 3 days 27deg C)	mg/l, Max	--	1.5	APHA 23rd Edition 2012(5210 B), 2017
xii Total Hardness as CaCO3	mg/l, Max	--	64	APHA 23rd Edition (2340 C), 2017
xiii Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
xiv Iron (as Fe)	mg/l, Max	50	0.6	APHA-23rd Edition (3500-Fe-B, 3111 B) 2017
xv Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
xvi Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
xvii Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xviii Free Ammonia (as NH3)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
xix Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 B) 2017
xx Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
xxi Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13420:2003 RA 2009



KALYANI LABORATORIES PVT. LTD.

78944, PAHAL, BHUBANESWAR-752101, ODISHA

Kalyani Laboratories

Test Report No : 1736 | KLPL/12/19/WATER/02054



Parameters	Unit	Requirement	Result	Test Method
xxii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0014	--
xxvi SODIUM ABSORPTION RATIO	--	--	0.76	--
xxvii barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTICIDE	µg/l	--	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.6	APHA 23rd Edition (4500-H++-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	uCi/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Beta-Emitters	uCi/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27) :1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorized Signatory
For Kalyani Laboratories Pvt. Ltd.



1736 |

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KLPL- 338950A



KALYANI LABORATORIES PVT. LTD.

78, 911, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000000335BP

Test Report No : 1737 |KLPL/12/19/WATER/OZ055 **Issue Date**: 07-Jan-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 31-Dec-2019 **Test Commenced On** : 31-Dec-2019 **Test Completion On**: 06-Jan-2020

Sample Description : SURFACE WATER

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : SURFACE WATER **Sampling Date** : 30-Dec-2019

Batch No, Lot No : NA **MFG Date** : NA **EXP Date** : NA

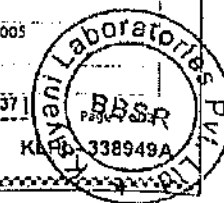
Received Quantity : 1LTR X 2 **Place of Collection** : POND NEAR HAREKRUSHNAPUR DT-30.12.2019

Sample Collected By : By KLPL

Ref. To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
i Total Coliforms	MPN/100ml.	5000	80	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
i Chloride as Cl	mg/l, Max	600	7.6	APHA 23rd Edition (4500-C --B), 2017
ii Sulphate as SO4	mg/l, Max	400	2	APHA 23rd Edition (4500-SO42 --E), 2017
iii Nitrate as NO3	mg/l, Max	50	0.3	APHA 23rd Edition (4500-NO3 --E), 2017
iv Electrical Conductivity	µs/cm	-	140	APHA 23rd Edition (2510 B) 2017
v Fluoride as F	mg/l, Max	1.5	0.15	APHA 23rd Edition (4500-F --D, C), 2017
vi Total Dissolved Solid	mg/l, Max	1500	120	APHA 23rd Edition (2540 C), 2017
vii Calcium as Ca	mg/l, Max	-	24	APHA 23rd Edition (3500-Ca-B), 2017
viii Magnesium as Mg	mg/l, Max	-	4.86	APHA 23rd Edition (3500-Mg-B), 2017
ix Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B -B), 2017
x Dissolved Oxygen	mg/l, Max	4.0	7.9	APHA 23rd Edition(4500-O-C), 2017
xi Biochemical Oxygen Demand(For 3 days 27deg C)	mg/l, Max	--	3	APHA 23rd Edition 2012(5210 B), 2017
xii Total Hardness as CaCO3	mg/l, Max	--	80	APHA 23rd Edition (2340 C), 2017
xiii Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
xiv Iron (as Fe)	mg/l, Max	50	1.4	APHA 23rd Edition (3500-Fe-B, 3111 B) 2017
xv Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
xvi Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
xvii Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xviii Free Ammonia (as NH3)	mg/l, Max	---	< 0.01	APHA 23rd Edition (4500-NH3-B) 2017
xix Oil & Grease	mg/l, Max	--	< 0.025	APHA 23rd Edition (5520 B) 2017
xx Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
xxi Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2005

1737



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Kalyani Laboratories

Test Report No

1737 | KLPL/12/19/WATER/02055



Parameters	Unit	Requirement	Result	Test Method
xxii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0015	--
xxvi SODIUM ABSORPTION RATIO	--	--	0.73	--
xxvii barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTICIDE	µg/l	--	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.6	APHA 23rd Edition (4500-H++B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2005
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	uCi/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Beta-Emitters	uCi/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Rechakanya
7/10/2020
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd



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KLPL- 338948A



KALYANI LABORATORIES PVT. LTD.

78744, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No

1735 | KLPL/12/19/WATER/02053



Parameters	Unit	Requirement	Result	Test Method
xxii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0023	--
xxvi SODIUM ABSORPTION RATIO	--	--	1.21	--
xxvii barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTICIDE	µg/l	--	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.8	APHA 23rd Edition (4500-H+-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	µC/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Beta-Emitters	µC/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL
..... End of Test Report

Analysed By
D. Gombor Asutika
For Kalyani Laboratories Pvt. Ltd.

Authorized Signatory
For Kalyani Laboratories Pvt. Ltd.
Preeti Nayak 31/01/2020



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KLPL- 338952A



KALYANI LABORATORIES PVT. LTD.

78/14, PAHAL, BHUBANESWAR-752101, ODISHA

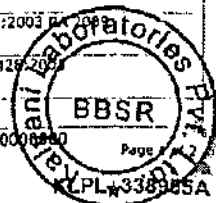
TEST REPORT



NABL ULR NO : TC70432000003347P
Test Report No : 1734 | KLPL/12/19/WATER/02052 **Issue Date**: 07-Jan-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027. **Test Completion On**: 06-Jan-2020
Date of receipt : 31-Dec-2019 **Test Commenced On** : 31-Dec-2019
Sample Description : SURFACE WATER
Sample Condition : SEALED IN 1LTR PET BOTTLE **Sampling Date** : 30-Dec-2019
Sample Identification * : SURFACE WATER **EXP Date** : NA
Batch No , Lot No : NA **MFG Date** : NA
Received Quantity : 1LTR X 2 **Place of Collection** : VAMSADHARA RIVER NEAR NARAYANPUR
Sample Collected By : By KLPL **CULVERT(UPSTREAM) DT-30.12.2019**
Ref. To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
I Total Coliforms	MPN/100ml.	5000	26	IS: 1522:1981 RA 2009
CHEMICAL PARAMETER				
i Chloride as Cl	mg/l, Max	600	9.4	APHA 23rd Edition (4500-Cl - -B), 2017
ii Sulphate as SO4	mg/l, Max	400	3.0	APHA 23rd Edition (4500-SO42 - -E), 2017
iii Nitrate as NO3	mg/l, Max	50	0.35	APHA 23rd Edition (4500-NO3 - -E), 2017
iv Electrical Conductivity	µs/cm	-	119	APHA 23rd Edition (2510 B) 2017
v Fluoride as F	mg/l, Max	1.5	< 0.05	APHA 23rd Edition (4500-F - -D,C), 2017
vi Total Dissolved Solid	mg/l, Max	1500	92	APHA 23rd Edition (2540 C), 2017
vii Calcium as Ca	mg/l, Max	-	19.2	APHA 23rd Edition (3500-Ca-B), 2017
viii Magnesium as Mg	mg/l, Max	-	3.89	APHA 23rd Edition (3500-Mg-B), 2017
ix Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B - B), 2017
x Dissolved Oxygen	mg/l, Max	4.0	7.4	APHA 23rd Edition (4500-O-C), 2017
xi Biochemical Oxygen Demand (For 3 days 27deg C)	mg/l, Max	-	2.2	APHA 23rd Edition 2012(5210 B), 2017
xii Total Hardness as CaCO3	mg/l, Max	-	64	APHA 23rd Edition (2340 C), 2017
xiii Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
xiv Iron (as Fe)	mg/l, Max	50	5.0	APHA-23rd Edition (3500-Fe-B , 3111 B) 2017
xv Manganese (as Mn)	mg/l, Max	-	< 0.1	IS 3025 (Part 59):2006 RA 2012
xvi Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
xvii Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xviii Free Ammonia (as NH3)	mg/l, Max	-	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
xix Oil & Grease	mg/l, Max	-	< 0.025	APHA-23rd Edition (5520 B) 2017
xx Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
xxi Anionic Surface Active Agents (as MBAS)	mg/l	-	< 0.1	Annex K of IS 13428:2009

1734 | 3865000000000000



KALYANI LABORATORIES PVT. LTD.

78944, PATIAL, BHUBANESWAR-751061, ODISHA

Kalyani Laboratories

Test Report No : **1734 [KLPL/12/19/WATER/02052]**



Parameters	Unit	Requirement	Result	Test Method
xxii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0016	--
xxvi SODIUM ABSORPTION RATIO	--	--	0.87	--
xxvii Barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTICIDE	ug/l	--	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	8.0	APHA 23rd Edition (4500-H++B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	uCi/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Beta-Emitters	uCi/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27) :1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

D. Gumber Arouba
 Analysed By
 For Kalyani Laboratories Pvt. Ltd.

Subhrajaya
 Authorized Signatory 7/01/2020
 For Kalyani Laboratories Pvt. Ltd



1734 | 3865000000000000

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KLPL- 338954A

KALYANI LABORATORIES PVT. LTD.

Kalyani Laboratories

78944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : **1733 | KLPL/12/19/WATER/02051**



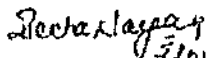
Parameters	Unit	Requirement	Result	Test Method
xxii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0012	--
xxvi SODIUM ABSORPTION RATIO	--	--	0.63	--
xxvii barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTICIDE	µg/l	--	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.86	APHA 23rd Edition (4500-H+-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 6): 1984, RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	µC/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Beta-Emitters	µC/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27) :1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.


 Authorized Signatory 7/10/2020
 For Kalyani Laboratories Pvt. Ltd



1733 | 3864000000000000

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KLPL- 338956A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

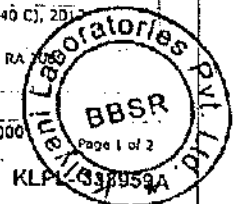
TEST REPORT



NABL ULR NO : TC704320000003345P
Test Report No : 1732 | KLPL/12/19/WATER/02050 **Issue Date**: 07-Jan-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-G600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED
Address : PO.- LANJIGARH, DIST.- KALAHANDI,
Date of receipt : 31-Dec-2019 **Test Commenced On** : 31-Dec-2019 **Test Completion On**: 06-Jan-2020
Sample Description : SURFACE WATER
Sample Condition : SEALED IN 1LTR PET BOTTLE **Sampling Date** : 30-Dec-2019
Sample Identification * : SURFACE WATER **MFG Date** : NA **EXP Date** : NA
Batch No, Lot No : NA **Place of Collection** : STREAM NEAR RENGOPALI DT-30.12.2019
Received Quantity : 1LTR X 2
Sample Collected By : By KLPL
Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
Total Coliforms	MPN/100ml	5000	50	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
i Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2005
ii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440
iii Silver (as Ag)	mg/l	--	< 0.01	--
iv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
v PERCENT SODIUM (%)	%	--	0.0003	--
vi SODIUM ABSORPTION RATIO	--	--	0.38	--
vii barium	mg/l	--	< 0.2	--
viii TOTAL PESTICIDE	µg/l	--	< 0.0001	USEPA
ix Chloride as Cl	mg/l, Max	600	3.8	APHA 23rd Edition (4500-Cl - -B), 2017
x Sulphate as SO4	mg/l, Max	400	< 1.0	APHA 23rd Edition (4500-SO4 - -E), 2017
xi Nitrate as NO3	mg/l, Max	50	< 0.05	APHA 23rd Edition (4500-NO3 - -E), 2017
xii Electrical Conductivity	µs/cm	--	26	APHA 23rd Edition (2510 B) 2017
xiii Fluoride as F	mg/l, Max	1.5	< 0.05	APHA 23rd Edition (4500-F - -D, -C), 2017
xiv Total Dissolved Solid	mg/l, Max	1500	22	APHA 23rd Edition (2540 C), 2017
xv Calcium as Ca	mg/l, Max	--	3.2	APHA 23rd Edition (3500-Ca-B), 2017
xvi Magnesium as Mg	mg/l, Max	--	0.97	APHA 23rd Edition (3500-Mg-B), 2017
xvii Boron as B	mg/l, Max	--	< 0.1	APHA 23rd Edition (4500B - B), 2017
xviii Dissolved Oxygen	mg/l, Max	4.0	7.0	APHA 23rd Edition (4500-O-C), 2017
xix Biochemical Oxygen Demand (For 3 days 27deg C)	mg/l, Max	--	1.8	APHA 23rd Edition 2012(5210 B), 2017
xx Total Hardness as CaCO3	mg/l, Max	--	12	APHA 23rd Edition (2340 C), 2017
xxi Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009

1732 | 3861000000000000





Kalyani Laboratories

KALYANI LABORATORIES PVT. LTD.

78934, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 1732 | KLPL/12/19/WATER/02050



Parameters	Unit	Requirement	Result	Test Method
xxii Iron (as Fe)	mg/l, Max	50	0.25	APHA-23rd Edition (3500-Fe-D, 3111 B) 2017
xxiii Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
xxiv Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
xxv Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xxvi Free Ammonia (as NH ₃)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH ₃ -B) 2017
xxvii Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 B) 2017
xxviii Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (Part 52):2003 RA 2009
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.9	APHA 23rd Edition (4500-H ⁺ -B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	uCi/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Beta-Emitters	uCi/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : nil

Any unusual feature observed during determination : nil

..... End of Test Report

D. Sambor Anurita
Analysed By
For Kalyani Laboratories Pvt. Ltd.

Pecha clayay
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd



1732 | 38810000000000

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KLPL- 338958A



KALYANI LABORATORIES PVT. LTD.

78944, PAHAL, BILUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000003344P
Test Report No : 1731 | KLPL/12/19/WATER/02049 **Issue Date:** 06-Jan-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 31-Dec-2019 **Test Commenced On** : 31-Dec-2019 **Test Completion On:** 06-Jan-2020
Sample Description : SURFACE WATER
Sample Condition : SEALED IN 1LTR PET BOTTLE **Sampling Date** : 30-Dec-2019
Sample Identification * : SURFACE WATER **EXP Date** : NA
Batch No , Lot No : NA **MFG Date** : NA
Received Quantity : 1LTR X 2 **Place of Collection** : STREAM NEAR KENDUBADI DT-30.12.2019
Sample Collected By : By KLPL
Ref. To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
I Total Coliforms	MPN/100ml.	5000	34	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
i Chloride as Cl	mg/l, Max	500	5.7	APHA 23rd Edition (4500-Cl - -B), 2017
ii Sulphate as SO4	mg/l, Max	400	< 1.0	APHA 23rd Edition (4500-So42 - -E), 2017
iii Nitrate as NO3	mg/l, Max	50	0.06	APHA 23rd Edition (4500-NO3 - -E), 2017
iv Electrical Conductivity	µs/cm	-	29.4	APHA 23rd Edition (2510 B) 2017
v Fluoride as F	mg/l, Max	1.5	< 0.05	APHA 23rd Edition (4500-F - -O, C), 2017
vi Total Dissolved Solid	mg/l, Max	1500	26	APHA 23rd Edition (2540 C), 2017
vii Calcium as Ca	mg/l, Max	-	4.8	APHA 23rd Edition (3500-Ca-B), 2017
viii Magnesium as Mg	mg/l, Max	-	1.94	APHA 23rd Edition (3500-Mg-B), 2017
ix Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B- B), 2017
x Dissolved Oxygen	mg/l, Max	4.0	6.7	APHA 23rd Edition (4500-O-C), 2017
xi Biochemical Oxygen Demand (For 3 days 27deg C)	mg/l, Max	--	2.8	APHA 23rd Edition 2012 (5210 B), 2017
xii Total Hardness as CaCO3	mg/l, Max	--	20	APHA 23rd Edition (2540 C), 2017
xiii Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
xiv Iron (as Fe)	mg/l, Max	50	0.05	APHA-23rd Edition (3500-Fe-B, 3111 B) 2017
xv Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2005 RA 2012
xvi Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
xvii Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xviii Free Ammonia (as NH3)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
xix Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 B) 2017
xx Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
xxi Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2005

1731 | 3860000000000



KALYANI LABORATORIES PVT. LTD.

78944, PAHAL, BHUBANESWAR-752101, ODISHA

Kalyani Laboratories

Test Report No : 1731 | KLPL/12/19/WATER/02049



Parameters	Unit	Requirement	Result	Test Method
xxii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 5440
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0004	--
xxvi SODIUM ABSORPTION RATIO	--	--	0.39	--
xxvii barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTICIDE	µg/l	--	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	8.0	APHA 23rd Edition (4500-H+-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	µC/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Beta-Emitters	µC/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27) :1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1989 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorized Signatory 6/10/2020
 For Kalyani Laboratories Pvt. Ltd



1731 | 3860000000000

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KLPL- 338960A



KALYANI LABORATORIES PVT. LTD.

78944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003343P

Test Report No : 1730 | 3859D0FKLPL/12/19/WATER/02048 **Issue Date**: 06-Jan-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 31-Dec-2019 **Test Commenced On** : 31-Dec-2019 **Test Completion On**: 06-Jan-2020

Sample Description : SURFACE WATER

Sample Condition : SEALED IN 1LTR PET BOTTLE

Sample Identification * : SURFACE WATER **Sampling Date** : 30-Dec-2019

Batch No, Lot No : NA **MFG Date** : NA **EXP Date** : NA

Received Quantity : 1LTR X 2 **Place of Collection** : STREAM NEAR TENTULIPADAR DT-30.12.2019

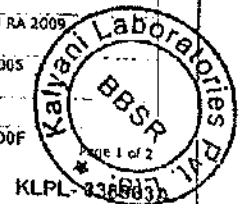
Sample Collected By : By KLPL

Ref. To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
------------	------	-------------	--------	-------------

BACTERIOLOGICAL QUALITY					
I	Total Coliforms	MPN/100ml.	5000	30	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER					
I	Chloride as Cl	mg/l, Max	600	3.8	APHA 23rd Edition (4500-Cl -B), 2017
II	Sulphate as SO4	mg/l, Max	400	< 1.0	APHA 23rd Edition (4500-SO4 -E), 2017
III	Nitrate as NO3	mg/l, Max	50	0.08	APHA 23rd Edition (4500-NO3 -E), 2017
IV	Electrical Conductivity	us/cm	-	37.7	APHA 23rd Edition (2510 B) 2017
V	Fluoride as F	mg/l, Max	1.5	0.06	APHA 23rd Edition (4500-F -C,C), 2017
VI	Total Dissolved Solid	mg/l, Max	1500	34	APHA 23rd Edition (2540 C), 2017
VII	Calcium as Ca	mg/l, Max	-	4.8	APHA 23rd Edition (3500-Ca-B), 2017
VIII	Magnesium as Mg	mg/l, Max	-	1.94	APHA 23rd Edition (3500-Mg-B), 2017
IX	Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B-B), 2017
X	Dissolved Oxygen	mg/l, Max	4.0	6.5	APHA 23rd Edition (4500-O-C), 2017
XI	Biochemical Oxygen Demand (For 3 days 27deg C)	mg/l, Max	--	1.8	APHA 23rd Edition 2012 (5210 B), 2017
XII	Total Hardness as CaCO3	mg/l, Max	--	20	APHA 23rd Edition (2540 C), 2017
XIII	Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
XIV	Iron (as Fe)	mg/l, Max	50	0.07	APHA 23rd Edition (3500-Fe-B, 3111 B) 2017
XV	Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
XVI	Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
XVII	Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
XVIII	Free Ammonia (as NH3)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
XIX	Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5920 B) 2017
XX	Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
XXI	Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2005

1730 | 3859D0F



KLPL-236883

KALYANI LABORATORIES PVT. LTD.

78544, PAHAL, BHUDANESWAR-752101, ODISHA

Kalyani Laboratories

Test Report No : 1730 | 3859D0FKLPL/12/19/WATER/02048



Parameters	Unit	Requirement	Result	Test Method
xxii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0006	--
xxvi SODIUM ABSORPTION RATIO	--	--	0.58	--
xxvii Barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTICIDE	µg/l	--	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.9	APHA 23rd Edition (4500-H+-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	µC/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Beta-Emitters	µC/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Analysed By
Digambar Rout
 For Kalyani Laboratories Pvt. Ltd.

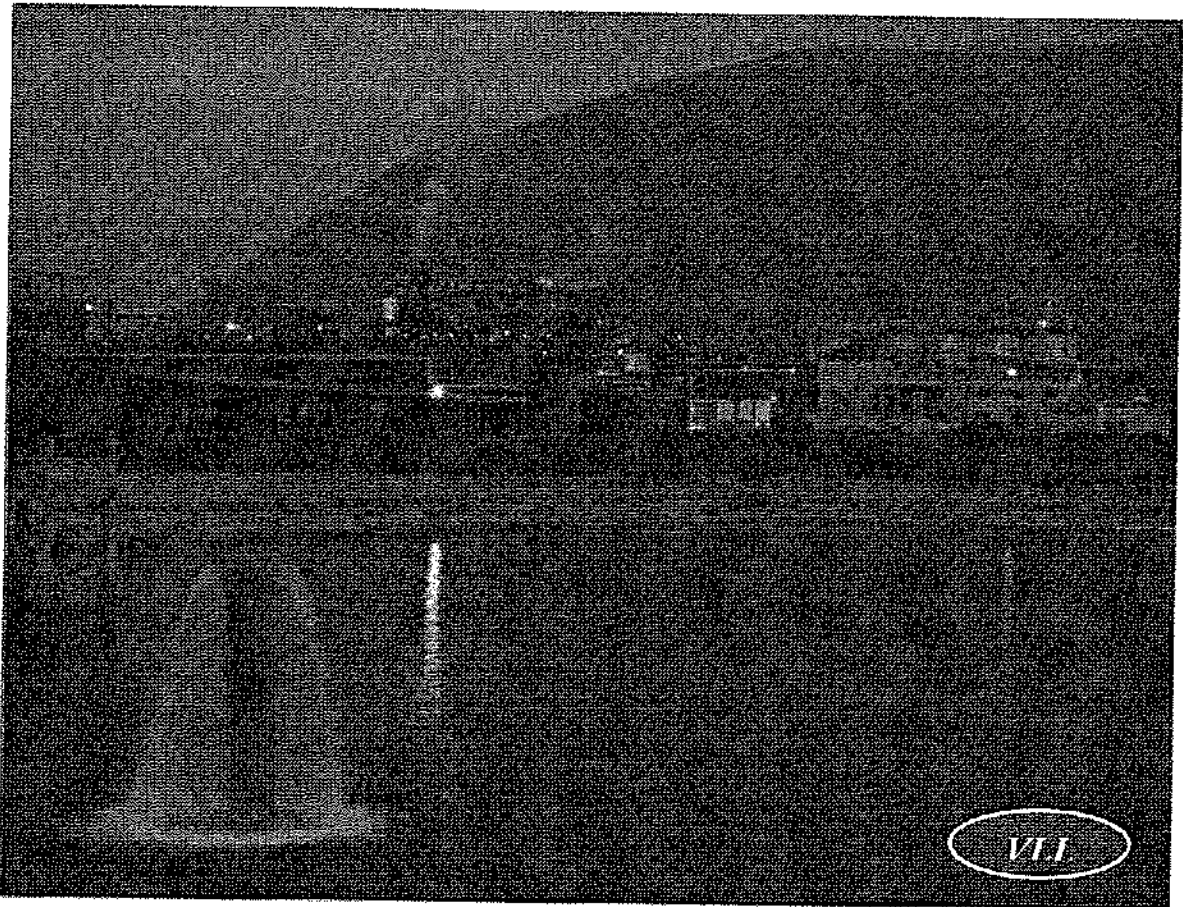
Authorized Signatory
Reena Kalyan
 3/01/2020
 For Kalyani Laboratories Pvt. Ltd.



ENVIRONMENTAL SEASONAL REPORT

SEASONAL REPORT

January 2020 to March 2020



Address

Via: Viswanathpur, P.O.Lanjigarh-766027

Dist. Kalahandi,ORISSA

Tel: + 91 6677 247312/13/14/15/16

Fax: +91 6677 247311

April - 2020

MICRO-METEOROLOGICAL DATA AT SITE

Period: 1st January 2020 to 31st March 2020

Location: Plant Site

Month	Temperature (°C)		Relative Humidity (%)		Rainfall (mm)
	Max	Min	Max	Min	Total
January	27.2	14.26	90.2	52.7	0.0
February	27.6	15.2	88.0	52.1	9.7
March	32.7	19.8	87.9	47.1	51.8
			Total rainfall		61.5

SUMMARY OF WIND PATTERN IN STUDY AREA

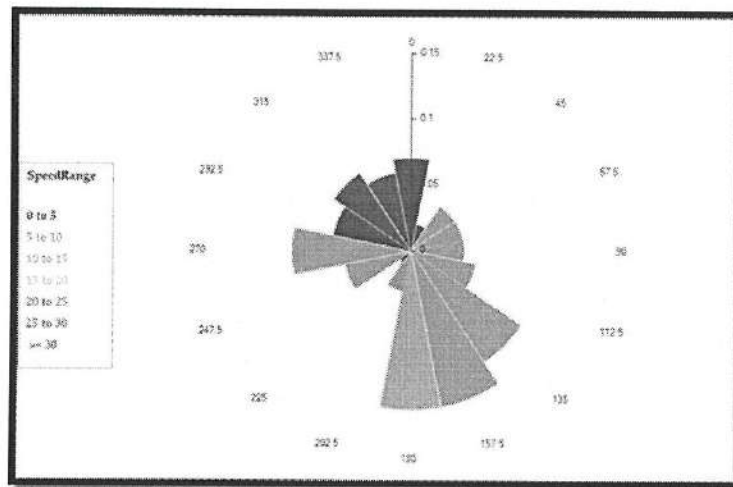
Season	First Predominant Wind Direction	Second Predominant Wind Direction	Predominant Wind Speeds (m/sec)	Calm (%)
Jan' 20 to Mar' 20	SSE (12.18%)	S (11.39%)	0-1.3	0.0

Wind Pattern during the season

During the period the average winds from SSE direction were observed for 12.18 % of the total time. In S direction the winds were also observed for 11.39 % of the total time. The other direction and percentage frequencies were observed from SE (9.85%), W (9.29%), NW (7.38%), and N (7.19 %). The calm conditions were observed to be for 0.0 % of the total time.



CPM



WINDROSE DIAGRAM FOR THE SEASON – (Jan'20 to Mar'20)



SUMMARY OF AMBIENT AIR QUALITY RESULTS

Concentrations are expressed in $\mu\text{g}/\text{m}^3$

Location	PM ₁₀			PM _{2.5}			SO ₂			NO _x		
	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg	Max	Min	Avg
Plant Site	78.0	69.0	74.0	50.2	43.3	47.1	14.4	9.3	12.3	26.4	14.1	22.4
Lanjigarh	68.0	62.0	65.1	44.1	36.2	40.3	11.3	8.0	9.3	25.2	17.4	20.9
Belamba	60.0	54.0	56.5	38.3	33.5	35.1	7.3	5.2	6.5	18.2	14.1	16.3
Niyamgiri Vedanta Nagar	66.0	59.0	62.1	40.2	34.2	37.7	8.6	6.1	7.6	20.1	16.1	18.4
Mid-Day Meal	67.0	61.0	64.6	44.3	36.2	41.7	10.2	7.4	9.1	22.4	16.1	19.0
Chhatrapur	64.0	58.0	60.6	39.5	33.5	37.1	8.4	6.2	7.3	18.4	15.3	16.8
	54.0-78.0			33.5-50.2			5.2-14.4			14.1-26.4		



SR

Seasonal Report (Jan'20 to Mar'20)
ONLINE STACK MONITORING TEST RESULT OF CALCINER AND CF BOILER FOR THE
MONTH OF JANUARY 2020

Date of sampling	Calciner 1				Calciner 2				CFB Stack			
Parameter	SO2	NOx	CO	PM	SO2	NOx	CO	PM	SO2	NOx	CO	PM
Unit	ppm	ppm	%	mg/Nm ³	ppm	ppm	%	mg/Nm ³	mg/Nm ³	mg/Nm ³	mg/Nm ³	mg/Nm ³
01-Jan-20	264.7	47.17	0.02	24	491.38	52.77	0.01	32	1814.47	370.79	2.57	16.34
02-Jan-20	232.79	44.14	0.02	25	480.3	55.81	0.01	34	1670.58	291.48	9.65	13.13
03-Jan-20	287.87	40.36	0.03	26	552.71	59.29	0.01	33	1786.46	333.99	14.37	16.67
04-Jan-20	178.86	28.48	0.03	28	386.45	60.25	0.01	41	1965.48	405.49	2.61	17.65
05-Jan-20	0	0	0	0	189.62	25.04	0.01	36	1730.37	319.96	4.3	16.28
06-Jan-20	0	0	0	0	154.43	20.05	0.02	34	1720.87	387.1	4.59	15.09
07-Jan-20	0	0	0	0	107.19	16.2	0.02	30	1841.04	365.88	5.29	15.31
08-Jan-20	234.51	70.09	0.02	31	185.32	34.6	0.02	32	1937.63	394.65	3.86	15.18
09-Jan-20	122.93	33.86	0.01	28	128.38	25.29	0.02	30	1928.75	383.42	13.73	16.28
10-Jan-20	233.23	27.62	0.01	31	96.51	7.61	0.02	31	1985.2	450.53	17.26	20.14
11-Jan-20	130.05	13.54	0.01	36	56.67	5.52	0.01	37	1982.38	428.39	10.28	20.31
12-Jan-20	281	42.83	0.01	43	183.27	19.94	0.02	33	1825.14	481.09	6.97	24.92
13-Jan-20	410.44	58.83	0.02	33	330.34	47.77	0.02	31	1575.09	396.67	34.05	23.46
14-Jan-20	420.95	50.77	0.02	38	405.71	52.07	0.02	31	1735.77	376.50	54.78	22.87
15-Jan-20	312.42	34.61	0.02	30	439.39	51.49	0.02	29	1926.76	375.59	19.31	18.56
16-Jan-20	267.32	30.31	0.02	30	473.48	61.91	0.02	34	1875.53	370.99	44.77	18.9
17-Jan-20	225.33	29.55	0.02	25	476.19	48.72	0.02	27	1786.85	426.28	3.26	11.43
18-Jan-20	364.66	44.73	0.02	25	422.69	49.92	0.02	28	1577.52	400.81	9.95	18.71
19-Jan-20	383.28	46.75	0.02	26	431.56	49.35	0.02	26	1816.17	428.55	12.31	19.21
20-Jan-20	365.33	49.56	0.02	26	369.69	47.17	0.02	26	1984.11	385.68	20.3	18.5
21-Jan-20	393.86	54.10	0.02	25	412.27	53.29	0.02	26	1945.18	466.56	6.94	17.26
22-Jan-20	329.64	47.42	0.02	25	371.39	40.17	0.02	23	1934	455.33	4.7	15.78
23-Jan-20	431.6	56.44	0.02	24	287.81	35.72	0.02	23	1830.28	491.77	8.79	18.09
24-Jan-20	319.8	42.61	0.02	23	325.21	42.66	0.03	23	1648.41	480.47	10.76	17.36
25-Jan-20	286.43	45.08	0.02	23	305.82	37.97	0.02	24	1788.9	525.28	3.94	17.36
26-Jan-20	334.87	46.25	0.02	24	324.74	33.8	0.02	24	1957.29	521.48	10.76	26.8
27-Jan-20	329.65	45.79	0.02	23	294.46	35.54	0.03	24	1964.77	552.12	8.50	31.22
28-Jan-20	213.94	31.28	0.01	26	364.58	48.48	0.03	24	1920.9	522.54	21.28	27.93
29-Jan-20	341.49	36.13	0.02	25	272.66	48.05	0.03	24	1662.33	427.61	22.51	20.1
30-Jan-20	305.53	41.43	0.02	27	240.47	44.92	0.03	24	1508.09	464.22	6.37	14.33
31-Jan-20	292.88	40.3	0.01	26	383.47	56.28	0.03	24	1670.97	517.05	3.99	14.17

Note: Calciner 1 was not under operation from dt: 05-01-2020 to dt: 07-01-2020 for maintenance activities.



SAB

Seasonal Report (Jan'20 to Mar'20)
ONLINE STACK MONITORING TEST RESULT OF CALCINER AND CF BOILER FOR THE
MONTH OF FEBRUARY 2020

Date of sampling	Calciner 1				Calciner 2				CFB Stack			
	SO2	NOx	CO	PM	SO2	NOx	CO	PM	SO2	NOx	CO	PM
	ppm	ppm	%	mg/Nm ³	ppm	ppm	%	mg/Nm ³	mg/Nm ³	mg/Nm ³	mg/Nm ³	mg/Nm ³
01-Feb-20	285.01	34.51	0.01	25	382.15	56.43	0.03	24	1747.34	502.36	3.88	19.26
02-Feb-20	266.20	44.42	0.01	24	384.77	48.59	0.03	21	1523.13	497.64	2.97	19.07
03-Feb-20	276.99	32.61	0.01	28	383.19	49.88	0.03	25	1584.44	519.55	3.22	17.79
04-Feb-20	316.42	40.04	0.02	29	0	0	0	0	1562.70	451.80	4.66	17.51
05-Feb-20	477.81	50.63	0.02	26	358.73	40.14	0.03	27	469.11	85.68	50.10	9.21
06-Feb-20	376.98	38.23	0.02	26	376.79	41.03	0.03	26	1441.73	480.42	37.76	31.98
07-Feb-20	389.86	48.60	0.02	25	348.52	41.51	0.03	26	1493.27	483.36	6.48	16.88
08-Feb-20	436.60	45.44	0.02	27	322.91	37.36	0.03	26	1602.25	519.68	4.05	16.84
09-Feb-20	414.97	42.69	0.02	29	325.94	39.23	0.03	26	1793.56	534.29	3.59	16.90
10-Feb-20	386.42	40.87	0.02	27	333.37	41.64	0.03	26	1879.46	464.62	5.72	16.65
11-Feb-20	327.73	28.82	0.02	27	322.77	41.62	0.03	26	1984.28	482.50	7.57	16.79
12-Feb-20	337.91	28.46	0.02	30	302.69	38.95	0.03	26	1845.22	495.84	3.92	17.08
13-Feb-20	327.86	31.04	0.02	29	207.96	33.32	0.03	30	1782.67	500.42	3.32	18.60
14-Feb-20	315.54	26.86	0.02	28	198.52	29.98	0.03	25	1862.93	534.96	5.84	16.94
15-Feb-20	292.53	25.08	0.02	29	124.69	19.81	0.03	24	1748.41	527.39	8.14	16.78
16-Feb-20	288.28	24.68	0.02	25	82.07	9.41	0.03	27	1314.76	446.68	4.11	16.40
17-Feb-20	311.02	19.25	0.02	25	61.33	5.33	0.02	33	1634.46	454.15	8.01	16.54
18-Feb-20	313.11	8.90	0.02	25	135.41	30.98	0	26	1883.01	462.62	14.79	17.32
19-Feb-20	325.59	11.78	0.02	25	233.01	44.75	0	26	1845.75	497.56	3.73	16.64
20-Feb-20	343.74	14.32	0.02	27	302.53	43.93	0	26	1620.90	465.50	4.00	16.38
21-Feb-20	299.82	17.54	0.02	28	254.56	43.06	0	26	1674.61	461.89	6.60	16.46
22-Feb-20	165.53	16.64	0.02	28	217.81	31.84	0	27	1638.96	446.65	6.94	16.39
23 Feb 20	179.23	20.42	0.02	29	201.97	27.12	0	27	1372.46	386.57	3.71	16.13
24-Feb-20	201.95	20.73	0.01	31	131.23	37.68	0	29	1432.73	393.65	29.10	16.23
25-Feb-20	112.74	0	0.01	29	76.58	19.79	0	28	1787.39	450.91	8.35	16.48
26-Feb-20	103.93	0	0.01	29	60.69	16.32	0.01	29	1955.38	519.96	7.90	16.58
27-Feb-20	168.08	17.66	0.01	29	80.13	15.11	0.01	30	1807.41	490.83	3.86	16.65
28-Feb-20	315.95	18.59	0.02	29	185.82	57.73	0.01	28	1732.48	475.13	7.28	16.75
29-Feb-20	449.06	22.6	0.02	30	218.71	75.36	0.01	30	1908.37	499.88	3.67	16.68

Note: Calciner 2 was not under operation on dt: 04-02-2020 for maintenance activities.



Seasonal Report (Jan'20 to Mar'20)
ONLINE STACK MONITORING TEST RESULT OF CALCINER AND CF BOILER FOR THE
MONTH OF MARCH 2020

Date of sampling	Calciner 1				Calciner 2				CFB Stack			
Parameter	SO2	NOx	CO	PM	SO2	NOx	CO	PM	SO2	NOx	CO	PM
Unit	ppm	ppm	%	mg/Nm ³	ppm	ppm	%	mg/Nm ³	mg/Nm ³	mg/Nm ³	mg/Nm ³	mg/Nm ³
01-Mar-20	340.44	20.79	0.02	29	229.44	61.28	0.01	26	1749.07	469.62	6.10	16.87
02-Mar-20	362.60	18.80	0.03	29	267.48	68.10	0.01	25	1813.59	455.11	14.20	20.27
03-Mar-20	374.05	19.06	0.03	28	283.01	57.07	0.01	27	1935.22	497.81	6.34	22.13
04-Mar-20	308.89	14.34	0.03	31	255.57	56.73	0.01	30	1884.31	489.26	8.18	20.10
05-Mar-20	370.16	18.36	0.03	29	225.97	50.14	0.01	31	1838.52	483.25	9.12	21.62
06-Mar-20	272.50	10.89	0.03	30	259.45	50.13	0.01	28	1959.26	446.94	10.37	23.23
07-Mar-20	346.16	11.74	0.03	30	292.58	47.46	0.01	28	1963.07	438.77	17.56	22.64
08-Mar-20	367.21	11.04	0.03	29	270.44	43.59	0.01	31	1937.12	458.92	11.26	20.48
09-Mar-20	297.33	11.5	0.03	28	165.98	42.40	0.01	35	1841.93	442.58	3.72	20.94
10-Mar-20	139.11	7.77	0.03	19	38.12	34.02	0.01	26	1575.64	421.49	28.91	22.78
11-Mar-20	22.05	14.57	0.03	29	6.16	36.52	0.01	26	1487.59	392.58	19.96	20.53
12-Mar-20	8.80	11.94	0.03	29	10.40	26.57	0.01	28	1809.84	370.45	10.12	19.97
13-Mar-20	50.26	10.53	0.02	29	40.41	31.32	0.01	28	1706.33	341.39	51.28	21.57
14-Mar-20	58.23	6.82	0.02	28	59.49	42.99	0.01	28	1270.32	417.65	11.04	20.24
15-Mar-20	77.26	6.50	0.02	30	117.82	48.24	0.01	28	1725.90	375.04	5.04	18.52
16-Mar-20	50.39	10.02	0.03	32	60.99	48.12	0.01	29	1918.98	390.51	23.22	23.06
17-Mar-20	146.15	9.71	0.03	30	168.37	52.21	0	28	1834.28	432.66	4.02	21.82
18-Mar-20	272.97	18.50	0.03	33	396.68	55.79	0.01	29	1734.55	455.79	8.60	19.28
19-Mar-20	259.72	19.09	0.03	38	381.68	59.68	0	32	1609.81	408.97	34.05	17.92
20-Mar-20	245.82	16.92	0.02	35	387.37	55.65	0	34	1595.86	446.11	5.30	21.49
21-Mar-20	280.22	34.72	0.02	31	343.32	51.18	0	30	1550.96	388.56	24.35	18.65
22-Mar-20	338.72	30.57	0.02	30	342.28	46.56	0.01	44	1692.62	442.37	15.47	21.42
23-Mar-20	318.68	27.49	0.03	31	359.11	44.60	0	52	1863.28	481.93	7.41	21.06
24-Mar-20	414.91	42.03	0.03	25	300.50	51.53	0	32	1828.31	511.12	5.74	21.81
25-Mar-20	536.41	54.65	0.04	20	277.19	57.34	0	24	1905.52	490.36	4.64	20.06
26-Mar-20	479.70	46.04	0.04	21	217.32	60.72	0	28	1929.08	449.57	10.23	16.48
27-Mar-20	494.96	37.85	0.03	18	203.15	56.30	0	24	1743.96	372.31	3.75	15.91
28-Mar-20	595.71	23.92	0.03	18	339.17	47.56	0	18	1756.24	405.94	22.84	13.63
29-Mar-20	539.47	22.73	0.03	18	312.09	46.61	0	17	1793.96	436.29	10.38	15.51
30-Mar-20	577.21	23.43	0.03	18	256.64	47.45	0	18	1726.77	433.37	4.17	15.23
31-Mar-20	610.61	22.89	0.03	18	242.13	43.04	0	18	1848.78	417.54	3.95	16.76



SRB



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



Test Report No	: KLPL/01/20/WATER/022401	Issue Date:	11-Feb-2020
Amendment No	: -	Amendment Date :	-
Reference	: ORDER NO-6600013488 DT-16.12.2019		
Customer Name	: VEDANTA LIMITED, LANJIGARH		
Address	: PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.		
Date of receipt	: 31-Jan-2020	Test Commenced On :	31-Jan-2020
Sample Description	: DRINKING WATER (IS 10500:2012)	Test Completion On:	07-Feb-2020
Sample Condition	: SEALED IN 1LTR PET BOTTLE		
Sample Identification *	: GROUND WATER	Sampling Date :	30-Jan-2020
Batch No , Lot No	: NA	MFG Date :	NA
Received Quantity	: 1LTR X 1	Place of Collection :	OBSERVATION BOREWELL ASHPOND (NORTH) Dt-30.01.2020
Sample Collected By	: By Customer		
Ref.To Sampling Procedure:	QSP-07		

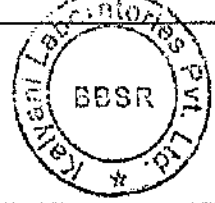
Parameters	Unit	Requirement	Result	Test Method
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CHEMICAL PARAMETER					
i	Total alkalinity (as CaCO ₃),	mg/l, Max	200	44	IS 3025 (Part 23):1986 RA 2009
ii	Total hardness (as CaCO ₃),	mg/l, Max	200	72	IS 3025 (Part 21):2009
iii	Zinc (as Zn)	mg/l, Max	5	0.012	IS 3025 (Part 49):1994 RA 2009
iv	Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v	Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009

PHYSICAL PARAMETER					
i	Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii	Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii	pH value	---	6.5-8.5	6.6	IS 3025 (Part-11):1983, RA 2012
iv	Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006

RADIOACTIVITY SUBSTANCES					
i	Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii	Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013

TOXIC SUBSTANCES					
i	Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii	Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii	Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv	Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 46):1994 RA 2009
v	Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi	Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



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KLPL- 339652A



KALYANI LABORATORIES PVT. LTD.

78th M4, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : KLPL/01/20/WATER/022401



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

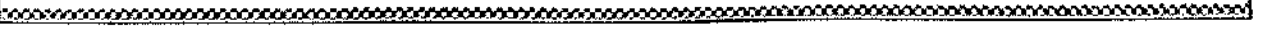
Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Ananta
Analysed By
For Kalyani Laboratories Pvt. Ltd.



[Signature]
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BILUBANESWAR-752101, ODISHA

TEST REPORT



Test Report No : KLPL/01/20/WATER/02240H **Issue Date:** 11-Feb-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-5600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-765027.
Date of receipt : 31-Jan-2020 **Test Commenced On** : 31-Jan-2020 **Test Completion On:** 07-Feb-2020
Sample Description : DRINKING WATER (IS 10500:2012)
Sample Condition : SEALED IN 1LTR PET BOTTLE
Sample Identification * : GROUND WATER **Sampling Date** : 30-Jan-2020
Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA
Received Quantity : 1LTR X 1 **Place of Collection** : OBSERVATION BORE WELL ASHPOND KENDUGUDA
Sample Collected By : By KLPL. **SIDE(EAST) DT-30.01.2020**
Ref.To Sampling Procedure: QSP-07

Parameters	Unit	Requirement	Result	Test Method
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CHEMICAL PARAMETER

I	Total alkalinity (as CaCO ₃),	mg/l, Max	200	188	IS 3025 (Part 23):1986 RA 2009
II	Total hardness (as CaCO ₃),	mg/l, Max	200	184	IS 3025 (Part 21):2009
III	Zinc (as Zn)	mg/l, Max	5	0.028	IS 3025 (Part 49):1994 RA 2009
IV	Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
V	Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009

PHYSICAL PARAMETER

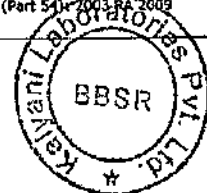
I	Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
II	Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
III	pH value	---	6.5-8.5	7.15	IS 3025 (Part-11):1983, RA 2012
IV	Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006

RADIOACTIVITY SUBSTANCES

I	Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
II	Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013

TOXIC SUBSTANCES

I	Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
II	Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
III	Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
IV	Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
V	Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
VI	Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 51):2003 RA 2009



1727 | 388500C

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KLPL- 338654A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : KLPL/01/20/WATER/02240H



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Digambar Anilak
Analysed By
For Kalyani Laboratories Pvt. Ltd.



D. S. Patel
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BILUBANESWAR-752101, ODISHA

TEST REPORT



Test Report No : KLPL/01/20/WATER/02240G **Issue Date** : 11-Feb-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-15.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 31-Jan-2020 **Test Commenced On** : 31-Jan-2020 **Test Completion On** : 07-Feb-2020
Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE
Sample Identification * : GROUND WATER **Sampling Date** : 30-Jan-2019
Batch No, Lot No : NA **MFG Date** : NA
Received Quantity : 1LTR X 1 **EXP Date** : NA
Sample Collected By : By KLPL **Place of Collection** : OBSERVATION BOREWELL WATER ASHPOND
Ref.To Sampling Procedure : QSP-07 **KASIBADI SIDE(WEST) DT-30.01.2020**

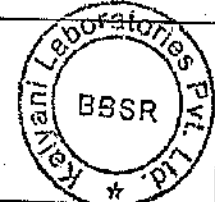
Parameters	Unit	Requirement	Result	Test Method
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CHEMICAL PARAMETER				
i	Total alkalinity (as CaCO ₃),	mg/l, Max	200	132 IS 3025 (Part 23):1986 RA 2009
ii	Total hardness (as CaCO ₃),	mg/l, Max	200	108 IS 3025 (Part 21):2009
iii	Zinc (as Zn)	mg/l, Max	5	0.022 IS 3025 (Part 49):1994 RA 2009
iv	Total Chromium	mg/l, Max	0.05	< 0.02 IS 3025 (PART 52): 2003 RA 2009
v	Aluminum (as Al)	mg/l, Max	0.03	< 0.02 IS 3025 (PART 55):2003 RA 2009

PHYSICAL PARAMETER				
i	Colour	Hazen, Max	5	< 1.0 IS 3025 (Part 4):1983 RA 2012
ii	Odour	--	Agreeable	AGREEABLE IS 3025 (Part 5):1983 RA 2012
iii	pH value	--	6.5-8.5	6.9 IS 3025 (Part-11):1983, RA 2012
iv	Taste	--	Agreeable	AGREEABLE IS 3025 (Parts 8):1984 RA 2006

RADIOACTIVITY SUBSTANCES				
i	Alpha-Emitters	Bq/l, Max	0.1	< 0.004 IS 14194 (Part-2):2013
ii	Beta-Emitters	Bq/l, Max	1.0	< 0.02 IS 14194 (Part-1):2013

TOXIC SUBSTANCES				
i	Cadmium (as Cd)	mg/l, Max	0.003	< 0.001 IS 3025 (Part 41):1992 RA 2009
ii	Cyanide (as CN)	mg/l, Max	0.05	< 0.01 IS 3025 (Part 27):1986 RA 2009
iii	Lead (as Pb)	mg/l, Max	0.01	< 0.005 IS 3025 (Part 47):1994 RA 2009
iv	Mercury (as Hg)	mg/l, Max	0.001	< 0.0005 IS 3025 (Part 48):1994 RA 2009
v	Total arsenic (as As)	mg/l, Max	0.01	< 0.001 IS 3025 (Part 37):1998 RA 2009
vi	Nickel (as Ni)	mg/l, Max	0.02	< 0.01 IS 3025 (Part 54): 2003 RA 2009



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KLPL- 339670A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : KLPL/01/20/WATER/02240G



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

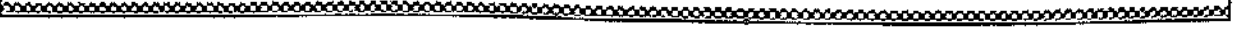
Any unusual feature observed during determination : NIL

***** End of Test Report *****

Disambar Anjala
Analysed By
For Kalyani Laboratories Pvt. Ltd.



Disambar
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

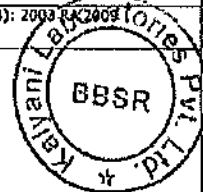
TEST REPORT



Test Report No : KLPL/01/20/WATER/02240F **Issue Date:** 11-Feb-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 31-Jan-2020 **Test Commenced On** : 31-Jan-2020 **Test Completion On:** 07-Feb-2020
Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE
Sample Identification * : GROUND WATER **Sampling Date** : 30-Jan-2020
Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA
Received Quantity : 1LTR X 1 **Place of Collection** : OBSERVATION BOREWELL PROCESS WATER LAKE(EAST) DT-30.01.2020
Sample Collected By : By KLPL
Ref.To Sampling Procedure: QSP-07

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
I Total alkalinity (as CaCO ₃),	mg/l, Max	200	128	IS 3025 (Part 23):1986 RA 2009
II Total hardness (as CaCO ₃),	mg/l, Max	200	116	IS 3025 (Part 21):2009
III Zinc (as Zn)	mg/l, Max	5	0.02	IS 3025 (Part 49):1994 RA 2009
IV Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
V Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
I Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
II Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
III pH value	---	6.5-8.5	6.65	IS 3025 (Part-11):1983, RA 2012
IV Taste	--	Agreeable	AGREEABLE	IS 3025 (Part 6):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
I Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
II Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
I Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
II Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
III Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
IV Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
V Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
VI Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



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KLPL- 339672A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BIRUBANESWAR-752101, ODISHA

Kalyani Laboratories

Test Report No : KLPL/01/20/WATER/02240F



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.



