



Corporate Identification Number (CIN) : L24220MH1945PLC004598  
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Ref no. KAS 2019/05/08

Dated: 27/05/2019

To,  
The Member Secretary  
U P Pollution Control Board  
Building No- TC-12V  
Vibhuti Khand, Gomti Nagar  
Lucknow – 226010

**Sub: Compliance report to the Environmental Clearance no. J 11012/134/96-1A II (I) dated 29 April 1997**

Please find enclosed the point wise compliance status to the above Environmental Clearance for the period of Oct'18 to Mar'19.

We hope the compliance report is as per the requirements.

Thanking you,

Yours sincerely,  
**For and behalf of Asian Paints Ltd.**

*Handwritten signature*  
28/05/2019  
उत्पत्ति प्रदूषण नियंत्रण बोर्ड  
ग्रेटर नोएडा।

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*Handwritten signature*

**Anjum Perwez**  
Sr. Manager – QA & EHS  
Kasna Plant

**Encl – Point wise compliance status to Environmental Clearance no. J 11012/134/96-1A II (I) dated 29 April 1997 for the period Oct'18 to Mar'19.**

CC: Camp Office, UPPCB- Greater Noida & MoEF, Lucknow



**ASIAN PAINTS LTD**  
**KASNA PLANT**  
**ENVIRONMENT CLEARANCE - COMPLIANCE REPORT**  
Oct'18 to Mar'19

**MoEF CONDITIONS**  
**ENVIRONMENT CLEARANCE NO. J.11012 / 134 / 96 - IA.II (I) DATED 29.04.1997**

No	CONDITIONS	COMPLIANCE STATUS																																				
i	The project authority must strictly adhere to the