Authorized Signatory
For Kalyani Laboratories Pvt. Ltd



KALYANI LABORATORIES PVT. LTD.

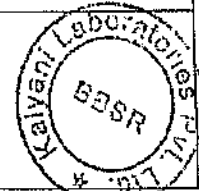
78/44, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



Test Report No	: KLPL/D1/20/WATER/02240E	Issue Date:	11-Feb-2020
Amendment No	: -	Amendment Date	: -
Reference	: ORDER NO-6600013488 DT-16.12.2019		
Customer Name	: VEDANTA LIMITED, LANJIGARH		
Address	: PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.		
Date of receipt	: 31-Jan-2020	Test Commenced On	: 31-Jan-2020
Sample Description	: DRINKING WATER (IS 10500:2012)	Test Completion On	: 07-Feb-2020
Sample Condition	: SEALED IN 1LTR PET BOTTLE		
Sample Identification *	: GROUND WATER	Sampling Date	: 29-Jan-2020
Batch No, Lot No	: NA	MFG Date	: NA
Received Quantity	: 1LTR X 1	Place of Collection	: OBSERVATION BOREWELL PROCESS WATER LAKE(NORTH) DT-29,01,2020
Sample Collected By	: By KLPL		
Ref. To Sampling Procedure:	QSP-07		

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
I Total alkalinity (as CaCO ₃),	mg/l, Max	200	52	IS 3025 (Part 23):1986 RA 2009
II Total hardness (as CaCO ₃),	mg/l, Max	200	48	IS 3025 (Part 21):2009
III Zinc (as Zn)	mg/l, Max	5	0.011	IS 3025 (Part 49):1994 RA 2009
IV Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
V Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
I Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
II Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
III pH value	---	6.5-8.5	6.6	IS 3025 (Part-11):1983, RA 2012
IV Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
I Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
II Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
I Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
II Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
III Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
IV Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
V Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
VI Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



1724 | 3852000000000

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KLPL- 339674A



KALYANI LABORATORIES PVT. LTD.

78044, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : KLPL/01/20/WATER/02240E



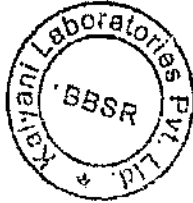
Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Digambar Anand
Analysed By
For Kalyani Laboratories Pvt. Ltd.



D. Anand
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd.



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



Test Report No : KLPL/01/20/WATER/02240A **Issue Date** : 11-Feb-2020
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO. - LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 31-Jan-2020 **Test Commenced On** : 31-Jan-2020 **Test Completion On**: 07-Feb-2020
Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE **Sampling Date** : 30-Jan-2020
Sample Identification : GROUND WATER **EXP Date** : NA
Batch No , Lot No : NA **MFG Date** : NA
Received Quantity : 1LTR X 1 **Place of Collection** : OBSERVATION BORE WELL RED MUD POND
Sample Collected By : By KLPL **BASANTAPADA SIDE (EAST) DT-30.01.2020**
Ref.To Sampling Procedure: QSP-07

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
I Total alkalinity (as CaCO ₃),	mg/l, Max	200	164	IS 3025 (Part 23):1986 RA 2009
II Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
III Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
IV Total hardness (as CaCO ₃),	mg/l, Max	200	124	IS 3025 (Part 21):2009
V Zinc (as Zn)	mg/l, Max	5	0.022	IS 3025 (Part 49):1994 RA 2009
PHYSICAL PARAMETER				
I Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
II Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
III pH value	---	6.5-8.5	6.6	IS 3025 (Part-11):1983, RA 2012
IV Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
I Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
II Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
I Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
II Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
III Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
IV Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
V Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1986 RA 2009
VI Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



1576 | 3495C22

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KLPL- 339682A



Kalyani Laboratories

KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : KLPL/01/20/WATER/2240A



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Disambar Anand

Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/044, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



Test Report No : KLPL/01/20/WATER/02240B **Issue Date** : 11-Feb-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027. **Test Completion On** : 07-Feb-2020
Date of receipt : 31-Jan-2020 **Test Commenced On** : 31-Jan-2020
Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE **Sampling Date** : 30-Jan-2020
Sample Identification * : GROUND WATER **MFG Date** : NA
Batch No , Lot No : NA **EXP Date** : NA
Received Quantity : 1LTR X 1 **Place of Collection** : OBSERVATION BORE WELL RED MUD POND(WEST) dt-30.01.2020
Sample Collected By : By KLPL
Ref. To Sampling Procedure : Qsp-07

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
i Total alkalinity (as CaCO ₃),	mg/l, Max	200	180	IS 3025 (Part 23):1986 RA 2009
ii Total hardness (as CaCO ₃),	mg/l, Max	200	184	IS 3025 (Part 21):2009
iii Zinc (as Zn)	mg/l, Max	5	0.045	IS 3025 (Part 49):1994 RA 2009
iv Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v Aluminum (as Al)	mg/l, Max	0.05	< 0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
i Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii pH value	---	6.5-8.5	6.65	IS 3025 (Part-11):1983, RA 2012
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



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KLPL- 339680A



KALYANI LABORATORIES PVT. LTD.

78934, PAHAJ - BHUBANESWAR-752101, ODISHA

Test Report No : KLPL/01/20/WATER/02240B



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Diqambar Anujaha
Analysed By
For Kalyani Laboratories Pvt. Ltd.



[Signature]
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/94, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



Test Report No : KLPL/01/20/WATER/02240C **Issue Date:** 11-Feb-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027. **Test Completion On:** 07-Feb-2020
Date of receipt : 31-Jan-2020 **Test Commenced On** : 31-Jan-2020
Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE **Sampling Date** : 29-Jan-2020
Sample Identification # : GROUND WATER **MFG Date** : NA **EXP Date** : NA
Batch No , Lot No : NA **Place of Collection** :OBSERVATION BORE WELL RED MUD POND MATERIAL GATE SIDE(NORTH) DT-29.01.2020
Received Quantity : 1LTR X 1
Sample Collected By : By KLPL
Ref.To Sampling Procedure: Qsp-07

Parameters	Unit	Requirement	Result	Test Method
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CHEMICAL PARAMETER				
I	Total alkalinity (as CaCO ₃),	mg/l, Max	200	168 IS 3025 (Part 23):1986 RA 2009
II	Total hardness (as CaCO ₃),	mg/l, Max	200	144 IS 3025 (Part 21):2009
III	Zinc (as Zn)	mg/l, Max	5	0.024 IS 3025 (Part 49):1994 RA 2009
IV	Total Chromium	mg/l, Max	0.05	< 0.02 IS 3025 (PART 52): 2003 RA 2009
V	Aluminium (as Al)	mg/l, Max	0.03	< 0.02 IS 3025 (PART 55):2003 RA 2009

PHYSICAL PARAMETER				
I	Colour	Hazen, Max	5	< 1.0 IS 3025 (Part 4):1983 RA 2012
II	Odour	---	Agreeable	AGREEABLE IS 3025 (Part 5):1983 RA 2012
III	pH value	---	6.5-8.5	6.55 IS 3025 (Part-11):1983, RA 2012
IV	Taste	---	Agreeable	AGREEABLE IS 3025 (Parts 6):1984 RA 2006

RADIOACTIVITY SUBSTANCES				
I	Alpha-Emitters	Bq/l, Max	0.1	< 0.004 IS 14194 (Part-2):2013
II	Beta-Emitters	Bq/l, Max	1.0	< 0.02 IS 14194 (Part-1):2013

TOXIC SUBSTANCES				
I	Cadmium (as Cd)	mg/l, Max	0.003	< 0.001 IS 3025 (Part 41):1992 RA 2009
II	Cyanide (as CN)	mg/l, Max	0.05	< 0.01 IS 3025 (Part 27):1996 RA 2009
III	Lead (as Pb)	mg/l, Max	0.01	< 0.005 IS 3025 (Part 47):1994 RA 2009
IV	Mercury (as Hg)	mg/l, Max	0.001	< 0.0005 IS 3025 (Part 48):1994 RA 2009
V	Total arsenic (as As)	mg/l, Max	0.01	< 0.001 IS 3025 (Part 37):1988 RA 2009
VI	Nickel (as Ni)	mg/l, Max	0.02	< 0.01 IS 3025 (Part 54): 2003 RA 2009



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KLPL- 338678A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752 101, ODISHA

Test Report No : KLPL/01/20/WATER/02240C



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL
..... End of Test Report

Disambor Anukta
Analysed By
For Kalyani Laboratories Pvt. Ltd.



[Signature]
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



Test Report No : KLPL/01/20/WATER/02240D **Issue Date:** 11-Jan-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-765027. **Test Completion On:** 07-Feb-2020
Date of receipt : 31-Jan-2020 **Test Commenced On** : 31-Jan-2020
Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE **Sampling Date** : 29-Jan-2019
Sample Identification * : GROUND WATER **EXP Date** : NA
Batch No , Lot No : NA **MFG Date** : NA
Received Quantity : 1LTR X 1 **Place of Collection** : OBSERVATION BOREWELL RED MUD POND RENGOPALI SIDE DT-29.01.2020
Sample Collected By : By KLPL
Ref.To Sampling Procedure: QSP-07

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
I Total alkalinity (as CaCO ₃),	mg/l, Max	200	164	IS 3025 (Part 23):1996 RA 2009
II Total hardness (as CaCO ₃),	mg/l, Max	200	180	IS 3025 (Part 21):2009
III Zinc (as Zn)	mg/l, Max	5	0.026	IS 3025 (Part 49):1994 RA 2009
IV Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
V Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
I Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
II Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
III pH value	---	6.5-8.5	7.2	IS 3025 (Part-11):1983, RA 2012
IV Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1994 RA 2006
RADIOACTIVITY SUBSTANCES				
I Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
II Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
I Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
II Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
III Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
IV Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
V Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
VI Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



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KLPL- 339676A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Kalyani Laboratories

Test Report No : KLPL/01/20/WATER/02240D



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Digambar Arwala
Analysed By
For Kalyani Laboratories Pvt. Ltd.



Digambar Arwala
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



Test Report No : KLPL/01/20/WATER/022403 **Issue Date:** 11-Feb-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-765027.
Date of receipt : 31-Jan-2020 **Test Commenced On** : 31-Jan-2020 **Test Completion On:** 07-Feb-2020
Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED IN 1LTR PET BOTTLE
Sample Identification * : GROUND WATER **Sampling Date** : 30-Jan-2020
Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA
Received Quantity : 1LTR X 1 **Place of Collection** :OBSERVATION BOREWELL DIRTY WATER POND
Sample Collected By : By KLPL **DT-30.01.2020**
Ref.To Sampling Procedure: QSP-07

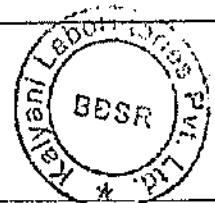
Parameters	Unit	Requirement	Result	Test Method
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CHEMICAL PARAMETER				
I Total alkalinity (as CaCO ₃),	mg/l, Max	200	175	IS 3025 (Part 23):1986 RA 2009
II Total hardness (as CaCO ₃),	mg/l, Max	200	188	IS 3025 (Part 21):2009
III Zinc (as Zn)	mg/l, Max	5	0.034	IS 3025 (Part 49):1994 RA 2009
IV Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
V Aluminium (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009

PHYSICAL PARAMETER				
I Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
II Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
III pH value	---	6.5-8.5	7.35	IS 3025 (Part-11):1983, RA 2012
IV Taste	---	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006

RADIOACTIVITY SUBSTANCES				
I Alpha-Emitters	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
II Beta-Emitters	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013

TOXIC SUBSTANCES				
I Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
II Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
III Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
IV Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
V Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
VI Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



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KLPL- 339650A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : KLPL/01/20 /WATER/02240J



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Digambar Anukh
Analysed By
For Kalyani Laboratories Pvt. Ltd.



Mohammed
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUDANESWAR-752101, ODISHA

NABL ULR NO : TC704320000003299P

TEST REPORT



Test Report No : 495 | 3862CE3 KLPL/01/20/ENVN/00495 Issue Date : 12-Feb-2020
 Amendment No : - Amendment Date : -
 Reference : ORDER NO-6600013488 DT-16.12.2019
 Customer Name : VEDANTA LIMITED, LANJIGARH
 Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.
 Date of receipt : 06-Jan-2020 Commenced On : 05-Jan-2020 Completion On: 11-Jan-2020

Sample Name : AMBIENT AIR QUALITY MONITORING
 Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
 Quantity : 1 NO.
 Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : REHABILITATION COLONY, 03.01.2020				
Sulphur Dioxide	µg/m ³	80	8.58	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	19.37	IS 5182 (PART 5) :2006
Particulate Matter (PM10)	µg/m ³	100	63.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	40.19	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.75	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	7.3	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Chandraprava
 Analysed By
 For Kalyani Laboratories Pvt. Ltd.

Digambar Anand
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.




CE332996343
 KLPL-339616A



KALYANI LABORATORIES PVT. LTD.

78/044, PAHAL, BHUBANESWAR-752101, ODISHA

WABL ULR NO : TC704320000003299P **TEST REPORT** 

Test Report No : 495 | 3862CE3 KLPL/01/20/ENVN/00495A **Issue Date** : 12-Feb-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-5600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766207.
Date of receipt : 06-Jan-2020 **Commenced On** : 06-Jan-2020 **Completion On** : 11-Jan-2020
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 1 NO.
Ref. To Sampling Procedure : KLPL/SOP/AIR-06

Parameter	Unit	Standard/Value	Results	Test Method
Location & Date : BELAMBA VILLAGE, 04.01.2020				
Sulphur Dioxide	µg/m ³	80	7.2	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	17.28	IS 5182 (PART 5) :2006
Particulate Matter (PM10)	µg/m ³	100	54.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	34.49	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.41	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.8	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
Charanprava
For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
Dijambor Anurak
For Kalyani Laboratories Pvt. Ltd.



CE332996343
KLPL-339A15A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC704320000003299P

TEST REPORT



Test Report No : 495 | 3862CE3 KLPL/01/20/ENVN/00495B **Issue Date** : 12-Feb-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013468 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.
Date of receipt : 13-Jan-2020 **Commenced On** : 13-Jan-2020 **Completion On** : 18-Jan-2020
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 1 NO.
Ref.To Sampling Procedure : KLPL/SOP/AIR-06

Parameters	Units	Standard Value	Results	Test Method
Location & Date : PLANT SITE, 06.01.2020				
Sulphur Dioxide	µg/m ³	80	12.31	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	23.37	IS 5182 (PART 5) :2006
Particulate Matter (PM10)	µg/m ³	100	73.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	47.42	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	1.5	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	13.8	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	4.25	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Chandraprava
 Analysed By
 For Kalyani Laboratories Pvt. Ltd.

Digambar Danda
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



CE332996343
 KLPL-339614A
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KALYANI LABORATORIES PVT. LTD.

78/214, PATIAL, BIRUDANE SWAR-752101, ODISHA

NABL ULR NO : TC704320000003299P

TEST REPORT



Test Report No : 495 | 3862CE3 KLPL/01/20/ENVN/00495C Issue Date : 12-Feb-2020

Amendment No : - Amendment Date : -

Reference : ORDER NO-6600013408 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.

Date of receipt : 13-Jan-2020 Commenced On : 13-Jan-2020 Completion On: 18-Jan-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : CHHATRAPUR VILLAGE, 07.01.2020				
Sulphur Dioxide	µg/m ³	80	6.43	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	16.52	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	59.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	38.14	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.46	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.6	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzo (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

chandraprava

Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



CE332996343
KLPL-339613A
Page 1 of 1



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUDANESWAR-752101, ODISHA

NABL ULR NO : TC70432000003299P

TEST REPORT



Test Report No : 495 | 3862CE3 KLPL/01/20/ENVN/00495D Issue Date : 12-Feb-2020

Amendment No : - Amendment Date : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.

Date of receipt : 13-Jan-2020 Commenced On : 13-Jan-2020 Completion On: 18-Jan-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-05

Parameters Unit Standard Value Results Test Method

Parameters	Unit	Standard Value	Results	Test Method
Location & Date		MID DAY MEAL, 08.01.2020		
Sulphur Dioxide	µg/m ³	80	9.40	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	19.26	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	64.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	50	43.11	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.70	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	9.3	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	mg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
Chandraprava
For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
Dijambor Ananta
For Kalyani Laboratories Pvt. Ltd.



CE332996343
KLPL-339812A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC70432000003299P

TEST REPORT



Test Report No : 495 | 3862CE3 KLPL/01/20/ENVN/00495E Issue Date : 12-Feb-2020
 Amendment No : - Amendment Date : -
 Reference : ORDER NO-6600013488 DT-16.12.2019
 Customer Name : VEDANTA LIMITED, LANJIGARH
 Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.
 Date of receipt : 11-Jan-2020 Commenced On : 11-Jan-2020 Completion On: 18-Jan-2020
 Sample Name : AMBIENT AIR QUALITY MONITORING
 Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
 Quantity : 1 NO.
 Ref. To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : LANJIGARH VILLAGE, 09.01.2020				
Sulphur Dioxide	µg/m ³	80	10.17	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	20.38	IS 5182 (PART 6) :2008
Particulate Matter (PM10)	µg/m ³	100	68.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	42.38	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.47	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	4.4	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	05	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
 For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



CE332996343
 KLPL- 339634A1



KALYANI LABORATORIES PVT. LTD.

78/44, PAIAL, BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC70432000003299P

TEST REPORT



Test Report No : 495 | 3862CE3 KLPL/01/20/ENVN/00495F **Issue Date** : 12-Feb-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7562027.
Date of receipt : 13-Jan-2019 **Commenced On** : 13-Jan-2019 **Completion On** : 18-Jan-2019
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 1 NO.
Ref.To Sampling Procedure : KLPL/SOP/AIR-05

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : REHABILITATION COLONY, 10.01.2020				
Sulphur Dioxide	µg/m ³	80	7.55	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	28.12	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	66.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	39.48	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.74	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.6	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By *Chandraprava*
 For Kalyani Laboratories Pvt. Ltd.

Digambar Anish
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



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 KLPL- 338511A
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KALYANI LABORATORIES PVT. LTD.

78/744, PAHALI, BHUBANESWAR-751001, ODISHA

NABL ULR NO : TC704320000003299P

TEST REPORT



Test Report No : 495 | 3B62CE3 KLPL/01/20/ENVN/00495G

Issue Date : 12-Feb-2020

Amendment No : -

Amendment Date : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766207.

Date of receipt : 13-Jan-2020

Commenced On : 13-Jan-2020

Completion On : 18-Jan-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : BELAMBA VILLAGE, 11.01.2020				
Sulphur Dioxide	µg/m ³	80	6.57	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	16.12	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	56.0	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	35.25	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.42	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzo (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (NI)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



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KLPL- 339511A
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KALYANI LABORATORIES PVT. LTD.

78/9 H, PAHALI, BHUBANESWAR-752101, ODISHA

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TEST REPORT



NABL URL NO : TC704320000003299P
Test Report No : 495 | 3862CES KLPL/01/20/ENVN/00495H **Issue Date** : 12-Feb-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.
Date of receipt : 20-Jan-2020 **Commenced On** : 20-Jan-2020 **Completion On** : 25-Jan-2020
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 1 NO.
Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameter	Unit	Standard Value	Results	Test Method
Location & Date : PLANT SITE, 13.01.2020				
Sulphur Dioxide	µg/m ³	80	13.31	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	24.16	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	76.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	46.42	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	1.6	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	11.7	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzo (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (NI)	ng/m ³	20	4.2	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL
 End of Test Report

Analysed By
 For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



CE332996343
KLPL-339511A



KALYANI LABORATORIES PVT. LTD.

78914, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000003299P

Test Report No : 495 | 3862CE3 KLPL/01/20/ENVN/00495I **Issue Date** : 12-Feb-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.

Date of receipt : 20-Jan-2020 **Commenced On** : 20-Jan-2020 **Completion On** : 25-Jan-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref. To Sampling Procedure : KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : CHHATRAPUR VILLAGE, 14.01.2020				
Sulphur Dioxide	µg/m ³	80	7.10	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	17.22	IS 5182 (PART 6) :2005
Particulate Matter (PM10)	µg/m ³	100	61.0	IS 5182(PART-23) :2005
Particulate Matter (PM2.5)	µg/m ³	60	39.48	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.48	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	4.4	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzo (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	05	< 1.0	KLPL/SOP/AIR-10
Nickel (NI)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

Analysed By
Chandraprava
For Kalyani Laboratories Pvt. Ltd.

Bhubaneswar
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd.



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KALYANI LABORATORIES PVT. LTD.

78/94, PAHAL, BILUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003299P

Test Report No : 495 | 3862CE3 KLPL/01/20/ENVN/004953 **Issue Date** : 12-Feb-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.

Date of receipt : 20-Jan-2020 **Commenced On** : 20-Jan-2020 **Completion On** : 25-Jan-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : MID DAY MEAL, 15.01.2020				
Sulphur Dioxide	µg/m ³	80	10.11	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	21.10	IS 5182 (PART 6) :2008
Particulate Matter (PM10)	µg/m ³	100	66.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	44.26	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.72	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.8	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	mg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (NI)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Analysed By **Chandraprava**
For Kalyani Laboratories Pvt. Ltd.

Digambar Anilaka
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



CE332996343
KLPL-339685A



KALYANI LABORATORIES PVT. LTD.

78944, PAHAL, BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC704320000003299P **TEST REPORT** 

Test Report No : 495 | 3862CE3 KLPL/01/20/ENVN/00495K **Issue Date** : 12-Feb-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.
Date of receipt : 20-Jan-2020 **Commenced On** : 20-Jan-2020 **Completion On** : 25-Jan-2020

Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 1 NO.
Ref.To Sampling Procedure: KLPL/SOP/AIR-05

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : LANJIGARH VILLAGE, 16.01.2020				
Sulphur Dioxide	µg/m ³	80	11.25	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	23.27	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	63.0	IS 5182(PART-13) : 2005
Particulate Matter (PM2.5)	µg/m ³	60	42.20	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.46	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
Chandraprava
For Kalyani Laboratories Pvt. Ltd.

Digambar Boudha
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



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KLPL- 339694A
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KALYANI LABORATORIES PVT. LTD.

78744, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003299P

Test Report No : 495 | 3862CE3 KLPL/01/20/ENVN/00495L **Issue Date** : 12-Feb-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013483 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.

Date of receipt : 20-Jan-2020 **Commenced On** : 20-Jan-2020 **Completion On** : 25-Jan-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure : KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : REHABILITATION COLONY, 17.01.2020				
Sulphur Dioxide	µg/m ³	80	8.17	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	17.25	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	64.0	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	38.47	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.73	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.4	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzo (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (NI)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By **Chandraprava**
For Kalyani Laboratories Pvt. Ltd.

D. Prabin Sankha
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



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KLPL-339893A
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KALYANI LABORATORIES PVT. LTD.

789-M, PAHAL, BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC704320000003299P

TEST REPORT



Test Report No : 495 | 3862CE3 KLPL/01/20/ENVN/00495M **Issue Date** : 12-Feb-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO,- LANJIGARH, DIST,- KALAHANDI, ODISHA-7662027.
Date of receipt : 20-Jan-2020 **Commenced On** : 20-Jan-2020 **Completion On** : 25-Jan-2020
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 1 NO.
Ref.To Sampling Procedure : KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : BELAMBA VILLAGE, 18.01.2020				
Sulphur Dioxide	µg/m ³	80	7.29	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	16.31	IS 5182 (PART 6) :2005
Particulate Matter (PM10)	µg/m ³	100	55.0	IS 5182(PART-23) :2005
Particulate Matter (PM2.5)	µg/m ³	60	36.05	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.42	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.6	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	05	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Chandraprava
 Analysed By
 For Kalyani Laboratories Pvt. Ltd.

Digambar Anusha
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



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 KLPL- 339692A
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KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003299P
Test Report No : 495 | 3862CE3 KLPL/01/20/ENVN/00495N **Issue Date** : 12-Feb-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.
Date of receipt : 27-Jan-2020 **Commenced On** : 27-Jan-2020 **Completion On** : 31-Jan-2020
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 1 NO.
Ref. To Sampling Procedure : KLPL/SOP/AIR-06

Parameter	Unit	Standard Value	Results	Test Method
Location & Date : PLANT SITE, 20.01.2020				
Sulphur Dioxide	µg/m ³	80	13.25	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	24.42	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	78.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	48.26	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	1.7	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	14.6	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	4.35	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL
End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Chandraprava

Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



CE332996343
KLPL-338591A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003299P

Test Report No : 495 | 3862CE3 KLPL/01/20/ENVN/004950 **Issue Date** : 12-Feb-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.

Date of receipt : 27-Jan-2020 **Commenced On** : 27-Jan-2020 **Completion On** : 31-Jan-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref. To Sampling Procedure : KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : CHHATRAPUR VILLAGE, 21.01.2020				
Sulphur Dioxide	µg/m ³	80	8.40	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	18.07	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	63.0	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	38.14	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.49	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Chandraprava
Analysed By
For Kalyani Laboratories Pvt. Ltd.

Dhanendra Anurupa
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



CE332996343
KLPL- 339690A1



KALYANI LABORATORIES PVT. LTD.

78,944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000003299P
Test Report No : 495 | 3862CE3 KLPL/01/20/ENVN/00495P **Issue Date** : 12-Feb-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6500013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766207. **Completion Onr** 31-Jan-2020
Date of receipt : 27-Jan2020 **Commenced On** : 27-Jan-2020
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 1 NO.
Ref.To Sampling Procedure: KLPL/SOP/AIR-05

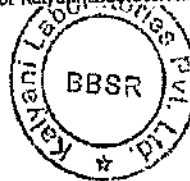
Parameters	Unit	Standard Value	Results	Test Method
Location & Date : MID DAY MEAL, 22.01.2020				
Sulphur Dioxide	µg/m ³	80	9.20	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	22.39	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	67.0	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	42.20	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.73	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	6.6	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	mg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL
..... End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorized Signatory
For Kalyani Laboratories Pvt. Ltd.



CE332996343
KLPL- 339634A,1



KALYANI LABORATORIES PVT. LTD.

78/44, PATIAL, HITUDANESWAR-752101, ODISHA

NABL ULR NO : TC70432000003299P **TEST REPORT**  

Test Report No : 495 | 3862CE3 KLPL/01/20/ENVN/00495Q **Issue Date** : 12-Feb-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.
Data of receipt : 27-Jan-2020 **Commenced On** : 27-Jan-2020 **Completion On** : 31-Jan-2020

Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 1 NO.
Ref. To Sampling Procedure : KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : LANJIGARH VILLAGE, 23.01.2020				
Sulphur Dioxide	µg/m ³	80	8.28	IS 5102(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	25.20	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	65.0	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	43.49	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.50	CPCB Guidelines of Ambient Air Pollutants Volume-1 & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	7.3	CPCB Guidelines of Ambient Air Pollutants Volume-1 & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-1 & II
Benzo (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-1 & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL
..... End of Test Report

Analysed By
Chandraprava
For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
Dhamban Boudha
For Kalyani Laboratories Pvt. Ltd.



CE332996343
KLPL-332996343



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003299P

Test Report No : 495 | 3862CE3 KLPL/01/20/ENVN/00495R **Issue Date** : 12-Feb-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6500013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.

Date of receipt : 27-Jan-2020 **Commenced On** : 27-Jan-2020 **Completion On** : 31-Jan-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure : KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : REHABILITATION COLONY, 24.01.2020				
Sulphur Dioxide	µg/m ³	80	7.63	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	20.12	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	63.0	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	36.26	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.72	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	8.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzo (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL
..... End of Test Report

Chandraprava
Analysed By
For Kalyani Laboratories Pvt. Ltd.

D. G. Bhowmik
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



CE332996343
KLPL- 33861A1



KALYANI LABORATORIES PVT. LTD.

78/94J, PATIAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003299P

Test Report No : 495 | 3862CES KLPL/01/20/ENVN/004955 **Issue Date** : 12-Feb-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.

Date of receipt : 27-Jan-2020 **Commenced On** : 27-Jan-2020 **Completion On** : 31-Jan-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

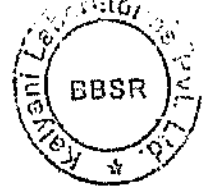
Parameters	Unit	Standard Value	Results	Test Method
Location & Date : BELAMBA VILLAGE, 25.01.2020				
Sulphur Dioxide	µg/m ³	80	6.35	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	17.14	IS 5182 (PART 6) : 2005
Particulate Matter (PM10)	µg/m ³	100	58.0	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	35.56	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.43	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	4.4	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

Analysed By
Chandraprava
For Kalyani Laboratories Pvt. Ltd.

Authorized Signatory
D. Ganga Prasad
For Kalyani Laboratories Pvt. Ltd.



CE332996343
KLPL- 339689A



KALYANI LABORATORIES PVT. LTD.

787944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000003299P

Test Report No : 495 | 3B62CE3 KLPL/01/20/ENVN/00495T

Issue Date : 12-Feb-2020

Amendment No : -

Amendment Date : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.

Date of receipt : 01-Feb-2020

Commenced On : 01-Feb-2020

Completion On: 05-Feb-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : PLANT SITE, 27.01.2020				
Sulphur Dioxide	µg/m ³	80	14.28	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	23.37	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	75.0	IS 5182(PART-13) :2006
Particulate Matter (PM2.5)	µg/m ³	60	50.21	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	1.7	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	13.1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	05	< 1.0	KLPL/SOP/AIR-10
Nickel (NI)	ng/m ³	20	4.22	KLPL/SOP/AIR-10

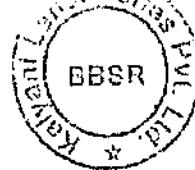
Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report:

Analysed By
Chandraprava
For Kalyani Laboratories Pvt. Ltd.

Digambar Anuraha
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



CE332996343
KLPL- 339688A
Page 1 of 1



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BIHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003299P

Test Report No : 495 | 3852CE3 KLPL/01/20/ENVN/00495U **Issue Date** : 12-Feb-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766207.

Date of receipt : 01-Feb-2020 **Commenced On** : 01-Feb-2020 **Completion On** : 06-Feb-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-05

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : CHHATRAPUR VILLAGE, 28.01.2020				
Sulphur Dioxide	µg/m ³	80	7.39	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	17.33	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	60.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	39.14	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.47	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.6	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL
..... End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



CE332996343
KLPL-339887A



KALYANI LABORATORIES PVT. LTD.

78/9-H, PATIAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003299P

Test Report No : 495 | 3862CE3 KLPL/01/20/ENVN/00495V

Issue Date : 12-Feb-2020

Amendment No : -

Amendment Date : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-7662027.

Date of receipt : 01-Feb-2020

Commenced On : 01-Feb-2020

Completion On: 06-Feb-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Units	Standard Value	Results	Test Method
Location & Date : MID DAY MEAL, 29.01.2020				
Sulphur Dioxide	µg/m ³	80	10.22	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	20.06	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	64.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	43.11	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.71	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	7.3	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	mg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzo (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

chanaraprava

Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



CE332996343
KLPL- 338886A



KALYANI LABORATORIES PVT. LTD.

78/941, PAULI, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003299P

Test Report No : 495 | 3862CE3 KLPL/01/20/ENVN/00495W **Issue Date** : 12-Feb-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANOI, ODISHA-7662027.

Date of receipt : 01-Feb-2020 **Commenced On** : 01-Feb-2020 **Completion On**: 06-Feb-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : LANJIGARH VILLAGE, 30.01.2020				
Sulphur Dioxide	µg/m ³	80	8.40	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	20	22.0	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	67.0	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	39.31	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.46	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	8.7	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1.0	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1.0	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4.0	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

chandraprava
 Analysed By
 For Kalyani Laboratories Pvt. Ltd.

Digambar Anilata
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



CE332996343
 KLPL- 339885A
 Page 1 of 1



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



Test Report No : KLPL/01/20/WATER/02240R **Issue Date:** 07-Feb-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027. **Test Completion On:** 07-Feb-2020
Date of receipt : 31-Jan-2020 **Test Commenced On** : 31-Jan-2020
Sample Description : SURFACE WATER

Sample Condition : SEALED IN 1LTR PET BOTTLE **Sampling Date** : 30-Jan-2020
Sample Identification * : SURFACE WATER **EXP Date** : NA
Batch No , Lot No : NA **MFG Date** : NA
Received Quantity : 1LTR X 2 **Place of Collection** : POND NEAR HAREKRUSHNAPUR DT-30.01.2020
Sample Collected By : By KLPL
Ref.To Sampling Procedure: QSP-07

BACTERIOLOGICAL QUALITY

I	Total Coliforms	MPN/100ml.	5000	70	IS: 1622:1981 RA 2009
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CHEMICAL PARAMETER

I	Chloride as Cl	mg/l, Max	600	8.0	APHA 23rd Edition (4500-Cl - -B), 2017
II	Sulphate as SO4	mg/l, Max	400	3.0	APHA 23rd Edition (4500-SO42 - -E), 2017
III	Nitrate as NO3	mg/l, Max	50	0.35	APHA 23rd Edition (4500-NO3 - -E), 2017
IV	Electrical Conductivity	µs/cm	-	152	APHA 23rd Edition (2510 B) 2017
V	Fluoride as F	mg/l, Max	1.5	0.17	APHA 23rd Edition (4500-F - -D,-C), 2017
VI	Total Dissolved Solid	mg/l, Max	1500	132	APHA 23rd Edition (2540 C), 2017
VII	Calcium as Ca	mg/l, Max	-	28.8	APHA 23rd Edition (3500-Ca-B), 2017
VIII	Magnesium as Mg	mg/l, Max	-	4.86	APHA 23rd Edition (3500-Mg-B), 2017
IX	Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B - B), 2017
X	Dissolved Oxygen	mg/l, Max	4.0	7.8	APHA 23rd Edition (4500-O-C), 2017
XI	Biochemical Oxygen Demand (For 3 days 27deg C)	mg/l, Max	--	2.9	APHA 23rd Edition 2012 (5210 B), 2017
XII	Total Hardness as CaCO3	mg/l, Max	--	92	APHA 23rd Edition (2140 C), 2017
XIII	Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
XIV	Iron (as Fe)	mg/l, Max	50	1.5	APHA-23rd Edition (3500-Fe-B, 3111 B) 2017
XV	Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
XVI	Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
XVII	Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
XVIII	Free Ammonia (as NH3)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
XX	Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 B) 2017
XXI	Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
XXI	Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2005

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 Page 1 of 2
 BBSR
 KLPL-339683A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No

KLPL/01/20/WATER/02240R



Parameter	Unit	Requirement	Result	Test Method
xxii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0017	--
xxvi SODIUM ABSORPTION RATIO	--	--	0.77	--
xxvii barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTISIDE	ug/l	--	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.8	APHA 23rd Edition (4500-H+-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	uCi/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Beta-Emitters	uCi/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Analysed By
For Kalyani Laboratories Pvt. Ltd.



Authorized Signatory
For Kalyani Laboratories Pvt. Ltd.



KALYANI LABORATORIES PVT. LTD.

78934, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



Test Report No : KLPL/01/20/WATER/02240Q **Issue Date:** 11-Feb-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-765027.
Date of receipt : 31-Jan-2020 **Test Commenced On** : 31-Jan-2020 **Test Completion On:** 07-Feb-2020
Sample Description : SURFACE WATER

Sample Condition : SEALED IN 1LTR PET BOTTLE
Sample Identification * : SURFACE WATER **Sampling Date** : 30-Jan-2020
Batch No , Lot No : NA **MFG Date** : NA
Received Quantity : 1LTR X 2 **EXP Date** : NA
Sample Collected By : By KLPL **Place of Collection** : TURI NALA NEAR RAGHUNATHPUR DT-30.01.2020
Ref.To Sampling Procedure: QSP-07

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
I Total Coliforms	MPN/100ml.	5000	80	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
I Chloride as Cl	mg/l, Max	600	8.0	APHA 23rd Edition (4500-Cl - -B), 2017
II Sulphate as SO4	mg/l, Max	400	7.0	APHA 23rd Edition (4500-SO42 - -E), 2017
III Nitrate as NO3	mg/l, Max	50	0.5	APHA 23rd Edition (4500-NO3 - -E), 2017
IV Electrical Conductivity	µs/cm	-	112	APHA 23rd Edition (2510 B) 2017
V Fluoride as F	mg/l, Max	1.5	0.11	APHA 23rd Edition (4500-F - -D, -C), 2017
VI Total Dissolved Solid	mg/l, Max	1500	94	APHA 23rd Edition (2540 C), 2017
VII Calcium as Ca	mg/l, Max	-	19.2	APHA 23rd Edition (3500-Ca-B), 2017
VIII Magnesium as Mg	mg/l, Max	-	5.83	APHA 23rd Edition (3500-Mg-B), 2017
IX Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B-B), 2017
X Dissolved Oxygen	mg/l, Max	4.0	7.1	APHA 23rd Edition (4500-O-C), 2017
XI Biochemical Oxygen Demand (For 3 days 27deg C)	mg/l, Max	--	1.4	APHA 23rd Edition 2012 (5210 B), 2017
XII Total Hardness as CaCO3	mg/l, Max	--	72	APHA 23rd Edition (2340 C), 2017
XIII Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
XIV Iron (as Fe)	mg/l, Max	50	0.65	APHA-23rd Edition (3500-Fe-B, 3111 B) 2017
XV Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
XVI Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
XVII Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
XVIII Free Ammonia (as NH3)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
XIX Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 B) 2017
XX Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
XXI Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2009

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KALYANI LABORATORIES PVT. LTD.

78/94A, PAHAL, BILUBANESWAR-752101, ODISHA

Test Report No

KLPL/01/20/WATER/02240Q



Parameters	Unit	Requirement	Result	Test Method
xxii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 8440
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0016	--
xxvi SODIUM ABSORPTION RATIO	--	--	0.82	--
xxvii barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTICIDE	µg/l	--	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.7	APHA 23rd Edition (4500-H+
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	uCi/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Beta-Emitters	uCi/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27) :1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 46):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Digambar Boudh
Analysed By
For Kalyani Laboratories Pvt. Ltd.



Digambar Boudh
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT

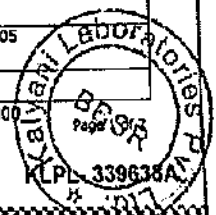


Test Report No : KLPL/01/20/WATER/02240P **Issue Date**: 11-Feb-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 31-Jan-2020 **Test Commenced On** : 31-Jan-2020 **Test Completion On**: 07-Feb-2020
Sample Description : SURFACE WATER

Sample Condition : SEALED IN 1LTR PET BOTTLE
Sample Identification * : SURFACE WATER **Sampling Date** : 30-Jan-2020
Batch No, Lot No : NA **MFG Date** : NA **EXP Date** : NA
Received Quantity : 1LTR X 2 **Place of Collection** : VAMASDHARA RIVER NEAR CHHATRAPUR CULVERT (DOWNSTREAM)
Sample Collected By : By KLPL
Ref.To Sampling Procedure: QSP-07

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
I Total Coliforms	MPN/100ml.	5000	23	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
I Chloride as Cl	mg/l, Max	500	16.0	APHA 23rd Edition (4500-Cl --B), 2017
II Sulphate as SO4	mg/l, Max	400	2.0	APHA 23rd Edition (4500-SO42 --E), 2017
III Nitrate as NO3	mg/l, Max	50	0.35	APHA 23rd Edition (4500-NO3 --E), 2017
IV Electrical Conductivity	µs/cm	-	144	APHA 23rd Edition (2510 B) 2017
V Fluoride as F	mg/l, Max	1.5	0.12	APHA 23rd Edition (4500-F --D,C), 2017
VI Total Dissolved Solid	mg/l, Max	1500	110	APHA 23rd Edition (2540 C), 2017
VII Calcium as Ca	mg/l, Max	-	19.2	APHA 23rd Edition (3500-Ca-B), 2017
VIII Magnesium as Mg	mg/l, Max	-	6.80	APHA 23rd Edition (3500-Mg-B), 2017
IX Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B- B), 2017
X Dissolved Oxygen	mg/l, Max	4.0	8.0	APHA 23rd Edition (4500-D-C), 2017
XI Biochemical Oxygen Demand (For 3 days 27deg C)	mg/l, Max	--	2.9	APHA 23rd Edition 2012(5210 B), 2017
XII Total Hardness as CaCO3	mg/l, Max	--	76	APHA 23rd Edition (2340 C), 2017
XIII Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
XIV Iron (as Fe)	mg/l, Max	50	5.25	APHA-23rd Edition (3500-Fe-B, 3111 B) 2017
XV Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
XVI Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
XVII Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
XVIII Free Ammonia (as NH3)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
XIX Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 B) 2017
XX Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
XXI Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2005

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KALYANI LABORATORIES PVT. LTD.

75/44, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No

KLPL/01/20/WATER/02240P



Parameters	Unit	Requirement	Result	Test Method
xxii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0025	--
xxvi SODIUM ABSORPTION RATIO	--	--	1.24	--
xxvii barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTICIDE	µg/l	--	< 0.0001	USEPA

PHYSICAL PARAMETER

i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.9	APHA 23rd Edition (4500-H+-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006

RADIOACTIVITY SUBSTANCES

i Alpha-Emitters	µC/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Beta-Emitters	µC/mL	0.01	BDL	IS 14194 (PART-2):2013

TOXIC SUBSTANCES

i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	--	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Digambar Nayak
Analysed By
For Kalyani Laboratories Pvt. Ltd.



Digambar Nayak
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd

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KLPL-339637A



KALYANI LABORATORIES PVT. LTD.

78/944, PAITAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



Test Report No : KLPL/01/20/WATER/022400 **Issue Date** : 11-Feb-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6500013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 31-Jan-2020 **Test Commenced On** : 31-Jan-2020 **Test Completion On** : 7-Feb-2020
Sample Description : SURFACE WATER

Sample Condition : SEALED IN 1LTR PET BOTTLE
Sample Identification * : SURFACE WATER **Sampling Date** : 30-Jan-2020
Batch No, Lot No : NA **MFG Date** : NA
EXP Date : NA
Received Quantity : 1LTR X 2 **Place of Collection** : VAMSADHARA RIVER NEAR NARAYANPUR
Sample Collected By : By KLPL **CULVERT(UPSTREAM) DT-30.01.2020**
Ref.To Sampling Procedure: QSP-07

Parameters	Unit	Requirement	Result	Test Method
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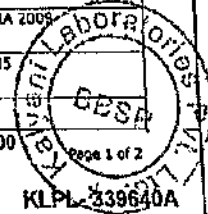
BACTERIOLOGICAL QUALITY

I Total Coliforms	MPN/100ml.	5000	25	IS: 1622:1981 RA 2009
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CHEMICAL PARAMETER

I Chloride as Cl	mg/l, Max	500	10.0	APHA 23rd Edition (4500-Cl --B), 2017
II Sulphate as SO4	mg/l, Max	400	5.0	APHA 23rd Edition (4500-SO42 --E), 2017
III Nitrate as NO3	mg/l, Max	50	0.4	APHA 23rd Edition (4500-NO3 --E), 2017
IV Electrical Conductivity	µs/cm	-	128	APHA 23rd Edition (2510 B) 2017
V Fluoride as F	mg/l, Max	1.5	< 0.05	APHA 23rd Edition (4500-F --D,C), 2017
VI Total Dissolved Solid	mg/l, Max	1500	100	APHA 23rd Edition (2540 C), 2017
VII Calcium as Ca	mg/l, Max	-	22.4	APHA 23rd Edition (3500-Ca-B), 2017
VIII Magnesium as Mg	mg/l, Max	-	3.89	APHA 23rd Edition (3500-Mg-B), 2017
IX Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B- B), 2017
X Dissolved Oxygen	mg/l, Max	4.0	7.5	APHA 23rd Edition(4500-O-C), 2017
XI Biochemical Oxygen Demand(For 3 days 27deg C)	mg/l, Max	--	2.0	APHA 23rd Edition 2012(5210 B), 2017
XII Total Hardness as CaCO3	mg/l, Max	--	72	APHA 23rd Edition (2340 C), 2017
XIII Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
XIV Iron (as Fe)	mg/l, Max	50	5.2	APHA-23rd Edition (3500-Fe-B, 3111 B) 2017
XV Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
XVI Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
XVII Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
XVIII Free Ammonia (as NH3)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
XIX Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 B) 2017
XX Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
XXI Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2005

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KALYANI LABORATORIES PVT. LTD.

78944, PAHAL, BHUBANESWAR-752101, ODISHA

Kalyani Laboratories

Test Report No : KLPL/01/20/WATER/022400



Parameters	Unit	Requirement	Result	Test Method
xxii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0019	--
xxvi SODIUM ABSORPTION RATIO	--	--	0.97	--
xxvii barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTICIDE	µg/l	--	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	8.1	APHA 23rd Edition (4500-H+-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1994, RA 2006
RADIOACTIVITY SUBSTANCES				
i Alpha-Emitters	uCi/ml	0.001	BDL	IS 14194 (PART-2):2013
ii Beta-Emitters	uCi/ml	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Digambar Anil
Analysed By
For Kalyani Laboratories Pvt. Ltd.



Masood
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd

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KLPL- 339639A



KALYANI LABORATORIES PVT. LTD.

78/944, PAILAL, BHUBANESWAR-751011, ODISHA

TEST REPORT

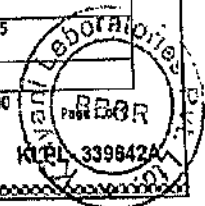


Test Report No : KLPL/01/20/WATER/02240N **Issue Date:** 11-Feb-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 31-Jan-2020 **Test Commenced On** : 31-Jan-2020 **Test Completion On:** 07-Feb-2020
Sample Description : SURFACE WATER

Sample Condition : SEALED IN 1LTR PET BOTTLE
Sample Identification * : SURFACE WATER **Sampling Date** : 30-Jan-2020
Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA
Received Quantity : 1LTR X 2 **Place of Collection** :VAMSADHARA RIVER NEAR BALABHADRAPUR
Sample Collected By : By KLPL **DT-30.01.2020**
Ref.To Sampling Procedure: QSP-07

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
I Total Coliforms	MPN/100ml.	5000	40	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
I Chloride as Cl	mg/l, Max	600	6.0	APHA 23rd Edition (4500-Cl - -B), 2017
II Sulphate as SO4	mg/l, Max	400	12	APHA 23rd Edition (4500-SO42 - -E), 2017
III Nitrate as NO3	mg/l, Max	50	0.45	APHA 23rd Edition (4500-NO3 - -E), 2017
IV Electrical Conductivity	us/cm	-	120	APHA 23rd Edition (2510 B) 2017
V Fluoride as F	mg/l, Max	1.5	< 0.05	APHA 23rd Edition (4500-F - -D, -C), 2017
VI Total Dissolved Solid	mg/l, Max	1500	98	APHA 23rd Edition (2540 C), 2017
VII Calcium as Ca	mg/l, Max	-	20.8	APHA 23rd Edition (3500-Ca-B), 2017
VIII Magnesium as Mg	mg/l, Max	-	5.83	APHA 23rd Edition (3500-Mg-B), 2017
IX Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B- B), 2017
X Dissolved Oxygen	mg/l, Max	4.0	7.3	APHA 23rd Edition(4500-C-C), 2017
XI Biochemical Oxygen Demand(For 3 days 27deg C)	mg/l, Max	--	2.6	APHA 23rd Edition 2012(5210 B), 2017
XII Total Hardness as CaCO3	mg/l, Max	--	76	APHA 23rd Edition (2340 C), 2017
XIII Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
XIV Iron (as Fe)	mg/l, Max	50	0.12	APHA-23rd Edition (3500-Fe-B , 3441 B) 2017
XV Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
XVI Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
XVII Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
XVIII Free Ammonia (as NH3)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
XIX Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 B) 2017
XX Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
XXI Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2005

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KALYANI LABORATORIES PVT. LTD.

787944, PAHAL, DIRUBANESWAR-752101, ODISHA

Test Report No

: KLPL/01/20/WATER/02240N



Parameters	Unit	Requirement	Result	Test Method
xxii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1994 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0014	--
xxvi SODIUM ABSORPTION RATIO	--	--	0.70	--
xxvii barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTICIDE	µg/l	--	< 0.0001	USEPA

PHYSICAL PARAMETER

i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.9	APHA 23rd Edition (4500-H+-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006

RADIOACTIVITY SUBSTANCES

i Alpha-Emitters	uCi/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Beta-Emitters	uCi/mL	0.01	BDL	IS 14194 (PART-2):2013

TOXIC SUBSTANCES

i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27) :1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Analysed By
For Kalyani Laboratories Pvt. Ltd.



Authorized Signatory
For Kalyani Laboratories Pvt. Ltd

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Page 2 of 2

KLPL-339641A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

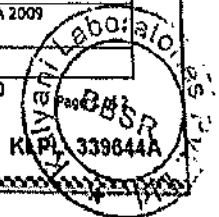
TEST REPORT



Test Report No	: KLPL/01/20/WATER/02240M	Issue Date:	11-Feb-2020
Amendment No	: -	Amendment Date	: -
Reference	: ORDER NO-6600013486 DT-16.12.2019		
Customer Name	: VEDANTA LIMITED		
Address	: PO.- LANJIGARH, DIST.- KALAHANDI,		
Date of receipt	: 31-Jan-2020	Test Commenced On	: 31-Jan-2020
Sample Description	: SURFACE WATER	Test Completion On:	07-Feb-2020
Sample Condition	: SEALED IN 1LTR PET BOTTLE		
Sample Identification *	: SURFACE WATER	Sampling Date	: 30-Jan-2020
Batch No , Lot No	: NA	MFG Date	: NA
Received Quantity	: 1LTR X 2	Place of Collection	: STREAM NEAR RENGOPALI DT-30.01.2020
Sample Collected By	: By KLPL		
Ref.To Sampling Procedure:	QSP-07		

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
I Total Coliforms	MPN/100ml.	5000	60	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
I Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2005
II Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440
III Silver (as Ag)	mg/l	--	< 0.01	--
IV Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
V PERCENT SODIUM (%)	%	--	0.0005	--
VI SODIUM ABSORPTION RATIO	--	--	0.49	--
VII barium	mg/l	--	< 0.2	--
VIII TOTAL PESTICIDE	µg/l	--	< 0.0001	USEPA
IX Chloride as Cl	mg/l, Max	500	4.0	APHA 23rd Edition (4500-Cl - -B), 2017
X Sulphate as SO4	mg/l, Max	400	< 1.0	APHA 23rd Edition (4500-So42 - -E), 2017
XI Nitrate as NO3	mg/l, Max	50	< 0.05	APHA 23rd Edition (4500-NO3 - -E), 2017
XII Electrical Conductivity	µs/cm	-	28	APHA 23rd Edition (2510 B) 2017
XIII Fluoride as F	mg/l, Max	1.5	< 0.05	APHA 23rd Edition (4500-F - -D,-C), 2017
XIV Total Dissolved Solid	mg/l, Max	1500	24	APHA 23rd Edition (2540 C), 2017
XV Calcium as Ca	mg/l, Max	-	4.8	APHA 23rd Edition (3500-Ca-B), 2017
XVI Magnesium as Mg	mg/l, Max	-	1.94	APHA 23rd Edition (3500-Mg-B), 2017
XVII Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B- B), 2017
XVIII Dissolved Oxygen	mg/l, Max	4.0	7.1	APHA 23rd Edition (4500-C), 2017
XIX Biochemical Oxygen Demand (For 3 days 27deg C)	mg/l, Max	--	1.7	APHA 23rd Edition 2012(5210 B), 2017
XX Total Hardness as CaCO3	mg/l, Max	--	20	APHA 23rd Edition (2340 C), 2017
XXI Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009

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KALYANI LABORATORIES PVT. LTD.

78/A44, PATIAL, BHUBANESWAR-752101, ODISHA

Test Report No

KLPL/01/20/WATER/02240M



Parameters	Unit	Requirement	Result	Test Method
xxii Iron (as Fe)	mg/l, Max	50	0.28	APHA-23rd Edition (3500-Fe-B, 3111 B) 2017
xxiii Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
xxiv Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
xxv Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xxvi Free Ammonia (as NH3)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-REI3-B) 2017
xxvii Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 B) 2017
xxviii Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (Part 52):2003 RA 2009
PHYSICAL PARAMETER				
I Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
II pH Value	--	6.5-8.5	8.0	APHA 23rd Edition (4500-H+ -B), 2017
III Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
IV Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006
RADIOACTIVITY SUBSTANCES				
I Alpha-Emitters	uCi/mL	0.001	BDL	IS 14194 (PART-2):2013
II Beta-Emitters	uCi/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
I Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
II Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27): 1986 RA 2003
III Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
IV Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
V Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
VI Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

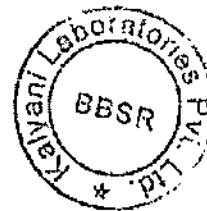
Remarks : nil

Any unusual feature observed during determination : nil

..... End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorized Signatory
For Kalyani Laboratories Pvt. Ltd.



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KLPL- 339643A



KALYANI LABORATORIES PVT. LTD.

78/44, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT

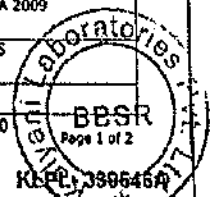


Test Report No : KLPL/01/20/WATER/02240L **Issue Date** : 11-Feb-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6500013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 31-Jan-2020 **Test Commenced On** : 31-Jan-2020 **Test Completion On**: 07-Feb-2020
Sample Description : SURFACE WATER

Sample Condition : SEALED IN 1LTR PET BOTTLE
Sample Identification * : SURFACE WATER **Sampling Date** : 30-Jan-2020
Batch No , Lot No : NA **MFG Date** : NA
EXP Date : NA
Received Quantity : 1LTR X 2 **Place of Collection** : STREAM NEAR KENDUBADI DT-30.01.2020
Sample Collected By : By KLPL
Ref.To Sampling Procedure: QSP-07

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
I Total Coliforms	MPN/100ml.	5000	40	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
i Chloride as Cl	mg/l, Max	600	8.0	APHA 23rd Edition (4500-Cl --B), 2017
ii Sulphate as SO4	mg/l, Max	400	< 1.0	APHA 23rd Edition (4500-So42 --E), 2017
iii Nitrate as NO3	mg/l, Max	50	0.08	APHA 23rd Edition (4500-NO3 --E), 2017
iv Electrical Conductivity	µs/cm	-	32	APHA 23rd Edition (2510 B) 2017
v Fluoride as F	mg/l, Max	1.5	< 0.05	APHA 23rd Edition (4500-F --D,-C), 2017
vi Total Dissolved Solid	mg/l, Max	1500	30	APHA 23rd Edition (2540 C), 2017
vii Calcium as Ca	mg/l, Max	-	6.4	APHA 23rd Edition (3500-Ca-B), 2017
viii Magnesium as Mg	mg/l, Max	-	2.92	APHA 23rd Edition (3500-Mg-B), 2017
ix Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B- B), 2017
x Dissolved Oxygen	mg/l, Max	4.0	6.8	APHA 23rd Edition(4500-O-C), 2017
xi Biochemical Oxygen Demand(For 3 days 27deg C)	mg/l, Max	--	2.6	APHA 23rd Edition 2012(5210 B), 2017
xii Total Hardness as CaCO3	mg/l, Max	--	28	APHA 23rd Edition (2340 C), 2017
xiii Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
xiv Iron (as Fe)	mg/l, Max	50	0.06	APHA-23rd Edition (3500-Fe-B, 3111 B) 2017
xv Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
xvi Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
xvii Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xviii Free Ammonia (as NH3)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
xix Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 B) 2017
xx Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
xxi Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2005

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KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No

KLPL/01/20/WATER/02240L



Parameters	Unit	Requirement	Result	Test Method
xxiii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0006	--
xxvi SODIUM ABSORPTION RATIO	--	--	0.49	--
xxvii barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTICIDE	µg/l	--	< 0.0001	USEPA
PHYSICAL PARAMETER				
I Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
II pH Value	--	6.5-8.5	8.1	APHA 23rd Edition (4500-H+-B), 2017
III Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
IV Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006
RADIOACTIVITY SUBSTANCES				
I Alpha-Emitters	µC/mL	0.001	BDL	IS 14194 (PART-2):2013
II Beta-Emitters	µC/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
I Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
II Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27) :1986 RA 2003
III Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
IV Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
V Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
VI Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Analysed By
For Kalyani Laboratories Pvt. Ltd.



Authorized Signatory
For Kalyani Laboratories Pvt. Ltd

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KLPL- 338645A



KALYANI LABORATORIES PVT. LTD.

78,944, PAHAL, BHUBANESWAR-752101, ODISHA

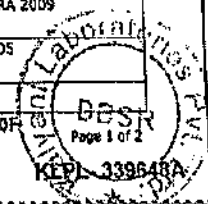
TEST REPORT



Test Report No	: KLPL/01/20/WATER/02240K	Issue Date:	11-Feb-2020
Amendment No	: -	Amendment Date	: -
Reference	: ORDER NO-6600013488 DT-16.12.2019		
Customer Name	: VEDANTA LIMITED, LANJIGARH		
Address	: PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.		
Date of receipt	: 31-Jan-2020	Test Commenced On	: 31-Jan-2020
Sample Description	: SURFACE WATER	Test Completion On	: 07-Feb-2020
Sample Condition	: SEALED IN 1LTR PET BOTTLE		
Sample Identification *	: SURFACE WATER	Sampling Date	: 30-Jan-2019
Batch No , Lot No	: NA	MFG Date	: NA
Received Quantity	: 1LTR X 2	Place of Collection	: STREAM NEAR TENTULIPADAR DT-30.01.2020
Sample Collected By	: By KLPL		
Ref.To Sampling Procedure:	QSP-07		

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
I Total Coliforms	MPN/100ml.	5000	27	IS: 1522:1981 RA 2009
CHEMICAL PARAMETER				
I Chloride as Cl	mg/l, Max	600	4.0	APHA 23rd Edition (4500-Cl --B), 2017
II Sulphate as SO4	mg/l, Max	400	< 1.0	APHA 23rd Edition (4500-So42 --E), 2017
III Nitrate as NO3	mg/l, Max	50	0.07	APHA 23rd Edition (4500-NO3 --E), 2017
IV Electrical Conductivity	µs/cm	-	39	APHA 23rd Edition (2510 B) 2017
V Fluoride as F	mg/l, Max	1.5	0.07	APHA 23rd Edition (4500-F -D,-C), 2017
VI Total Dissolved Solid	mg/l, Max	1500	38	APHA 23rd Edition (2540 C), 2017
VII Calcium as Ca	mg/l, Max	-	6.4	APHA 23rd Edition (3500-Ca-B), 2017
VIII Magnesium as Mg	mg/l, Max	-	1.94	APHA 23rd Edition (3500-Mg-B), 2017
IX Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B- B), 2017
X Dissolved Oxygen	mg/l, Max	4.0	6.6	APHA 23rd Edition(4500-O-C), 2017
XI Biochemical Oxygen Demand(For 3 days 27deg C)	mg/l, Max	--	1.6	APHA 23rd Edition 2012(5210 B), 2017
XII Total Hardness as CaCO3	mg/l, Max	--	24	APHA 23rd Edition (2340 C), 2017
XIII Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
XIV Iron (as Fe)	mg/l, Max	50	0.06	APHA-23rd Edition (3500-Fe-B , 3111 B) 2017
XV Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
XVI Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
XVII Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
XVIII Free Ammonia (as NH3)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
XIX Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 B) 2017
XX Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
XXI Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2005

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Kalyani Laboratories

KALYANI LABORATORIES PVT. LTD.

78944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No

: KLPL/O1/20/WATER/02240K



Parameters	Unit	Requirement	Result	Test Method
xxii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0007	--
xxvi SODIUM ABSORPTION RATIO	--	--	0.62	--
xxvii Barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTICIDE	µg/l	--	< 0.0001	USEPA

PHYSICAL PARAMETER

i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.8	APHA 23rd Edition (4500-H+ B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006

RADIOACTIVITY SUBSTANCES

i Alpha-Emitters	µC/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Beta-Emitters	µC/mL	0.01	BDL	IS 14194 (PART-2):2013

TOXIC SUBSTANCES

i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks

: NIL

Any unusual feature observed during determination

: NIL

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.



Authorized Signatory
For Kalyani Laboratories Pvt. Ltd.

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Page 2 of 2

KLPL-339347A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC704320000003301P

TEST REPORT



Test Report No : 496 | 3863CE5 KLPL/01/20/ENVN/00496 Issue Date : 12-Feb-2020
 Amendment No : - Amendment Date : -
 Reference : ORDER NO-6600013488 DT-16.12.2019
 Customer Name : VEDANTA LIMITED, LANJIGARH
 Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
 Date of receipt : 13-Jan-2020 Commenced On : 13-Jan-2020 Completion On: 18-Jan-2020
 Sample Name : FLUE GAS | STACK MONITORING
 Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST
 Quantity : 1 NO.
 Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : POWER PLANT UNIT-2, 10.01.2020				
Sulphur Dioxide	mg/Nm ³	-	710.5	IS 11255(part-3):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	36.7	KLPL/SOP/AIR-06
Velocity	m/sec	-	8.67	KLPL/SOP/AIR-06
Oxygen	%	-	5.1	KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	--	--	415	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	301.2	IS 11255 (part-7):2005
carbon Dioxide	%	--	10.0	KLPL/SOP/AIR-06
Quantity of Gas Flow	Nm ³ / hr	-	1688887	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.041	KLPL/SOP/AIR-06
Pressure	mmH ₂ O	-	4.76	KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
 Chandraprava
 For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
 Dilgambor Anil
 For Kalyani Laboratories Pvt. Ltd.



CE533016345

KLPL-339682A



KALYANI LABORATORIES PVT. LTD.

78/44, PAHAL, BILUBANESWAR-752101, ODISHA

NABL ULR NO : TC70432000003301P

TEST REPORT



Test Report No : 496 | 3863CE5 KLPL/01/20/ENVN/00496A Issue Date : 12-Feb-2020
 Amendment No : - Amendment Date : -
 Reference : ORDER NO-6600013488 DT-16.12.2019
 Customer Name : VEDANTA LIMITED, LANJIGARH
 Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
 Date of receipt : 13-Jan-2020 Commenced On : 13-Jan-2020 Completion On: 18-Jan-2020
 Sample Name : FLUE GAS | STACK MONITORING
 Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
 Quantity : 1 NO.
 Ref To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard	Value	Results	Test Method
Location & Date : CALCINER UNIT-1, 11.01.2020					
Sulphur Dioxide	mg/Nm ³	-	712.0		IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	31.56		KLPL/SOP/AIR-06
Velocity	m/sec	-	21.66		KLPL/SOP/AIR-06
Oxygen	%	-	4.15		KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	--	--	446		KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	321.5		IS 11255 (part-7):2005
Carbon Dioxide	%	--	17.6		KLPL/SOP/AIR-06
Quantity of Gas Flow	Nm ³ / hr	-	3253620		KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.0435		KLPL/SOP/AIR-06
Pressure	mmH ₂ O	--	27.64		KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
Chandraprava
For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
Digambar Danda
For Kalyani Laboratories Pvt. Ltd.



CE533016345

KLPL- 338834A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

NABL ULR NO

: TC704320000003301P

TEST REPORT



Test Report No

: 496 | 3863CES KLPL/01/20/ENVN/00496B

Issue Date : 12-Jan-2020

Amendment No

: -

Amendment Date : -

Reference

: ORDER NO-6500013488 DT-16.12.2019

Customer Name

: VEDANTA LIMITED, LANJIGARH

Address

: PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027

Date of receipt

: 16-Jan-2020

Commenced On : 16-Jan-2020

Completion On : 21-JAN-2020

Sample Name

: FLUE GAS | STACK MONITORING

Sample Condition

: GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST

Quantity

: 1 NO.

Ref.To Sampling Procedure:

KLPL/SOP/AIR-06

Parameters

Unit

Standard Value

Results

Test Method

Location & Date

: POWER PLANT UNIT-3, 13.01.2020

Sulphur Dioxide

mg/Nm³

-

705.3

IS 11255(part-2):1985(RA 2014)

Particulate Matter

mg/Nm³

-

34.48

KLPL/SOP/AIR-06

Velocity

m/sec

-

7.36

KLPL/SOP/AIR-06

Oxygen

%

-

4.8

KLPL/SOP/AIR-06

Stack Temperature in Deg kelvin

--

--

417

KLPL/SOP/AIR-06

Nitrogen Dioxide

mg/Nm³

--

295.6

IS 11255 (part-7):2005

Carbon Dioxide

%

--

9.9

KLPL/SOP/AIR-06

Quantity of Gas Flow

Nm³ / hr

-

1431680

KLPL/SOP/AIR-06

Mercury

mg/Nm³

--

0.0405

KLPL/SOP/AIR-06

Pressure

mmH₂O

--

6.77

KLPL/SOP/AIR-06

Remarks

: NIL

Any unusual feature observed during determination

: NIL

End of Test Report

Analysed By
Chandraprava
For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
Dharambar Anand
For Kalyani Laboratories Pvt. Ltd.



CE533016345

KLPL-339830A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000003301P

Test Report No : 496 | 3863CE5 KLPL/01/20/ENVN/00496C **Issue Date** : 12-Feb-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 16-Jan-2020 **Commenced On** : 16-Jan-2020 **Completion On** : 25-Jan-2020

Sample Name : FLUE GAS | STACK MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard	Value	Results	Test Method
Location & Date : CALCINER UNIT-II, 14.01.2020					
Sulphur Dioxide	mg/Nm ³	-	707.3		IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	26.30		KLPL/SOP/AIR-06
Velocity	m/sec	-	23.19		KLPL/SOP/AIR-06
Oxygen	%	-	4.55		KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	--	--	442		KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	305.3		IS 11255 (part-7):2005
carbon Dioxide	%	--	13.9		KLPL/SOP/AIR-06
Quantity of Gas Flow	Nm ³ / hr	-	3503215		KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.0322		KLPL/SOP/AIR-06
Pressure	mmH ₂ O	--	31.97		KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Chandraprava
Analysed By
For Kalyani Laboratories Pvt. Ltd.

Digambar Jaiswal
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



CE533016345

KLPL-339029A1



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003301P
Test Report No : 496 | 3863CE5 KLPL/01/20/ENVN/00496D **Issue Date** : 12-Feb-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 27-Jan-2020 **Commenced On** : 27-Jan-2020 **Completion On** : 31-Jan-2020

Sample Name : FLUE GAS | STACK MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST
Quantity : 1 NO.
Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard	Value	Results	Test Method
Location & Date : POWER PLANT UNIT-2 , 24.01.2020					
Sulphur Dioxide	mg/Nm ³	-	719.2		IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	39.08		KLPL/SOP/AIR-06
Velocity	m/sec	-	10.55		KLPL/SOP/AIR-06
Oxygen	%	-	5.2		KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	-	-	413		KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	-	312.5		IS 11255 (part-7):2005
carbon Dioxide	%	-	10.1		KLPL/SOP/AIR-06
Quantity of Gas Flow	Nm ³ / hr	-	2065056		KLPL/SOP/AIR-06
Mercury	mg/Nm ³	-	0.043		KLPL/SOP/AIR-06
Pressure	mmH ₂ O	-	7.09		KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Chandraprava
 Analysed By
 For Kalyani Laboratories Pvt. Ltd.

Digambar Jena
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



CE533016345

KLPL-330028A1



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC70432000003301P **TEST REPORT** 

Test Report No : 496 | 3863CE5 KLPL/01/20/ENVN/00496E Issue Date : 12-Feb-2020
 Amendment No : - Amendment Date : -
 Reference : ORDER NO-6600013488 DT-16.12.2019
 Customer Name : VEDANTA LIMITED, LANJIGARH
 Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
 Date of receipt : 27-Jan-2020 Commenced On : 27-Jan-2020 Completion On : 31-Jan-2020

Sample Name : FLUE GAS | STACK MONITORING
 Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST
 Quantity : 1 NO.
 Ref.To-Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard	Value	Results	Test Method
Location & Date : CALCINER UNIT-I, 25.01.2020					
Sulphur Dioxide	mg/Nm ³	-	702.8		IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	30.32		KLPL/SOP/AIR-06
Velocity	m/sec	-	29.22		KLPL/SOP/AIR-06
Oxygen	%	-	4.1		KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	-	-	443		KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	-	311.6		IS 11255 (part-7):2005
Carbon Dioxide	%	-	17.4		KLPL/SOP/AIR-06
Quantity of Gas Flow	Nm ³ / hr	-	4494552		KLPL/SOP/AIR-06
Mercury	mg/Nm ³	-	0.0425		KLPL/SOP/AIR-06
Pressure	mmH ₂ O	-	53.09		KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Chandraprava
 Analysed By
 For Kalyani Laboratories Pvt. Ltd.

Digambar Dasgupta
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



CE533016345
 KLPL- 388627A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000003301P

Test Report No : 369 | 3863CE5 KLPL/01/20/ENVN/00496F **Issue Date** : 12-Feb-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 30-Jan-2020 **Commenced On** : 30-Jan-2020 **Completion On** : 03-Feb-2020

Sample Name : FLUE GAS | STACK MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST

Quantity : 1 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters **Unit** **Standard** **Value** **Results** **Test Method**

Location & Date : POWER PLANT UNIT-3 , 27.01.2020					
Sulphur Dioxide	mg/Nm ³	-	680.5		IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	21.53		KLPL/SOP/AIR-06
Velocity	m/sec	-	12.39		KLPL/SOP/AIR-06
Oxygen	%	-	4.6		KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	--	--	412		KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	270.2		IS 11255 (part-7):2005
carbon Dioxide	%	--	9.5		KLPL/SOP/AIR-06
Quantity of Gas Flow	Nm ³ / hr	-	2447642		KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.0342		KLPL/SOP/AIR-06
Pressure	mmH ₂ O	--	9.8		KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Chandraprava

Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



CE533016345
KLPL-322826A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC70432000003301P

TEST REPORT



Test Report No : 496 | 3863CE5 KLPL/01/20/ENVN/00496G Issue Date : 12-Feb-2020
 Amendment No : - Amendment Date : -
 Reference : ORDER NO-6600013488 DT-16.12.2019
 Customer Name : VEDANTA LIMITED, LANJIGARH
 Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
 Date of receipt : 30-Jan-2019 Commenced On : 30-Jan-2019 Completion On: 03-Feb-2020

Sample Name : FLUE GAS | STACK MONITORING
 Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST
 Quantity : 1 NO.
 Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
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Location & Date : CALCINER UNIT-II , 28.01.2020

Sulphur Dioxide	mg/Nm ³	-	597.8	IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	20.25	KLPL/SOP/AIR-06
Velocity	m/sec	-	16.78	KLPL/SOP/AIR-06
Oxygen	%	-	4.4	KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	°C	-	445	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	-	294.2	IS 11255 (part-7):2005
carbon Dioxide	%	-	13.7	KLPL/SOP/AIR-06
Quantity of Gas Flow	Nm ³ / hr	-	2483999	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	-	0.0314	KLPL/SOP/AIR-06
Pressure	mmH ₂ O	-	16.63	KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
 Chandraprava
 For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
 Digambar Anilata
 For Kalyani Laboratories Pvt. Ltd.



CE533016345

KLPL- 339625A1



KALYANI LABORATORIES PVT. LTD.

78/24, PAHAL, BHUBANESWAR-751001, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003836P

Test Report No : 421 | 4465EFC KLPL/2/20/ENVN/00529 **Issue Date** : 06-Mar-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-756027.

Date of receipt : 10-Feb-2020 **Commenced On** : 10-Feb-2020 **Completion On** : 15-Feb-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 01 NOS

Ref. To Sampling Procedure : -

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - PLANT SITE, 03.02.2020				
Sulphur Dioxide	µg/m ³	80	11.3	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	25.35	IS 5182 (PART 6) : 2005
Particulate Matter (PM10)	µg/m ³	100	72	IS 5182(PART-23) : 2005
Particulate Matter (PM2.5)	µg/m ³	60	46.42	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	1.48	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	15.3	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	4.22	KLPL/SOP/AIR-10

Remarks : -

Any unusual feature observed during determination :

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Digambar Anisla
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.




EFC38367374
KLPL-340006A
Page 1 of 1



KALYANI LABORATORIES PVT. LTD.

78/44, PAHAL, BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC70432000003836P **TEST REPORT** 

Test Report No : 421 | 4465EFC KLPL/2/20/ENVN/00529A **Issue Date** : 06-Mar-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 10-Feb-2020 **Commenced On** : 10-Feb-2020 **Completion On** : 15-Feb-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 01 NOS

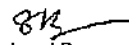
Ref. To Sampling Procedure : -

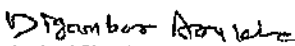
Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - CHHATRAPUR VILLAGE, 04.02.2020				
Sulphur Dioxide	µg/m ³	80	7.35	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	18.06	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	60	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	38.47	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.48	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.6	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzo (a) Pyrene (BaP)	µg/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (NI)	µg/m ³	20	< 4	KLPL/SOP/AIR-10

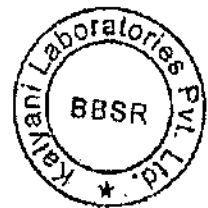
Remarks : -

Any unusual feature observed during determination :

..... End of Test Report


 Analysed By
 For Kalyani Laboratories Pvt. Ltd.


 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



EFC38367374
 KLPL- 340011A
 Page 1 of 1



KALYANI LABORATORIES PVT. LTD.

78944, PAHAL, BHUJANESWAR, 752101, ODISHA

Kalyani Laboratories

TEST REPORT



NABL ULR NO : TC70432000003836P
Test Report No : 421 | 4465EFC KLPL/2/20/ENVN/00529B **Issue Date** : 06-Mar-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 10-Feb-2020 **Commenced On** : 10-Feb-2020 **Completion On** : 15-Feb-2020
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 01 NOS
Ref.To Sampling Procedure : -

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - MID DAY MEAL, 05.02.2020				
Sulphur Dioxide	µg/m ³	80	9.11	IS 5102(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	19.11	IS 5102 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	65	IS 5102(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	43.49	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.71	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	4.4	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-08
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (NI)	µg/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks

Any unusual feature observed during determination

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Digambar Anandha
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



EFC38367374
KLPL-340095A
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KALYANI LABORATORIES PVT. LTD.

Kalyani Laboratories

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC70432000003836P

TEST REPORT



Test Report No : 421 | 4465EFC KLPL/2/20/ENVN/00529C

Issue Date : 06-Mar-2020

Amendment No : -

Amendment Date : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 10-Feb-2020

Commenced On : 10-Feb-2020

Completion On: 15-Feb-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 01 NOS

Ref.To Sampling Procedure: -

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - LANJIGARH VILLAGE, 06.02.2020				
Sulphur Dioxide	µg/m ³	80	10.07	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	20.18	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	66	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	44.06	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.48	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks : -

Any unusual feature observed during determination :

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Digambar Arora
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



EFC38967374
KLPL/2/20/004A



KALYANI LABORATORIES PVT. LTD.

7/944, PATIALA, BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC70432000003836P

TEST REPORT



Test Report No : 421 | 4465EFC KLPL/2/20/ENVN/00529D

Issue Date : 06-Mar-2020

Amendment No : -

Amendment Date : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 10-Feb-2020 Commenced On : 10-Feb-2020

Completion On: 15-Feb-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 01 NOS

Ref. To Sampling Procedure: -

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - REHABILITATION COLONY, 07.02.2020				
Sulphur Dioxide	µg/m ³	80	8.46	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	19.12	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	62	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	40.19	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.74	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.6	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (NI)	µg/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks : -

Any unusual feature observed during determination :

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Digambar Arunka
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



EFC38367374
KLPL-348003A



KALYANI LABORATORIES PVT. LTD.

78714, PATIALA, BHUBANESWAR 752011 ODISHA

TEST REPORT



NABL ULR NO : TC704320000003836P
Test Report No : 421 | 4463EFC KLPL/2/20/ENVN/00529E
Amendment No : -
Reference : ORDER NO-6600013400 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 10-Feb-2020 **Commenced On** : 10-Feb-2020 **Completion On** : 15-Feb-2020
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 01 NOS
Ref. To Sampling Procedure : -

Issue Date : 06-Mar-2020

Amendment Data : -

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - BELAMBA VILLAGE, 08.02.2020				
Sulphur Dioxide	µg/m ³	80	7.23	IS 5102(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	16.28	IS 5102 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	58	IS 5102(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	35.41	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.43	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	2.9	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (NI)	µg/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks : -

Any unusual feature observed during determination :
..... End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Digambar Arora
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



EFC38367374
KLPL-340002A
Page 1 of 1



KALYANI LABORATORIES PVT. LTD.

78744, PATIAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000003836P

Test Report No : 421 | 4465EFC KLPL/2/20/ENVN/00529F **Issue Date** : 06-Mar-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013468 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 17-Feb-2020 **Commenced On** : 17-Feb-2020 **Completion On** : 22-Feb-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 01 NOS

Ref.To Sampling Procedure : -

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - PLANT SITE, 10.02.2020				
Sulphur Dioxide	µg/m ³	80	13.06	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	21.10	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	75	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	44.26	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	1.49	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	16.8	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	05	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	4.3	KLPL/SOP/AIR-10

Remarks : -

Any unusual feature observed during determination :

End of Test Report

[Signature]
 Analysed By
 For Kalyani Laboratories Pvt. Ltd.

[Signature]
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.




EFC38367374
 KLPL-340008A



KALYANI LABORATORIES PVT. LTD.

78/9-44, PAHALI, BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC70432000003336P **TEST REPORT** 

Test Report No : 421 | 4465EFC KLPL/2/20/ENVN/00529G **Issue Date** : 06-Mar-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO,- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 17-Feb-2020 **Commenced On** : 17-Feb-2020 **Completion On** : 22-Feb-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 01 NOS

Ref. To Sampling Procedure : -

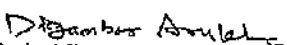
Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - CHHATRAPUR VILLAGE, 11.02.2020				
Sulphur Dioxide	µg/m ³	80	6.35	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	17.14	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	58	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	34.49	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.45	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	4.4	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks : -

Any unusual feature observed during determination :

..... End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.


Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



EFC38367374
KLPL- 340008A
Page 1 of 1



KALYANI LABORATORIES PVT. LTD.

BHUPAL, PATIAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL URL NO : TC704320000003036P
Test Report No : 421 | 448BFC KLPL/2/20/ENVN/00520H
Amendment No : -
Reference : ORDER NO-6600013400 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 17-Feb-2020 **Commenced On** : 17-Feb-2020 **Completion On** : 22-Feb-2020
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 01 NOS
Ref. To Sampling Procedure : -

Issue Date : 06-Mar-2020

Amendment Date : -

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - MID DAY MEAL, 12.02.2020				
Sulphur Dioxide	µg/m ³	80	0.40	IS 5102(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	18.45	IS 5102 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	63	IS 5102(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	39.14	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.69	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.5	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzo (a) Pyrene (BaP)	µg/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks : -

Any unusual feature observed during determination :

End of Test Report

Analysed by
For Kalyani Laboratories Pvt. Ltd.

Dijambor Aoulat
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



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KLPL-340001A
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KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC704320000003936P

TEST REPORT



Test Report No : 421 | 4465EFC KLPL/2/20/ENVN/00529I Issue Date : 06-Mar-2020

Amendment No : - Amendment Date : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 17-Feb-2020 Commenced On : 17-Feb-2020 Completion On: 22-Feb-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 01 NOS

Ref. To Sampling Procedure: -

Parameters Unit Standard Value Results Test Method

Location & Date : - LANJIGARH VILLAGE, 13.02.2020

Parameters	Unit	Standard Value	Results	Test Method
Sulphur Dioxide	µg/m ³	80	9.36	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	21.18	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	64	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	39.47	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.46	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.8	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	05	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks : -

Any unusual feature observed during determination :

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Digambar Anandh
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



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KLPL-340012A
Page 1 of 1



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT

NABL ULR NO : TC70432000003836P

Test Report No : 421 | 4465EFC KLPL/2/20/ENVN/00529J

Amendment No : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 17-Feb-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 01 NOS

Ref. To Sampling Procedure : -

Issue Date : 06-Mar-2020

Amendment Date : -

Commenced On : 17-Feb-2020

Completion On : 22-Feb-2020

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - REHABILITATION COLONY, 14.02.2020				
Sulphur Dioxide	µg/m ³	80	7.32	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	19.04	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	63	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	36.21	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.73	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	4.9	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (NI)	µg/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks : -

Any unusual feature observed during determination :

End of Test Report

Analysed By : *[Signature]*
 For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory : *Digambar Arubla*
 For Kalyani Laboratories Pvt. Ltd.



EFC38367374
 KLPL- 340052A



KALYANI LABORATORIES PVT. LTD.

Kalyani Laboratories

78244, PAHAL, BHUBANESWAR-752001, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003636P
Test Report No : 421 | 4465EFC KLPL/2/20/ENVN/00529K
Amendment No : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 17-Feb-2020 **Commenced On** : 17-Feb-2020 **Completion On** : 22-Feb-2020
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 01 NOS
Ref. To Sampling Procedure : -

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - BELAMBA VILLAGE, 15.02.2020				
Sulphur Dioxide	µg/m ³	80	6.13	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	16.05	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	60	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	34.34	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.44	CPLB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	4.4	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzo (a) Pyrene (BaP)	µg/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks : -
 Any unusual feature observed during determination :
 End of Test Report

Analysed By
 For Kalyani Laboratories Pvt. Ltd.

Digambar Baulaha
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



EFC38367374
 KLPL-340051A
 Page 1 of 1



Kalyani Laboratories

KALYANI LABORATORIES PVT. LTD.

78/11, PALAJI, BHUBANESWAR-751011, ODISHA

NABL ULR NO : TC704320000003836P
Test Report No : 421 | 4465EFC KLPL/2/20/ENVN/00529L
Amendment No : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 24-Feb-2020
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ADSORBING SOLUTIONS REFRIGERATED
Quantity : 01 NOS
Ref. To Sampling Procedure : -

TEST REPORT



Issue Date : 06-Mar-2020
Amendment Date : -



Completion On: 29-Feb-2020

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - PLANT SITE, 17.02.2020				
Sulphur Dioxide	µg/m ³	80	14.36	IS 5107(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	24.18	IS 5107 (PART 0) : 2006
Particulate Matter (PM10)	µg/m ³	100	73	IS 5107(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	47.22	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	1.50	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	14.6	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 1.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	4.26	KLPL/SOP/AIR-10

Remarks : -

Any unusual feature observed during determination :

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Digambar Arunkumar
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.





EFC38367374
KLPL-340059A
Page 1 of 1



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC70432000003836P **TEST REPORT**  

Test Report No : 421 | 4465EFC KLPL/2/20/ENVN/00529M **Issue Date** : 06-Mar-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 24-Feb-2020 **Commenced On** : 24-Feb-2020 **Completion On** : 29-Feb-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 01 NOS

Ref. To Sampling Procedure : -


Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - CHHATRAPUR VILLAGE, 18.02.2020				
Sulphur Dioxide	µg/m ³	80	6.16	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	16.12	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	60	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	35.41	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.46	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.6	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks : -

Any unusual feature observed during determination :

End of Test Report


 Analysed By
 For Kalyani Laboratories Pvt. Ltd.


 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.




EFC38367374
 KLPL- 340049A
 Page 1 of 1



KALYANI LABORATORIES PVT. LTD.

78/44, PAHAL, BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC704320000003836P **TEST REPORT** 

Test Report No : 421 | 4465EFC KLPL/2/20/ENVN/00529N **Issue Date** : 06-Mar-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 24-Feb-2020 **Commerced On** : 24-Feb-2020 **Completion On** : 29-Feb-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 01 NOS


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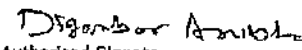
Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - MID DAY MEAL, 19.02.2020				
Sulphur Dioxide	µg/m ³	80	9.20	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	18.07	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	200	67	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	38.14	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.73	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	4.4	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 1.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzo (a) Pyrene (BaP)	µg/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (NI)	µg/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks : -

Any unusual feature observed during determination :

..... End of Test Report


 Analysed By
 For Kalyani Laboratories Pvt. Ltd.


 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



EFC38367374
 KLPL- 340048A
 Page 1 of 1



KALYANI LABORATORIES PVT. LTD.

78/941, PAHAL, BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC704320000003836P

TEST REPORT



Test Report No : 421 | 4465EFC KLPL/2/20/ENVN/005290 Issue Date : 06-Mar-2020
 Amendment No : - Amendment Date : -
 Reference : ORDER NO-6600013488 DT-16.12.2019
 Customer Name : VEDANTA LIMITED, LANJIGARH
 Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
 Date of receipt : 24-Feb-2020 Commenced On : 24-Feb-2020 Completion On: 29-Feb-2020
 Sample Name : AMBIENT AIR QUALITY MONITORING
 Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
 Quantity : 01 NOS
 Ref.To Sampling Procedure: -

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - LANJIGARH VILLAGE, 20.02.2020				
Sulphur Dioxide	µg/m ³	80	8.28	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	21.14	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	55	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	39.14	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.47	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.6	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks : -

Any unusual feature observed during determination :

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.




EFC38367374
KLPL- 340047A
Page 1 of 1



KALYANI LABORATORIES PVT. LTD.

78/944, PATIAL, BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC704320000003836P **TEST REPORT** 

Test Report No : 421 | 4465EFC KLPL/2/20/ENVN/00529P **Issue Date** : 06-Mar-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027,

Date of receipt : 24-Feb-2020 **Commenced On** : 24-Feb-2020 **Completion On** : 29-Feb-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 01 NOS

Ref. To Sampling Procedure : -

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - REHABILITATION COLONY, 21.02.2020				
Sulphur Dioxide	µg/m ³	80	7.35	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	20.06	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	60	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	50	34.19	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.74	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.4	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks : -

Any unusual feature observed during determination :
..... End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Digambar Anand
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



EFC38367374
KLPL-340055A

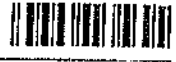


KALYANI LABORATORIES PVT. LTD.

78/9-14, PAHAL, BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC704320000003836P

TEST REPORT



Test Report No : 421 | 446SEFC KLPL/2/20/ENVN/00529Q **Issue Date** : 06-Mar-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 24-Feb-2020 **Commenced On** : 24-Feb-2020 **Completion On** : 29-Feb-2020
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 01 NOS
Ref.To Sampling Procedure : -

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - BELAMBA VILLAGE, 22.02.2020				
Sulphur Dioxide	µg/m ³	80	6.42	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	17.22	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	57	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	35.09	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.44	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	4.4	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks : -

Any unusual feature observed during determination :

..... End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Digambar Anubala
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



EFC38367374
KLPL- 340054A
Page 1 of 1



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC704320000003836P

TEST REPORT



Test Report No : 421 | 4465EFC KLPL/2/20/ENVN/00529R Issue Date : 06-Mar-2020

Amendment No : - Amendment Date : -

Reference : ORDER NO-5600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 02-Mar-2020 Commenced On : 02-Mar-2020 Completion On: 06-Mar-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 01 NOS

Ref. To Sampling Procedure: -

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - PLANT SITE , 24.02.2020				
Sulphur Dioxide	µg/m ³	80	12.38	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	26.42	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	76	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	50	49.34	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	1.52	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	15.3	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	4.32	KLPL/SOP/AIR-10

Remarks : -

Any unusual feature observed during determination :

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Digambar Ananta
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd.



EFC38367374
KLPL-340007A
Page 1 of 1



KALYANI LABORATORIES PVT. LTD.

78/944, PABAI, BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC704320000003B36P **TEST REPORT**

Test Report No : 421 | 4465EFC KLPL/2/20/ENVN/00529R **Issue Date** : 06-Mar-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 02-Mar-2020 **Commenced On** : 02-Mar-2020 **Completion On** : 06-Mar-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 01 NOS

Ref.To Sampling Procedure : -

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - CHHATRAPUR VILLAGE, 25.02.2020				
Sulphur Dioxide	µg/m ³	80	7.20	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	15.32	IS 5182 (PART 6) : 2000
Particulate Matter (PM10)	µg/m ³	100	63	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	33.48	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.50	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	4.4	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1	KLPL/SDP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks : -

Any unusual feature observed during determination : -

..... End of Test Report

8/12
 Analysed By
 For Kalyani Laboratories Pvt. Ltd.

Digambar Aravata
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



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 KLPL- 340053A
 Page 1 of 1



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BIRJANESWAR-752101, ODISHA

NABL ULR NO : TC704320000003836P **TEST REPORT**

Test Report No : 421 | 4465EFC KLPL/2/20/ENVN/005295 **Issue Date** : 06-Mar-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 02-Mar-2020 **Commenced On** : 02-Mar-2020 **Completion On** : 06-Mar-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 01 NOS

Ref. To Sampling Procedure : -



Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - MID DAY MEAL, 26.02.2020				
Sulphur Dioxide	µg/m ³	80	9.11	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	19.11	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	65	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	39.14	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.7	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.8	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzo (a) Pyrene (BaP)	µg/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks : -

any unusual feature observed during determination :

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Dijambor Ananda
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



EFC38367374
KLPL-340045A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003836P
Test Report No : 421 | 4465EFC KLPL/2/20/ENVH/00529T
Amendment No : -
Reference : ORDER NO-5600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 02-Mar-2020 **Commenced On** : 02-Mar-2020 **Completion On** : 06-Mar-2020
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS KLFRIGERATED
Quantity : 01 NOS
Ref.To Sampling Procedure: -

Issue Date : 06-Mar-2020

Amendment Date : -

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - LANJIGARH VILLAGE, 27.02.2020				
Sulphur Dioxide	µg/m ³	80	6.04	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	22.02	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	62	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	36.21	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.45	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	7.3	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks

Any unusual feature observed during determination

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Digambar Goswami
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



EFC38367374
KLPL-340044A



KALYANI LABORATORIES PVT. LTD.

78744, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000003836P
Test Report No : 421 | 4465EFC KLPL/2/20/ENVN/00529U
Amendment No : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 02-Mar-2020 **Commenced On** : 02-Mar-2020
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 01 NOS
Ref. To Sampling Procedure : -

Issue Date : 06-Mar-2020
Amendment Date : -
Completion On : 06-Mar-2020

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - REHABILITATION COLONY, 28.02.2020				
Sulphur Dioxide	µg/m ³	80	6.26	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	19.27	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	51	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	37.40	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.74	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.8	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	µg/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks : -

Any unusual feature observed during determination :
..... End of Test Report

Analysed By :
For Kalyani Laboratories Pvt. Ltd.

Digambar Ananda
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



EFC38367374
KLPL-340043A



KALYANI LABORATORIES PVT. LTD.

78444, PALLAL, BHUDANESWAR-752101, ODISHA

NABL ULR NO : TC704320000003836P **TEST REPORT**

Test Report No : 421 | 4465EFC KLPL/2/20/ENVN/00529V

Amendment No : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

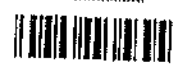
Date of receipt : 02-Mar-2020 **Commenced On** : 02-Mar-2020 **Completion On** : 06-Mar-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 01 NOS

Ref.To Sampling Procedure : -



Issue Date : 06-Mar-2020

Amendment Date : -

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - BELAMBA VILLAGE, 29.02.2020				
Sulphur Dioxide	µg/m ³	80	5.22	IS 5102(PART-2) : 2006
Nitrogen Dioxide	µg/m ³	80	18.15	IS 5102 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	59	IS 5102(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	33.48	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	mg/m ³	04	0.42	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzo (a) Pyrene (BaP)	µg/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	µg/m ³	05	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	µg/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks : -

Any unusual feature observed during determination :

..... End of Test Report

8/12
 Analysed By
 For Kalyani Laboratories Pvt. Ltd.

Digambar Anand
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



EFC38367374
KLPL-340048A



KALYANI LABORATORIES PVT. LTD.

78944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000003862P

Test Report No : 2061 | 4431F16KLPL/2/20/WATER/D2423 **Issue Date**: 07-Mar-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 28-Feb-2020 **Test Commenced On** : 28-Feb-2020 **Test Completion On**: 06-Mar-2020

Sample Description : SURFACE WATER

Sample Condition : SEALED

Sample Identification * : SURFACE WATER **Sampling Date** : 27-Feb-2020

Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA

Received Quantity : 1LTR X 2 **Place of Collection** : STREAM NEAR TENTULIPADAR DT-27.02.2020

Sample Collected By : By KLPL

Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
I Total Coliforms	MPN/100ml.	5000	29	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
I Chloride as Cl	mg/l, Max	500	9.2	APHA 23rd Edition (4500-Cl - -B), 2017
II Sulphate as SO ₄	mg/l, Max	400	< 1.0	APHA 23rd Edition (4500-SO ₄ - -E), 2017
III Nitrate as NO ₃	mg/l, Max	50	0.09	APHA 23rd Edition (4500-NO ₃ - -E), 2017
IV Fluoride as F	mg/l, Max	1.5	0.08	APHA 23rd Edition (4500-F - -D,C), 2017
v Total Dissolved Solid	mg/l, Max	1500	40	APHA 23rd Edition (2540 C), 2017
vi Calcium as Ca	mg/l, Max	-	4.3	APHA 23rd Edition (3500-Ca-B), 2017
vii Magnesium as Mg	mg/l, Max	-	3.4	APHA 23rd Edition (3500-Mg-B), 2017
viii Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B- B), 2017
ix Dissolved Oxygen	mg/l, Max	4.0	6.5	APHA 23rd Edition(4500-D-C), 2017
x Biochemical Oxygen Demand(For 3 days 27deg C)	mg/l, Max	--	1.7	APHA 23rd Edition 2012(5210 B), 2017
xi Total Hardness as CaCO ₃	mg/l, Max	--	25	APHA 23rd Edition (2340 C), 2017
xii Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
xiii Iron (as Fe)	mg/l, Max	50	0.07	APHA-23rd Edition (3500-Fe-B, 3111 B) 2017
xiv Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
xv Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
xvi Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xvii Free Ammonia (as NH ₃)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH ₃ -B) 2017
xviii Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 B) 2017
xix Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
xx Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2005
xxi Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440

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KALYANI LABORATORIES PVT. LTD.

78/9-41, PAJAL, BHUBANESWAR-752101, ODISHA

Test Report No : 2061 | 4431F16KLPL/2/20/WATER/02423



Parameters	Unit	Requirement	Result	Test Method
xxii Silver (as Ag)	mg/l	--	< 0.01	--
xxiii Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxiv PERCENT SODIUM (%)	%	--	0.0008	--
xxv SODIUM ABSORPTION RATIO	--	--	0.64	--
xxvi barium	mg/l	--	< 0.2	--
xxvii TOTAL PESTISIDE	µg/l	--	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.4	APHA 23rd Edition (4500-H+-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006
RADIOACTIVITY SUBSTANCES				
i Gross Alpha-activity	uCi/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Gross Beta-activity	uCi/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27) :1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Digambar Aruba
Analysed By
For Kalyani Laboratories Pvt. Ltd.



D. B. S. S. S.
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd

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KALYANI LABORATORIES PVT. LTD.

78244, PATIAL, BHUBANESWAR-75101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003868P
Test Report No : 2062 | 4432F1CKLPL/2/20/WATER/02424 **Issue Date**: 07-Mar-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 28-Feb-2020 **Test Commenced On** : 28-Feb-2020 **Test Completion On**: 06-Mar-2020
Sample Description : SURFACE WATER

Sample Condition : SEALED
Sample Identification * : SURFACE WATER **Sampling Date** : 27-Feb-2020
Batch No, Lot No : NA **MFG Date** : NA **EXP Date** : NA
Received Quantity : 1LTR X 2 **Place of Collection** : STREAM NEAR KENDUBADI DT-27.02.2020
Sample Collected By : By KLPL
Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
i Total Coliforms	MPN/100ml.	5000	50	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
i Chloride as Cl	mg/l, Max	600	3.7	APHA 23rd Edition (4500-Cl - -B), 2017
ii Sulphate as SO4	mg/l, Max	400	< 1.0	APHA 23rd Edition (4500-SO42 - -E), 2017
iii Nitrate as NO3	mg/l, Max	50	0.05	APHA 23rd Edition (4500-NO3 - -E), 2017
iv Electrical Conductivity	µs/cm	-	22	APHA 23rd Edition (2510 B) 2017
v Fluoride as F	mg/l, Max	1.5	< 0.05	APHA 23rd Edition (4500-F - -D,-C), 2017
vi Total Dissolved Solid	mg/l, Max	1500	20	APHA 23rd Edition (2540 C), 2017
vii Calcium as Ca	mg/l, Max	-	1.4	APHA 23rd Edition (3500-Ca-B), 2017
viii Magnesium as Mg	mg/l, Max	-	3.4	APHA 23rd Edition (3500-Mg-B), 2017
ix Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B- B), 2017
x Dissolved Oxygen	mg/l, Max	4.0	6.9	APHA 23rd Edition(4500-O-C), 2017
xi Biochemical Oxygen Demand(For 3 days 27deg C)	mg/l, Max	--	2.4	APHA 23rd Edition 2012(5210 B), 2017
xii Total Hardness as CaCO3	mg/l, Max	--	16	APHA 23rd Edition (2340 C), 2017
xiii Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
xiv Iron (as Fe)	mg/l, Max	50	0.05	APHA-23rd Edition (3500-Fe-B, 3111 B) 2017
xv Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
xvi Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
xvii Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xviii Free Ammonia (as NH3)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
xix Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 B) 2017
xx Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
xxi Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2005

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KALYANI LABORATORIES PVT. LTD.

78/944, PATIAL, BHUBANESWAR-752101, ODISHA

Test Report No : 2062 | 4432FICKLPL/2/20/WATER/02424



Parameters	Unit	Requirement	Result	Test Method
xxii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0004	--
xxvi SODIUM ABSORPTION RATIO	--	--	0.46	--
xxvii barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTICIDE	µg/l	--	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.6	APHA 23rd Edition (4500-H+-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006
RADIOACTIVITY SUBSTANCES				
i Gross Alpha-activity	µC/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Gross Beta-activity	µC/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Dibambur Anubala
Analysed By
For Kalyani Laboratories Pvt. Ltd.



[Signature]
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd

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KALYANI LABORATORIES PVT. LTD.

78744, PAHAL, BILUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000003869P
Test Report No : 2063 | 4433F1DKLPL/2/20/WATER/02425 **Issue Date** : 07-Mar-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 28-Feb-2020 **Test Commenced On** : 28-Feb-2020 **Test Completion On** : 06-Mar-2020
Sample Description : SURFACE WATER
Sample Condition : SEALED
Sample Identification * : SURFACE WATER **Sampling Date** : 27-Feb-2020
Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA
Received Quantity : 1LTR X 2 **Place of Collection** : STREAM NEAR RENGOPALI DT-27.02.2020
Sample Collected By : By KLPL
Ref.To Sampling Procedure : KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
I Total Coliforms	MPN/100ml,	5000	50	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
I Chloride as Cl	mg/l, Max	600	7.4	APHA 23rd Edition (4500-Cl - -B), 2017
II Sulphate as SO4	mg/l, Max	400	< 1.0	APHA 23rd Edition (4500-SO42 - -E), 2017
III Nitrate as NO3	mg/l, Max	50	< 0.05	APHA 23rd Edition (4500-NO3 - -E), 2017
IV Fluoride as F	mg/l, Max	1.5	< 0.05	APHA 23rd Edition (4500-F - -D, -C), 2017
V Total Dissolved Solid	mg/l, Max	1500	32	APHA 23rd Edition (2540 C), 2017
VI Calcium as Ca	mg/l, Max	-	4.3	APHA 23rd Edition (3500-Ca-B), 2017
VII Magnesium as Mg	mg/l, Max	-	2.67	APHA 23rd Edition (3500-Mg-B), 2017
VIII Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B - B), 2017
IX Dissolved Oxygen	mg/l, Max	4.0	7.0	APHA 23rd Edition (4500-O-C), 2017
X Biochemical Oxygen Demand (For 3 days 27deg C)	mg/l, Max	--	1.8	APHA 23rd Edition 2012 (5210 B), 2017
XI Total Hardness as CaCO3	mg/l, Max	--	22	APHA 23rd Edition (2340 C), 2017
XII Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
XIII Iron (as Fe)	mg/l, Max	50	0.3	APHA-23rd Edition (3500-Fe-B, 3111 B) 2017
XIV Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
XV Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
XVI Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
XVII Free Ammonia (as NH3)	mg/l, Max	--	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
XVIII Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 B) 2017
XIX Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
XX Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2005
XXI Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440

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KALYANI LABORATORIES PVT. LTD.

78/944, PATIAL, BHUBANESWAR-752101, ODISHA

Test Report No : 2063 | 4433F1DKLPL/2/20/WATER/02425



Parameters	Unit	Requirement	Result	Test Method
xxii Silver (as Ag)	mg/l	--	< 0.01	--
xxiii Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxiv PERCENT SODIUM (%)	%	--	0.0008	--
xxv SODIUM ABSORPTION RATIO	--	--	0.53	--
xxvi barium	mg/l	--	< 0.2	--
xxvii TOTAL PESTICIDE	µg/l	--	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.3	APHA 23rd Edition (4500-H+-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006
RADIOACTIVITY SUBSTANCES				
i Gross Alpha-activity	uCi/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Gross Beta-activity	uCi/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

Analysed By
For Kalyani Laboratories Pvt. Ltd.



Authorized Signatory
For Kalyani Laboratories Pvt. Ltd



KALYANI LABORATORIES PVT. LTD.

78944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003870P

Test Report No : 2064 | 4434F1EKLPL/2/20/WATER/02426 **Issue Date:** 09-Mar-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 28-Feb-2020 **Test Commenced On** : 28-Feb-2020 **Test Completion On:** 06-Mar-2020

Sample Description : SURFACE WATER

Sample Condition : SEALED

Sample Identification * : SURFACE WATER **Sampling Date** : 26-Feb-2020

Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA

Received Quantity : 1LTR X 2 **Place of Collection** : VAMSADHARA RIVER NEAR BALABHADRAPUR

Sample Collected By : By KLPL **DT-26.02.2020**

Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
i Total Coliforms	MPN/100ml.	5000	50	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
i Chloride as Cl	mg/l, Max	600	11.1	APHA 23rd Edition (4500-Cl - -B), 2017
ii Sulphate as SO4	mg/l, Max	400	15	APHA 23rd Edition (4500-SO4 - -E), 2017
iii Nitrate as NO3	mg/l, Max	50	0.6	APHA 23rd Edition (4500-NO3 - -E), 2017
iv Fluoride as F	mg/l, Max	1.5	< 0.05	APHA 23rd Edition (4500-F - -D,-C), 2017
v Total Dissolved Solid	mg/l, Max	1500	112	APHA 23rd Edition (2540 C), 2017
vi Calcium as Ca	mg/l, Max	-	15.8	APHA 23rd Edition (3500-Ca-B), 2017
vii Magnesium as Mg	mg/l, Max	-	5.10	APHA 23rd Edition (3500-Mg-B), 2017
viii Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B- B), 2017
ix Dissolved Oxygen	mg/l, Max	4.0	7.1	APHA 23rd Edition(4500-D-C), 2017
x Biochemical Oxygen Demand(For 3 days 27deg C)	mg/l, Max	--	2.7	APHA 23rd Edition 2012(5210 B), 2017
xi Total Hardness as CaCO3	mg/l, Max	--	61	APHA 23rd Edition (2340 C), 2017
xii Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
xiii Iron (as Fe)	mg/l, Max	50	0.15	APHA-23rd Edition (3500-Fe-B, 3111 B) 2017
xiv Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
xv Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
xvi Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xvii Free Ammonia (as NH3)	mg/l, Max	--	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
xviii Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 D) 2017
xix Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
xx Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2005
xxi Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440

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KALYANI LABORATORIES PVT. LTD.

78/9-A, PAHAL, BIRUBANESWAR-752101, ODISHA

Test Report No : 2064 | 4434F1EKPL/2/20/WATER/02426



Parameters	Unit	Requirement	Result	Test Method
xxii Silver (as Ag)	mg/l	--	< 0.01	--
xxiii Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxiv PERCENT SODIUM (%)	%	--	0.0016	--
xxv SODIUM ABSORPTION RATIO	--	--	0.73	--
xxvi barium	mg/l	--	< 0.2	--
xxvii TOTAL PESTISIDE	µg/l	--	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.6	APHA 23rd Edition (4500-H+-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006
RADIOACTIVITY SUBSTANCES				
i Gross Alpha-activity	µC/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Gross Beta-activity	µC/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27) :1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.



Authorized Signatory
For Kalyani Laboratories Pvt. Ltd.



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUDANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003873P
Test Report No : 2067 | 4435F21KLPL/2/20/WATER/02427 **Issue Date**: 09-Mar-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 28-Feb-2020 **Test Commenced On** : 28-Feb-2020 **Test Completion On**: 06-Mar-2020
Sample Description : SURFACE WATER

Sample Condition : SEALED
Sample Identification * : SURFACE WATER **Sampling Date** : 27-Feb-2020
Batch No, Lot No : NA **MFG Date** : NA **EXP Date** : NA
Received Quantity : 1LTR X 2 **Place of Collection** : VAMSADHARA RIVER NEAR NARAYANPUR
Sample Collected By : By KLPL **CULVERT(UPSTREAM) DT-27.02.2020**
Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
I Total Coliforms	MPN/100ml.	5000	27	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
i Chloride as Cl	mg/l, Max	600	18.46	APHA 23rd Edition (4500-Cl - -B), 2017
ii Sulphate as SO4	mg/l, Max	400	7.0	APHA 23rd Edition (4500-SO42 - -E), 2017
iii Nitrate as NO3	mg/l, Max	50	0.5	APHA 23rd Edition (4500-NO3 - -E), 2017
iv Electrical Conductivity	µs/cm	-	152	APHA 23rd Edition (2510 B) 2017
v Fluoride as F	mg/l, Max	1.5	< 0.05	APHA 23rd Edition (4500-F - -D,-C), 2017
vi Total Dissolved Solid	mg/l, Max	1500	108	APHA 23rd Edition (2540 C), 2017
vii Calcium as Ca	mg/l, Max	-	14.4	APHA 23rd Edition (3500-Ca-B), 2017
viii Magnesium as Mg	mg/l, Max	-	5.35	APHA 23rd Edition (3500-Mg-B), 2017
ix Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B- B), 2017
x Dissolved Oxygen	mg/l, Max	4.0	7.1	APHA 23rd Edition(4500-D-C), 2017
xi Biochemical Oxygen Demand(For 5 days 27deg C)	mg/l, Max	--	2.2	APHA 23rd Edition 2012(5210 B), 2017
xii Total Hardness as CaCO3	mg/l, Max	--	58	APHA 23rd Edition (2340 C), 2017
xiii Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
xiv Iron (as Fe)	mg/l, Max	50	5.0	APHA-23rd Edition (3500-Fe-B, 3113 B) 2017
xv Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
xvi Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
xvii Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xviii Free Ammonia (as NH3)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
xix Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 B) 2017
xx Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
xxi Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2005

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KALYANI LABORATORIES PVT. LTD.

78-94J, PAHAL, BHUBANESWAR-752101 ODISHA

Test Report No : 2067 | 4435F21KLPL/2/20/WATER/02427



Parameters	Unit	Requirement	Result	Test Method
xxii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0021	--
xxvi SODIUM ABSORPTION RATIO	--	--	0.99	--
xxvii Barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTICIDE	µg/l	--	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.5	APHA 23rd Edition (4500-H+ -B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006
RADIOACTIVITY SUBSTANCES				
i Gross Alpha-activity	uCi/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Gross Beta-activity	uCi/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Dipankar Panda
Analysed By
For Kalyani Laboratories Pvt. Ltd.



Dipankar
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd.

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KALYANI LABORATORIES PVT. LTD.

78044, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000003876P
Test Report No : 2070 | 4436F24KLPL/2/20/WATER/02428 **Issue Date**: 09-Mar-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 28-Feb-2020 **Test Commenced On** : 28-Feb-2020 **Test Completion On**: 06-Mar-2020
Sample Description : SURFACE WATER

Sample Condition : SEALED
Sample Identification * : SURFACE WATER **Sampling Date** : 27-Feb-2020
Batch No, Lot No : NA **MFG Date** : NA **EXP Date** : NA
Received Quantity : 1LTR X 2 **Place of Collection** : VAMASDHARA RIVER NEAR CHHATRAPUR CULVERT (DOWNSTREAM) DT-27.02.2020
Sample Collected By : By KLPL
Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
i Total Coliforms	MPN/100ml	5000	26	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
i Chloride as Cl	mg/l, Max	600	22.15	APHA 23rd Edition (4500-Cl --B), 2017
ii Sulphate as SO4	mg/l, Max	400	6.0	APHA 23rd Edition (4500-SO4 --E), 2017
iii Nitrate as NO3	mg/l, Max	50	0.45	APHA 23rd Edition (4500-NO3 --E), 2017
iv Electrical Conductivity	µs/cm	-	186	APHA 23rd Edition (2510 B) 2017
v Fluoride as F	mg/l, Max	1.5	0.15	APHA 23rd Edition (4500-F --D,-C), 2017
vi Total Dissolved Solid	mg/l, Max	1500	130	APHA 23rd Edition (2540 C), 2017
vii Calcium as Ca	mg/l, Max	-	15.8	APHA 23rd Edition (3500-Ca-B), 2017
viii Magnesium as Mg	mg/l, Max	-	8.75	APHA 23rd Edition (3500-Mg-B), 2017
ix Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B- B), 2017
x Dissolved Oxygen	mg/l, Max	4.0	7.6	APHA 23rd Edition (4500-O-C), 2017
xi Biochemical Oxygen Demand (For 3 days 27deg C)	mg/l, Max	--	2.9	APHA 23rd Edition 2012(5210 B), 2017
xii Total Hardness as CaCO3	mg/l, Max	--	76	APHA 23rd Edition (2340 C), 2017
xiii Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
xiv Iron (as Fe)	mg/l, Max	50	5.4	APHA-23rd Edition (3500-Fe-B, 3111 B) 2017
xv Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
xvi Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
xvii Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xviii Free Ammonia (as NH3)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
xix Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 B) 2017
xx Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
xxi Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2005

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KLPL- 339958A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 2070 | 4436F24KLPL/2/20/WATER/02428



Parameters	Unit	Requirement	Result	Test Method
xxii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0028	--
xxvi SODIUM ABSORPTION RATIO	--	--	1.28	--
xxvii barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTICIDE	µg/l	--	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.7	APHA 23rd Edition (4500-H+ -B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2005
RADIOACTIVITY SUBSTANCES				
i Gross Alpha-activity	µC/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Gross Beta-activity	µC/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27) :1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : nil

Any unusual feature observed during determination : nil

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.



Authorized Signatory
For Kalyani Laboratories Pvt. Ltd.

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KLPL- 339957A



KALYANI LABORATORIES PVT. LTD.

78/944, PAITAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000003977P
Test Report No : 2071 | 4437F25KLPL/2/20/WATER/02429 **Issue Date**: 09-Mar-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 28-Feb-2020 **Test Commenced On** : 28-Feb-2020 **Test Completion On**: 06-Mar-2020
Sample Description : SURFACE WATER

Sample Condition : SEALED
Sample Identification * : SURFACE WATER **Sampling Date** : 27-Feb-2020
Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA
Received Quantity : 1LTR X 2 **Place of Collection** : TURI NALA NEAR RAGHUNATHPUR DT-27.02.2020
Sample Collected By : By KLPL
Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters **Unit** **Requirement** **Result** **Test Method**

BACTERIOLOGICAL QUALITY				
I	Total Coliforms	MPN/100ml	5000	70 IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
I	Chloride as Cl	mg/l, Max	600	18.46 APHA 23rd Edition (4500-Cl - -B), 2017
II	Sulphate as SO4	mg/l, Max	400	9.0 APHA 23rd Edition (4500-SO42 - -E), 2017
III	Nitrate as NO3	mg/l, Max	50	0.55 APHA 23rd Edition (4500-NO3 - -E), 2017
IV	Electrical Conductivity	µs/cm		156 APHA 23rd Edition (2510 B) 2017
V	Fluoride as F	mg/l, Max	1.5	0.14 APHA 23rd Edition (4500-F - -D,-C), 2017
VI	Total Dissolved Solid	mg/l, Max	1500	102 APHA 23rd Edition (2540 C), 2017
VII	Calcium as Ca	mg/l, Max		14.4 APHA 23rd Edition (3500-Ca-B), 2017
VIII	Magnesium as Mg	mg/l, Max		7.78 APHA 23rd Edition (3500-Mg-B), 2017
IX	Boron as B	mg/l, Max		< 0.1 APHA 23rd Edition (4500B- B), 2017
X	Dissolved Oxygen	mg/l, Max	4.0	6.9 APHA 23rd Edition(4500-D-C), 2017
XI	Biochemical Oxygen Demand(For 3 days 27deg C)	mg/l, Max		1.5 APHA 23rd Edition 2012(5210 B), 2017
XII	Total Hardness as CaCO3	mg/l, Max		68 APHA 23rd Edition (2340 C), 2017
XIII	Copper (as Cu)	mg/l, Max	1.5	< 0.01 IS 3025 (Part 42):1992 RA 2009
XIV	Iron (as Fe)	mg/l, Max	50	0.7 APHA-23rd Edition (3500-Fe-B , 3111 B) 2017
XV	Manganese (as Mn)	mg/l, Max		< 0.1 IS 3025 (Part 59):2005 RA 2012
XVI	Selenium (as Se)	mg/l, Max	0.01	< 0.01 IS 3025 (Part 56):2003 RA 2009
XVII	Zinc (as Zn)	mg/l, Max	15	< 0.01 IS 3025 (Part 49):1994 RA 2009
XVIII	Free Ammonia (as NH3)	mg/l, Max		< 0.01 APHA-23rd Edition (4500-NH3-B) 2017
XIX	Oil & Grease	mg/l, Max		< 0.025 APHA-23rd Edition (5520 B) 2017
XX	Total Chromium	mg/l, Max	0.05	< 0.01 IS 3025 (Part 52):2003 RA 2009
XXI	Anionic Surface Active Agents (as MBAS)	mg/l		< 0.1 Annex K of IS 13428:2005

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KLPL- 339980A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 2071 | 4437F25KLPL/2/20/WATER/02429



Parameters	Unit	Requirement	Result	Test Method
xxii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0017	--
xxvi SODIUM ABSORPTION RATIO	--	--	0.84	--
xxvii barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTISIDE	µg/l	--	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.4	APHA 23rd Edition (4500-H+-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 6): 1994, RA 2006
RADIOACTIVITY SUBSTANCES				
i Gross Alpha-activity	uCi/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Gross Beta-activity	uCi/mL	0.01	BCL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Digambar Arubla
Analysed By
For Kalyani Laboratories Pvt. Ltd.



Digambar
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd

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KLPL- 339979A



KALYANI LABORATORIES PVT. LTD.

78944, PATIAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003878P
Test Report No : 2072 | 4438F26KLPL/2/20/WATER/02430 **Issue Date:** 09-Mar-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 28-Feb-2020 **Test Commenced On** : 28-Feb-2020 **Test Completion On:** 06-Mar-2020
Sample Description : SURFACE WATER

Sample Condition : SEALED
Sample Identification * : SURFACE WATER **Sampling Date** : 27-Feb-2020
Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA
Received Quantity : 1LTR X 2 **Place of Collection** : POND NEAR HAREKRUSHNAPUR DT-27.02.2020
Sample Collected By : By KLPL
Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
i Total Coliforms	MPN/100ml.	5000	90	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
i Chloride as Cl	mg/l, Max	600	20.3	APHA 23rd Edition (4500-Cl - -B), 2017
ii Sulphate as SO4	mg/l, Max	400	6.0	APHA 23rd Edition (4500-So42 - -E), 2017
iii Nitrate as NO3	mg/l, Max	50	0.4	APHA 23rd Edition (4500-NO3 - -E), 2017
iv Electrical Conductivity	µs/cm	-	189	APHA 23rd Edition (2510 B) 2017
v Fluoride as F	mg/l, Max	1.5	0.2	APHA 23rd Edition (4500-F - -D, -C), 2017
vi Total Dissolved Solid	mg/l, Max	1500	150	APHA 23rd Edition (2540 C), 2017
vii Calcium as Ca	mg/l, Max	-	15.6	APHA 23rd Edition (3500-Ca-B), 2017
viii Magnesium as Mg	mg/l, Max	-	8.75	APHA 23rd Edition (3500-Mg-B), 2017
ix Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B- B), 2017
x Dissolved Oxygen	mg/l, Max	4.0	7.9	APHA 23rd Edition(4500-O-C), 2017
xi Biochemical Oxygen Demand(For 3 days 27deg C)	mg/l, Max	--	2.8	APHA 23rd Edition 2012(5210 B), 2017
xii Total Hardness as CaCO3	mg/l, Max	--	76	APHA 23rd Edition (2340 C), 2017
xiii Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
xiv Iron (as Fe)	mg/l, Max	50	1.8	APHA-23rd Edition (3500-Fe-B , 3111 B) 2017
xv Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
xvi Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
xvii Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xviii Free Ammonia (as NH3)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
xix Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 b) 2017
xx Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
xxi Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2005

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KALYANI LABORATORIES PVT. LTD.

789944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 2072 | 4438F26KLPL/2/20/WATER/02430



Parameters	Unit	Requirement	Result	Test Method
xxii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0020	--
xxvi SODIUM ABSORPTION RATIO	--	--	0.81	--
xxvii barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTICIDE	µg/l	--	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.4	APHA 23rd Edition (4500-H+0), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 6): 1984, RA 2006
RADIOACTIVITY SUBSTANCES				
i Gross Alpha-activity	uCi/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Gross Beta-activity	uCi/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27) :1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Disambhar Ananda
Analysed By
For Kalyani Laboratories Pvt. Ltd.



Disambhar Ananda
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd.

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KLPL- 339977A



KALYANI LABORATORIES PVT. LTD.

78/11, PATIAL, BHUBANESWAR-75101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003B49P
Test Report No : 2051 | 4421F09KLPL/2/20/WATER/02413 **Issue Date:** 07-Mar-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 28-Feb-2020 **Test Commenced On** : 28-Feb-2020 **Test Completion On:** 06-Mar-2020
Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED
Sample Identification * : GROUND WATER **Sampling Date** : 27-Feb-2020
Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA
Received Quantity : 1LTR X 2 **Place of Collection** : OBSERVATION BORE WELL RED MUD POND BASANTAPADA SIDE (EAST) DT-27.02.2020
Sample Collected By : By KLPL
Ref.To Sampling Procedure: QSP-07

Parameters	Unit	Requirement	Result	Test Method
------------	------	-------------	--------	-------------

CHEMICAL PARAMETER				
I	Total alkalinity (as CaCO ₃),	mg/l, Max	200	136 IS 3025 (Part 23):1986 RA 2009
II	Total hardness (as CaCO ₃),	mg/l, Max	200	112 IS 3025 (Part 21):2009
III	Zinc (as Zn)	mg/l, Max	5	0.019 IS 3025 (Part 49):1994 RA 2009
IV	Total Chromium	mg/l, Max	0.05	< 0.02 IS 3025 (PART 52): 2003 RA 2009
V	Aluminum (as Al)	mg/l, Max	0.03	< 0.02 IS 3025 (PART 55):2003 RA 2009

PHYSICAL PARAMETER				
I	Colour	Hazen, Max	5	< 1.0 IS 3025 (Part 4):1983 RA 2012
II	Odour	--	Agreeable	AGREEABLE IS 3025 (Part 5):1983 RA 2012
III	pH value	---	6.5-8.5	6.75 IS 3025 (Part-11):1983, RA 2012
IV	Taste	--	Agreeable	AGREEABLE IS 3025 (Parts 6):1984 RA 2006

RADIOACTIVITY SUBSTANCES				
I	Gross Alpha-activity	Bq/l, Max	0.1	< 0.004 IS 14194 (Part-2):2013
II	Gross Beta-activity	Bq/l, Max	1.0	< 0.02 IS 14194 (Part-1):2013

TOXIC SUBSTANCES				
I	Cadmium (as Cd)	mg/l, Max	0.003	< 0.001 IS 3025 (Part 41):1992 RA 2009
II	Cyanide (as CN)	mg/l, Max	0.05	< 0.01 IS 3025 (Part 27):1986 RA 2009
III	Lead (as Pb)	mg/l, Max	0.01	< 0.005 IS 3025 (Part 47):1994 RA 2009
IV	Mercury (as Hg)	mg/l, Max	0.001	< 0.0005 IS 3025 (Part 48):1994 RA 2009
V	Total arsenic (as As)	mg/l, Max	0.01	< 0.001 IS 3025 (Part 37):1988 RA 2009
VI	Nickel (as Ni)	mg/l, Max	0.02	< 0.01 IS 3025 (Part 54): 2003 RA 2009



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KLPL- 340065A



KALYANI LABORATORIES PVT. LTD.

78944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 2051 | 4421F09KLPL/3/20/WATER/02413



Parameters	Unit	Requirement	Result	Test Method
------------	------	-------------	--------	-------------

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Digambar Ashu
Analysed By
For Kalyani Laboratories Pvt. Ltd.



Digambar
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd



KALYANI LABORATORIES PVT. LTD.

78 W44, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003850P

Test Report No : 2052 | 4422F0AKLPL/2/20/WATER/02414 **Issue Date**: 07-Mar-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED

Address : PO.- LANJIGARH, DIST.- KALAHANADI,

Date of receipt : 26-Feb-2020 **Test Commenced On** : 26-Feb-2020 **Test Completion On**: 06-Mar-2020

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED

Sample Identification * : GROUND WATER **Sampling Date** : 26-Feb-2020

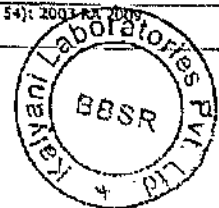
Batch No, Lot No : NA **MFG Date** : NA **EXP Date** : NA

Received Quantity : 1LTR X 2 **Place of Collection** : OBSERVATION BORE WELL RED MUD POND(WEST) DT-26.02.2020

Sample Collected By : By KLPL

Ref.To Sampling Procedure: QSP-07

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
i Total alkalinity (as CaCO ₃),	mg/l, Max	200	187	IS 3025 (Part 23):1986 RA 2009
ii Total hardness (as CaCO ₃),	mg/l, Max	200	187	IS 3025 (Part 21):2009
iii Zinc (as Zn)	mg/l, Max	5	0.047	IS 3025 (Part 49):1994 RA 2009
iv Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
i Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii Odour	---	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii pH value	---	6.5-8.5	6.7	IS 3025 (Part-11):1983, RA 2012
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
i Gross Alpha-activity	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii Gross Beta-activity	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



2052 | 4422F0A

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KLPL- 340063A



KALYANI LABORATORIES PVT. LTD.

78944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 2052 | 4422FOAKLPL/3/20/WATER/02414



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Digambar Rout
Analysed By
For Kalyani Laboratories Pvt. Ltd.



Digambar
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd



KALYANI LABORATORIES PVT. LTD.

78/9-44, PAHAL, BIRUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000003851P

Test Report No : 2053 | 4423F0BKLPL/2/20/WATER/02415 **Issue Date:** 07-Mar-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 28-Feb-2020 **Test Commenced On** : 28-Feb-2020 **Test Completion On:** 06-Mar-2020

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED

Sample Identification * : GROUND WATER **Sampling Date** : 25-Feb-2020

Batch No, Lot No : NA **MFG Date** : NA **EXP Date** : NA

Received Quantity : 1LTR X 2 **Place of Collection** : OBSERVATION BORE WELL RED MUD POND MATERIAL GATE SIDE(NORTH) DT-25.02.2020

Sample Collected By : By KLPL

Ref.To Sampling Procedure: QSP-07

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
i	Total alkalinity (as CaCO ₃),	mg/l, Max 200	180	IS 3025 (Part 23):1986 RA 2009
ii	Total hardness (as CaCO ₃),	mg/l, Max 200	140	IS 3025 (Part 21):2009
iii	Zinc (as Zn)	mg/l, Max 5	0.026	IS 3025 (Part 49):1994 RA 2009
iv	Total Chromium	mg/l, Max 0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v	Aluminum (as Al)	mg/l, Max 0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
i	Colour	Hazen, Max 5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii	Odour	--- Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii	pH value	--- 6.5-8.5	6.68	IS 3025 (Part-11):1983, RA 2012
iv	Taste	--- Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
i	Gross Alpha-activity	Bq/l, Max 0.1	< 0.004	IS 14194 (Part-2):2013
ii	Gross Beta-activity	Bq/l, Max 1.0	< 0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
i	Cadmium (as Cd)	mg/l, Max 0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii	Cyanide (as CN)	mg/l, Max 0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii	Lead (as Pb)	mg/l, Max 0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv	Mercury (as Hg)	mg/l, Max 0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v	Total arsenic (as As)	mg/l, Max 0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi	Nickel (as Ni)	mg/l, Max 0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009





Kalyani Laboratories

KALYANI LABORATORIES PVT. LTD.

78944, PATIALA, DIBUBANESWAR-752101, ODISHA

Test Report No : 2053 | 4423F0BKLP/3/20/WATER/02415



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Digambar Jena
Analysed By
For Kalyani Laboratories Pvt. Ltd.



Digambar
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd



KALYANI LABORATORIES PVT. LTD.

78/941, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000003852P
Test Report No : 2054 | 4424F0CKLPL/2/20/WATER/02416 **Issue Date:** 07-Mar-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 28-Feb-2020 **Test Commenced On** : 28-Feb-2020 **Test Completion On:** 06-Mar-2020
Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED
Sample Identification * : GROUND WATER **Sampling Date** : 26-Feb-2020
Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA
Received Quantity : 1LTR X 2 **Place of Collection** : OBSERVATION BOREWELL RED MUD POND
Sample Collected By : By KLPL RENGOPALI SIDE DT-26.02.2020
Ref.To Sampling Procedure: QSP-07

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
i Total alkalinity (as CaCO ₃),	mg/l, Max	200	123	IS 3025 (Part 23):1986 RA 2009
ii Total hardness (as CaCO ₃),	mg/l, Max	200	126	IS 3025 (Part 21):2009
iii Zinc (as Zn)	mg/l, Max	5	0.023	IS 3025 (Part 49):1994 RA 2009
iv Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
i Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii pH value	---	6.5-8.5	7.5	IS 3025 (Part-11):1983, RA 2012
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
i Gross Alpha-activity	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii Gross Beta-activity	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



2054 | 4424F0C

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KLPL- 340059A



KALYANI LABORATORIES PVT. LTD.

78944, PATIAL, BHUBANESWAR-752101, ODISHA

Test Report No : 2054 | 4424FOCKLPL/3/20/WATER/02416



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By *Dhanbar Jena*
For Kalyani Laboratories Pvt. Ltd.



[Signature]
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd



KALYANI LABORATORIES PVT. LTD.

784911, PAHAL, BILIBANESWAR-752161, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003853P

Test Report No : 2055 | 4425F0DKLPL/2/20/WATER/02417 **Issue Date**: 07-Mar-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 28-Feb-2020 **Test Commenced On** : 28-Feb-2020 **Test Completion On**: 06-Mar-2020

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED

Sample Identification * : GROUND WATER **Sampling Date** : 26-Feb-2020

Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA

Received Quantity : 1LTR X 2 **Place of Collection** : OBSERVATION BOREWELL PROCESS WATER LAKE(NORTH) DT-26.02.2020

Sample Collected By : By KLPL

Ref.To Sampling Procedure: QSP-07

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
i Total alkalinity (as CaCO ₃),	mg/l, Max	200	59	IS 3025 (Part 23):1986 RA 2009
ii Total hardness (as CaCO ₃),	mg/l, Max	200	65	IS 3025 (Part 21):2009
iii Zinc (as Zn)	mg/l, Max	5	0.013	IS 3025 (Part 49):1994 RA 2009
iv Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
i Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii pH value	---	6.5-8.5	6.5	IS 3025 (Part-11):1983, RA 2012
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
i Gross Alpha-activity	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii Gross Beta-activity	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



2055 | 4425F00

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KLPL- 340057A



KALYANI LABORATORIES PVT. LTD.

789/1, PAHAL, BIR BASISWAR-752101, ODISHA

Test Report No : 2055 | 4425F0DKLPL/3/20/WATER/02417



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Digambar Arora
Analysed By
For Kalyani Laboratories Pvt. Ltd.



Digambar
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd



KALYANI LABORATORIES PVT. LTD.

78/944, PAHALI, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000003854P

Test Report No : 2056 | 4426F0EKLPL/2/20/WATER/02418 **Issue Date**: 07-Mar-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-756027.

Date of receipt : 28-Feb-2020 **Test Commenced On** : 28-Feb-2020 **Test Completion On**: 06-Mar-2020

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED

Sample Identification * : GROUND WATER **Sampling Date** : 26-Feb-2020

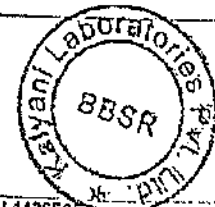
Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : AN

Received Quantity : 1LTR X 2 **Place of Collection** : OBSERVATION BOREWELL PROCESS WATER LAKE(EAST)

Sample Collected By : By KLPL

Ref.To Sampling Procedure: QSP-07

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
i Total alkalinity (as CaCO ₃),	mg/l, Max	200	156	IS 3025 (Part 23):1986 RA 2009
ii Total hardness (as CaCO ₃),	mg/l, Max	200	130	IS 3025 (Part 21):2009
iii Zinc (as Zn)	mg/l, Max	5	0.021	IS 3025 (Part 49):1994 RA 2009
iv Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
i Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii pH value	---	6.5-8.5	6.8	IS 3025 (Part-11):1983, RA 2012
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 6):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
i Gross Alpha-activity	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii Gross Beta-activity	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1998 RA 2009
vi Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



2056 | 4426F0E

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KLPL- 339994A



KALYANI LABORATORIES PVT. LTD.

78944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 2056 | 4426FOEKLP/3/20/WATER/0241B



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Digambar Anshu
Analysed By
For Kalyani Laboratories Pvt. Ltd.



Digambar
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd.



KALYANI LABORATORIES PVT. LTD.

78011, PATEL, BHUBANESWAR-751001, ODISHA

TEST REPORT



NABL ULR NO : TC70432000003855P
Test Report No : 2057 | 4427FOFKLPL/2/20/WATER/02419 **Issue Date:** 07-Mar-2020
Amendment No : - **Amendment Date :** -
Reference : ORDER NO-6500013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 28-Feb-2020 **Test Commenced On :** 28-Feb-2020 **Test Completion On:** 06-Mar-2020
Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED
Sample Identification * : GROUND WATER **Sampling Date :** 25-Feb-2020
Batch No , Lot No : NA **MFG Date :** NA **EXP Date :** NA
Received Quantity : 1LTR X 2 **Place of Collection :** OBSERVATION BOREWELL WATER ASPOND KASIBADI SIDE(WEST) DT-25.02.2020
Sample Collected By : By KLPL
Ref.To Sampling Procedure: QSP-07

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
i Total alkalinity (as CaCO ₃),	mg/l, Max	200	154	IS 3025 (Part 23):1986 RA 2009
ii Total hardness (as CaCO ₃),	mg/l, Max	200	158	IS 3025 (Part 21):2009
iii Zinc (as Zn)	mg/l, Max	5	0.028	IS 3025 (Part 49):1994 RA 2009
iv Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
i Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii pH value	---	6.5-8.5	7.1	IS 3025 (Part-11):1983, RA 2012
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 6):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
i Gross Alpha-activity	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii Gross Beta-activity	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



2057 | 4427FOF

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KLPL- 339992A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 2057 | 4427F0FKLPL/3/20/WATER/02419



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

D. Sambhu Das
Analysed By
For Kalyani Laboratories Pvt. Ltd.



D. Sambhu Das
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd.



KALYANI LABORATORIES PVT. LTD.

78544, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000003856P

Test Report No : 2058 | 4428F10KLPL/2/20/WATER/02420 **Issue Date:** 07-Mar-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISH-766027,

Date of receipt : 28-Feb-2020 **Test Commenced On** : 28-Feb-2020 **Test Completion On:** 06-Mar-2020

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED

Sample Identification * : GROUND WATER **Sampling Date :** 26-Feb-2020

Batch No , Lot No : NA **MFG Date :** NA **EXP Date :** NA

Received Quantity : 1LTR X 2 **Place of Collection :** OBSERVATION BORE WELL ASHPOND KENDUGUDA SIDE(EAST) DT-26.02.2020

Sample Collected By : By KLPL

Ref.To Sampling Procedure: QSP-07

Parameters	Unit	Requirement	Result	Test Method
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CHEMICAL PARAMETER

i	Total alkalinity (as CaCO ₃),	mg/l, Max	200	194	IS 3025 (Part 23):1986 RA 2009
ii	Total hardness (as CaCO ₃),	mg/l, Max	200	191	IS 3025 (Part 21):2009
iii	Zinc (as Zn)	mg/l, Max	5	0.036	IS 3025 (Part 49):1994 RA 2009
iv	Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v	Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009

PHYSICAL PARAMETER

i	Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii	Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii	pH value	---	6.5-8.5	7.3	IS 3025 (Part-11):1983, RA 2012
iv	Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006

RADIOACTIVITY SUBSTANCES

i	Gross Alpha-activity	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii	Gross Beta-activity	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013

TOXIC SUBSTANCES

i	Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii	Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii	Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv	Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v	Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi	Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



2058 | 4428F10

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KLPL- 339990A



KALYANI LABORATORIES PVT. LTD.

78,9/4, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 2058 | 4428F10KLPL/3/20/WATER/02420

Parameters: Unit Requirement Result Test Method



Remarks : NIL

Any unusual feature observed during determination : NIL
..... End of Test Report

Digambar Asuka
Analysed By
For Kalyani Laboratories Pvt. Ltd.



Digambar
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd



KALYANI LABORATORIES PVT. LTD.

78011, PATAI, BHUBANESWAR-751011, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003857P
Test Report No : 2059 | 4429F11KLPL/2/20/WATER/02421 **Issue Date:** 07-Mar-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 28-Feb-2020 **Test Commenced On** : 28-Feb-2020 **Test Completion On:** 06-Mar-2020
Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED
Sample Identification * : GROUND WATER
Batch No , Lot No : NA **MFG Date** : NA **Sampling Date** : 25-Feb-2020
Received Quantity : 1LTR X 2 **EXP Date** : NA
Sample Collected By : By KLPL **Place of Collection** : OBSERVATION BOREWELL ASHPOND (NORTH)
Ref.To Sampling Procedure: QSP-07 DT-26.02..2020

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
i Total alkalinity (as CaCO ₃),	mg/l, Max	200	64	IS 3025 (Part 23):1986 RA 2009
ii Total hardness (as CaCO ₃),	mg/l, Max	200	54	IS 3025 (Part 21):2009
iii Zinc (as Zn)	mg/l, Max	5	0.011	IS 3025 (Part 49):1994 RA 2009
iv Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v Aluminum (as Al)	mg/l, Max	0.05	< 0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
i Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii pH value	---	6.5-8.5	6.9	IS 3025 (Part-11):1983, RA 2012
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
i Gross Alpha-activity	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii Gross Beta-activity	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi Manganese (as Mn)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



2059 | 4429F11

KLPL- 339988A



KALYANI LABORATORIES PVT. LTD.

751011, PAHALI, BHUBANESWAR-751001, ODISHA

Test Report No : 2059 | 4429F11KLPL/3/20/WATER/02421



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

D. Ananta Das
Analysed By
For Kalyani Laboratories Pvt. Ltd.



D. Ananta Das
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd

2059 | 4429F11

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KLPL-339987A



KALYANI LABORATORIES PVT. LTD.

78744, PAHAL, BHUBANESWAR-752101, ODISHA

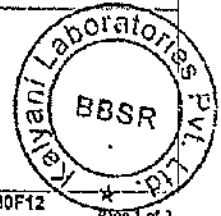
TEST REPORT



NABL ULR NO : TC70432000003858P
Test Report No : 2060 | 4430F12KLPL/2/20/WATER/02422 **Issue Date:** 07-Mar-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 28-Feb-2020 **Test Commenced On** : 28-Feb-2020 **Test Completion On:** 06-Mar-2020
Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED
Sample Identification * : GROUND WATER **Sampling Date** : 26-Feb-2020
Batch No, Lot No : NA **MFG Date** : NA **EXP Date** : NA
Received Quantity : 1LTR X 2 **Place of Collection** : OBSERVATION BOREWELL DIRTY WATER POND
Sample Collected By : By KLPL
Ref. To Sampling Procedure: QSP-07

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
i Total alkalinity (as CaCO ₃),	mg/l, Max	200	187	IS 3025 (Part 23):1986 RA 2009
ii Total hardness (as CaCO ₃),	mg/l, Max	200	180	IS 3025 (Part 21):2009
iii Zinc (as Zn)	mg/l, Max	5	0.035	IS 3025 (Part 49):1994 RA 2009
iv Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
v Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
i Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
ii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii pH value	---	6.5-8.5	7.2	IS 3025 (Part-11):1983, RA 2012
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
i Gross Alpha-activity	Bq/l, Max	0.1	< 0.004	IS 14194 (Part-2):2013
ii Gross Beta-activity	Bq/l, Max	1.0	< 0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.003	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2009
iii Lead (as Pb)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.0005	IS 3025 (Part 48):1994 RA 2009
v Total arsenic (as As)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
vi Nickel (as Ni)	mg/l, Max	0.02	< 0.01	IS 3025 (Part 54): 2003 RA 2009



2060 | 4430F12

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KLPL- 339986A



KALYANI LABORATORIES PVT. LTD.

78944, PAHALI, BHUBANESWAR-752101, ODISHA

Test Report No : 2060 | 4430F12KLPL/3/20/WATER/02422



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

D. Ganbar Azub
Analysed By
For Kalyani Laboratories Pvt. Ltd.



D. Ganbar
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, DHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003838P

Test Report No : 422 | 4466EFE KLPL/2/20/ENVN/00530 **Issue Date** : 06-Mar-2020

Amendment No : - **Amendment Date** : -

Reference : -

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 10-Feb-2020 **Commenced On** : 10-Feb-2020 **Completion On** : 15-Feb-2020

Sample Name : FLUE GAS | STACK MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST

Quantity : 1 NOS

Ref. To Sampling Procedure : KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : POWER PLANT UNIT-3, 07.02.2020				
Sulphur Dioxide	mg/Nm ³	-	715.2	IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	38.1	KLPL/SOP/AIR-06
Velocity	m/sec	-	8.86	KLPL/SOP/AIR-06
Oxygen	%	-	5.0	KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	--	--	414	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	304.9	IS 11255 (part-7):2005
Carbon Dioxide	%	--	10.1	KLPL/SOP/AIR-06
Quantity of Gas Flow	Nm ³ / hr	-	1765374	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.046	KLPL/SOP/AIR-06
Pressure	mmH ₂ O	--	4.99	KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



EFE38387376
KLPL- 340040A



KALYANI LABORATORIES PVT. LTD.

78944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003838P

Test Report No : 422 | 4466EFE KLPL/2/20/ENVN/00530A **Issue Date** : 06-Mar-2020

Amendment No : - **Amendment Date** : -

Reference : -

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 10-Feb-2020 **Commenced On** : 10-Feb-2020 **Completion On** : 15-Feb-2020

Sample Name : FLUE GAS | STACK MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST

Quantity : 1 NOS

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : CALCINER UNIT-II, 08.02.2020				
Sulphur Dioxide	mg/Nm ³	-	698.5	IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	24.3	KLPL/SOP/AIR-06
Velocity	m/sec	-	19.85	KLPL/SOP/AIR-06
Oxygen	%	-	4.50	KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	--	--	447	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	296.9	IS 11255 (part-7):2005
carbon Dioxide	%	--	13.6	KLPL/SOP/AIR-06
Quantity of Gas Flow	Nm ³ / hr	-	2975064	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.031	KLPL/SOP/AIR-06
Pressure	mmH ₂ O	-	23.18	KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Digambar Danda
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



EFE38387376
KLPL-340039A

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KALYANI LABORATORIES PVT. LTD.

78941, PAHAL, BILUBANSWAR-75101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003838P
Test Report No : 422 | 4465EFE KLPL/2/20/ENVN/00530B **Issue Date** : 06-Mar-2020
Amendment No : - **Amendment Date** : -
Reference : -
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 17-Feb-2020 **Commented On** : 17-Feb-2020 **Completion On**: 22-Feb-2020
Sample Name : FLUE GAS | STACK MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST
Quantity : 1 NOS
Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : POWER PLANT UNIT-3, 14.02.2020				
Sulphur Dioxide	mg/Nm ³	-	702.6	IS 11255(part-7):1995(RA 2014)
Particulate Matter	mg/Nm ³	-	13.5	KLPL/SOP/AIR-06
Velocity	m/sec	-	7.17	KLPL/SOP/AIR-06
Oxygen	%	-	4.7	KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	--	--	417	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	291.6	IS 11255 (part-7):2005
carbon Dioxide	%	-	9.7	KLPL/SOP/AIR-06
Quantity of Gas Flow	Nm ³ / hr	-	1394721	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.039	KLPL/SOP/AIR-06
Pressure	mmH ₂ O	--	3.24	KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Diamban Anandha
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



EFE38387376
KLPL- 340102A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT




NABL ULR NO : TC704320000003838P
Test Report No : 422 | 4466EFE KLPL/2/20/ENVN/00530C **Issue Date** : 06-Mar-2020
Amendment No : - **Amendment Date** : -
Reference : -
Customer Name : VEDANTA LIMITED ,LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 17-Feb-2020 **Commenced On** : 17-Feb-2020 **Completion On**: 22-Feb-2020
Sample Name : FLUE GAS | STACK MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST
Quantity : 1 NOS
Ref.To Sampling Procedure: KLPL/SOP/AIR-06

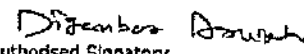
Parameters	Unit	Standard Value	Results	Test Method
Location & Date : CALCINER UNIT-I, 15.02.2020				
Sulphur Dioxide	mg/Nm ³	-	699.8	IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	27.27	KLPL/SOP/AIR-06
Velocity	m/sec	-	28.67	KLPL/SOP/AIR-06
Oxygen	%	-	4.05	KLPL/SOP/AIR-06
Stack Temperature In Deg kelvin	--	--	450	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	308.5	IS 11255 (part-7):2005
carbon Dioxide	%	--	17.2	KLPL/SOP/AIR-06
Quantity of Gas Flow	Nm ³ / hr	-	4211233	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.042	KLPL/SOP/AIR-06
Pressure	mmH ₂ O	--	48.01	KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report


 Analysed By
 For Kalyani Laboratories Pvt. Ltd.


 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.




EFE38387376
KLPL- 340038A

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KALYANI LABORATORIES PVT. LTD.

78/94, PAHAL, BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC704320000003838P **TEST REPORT** 

Test Report No : 422 | 4466EFE KLPL/2/20/ENVN/005300 **Issue Date** : 06-Mar-2020

Amendment No : - **Amendment Date** : -

Reference : -

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 24-Feb-2020 **Commented On** : 24-Feb-2020 **Completion On**: 29-Feb-2020

Sample Name : FLUE GAS | STACK MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST

Quantity : 1 NOS

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : POWER PLANT UNIT-1, 21.02.2020				
Sulphur Dioxide	mg/Nm ³	-	685.5	IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	22.02	KLPL/SOP/AIR-06
Velocity	m/sec	-	8.04	KLPL/SOP/AIR-06
Oxygen	%	-	4.5	KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	--	--	398	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	285.6	IS 11255 (part-7):2005
carbon Dioxide	%	--	9.4	KLPL/SOP/AIR-06
Quantity of Gas Flow	Nm ³ / hr	-	1666389	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.0302	KLPL/SOP/AIR-06
Pressure	mmH ₂ O	--	4.27	KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Digambar Bandyopadhyay
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



EFE38387376
KLPL- 340101A



KALYANI LABORATORIES PVT. LTD.

78994, PAHAL, BHUDANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003838P

Test Report No : 422 | 4466EFE KLPL/2/20/ENVN/00530E **Issue Date** : 06-Mar-2020

Amendment No : - **Amendment Date** : -

Reference : -

Customer Name : VEDANTA LIMITED ,LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 24-Feb-2020 **Commenced On** : 24-Feb-2020 **Completion On**: 29-Feb-2020

Sample Name : FLUE GAS | STACK MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST

Quantity : 1 NOS

Ref. To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : CALCINER UNIT-II , 22.02.2020				
Sulphur Dioxide	mg/Nm ³	-	711.6	IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	28.4	KLPL/SOP/AIR-06
Velocity	m/sec	-	19.98	KLPL/SOP/AIR-06
Oxygen	%	-	4.57	KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	--	--	446	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	307.6	IS 11255 (part-7):2005
carbon Dioxide	%	--	13.9	KLPL/SOP/AIR-06
Quantity of Gas Flow	Nm ³ / hr	-	3001262	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.0325	KLPL/SOP/AIR-06
Pressure	mmH ₂ O	--	23.52	KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
for Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



EFE38387376
KLPL- 340037A
Page 1 of 1



KALYANI LABORATORIES PVT. LTD.

78944, PAHAL, DHUBANESWAR-753101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000003838P

Test Report No : 422 | 4466EFE KLPL/2/20/ENVN/00530F Issue Date : 06-Mar-2020

Amendment No : - Amendment Date : -

Reference : -

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 27-Feb-2020 Commenced On : 27-Feb-2020 Completion On: 04-Mar-2020

Sample Name : FLUE GAS | STACK MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST

Quantity : 1 NOS

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : POWER PLANT UNIT-3, 24.02.2020				
Sulphur Dioxide	mg/Nm ³	-	713.6	IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	35.3	KLPL/SOP/AIR-06
Velocity	m/sec	-	8.10	KLPL/SOP/AIR-06
Oxygen	%	-	4.85	KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	--	--	414	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	301.2	IS 11255 (part-7):2005
Carbon Dioxide	%	--	9.85	KLPL/SOP/AIR-06
Quantity of Gas Flow	Nm ³ / hr	-	1603183	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.0416	KLPL/SOP/AIR-06
Pressure	mmH ₂ O	--	4.17	KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



EFE38387376
KLPL-340038A



Kalyani Laboratories

KALYANI LABORATORIES PVT. LTD.

78/94, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003838P

Test Report No : 422 | 4466EFE KLPL/2/20/ENVN/00530G **Issue Date** : 06-Mar-2020

Amendment No : - **Amendment Date** : -

Reference : -

Customer Name : VEDANTA LIMITED ,LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 27-Feb-2020 **Commenced On** : 27-Feb-2020 **Completion On** : 04-Mar-2020

Sample Name : FLUE GAS | STACK MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST

Quantity : 1 NOS

Ref. To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : CALCINER UNIT-I , 25.02.2020				
Sulphur Dioxide	mg/Nm ³	-	718.3	IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	32.2	KLPL/SOP/AIR-06
Velocity	m/sec	-	22.24	KLPL/SOP/AIR-06
Oxygen	%	-	4.13	KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	--	--	443	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	324.6	IS 11255 (part-7):2005
Carbon Dioxide	%	--	17.6	KLPL/SOP/AIR-06
Quantity of Gas Flow	Nm ³ / hr	-	3352119	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.0433	KLPL/SOP/AIR-06
Pressure	mmH ₂ O	--	29.34	KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

SR
Analysed By
For Kalyani Laboratories Pvt. Ltd.

Digambar Dautaha
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



EFE38387376
KLPL-340042A



KALYANI LABORATORIES PVT. LTD.

78/9-44, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000004090P
Test Report No : 439 | 4655FFA KLPL/3/20/ENVN/00566A **Issue Date** : 03-May-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 09-Mar-2020 **Commenced On** : 09-Mar-2020 **Completion On** : 14-Mar-2020
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 1 NO
Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - CHHATRAPUR VILLAGE, 03.03.2020				
Sulphur Dioxide	µg/m ³	80	8.14	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	18.38	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	64	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	38.30	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	µg/m ³	04	0.48	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	4.4	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	ng/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	05	< 1	KLPL/SOP/AIR-10
Nickel (NI)	ng/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

D. Jamban Anandha
 Analysed By
 For Kalyani Laboratories Pvt. Ltd.

[Signature]
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



FFA40907772

KLPL- 3403674



KALYANI LABORATORIES PVT. LTD.

78/944, PATIAL, DHUDANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000004090P

Test Report No : 439 | 4655FFA KLPL/3/20/ENVN/00566L **Issue Date** : 05-May-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 23-Mar-2020 **Commenced On** : 23-Mar-2020 **Completion On** : 28-Mar-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO

Ref.To Sampling Procedure : KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - CHHATRAPUR VILLAGE, 17.03.2020				
Sulphur Dioxide	µg/m ³	80	8.03	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	15.38	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	59	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	37.66	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	µg/m ³	04	0.46	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	ng/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (NI)	ng/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

D. Banbar Anurag
 Analysed By
 For Kalyani Laboratories Pvt. Ltd.

Rasul
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



FFA40907772

KLPL- 340256A1



KALYANI LABORATORIES PVT. LTD.

78/9-4, PAHAL, BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC70432000004090P

TEST REPORT



Test Report No : 439 | 4655FFA KLPL/3/20/ENVN/00566R Issue Date : 05-May-2020
 Amendment No : - Amendment Date : -
 Reference : ORDER NO-6600013488 DT-16.12.2019
 Customer Name : VEDANTA LIMITED, LANJIGARH
 Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
 Date of receipt : 27-Mar-2020 Commenced On : 27-Mar-2020 Completion On: 31-Mar-2020
 Sample Name : AMBIENT AIR QUALITY MONITORING
 Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
 Quantity : 1 NO
 Ref. To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - CHHATRAPUR VILLAGE, 24.03.2020				
Sulphur Dioxide	µg/m ³	80	7.39	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	15.31	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	60	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	35.25	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	µg/m ³	04	0.45	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	2.9	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	ng/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



FFA40907772
KLPL-34R250A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC70432000004090P

TEST REPORT



Test Report No : 439 | 4655FFA KLPL/3/20/ENVN/00566E Issue Date : 05-May-2020

Amendment No : - Amendment Date : -

Reference : ORDER NO-6600013488 DT-18.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-756027.

Date of receipt : 09-Mar-2020 Commenced On : 09-Mar-2020 Completion On: 14-Mar-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASFOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - BELAMBA VILLAGE , 07.03.2020				
Sulphur Dioxide	µg/m ³	80	6.16	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	16.12	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	56	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	38.30	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	µg/m ³	04	0.44	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.6	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	ng/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



FFA40907772

KLPL- 340263A



KALYANI LABORATORIES PVT. LTD.

78944, PAHAL, BHUDANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000004090P

Test Report No : 439 | 4655FFA KLPL/3/20/ENVN/00566J

Issue Date : 05 May-2020

Amendment No : -

Amendment Date : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA -766027.

Date of receipt : 16-Mar-2020

Commenced On : 16-Mar-2020

Completion On : 21-Mar-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters Unit Standard Value Results Test Method

Location & Date : - BELAMBA VILLAGE, 14.03.2020

Parameters	Unit	Standard Value	Results	Test Method
Sulphur Dioxide	µg/m ³	80	7.17	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	14.08	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	54	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	35.09	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	µg/m ³	04	0.42	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	4.4	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	ng/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



FFA40907772

KLPL-340258A



KALYANI LABORATORIES PVT. LTD.

78/04, PAHAL, BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC704320000004090P

TEST REPORT



Test Report No : 439 | 4655FFA KLPL/3/20/ENVN/00566P **Issue Date** : 05-May-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Data of receipt : 23-Mar-2020 **Commenced On** : 27-Mar-2020 **Completion On** : 28-Mar-2020
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 1 NO
Ref.To Sampling Procedure : KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - BELAMBA VILLAGE , 21.03.2020				
Sulphur Dioxide	µg/m ³	80	5.24	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	15.05	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	55	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	50	33.48	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	µg/m ³	04	0.43	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.6	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-06
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benzo (a) Pyrene (BaP)	ng/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By *Dhananjay Singh*
 For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory *Dhananjay Singh*
 For Kalyani Laboratories Pvt. Ltd.



FFA40907772

KLPL- 340252A1



KALYANI LABORATORIES PVT. LTD.

7/944, PAHAL, BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC704320000004090P

TEST REPORT



Test Report No : 439 | 4655FFA KLPL/3/20/ENVN/00566D Issue Date : 05-May-2020
Amendment No : - Amendment Date : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 09 Mar 2020 Commenced On : 09-Mar-2020 Completion On: 14-Mar-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO

Ref To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - REHABILITATION COLONY, 06.03.2020				
Sulphur Dioxide	µg/m ³	80	7.19	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	18.28	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	62	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	40.19	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	µg/m ³	04	0.73	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	160	4.4	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	ng/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report *****

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorized Signatory
For Kalyani Laboratories Pvt. Ltd.



FFA40907772

KLPL-3A0261A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000004090P

Test Report No : 439 | 4655FFA KLPL/3/20/ENVN/005661 **Issue Date** : 05-May-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 16-Mar-2020 **Commenced On** : 16-Mar-2020 **Completion On** : 21-Mar-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GAS/POUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO

Ref.To Sampling Procedure : KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - REHABILITATION COLONY, 13.03.2020				
Sulphur Dioxide	µg/m ³	80	8.47	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	16.24	IS 5182 (PART 5) :2006
Particulate Matter (PM10)	µg/m ³	100	59	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	38.14	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	µg/m ³	04	0.70	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	ng/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

Print of Test Report

Dibamban Ananta
 Analysed By
 For Kalyani Laboratories Pvt. Ltd.

Dibamban Ananta
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



FFA40907772
 KLPL-340259A



KALYANI LABORATORIES PVT. LTD.

78/944, PATIAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320D00004090P

Test Report No : 439 | 4655FFA KLPL/3/20/ENVN/005660

Issue Date : 05-May-2020

Amendment No : -

Amendment Date : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 23-Mar-2020

Commenced On : 23 Mar 2020

Completion On : 28-Mar-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ADSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO

Ref. To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - REHABILITATION COLONY, 20.03.2020				
Sulphur Dioxide	µg/m ³	80	6.13	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	16.05	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	60	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	50	34.34	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	µg/m ³	04	0.69	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.8	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	ng/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorized Signatory
For Kalyani Laboratories Pvt. Ltd.



FFA40907772

KLPL- 340253A1



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101 ODISHA

TEST REPORT



NABL ULR NO : TC704320000004090P

Test Report No : 439 | 4655FFA KLPL/3/20/ENVN/00566B

Issue Date : 05-May-2020

Amendment No : -

Amendment Date : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-756027.

Date of receipt : 09-Mar-2020 Commenced On : 09-Mar-2020

Completion On: 14-Mar-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - MID DAY MEAL, 04.03.2020				
Sulphur Dioxide	µg/m ³	80	9.23	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	19.36	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	66	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	44.06	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	µg/m ³	04	0.71	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	ng/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Disantour Asuda

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Disantour
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



FFA40907772
KLPL- 340266A



KALYANI LABORATORIES PVT. LTD.

78/9-44, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000004090P
Test Report No : 439 | 4655FFA KLPL/3/20/ENVN/00566G
Amendment No : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 16-Mar-2020
Issue Date : 05-May-2020
Amendment Date : -
Commented On : 16 Mar-2020
Completion On : 21 Mar-2020
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 1 NO
Ref.To Sampling Procedure : KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - MID DAY MEAL, 11.03.2020				
Sulphur Dioxide	µg/m ³	80	9.05	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	19.04	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	63	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	41.11	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	µg/m ³	04	0.68	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	4.4	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	ng/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (NI)	ng/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



FFA40907772

KLPL- 3A0261A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC704320000004090P

TEST REPORT



Test Report No : 439 | 4655FFA KLPL/3/20/ENVN/00566M Issue Date : 05-May-2020

Amendment No : - Amendment Date : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 23-Mar-2020 Commenced On : 23-Mar-2020 Completion On : 28-Mar-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ADSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO

Ref. To Sampling Procedure: KLPL/SOP/AIR-05

Parameters Unit Standard Value Results Test Method

Location & Date : - MID DAY MEAL, 18.03.2020

Parameters	Unit	Standard Value	Results	Test Method
Sulphur Dioxide	µg/m ³	80	7.35	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	16.05	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	64	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	42.02	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	µg/m ³	04	0.69	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.8	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	ng/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



FFA40907772

KLPL- 340255A



KALYANI LABORATORIES PVT. LTD.

78744, PAHAL, BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC7D432000004090P

TEST REPORT



Test Report No : 439 | 4655FFA KLPL/3/20/ENVN/00586S Issue Date : 05-May-2020

Amendment No : - Amendment Date : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-756027.

Date of receipt : 27-Mar-2020 Commenced On : 27 Mar 2020 Completion On: 31 Mar 2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - MID DAY MEAL, 25.03.2020				
Sulphur Dioxide	µg/m ³	80	8.32	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	16.33	IS 5182 (PART 6) : 2005
Particulate Matter (PM10)	µg/m ³	100	61	IS 5182(PART-23) : 2005
Particulate Matter (PM2.5)	µg/m ³	60	36.21	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	µg/m ³	04	0.64	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	3.6	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	ng/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



FFA40907772
KLPL-340273A



KALYANI LABORATORIES PVT. LTD.

78/944, PALIAT, BHUDANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000004090P
Test Report No : 439 | 4655FFA KLPL/3/20/ENVN/00566
Amendment No : -
Reference : ORDER NO-6600017488 DT 16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 09-Mar-2020 **Commenced On** : 09-Mar-2020 **Completion On** : 14-Mar-2020
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 1 NO
Ref.To Sampling Procedure : KLPL/SOP/AIR-06

Issue Date : 05-May-2020
Amendment Date : -

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : PLANT SITE, DT- 02.03.2020				
Sulphur Dioxide	µg/m ³	80	11.08	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	21.36	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	73	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	46.22	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	µg/m ³	04	1.39	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	16.8	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	ng/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	4.48	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
 For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



FFA40907772

KLPL- 340859A



KALYANI LABORATORIES PVT. LTD.

78944, PAHAL BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC704320000004090P

TEST REPORT



Test Report No : 439 | 4655FFA KLPL/3/20/ENVN/00566F Issue Date : 05-May-2020
 Amendment No : - Amendment Date : -
 Reference : ORDER NO 6600013480 DT-16.12.2019
 Customer Name : VEDANTA LIMITED, LANJIGARH
 Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
 Date of receipt : 16-Mar-2020 Commenced On : 16-Mar-2020 Completion On: 21-Mar-2020

Sample Name : AMBIENT AIR QUALITY MONITORING
 Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
 Quantity : 1 NO
 Ref. To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : PLANT SITE, DT- 09.03.2020				
Sulphur Dioxide	µg/m ³	80	12.38	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	22.22	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	76	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	49.34	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	µg/m ³	04	1.43	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	17.5	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	ng/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	5.25	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Sambon Anjali
 Analysed By
 For Kalyani Laboratories Pvt. Ltd.

Prasanna
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



FFA40907772
 KLPL- 349262A



KALYANI LABORATORIES PVT. LTD.

78/941, PATIAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000004090P
Test Report No : 439 | 4655FFA KLPL/3/20/ENVN/00568K
Amendment No : -
Reference : ORDER NO 6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAJIANDI, ODISHA-766027.
Date of receipt : 23-Mar-2020 **Commenced On** : 23-Mar-2020
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 1 NO
Ref. To Sampling Procedure : KLPL/SOP/AIR-06

Issue Date : 05-May-2020
Amendment Date : -

Completion On : 28-Mar-2020

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : PLANT SITE, DT- 16.03.2020				
Sulphur Dioxide	µg/m ³	80	9.28	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	14.1	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	72	IS 5102(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	46.42	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	µg/m ³	04	1.38	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	18.2	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	ng/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	5.05	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Dipankar Jaiswal
 Analysed By
 For Kalyani Laboratories Pvt. Ltd.

Dipankar Jaiswal
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



FFA40907772
 KLPL- 340257A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC704320000004090P

TEST REPORT



Test Report No : 439 | 4655FFA KLPL/3/20/ENVN/00566Q Issue Date : 05-May-2020
 Amendment No : - Amendment Date : -
 Reference : ORDER NO-6600013488 DT-16.12.2019
 Customer Name : VEDANTA LIMITED, LANJIGARH
 Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
 Date of receipt : 27-Mar-2020 Commenced On : 27-Mar-2020 Completion On: 31-Mar-2020
 Sample Name : AMBIENT AIR QUALITY MONITORING
 Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
 Quantity : 1 NO
 Ref.To Sampling Procedure: KLPL/SQP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : PLANT SITE, DT- 23.03.2020				
Sulphur Dioxide	µg/m ³	80	10.30	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	18.21	IS 5182 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	69	IS 5182(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	43.30	KLPL/SQP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	µg/m ³	04	1.36	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	14.6	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SQP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SQP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	ng/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1	KLPL/SQP/AIR-10
Nickel (Ni)	ng/m ³	20	4.25	KLPL/SQP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



FFA40907772
KLPL- 340251A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC7043200D0004090P

Test Report No : 439 | 4655FFA KLPL/3/20/CNVN/00566C

Issue Date : 05-May-2020

Amendment No : -

Amendment Date : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 09-Mar-2020 Commenced On : 09-Mar-2020

Completion On: 14-Mar-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO

Ref. To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - LANJIGARH VILLAGE , 05.03.2020				
Sulphur Dioxide	µg/m ³	80	10.17	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	19.18	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	68	IS 5182(PART-23) : 2006
Particulate Matter (PM2.5)	µg/m ³	60	42.38	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	µg/m ³	04	0.49	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	5.8	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 1.0	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	ng/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	06	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



FFA40907772

KLPL- 340269A



KALYANI LABORATORIES PVT. LTD.

78/9-44, PAHAL, BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC704320000004090P

TEST REPORT



Test Report No : 439 | 4655FFA KLPL/3/20/ENVN/00566H Issue Date : 05-May-2020

Amendment No : - Amendment Date : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 16-Mar-2020 Commenced On : 16-Mar-2020 Completion On: 21-Mar-2020

Sample Name : AMBIENT AIR QUALITY MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED

Quantity : 1 NO

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - LANJIGARH VILLAGE, 12.03.2020				
Sulphur Dioxide	µg/m ³	80	10.35	IS 5182(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	17.48	IS 5182 (PART 6) : 2006
Particulate Matter (PM10)	µg/m ³	100	65	IS 5182(PART-23) : 2008
Particulate Matter (PM2.5)	µg/m ³	60	39.14	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	µg/m ³	04	0.47	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	6.6	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	ng/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	05	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



FFA40907772

KLPL- 340260A



KALYANI LABORATORIES PVT. LTD.

78/9-H, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000004090P
Test Report No : 439 | 4655FFA KLPL/3/20/ENVN/00566N
Amendment No : -
Reference : ORDER NO-5600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027,
Date of receipt : 23 Mar-2020 **Commenced On** : 23-Mar-2020 **Completion On** : 28-Mar-2020
Sample Name : AMBIENT AIR QUALITY MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATED
Quantity : 1 NO
Ref.To Sampling Procedure : KLPL/SOP/AIR-06
Issue Date : 05-May-2020
Amendment Date : -

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : - LANJIGARH VILLAGE , 19.03.2020				
Sulphur Dioxide	µg/m ³	80	8.44	IS 5102(PART-2) : 2001
Nitrogen Dioxide	µg/m ³	80	17.36	IS 5102 (PART 6) :2006
Particulate Matter (PM10)	µg/m ³	100	63	IS 5102(PART-23) :2006
Particulate Matter (PM2.5)	µg/m ³	60	36.21	KLPL/SOP/AIR-02
Carbon Monoxide (CO) (01 Hrs.)	µg/m ³	04	0.46	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Ozone (O3) (01 Hrs.)	µg/m ³	180	7.3	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Lead (Pb)	µg/m ³	1.0	< 0.02	KLPL/SOP/AIR-10
Ammonia (NH3)	µg/m ³	400	< 10	KLPL/SOP/AIR-05
Benzene (C6 H6)	µg/m ³	05	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Benza (a) Pyrene (BaP)	ng/m ³	01	< 1	CPCB Guidelines of Ambient Air Pollutants Volume-I & II
Arsenic (As)	ng/m ³	05	< 1	KLPL/SOP/AIR-10
Nickel (Ni)	ng/m ³	20	< 4	KLPL/SOP/AIR-10

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By *D. Prakash Babu*
 For Kalyani Laboratories Pvt. Ltd.

M. S. Prasad
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



FFA40907772
 KLPL- 3A0254A



KALYANI LABORATORIES PVT. LTD.

789/11, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000004062F
Test Report No : 2192 | 4574FDEKLPL/3/20/WATER/02483 **Issue Date** : 30-Apr-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 16-Mar-2020 **Test Commenced On** : 16-Mar-2020 **Test Completion On** : 21-Mar-2020
Sample Description : SURFACE WATER

Sample Condition : SEALED
Sample Identification : SURFACE WATER **Sampling Date** : 15-Mar-2020
Batch No, Lot No : NA **MFG Date** : NA **EXP Date** : NA
Received Quantity : 1LTR X 2 **Place of Collection** : STREAM NEAR KENDUBADI
Sample Collected By : By KLPL
Ref.To Sampling Procedure : KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
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BACTERIOLOGICAL QUALITY

I	Total Coliforms	MPN/100ml.	5000	60	IS: 1622:1981 RA 2009
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CHEMICAL PARAMETER

I	Chloride as Cl	mg/l, Max	600	5.5	APHA 23rd Edition (4500-Cl - -B), 2017
II	Sulphate as SO4	mg/l, Max	400	< 1.0	APHA 23rd Edition (4500-So42 - -E), 2017
III	Nitrate as NO3	mg/l, Max	50	0.08	APHA 23rd Edition (4500-NO3 - -E), 2017
IV	Electrical Conductivity	µs/cm	-	35	APHA 23rd Edition (2510 B) 2017
V	Fluoride as F	mg/l, Max	1.5	< 0.05	APHA 23rd Edition (4500-F - -D, -C), 2017
VI	Total Dissolved Solid	mg/l, Max	1500	26	APHA 23rd Edition (2540 C), 2017
VII	Calcium as Ca	mg/l, Max	-	2.88	APHA 23rd Edition (3500-Ca-B), 2017
VIII	Magnesium as Mg	mg/l, Max	-	0.97	APHA 23rd Edition (3500-Mg-B), 2017
IX	Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B- B), 2017
X	Dissolved Oxygen	mg/l, Max	4.0	7.3	APHA 23rd Edition(4500-O-C), 2017
XI	Biochemical Oxygen Demand(For 3 days 27deg C)	mg/l, Max	--	2.5	APHA 23rd Edition 2012(5210 B), 2017
XII	Total Hardness as CaCO3	mg/l, Max	--	11	APHA 23rd Edition (2340 C), 2017
XIII	Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
XIV	Iron (as Fe)	mg/l, Max	50	0.06	APHA-23rd Edition (3500-Fe-B, 3111 B) 2017
XV	Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
XVI	Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
XVII	Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
XVIII	Free Ammonia (as NH3)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
XIX	Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 B) 2017
XX	Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
XXI	Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2005

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KALYANI LABORATORIES PVT. LTD.

73 944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 2192 | 4574FDEKLPL/3/20/WATER/02483



Parameters	Unit	Requirement	Result	Test Method
xxii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0004	--
xxvi SODIUM ABSORPTION RATIO	--	--	0.52	--
xxvii Barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTICIDE	µg/l	--	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.2	APHA 23rd Edition (4500-H+-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006
RADIOACTIVITY SUBSTANCES				
i Gross Alpha-activity	µC/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Gross Beta-activity	µC/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27) :1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	--	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report *****

Analysed By
Digambar Baulah
 For Kalyani Laboratories Pvt. Ltd.

Authorized Signatory
 For Kalyani Laboratories Pvt. Ltd.



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KLPL- 340272A



KALYANI LABORATORIES PVT. LTD.

78944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000004063F

Test Report No : 2193 | 4575FDFKPL/3/20/WATER/02484 **Issue Date**: 30-Apr-2020

Amendment No : **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO. LANJIGARI, DIST. KALAHANDI, ODISHA-766027

Date of receipt : 16-Mar-2020 **Test Commenced On** : 16-Mar-2020 **Test Completion On**: 21-Mar-2020

Sample Description : SURFACE WATER

Sample Condition : SEALED

Sample Identification * : SURFACE WATER **Sampling Date** : 14-Mar-2020

Batch No, Lot No : NA **MFG Date** : NA **EXP Date** : NA

Received Quantity : 1LTR X 2 **Place of Collection** : STREAM NFAR RENGOPALI DT-14.03.2020

Sample Collected By : By KLPL

Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
i Total Coliforms	MPN/100ml.	5000	40	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
i Chloride as Cl	mg/l, Max	600	5.3	APHA 23rd Edition (4500-Cl - B), 2017
ii Sulphate as SO4	mg/l, Max	400	< 1.0	APHA 23rd Edition (4500-SO4 - E), 2017
iii Nitrate as NO3	mg/l, Max	50	< 0.05	APHA 23rd Edition (4500-NO3 - E), 2017
iv Fluoride as F	mg/l, Max	1.5	< 0.05	APHA 23rd Edition (4500-F - D,-C), 2017
v Total Dissolved Solid	mg/l, Max	1500	34	APHA 23rd Edition (2540 C), 2017
vi Calcium as Ca	mg/l, Max	-	2.88	APHA 23rd Edition (3500-Ca-B), 2017
vii Magnesium as Mg	mg/l, Max	-	3.64	APHA 23rd Edition (3500-Mg-B), 2017
viii Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B- B), 2017
ix Dissolved Oxygen	mg/l, Max	4.0	7.6	APHA 23rd Edition(4500-O-C), 2017
x Biochemical Oxygen Demand(For 3 days 27deg C)	mg/l, Max	--	1.9	APHA 23rd Edition 2012(5210 B), 2017
xi Total Hardness as CaCO3	mg/l, Max	--	22	APHA 23rd Edition (2340 C), 2017
xii Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
xiii Iron (as Fe)	mg/l, Max	50	0.35	APHA-23rd Edition (3500-Fe-B, 3111 B) 2017
xiv Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 56):2006 RA 2012
xv Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
xvi Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xvii Free Ammonia (as NH3)	mg/l, Max	--	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
xviii Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 B) 2017
xix Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
xx Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2005
xxi Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440

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KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 2193 | 4575FDFKLPL/3/20/WATER/02484



Parameters	Unit	Requirement	Result	Test Method
xxii Silver (as Ag)	mg/l	--	< 0.01	
xxiii Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 4):1992 RA 2009
xxiv PERCENT SODIUM (%)	%	--	0.0004	
xxv SODIUM ABSORPTION RATIO	--	--	0.37	
xxvi barium	mg/l	--	< 0.2	
xxvii TOTAL PESTISIDE	µg/l	--	< 0.0001	USEPA
xxviii Electrical Conductivity	µs/cm	--	50	APHA 23rd Edition (2510 B) 2017
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.0	APHA 23rd Edition (4500-H+-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006
RADIOACTIVITY SUBSTANCES				
i Gross Alpha-activity	uCi/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Gross Beta-activity	uCi/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorized Signatory
For Kalyani Laboratories Pvt. Ltd.





KALYANI LABORATORIES PVT. LTD.

78/9/4, PAHALI, BHUBANISWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000004064F
Test Report No : 2194 | 4576FEOKLPL/3/20/WATER/02485 **Issue Date:** 30-Apr-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 16-Mar-2020 **Test Commenced On** : 16-Mar-2020 **Test Completion On** : 21 Mar-2020
Sample Description : SURFACE WATER
Sample Condition : SEALED
Sample Identification * : SURFACE WATER **Sampling Date** : 15-Mar-2020
Batch No, Lot No : NA **MFG Date** : NA **EXP Date** : NA
Received Quantity : 1LTR X 2 **Place of Collection** : VAMSADHARA RIVER NEAR BALABHADRAPUR
Sample Collected By : By KLPL **DT-15.03.2020**
Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
I Total Coliforms	MPN/100ml.	5000	60	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
I Sulphate as SO ₄	mg/l, Max	400	18	APHA 23rd Edition (4500-SO ₄ -E), 2017
II Nitrate as NO ₃	mg/l, Max	50	0.7	APHA 23rd Edition (4500-NO ₃ -E), 2017
III Fluoride as F	mg/l, Max	1.5	< 0.05	APHA 23rd Edition (4500-F - D-C), 2017
IV Total Dissolved Solid	mg/l, Max	1500	130	APHA 23rd Edition (2540 C), 2017
V Calcium as Ca	mg/l, Max	-	15.84	APHA 23rd Edition (3500-Ca-B), 2017
VI Magnesium as Mg	mg/l, Max	-	6.08	APHA 23rd Edition (3500-Mg-B), 2017
VII Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B-B), 2017
VIII Dissolved Oxygen	mg/l, Max	4.0	7.1	APHA 23rd Edition(4500-O-C), 2017
IX Biochemical Oxygen Demand(For 3 days 27deg C)	mg/l, Max	--	2.8	APHA 23rd Edition 2012(5210 B), 2017
X Total Hardness as CaCO ₃	mg/l, Max	--	65	APHA 23rd Edition (2340 C), 2017
XI Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
XII Chloride as Cl	mg/l, Max	600	7.4	APHA 23rd Edition (4500-Cl - B), 2017
XIII Iron (as Fe)	mg/l, Max	50	0.2	APHA-23rd Edition (3500-Fe-B, 3111 B) 2017
XIV Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
XV Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
XVI Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
XVII Free Ammonia (as NH ₃)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH ₃ -B) 2017
XVIII Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 B) 2017
XIX Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
XX Anionic Surface Active Agents (as MBAS)	mg/l	---	< 0.1	Annex K of IS 13428:2005
XXI Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440

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KALYANI LABORATORIES PVT. LTD.

78/9-H, PAHAL, BILUBANESWAR-752101, ODISHA

Test Report No : 2194 | 4576FEOKLPL/3/20/WATER/02485



Parameters	Unit	Requirement	Result	Test Method
xxi Silver (as Ag)	mg/l	--	< 0.01	--
xxiii Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxiv PERCENT SODIUM (%)	%	--	0.0012	--
xxv SODIUM ABSORPTION RATIO	--	--	0.65	--
xxvi Barium	mg/l	--	< 0.2	--
xxvii TOTAL PESTICIDE	µg/l	--	< 0.0001	USEPA
xxviii Electrical Conductivity	µs/cm	--	181	APHA 23rd Edition (2510 B) 2017
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.8	APHA 23rd Edition (4500-H+-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006
RADIOACTIVITY SUBSTANCES				
i Gross Alpha-activity	uCi/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Gross Beta-activity	uCi/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27) :1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/94, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000004065F

Test Report No : 2195 | 4577FE1KLPL/3/20/WATER/02466 **Issue Date** : 30-Apr-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 16-Mar-2020 **Test Commenced On** : 16-Mar-2020 **Test Completion On** : 21-Mar-2020

Sample Description : SURFACE WATER

Sample Condition : SEALED

Sample Identification * : SURFACE WATER **Sampling Date** : 15-Mar-2020

Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA

Received Quantity : 1LTR X 2 **Place of Collection** : VAMSI ADHARA RIVER NEAR NARAYANPUR CULVERT (UPSTREAM)

Sample Collected By : By KLPL

Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
i Total Coliforms	MPN/100ml	5000	50	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
i Chloride as Cl	mg/l, Max	600	11.08	APHA 23rd Edition (4500-Cl - -B), 2017
ii Sulphate as SO4	mg/l, Max	400	8.0	APHA 23rd Edition (4500-SO4 - -E), 2017
iii Nitrate as NO3	mg/l, Max	50	0.6	APHA 23rd Edition (4500-NO3 - -E), 2017
iv Fluoride as F	mg/l, Max	1.5	< 0.05	APHA 23rd Edition (4500-F - -D, -C), 2017
v Total Dissolved Solid	mg/l, Max	1500	110	APHA 23rd Edition (2540 C), 2017
vi Calcium as Ca	mg/l, Max	-	14.4	APHA 23rd Edition (3500-Ca-B), 2017
vii Magnesium as Mg	mg/l, Max	-	3.40	APHA 23rd Edition (3500-Mg-B), 2017
viii Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B- B), 2017
ix Dissolved Oxygen	mg/l, Max	4.0	7.6	APHA 23rd Edition(4500-O-C), 2017
x Biochemical Oxygen Demand (For 3 days 27deg C)	mg/l, Max	--	2.3	APHA 23rd Edition 2012(5210 B), 2017
xi Total Hardness as CaCO3	mg/l, Max	--	50	APHA 23rd Edition (2340 C), 2017
xii Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
xiii Iron (as Fe)	mg/l, Max	50	4.8	APHA-23rd Edition (3500-Fe-B, 3111 B) 2017
xiv Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
xv Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
xvi Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xvii Free Ammonia (as NH3)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
xviii Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 B) 2017
xix Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
xx Anionic Surface Active Agents (as MBA5)	mg/l	--	< 0.1	Annex K of IS 1342B:2005
xxi Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 644D

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KALYANI LABORATORIES PVT. LTD.

78/D-14, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 2195 | 4577FE1KLPL/3/20/WATER/02406



Parameters	Unit	Requirement	Result	Test Method
xxii Silver (as Ag)	mg/l	--	< 0.01	--
xxiii Phenols	mg/l	0.005	± 0.001	IS 3015 (Part 43):1992 RA 2009
xxiv PERCENT SODIUM (%)	%	--	0.0011	--
xxv SODIUM ABSORPTION RATIO	--	--	0.00	--
xxvi Barium	mg/l	--	< 0.2	--
xxvii TOTAL PESTICIDE	µg/l	--	< 0.0001	IS EPA
xxviii Electrical Conductivity	µs/cm	--	166	APHA 23rd Edition (2510 B) 2017

PHYSICAL PARAMETER

i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.8	APHA 23rd Edition (4500-H+-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006

RADIOACTIVITY SUBSTANCES

i Gross Alpha-activity	µC/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Gross Beta-activity	µC/mL	0.01	BDL	IS 14194 (PART-2):2013

TOXIC SUBSTANCES

i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27) :1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Azubla
Analysed By
For Kalyani Laboratories Pvt. Ltd.

Digambar Azubla
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd



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KLPL- 340266A



KALYANI LABORATORIES PVT. LTD.

78941, PAHALI, BHUBANESWAR-75101, ODISHA

Kalyani Laboratories

TEST REPORT



NABL ULR NO : TC704320000004066F
Test Report No : 2196 | 4578FE2KLPL/3/20/WATER/02487
Amendment No : -
Reference : ORDER NO 6600010488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 16 Mar-2020 Test Commenced On : 16-Mar-2020
Sample Description : SURFACE WATER
Sample Condition : SEALED
Sample Identification * : SURFACE WATER
Batch No , Lot No : NA
Received Quantity : 1LTR X 2
Sample Collected By : By KLPL
Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Issue Date: 30-Apr-2020
Amendment Date : -
Sampling Date : 15-Mar-2020
MFG Date : NA
EXP Date : NA
Place of Collection : VAMSHADHARA RIVER NEAR CHHATRAPUR CULVERT (DOWNSTREAM) DT-15.03.2020
Test Completion On: 21-Mar-2020

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
i Total Coliforms	MPN/100ml.	5000	27	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
i Chloride as Cl	mg/l, Max	600	14.7	APHA 23rd Edition (4500-Cl - -B), 2017
ii Sulphate as SO4	mg/l, Max	400	8.0	APHA 23rd Edition (4500-SO42 --E), 2017
iii Nitrate as NO3	mg/l, Max	50	0.55	APHA 23rd Edition (4500-NO3 --E), 2017
iv Electrical Conductivity	µs/cm		222	APHA 23rd Edition (2510 B) 2017
v Fluoride as F	mg/l, Max	1.5	0.2	APHA 23rd Edition (4500-F --D, -C), 2017
vi Total Dissolved Solid	mg/l, Max	1500	156	APHA 23rd Edition (2540 C), 2017
vii Calcium as Ca	mg/l, Max		20.16	APHA 23rd Edition (3500-Ca-B), 2017
viii Magnesium as Mg	mg/l, Max		4.37	APHA 23rd Edition (3500-Mg-B), 2017
ix Boron as B	mg/l, Max		< 0.1	APHA 23rd Edition (4500B -B), 2017
x Dissolved Oxygen	mg/l, Max	4.0	7.9	APHA 23rd Edition (4500-O-C), 2017
xi Biochemical Oxygen Demand (For 3 days 27deg C)	mg/l, Max		2.6	APHA 23rd Edition (5210 B), 2017
xii Total Hardness as CaCO3	mg/l, Max		68	APHA 23rd Edition (2340 C), 2017
xiii Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
xiv Iron (as Fe)	mg/l, Max	50	5.6	APHA-23rd Edition (3500-Fe-B, 3111 B) 2017
xv Manganese (as Mn)	mg/l, Max		< 0.1	IS 3025 (Part 59):2006 RA 2012
xvi Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
xvii Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xviii Free Ammonia (as NH3)	mg/l, Max		< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
xix Oil & Grease	mg/l, Max		< 0.025	APHA-23rd Edition (5520 B) 2017
xx Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
xxi Anionic Surface Active Agents (as MBAS)	mg/l		< 0.1	Annex K of IS 13428:2005

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KLPL- 340265A



KALYANI LABORATORIES PVT. LTD.

78/94, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 2196 | 4578FE2KLPL/3/20/WATER/02487



Parameters	Unit	Requirement	Result	Test Method
xxii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0015	--
xxvi SODIUM ABSORPTION RATIO	--	--	0.79	--
xxvii barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTICIDE	µg/l	--	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.9	APHA 23rd Edition (4500-H+-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Part 8): 1994, RA 2006
RADIOACTIVITY SUBSTANCES				
i Gross Alpha-activity	µC/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Gross Beta-activity	µC/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27) :1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorized Signatory
For Kalyani Laboratories Pvt. Ltd.





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000004067F
Test Report No : 2197 | 4579FE3KLPL/3/20/WATER/02488 **Issue Date:** 30-Apr-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 16-Mar-2020 **Test Commenced On** : 16-Mar-2020 **Test Completion On** : 21-Mar-2020
Sample Description : SURFACE WATER

Sample Condition : SEALED
Sample Identification * : SURFACE WATER **Sampling Date** : 15-Mar-2020
Batch No, Lot No : NA **MFG Date** : NA **EXP Date** : NA
Received Quantity : 1LTR X 2 **Place of Collection** : TURI NALA NEAR RAGHUNATHPUR DT-15.03.2020
Sample Collected By : By KLPL
Ref. To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
I Total Coliforms	MPN/100ml.	5000	90	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
I Chloride as Cl	mg/l, Max	600	7.4	APHA 23rd Edition (4500-Cl - -B), 2017
II Sulphate as SO4	mg/l, Max	400	12	APHA 23rd Edition (4500-SO4 - -E), 2017
III Nitrate as NO3	mg/l, Max	50	0.7	APHA 23rd Edition (4500-NO3 - -E), 2017
IV Electrical Conductivity	µs/cm	-	200	APHA 23rd Edition (2510 B) 2017
V Fluoride as F	mg/l, Max	1.5	0.16	APHA 23rd Edition (4500-F - -D, -C), 2017
VI Total Dissolved Solid	mg/l, Max	1500	122	APHA 23rd Edition (2540 C), 2017
VII Calcium as Ca	mg/l, Max	-	17.28	APHA 23rd Edition (3500-Ca-B), 2017
VIII Magnesium as Mg	mg/l, Max	-	7.05	APHA 23rd Edition (3500-Mg-B), 2017
IX Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B - B), 2017
X Dissolved Oxygen	mg/l, Max	4.0	6.5	APHA 23rd Edition (4500-O-C), 2017
XI Biochemical Oxygen Demand (For 3 days @ 20 deg C)	mg/l, Max	--	1.7	APHA 23rd Edition 2012(5210 B), 2017
XII Total Hardness as CaCO3	mg/l, Max	--	72	APHA 23rd Edition (2340 C), 2017
XIII Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
XIV Iron (as Fe)	mg/l, Max	50	0.8	APHA-23rd Edition (3500-Fe-B, 3111 B) 2017
XV Manganese (as Mn)	mg/l, Max	--	< 0.1	IS 3025 (Part 59):2006 RA 2012
XVI Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
XVII Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
XVIII Free Ammonia (as NH3)	mg/l, Max	---	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
XIX Oil & Grease	mg/l, Max	--	< 0.025	APHA-23rd Edition (5520 B) 2017
XX Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
XXI Anionic Surface Active Agents (as MBAS)	mg/l	---	< 0.1	Annex K of IS 13428:2005

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KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 2197 | 4579FE3KLPL/3/20/WATER/02488



Parameters	Unit	Requirement	Result	Test Method
xxdi Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0012	--
xxvi SODIUM ABSORPTION RATIO	--	--	0.61	--
xxvii barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTICIDE	µg/l	--	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.85	APHA 23rd Edition (4500-H+-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006
RADIOACTIVITY SUBSTANCES				
i Gross Alpha-activity	uCi/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Gross Beta-activity	uCi/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorized Signatory
For Kalyani Laboratories Pvt. Ltd



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KLPL- 340262A



KALYANI LABORATORIES PVT. LTD.

78/9/4, PATIAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000004068F
Test Report No : 2198 | 4580FE4KLPL/3/2D/WATER/02489 **Issue Date**: 30-Apr-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA- 766027.
Date of receipt : 16-Mar-2020 **Test Commenced On** : 16-Mar-2020 **Test Completion On**: 21-Mar-2020
Sample Description : SURFACE WATER
Sample Condition : SEALED
Sample Identification * : SURFACE WATER **Sampling Date** : 14-Mar-2020
Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA
Received Quantity : 1LTR X 2 **Place of Collection** : POND NEAR HAREKRUSHNAPUR DT-14.03.2020
Sample Collected By : By KLPL
Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
I Total Coliforms	MPN/100ml.	5000	31	IS: 1622:1981 RA 2009
CHEMICAL PARAMETER				
I Chloride as Cl	mg/l, Max	600	11.08	APHA 23rd Edition (4500-Cl --B), 2017
II Sulphate as SO4	mg/l, Max	400	7.0	APHA 23rd Edition (4500-SO4 --E), 2017
III Nitrate as NO3	mg/l, Max	50	0.45	APHA 23rd Edition (4500-NO3 --E), 2017
iv Electrical Conductivity	us/cm		200	APHA 23rd Edition (2510 B) 2017
v Fluoride as F	mg/l, Max	1.5	0.25	APHA 23rd Edition (4500-F --D,-C), 2017
vi Total Dissolved Solid	mg/l, Max	1500	140	APHA 23rd Edition (2540 C), 2017
vii Calcium as Ca	mg/l, Max		17.28	APHA 23rd Edition (3500-Ca-B), 2017
viii Magnesium as Mg	mg/l, Max		6.08	APHA 23rd Edition (3500-Mg-B), 2017
ix Boron as B	mg/l, Max		< 0.1	APHA 23rd Edition (4500B- B), 2017
x Dissolved Oxygen	mg/l, Max	4.0	4.4	APHA 23rd Edition (4500-O-C), 2017
xi Biochemical Oxygen Demand (For 3 days 27deg C)	mg/l, Max	--	2.9	APHA 23rd Edition 2012(5210 B), 2017
xii Total Hardness as CaCO3	mg/l, Max		68	APHA 23rd Edition (2340 C), 2017
xiii Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
xiv Iron (as Fe)	mg/l, Max	50	2.0	APHA-23rd Edition (3500-Fe-B, 3111 B) 2017
xv Manganese (as Mn)	mg/l, Max		< 0.1	IS 3025 (Part 59):2006 RA 2012
xvi Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
xvii Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xviii Free Ammonia (as NH3)	mg/l, Max		< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
xix Oil & Grease	mg/l, Max		< 0.025	APHA-23rd Edition (5520 B) 2017
xx Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
xxi Anionic Surface Active Agents (as MBAS)	mg/l	--	< 0.1	Annex K of IS 13428:2005

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KALYANI LABORATORIES PVT. LTD.

76/941 PAHAL, BILBAWAL, SHARDA, GURGA

Test Report No : 2198 | 4580FEAKLPL/3/20/WATER/02489



Parameters	Unit	Requirement	Result	Test Method
xxii Polynuclear Aromatic Hydrocarbon	mg/l, Max		< 0.0001	APHA 8160
xxiii Silver (as Ag)	mg/l		< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%		0.0014	--
xxvi SODIUM ABSORPTION RATIO	--		0.74	--
xxvii barium	mg/l		< 0.2	--
xxviii TOTAL PESTICIDE	µg/l		< 0.0001	USEPA
PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 2120 Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.8	APHA 2310 Edition (4500-H ⁺ -B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 2110 Edition (2110 B), 2017
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Part 2): 1994, RA 2006
RADIOACTIVITY SUBSTANCES				
i Gross Alpha-activity	µC/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Gross Beta-activity	µC/mL	0.01	BDL	IS 14194 (PART-2):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as Cn)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27):1985 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	--	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorized Signatory
For Kalyani Laboratories Pvt. Ltd.





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BRF, BANESWAR, TENDRA, ODISHA

TEST REPORT



NABL ULR NO : TC704320000004061P
Test Report No : 2191 | 4573FDDKLPL/3/20/WATER/02482 **Issue Date:** 30-Apr-2020
Amendment No : - **Amendment Date :** -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO LANJIGARH, DIST. KALAHANDI, ODISHA 766027.
Date of receipt : 16-Mar-2020 **Test Commenced On :** 16-Mar-2020 **Test Completion On:** 21-Mar-2020
Sample Description : SURFACE WATER
Sample Condition : SEALED
Sample Identification # : SURFACE WATER **Sampling Date :** 15-Mar-2020
Batch No , Lot No : N/A **MFG Date :** N/A **EXP Date :** N/A
Received Quantity : 1LTR X 2 **Place of Collection :** STREAM NEAR TENTULIPADAR DT 15.03.2020
Sample Collected By : By KLPL
Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
i Total Coliforms	MPN/100ml	5000	27	IS: 1622:1961 RA 2008
CHEMICAL PARAMETER				
i Chloride as Cl	mg/l, Max	600	7.4	APHA 23rd Edition (4500-Cl --B), 2017
ii Sulphate as SO4	mg/l, Max	400	< 1.0	APHA 23rd Edition (4500-SO42 --B), 2017
iii Nitrate as NO3	mg/l, Max	50	0.07	APHA 23rd Edition (4500-NO3 --E), 2017
iv Electrical Conductivity	µs/cm	-	57	APHA 23rd Edition (2510 B) 2017
v Fluoride as F	mg/l, Max	1.5	0.05	APHA 23rd Edition (4500-F --D, -C), 2017
vi Total Dissolved Solid	mg/l, Max	1500	36	APHA 23rd Edition (2540 C), 2017
vii Calcium as Ca	mg/l, Max	-	4.3	APHA 23rd Edition (3500-Ca-B), 2017
viii Magnesium as Mg	mg/l, Max	-	0.73	APHA 23rd Edition (3500-Mg-B), 2017
ix Boron as B	mg/l, Max	-	< 0.1	APHA 23rd Edition (4500B- B), 2017
x Dissolved Oxygen	mg/l, Max	4.0	7.3	APHA 23rd Edition (4500-O-C), 2017
xi Biochemical Oxygen Demand (For 3 days, mg/l, Max 27deg C)	mg/l, Max	-	1.5	APHA 23rd Edition 2012(5210 B), 2017
xii Total Hardness as CaCO3	mg/l, Max	-	14	APHA 23rd Edition (2340 C), 2017
xiii Copper (as Cu)	mg/l, Max	1.5	< 0.01	IS 3025 (Part 42):1992 RA 2009
xiv Iron (as Fe)	mg/l, Max	50	0.05	APHA-23rd Edition (3500-Fe-B, 3111 B) 2017
xv Manganese (as Mn)	mg/l, Max	-	< 0.1	IS 3025 (Part 59):2006 RA 2012
xvi Selenium (as Se)	mg/l, Max	0.01	< 0.01	IS 3025 (Part 56):2003 RA 2009
xvii Zinc (as Zn)	mg/l, Max	15	< 0.01	IS 3025 (Part 49):1994 RA 2009
xviii Free Ammonia (as NH3)	mg/l, Max	-	< 0.01	APHA-23rd Edition (4500-NH3-B) 2017
xix Oil & Grease	mg/l, Max	-	< 0.025	APHA-23rd Edition (5520 B) 2017
xx Total Chromium	mg/l, Max	0.05	< 0.01	IS 3025 (Part 52):2003 RA 2009
xxi Anionic Surface Active Agents (as MBAS) : mg/l	mg/l	-	< 0.1	Annex K of IS 13428:2005

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KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 2191 | 4573FDDKLPL/3/20/WATER/D2482



Parameters	Unit	Requirement	Result	Test Method
xxii Polynuclear Aromatic Hydrocarbon	mg/l, Max	--	< 0.0001	APHA 6440
xxiii Silver (as Ag)	mg/l	--	< 0.01	--
xxiv Phenols	mg/l	0.005	< 0.001	IS 3025 (Part 43):1992 RA 2009
xxv PERCENT SODIUM (%)	%	--	0.0005	--
xxvi SODIUM ABSORPTION RATIO	--	--	0.59	--
xxvii barium	mg/l	--	< 0.2	--
xxviii TOTAL PESTICIDE	µg/l	--	< 0.0001	USEPA

PHYSICAL PARAMETER				
i Color	--	300	< 1.0	APHA 23rd Edition (2120 B), 2017
ii pH Value	--	6.5-8.5	7.4	APHA 23rd Edition (4500-H+-B), 2017
iii Odour	--	Unobjectionable	AGREEABLE	APHA 23rd Edition (2120 B), 2017
iv Taste	---	Agreeable	AGREEABLE	IS 3025 (Part 8): 1984, RA 2006

RADIOACTIVITY SUBSTANCES				
i Gross Alpha-activity	uCi/mL	0.001	BDL	IS 14194 (PART-2):2013
ii Gross Beta-activity	uCi/mL	0.01	BDL	IS 14194 (PART-2):2013

TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.01	< 0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 27) :1986 RA 2003
iii Lead (as Pb)	mg/l, Max	0.1	< 0.01	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	< 0.001	IS 3025 (Part 48):1994 RA 2009
v Nickel (as Ni)	mg/l, Max	---	< 0.01	IS 3025 (Part 54):2003 RA 2009
vi Arsenic (as As)	mg/l, Max	0.05	< 0.01	IS 3025 (Part 37):1988 RA 2009

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorized Signatory
For Kalyani Laboratories Pvt. Ltd.





KALYANI LABORATORIES PVT. LTD.

78/944, PALLIAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000004008F
Test Report No : 2170 | 4588FABKLPL/3/20/WATER/02497 **Issue Date**: 20-Mar-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 16-Mar-2020 **Test Commenced On** : 16-Mar-2020 **Test Completion On**: 20-Mar-2020
Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED
Sample Identification * : GROUND WATER **Sampling Date** : 14-Mar-2020
Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA
Received Quantity : 1LTR X 1 **Place of Collection** : OBSERVATION BORE WELL RED MUD POND (WEST)
Sample Collected By : By KLPL **DT**-14.03.2020
Ref.To Sampling Procedure: QSP-07

Parameters	Unit	Requirement	Result	Test Method
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CHEMICAL PARAMETER					
i	Total alkalinity (as CaCO ₃),	mg/l, Max	200	191	IS 3025 (Part 23):1986 RA 2009
ii	Total hardness (as CaCO ₃),	mg/l, Max	200	191	IS 3025 (Part 21):2009
iii	Zinc (as Zn)	mg/l, Max	5	0.051	IS 3025 (Part 49):1994 RA 2009
iv	Total Chromium	mg/l, Max	0.05	<0.02	IS 3025 (PART 52): 2003 RA 2009
v	Aluminum (as Al)	mg/l, Max	0.03	<0.02	IS 3025 (PART 55):2003 RA 2009

PHYSICAL PARAMETER					
i	Colour	Hazen, Max	5	<1.0	IS 3025 (Part 4):1983 RA 2012
ii	Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii	pH value	---	6.5-8.5	6.6	IS 3025 (Part-11):1983, RA 2012
iv	Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006

RADIOACTIVITY SUBSTANCES					
i	Gross Alpha-activity	Bq/l, Max	0.1	<0.004	IS 14194 (Part-2):2013
ii	Gross Beta-activity	Bq/l, Max	1.0	<0.02	IS 14194 (Part-1):2013

TOXIC SUBSTANCES					
i	Cadmium (as Cd)	mg/l, Max	0.003	<0.001	IS 3025 (Part 41):1992 RA 2009
ii	Cyanide (as CN)	mg/l, Max	0.05	<0.01	IS 3025 (Part 27):1986 RA 2009
iii	Lead (as Pb)	mg/l, Max	0.01	<0.005	IS 3025 (Part 47):1994 RA 2009
iv	Mercury (as Hg)	mg/l, Max	0.001	<0.0005	IS 3025 (Part 48):1994 RA 2009
v	Total arsenic (as As)	mg/l, Max	0.01	<0.001	IS 3025 (Part 37):1988 RA 2009
vi	Nickel (as Ni)	mg/l, Max	0.02	<0.01	IS 3025 (Part 54): 2003 RA 2009



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 2170 | 4588FA8KLPL/3/20/WATER/02497



Parameters	Unit	Requirement	Result	Test Method
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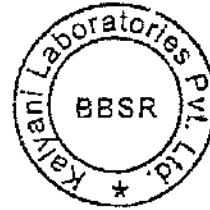
Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Dhyanbar Ananta
Analysed By
For Kalyani Laboratories Pvt. Ltd.

Prasanna
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000004009F
Test Report No : 2171 | 4589FA9KLPL/3/20/WATER/02498 **Issue Date**: 20-Mar-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6500013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 16-Mar-2020 **Test Commenced On** : 16-Mar-2020 **Test Completion On**: 20-Mar-2020
Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED
Sample Identification * : GROUND WATER **Sampling Date** : 14-Mar-2020
Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA
Received Quantity : 1LTR X 1 **Place of Collection** : OBSERVATION BORE WELL RED MUD POND
Sample Collected By : By KLPL **BASANI APADA SIDE(EAST) DT-14.03.2020**
Ref.To Sampling Procedure: QSP-07

Parameters	Unit	Requirement	Result	Test Method
------------	------	-------------	--------	-------------

CHEMICAL PARAMETER

i	Total alkalinity (as CaCO ₃),	mg/l, Max	200	106	IS 3025 (Part 23):1986 RA 2009
ii	Total hardness (as CaCO ₃),	mg/l, Max	200	90	IS 3025 (Part 21):2009
iii	Zinc (as Zn)	mg/l, Max	5	0.016	IS 3025 (Part 49):1994 RA 2009
iv	Total Chromium	mg/l, Max	0.05	<0.02	IS 3025 (PART 52): 2003 RA 2009
v	Aluminium (as Al)	mg/l, Max	0.03	<0.02	IS 3025 (PART 55):2003 RA 2009

PHYSICAL PARAMETER

i	Colour	Hazen, Max	5	<1.0	IS 3025 (Part 4):1983 RA 2012
ii	Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii	pH value	---	6.5-8.5	6.55	IS 3025 (Part-11):1983, RA 2012
iv	Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006

RADIOACTIVITY SUBSTANCES

i	Gross Alpha-activity	Bq/l, Max	0.1	<0.004	IS 14194 (Part-2):2013
ii	Gross Beta-activity	Bq/l, Max	1.0	<0.02	IS 14194 (Part-1):2013

TOXIC SUBSTANCES

i	Cadmium (as Cd)	mg/l, Max	0.003	<0.001	IS 3025 (Part 41):1992 RA 2009
ii	Cyanide (as CN)	mg/l, Max	0.05	<0.01	IS 3025 (Part 27):1966 RA 2009
iii	Lead (as Pb)	mg/l, Max	0.01	<0.005	IS 3025 (Part 47):1994 RA 2009
iv	Mercury (as Hg)	mg/l, Max	0.001	<0.0005	IS 3025 (Part 48):1994 RA 2009
v	Total arsenic (as As)	mg/l, Max	0.01	<0.001	IS 3025 (Part 37):1988 RA 2009
vi	Nickel (as Ni)	mg/l, Max	0.02	<0.01	IS 3025 (Part 54): 2003 RA 2009

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KLPL- 340221A



KALYANI LABORATORIES PVT. LTD.

78/94, PAHAL, BHUBANESWAR-752101. ODISHA

Test Report No : 2171 | 4589FA9KLPL/3/20/WATER/02498



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Jaiswal
Analysed By
For Kalyani Laboratories Pvt. Ltd.

[Signature]
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd



2171 | 4589FA9

Page 2 of 2

KLPL- 340220A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUDANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000004010F

Test Report No : 2172 | 4590FAAKLPL/3/20/WATER/02499 Issue Date: 20-Mar-2020

Amendment No : - Amendment Date : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 16-Mar-2020 Test Commenced On : 16-Mar-2020 Test Completion On: 20-Mar-2020

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED

Sample Identification * : GROUND WATER Sampling Date : 14-Mar-2020

Batch No, Lot No : NA MFG Date : NA EXP Date : NA

Received Quantity : 1LTR X 2 Place of Collection : OBSERVATION BORE WELL RED MUD POND MATERIAL GATE SIDE (NORTH) DT-14.03.2020

Sample Collected By : By KLPL

Ref. To Sampling Procedure: QSP-07

Parameters	Unit	Requirement	Result	Test Method
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CHEMICAL PARAMETER

i	Total alkalinity (as CaCO ₃),	mg/l, Max	200	165	IS 3025 (Part 23):1986 RA 2009
ii	Total hardness (as CaCO ₃),	mg/l, Max	200	122	IS 3025 (Part 21):2009
iii	Zinc (as Zn)	mg/l, Max	5	0.023	IS 3025 (Part 49):1994 RA 2009
iv	Total Chromium	mg/l, Max	0.05	<0.02	IS 3025 (PART 52): 2003 RA 2009
v	Aluminium (as Al)	mg/l, Max	0.03	<0.02	IS 3025 (PART 55):2003 RA 2009

PHYSICAL PARAMETER

i	Colour	Hazen, Max	5	<1.0	IS 3025 (Part 4):1983 RA 2012
ii	Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii	pH value	---	6.5-8.5	6.6	IS 3025 (Part-11):1983, RA 2012
iv	Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 6):1984 RA 2006

RADIOACTIVITY SUBSTANCES

i	Gross Alpha-activity	Bq/l, Max	0.1	<0.004	IS 14194 (Part-2):2013
ii	Gross Beta-activity	Dq/l, Max	1.0	<0.02	IS 14194 (Part-1):2013

TOXIC SUBSTANCES

i	Cadmium (as Cd)	mg/l, Max	0.003	<0.001	IS 3025 (Part 41):1992 RA 2009
ii	Cyanide (as CN)	mg/l, Max	0.05	<0.01	IS 3025 (Part 27):1986 RA 2009
iii	Lead (as Pb)	mg/l, Max	0.01	<0.005	IS 3025 (Part 47):1994 RA 2009
iv	Mercury (as Hg)	mg/l, Max	0.001	<0.0005	IS 3025 (Part 48):1994 RA 2009
v	Total arsenic (as As)	mg/l, Max	0.01	<0.001	IS 3025 (Part 37):1988 RA 2009
vi	Nickel (as Ni)	mg/l, Max	0.02	<0.01	IS 3025 (Part 54): 2003 RA 2009

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KLPL- 340219A



Kalyani Laboratories

KALYANI LABORATORIES PVT. LTD.

78/941, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 2172 | 4590FAAKLPL/S/20/WATER/02499



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Diganta Kumar
Analysed By
For Kalyani Laboratories Pvt. Ltd.

[Signature]
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000004011F
Test Report No : 2173 | 4591FABKLPL/3/20/WATER/02500 **Issue Date:** 20-Mar-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO. LANJIGARH, DIST. - KAI AHANDI, ODISHA-766027
Date of receipt : 16-Mar-2020 **Test Commenced On** : 16-Mar-2020 **Test Completion On:** 20-Mar-2020
Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED
Sample Identification * : GROUND WATER **Sampling Date** : 14-Mar-2020
Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA
Received Quantity : 1LTR X 2 **Place of Collection** : OBSERVATION DORE WELL RED MUD POND RENGOPALI SIDE (SOUTH) DT-14.03.2020
Sample Collected By : By KLPL
Ref.To Sampling Procedure: QSP-07

Parameters	Unit	Requirement	Result	Test Method
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CHEMICAL PARAMETER

i	Total alkalinity (as CaCO ₃),	mg/l, Max	200	114	IS 3025 (Part 23):1986 RA 2009
ii	Total hardness (as CaCO ₃),	mg/l, Max	200	115	IS 3025 (Part 21):2009
iii	Zinc (as Zn)	mg/l, Max	5	0.021	IS 3025 (Part 49):1994 RA 2009
iv	Total Chromium	mg/l, Max	0.05	<0.02	IS 3025 (PART 52): 2003 RA 2009
v	Aluminum (as Al)	mg/l, Max	0.03	<0.02	IS 3025 (PART 55):2003 RA 2009

PHYSICAL PARAMETER

i	Colour	Hazen, Max	5	<1.0	IS 3025 (Part 4):1983 RA 2012
ii	Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii	pH value	---	6.5-8.5	7.1	IS 3025 (Part-11):1983, RA 2012
iv	Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 6):1984 RA 2006

RADIOACTIVITY SUBSTANCES

i	Gross Alpha-activity	Bq/l, Max	0.1	<0.004	IS 14194 (Part-2):2013
ii	Gross Beta-activity	Bq/l, Max	1.0	<0.02	IS 14194 (Part-1):2013

TOXIC SUBSTANCES

i	Cadmium (as Cd)	mg/l, Max	0.003	<0.001	IS 3025 (Part 41):1992 RA 2009
ii	Cyanide (as CN)	mg/l, Max	0.05	<0.01	IS 3025 (Part 27):1986 RA 2009
iii	Lead (as Pb)	mg/l, Max	0.01	<0.005	IS 3025 (Part 47):1994 RA 2009
iv	Mercury (as Hg)	mg/l, Max	0.001	<0.0005	IS 3025 (Part 48):1994 RA 2009
v	Total arsenic (as As)	mg/l, Max	0.01	<0.001	IS 3025 (Part 37):1988 RA 2009
vi	Nickel (as Ni)	mg/l, Max	0.02	<0.01	IS 3025 (Part 54): 2003 RA 2009

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KLPL- 340217A



KALYANI LABORATORIES PVT. LTD.

75044 PAHAL, BILUPATI SWAR-752101, ODISHA

Test Report No : 2173 | 4591FABKLPL/3/20/WATER/02500



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Ananda
Analysed By
For Kalyani Laboratories Pvt. Ltd.

[Signature]
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd.





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752001, ODISHA

TEST REPORT



NABL ULR NO : TC704320000004012F

Test Report No : 2174 | 4592FACKLPL/3/20/WATER/02501 **Issue Date** : 20-Mar-2020

Amendment No : - **Amendment Data** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027,

Date of receipt : 16 Mar 2020 **Test Commenced On** : 16-Mar-2020 **Test Completion On** : 20-Mar-2020

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED

Sample Identification * : GROUND WATER **Sampling Date** : 14-Mar-2020

Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA

Received Quantity : 1LTR X 2 **Place of Collection** : OBSERVATION BORE WELL PROCESS WATER LAKE (NORTH) DT-14.03.2020

Sample Collected By : By KLPL

Ref.To Sampling Procedure : QSP-07

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
i Total alkalinity (as CaCO ₃),	mg/l, Max	200	42	IS 3025 (Part 23):1986 RA 2009
ii Total hardness (as CaCO ₃),	mg/l, Max	200	32	IS 3025 (Part 21):2009
iii Zinc (as Zn)	mg/l, Max	5	0.01	IS 3025 (Part 49):1994 RA 2009
iv Total Chromium	mg/l, Max	0.05	<0.02	IS 3025 (PART 52): 2003 RA 2009
v Aluminum (as Al)	mg/l, Max	0.03	<0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
i Colour	Hazen, Max	5	<1.0	IS 3025 (Part 4):1983 RA 2012
ii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii pH value	---	6.5-8.5	6.5	IS 3025 (Part-11):1983, RA 2012
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
i Gross Alpha-activity	Bq/l, Max	0.1	<0.004	IS 14194 (Part-2):2013
ii Gross Beta-activity	Bq/l, Max	1.0	<0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.003	<0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	<0.01	IS 3025 (Part 27):1986 RA 2009
iii Lead (as Pb)	mg/l, Max	0.01	<0.005	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	<0.0005	IS 3025 (Part 48):1994 RA 2009
v Total arsenic (as As)	mg/l, Max	0.01	<0.001	IS 3025 (Part 37):1988 RA 2009
vi Nickel (as Ni)	mg/l, Max	0.02	<0.01	IS 3025 (Part 54): 2003 RA 2009

2174 | 4592FAC

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KLPL- 340215A



KALYANI LABORATORIES PVT. LTD.

78944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 2174 | 4592FACKLPL/3/20/WATER/02501



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

D. Jambor Ananta

Analysed By
For Kalyani Laboratories Pvt. Ltd.

[Signature]

Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78744, PAHAL, BILUBANESWAR-752101, ODISHA

Kalyani Laboratories

TEST REPORT



NABL ULR NO : TC70432000004013F

Test Report No : 2175 | 4593FADKLPL/3/20/WATER/02502 **Issue Date:** 20-Mar-2020

Amendment No : - **Amendment Date :** -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANIGARH

Address : PO - LANITGARH, DIST - KALAHANDI, ODISHA-766027.

Date of receipt : 16-Mar-2020 **Test Commenced On :** 16-Mar-2020 **Test Completion On:** 20-Mar-2020

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED

Sample Identification * : GROUND WATER **Sampling Date :** 14-Mar-2020

Batch No , Lot No : NA **MFG Date :** NA **EXP Date :** NA

Received Quantity : 1LTR X 2 **Place of Collection :** OBSERVATION BORE WELL PROCESS WATER LAKE (EAST) DT-14.03.2020

Sample Collected By : By KLPL

Ref.To Sampling Procedure: QSP-07

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
i Total alkalinity (as CaCO ₃),	mg/l, Max	200	183	IS 3025 (Part 23):1985 RA 2009
ii Total hardness (as CaCO ₃),	mg/l, Max	200	108	IS 3025 (Part 21):2009
iii Zinc (as Zn)	mg/l, Max	5	0.022	IS 3025 (Part 49):1994 RA 2009
iv Total Chromium	mg/l, Max	0.05	<0.02	IS 3025 (PART 52): 2003 RA 2009
v Aluminum (as Al)	mg/l, Max	0.03	<0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
i Colour	Hazen, Max	5	<1.0	IS 3025 (Part 4):1983 RA 2012
ii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii pH value	---	6.5-8.5	6.7	IS 3025 (Part-11):1983, RA 2012
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
i Gross Alpha-activity	Bq/l, Max	0.1	<0.004	IS 14194 (Part-2):2013
ii Gross Beta-activity	Bq/l, Max	1.0	<0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.003	<0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	<0.01	IS 3025 (Part 27):1985 RA 2009
iii Lead (as Pb)	mg/l, Max	0.01	<0.005	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	<0.0005	IS 3025 (Part 46):1994 RA 2009
v Total arsenic (as As)	mg/l, Max	0.01	<0.003	IS 3025 (Part 37):1988 RA 2009
vi Nickel (as Ni)	mg/l, Max	0.02	<0.01	IS 3025 (Part 54): 2003 RA 2009

2175 | 4593FAD

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KLPL- 340213A



KALYANI LABORATORIES PVT. LTD.

78944, PATIAL, BHUBANESWAR-752101, ODISHA

Test Report No : 2175 | 4593FADKLPL/3/20/WATER/02502



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Digambar Anand
Analysed By
For Kalyani Laboratories Pvt. Ltd.

M. S. S. S.
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000004014F

Test Report No : 2176 | 4594FAEKLPL/3/20/WATER/02503 **Issue Date** : 20-Mar-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 16 Mar 2020 **Test Commenced On** : 16 Mar 2020 **Test Completion On** : 20-Mar-2020

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED

Sample identification * : GROUND WATER **Sampling Date** : 14-Mar-2020

Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA

Received Quantity : 1LTR X 2 **Place of Collection** : OBSERVATION BORE WELL ASHPOND KASIBADI SIDE (WEST) DT-14.03.2020

Sample Collected By : By KLPL

Ref.To Sampling Procedure: QSP-07

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
i Total alkalinity (as CaCO ₃),	mg/l, Max	200	176	IS 3025 (Part 23):1986 RA 2009
ii Total hardness (as CaCO ₃),	mg/l, Max	200	115	IS 3025 (Part 21):2009
iii Zinc (as Zn)	mg/l, Max	5	0.027	IS 3025 (Part 49):1994 RA 2009
iv Total Chromium	mg/l, Max	0.05	<0.02	IS 3025 (PART 52): 2003 RA 2009
v Aluminum (as Al)	mg/l, Max	0.03	<0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
i Colour	Hazen, Max	5	<1.0	IS 3025 (Part 4):1983 RA 2012
ii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii pH value	---	6.5-8.5	6.8	IS 3025 (Part-11):1983, RA 2012
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
i Gross Alpha-activity	Bq/l, Max	0.1	<0.004	IS 14194 (Part-2):2013
ii Gross Beta-activity	Bq/l, Max	1.0	<0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.003	<0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	<0.01	IS 3025 (Part 27):1986 RA 2009
iii Lead (as Pb)	mg/l, Max	0.01	<0.005	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	<0.0005	IS 3025 (Part 48):1994 RA 2009
v Total arsenic (as As)	mg/l, Max	0.01	<0.001	IS 3025 (Part 37):1988 RA 2009
vi Nickel (as Ni)	mg/l, Max	0.02	<0.01	IS 3025 (Part 54): 2003 RA 2009

2176 | 4594FAE KLP/20-340211A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 2176 | 4594FAEKLPL/3/20/WATER/02503



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

D. Jagan Mohan Sarda
Analysed By
For Kalyani Laboratories Pvt. Ltd.

D. Jagan Mohan Sarda
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000004015F

Test Report No : 2177 | 4595FAFKLPL/3/20/WATER/02504 Issue Date: 20-Mar-2020
 Amendment No : - Amendment Date : -
 Reference : ORDER NO-6600013488 DT-16.12.2019
 Customer Name : VEDANTA LIMITED, LANDIGARH
 Address : PO - LANITGARH, DIST.- KALAHANDI, ODISHA 766027.
 Date of receipt : 16-Mar-2020 Test Commenced On : 16-Mar-2020 Test Completion On: 20-Mar-2020
 Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED
 Sample Identification * : GROUND WATER Sampling Date : 14-Mar-2020
 Batch No , Lot No : NA MFG Date : NA EXP Date : NA
 Received Quantity : 1LTR X 2 Place of Collection : OBSERVATION BORE WELL ASHPOND KENDUGUDA
 Sample Collected By : By KLPL SIDE(EAST) DT-14.03.2020
 Ref.To Sampling Procedure: QSP-07

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
i Total alkalinity (as CaCO ₃),	mg/l, Max	200	189	IS 3025 (Part 23):1986 RA 2009
ii Total hardness (as CaCO ₃),	mg/l, Max	200	194	IS 3025 (Part 21):2009
iii Zinc (as Zn)	mg/l, Max	5	0.035	IS 3025 (Part 49):1994 RA 2009
iv Total Chromium	mg/l, Max	0.05	<0.02	IS 3025 (PART 52): 2003 RA 2009
v Aluminum (as Al)	mg/l, Max	0.03	<0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
i Colour	Hazen, Max	5	<1.0	IS 3025 (Part 4):1983 RA 2012
ii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii pH value	---	6.5-8.5	7.5	IS 3025 (Part-11):1983, RA 2012
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
i Gross Alpha-activity	Bq/l, Max	0.1	<0.004	IS 14194 (Part-2):2013
ii Gross Beta-activity	Bq/l, Max	1.0	<0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.003	<0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	<0.01	IS 3025 (Part 27):1986 RA 2009
iii Lead (as Pb)	mg/l, Max	0.01	<0.005	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	<0.0005	IS 3025 (Part 48):1994 RA 2009
v Total arsenic (as As)	mg/l, Max	0.01	<0.001	IS 3025 (Part 37):1988 RA 2009
vi Nickel (as Ni)	mg/l, Max	0.02	<0.01	IS 3025 (Part 54): 2003 RA 2009

2177 | 4595FAF

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KLPL- 340277A



KALYANI LABORATORIES PVT. LTD.

78041, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 2177 | 4595FAFKLPL/3/20/WATER/02504



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Diganta Rout
Analysed By
For Kalyani Laboratories Pvt. Ltd.

[Signature]
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000004016F

Test Report No : 2178 | 4596FBOKLPL/3/20/WATER/02505 **Issue Date**: 20-Mar-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 16 Mar-2020 **Test Commenced On** : 16-Mar-2020 **Test Completion On**: 20 Mar-2020

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED

Sample Identification * : GROUND WATER **Sampling Date** : 14-Mar-2020

Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA

Received Quantity : 1LTR X 2 **Place of Collection** : OBSERVATION BORE WELL ASHPOND (NORTH)

Sample Collected By : By KLPL **DT-14.03.2020**

Ref.To Sampling Procedure: QSP-07

Parameters	Unit	Requirement	Result	Test Method
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CHEMICAL PARAMETER

i	Total alkalinity (as CaCO ₃),	mg/l, Max	200	77	IS 3025 (Part 23):1986 RA 2009
ii	Total hardness (as CaCO ₃),	mg/l, Max	200	72	IS 3025 (Part 21):2009
iii	Zinc (as Zn)	mg/l, Max	5	0.012	IS 3025 (Part 49):1994 RA 2009
iv	Total Chromium	mg/l, Max	0.05	<0.02	IS 3025 (PART 52): 2003 RA 2009
v	Aluminum (as Al)	mg/l, Max	0.03	<0.02	IS 3025 (PART 55):2003 RA 2009

PHYSICAL PARAMETER

i	Colour	Hazen, Max	5	<1.0	IS 3025 (Part 4):1983 RA 2012
ii	Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii	pH value	---	6.5-8.5	6.8	IS 3025 (Part-11):1983, RA 2012
iv	Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006

RADIOACTIVITY SUBSTANCES

i	Gross Alpha-activity	Bq/l, Max	0.1	<0.004	IS 14194 (Part-2):2013
ii	Gross Beta-activity	Bq/l, Max	1.0	<0.02	IS 14194 (Part-1):2013

TOXIC SUBSTANCES

i	Cadmium (as Cd)	mg/l, Max	0.003	<0.001	IS 3025 (Part 41):1992 RA 2009
ii	Cyanide (as CN)	mg/l, Max	0.05	<0.01	IS 3025 (Part 27):1986 RA 2009
iii	Lead (as Pb)	mg/l, Max	0.01	<0.005	IS 3025 (Part 47):1994 RA 2009
iv	Mercury (as Hg)	mg/l, Max	0.001	<0.0005	IS 3025 (Part 48):1994 RA 2009
v	Total arsenic (as As)	mg/l, Max	0.01	<0.001	IS 3025 (Part 37):1988 RA 2009
vi	Nickel (as Ni)	mg/l, Max	0.02	<0.01	IS 3025 (Part 54): 2003 RA 2009

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KLPL- 340281A



KALYANI LABORATORIES PVT. LTD.

78/944, PATIAL, BHUBANESWAR-752101, ODISHA

Test Report No : 2178 | 4596FB0KLPL/3/20/WATER/02505



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Das
Analysed By
For Kalyani Laboratories Pvt. Ltd.

Digambar Das
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

7R/944, PATAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000004017F

Test Report No : 2179 | 4597FB1KLPL/3/20/WATER/02506 **Issue Date**: 20-Mar-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6500013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST - KALAHANDI, ODISHA-766027

Date of receipt : 16-Mar-2020 **Test Commenced On** : 16-Mar-2020 **Test Completion On**: 20-Mar-2020

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED

Sample Identification * : GROUND WATER **Sampling Date** : 14-Mar-2020

Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA

Received Quantity : 1LTR X 2 **Place of Collection** : OBSERVATION BORE WELL DIRTY WATER POND

Sample Collected By : By KLPL **DT-14.03.2020**

Ref.To Sampling Procedure: QSP-07

Parameters	Unit	Requirement	Result	Test Method
CHEMICAL PARAMETER				
i Total alkalinity (as CaCO ₃),	mg/l, Max	200	189	IS 3025 (Part 23):1986 RA 2009
ii Total hardness (as CaCO ₃),	mg/l, Max	200	180	IS 3025 (Part 21):2009
iii Zinc (as Zn)	mg/l, Max	5	0.034	IS 3025 (Part 49):1994 RA 2009
iv Total Chromium	mg/l, Max	0.05	<0.02	IS 3025 (PART 52): 2003 RA 2009
v Aluminium (as Al)	mg/l, Max	0.03	<0.02	IS 3025 (PART 55):2003 RA 2009
PHYSICAL PARAMETER				
i Colour	Hazen, Max	5	<1.0	IS 3025 (Part 4):1983 RA 2012
ii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iii pH value	---	6.5-8.5	7.4	IS 3025 (Part-11):1983, RA 2012
iv Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
RADIOACTIVITY SUBSTANCES				
i Gross Alpha-activity	Bq/l, Max	0.1	<0.004	IS 14194 (Part-2):2013
ii Gross Beta-activity	Bq/l, Max	1.0	<0.02	IS 14194 (Part-1):2013
TOXIC SUBSTANCES				
i Cadmium (as Cd)	mg/l, Max	0.003	<0.001	IS 3025 (Part 41):1992 RA 2009
ii Cyanide (as CN)	mg/l, Max	0.05	<0.01	IS 3025 (Part 27):1986 RA 2009
iii Lead (as Pb)	mg/l, Max	0.01	<0.005	IS 3025 (Part 47):1994 RA 2009
iv Mercury (as Hg)	mg/l, Max	0.001	<0.0005	IS 3025 (Part 48):1994 RA 2009
v Total arsenic (as As)	mg/l, Max	0.01	<0.001	IS 3025 (Part 37):1988 RA 2009
vi Nickel (as Ni)	mg/l, Max	0.02	<0.01	IS 3025 (Part 54): 2003 RA 2009

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KLPL- 340279A



KALYANI LABORATORIES PVT. LTD.

78/9-4, PAHAL, BHUBANESWAR-752101. ODISHA

Test Report No : 2179 | 4597FB1KLPL/3/20/WATER/02506



Parameters	Unit	Requirement	Result	Test Method
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Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Aantale
Analysed By
For Kalyani Laboratories Pvt. Ltd.

Digambar Aantale
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78944, PAHAL, BHL BANESWAR-753101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000004069P

Test Report No : 2199 | 4501FESKLPL/3/20/WATER/02490 **Issue Date**: 02-May-2020

Amendment No : **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-15.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO. LANJIGARH I, DIST. KALAHANDI, ODISHA 766027.

Date of receipt : 16-Mar-2020 **Test Commenced On** : 16-Mar-2020 **Test Completion On**: 21-May-2020

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED

Sample Identification * : GROUND WATER **Sampling Date** : 14-Mar-2020

Batch No, Lot No : NA **MFG Date** : NA **EXP Date** : NA

Received Quantity : 1LTR X 2 **Place of Collection** : PLANT SITE DT-14.03.2020

Sample Collected By : By KLPL

Ref. To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
i Total Coliforms	MPN/100 ml	Shall not be detected in any 100 ml sample	< 2	IS 1622:1981 RA 2009
ii Faecal Coliform	MPN/100ml	Shall not be detected in any 100 ml sample	< 2	IS 1622:1981 RA 2009
CHEMICAL PARAMETER				
i Lead (Pb)	mg/l, max	0.01	< 0.005	IS 3025 (Part 47)
ii Arsenic (As)	mg/l, max	0.01	< 0.001	IS 3025 (Part 37):1988, RA 2009
iii Nitrate as NO3	mg/l, Max	45	0.9	IS 3025 (PART 34): 1988 RA 2003
iv Calcium (as Ca)	mg/l, Max	75	32	IS 3025 (Part 40):1991 RA 2009
v Chloride (as Cl)	mg/l, Max	250	10	IS 3025 (Part 32):1988 RA 2009
vi Copper (as Cu)	mg/l, Max	0.05	< 0.02	IS 3025 (Part 42):1992 RA 2009
vii Fluoride (as F)	mg/l, Max	1	0.11	IS 3025 (Part 60):2008
viii Free residual chlorine	mg/l, Min	0.2	0.2	IS 3025 (Part 26):1986 RA 2009
ix Iron (as Fe)	mg/l, Max	1	0.9	IS 3025 (Part 53):2003 RA 2014
x Magnesium (as Mg)	mg/l, Max	50	3.89	IS 3025 (Part 46):1994 RA 2003
xi Manganese (as Mn)	mg/l, Max	0.1	< 0.05	IS 3025 (Part 59):2006 RA 2012
xii Selenium (as Se)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 56):2003 RA 2009
xiii Sulphate (as SO4)	mg/l, Max	200	8.0	IS 3025 (Part 24):1986 RA 2009
xiv Total alkalinity (as CaCO3),	mg/l, Max	200	140	IS 3025 (Part 23):1986 RA 2009
xv Total hardness (as CaCO3),	mg/l, Max	200	96	IS 3025 (Part 21):2009
xvi Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
xvii Aluminum (as Al)	mg/l, Max	0.05	< 0.02	IS 3025 (PART 35):2003 RA 2009
xviii Anionic Surface Active Agents (as MBAS)	mg/l, Max	0.2	< 0.1	Annex - K OF IS 13428:2005 RA 2009
xix Boron (as B)	mg/l, Max	0.5	< 0.1	Annex H OF IS 13428 ; 2005 RA 2009
xx phosphate as (PO4)	mg/l	---	< 0.1	APHA 22nd Edition (4500-P-D)

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KLPL- 340405A



KALYANI LABORATORIES PVT. LTD.

787941, PATIALA, BHUBANESWAR-752101 ODISHA

Test Report No : 2199 | 4581FE5KLPL/3/20/WATER/02490



Parameters	Unit	Requirement	Result	Test Method
xxi Polynuclear Aromatic Hydrocarbon	mg/l, Max	0.0001	< 0.0001	APHA 22nd Edition (8140)
xxii Mercury	mg/l, max	0.001	< 0.0005	IS 3025 (Part 48)
xxiii TOTAL PESTISIDE	mg/l, max	0.0005	< 0.0001	ISEPA
PHYSICAL PARAMETER				
i Conductivity	ms/cm	---	0.202	IS 3025 (Part 11):1983 RA 2012
ii Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
iii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iv pH value	---	6.5-8.5	7.7	IS 3025 (Part-11):1983, RA 2012
v Taste	--	Agreeable	AGREEABLE	IS 3025 (Part 8):1984 RA 2006
vi Turbidity	NTU, Max	1	0.6	IS 3025 (Part 10):1984 RA 2006
vii Total dissolved solids	mg/l, Max	500	160	IS 3025 (Part 16):1984 RA 2006
viii Temperature	deg C	--	25	--

Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Digambar Ananta
Analysed By
For Kalyani Laboratories Pvt. Ltd.

Digambar Ananta
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/9/14, PAHAL, BHUBANESWAR 752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000004070P

Test Report No : 2200 | 4582FE6KLPL/3/20/WATER/02491 Issue Date: 02-May-2020

Amendment No : - - Amendment Date :

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH.

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA 766027.

Date of receipt : 16-Mar-2020 Test Commenced On : 16-Mar-2020 Test Completion On: 21-Mar-2020

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED

Sample Identification * : GROUND WATER

Sampling Date : 14-Mar-2020

Batch No , Lot No : NA

MFG Date : NA

EXP Date : NA

Received Quantity : 1LTR X 2

Place of Collection : BORE WELL AT LANJIGARH DT-14.03.2020

Sample Collected By : By KLPL

Ref.To Sampling Procedure:

Parameters	Unit	Requirement	Result	Test Method
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BACTERIOLOGICAL QUALITY

I	Total Coliforms	MPN/100 ml	Shall not be detected in any 100 ml sample	< 2	IS 1622:1981 RA 2009
II	Faecal Coliform	MPN/100ml	Shall not be detected in any 100 ml sample	< 2	IS 1622:1981 RA 2009

CHEMICAL PARAMETER

I	Lead (Pb)	mg/l, max	0.01	< 0.005	IS 3025 (Part 47)
II	Arsenic (As)	mg/l, max	0.01	< 0.001	IS 3025 (Part 37):1988,RA 2009
III	Nitrate as NO3	mg/l, Max	45	4.2	IS 3025 (PART 34): 1988 RA 2009
IV	Calcium (as Ca)	mg/l, Max	75	56	IS 3025 (Part 40):1991 RA 2009
V	Chloride (as Cl)	mg/l, Max	250	68	IS 3025 (Part 32):1988 RA 2009
VI	Copper (as Cu)	mg/l, Max	0.05	< 0.02	IS 3025 (Part 42):1992 RA 2009
VII	Fluoride (as F)	mg/l, Max	1	0.09	IS 3025 (Part 60):2008
VIII	Free residual chlorine	mg/l, Min	0.2	0.2	IS 3025 (Part 26):1986 RA 2009
IX	Iron (as Fe)	mg/l, Max	1	0.14	IS 3025 (Part 53):2009 RA 2014
X	Magnesium (as Mg)	mg/l, Max	30	9.72	IS 3025 (Part 46):1994 RA 2003
XI	Manganese (as Mn)	mg/l, Max	0.1	< 0.05	IS 3025 (Part 59):2006 RA 2012
XII	Selenium (as Se)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 56):2003 RA 2009
XIII	Sulphate (as SO4)	mg/l, Max	200	4.0	IS 3025 (Part 24):1986 RA 2009
XIV	Total alkalinity (as CaCO3),	mg/l, Max	200	170	IS 3025 (Part 23):1986 RA 2009
XV	Total hardness (as CaCO3),	mg/l, Max	200	180	IS 3025 (Part 21):2009
XVI	Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
XVII	Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
XVIII	Anionic Surface Active Agents (as MBAS)	mg/l, Max	0.2	< 0.1	Annex - K OF IS 13428:2005 RA 2009
XIX	Boron (as B)	mg/l, Max	0.5	< 0.1	Annex H OF IS 13428 : 2005 RA 2009
XX	phosphate as (PO4)	mg/l	---	< 0.1	APHA 22nd Edition (4500-P-D)

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KLPL- 340393A



KALYANI LABORATORIES PVT. LTD.

78/9-11, PAHAL, BHUBANESWAR-751101, ODISHA

Test Report No : 2200 | 4582FE6KLPL/3/20/WATER/02491



Parameters	Unit	Requirement	Result	Test Method
xxi Polynuclear Aromatic Hydrocarbon	mg/l, Max	0.0001	< 0.0001	APHA 22nd Edition (6440)
xxii Mercury	mg/l, max	0.001	< 0.0005	IS 3025 (Part 48)
xxiii TOTAL PESTISIDE	mg/l, max	0.0005	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Conductivity	ms/cm	---	0.420	IS 3025 (Part 11):1983 RA 2012
ii Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
iii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iv pH value	---	6.5-8.5	8.2	IS 3025 (Part-11):1983, RA 2012
v Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
vi Turbidity	NTU, Max	1	0.2	IS 3025 (Part 10):1984 RA 2006
vii Total dissolved solids	mg/l, Max	500	200	IS 3025 (Part 16):1984 RA 2006
viii Temperature	deg C	--	25	--

Remarks : -

Any unusual feature observed during determination :

..... End of Test Report

Digambar Anjali
Analysed By
For Kalyani Laboratories Pvt. Ltd.

Digambar
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd



2200 | 4582FE6

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KLFL- 340392A



KALYANI LABORATORIES PVT. LTD.

78/944, PATIAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000004075P
Test Report No : 2205 | 4587FEBKLPL/3/20/WATER/02496 **Issue Date**: 02-May-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 16-Mar-2020 **Test Commenced On** : 16-Mar-2020 **Test Completion On**: 21-Mar-2020
Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED
Sample Identification * : GROUND WATER **Sampling Date** : 14-Mar-2020
Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA
Received Quantity : 1LTR X 2 **Place of Collection** : BORE WELL AT BANDHAGUDA DT-14.03.2020
Sample Collected By : By KLPL
Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
i Total Coliforms	MPN/100 ml	Shall not be detected in any 100 ml sample	< 2	IS 1622:1981 RA 2009
ii Faecal Coliform	MPN/100ml	Shall not be detected in any 100 ml sample	< 2	IS 1622:1981 RA 2009
CHEMICAL PARAMETER				
i Lead (Pb)	mg/l, max	0.01	< 0.005	IS 3025 (Part 47)
ii Arsenic (As)	mg/l, max	0.01	< 0.001	IS 3025 (Part 37):1988, RA 2009
iii Nitrate as NO3	mg/l, Max	45	2.8	IS 3025 (PART 34): 1988 RA 2009
iv Calcium (as Ca)	mg/l, Max	75	41.6	IS 3025 (Part 40):1991 RA 2009
v Chloride (as Cl)	mg/l, Max	250	18	IS 3025 (Part 32):1988 RA 2009
vi Copper (as Cu)	mg/l, Max	0.05	< 0.02	IS 3025 (Part 42):1992 RA 2009
vii Fluoride (as F)	mg/l, Max	1	0.18	IS 3025 (Part 60):2008
viii Free residual chlorine	mg/l, Min	0.2	0.2	IS 3025 (Part 26): 1986 RA 2009
ix Iron (as Fe)	mg/l, Max	1	< 0.05	IS 3025 (Part 53):2003 RA 2014
x Magnesium (as Mg)	mg/l, Max	50	2.92	IS 3025 (Part 46):1994 RA 2003
xi Manganese (as Mn)	mg/l, Max	0.1	< 0.05	IS 3025 (Part 59):2006 RA 2012
xii Selenium (as Se)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 56):2003 RA 2009
xiii Sulphate (as SO4)	mg/l, Max	200	9.0	IS 3025 (Part 24):1986 RA 2009
xiv Total alkalinity (as CaCO3),	mg/l, Max	200	130	IS 3025 (Part 23): 1986 RA 2009
xv Total hardness (as CaCO3),	mg/l, Max	200	116	IS 3025 (Part 21):2009
xvi Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
xvii Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
xviii Anionic Surface Active Agents (as MBAS)	mg/l, Max	0.2	< 0.1	Annex - K OF IS 13428:2005 RA 2009
xix Boron (as B)	mg/l, Max	0.5	< 0.1	Annex H OF IS 13428 : 2005 RA 2009
xx phosphate as (PO4)	mg/l	---	< 0.1	APHA 22nd Edition (4500-P-D)

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KLPL- 340313A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101 ODISHA

Test Report No : 2205 | 4587FEBKLPL/3/20/WATER/02496



Parameters	Unit	Requirement	Result	Test Method
xxi Polynuclear Aromatic Hydrocarbon	mg/l, Max	0.0001	< 0.0001	APHA 22nd Edition (8440)
xxii Mercury	mg/l, max	0.001	< 0.0005	IS 3025 (Part 4B)
xxiii TOTAL PESTICIDE	mg/l, max	0.0005	< 0.001	USEPA
PHYSICAL PARAMETER				
i Conductivity	ms/cm	---	0.240	IS 3025 (Part 11):1983 RA 2012
ii Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
iii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iv pH value	---	6.5-8.5	7.5	IS 3025 (Part-11):1983, RA 2012
v Taste	--	Agreeable	AGREEABLE	IS 3025 (Part 8):1984 RA 2006
vi Turbidity	NTU, Max	1	0.5	IS 3025 (Part 10):1984 RA 2006
vii Total dissolved solids	mg/l, Max	500	170	IS 3025 (Part 16):1984 RA 2006
viii Temperature	deg C	---	25	---

Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Digambar Adyaka
Analysed By
For Kalyani Laboratories Pvt. Ltd.

Pradip
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000004074P

Test Report No : 2204 | 4586FEAKLPL/3/20/WATER/02495 **Issue Date**: 02-May-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Data of receipt : 16-Mar-2020 **Test Commenced On** : 16-Mar-2020 **Test Completion On**: 21-Mar-2020

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED

Sample Identification * : GROUND WATER **Sampling Date** : 14-Mar-2020

Batch No , Lot No : NA **MFG Date** : NA **EXP Date** : NA

Received Quantity : 1LTR X 2 **Place of Collection** : BORE WELL AT BATERLIMA DT-14.03.2020

Sample Collected By : By KLPL

Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
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BACTERIOLOGICAL QUALITY

i	Total Coliforms	MPN/100 ml	Shall not be detected in any 100 ml sample	< 2	IS 1622:1981 RA 2009
ii	Faecal Coliform	MPN/100ml	Shall not be detected in any 100 ml sample	< 2	IS 1622:1981 RA 2009

CHEMICAL PARAMETER

i	Lead (Pb)	mg/l, max	0.01	< 0.005	IS 3025 (Part 47)
ii	Arsenic (As)	mg/l, max	0.01	< 0.001	IS 3025 (Part 37):1988, RA 2009
iii	Nitrate as NO3	mg/l, Max	45	4.4	IS 3025 (PART 34): 1988 RA 2003
iv	Calcium (as Ca)	mg/l, Max	75	48	IS 3025 (Part 40):1991 RA 2009
v	Chloride (as Cl)	mg/l, Max	250	34	IS 3025 (Part 32):1988 RA 2009
vi	Copper (as Cu)	mg/l, Max	0.05	< 0.02	IS 3025 (Part 42):1992 RA 2009
vii	Fluoride (as F)	mg/l, Max	1	0.4	IS 3025 (Part 60):2008
viii	Free residual chlorine	mg/l, Min	0.2	0.3	IS 3025 (Part 26):1986 RA 2009
ix	Iron (as Fe)	mg/l, Max	1	0.7	IS 3025 (Part 53):2003 RA 2014
x	Magnesium (as Mg)	mg/l, Max	30	2.92	IS 3025 (Part 46):1994 RA 2003
xi	Manganese (as Mn)	mg/l, Max	0.1	< 0.05	IS 3025 (Part 59):2006 RA 2012
xii	Selenium (as Se)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 56):2003 RA 2009
xiii	Sulphate (as SO4)	mg/l, Max	200	18	IS 3025 (Part 24):1986 RA 2009
xiv	Total alkalinity (as CaCO3),	mg/l, Max	200	160	IS 3025 (Part 23):1986 RA 2009
xv	Total hardness (as CaCO3),	mg/l, Max	200	172	IS 3025 (Part 21):2009
xvi	Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
xvii	Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
xviii	Anionic Surface Active Agents (as MBAS)	mg/l, Max	0.2	< 0.1	Annex - K OF IS 13428:2005 RA 2009
xix	Boron (as B)	mg/l, Max	0.5	< 0.1	Annex H OF IS 13428 : 2005 RA 2009
xx	phosphate as (PO4)	mg/l	---	< 0.1	APHA 22nd Edition (4500-P-D)

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KLPL- 340315A



KALYANI LABORATORIES PVT. LTD.

78/934, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 2204 | 4586FEAKLPL/3/20/WATER/02495



Parameters	Unit	Requirement	Result	Test Method
xxi Polynuclear Aromatic Hydrocarbon	mg/l, Max	0.0001	< 0.0001	APHA 22nd Edition (6440)
xxii Mercury	mg/l, max	0.001	< 0.0005	IS 3025 (Part 4):1983 RA 2012
xxiii TOTAL PESTICIDE	mg/l, max	0.0005	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Conductivity	ms/cm	---	0.367	IS 3025 (Part 11):1983 RA 2012
ii Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
iii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iv pH value	---	6.5-8.5	7.8	IS 3025 (Part-11):1983, RA 2012
v Taste	--	Agreeable	AGREEABLE	IS 3025 (Part 8):1984 RA 2006
vi Turbidity	NTU, Max	1	0.5	IS 3025 (Part 10):1984 RA 2006
vii Total dissolved solids	mg/l, Max	500	240	IS 3025 (Part 16):1984 RA 2006
viii Temperature	deg C	--	25	--

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Digambar Anandh
Analysed By
For Kalyani Laboratories Pvt. Ltd.

Rasmanoj
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd.



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KLPL- 340314A



KALYANI LABORATORIES PVT. LTD.

78044, PATIAL, BHUBANESWAR-751001, ODISHA

TEST REPORT



NABL ULR NO : TC704320000004073P
Test Report No : 2203 | 4585FE9KLPL/3/20/WATER/02494 **Issue Date:** 02-May-2020
Amendment No : - **Amendment Date** : -
Reference : ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARI
Address : PO.- LANJIGARI, DIST.- KALAHANDI, ODISHA-766027. **Test Completion On:** 21-Mar-2020
Date of receipt : 16-Mar-2020 **Test Commenced On** : 16-Mar-2020
Sample Description : DRINKING WATER (IS 10500:2012)
Sample Condition : SEALED **Sampling Date** : 14-Mar-2020
Sample Identification * : GROUND WATER **EXP Date** : NA
Batch No , Lot No : NA **MFG Date** : NA
Received Quantity : 1LTR X 2 **Place of Collection** : BORE WELL AT CHANALIMA DT-14.03.2020
Sample Collected By : By KLPL
Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
i Total Coliforms	NPN/100 ml	Shall not be detected in any 100 ml sample	< 2	IS 1622:1981 RA 2009
ii Faecal Coliform	MPN/100ml	Shall not be detected in any 100 ml sample	< 2	IS 1622:1981 RA 2009
CHEMICAL PARAMETER				
i Lead (Pb)	mg/l, max	0.01	< 0.005	IS 3025 (Part 47)
ii Arsenic (As)	mg/l, max	0.01	< 0.001	IS 3025 (Part 37):1988 RA 2009
iii Nitrate as NO3	mg/l, Max	45	0.5	IS 3025 (PART 34): 1988 RA 2003
iv Calcium (as Ca)	mg/l, Max	75	27.2	IS 3025 (Part 40):1991 RA 2009
v Chloride (as Cl)	mg/l, Max	250	38	IS 3025 (Part 32):1988 RA 2009
vi Copper (as Cu)	mg/l, Max	0.05	< 0.02	IS 3025 (Part 42):1992 RA 2009
vii Fluoride (as F)	mg/l, Max	1	< 0.05	IS 3025 (Part 60):2008
viii Free residual chlorine	mg/l, Min	0.2	0.2	IS 3025 (Part 26):1986 RA 2009
ix Iron (as Fe)	mg/l, Max	1	0.75	IS 3025 (Part 53):2003 RA 2014
x Magnesium (as Mg)	mg/l, Max	30	2.92	IS 3025 (Part 46):1994 RA 2003
xi Manganese (as Mn)	mg/l, Max	0.1	< 0.05	IS 3025 (Part 59):2006 RA 2012
xii Selenium (as Se)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 56):2003 RA 2009
xiii Sulphate (as SO4)	mg/l, Max	200	< 1.0	IS 3025 (Part 24):1986 RA 2009
xiv Total alkalinity (as CaCO3),	mg/l, Max	200	60	IS 3025 (Part 23):1986 RA 2009
xv Total hardness (as CaCO3),	mg/l, Max	200	80	IS 3025 (Part 21):2009
xvi Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
xvii Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
xviii Anionic Surface Active Agents (as MBAS)	mg/l, Max	0.2	< 0.1	Annex - K OF IS 13428:2005 RA 2009
xix Boron (as B)	mg/l, Max	0.5	< 0.1	Annex H OF IS 13428 : 2005 RA 2009
xx phosphate as (PO4)	mg/l		< 0.1	APIA 22nd Edition (4500-P-D)

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KLPL- 340317A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

Test Report No : 2203 | 4585FE9KLPL/3/20/WATER/02494



Parameters	Unit	Requirement	Result	Test Method
xxi Polynuclear Aromatic Hydrocarbon	mg/l, Max	0.0001	< 0.0001	APHA 22nd Edition (6440)
xxii Mercury	mg/l, max	0.001	< 0.0005	IS 3025 (Part 48)
xxiii TOTAL PESTICIDE	mg/l, max	0.0005	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Conductivity	ms/cm	---	0.158	IS 3025 (Part 11):1983 RA 2012
ii Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
iii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iv pH value	---	6.5-8.5	7.1	IS 3025 (Part-11):1983, RA 2012
v Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 6):1984 RA 2006
vi Turbidity	NTU, Max	1	0.7	IS 3025 (Part 10):1984 RA 2006
vii Total dissolved solids	mg/l, Max	500	120	IS 3025 (Part 16):1984 RA 2006
viii Temperature	deg C	--	25	---

Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Dipankar Acharya
Analysed By
For Kalyani Laboratories Pvt. Ltd.

Dipankar Acharya
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd



2203 | 4585FE9

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KLPL-340316A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000004072P

Test Report No : 2202 | 4584FE8KLPL/3/20/WATER/02493 **Issue Date**: 02-May-2020

Amendment No : - **Amendment Date** : -

Reference : ORDER NO-6600013489 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 16-Mar-2020 **Test Commenced On** : 16-Mar-2020 **Test Completion On**: 21-Mar-2020

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED

Sample Identification * : GROUND WATER **Sampling Date** : 14-Mar-2020

Batch No, Lot No : NA **MFG Date** : NA **EXP Date** : NA

Received Quantity : 1LTR X 2 **Place of Collection** : BORE WELL AT CHHATRAPUR DT-14.03.2020

Sample Collected By : By KLPL

Ref.To Sampling Procedure: KLPL/SOP/CHEM-28

Parameters	Unit	Requirement	Result	Test Method
BACTERIOLOGICAL QUALITY				
i Total Coliforms	MPN/100 ml	Shall not be detected in any 100 ml sample	< 2	IS 1622:1981 RA 2009
ii Faecal Coliform	MPN/100ml	Shall not be detected in any 100 ml sample	< 2	IS 1622:1981 RA 2009
CHEMICAL PARAMETER				
i Lead (Pb)	mg/l, max	0.01	< 0.005	IS 3025 (Part 47)
ii Arsenic (As)	mg/l, max	0.01	< 0.001	IS 3025 (Part 37):1988, RA 2009
iii Nitrate as NO3	mg/l, Max	45	2.8	IS 3025 (PART 34):1988 RA 2003
iv Calcium (as Ca)	mg/l, Max	75	60.8	IS 3025 (Part 40):1991 RA 2009
v Chloride (as Cl)	mg/l, Max	250	18	IS 3025 (Part 32):1988 RA 2009
vi Copper (as Cu)	mg/l, Max	0.05	< 0.02	IS 3025 (Part 42):1992 RA 2009
vii Fluoride (as F)	mg/l, Max	1	0.5	IS 3025 (Part 60):2008
viii Free residual chlorine	mg/l, Min	0.2	0.2	IS 3025 (Part 26):1986 RA 2009
ix Iron (as Fe)	mg/l, Max	1	< 0.05	IS 3025 (Part 53):2003 RA 2014
x Magnesium (as Mg)	mg/l, Max	30	9.72	IS 3025 (Part 46):1994 RA 2003
xi Manganese (as Mn)	mg/l, Max	0.1	< 0.05	IS 3025 (Part 59):2006 RA 2012
xii Selenium (as Se)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 56):2003 RA 2009
xiii Sulphate (as SO4)	mg/l, Max	200	6.0	IS 3025 (Part 24):1986 RA 2009
xiv Total alkalinity (as CaCO3),	mg/l, Max	200	190	IS 3025 (Part 23):1986 RA 2009
xv Total hardness (as CaCO3),	mg/l, Max	200	192	IS 3025 (Part 21):2009
xvi Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
xvii Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
xviii Anionic Surface Active Agents (as MBAS)	mg/l, Max	0.2	< 0.1	Annex - K OF IS 13428:2005 RA 2009
xix Boron (as B)	mg/l, Max	0.5	< 0.1	Annex H OF IS 13428 : 2005 RA 2009
xx phosphata as (PO4)	mg/l	---	< 0.1	APHA 22nd Edition (4500-P-D)

2202 | 4584FE8

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KLPL- 340319A



KALYANI LABORATORIES PVT. LTD.

78944, PATIAL, DHUBANESWAR-752101, ODISHA

Test Report No : 2202 | 4584FEBKLPL/3/20/WATER/02493



Parameters	Unit	Requirement	Result	Test Method
xxi Polynuclear Aromatic Hydrocarbon	mg/l, Max	0.0001	< 0.0001	APHA 22nd Edition (6440)
xxii Mercury	mg/l, max	0.001	< 0.0005	IS 3025 (Part 4B)
xxiii TOTAL PESTICIDE	mg/l, max	0.0005	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Conductivity	ms/cm	---	0.405	IS 3025 (Part 11):1983 RA 2012
ii Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
iii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iv pH value	---	6.5-8.5	8.0	IS 3025 (Part-11):1983, RA 2012
v Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 6):1984 RA 2008
vi Turbidity	NTU, Max	1	0.2	IS 3025 (Part 10):1984 RA 2006
vii Total dissolved solids	mg/l, Max	500	270	IS 3025 (Part 16):1984 RA 2008
viii Temperature	deg C	--	25	---

Remarks : NIL

Any unusual feature observed during determination : NIL

..... End of Test Report

Digambar Das
Analysed By
For Kalyani Laboratories Pvt. Ltd.

Digambar Das
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd





KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000004D71P

Test Report No : 2201 | 4583FE7KLPL/3/20/WATER/02492 Issue Date: 02-May-2020

Amendment No : - Amendment Date : -

Reference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 16 Mar 2020 Test Commenced On : 16 Mar 2020 Test Completion On: 21 Mar-2020

Sample Description : DRINKING WATER (IS 10500:2012)

Sample Condition : SEALED

Sample Identification * : GROUND WATER Sampling Date : 14-Mar-2020

Batch No , Lot No : NA MFG Date : NA EXP Date : NA

Received Quantity : 1LTR X 2 Place of Collection : BORE WELL AT RENGOPALI DT-14.03.2020

Sample Collected By : By KLPL

Ref.To Sampling Procedure:

Parameters	Unit	Requirement	Result	Test Method
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BACTERIOLOGICAL QUALITY

I	Total Coliforms	MPN/100 ml	Shall not be detected in any 100 ml sample	< 2	IS 1622:1981 RA 2009
II	Faecal Coliform	MPN/100ml	Shall not be detected in any 100 ml sample	< 2	IS 1622:1981 RA 2009

CHEMICAL PARAMETER

I	Lead (Pb)	mg/l, max	0.01	< 0.005	IS 3025 (Part 47)
II	Arsenic (As)	mg/l, max	0.01	< 0.001	IS 3025 (Part 37):1988,RA 2009
III	Nitrate as NO3	mg/l, Max	45	0.7	IS 3025 (PART 34): 1988 RA 2003
IV	Calcium (as Ca)	mg/l, Max	75	25.8	IS 3025 (Part 40):1991 RA 2009
V	Chloride (as Cl)	mg/l, Max	250	8.0	IS 3025 (Part 32):1988 RA 2009
VI	Copper (as Cu)	mg/l, Max	0.05	< 0.02	IS 3025 (Part 42):1992 RA 2009
VII	Fluoride (as F)	mg/l, Max	1	0.07	IS 3025 (Part 60):2008
VIII	Free residual chlorine	mg/l, Min	0.2	0.2	IS 3025 (Part 26):1986 RA 2009
IX	Iron (as Fe)	mg/l, Max	1	< 0.05	IS 3025 (Part 53):2003 RA 2014
X	Magnesium (as Mg)	mg/l, Max	30	2.92	IS 3025 (Part 46):1994 RA 2003
XI	Manganese (as Mn)	mg/l, Max	0.1	< 0.05	IS 3025 (Part 59):2006 RA 2012
XII	Selenium (as Se)	mg/l, Max	0.01	< 0.005	IS 3025 (Part 56):2003 RA 2009
XIII	Sulphate (as SO4)	mg/l, Max	200	4.0	IS 3025 (Part 24):1986 RA 2009
XIV	Total alkalinity (as CaCO3),	mg/l, Max	200	90	IS 3025 (Part 23):1986 RA 2009
XV	Total hardness (as CaCO3),	mg/l, Max	200	76	IS 3025 (Part 21):2009
XVI	Total Chromium	mg/l, Max	0.05	< 0.02	IS 3025 (PART 52): 2003 RA 2009
XVII	Aluminum (as Al)	mg/l, Max	0.03	< 0.02	IS 3025 (PART 55):2003 RA 2009
XVIII	Anionic Surface Active Agents (as MBAS)	mg/l, Max	0.2	< 0.1	Annex - K OF IS 13428:2005 RA 2009
XIX	Boron (as B)	mg/l, Max	0.5	< 0.1	Annex H OF IS 13428 : 2005 RA 2009
XX	phosphate as (PO4)	mg/l	---	< 0.1	APHA 22nd Edition (4500-P-D)

2201 | 4583FE7

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KLPL-340321A



KALYANI LABORATORIES PVT. LTD.

78/04, PAHAL, BIRUBANESWAR-752101, ODISHA

Test Report No : 2201 | 4583FE7KLPL/3/20/WATER/02492



Parameters	Unit	Requirement	Result	Test Method
xxi Polynuclear Aromatic Hydrocarbon	mg/l, Max	0.0001	< 0.0001	APHA 22nd Edition (6440)
xxii Mercury	mg/l, max	0.001	< 0.0005	IS 3025 (Part 4B)
xxiii TOTAL PESTICIDE	mg/l, max	0.0005	< 0.0001	USEPA
PHYSICAL PARAMETER				
i Conductivity	ms/cm	---	0.316	IS 3025 (Part 11):1983 RA 2012
ii Colour	Hazen, Max	5	< 1.0	IS 3025 (Part 4):1983 RA 2012
iii Odour	--	Agreeable	AGREEABLE	IS 3025 (Part 5):1983 RA 2012
iv pH value	---	6.5-8.5	7.5	IS 3025 (Part-11):1983, RA 2012
v Taste	--	Agreeable	AGREEABLE	IS 3025 (Parts 8):1984 RA 2006
vi Turbidity	NTU, Max	1	0.2	IS 3025 (Part 10):1984 RA 2006
vii Total dissolved solids	mg/l, Max	500	110	IS 3025 (Part 16):1984 RA 2006
viii Temperature	deg C	---	25	---

Remarks : -

Any unusual feature observed during determination :

..... End of Test Report

D. Ganbar Ananda
Analysed By
For Kalyani Laboratories Pvt. Ltd.

D. Ganbar Ananda
Authorized Signatory
For Kalyani Laboratories Pvt. Ltd.



2201 | 4583FE7

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KLPL- 340320A



KALYANI LABORATORIES PVT. LTD.

78944, PAHAL, BILUBANSWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704319000003145P

Issue Date : 06-May-2020

Test Report No : 441 | 3642C49 KLPL/03/20/ENVN/00568

Rereference : ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 16-Mar-2019 Commenced On : 16-Mar-2019

Completion On: 16-Mar-2019

Sample Name : NOISE

Sample Condition : --

Quantity : 10 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : BALABHADRAPUR, 14.03.2020				
Noise Level Indl. Area (Day)	dB	55	47.7	IS 9989:1981 (RA 2014)
Noise Level Indl. Area (Night)	dB	45	35.5	IS 9989:1981 (RA 2014)
Location & Date : BASANTAPADA, 14.03.2020				
Noise Level Indl. Area (Day)	dB	55	46.2	IS 9989:1981 (RA 2014)
Noise Level Indl. Area (Night)	dB	45	32.5	IS 9989:1981 (RA 2014)
Location & Date : CHHATRAPUR, 14.03.2020				
Noise Level Indl. Area (Day)	dB	55	47.5	IS 9989:1981 (RA 2014)
Noise Level Indl. Area (Night)	dB	45	35.0	IS 9989:1981 (RA 2014)
Location & Date : HAREKRISHANAPUR, 14.03.2020				
Noise Level Indl. Area (Day)	dB	55	44.6	IS 9989:1981 (RA 2014)
Noise Level Indl. Area (Night)	dB	45	34.6	IS 9989:1981 (RA 2014)
Location & Date : KASIBADI, 14.03.2020				
Noise Level Indl. Area (Day)	dB	55	46.4	IS 9989:1981 (RA 2014)
Noise Level Indl. Area (Night)	dB	45	33.6	IS 9989:1981 (RA 2014)
Location & Date : LANJIGARH, 14.03.2020				
Noise Level Indl. Area (Day)	dB	55	54.1	IS 9989:1981 (RA 2014)
Noise Level Indl. Area (Night)	dB	45	44.1	IS 9989:1981 (RA 2014)
Location & Date : MASKAPADAR, 14.03.2020				
Noise Level Indl. Area (Day)	dB	55	53.8	IS 9989:1981 (RA 2014)
Noise Level Indl. Area (Night)	dB	45	41.6	IS 9989:1981 (RA 2014)
Location & Date : NIYAMAGIRI VEDANTA NAGAR, 14.03.2020				
Noise Level Indl. Area (Day)	dB	55	50.0	IS 9989:1981 (RA 2014)
Noise Level Indl. Area (Night)	dB	45	39.5	IS 9989:1981 (RA 2014)
Location & Date : PLANT SITE, 14.03.2020				
Noise Level Indl. Area (Day)	dB	75	71.5	IS 9989:1981 (RA 2014)
Noise Level Indl. Area (Night)	dB	70	65.2	IS 9989:1981 (RA 2014)
Location & Date : RENGOPALI, 14.03.2020				
Noise Level Indl. Area (Day)	dB	55	45.7	IS 9989:1981 (RA 2014)

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KLPL-340311A
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KALYANI LABORATORIES PVT. LTD.

78944, PAILAL, BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC704319000003145P

TEST REPORT



Test Report No : 441 | 3642C49 KLPL/03/20/ENVN/00568

Issue Date : 07-Dec-2019

Reference : 6600011158 / 11.12.2018

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 16-Mar-2020 Commenced On : 16-Mar-2020

Completion On: 16-Mar-2020

Sample Name : NOISE

Sample Condition : --

Quantity : 10 NO.

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

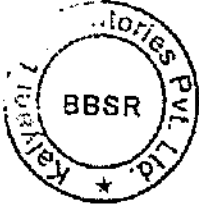
Parameters	Unit	Standard Value	Results	Test Method
Noise Level Indl. Area (Night)	dB	45	32.2	IS 9999:1951 (SA 2014)

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

[Signature]
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



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KLPL- 340406A
Page 2 of 2



KALYANI LABORATORIES PVT. LTD.

787944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003B38P

Test Report No : 440 | 4466EFE KLPL/S/20/ENVN/00567 **Issue Date** : 05-May-2020

Amendment No : - **Amendment Date** : -

Reference : - ORDER NO-6G00013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED ,LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-765027.

Date of receipt : 09-Mar-2020 **Commenced On** : 09-Mar-2020 **Completion On** : 14-Mar-2020

Sample Name : FLUE GAS | STACK MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST

Quantity : 1 NOS

Ref.To Sampling Procedure : KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : POWER PLANT UNIT-3 , 06.03.2020				
Sulphur Dioxide	mg/Nm ³	-	705.5	IS 11755(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	35.4	KLPL/SOP/AIR-06
Velocity	m/sec	-	7.5	KLPL/SOP/AIR-06
Oxygen	%	-	4.8	KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	--	--	417	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	296.7	IS 11295 (part-7):2005
carbon Dioxide	%	--	9.9	KLPL/SOP/AIR-06
Quantity of Gas Flow	Nm ³ / hr	-	1478365	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.044	KLPL/SOP/AIR-06
Pressure	mmH ₂ O	--	3.64	KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



EFE38387376

KLPL- 340276A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003838P

Test Report No : 440 | 4466EFE KLPL/3/20/ENVN/00567A

Issue Date : 05-May-2020

Amendment No : -

Amendment Date : -

Reference : - ORDER NO-6600013408 DT-16.12.2019

Customer Name : VEDANTA LIMITED ,LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 09-Mar-2020

Commenced On : 09-Mar-2020

Completion On: 14-Mar-2020

Sample Name : FLUE GAS | STACK MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST

Quantity : 1 NOS

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : CALCINER UNIT-II, 07.03.2020				
Sulphur Dioxide	mg/Nm ³	-	707.6	IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	28.2	KLPL/SOP/AIR-06
Velocity	m/sec	-	20.6	KLPL/SOP/AIR-06
Oxygen	%	-	4.55	KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	--	--	443	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	304.8	IS 11255 (part-7)-2005
carbon Dioxide	%	--	13.8	KLPL/SOP/AIR-06
Quantity of Gas Flow	Nm ³ / hr	-	3115349	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.033	KLPL/SOP/AIR-06
Pressure	mmH ₂ O	--	25.34	KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Dibakar Anis
Analysed By
For Kalyani Laboratories Pvt. Ltd.

Dibakar Anis
Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



EFE38387376

KLPL- 340276A



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC704320000003838P

Test Report No : 440 | 4466EFE KLPL/3/20/ENVN/00567B

Issue Date : 05-May-2020

Amendment No : -

Amendment Date : -

Reference : - ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 13 Mar-2020 Commenced On : 13-Mar-2020

Completion On: 17-Mar-2020

Sample Name : FLUE GAS | STACK MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST

Quantity : 1 NOS

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
------------	------	----------------	---------	-------------

Location & Date : POWER PLANT UNIT-1, 09.03.2020

Sulphur Dioxide	mg/Nm ³	-	698.2	IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	31.6	KLPL/SOP/AIR-06
Velocity	m/sec	-	7.95	KLPL/SOP/AIR-06
Oxygen	%	-	4.7	KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	--	--	405	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	299.3	IS 11255 (part-7):2005
carbon Dioxide	%	--	9.7	KLPL/SOP/AIR-06
Quantity of Gas Flow	Nm ³ / hr	-	1603063	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.035	KLPL/SOP/AIR-06
Pressure	mmH ₂ O	--	4.11	KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



EFE38387376

KLPL- 340249A/1



KALYANI LABORATORIES PVT. LTD.

78/91, PAHAL, BHUDANESWAR-752101, ODISHA

Kalyani Laboratories

TEST REPORT




NABL ULR NO : TC70432000003838P
Test Report No : 440 | 4466EFE KLPL/3/20/ENVN/00567C **Issue Date** : 05-May-2020
Amendment No : - **Amendment Date** : -
Reference : - ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED, LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 13-Mar-2020 **Commenced On** : 13-Mar-2020 **Completion On** : 17-Mar-2020
Sample Name : **FLUE GAS | STACK MONITORING**
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST
Quantity : 1 NOS
Ref. To Sampling Procedure : KLPL/SOP/AIR-06


Parameters	Unit	Standard Value	Results	Test Method
Location & Date : CALCINER UNIT-I, 11.03.2020				
Sulphur Dioxide	mg/Nm ³	-	685.2	IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	23.4	KLPL/SOP/AIR-06
Velocity	m/sec	-	22.5	KLPL/SOP/AIR-06
Oxygen	%	-	3.95	KLPL/SOP/AIR-06
Stack Temperature In Deg kelvin	--	--	451	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	298.8	IS 11255 (part-7):2005
Carbon Dioxide	%	--	16.7	KLPL/SOP/AIR-06
Quantity of Gas Flow	Nm ³ / hr	-	3364686	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.039	KLPL/SOP/AIR-06
Pressure	mmH ₂ O	--	29.7	KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report


 Analysed By
 For Kalyani Laboratories Pvt. Ltd.


 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



EFE38387376

KLPL- 3402#0A¹



KALYANI LABORATORIES PVT. LTD.

78/944, PAITAL, BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC704320000003838P

TEST REPORT



Test Report No : 440 | 4466EFE KLPL/3/20/ENVN/00567D Issue Date : 05-May-2020
 Amendment No : - Amendment Date : -
 Reference : - ORDER NO-6600013488 DT-16 12 2019
 Customer Name : VEDANTA LIMITED ,LANJIGARH
 Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
 Date of receipt : 21-Mar-2020 Commenced On : 21-Mar-2020 Completion On: 24 Mar-2020

Sample Name : FLUE GAS | STACK MONITORING
 Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST
 Quantity : 1 NOS
 Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : CALCINER UNIT-I, 18.03.2020				
Sulphur Dioxide	mg/Nm ³	-	710.2	IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	32.8	KLPL/SOP/AIR-06
Velocity	m/sec	-	22.73	KLPL/SOP/AIR-06
Oxygen	%	-	4.35	KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	--	--	447	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	318.5	IS 11255 (part-7):2005
Carbon Dioxide	%	--	17.5	KLPL/SOP/AIR-06
Quantity of Gas Flow	Nm ³ / hr	-	3463679	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.045	KLPL/SOP/AIR-06
Pressure	mmH ₂ O	--	30.38	KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

D. Sankar Ananta
 Analysed By
 For Kalyani Laboratories Pvt. Ltd.

M. Sankar
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



EFE38387376

KLPL- 340247Apt 1



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC704320000003838P

TEST REPORT



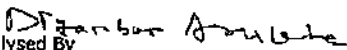
Test Report No : 440 | 4465EFE KLPL/3/20/ENVN/00567E **Issue Date** : 05-May-2020
Amendment No : - **Amendment Date** : -
Reference : - ORDER NO-6600013488 DT-16.12.2019
Customer Name : VEDANTA LIMITED ,LANJIGARH
Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
Date of receipt : 21-Mar-2020 **Commenced On** : 21 Mar 2020 **Completion On**: 24-Mar-2020
Sample Name : FLUE GAS | STACK MONITORING
Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST
Quantity : 1 NOS
Ref.To Sampling Procedure: KLPL/SOP/AIR-06


Parameters	Unit	Standard Value	Results	Test Method
Location & Date : POWER PLANT UNIT-1 , 19.03.2020				
Sulphur Dioxide	mg/Nm ³	-	722.3	IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	41.3	KLPL/SOP/AIR-06
Velocity	m/sec	-	5.71	KLPL/SOP/AIR-06
Oxygen	%	-	5.2	KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	°C	--	406	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	320.6	IS 11255 (part-7):2005
Carbon Dioxide	%	--	10.6	KLPL/SOP/AIR-06
Quantity of Gas Flow	Nm ³ / hr	-	1187218	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.042	KLPL/SOP/AIR-06
Pressure	mmH ₂ O	--	2.11	KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report


 Analysed By
 For Kalyani Laboratories Pvt. Ltd.


 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



EFE38387376

KLPL- 340246A1



KALYANI LABORATORIES PVT. LTD.

78/944, PAHAL, BHUBANESWAR-752101, ODISHA

TEST REPORT



NABL ULR NO : TC70432000003838P

Test Report No : 440 | 4466EFE KLPL/3/20/ENVN/00567F **Issue Date** : 05-May-2020

Amendment No : - **Amendment Date** : -

Reference : - ORDER NO-6600013488 DT-16.12.2019

Customer Name : VEDANTA LIMITED, LANJIGARH

Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.

Date of receipt : 26-Mar-2020 **Commenced On** : 26-Mar-2020 **Completion On** : 30-Mar-2020

Sample Name : FLUE GAS | STACK MONITORING

Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST

Quantity : 1 NOS

Ref.To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : POWER PLANT UNIT-1, 23.03.2020				
Sulphur Dioxide	mg/Nm ³	-	714.5	IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	37.5	KLPL/SOP/AIR-06
Velocity	m/sec	-	6.88	KLPL/SOP/AIR-06
Oxygen	%	-	4.9	KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	--	--	403	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	311.2	IS 11255 (part-7):2005
carbon Dioxide	%	--	10.3	KLPL/SOP/AIR-06
Quantity of Gas Flow	Nm ³ / hr	-	1417661	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.039	KLPL/SOP/AIR-06
Pressure	mmH ₂ O	--	3.09	KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL

***** End of Test Report *****

Analysed By
For Kalyani Laboratories Pvt. Ltd.

Authorised Signatory
For Kalyani Laboratories Pvt. Ltd.



EFE38387376
KLPL- 34024501



KALYANI LABORATORIES PVT. LTD.

78/9-4, PAHAL, BHUBANESWAR-752101, ODISHA

NABL ULR NO : TC70432000003838P

TEST REPORT



Test Report No : 440 | 4466EFE KLPL/3/20/ENVN/00567G Issue Date : 05-May-2020
 Amendment No : - Amendment Date : -
 Reference : - ORDER NO-6600013488 DT-16.12.2019
 Customer Name : VEDANTA LIMITED , LANJIGARH
 Address : PO.- LANJIGARH, DIST.- KALAHANDI, ODISHA-766027.
 Date of receipt : 26-Mar-2020 Commenced On : 26-Mar-2020 Completion On: 30-Mar-2020
 Sample Name : FLUE GAS | STACK MONITORING
 Sample Condition : GASEOUS SAMPLE ABSORBING SOLUTIONS REFRIGERATEDST
 Quantity : 1 NOS
 Ref. To Sampling Procedure: KLPL/SOP/AIR-06

Parameters	Unit	Standard Value	Results	Test Method
Location & Date : CALCINER UNIT-II, 24.03.2020				
Sulphur Dioxide	mg/Nm ³	-	716.8	IS 11255(part-2):1985(RA 2014)
Particulate Matter	mg/Nm ³	-	30.9	KLPL/SOP/AIR-06
Velocity	m/sec	-	23.97	KLPL/SOP/AIR-06
Oxygen	%	-	4.6	KLPL/SOP/AIR-06
Stack Temperature in Deg kelvin	--	--	441	KLPL/SOP/AIR-06
Nitrogen Dioxide	mg/Nm ³	--	312.9	IS 11255 (part-7):2005
carbon Dioxide	%	--	14.0	KLPL/SOP/AIR-06
Quantity of Gas Flow	Nm ³ / hr	-	3665794	KLPL/SOP/AIR-06
Mercury	mg/Nm ³	--	0.0355	KLPL/SOP/AIR-06
Pressure	mmH ₂ O	--	34.24	KLPL/SOP/AIR-06

Remarks : NIL

Any unusual feature observed during determination : NIL

End of Test Report

Digambar Anand
 Analysed By
 For Kalyani Laboratories Pvt. Ltd.

Digambar Anand
 Authorised Signatory
 For Kalyani Laboratories Pvt. Ltd.



EFE38387376

KLPL- 340244A1

MASTER COAL PROCUREMENT AGREEMENT

BETWEEN

VEDANTA LIMITED

AND

GANDHAR OIL REFINERY INDIA LIMITED

Vedanta Limited (Formerly known as Sesa Sterlite Limited)

Registered Office: 1st Floor, C Wing, Unit 103, Corporate Avenue Atul Projects, Chakala, Andheri (East), Mumbai, Maharashtra 400093

CIN: L13209MH1965PLC291394



MASTER COAL PROCUREMENT AGREEMENT

This **MASTER COAL PURCHASING/ PROCUREMENT AGREEMENT (MPA)** (hereinafter the "**Agreement**") made at on this 31.10.2019. Ref NFA No:- 7000067458.

BY AND BETWEEN

VEDANTA LIMITED, a company incorporated under the provisions of the Indian Companies Act, 1956 and having its registered office at 1st Floor, C Wing, Unit 103, Corporate Avenue Atul Projects, Chakala, Andheri (East), Mumbai, Maharashtra 400093 [CIN: L13209MH1965PLC291394] and its regional office at Vedanta Limited, PO: Lanjigarh, Dist: Kalahandi, Odisha, India-766027, Fax +91-6677 247311 , hereinafter referred to as (the "**Vedanta/Company/Purchaser**") which expression shall, unless repugnant to or inconsistent with the context or meaning thereof, shall include its successors and assigns) of the **ONE PART**;

AND

GANDHAR OIL REFINERY INDIA LIMITED Flat No. 501, C Scape apartment Pandurangapuram, RK Beach Road, - (hereinafter referred to as "**Supplier**", which expression shall, unless repugnant to the context or meaning thereof, mean and include its successors and permitted assigns) of the **OTHER PART**.

The **Vedanta/Company/Purchaser** and the **Supplier** shall be individually referred to as the "**Party**" and collectively as the "**Parties**".

RECITALS

WHEREAS the Company is engaged, inter alia, in the business of manufacturing alumina for which uninterrupted and regular supply of power is essential and hence time is the essence of the contract.

AND WHEREAS Supplier is engaged, *inter alia*, in the business of supply of steam (non-coking) coal

AND WHEREAS the Supplier has approached the Company and offered to supply of Non Coking Steam Coal or any other material as specified in Annexure I or under the concerned Purchase Order (hereinafter for the sake of brevity referred to as the "**Material**" / "**Coal**") and has represented that it has the necessary expertise, infrastructure and experience to efficiently provide such Material to the Company;

AND WHEREAS based on the said representation, the Company has agreed to seek the Material from the Supplier on a non-exclusive basis as per the terms and conditions detailed herein.

NOW THEREFORE, IN CONSIDERATION OF THE PREMISES AND MUTUAL COVENANTS HEREIN CONTAINED, THE PARTIES HAVE AGREED AS FOLLOWS:

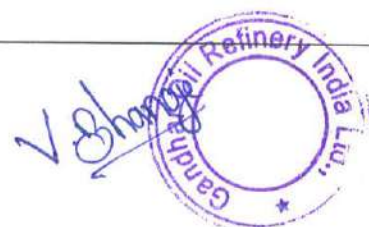
1. DEFINITIONS & INTERPRETATION

1. DEFINITIONS

Vedanta Limited (Formerly known as Sesa Sterlite Limited)

Registered Office: 1st Floor, C Wing, Unit 103, Corporate Avenue Atul Projects, Chakala, Andheri (East), Mumbai, Maharashtra 400093

CIN: L13209MH1965PLC291394



In this Agreement, except where the context otherwise requires, capitalised words and expressions set out in the background section above shall have the meanings set out in that section and the following words and expressions shall have the following meanings:

- 1.1.1 **"Affiliate"** shall mean with respect to any person, any other person that, directly or indirectly, controls, is controlled by or is under common control of such specified person. For the purposes of this definition, "control" means the direct or indirect beneficial ownership of more than fifty percent (50%) of the issued share capital, stock or other participating interest or the legal power to direct or cause the direction of the general management, of the company, partnership or other person in question, and "controlled" shall be construed accordingly;
- 1.1.2 **"Agreement"** means this Agreement entered into by and between the Parties hereto together with any and all Annexures, appendices, schedules, addendums and amendments hereto as well any Purchase Order(s) issued thereunder, signed by the authorized representative of the Parties shall be deemed to be read as an integral part of this Agreement.
- 1.1.3 **"Claims"** shall mean all claims, liabilities, costs, damages and expenses (including court costs and legal fees)
- 1.1.4 **"Deleterious material"** shall mean any element, compound present in the goods which is not part of standard Specification or a typical assay as per the purchase order or agreement and which is likely to cause or may in general probability cause harm or damage to the operations of the Purchaser and also restricts or affects performance of the goods as per the desired / industry / specified standards.
- 1.1.5 **"Effective Date"** shall mean _____;
- 1.1.6 **"Fees"** shall mean the prices and/or rates payable by the Company in respect of the Material as specified in this Agreement and/or the relevant Purchase Order.
- 1.1.7 **"Governmental Authority"** shall mean any governmental department, local authority, commission, board, bureau, agency, regulatory authority, instrumentality, court or other judicial or administrative body, central, state, provincial or local having jurisdiction over the matter or matters in question.
- 1.1.8 **"Independent Inspection Agency (IIA)"** means a qualified independent surveyor appointed by the Purchaser and acceptable to the Supplier to perform the inspection of the Material as provided under this agreement.
- 1.1.9 **"Laytime"** means time allowed to unload the cargo from the vessel.
- 1.1.10 **"Load Port/Loading Port"** means the port at which the Coal is to be loaded.
- 1.1.11 **"Pratique"** means permission to do business at a port by a ship that has complied with all applicable local health regulations.
- 1.1.12 **"Purchase Order"** shall mean (i) the written instruction by Purchaser issued to Supplier for the provision of Material under this Agreement, which shall include the specific requirements with respect to the scope of contract, applicable rates and charges and the location of the Site; and (ii) if applicable, the oral instruction under this Agreement which shall be reduced to writing as soon as practicably possible including the specific requirements described above.
- 1.1.13 **"Purchaser Group"** shall mean and include Purchaser and its Affiliates.
- 1.1.14 **"Representative"** in respect of the Purchaser and the Supplier to include the persons so identified on the Purchase Order as their representative or such other person(s) notified by the Purchaser or the Supplier in writing to the other from time to time, which will include amongst others consultants engaged by the Party or any Affiliate of the Supplier having commonality of interest with the Supplier.
- 1.1.15 **"Site"** shall mean the location where Purchaser wishes Supplier to supply the Material.
- 1.1.16 **"Specification"** includes but is not limited to assays whether typical or otherwise or the scope or technical parameters of the Material attached to or referred to in this Agreement and/or any Purchase Order. Further Specification shall, in case of Material, always include being free from Deleterious material.
- 1.1.17 **"Statement of Facts"** means a document that is drawn up covering the time, the breakdown that occurred

Vedanta Limited (Formerly known as Sesa Sterlite Limited)

Registered Office: 1st Floor, C Wing, Unit 103, Corporate Avenue Atul Projects, Chakala, Andheri (East), Mumbai, Maharashtra 400093

CIN: L13209MH1965PLC291394



and deviation commencing from the time the vessel returned to the point of deviation and the voyage was resumed.

- 1.1.18 **"Supplier Group"** shall mean and include Supplier, its Affiliates and its and their sub-suppliers and suppliers of any tier and its and their respective Affiliates.
- 1.1.19 **"Term"** the term of this Agreement is defined in Clause 2 of this Agreement.
- 1.1.20 **"Time Sheet"** means a document which records all daily particulars relating to the loading or discharging of cargo as well as the duration of and reason for any stoppage of work and is used as a basis for the calculation of demurrage.
- 1.1.21 **"Trade Usage"** refers to generally accepted practice or norms in relation to expected standards, permissible deviation, internationally accepted scientific data, foreseeable consequences attributable to deviation beyond permissible deviation established over a period of time in course of commercial dealing between the parties to this Agreement or their associates
- 1.1.22 **"Turntime"** means, with respect of each shipment, the period of time, quoted in hours, between the tendering of the first notice of readiness, no matter whether it is accepted and the commencement of laytime, which shall in no cases exceed 12 hours.
- 1.1.23 **"Ton(s)", "Tonne(s)", and "MT"** each mean metric tonne of 1,000 Kgs as defined in International System of Units.

1.2 INTERPRETATION

In this Agreement:

- 1.2.1 Headings are for convenience only and shall not govern or affect the interpretation of the Agreement;
- 1.2.2 Except where the context otherwise requires, references to one gender include all genders and the singular includes the plural and vice versa;
- 1.2.3 Except where the context otherwise requires, references to any enactment shall include references to such enactment as re-enacted, amended or extended and any sub-ordinate legislation made under it;
- 1.2.4 References to persons include companies, corporations, partnerships, associations, and other organizations whether or not having a separate legal personality;
- 1.2.5 Except where otherwise indicated, reference to clauses, sub-clauses, recitals and annexures shall be to the clauses, sub-clauses, recitals and Annexures of this Agreement;
- 1.2.6 "including" means "including without limitation";
- 1.2.7 The rule of construction, if any, that a contract should be interpreted against the Party responsible for the drafting and preparation thereof shall not apply;
- 1.2.8 If the day on which any act, matter or thing is to be done under or pursuant to this Agreement is not a business day as per Trade Usage, that act, matter or thing shall be done on the preceding business day.

2. SCOPE OF CONTRACT

- 2.1 The effective date of this Agreement shall be 08.06.2018 (hereinafter the **"Effective Date"**) and this Agreement shall be valid from the Effective Date until delivery of and the payment for the Material (as specified in Annexure 1 of this Agreement) or any other obligations under this Agreement have been fully performed by the Parties, whichever is later (**"Term"**).
- 2.2 The terms and conditions of the Agreement shall apply from the Effective Date and shall remain valid for the Term unless this Agreement is terminated earlier by the Company hereunder.
- 2.3 Nothing in this Agreement shall obligate the Purchaser or any of its Affiliates to order any Material from the Supplier.

Vedanta Limited (Formerly known as Sesa Sterlite Limited)

Registered Office: 1st Floor, C Wing, Unit 103, Corporate Avenue Atul Projects, Chakala, Andheri (East), Mumbai, Maharashtra 400093

CIN: L13209MH1965PLC291394



3. DELIVERY/PERFORMANCE

3.1 Time shall be of the essence and any Materials delivered shall be in strict accordance with any time or schedule specified hereunder as per the Scope of Contract at **ANNEXURE-I**. Further, Materials so delivered shall be in strict accordance with the quality parameters and Specifications, specified in this Agreement and/or the Purchase Order or the relevant Trade Usage where no such parameters and Specifications are so specified.

4. CARRIAGE AND DELIVERY INSTRUCTIONS RELATING TO MATERIAL

4.1 Unless otherwise specified herein, the International Chambers of Commerce official rules for the interpretation of trade terms (Incoterms) are incorporated into the Agreement by reference.

4.2 The delivery instructions shall be governed by and construed in accordance with the provisions of Incoterms 2010 published by the International Chamber of Commerce as may be amended from time to time.

5. RISK AND PROPERTY

5.1 Unless otherwise stipulated in this Agreement and or any Purchase Order issued hereunder, title to and risk of loss for the Material shall remain with Supplier and shall only pass to Purchaser following full delivery and acknowledgement by possession of the Material to the delivery address by Purchaser or Purchaser duly authorized representative specified in the Purchase Order.

Whenever Purchaser is not the ultimate consumer of the Material, all rights, benefits and remedies conferred upon Purchaser by the provisions of this Agreement, including specifically the benefit of any warranties and transfer of title, shall accrue to and shall be for the express benefit of any third party customer and on whose behalf or for whose benefit the Purchaser has purchased the Material.

6. SHIPPING TERMS

The Supplier shall load the vessel at the Loading Port and the applicable shipping and loading terms shall be as per **Annexure I**

7. PAYMENT

7.1 Unless otherwise stated, payment will be made as per the details specified under this Agreement as per **Annexure I**.

7.2 The Purchaser shall have a right (but not an obligation) to set-off / adjust any payment due from the Supplier against any amount due / payable to the Supplier from the Purchasing Group

8. SUSPENSION

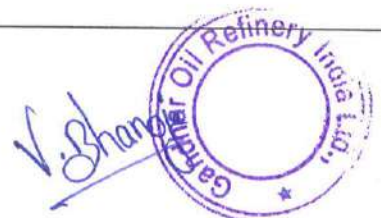
8.1 Notwithstanding anything to the contrary in this Agreement, Purchaser may, at its sole discretion, suspend this Agreement / any Purchase Order, in whole or in part, upon a notice to the Supplier for any reason whatsoever. The Purchaser shall promptly notify the Supplier in writing of the same.

8.2 Supplier's failure to perform obligations under this Agreement or any Purchase Order issued hereunder, to the standards required by the Agreement/Purchase Order and Supplier's material breach of any of its obligations under the Agreement, no payment shall be due by Purchaser in respect of such order/Purchaser order, or in the case of suspension, until the failure or breach has been remedied to the

Vedanta Limited (Formerly known as Sesa Sterlite Limited)

Registered Office: 1st Floor, C Wing, Unit 103, Corporate Avenue Atul Projects, Chakala, Andheri (East), Mumbai, Maharashtra 400093

CIN: L13209MH1965PLC291394



reasonable satisfaction of Purchaser.

- 8.3 Subject to clause above, in the event of suspension of the Agreement or any Purchase Order issued hereunder, the Material being supplied under such Agreement/Purchase Order shall, at Purchaser's discretion, either be delivered to the delivery address or shall be securely and separately stored at Supplier's premises, at Purchaser's sole cost and expense, and marked as the property of Purchaser until either such suspension is revoked or Purchaser terminates the Agreement/Purchase Order and instructs Supplier with regard to the disposal of the Material stored at Supplier's premises. The proceeds of the disposal shall be adjusted against any compensation payable hereunder.

9. SUPPLIER OBLIGATIONS

9.1 The Supplier warrants that the Material shall

- a) conform to the Specifications (as provided in **Annexure I**) which the Supplier warrants to be accurate and complete in all material respects and not misleading;
- b) comply with any applicable quality standards and/or other standards or Specifications as requested by the Purchaser and these standards/specifications shall not be changed without the prior written consent of the Purchaser

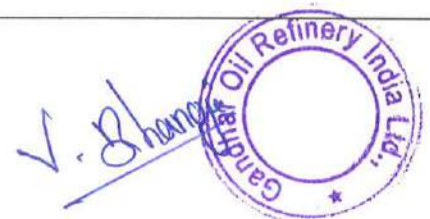
9.2 The Supplier warrants that it shall at all times and at its own expense:

- (a) maintain all necessary licenses and consents and comply with all applicable law in performance of the Agreement;
- (b) adopt safe working practices and at the proper time supply and install such guards and safety devices as may be necessary to comply with the provisions of all health, safety and environment laws ;
- (c) shall not endanger the safety of or unlawfully interfere with the convenience of any other person, including employees and/or other contractors of the Purchaser in the performance of the Agreement;
- (e) be accompanied by all appropriate information, warnings, instructions and documentation in relation to the safe use, handling, storing, operation, consuming, transportation and disposal of any Material or parts, to the Purchaser, wherever applicable;
- (f) ensure that, in performing its obligations under the Agreement, it does not cause any disturbance or damage to the industrial operations and property at the relevant site;
- (g) comply with the Purchaser's conditions (including but not limited to health and safety conditions, safety management systems, safety cases, hygiene policies and security policies) in relation to any relevant Site;
- (h) assist the Purchaser and its representative in the investigation of any accident or incident or the resolution of any dispute, which assistance shall include, but not be limited to, providing access to documents and records and providing information reasonably requested by the Purchaser;
- (i) notify the Purchaser's representative promptly as soon as it becomes aware of any breach of laws or any health and safety or issue which arises in relation to the Material (which notification shall not

Vedanta Limited (Formerly known as Sesa Sterlite Limited)

Registered Office: 1st Floor, C Wing, Unit 103, Corporate Avenue Atul Projects, Chakala, Andheri (East), Mumbai, Maharashtra 400093

CIN: L13209MH1965PLC291394



release the Supplier from any liability and/or obligations in respect of such breach, hazard or issue);

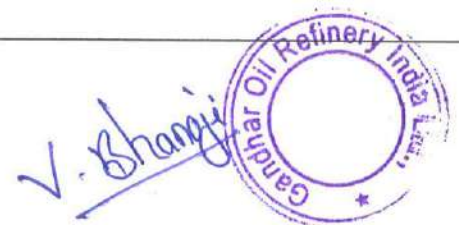
(j) notify the Purchaser's representative promptly after it becomes aware that the Purchaser is not or may not be complying with any of the Purchaser's obligations, provided that the Supplier shall not be entitled to rely on such notice as relieving the Supplier's performance under the Agreement, save to the extent that it actually restricts or precludes performance of the Supplier's obligations.

- 9.3 The Supplier further warrants that the Material shall conform with all laws applicable to such Material, including as regards the , quality, , transportation, delivery, , health, safety and environmental standards and use of such Material which are in force at the time of supply;
- 9.4 The representations and warranties mentioned herein shall survive any inspection, test, performance, acceptance or payment pursuant to the Agreement and shall be extended to any replaced Material provided by the Supplier.
- 9.5 If the Supplier fails to rectify a breach in supply of the Material, which being capable of remedy is not remedied within fourteen (14) days of notice of such default, the Purchaser may at its discretion and without prejudice to other rights and remedies under this Agreement or otherwise, avail itself of any one or more of the remedies as hereunder:
- (a) reject the Material (in whole or in part) and return them to the Supplier at the risk and cost of the Supplier on the basis that the Supplier shall immediately pay to the Purchaser a full refund for the Material so returned;
 - (b) give the Supplier the opportunity at the Supplier's expense either to remedy any defect in the Material or to supply replacement Material to ensure that the terms of the Agreement are fulfilled within a reasonable period specified by the Purchaser;
 - (c) refuse to accept any further deliveries of the Material which the Supplier attempts to make, in each case without any liability to the Purchaser;
 - (d) instruct the Supplier to suspend performance of its obligations under this Agreement with immediate effect and to take such steps as the Purchaser may direct in order to remedy such breach at the Supplier's expense;
 - (e) claim such damages as may have been sustained in consequence of the Supplier's breach or breaches of this Agreement;
 - (f) opt to use or consume the Material in the event of non-availability of substitute goods or to maintain operations of the Purchaser's plant or to avoid plant shut down but without prejudice to its right to claim damages attributable to consequences arising due to off-Specification Material;
 - (g) procure the material from an alternate source at the Supplier's risk and cost, and the Supplier shall be liable to compensate the direct and reasonable loss incurred by Buyer in this process
- 9.6 Notwithstanding anything to the contrary in this Agreement, there shall be no obligation whatsoever on the Purchaser to accept any defective or sub-standard quality Material, delayed delivery and/or performance of the Agreement and it is expressly agreed by the Parties that acceptance of such defective or sub-standard quality Material, delayed delivery in its sole discretion, shall not prejudice any right / claim of the Purchaser to damages for supply of such defective or sub-standard quality Material, delayed delivery and / or for breach of the Agreement. In the foregoing, the Purchaser shall reasonably determine the amount of damages that shall be leviable upon / payable by the Supplier. Any damages so determined by the Purchaser shall be paid by the Supplier within fifteen (15) days. The levy of damages / acceptance of performance, as above, shall not prejudice any rights of the Purchaser as per other terms of this Agreement

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/ Purchase order.

9.6 In the event of a breach by the Supplier of its obligations under this Agreement, the Purchaser shall have the right to terminate the Agreement and / or the Purchase Order issued thereunder in whole or in part or to rescind the Purchase Order, in each case without any liability to the Purchaser.

9.7 The Purchaser reserves the right to reject Material in case it is supplied prior to the scheduled delivery date until otherwise specifically waived-off in writing by an authorized Representative from the Purchaser's commercial department, prior to dispatch.

10. **INSPECTION, SAMPLING AND ANALYSIS**

10.1 The Inspection, sampling and analysis of the Material shall be carried out as per the details provided under **Annexure I**.

11. **SPECIFICATION VARIATION**

Purchaser may, at any time, make changes within the general scope of the Agreement and/or Purchase Order by giving written notice to Supplier. Such changes may include changes to the technical Specification of the Material, quantities, method of shipping, inspection standards and place of delivery. Upon receipt of such variation request, if any such change affects the purchase price and/or delivery date, Purchaser and Supplier shall agree upon an adjustment to the price and/or delivery date. The change to the Specification and /or Purchase Order, together with any adjustment to price and/or delivery date, if any, shall be set forth in a revised Variation Order issued by Purchaser and acknowledged by Supplier in writing.

12. **ASSIGNMENT AND SUBCONTRACTING**

12.1 Supplier may not assign, sublet or subcontract its rights or obligations under any Purchase Order, in whole or in part, to any third party without the prior written consent of Purchaser, which the Purchaser may at its sole discretion accept or refuse. Supplier shall have a written contract in place for each approved sub-supplier prior to such sub-supplier supplying any Material. Supplier shall assume full responsibility for the acts or omissions of Supplier's sub-suppliers of any tier. All of Supplier's subcontracts, if any, for the supply of Material shall contain terms and conditions substantially similar to those contained in this Agreement and/or the applicable Purchase Order which protect and do not restrict Purchaser's rights as set forth in this Agreement and/or in the applicable Purchase Order.

12.2 Purchaser shall have the right to assign the Agreement / Purchase Order to its Affiliate or any third party customer. This Agreement shall inure to and be binding upon the respective successors and assignees of the Parties.

13. **RECOURSE OF THE PARTIES**

13.1 Supplier shall look only to Purchaser for the due performance of the Purchase Order and nothing therein contained shall impose any liability upon, or entitle Supplier to commence any proceedings against any third party customer or any person not a party to the Agreement or the Purchase Order.

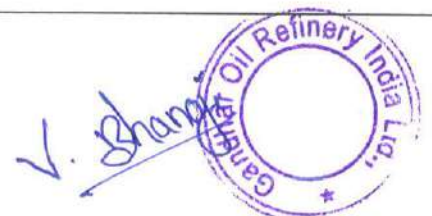
13.2 Purchaser shall be entitled to enforce any Purchase Order on behalf of any third party customer in connection with the Agreement / Purchase Order as well as for itself and for this purpose, only Purchaser may commence proceedings against Supplier. The obligations and liabilities of Purchasing Group issuing Purchase Orders are several and not joint.

13.3 It is clarified that under no circumstances, by virtue of this Agreement, will the employee/workers of the

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Supplier be deemed to have any privacy of contract with the Company nor would they or any of their heirs, assigns or successors would claim any benefit / privilege, whatsoever, from the Company.

14. NOTICE:

All Notices to Buyer under this Agreement shall be addressed to:

**VEDANTA LIMITED,
PO: LANJIGARH, DIST: KALAHANDI,
ODISHA, INDIA-766027,
FAX +91-6677 247311**

Email:

Anil.Rai@vedanta.co.in

Amit.Goel@vedanta.co.in

Praveen.Shukla@vedanta.co.in

Raghunath.Pradhan@vedanta.co.in

All Notices to Seller under this Agreement shall be addressed to:

The address and / or phone/ email/ facsimile number as given above of respective Party may change. In such instances, notice of such change shall be given in writing and shall be effective when actually received by the addressees.

All notices by Buyer and Seller, as the case may be, as well as correspondence in connection with this Agreement shall be deemed to have been duly given by Buyer/Seller upon having been sent by telefax/ email, or four days after having been mailed by registered letter, to the addresses first set forth above.

15. PREVAILING EFFECT OF THIS AGREEMENT AND RELEVANT PURCHASE ORDER(S)

15.1 This Agreement shall comprise of the following documents:

This Agreement

Annexure I: Scope of Contract

Annexure II: Standard Terms and Conditions

Annexure III: Code of Conduct

Exhibit A: Corporate Policy Directive Possession of Contraband Items

(all hereinafter the "Agreement").

15.2 This Agreement shall be governed solely as per the terms of this Agreement, to the entire exclusion of any terms/conditions that the Supplier may state/ mention in any quotation and/or any other correspondence made by the Supplier. Consequently, the terms of this Agreement shall apply and shall be incorporated by reference / deemed incorporated in any Purchase Order issued hereunder and shall prevail at all times between the Parties over any other terms and conditions (including any terms or conditions which Supplier purports to apply to any purchase order, confirmation of order, Specification, invoice or other document) with respect to the provision of Materials, except where the Parties, by its authorized signatories, have

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specifically agreed in writing to vary and override the terms of this Agreement or the Standard Terms and Conditions by Special Terms.

IN WITNESS WHEREOF the Parties hereto have executed and delivered this Agreement as of the date first above written.

Vedanta entity name:

Counterparty

Company: Vedanta Limited, Lanjigarh

Company: GANDHAR OIL REFINERY INDIA LIMITED

Signed: _____

Signed: V. Bhanuji 

Name: Anil Rai

Name: V. Bhanuji

Position: Chief Commercial Officer

Position: Sr. vice president

Date: _____

Date: 07-NOV-2019

PLEASE TICK:

WE HAVE READ THE STANDARD TERMS AND CONDITIONS ENCLOSED WITH THIS AGREEMENT

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ANNEXURE I

SCOPE OF CONTRACT

1. COMMODITY

This contract is for the sale of Coal, which shall mean, Steam (non-coking) coal of South African Origin in Bulk.

2. Contract Price

The Contracted Rate is Rs.4440/- PMT+GST@5%+GST CESS@Rs.400/-PMT.

3. Contract Quantity

The Contracted quantity is 50000 (+/-) 10% metric tonne.

4. DELIVERY

Delivery to be completed maximum by 31.12.2019.

5. PAYMENT

100% usance LC validity 180 days. Interest on Vedanta scope.

- a) Payment to be made against usance LC of 180 days, interest being in Vedanta's scope
- b) Tax invoice to be raised for 100% amount (basis 5000 GCV-5700GCV) at the time of RR and payment to be done as under:

- ✓ 100% payment LC to be paid within 7 working days from the date of submission of original Tax invoice & RR to the bank & quality finalization as per Vedanta's lab. Vedanta will provide payment certificate to you and LC can be discounted basis scanned copy of payment certificate. The same shall be applicable on rake to rake basis.

****Scanned copy of payment advice from Vedanta- As soon as Vedanta receives quality certificate, Vedanta will issue a payment advice after adjustment of Dead freight Quality adjustment, the same can be presented to bank for payment purpose.

- ✓ Vedanta plant Lab Quality shall be final for payment purpose for both the parties.
- ✓ Dead freight beyond 150 MT in RR Quantity and RR Chargeable quantity shall be in Seller's account.
- ✓ Punitive shall be on Seller's account.

Invoice pattern should be as follows

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	Rate	Variable (Approx only) Rs.	Total(Rs.)
Basic	4440	0	4440
BCD		NA	0
Port		NA	NA
Cess	400		400
GST	5%		222

6. SPECIFICATIONS

The Coal sold under this contract shall have the following specifications

S/N	Description	Basis	UOM	Value	Max	Min	REJECTION*
1	Total Moisture	ARB	%	6	7		ABOVE 10%
2	Ash	ADB	%	22	25		ABOVE 30%
3	Volatile Matter	ADB	%	22	28		Below 20%
4	Sulphur	ADB	%	1%	1%		NA
5	HGI	ARB		45 – 70			NA
6	GCV	ARB	Kcal / Kg	5700		5000	Below 4800 GCV ARB
7	Size	MM	MM	0 – 50			NA
8	IDT						NA
9	Iron Fe2O3		%				NA

7. Price Adjustment

7.1 IF GCV ARB(5000-5700) :

Adjusted CIF Price PMT = $\frac{\text{Actual Gross Calorific Value (ARB)} \times \text{Base Price}}{\text{Contractual Gross Calorific Value (ARB)}}$

Contractual Gross Calorific Value (ARB)

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7.2 IF GCV ARB(Below 4800) :

Below 4800GCV (ARB) then material shall be fully rejected & supplier shall returned back the same.

Note: -

1. If material found rejection grade at discharge port then buyer has the rights to reject the same at discharge port only.
2. Seller has to ensure there should not be any blending/Contaminations of cargo during the lifting period. If found then the buyer shall have the rights to reject the same at discharge port.

All percentages used refer to percentage by weight, quality to be determined pursuant to Article 3.0.

8. USD EXCHANE RATE

NA

9. DUTIES AND TAXES

This sale is made on Stock & Sale basis. The seller shall file the Bill of Entry in its name and shall arrange to clear the cargo. Buyer will pay all charges to clear the cargo including Custom duty, CESS, directly to Seller.

Stevedoring, Port handling, clearing charges, plot rent, and any other charges, duties, levies etc. Limited to Rs 200 Per MT.

ANNEXURE II

STANDARD TERMS & CONDITIONS



Coal Procurement
STCs.pdf



This Supplier Code of Conduct is applicable to all 'Suppliers' globally. 'Supplier' here refers to suppliers/ service providers/ vendors/ traders / agents/ consultants/ contractors/ joint venture partners/ third parties including their employees, agents and other representatives, who have a business relationship with and provide, sell, seek to sell, any kinds of goods or services to Vedanta Resources Plc or any of its subsidiaries, affiliates, divisions ("Vedanta").

This Code sets forth the basic requirements that we ask our Suppliers to respect and adhere to when conducting business with Vedanta. This Code embodies Vedanta's commitment to internationally recognized standards, including the Core Conventions of the International Labour Organization, United Nations' Universal Declaration of Human Rights as well as prevalent industry standards, and all other relevant and applicable statutory requirements concerning Environment Protection, Minimum Wages, Child Labour, Anti-Bribery, Anti-Corruption, Health and Safety, whichever requirements impose the highest standards of conduct.

▪ **LABOUR & HUMAN RIGHTS**

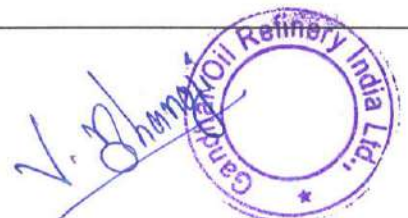
Adhering to all Labour Laws and Human Rights Laws, Suppliers shall:

- Comply with all applicable local, state and national laws regarding human rights.
- Comply with the Company's Human Rights Policy.
- Ensure that all their employees are hired on their own free will and guarantee that all their operations are free from forced, bonded, compulsory, indentured, prison labour or any other form of compulsory labour and child labour.
- Ensure that all its employees are provided equal employment opportunities, an environment conducive to their growth, free from any form of discrimination and harassment.
- Ensure compliance with minimum working hours and minimum wages prescribed by applicable laws and regulations.
- Comply with all slavery and human trafficking laws. Suppliers must ensure they have taken steps to ensure their business operations are free from slavery and human trafficking practices both internally and within their supply chains and other external business relationships.
- Ensure that employees are not be charged any fees or costs for recruitment, directly or indirectly;
- Not confiscating or withholding worker identity documents or other valuable items, including work permits and travel documentation of any of its workers/ employees.

▪ **HEALTH, SAFETY & ENVIRONMENTAL SUSTAINABILITY**

- The Supplier shall provide its employees with a safe and healthy working environment and comply with all applicable laws and regulations regarding working conditions.
- Supplier shall follow all Environmental, Health and Safety and other operational policies of the Company while executing any work or contract at the company site.
- Supplier shall follow all laws of the land including laws on Environment sustainability and protection while executing any work for the Company.

SSSSSS



▪ BUSINESS INTEGRITY

Anti-Bribery: The Supplier shall not, directly or through intermediaries, take any recourse to any unethical behaviour (implicit or explicit), or offer or promise any personal or improper advantage in order to obtain or retain a business or other advantage from a third party, whether public or private, including with any employee of Vedanta. More specifically:

- Shall not offer or accept bribe or use other means of obtaining undue or improper advantage, offer or accept any kickbacks, and shall not take any actions to violate or cause its business partners to violate any applicable anti-bribery laws and regulations including the Foreign Corrupt Practices Act of USA (FCPA), Bribery Act of United Kingdom and Prevention of Corruption Act of India.
- Shall not take any advantage of any family/ social/ political connections to obtain favorable treatment or for the advancement of business or obtaining any favours. Merit shall be the sole attribute of association with Vedanta.
- Shall not enter into a financial or any other relationship with a Vedanta employee that creates any actual or potential conflict of interest for Vedanta. The Supplier is expected to report to Vedanta any situation where an employee or professional under contract with Vedanta may have an interest of any kind in the Supplier's business or any kind of economic ties with the Supplier.

- Shall not offer any gift, hospitality or entertainment for the purpose of obtaining any advantage, order or undue favor.

Unfair Trade Practices: Supplier shall desist from any unfair or anti-competitive trade practices.

REPORTING OF UNETHICAL PRACTICES AND GRIEVANCE ADDRESSAL MECHANISM

The Supplier shall ensure that an effective grievance procedure has been established to ensure that any worker/ employee, acting individually or with other workers, can submit a grievance without suffering any prejudice or retaliation of any kind.

Suppliers shall also forthwith report any unethical activity or discrimination if practiced by any Vedanta employee/ other Suppliers as per Vedanta whistle-blower policy (uploaded on the company website). sgl.whistleblower@vedanta.co.in

▪ INTELLECTUAL PROPERTY

The Supplier shall take appropriate steps to safeguard and not infringe any Vedanta confidential and proprietary information/ intellectual property/ technology which come to its knowledge during the course of its business relationship/ dealings with Vedanta. In case of sub-contracting, sharing of confidential information should be made with the consent of Vedanta.

▪ THIRD PARTY REPRESENTATION

The Suppliers shall not be authorized to represent Vedanta or to use Vedanta's brands without the written permission of Vedanta. Third parties and their employees who are authorized to represent Vedanta are expected to abide by the Vedanta's Code of Conduct & Business Ethics Policy in their interaction with, and on behalf of Vedanta including the confidentiality of information shared with them and to sign a non-disclosure agreement to support confidentiality of information.

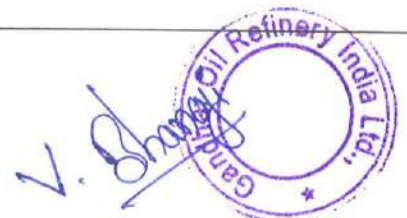
▪ PROHIBITION ON INSIDER TRADING

If the Supplier becomes aware of material, non-public information relating to Vedanta or its business, it may not buy or sell Vedanta securities or engage in any other action to take advantage of that information, including passing that information on to others. In addition, if the Supplier becomes aware

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of material, non-public information about any other company, including Vedanta customers, suppliers, vendors or other business partners, that is obtained by virtue of the supplier's interaction with Vedanta, then the Supplier shall not buy or sell that company's securities or engage in any other action to take advantage of that information, including passing that information on to others.

SUPPLIER'S COMPLIANCE COMMITMENT

Vedanta expects the Supplier to adhere to all applicable laws and regulations and in particular comply with this Code in letter and spirit. It is the Supplier's responsibility to read and understand the contents of this Code and Vedanta's Code of Conduct & Business Ethics Policy. As a condition of doing business with Vedanta, the Supplier must comply with this Code and agree to uphold such values during its business association with Vedanta.

The Supplier shall maintain adequate documentation to demonstrate compliance with the principles of this Code, and allow access to Vedanta to check compliance upon request with reasonable notice. The Supplier shall notify Vedanta regarding any known or suspected improper behaviour by the Supplier relating to its dealings with Vedanta, or any known or suspected improper behaviour by Vedanta employees.

Please contact the concerned Head commercial/ Company Secretary if you have any questions about this Code.

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EXHIBIT A CORPORATE POLICY DIRECTIVE - POSSESSION CONTRABAND ITEMS

It is the policy of Vedanta to maintain a safe work environment for its employees. To this end, the possession of any illegal drug, drug paraphernalia, alcoholic beverage, explosive, weapon or any other similar item or substance which could cause or contribute to injury to Vedanta personnel or damage to its property ("contraband") is strictly prohibited at work locations or other business premises ("work areas") of Vedanta. This policy may be implemented by such reasonable means as may from time to time be determined appropriate, including searches of the person and personal effects of any person.

Compliance with this policy is a condition of employment of Vedanta and employees who decline to be searched or who are otherwise found in violation of this policy will be subject to immediate termination. Non-employees who decline to be searched or are otherwise found in violation of this policy or Vedanta's Substance Abuse Policy will be excluded from Vedanta work areas. Below is a Notice outlining Vedanta's Substance Abuse Policy.

DRUGS, ALCOHOL, FIREARMS, SEARCHES

Vedanta is concerned about the effects of the use of illegal drugs and the abuse of alcohol on the health and safety of its employees. We recognize that alcoholism and the illegal use of drugs leads to increased accidents and medical claims, and can lead to the destruction of an employee's health, and adversely affect his or her personal life. Employees who abuse drugs and alcohol are a danger not only to themselves, but also to their fellow employees. In addition, the medical costs incurred by employees with drug or alcohol problems are much higher than those of other employees, and the decreased productivity of these individuals can adversely affect a company's ability to operate competitively. To help prevent substance abuse among our employees, Vedanta has a policy and practice of testing applicants, employees, and others that may regularly work in or on Vedanta premises. Applicants for employment will be required to undergo a drug-screening test as part of consideration for employment. Employees and others will be required, under certain circumstances, to cooperate with drug testing procedures and drug searches.

The unauthorized possession or use of illegal, drugs, narcotics, alcohol and firearms is not permitted on any Vedanta property or job site that is not Vedanta property, and the use of, possession of, and/or distribution of such items by any person on any Vedanta installations, property, or facilities poses a serious threat to the safety of our employees, other personnel and operations.

SEARCHES, INSPECTIONS, AND ANALYSES

We reserve the right, at all times, to have authorized personnel conduct reasonable searches or inspections on Vedanta property of personal effects, lockers, baggage, vehicles, and quarters of employees and other personnel for the purpose of determining if any such persons are in possession of any illegal or unauthorized items. These searches will be conducted in cases where the Vedanta receives reliable information indicating that reasonable cause exists to conduct a search.

Any Vedanta employee who refuses to submit to a search, urine analysis, blood test, or who is found in possession of any such illegal or unauthorized items without an explanation satisfactory to us will be subject to disciplinary action up to and including immediate discharge.

When appropriate, such items discovered through these Vedanta searches may be taken into custody and may be turned over to the proper law enforcement authorities.



GLENCORE

INTERNATIONAL AG

CXL89543

Contract No. CXL 89543

Dated: 7th November 2019

CONTRACT FOR SALE AND PURCHASE OF STEAM COAL

SELLER: GLENCORE INTERNATIONAL AG
Baarer mattstrasse 3,
P. O. Box 1363,
CH – 6341,
Baar, Switzerland

BUYER: VEDANTA LIMITED
Registered office at
1st floor, C wing, Unit 103, Corporate Avenue,
Atul Projects, Chakala, Andheri (East),
Mumbai-400093, Maharashtra, India

And has one of its Units at
Vedanta Limited – 90 MW power Plant
Viswanathpur, Kalahandi District,
Lanjigarh, Odisha 766027

By this agreement the Seller agrees to sell and the Buyer agrees to buy the following material on the under mentioned terms and conditions:

1. DEFINITIONS :

In this Agreement, unless the context otherwise requires, the following terms shall respectively have the following meanings:

- a) A fraction of a cent in any calculation shall be rounded up to the nearest cent if such fraction is one half of a cent or more, and shall be rounded down when otherwise.
- b) A fraction of a tonne in any calculation shall be rounded up to the nearest tonne if such fraction is one half of a tonne or more, and shall be rounded down when otherwise.
- c) "ASTM" means the American Society for Testing and Materials and "ISO" means International Organization for Standardization.
- d) "Coal" means Steam coal of South African origin in bulk.
- e) "Dollars", "US Dollars", "USD", "US\$", "\$", "Cents" where used shall refer to the currency of the United States of America.
- f) "FOB" (Free on Board) shall refer to the completion of the loading of the Coal in the vessel designated by Buyer at the loading port and has the meaning set forth in INCOTERMS – 2010
- g) "Kcal" means Kilocalorie (s) as defined in the "International System of Units"
- h) "Kg" means Kilogram (s) as defined in "International System of Units"
- i) "mm" means Millimeter as defined in "International System of Units".
- j) "Port of Loading" means the port at which the coal is to be loaded. For this contract it would be Richards Bay Coal Terminal, South Africa.
- k) "Pratique" means permission to do business at a port by a ship that has complied with all applicable local health regulations.
- l) "Statement of Facts" means a document that is drawn up covering the time, the breakdown that occurred and relating to the loading of cargo as well as the duration of and reason for any stoppage of work and is used as a basis for the calculation of laytime.
- m) "Ton (s)", "Tonne (s)", and "MT" means metric tonne of 1,000 Kgs as defined in "International System of Units".
- n) "Working day" means a day upon which business is regularly transacted and unless expressly stated, the term "day" shall be deemed to mean "calendar day".
- o) Demurrage" means the amount payable by the Seller to the Buyer if time actually used in loading the vessel is greater than the allowed laytime. Demurrage rate shall be notified by Buyer to the Seller at the time of vessel nomination and must be in line with market rate prevalent for similar sized vessels.
- p) "Despatch" means the amount payable by the Buyer to the Seller if allowed laytime is greater than the time actually used in loading the vessel. Despatch rate shall be half of the demurrage rate.
- q) "Laycan" means the period of time agreed for loading the vessel.

2. CARGO DESCRIPTION

Steam (Non Coking) Coal of South African origin in bulk.

GLENCORE
INTERNATIONAL AG



GLENCORE

INTERNATIONAL AG

CXL89543

3. **QUANTITY**
75,000 mts+/-10% at Vessel's option
4. **SHIPMENT PERIOD (Loadport Laycan)**
25th November – 4 December 2019
5. **ORIGIN**
South African
6. **PORT OF LOADING**
Richards Bay Coal Terminal, South Africa.
7. **TYPICAL SPECIFICATIONS:** As per ISO/ ASTM standards at Seller's option.

Parameter	Typical	Rejection
Total Moisture (arb)	8%	>12%
Moisture in Analysis Sample (adb)	2 – 4%	No rejection
Ash (arb)	28%	>29%
Volatile Matter (arb)	20%	<18 %
Total Sulphur (arb)	1%	>1.1
Net Calorific Value (arb)	4800 kcal/kg	<4600 kcal/kg
Size 0-50mm	90%	No rejection
AFT - IDT (reducing) deg C	1350	<1250
Hard Grove Grindability Index (adb)	45-70	<45 & >70

The above mentioned are typical specifications as contractually agreed. Nevertheless, if the certificate of sampling and analysis reflects results that do not exceed the rejection confines of specifications listed in the rejection column, the beneficiary of the letter of credit may negotiate LC without discrepancy.

ARB = As Received Basis, NCV = Net Calorific Value = Net Calorific Value Constant volume, ADB = Air Dry Basis, DB = Dry Basis

8. **PRICE**
USD 43.20 pmt (US Dollar Forty three and twenty cents only) FOB RBCT, basis Net Calorific Value (arb) 4800 Kcal/kg scale pro-rata

9. **PREMIUM / PENALTY**
Net Calorific Value (ARB)
If the actual Net Calorific Value (ARB) of coal as declared by Independent Inspection Agency is above or below 4800 kcal/kg, then the FOB price will be adjusted as per following formula:

$$\text{Adjusted price} = \frac{\text{FOB Price} \times \text{Actual Net Calorific Value (ARB)}}{4800 \text{ kcal/kg}}$$

No CV cap applicable.
No other price adjustments applicable on any other parameters.

10. **LOAD PORT AND LOADING TERMS:**
The loading terms to be governed strictly in accordance with the latest Shipping Regulations issued by the Richards Bay Coal Terminal Company Limited (RBCT rules) and all such rules, regulations, requirements and restrictions are fully incorporated into this contract by this reference. Any time lost, demurrage, or costs arising from Buyer/charterer/vessel/master/owner's non-compliance with RBCT rules shall be for the buyer's account.

Nomination
The Buyer warrants and represents that it will not nominate any vessel in the performance of its obligations under this Contract in violation of US sanctions, European Union sanctions, Swiss sanctions or any other applicable sanctions (hereinafter, "Sanctions") or which would put Glencore in breach, or under designation risk, of Sanctions.

Glencore will have the right to reject any nomination which (a) violates any Sanctions, (b) puts Glencore in breach, or under designation risk, of any Sanctions, or (c) otherwise involves a vessel that is the subject of any Sanctions (including, but not limited to, vessels that are the subject of Sanctions due to ownership or country of registration, or that appear on any Sanctions list), by serving a rejection notice on the Buyer detailing the grounds for the rejection. Service of such notice shall not constitute a breach of this Contract and Glencore shall not be liable to the Buyer for any losses, claims, costs, expenses, damages or liabilities arising in connection with any such rejection. If Glencore rejects a nomination on these grounds it shall be entitled, at its sole discretion, to (i) require the Buyer to promptly nominate a suitable substitute vessel; or (ii) terminate this Contract.

To the full extent permitted by applicable law, the Buyer shall indemnify Glencore against any and all costs, expenses, losses and liabilities it incurs as a result of the Buyer nominating a vessel in breach of this clause.

ISPS Compliance

The buyers warrant that any vessel which they nominate in connection with this contract complies with the requirements of the ISPS Code and/or the US Maritime Transportation Security Act 2002 ("MTSA"). The seller warrants that any port at which the goods sold under this contract are or are intended to be loaded complies with the requirements of the ISPS Code and/or MTSA (if applicable).

The buyers shall be responsible for any and all costs and/or expenses and/or losses and/or damages and/or delay arising out of or in connection with the failure of the vessel or its owners or charterers to comply with the requirements of the ISPS Code or, if applicable, MTSA and any time thereby lost shall not count as laytime or time on demurrage or detention, as the case may be. The sellers shall be responsible for any and all costs and/or expenses and/or losses and/or damages and/or delay arising out of or in connection with any failure by the loadport to comply with the requirements of the ISPS Code and/or MTSA, if applicable, and any time thereby lost shall count as laytime or time on demurrage or detention, as the case may be. The parties' liability for any breach of these clauses is limited to the direct costs and expenses caused thereby and neither party will bear any responsibility for consequential losses, as defined in the attached ISPS Clause.

The respective responsibilities and obligations of the buyers and the sellers pursuant to this contract are set out fully in the attached ISPS Clause for Loadport (FOB/FAS Contracts), the terms of which are incorporated into this contract and copies of which have been made available to you. In the event of any difference, ambiguity or discrepancy between this Short ISPS Clause and the attached ISPS Clause for Loadport (FOB/FAS Contracts), then the latter shall prevail.

ISPS clause as per Annexure A shall form part of the contract.

11. INSPECTION, SAMPLING AND ANALYSIS

Seller shall, at their own cost appoint an independent Inspection Agency SGS South Africa Pty. Ltd. to perform Sampling and analysis at loading port and issue certificate of Sampling and Analysis in their standard format. Results so determined shall be regarded as final and binding on both the parties.

The representative sample shall be divided into three parts to provide:

- (i) one sample for analysis by the Independent Inspection Agency SGS South Africa Pty. Ltd. at the loading port (the "Loading Port Sample");
- (ii) one sample to be delivered to the Buyer/Buyer's inspection agency if requested in a suitable airtight container properly sealed and labeled
- (iii) one sample to be retained by the Independent Inspection Agency SGS South Africa Pty. Ltd. in a suitable airtight container properly sealed and labeled until 90 (ninety) days after the bill of lading date for the vessel (the "Umpire Sample").

The Certificate of sampling and analysis issued by such independent Inspection Agency will be final and binding for all Commercial and Contractual purposes.

In the event that either Party wishes to challenge the results as certified in the Certificate of Analysis, it shall do so by giving written notice to the other Party within 30 (thirty) working days from the date of completion of discharge of the shipment at the discharging port. In such event the Umpire Sample shall be sent for analysis to an independent laboratory, of international repute, mutually agreed on by the Parties (the "Umpire Analysis").

To the extent that the results of the Umpire Analysis for the parameter(s) in question are within ISO/ASTM reproducibility limits of the value(s) obtained by Independent

Inspection Agency SGS South Africa Pty. Ltd at the loading port, the value(s) obtained by such Agency shall be final, and the cost of the Umpire Analysis shall be paid by the challenging Party. To the extent that the results of the Umpire Analysis for the parameter(s) in question are not within ISO/ASTM reproducibility limits of the values obtained by the Independent Inspection Agency SGS South Africa Pty. Ltd. at the loading port, then the results of the Umpire Analysis will replace the values obtained by such Agency, and the cost of the Umpire Analysis will be paid by the Seller.

12. DETERMINATION OF QUANTITY

The Seller shall at their own cost appoint an Independent Inspection Agency SGS South Africa Pty. Ltd. at the loading port to carry out draught survey at the loading port. Certificate of weight issued at load port shall be regarded as final and binding for the purpose of this contract and shall form the basis of settlement absent fraud or manifest error.

13. PAYMENT

100% cargo value will be paid by irrevocable, confirmable Letter of Credit opened by the Buyer, payable at Sight in a format agreeable to the Seller. Such Letter of Credit shall be opened by a first class bank and payable at the counters of confirming / advising bank nominated by the Seller.

LC must be received by Sellers at least 5 (five) days prior to the commencement of laydays or vessel arrival whichever is earlier and Vessel will not commence loading unless clean and workable L/C is received by Sellers through advising bank. Clean LC to be in place latest by 20th November 2019. Any direct and indirect costs associated with delays in berthing vessel as a result of not having workable/confirmed LC to be solely for Buyers account.

Buyer to advise Seller name and city of opening bank through which the L/C is to be advised. The Seller to advise any amendments required once the L/C has been received by them through advising bank.

Seller, upon written request from Buyer at its sole discretion may accept that a letter of credit in form and substance fully acceptable to Seller and as otherwise provided for in this payment clause.

The L/C shall cover 100% the value of the quantity to be loaded and shall be valid at the advising bank's counter by negotiation until 40 days from the Bill of Lading date.

Applicant's bank charges will be to applicant's account and Beneficiaries bank charges will be to beneficiaries account.

Release of the Payment: 100% of the value of the Coal supplied shall be released against the documents stipulated in the LC as follows:

- i. Seller's signed commercial invoice in 1 original + 3 copies showing details of calculation and stating LC Number.
- ii. Full set (3/3) original clean on board Charter Party Bill of Lading marked "Freight Payable as per charter party".
- iii. Certificate of Sampling and Analysis in 1 original + 3 copies issued by Independent Inspection Agency SGS, South Africa Pty. Ltd.
- iv. Certificate of Weight in 1 original + 3 copies issued by independent inspection Agency SGS, South Africa (Proprietary) Ltd.
- v. Certificate of Origin in 1 original + 1 copy evidencing the goods are of South African origin issued by Zululand Chamber of Commerce.

Other terms of the Letter of Credit:

- a. T. T. reimbursement shall be allowed.
- b. Third party documents shall be acceptable, except Bill of Exchange and Commercial Invoices.
- c. Over/Under drawing of LC due to quality/quantity adjustment acceptable.
- d. A tolerance of +/-10% in both quantity and amount are acceptable.
- e. If Buyer requires split Bills of Lading, Buyer shall confirm same to Seller at least 3 working days prior to the performing vessels ETA at loading port. A maximum of 5 split Bills of Lading are allowed.
- f. Letter of Credit to permit 40 Days Presentation period
- g. Complete set of copy documents to be provided within 10 working days from vessel sailing.

Notwithstanding any other terms herein, in the event that the Buyer fails to open an L/C in accordance with the terms above, the Seller shall not be obligated to load the vessel and may, in its sole discretion and without liability, delay and/or terminate the shipment and/or terminate this contract. In the event that the Buyer fails to open an L/C in accordance with this clause 13, the Buyer shall be responsible for any and all costs, losses and expenses arising from or relating to its failure to open the L/C on time and in accordance with the terms above, including, without limitation, any costs, losses or expenses incurred by the Seller due to delays in berthing. The Buyer shall pay any and all such amounts on demand by the Seller and in any event prior to discharge of the Coal at the discharge port.

Without prejudice to the Seller's rights under clause 13, if the L/C is received by the Seller's nominated bank by latest 5 (five) days prior to the commencement of laydays for a shipment but is not received in a format fully acceptable to the Seller, the Seller is, in its sole discretion, entitled to send a notice to the Buyer requiring the Buyer to amend the L/C so that it is in a form fully acceptable to the Seller. In the event that the Seller sends such a notice, the Buyer is obliged to amend the L/C at his own cost according to Seller's instructions within three (3) business days of receipt of the notice.

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For the avoidance of doubt, whether for the purposes of clause 13, the Buyer's obligation to open and/or amend the L/C is fulfilled only on the (a) receipt of the swift message(s) at the counters of Seller's nominated bank (if such receipt occurs during the office hours of the Seller), or (b) 09.00 hours on the consecutive business day after receipt of the swift message(s) at the counters of Seller's nominated bank (if received at the counters of Seller's nominated bank occurs outside of office hours of the Seller).

In case if the buyer opts for UPAS LC, then beneficiary to be paid at sight and Usance Interest to the account of Buyer. No intermediary bank will be allowed.

13A.1

Any and all telegraphic transfer payments due from the Buyer to the Seller under the terms of this contract shall be made to the following account:

Beneficiary : GLENCORE INTERNATIONAL AG
IBAN/Account of Beneficiary : DE14 2007 0000 0125 5066 00
Bank of Beneficiary : Deutsche Bank AG, Hamburg, Germany
SWIFT/BIC : DEUTDEHHXXX
Cover through : Deutsche Bank AG, New York, USA
SWIFT/BIC : DEUTUS33XXX

Any and all telegraphic transfer payments due from the Seller to the Buyer under the terms of this contract shall be made to the following account:

BENEFICIARY : VEDANTA LIMITED
ADDRESS : 1st floor, C wing, Unit 103, Corporate Avenue, Atul Projects, Chakala, Andheri (East), Mumbai - 400093, Maharashtra, India And has one of its Units at Vedanta Limited - 90 MW power Plant Viswanathpur, Kalahandi, District, Lanjigarh, Odisha 766027
IBAN / A/C NO. 054451000039
BANK : ICICI BANK LIMITED
ADDRESS : Commercial Complex, Opp. Ram Temple, Vedanta Meadows, Badmal - 768201, Odisha
SWIFT CODE :
US CORRESPONDENT :
SWIFT :

13A.2 In the event a Party (the "Requesting Party") wishes to change its account details for the purpose of clause 13A.1 above, it shall make a written request to the other Party (the "Receiving Party") by way of a letter signed by authorised signatories.

Such written request shall:

- (a) be received by the other Party no later than fifteen (15) days prior to the due date for any affected payment, and
- (b) identify the beneficiary/account name, the bank name, the bank's address/branch, the account number/IBAN, and the swift code (the "New Account").

The Requesting Party shall, upon the other Party's first request, provide the other Party with:

- (i) proof of the signatories' authority to sign (such proof to be satisfactory to the other Party, acting reasonably), and
- (ii) written confirmation from the bank at which the New Account is held that the New Account is held by the Requesting Party.

If the written request complies with (a) and (b) above, and if the documents identified at (i) and (ii) are provided upon the Receiving Party's first request, the Parties shall execute an amendment to this contract in a form to be mutually agreed, recording the change of account.

The Receiving Party shall not be liable to the Requesting Party for any reasonable delays in effecting payment that occur as a result of requesting or awaiting receipt of the documents identified at (i) and (ii), and/or as a result of the required amendment being executed.

14. TITLE & RISK:

Title: The Seller shall retain title to and ownership of the material of each delivery until the payment for such delivery has been received in full by Seller in accordance with the terms and conditions of this contract.

Risk: The risk shall pass to Buyer in accordance with INCOTERMS 2010.

15. TAXES, DUTIES ETC.

All taxes, duties, levies, dues, etc. on the coal at the load port, if any, shall be to the Seller's account. All current and/or future taxes, duties, levies, etc. necessary for the import at its destination or transit through any country, if any, shall be to the Buyer's account.

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16. LAYTIME CALCULATIONS AND SETTLEMENT:

Laytime calculation to be confirmed and accepted within 20 days of the vessel completing loading at load port. Demurrage/despatch amounts to be settled for individual shipment within 30 days from the BL date by both the parties i.e. Buyer and Seller. Demurrage / dispatch rates to be market related and advised at the time of vessel nomination.

17 INCOTERMS

Unless otherwise specified herein INCOTERMS 2010 shall apply.

18 FORCE MAJEURE

- 18.1 Neither Party shall be liable for any delay in performing or failure to perform its obligations (except for delay or failure to pay money when due) due to events of Force Majeure including but not limited to acts of public enemy, war, blockade, revolution, riot, insurrection, civil commotion, strike, lockout, explosion, fire, flood, storm, tempest, earthquake, power failure, regulations or orders, including but not limited to prohibition of export or import and/ or any other cause or causes beyond the reasonable control of the Seller, the Seller's supplier, or the Buyer whether or not similar to the causes enumerated above. Failure to deliver or to accept delivery in whole or in part because of the occurrence of an event of a Force Majeure event shall not constitute a default hereunder or subject either party to liability for any resulting loss or damage.
- 18.2 Upon the occurrence of a Force Majeure event, the Party affected by the Force Majeure shall promptly give the other Party written notice of the event of Force Majeure, and shall specify in reasonable detail the facts constituting the event of Force Majeure. Where such notice is not given promptly, Force Majeure shall not justify the non-fulfillment of any obligations under this contract.
- 18.3 The Party affected by the Force Majeure shall give the other Party (a) regular written updates during the period of the Force Majeure, and (b) prompt written notice when the Force Majeure circumstances cease to exist.
- 18.4 Subject to below points (a,b,c) both Parties agree to use their respective reasonable efforts to cure any event of Force Majeure to the extent that it is reasonably possible to do so, it being understood that the settlement of strikes, lockouts, and any other industrial disputes shall be within the sole discretion of the party asserting Force Majeure.
- 18.5 The Seller is not required to provide any of the following as a result of a Force Majeure event:
- a) substitute coal;
 - b) alternate transport for the coal from the mine to the loading port; or
 - c) alternate loading facilities for the coal.
- 18.6 In the event of Force Majeure preventing the Seller from shipping or delivering the material, or preventing the Buyer from accepting such material, respectively, deliveries shall be suspended for the duration of such Force Majeure event but if such Force Majeure shall last more than 60 (sixty) calendar days, the tonnage involved may be cancelled with immediate effect by the Party not having declared Force Majeure by written notice to the other Party.
- 18.7 Financial or economic circumstances shall not constitute an event of Force Majeure.

19. TERMINATION

Either Party may terminate this Contract with immediate effect by giving written notice to the other Party in the following circumstances:

If the other Party has an administrator, manager, liquidator, receiver or similar officer appointed over it or all or any of its assets, makes any arrangement with its creditors, is unable to pay its debts as they fall due, ceases to carry on business, or is the subject of a winding-up order; or if the other Party, without previous written approval of the other Party, purports to transfer its rights and obligations under this Contract to third parties save as permitted under clause 27 (Assignment).

The Parties' rights under this clause 19 are in addition to their other rights herein. Termination of this Contract pursuant to this clause is without prejudice to and does not affect (a) the accrued rights or remedies of either of the Parties arising in any way out of this Contract up to the date of such termination and/or (b) the Parties' common law rights

20. AMENDMENTS

No amendment of this Contract shall be effective unless made in writing and signed by duly authorized representatives of the Buyer and the Seller. Such addendum if so signed shall thereafter form an integral part of this Contract.

21. NO WAIVER

Any delay or failure by either Party to exercise in whole or in part, in any one or more instances, any right or remedy under or in connection with this Contract shall not operate as a waiver of such right or remedy. A waiver of any breach of any provision of this Contract shall not be effective unless that waiver is in writing and is signed by a duly authorized representative of the Party against whom that waiver is claimed. A waiver of any breach shall not be, or be deemed to be, a waiver of any other or subsequent breach.

22. REPRESENTATIONS AND WARRANTIES

Each Party hereby represents and warrants to the other Party on the date of this Deed that:

- it is duly incorporated, organised and in existence under the laws of its jurisdiction of incorporation;
- it has the power to enter into and perform this Deed and has taken all necessary corporate action to authorise the entry into and performance of this Deed;
- this Deed constitutes its legal, valid and binding obligations;



- this Deed does not conflict with any law or agreement to which it is a party or its constitutional documents; and
- all authorisations required by it in relation to this Deed have been obtained and are in full force and effect.

23. ADDITIONAL WARRANTIES

All terms, conditions and/or warranties, other than those expressly contained in this Agreement, whether implied, statutory or otherwise relating in any way to the subject matter of this Contract or to this Contract generally, are excluded. This Contract is subject to the Sale of Goods Act 1979, save that sections 10-14 do not apply.

24. TOTAL AND PARTIAL LOSS

In the event of total or partial loss or damage of the Coal during transport after risk in respect of the Coal has passed from the Seller to the Buyer (as set out in clause 14 Title and Risk), final settlement for the Coal that has been lost or damaged shall be made based on the Bill of Lading weights and at the time it would ordinarily have become due for payment in accordance with the terms of this Contract. For the purpose of this provision, in case of total loss, the estimated date of arrival at discharge port of the relevant vessel shall be considered the vessel's arrival date.

25. MATERIAL ADVERSE CHANGE

If the Buyer becomes insolvent or is adjudged bankrupt or a receiver or administrator is appointed over Buyer or any of its assets or insolvency or bankruptcy or similar proceedings are commenced in relation to the Buyer or its assets, or if the Buyer shall fail to make any payment to the Seller when due under this contract, or in the event of circumstances which, in the reasonable opinion of the Seller has, or may have a material adverse effect on the credit worthiness of the Buyer and/or the Buyer's ability to perform its obligations under this contract, the Seller may at its sole option upon written notice to the Buyer thereof (a) terminate this contract, or (b) suspend or defer performance of this contract pending payments in advance and/or the opening of a letter of credit, as to shipment(s) in default or as to any future shipment, or both; and the Buyer shall become liable for any and all costs, liabilities and expenses whatsoever incurred by the Seller due to the Seller exercising its right hereunder. Any exercise by the Seller of its rights under this clause shall be without prejudice to any other rights or remedies available to the Seller under this contract or otherwise.

26. LIMITATION OF LIABILITY

Neither party shall be liable for any indirect or consequential damages whether in contract, tort or otherwise resulting from the manner of performance or non-performance whether in whole or in part of any of the obligations arising hereunder.

27. ASSIGNMENT

Neither Party may assign or transfer or purport to assign or transfer any of its rights or obligations hereunder without the other party's prior written consent (such consent not to be unreasonably withheld, conditioned or delayed), provided that nothing in this contract shall prohibit the Seller from entering into any merger or consolidation where the Seller merges or consolidates with any person, or any person merges into it, or sells, leases or disposes of all or substantially all of its assets to any person, provided that the surviving or transferee company is the Seller or the surviving or transferee company is a parent company of the Seller and shall have assumed or shall remain liable for the obligations of the Seller under this Contract. The Buyer shall be entitled to nominate any of its Subsidiary or other group companies to undertake some or all of the obligations and/or its rights under this Contract. Such nomination shall be construed as Assignment for the purpose of this Clause and will be effected after taking Seller's approval. The terms and conditions of this Contract will be binding upon and inure to the benefit of the Parties' respective successors and assigns.

28. SET-OFF

Only the Seller may, at any time without notice to the Buyer, set off any liability of the Buyer to the Seller against any liability of the Seller to the Buyer (in either case howsoever arising and whether any such liability is present or future, liquidated or unliquidated and irrespective of the currency of its denomination) and may for such purpose convert or exchange any currency. Any exercise by the Seller of its rights under this clause shall be without prejudice to any other rights or remedies available to the Seller under this contract or otherwise.

29. SEVERABILITY

In the event any of the provisions hereunder are or become unenforceable under the applicable law of any jurisdiction, such provision shall be modified or limited in its effect to the extent necessary to cause it to be enforceable in such jurisdiction. Otherwise, such provision shall be severed and the remaining provisions of this Contract shall continue in full force and effect. Any modification, limitation or severance of any provision in this Contract shall only have effect in the jurisdiction referred to above, and not in any other jurisdiction.

30. ENTIRE AGREEMENT

This Contract contains the entire agreement between the Buyer and the Seller in relation to the subject matter of this Contract and supersedes all prior negotiations, understandings and agreements whether written or oral in relation to the subject matter of this Contract.



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31. NOTICES

All notices, requests, demands, and other communications given by the Buyer or the Seller under or in respect of this Contract shall be in writing in English and sent by facsimile or e-mail and/or by registered mail or courier to the addresses as set out in the introductory part of this Agreement. Any such notice shall be deemed to have been received (a) in the case of registered mail or courier at the time of first service (pursuant to the delivery receipt), or (b) in the case of fax or e-mail at the time of transmission or on the consecutive working day if time of transmission has been outside normal business hours at the place of receipt. A Party shall notify a change of address to the other Party.

If to BUYER:

VEDANTA LIMITED

Registered office at

1st floor, C wing, Unit 103, Corporate Avenue,
Atul Projects, Chakala, Andheri (East),
Mumbai-400093, Maharashtra, India

And has one of its Units at

Vedanta Limited – 90 MW power Plant
Viswanathpur, Kalahandi District,
Lanjigarh, Odisha 766027

Tel No: +91 81298 96341

Attn: Mr. Praveen Shukla

E mail: Praveen.shukla@vedanta.co.in

If to SELLER:

Glencore International AG

Baarermtstrasse 3,

P. O. Box 1363

CH – 6341 Baar, Switzerland

Tel: +41 41 709 20 00

Fax: +41 41 709 30 00

Attn: Coal Department

Email address for service of legal notices: baar.coalnotices@glencore.com

32. CONFIDENTIALITY

The contents of this contract are confidential.

Each party represents and undertakes that they will keep confidential any information concerning the other party or its business, which the other party informs them is confidential or which a reasonable person receiving that information in the same circumstances would regard as being confidential including but not limited to financial statements and/or ownership and management details and personal information provided or to be provided in connection with this contract ("Information") and not share it with or disclose it to any other party, unless otherwise agreed in writing between the parties to this contract. Notwithstanding the above, each party acknowledges that the Information may be used by the other party and its affiliates worldwide in connection with the administration of the parties' relationship, including without limitation for the performance of credit risk analysis, and disclosed to each party's professional advisors and third parties involved in the provision of support for the party's technology system, prospective lenders, succeeding entities and prospective transferees or assignees or as otherwise required by applicable laws or regulations.

33. COMPLIANCE AND SANCTIONS CLAUSE

Compliance:

The Buyer warrants, represents and undertakes to Glencore that it will comply with all applicable laws, rules and regulations including without limitation sanctions, anti-corruption, anti-money laundering and tax laws in performing this Contract.

Sanction:

The Buyer represents, warrants and undertakes to Glencore that:

- (a) neither it nor any of its subsidiaries (collectively, the "Company") or directors, senior executives or officers, or to the knowledge of the Company, any person on whose behalf the Company is acting in connection with this Contract, is an individual or entity ("Person") that is, or is 50% or more owned or controlled by, a Person (or Persons) that is the subject of any economic or financial sanctions or trade embargoes administered or enforced by the U.S. Department of the Treasury's Office of Foreign Assets Control ("OFAC"), the U.S. Departments of State or Commerce, the United Nations Security Council ("UNSC"), the European Union ("EU"), Switzerland or other applicable sanctions authority (collectively, "Sanctions") or based, organized or resident in a country or territory that is the subject of comprehensive (i.e., country-wide or territory-wide) Sanctions (including, as of the date of

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- signature of this contract, Crimea, Cuba, Iran, North Korea and Syria) (a "Sanctioned Country") (collectively, a "Sanctioned Person");
- (b) no Sanctioned Person has any beneficial or other property interest in this Contract nor will have any participation in or derive any other financial or economic benefit from this Contract, and
 - (c) it will not use, or make available, the [Material] or funds (as applicable) provided by Glencore in terms of this Contract to fund or facilitate any activities or business of, with or related to any Sanctioned Country or Sanctioned Person, or in any manner that would result in a violation of Sanctions.

If Glencore is of the reasonable opinion that the Buyer has breached this clause, Glencore may (without incurring any liability of any nature to Buyer whatsoever) terminate or suspend all or any part of the [Contract] with immediate effect by notice to the Buyer or take any other action it deems necessary in order for Glencore to comply with applicable sanctions. The Buyer shall be liable for any and all costs, liabilities and expenses whatsoever incurred by Glencore due to Glencore exercising its rights under this clause. Any exercise by Glencore of its right under this clause shall be without prejudice to any other rights or remedies of Glencore under the Contract.

34. GOVERNING LAW AND ARBITRATION

This Contract shall be governed by, interpreted, and construed in accordance with the laws of England and Wales, excluding the United Nations Convention on Contracts for the International Sale of Goods dated 11 April 1980.

Any dispute arising out of or in connection with this contract, including any question regarding its existence, validity or termination, shall be referred to and finally resolved by arbitration under the Rules of the London Court of International Arbitration ("LCIA Rules"), for the time being in force, which rules are deemed to be incorporated by reference in to this clause. The seat, or legal place, of arbitration shall be London, England. The tribunal shall consist of three arbitrators. The language to be used in the arbitration shall be English. The Parties waive irrevocably their right to any form of appeal, review or recourse to any state court or other judicial authority.

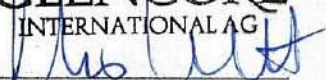
35. COUNTERPARTS


This Contract may be executed in two counterparts, signed and delivered (including by fax / email) by each Party, both of which, taken together, shall constitute the one and the same Contract.

The Seller
Glencore International AG

The Buyer
Vedanta Limited

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Name: Chris Garnett
Authorised Signatory
Date: 11 November 2019


Name:
Authorised Signatory
Date:

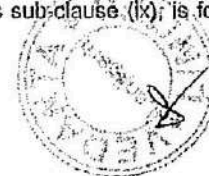


ANNEXURE A

ISPS CODE COMPLIANCE CLAUSES PROVISIONS FOR LOADPORT

A. Buyers' obligations

- (i) The Buyers warrant that in respect of any vessel upon which any of the goods sold under this Contract are intended to be shipped or are in fact shipped both the Vessel (the "Vessel") and the company (the "Company"), as defined by the International Code for the Security of Ships and of Port Facilities and the relevant amendments to Chapter XI of SOLAS (the "ISPS Code"), shall comply with the requirements of the ISPS Code relating to the Vessel and the Company. Where any loading and / or discharging port(s) is or are within the USA and US territories or waters, the Buyers shall, further, procure that the Vessel and the Company shall comply with the requirements of the US Maritime Transportation Security Act 2002 ("MTSA").
- (ii) Upon request the Buyers shall provide the Sellers with a copy of the relevant International Ship Security Certificate (or the Interim International Ship Security Certificate).
- (iii) The Buyers shall procure that the Vessel shall, when required to do so by the appropriate authorities, take all necessary steps to complete a Declaration of Security, or other similar declaration or information required by the authorities, (together referred to as a "DOS"). Any delay arising from a failure on the part of the Vessel to complete a DOS in timely fashion shall be for the Buyers' account and shall not count as laytime or time on demurrage or as detention.
- (iv) The Buyers shall procure that they and/or any charterers and/or sub-charterers of the Vessel provide the Company Security Officer ("CSO") and the Ship Security Officer ("SSO")/Master with their full style contact details and any other information the Owners and/or the Company may require to comply with the ISPS Code and/or MTSA (if applicable).
- (v) Save where either (1) the Company and/or the Vessel has failed to comply with the requirements of the ISPS Code and/or, within the USA and US territories or waters, with MTSA, or (2) the Buyers have failed to comply with any of their obligations under this clause (A), the Buyers shall be entitled to tender Notice of Readiness under this contract even if the Vessel is not cleared due to applicable security regulations or measures imposed by the loading port/terminal/installation or any relevant authority under the ISPS Code and/or MTSA (if applicable).
- (vi) Any delay, loss, damage, costs or expense whatsoever, (other than Consequential Loss as defined herein), caused by failure on the part of the Company and/or the Vessel and/or the Buyers to comply with the requirements of the ISPS Code or of MTSA (if applicable) shall be for the Buyers' account and shall not count as laytime or time on demurrage or as detention except as otherwise provided herein.
- (vii) Any delay, loss, damage, costs or expenses whatsoever (other than Consequential Loss as defined herein), resulting from measures imposed by a port facility or by any relevant authority under the ISPS Code/MTSA, where such measures result solely from the negligence of the Vessel Owners, Master or crew or the previous trading history of the Vessel, the nationality of the crew or the identity of the Vessel Owners' manager, shall be for the Buyers' account and shall not count as laytime or time on demurrage or as detention.
- (viii) Notwithstanding any prior acceptance of the Vessel by the Sellers, if the Vessel does not comply with the requirements of the ISPS Code or MTSA (if applicable) either prior to arrival, or at, the load port(s) and is consequently prohibited by the relevant authorities from loading or from completing loading operations, should loading have already commenced:
- (a) The Sellers shall have the right not to berth the Vessel and any time lost shall not count as laytime or time on demurrage or detention, as the case may be.
- (b) The Buyers shall be obliged to procure that the Vessel Owners promptly and urgently take all necessary steps to ensure that the Vessel complies with the requirements of the ISPS Code or MTSA (if applicable); or
- (c) Should the Buyers be unable to remedy the situation as set out in (b) above, then the Buyers shall be obliged to substitute the Vessel with a vessel complying with the requirements of the ISPS Code or MTSA (if applicable) and to tranship or discharge ashore any cargo which may have been loaded. If bills of lading have been issued by the Vessel, then the Sellers shall surrender to the Buyers (or procuring the surrendering of) any bills of lading issued in respect of the cargo aboard the non-compliant Vessel and which have been or are still in their possession. The substitution of the Vessel and/or transhipment or discharge ashore of any cargo shall be entirely at Buyers' risk and expense, and any time so lost shall be for Buyers' account.
- (d) In any event, any time lost shall be for the account of Buyers and Buyers to be liable for any and all losses, costs and expenses, excluding Consequential Loss (as defined herein), which the Sellers may incur as a direct result of a failure of the Vessel to comply with the requirements of the ISPS Code or MTSA (if applicable) as described in this sub-clause (viii).
- (ix) Where the loading port/terminal/installation is in the USA or any US territories or waters, the Buyers shall procure that the Vessel or its agents shall report and send all notices as required to obtain entry and exit clearances from the relevant US authorities. Any delay caused by the failure to so report, or to do so in a timely manner, shall be for the Buyers' account unless such failure is caused by or attributable to the Sellers or their representatives or agents including but not limited to the shipper of the cargo. Time which, pursuant to this sub-clause (ix), is for Buyers' account, shall not count as laytime or time on demurrage or as detention.



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B. Sellers' obligations

- (i) The Sellers warrant that the loading port/terminal/installation shall comply with the requirements of the ISPS Code and/or, if located within the USA and US territories, with the MTSA. The Sellers shall be responsible for any delay, loss, damage, costs or expense whatsoever (excluding Consequential Loss as defined herein) in respect of the Vessel and/or the cargo including any additional charge, fee or duty levied on the Vessel at the loading port and actually incurred by the Buyers resulting directly from a breach of this sub-clause (i) and all time lost shall count as laytime or time on demurrage, or as detention, as the case may be.
- (ii) Where the load port is located within the USA and/or US territories or waters, any delays suffered or time lost in obtaining the entry and exit clearances from the relevant US authorities shall be for the Sellers' account and time so lost shall count as laytime or time on demurrage, or as detention, as the case may be, unless caused by the negligence of the Vessel Owners, Master and/or the Buyers.
- (iii) Save insofar as A(vi) or A(vii) apply, the Sellers are responsible for any demurrage, detention, delays, losses, costs or expenses arising out of or related to security regulations or measures required by the loading port or port facility, or any other relevant authority in accordance with the ISPS Code or the MTSA, including, but not limited to, security guards, launch services, tug escorts, port security fees or taxes, inspections or any other security measures provided always, that the Buyers have actually incurred a liability in respect of such delays, demurrage, detention, losses, costs or expenses. Any time lost as a result of such requirements by the loading port shall count as laytime or time on demurrage or as detention, as the case may be.
- (iv) The Sellers' liability to the Buyers for any costs, losses or expenses incurred by the Vessel, the charterers or sub-charterers or the Vessel Owners resulting from the failure of the loading port/terminal/installation to comply with the ISPS Code or MTSA shall be limited to the payment of demurrage, detention, costs, losses or expense in accordance with the terms of this contract only insofar as such demurrage, detention, costs, losses or expenses have actually been incurred by the Buyers. In no circumstances will the Sellers be liable for Consequential Loss (as defined herein).

C. Miscellaneous


- (i) If either the Buyers or the Sellers make any payment in respect of a cost or expense which is for the other party's account according to this ISPS Code Compliance Clause, the other party shall indemnify the paying party, provided that, before payment is effected, the indemnifying party shall have approved the payment in question, such approval not to be unreasonably delayed or withheld.
- (ii) The term "Consequential Loss" in these clauses shall mean, in addition to, and insofar as not covered by, any legal definition of the term "consequential loss", any loss, damage, delay or expense arising as a result of breach of this clause that does not directly relate to the Vessel or to the value of the goods sold under this Contract, including without limitation and by way of example only, claims under on-sales with third parties, claims relating to delay or stoppages at shipper/suppliers' works at the loading port(s), claims for, or arising out of or in connection with delay to other vessels at the loading port(s) and claims relating to or arising out of pre-carriage to the loading port(s) including but not limited to storage, railcar demurrage and additional carriage costs.

The Seller
Glencore International AG

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Name: Chris Garnett
Authorised Signatory
Date: 11 November 2019

The Buyer
Vedanta Limited

Name:
Authorised Signatory
Date:

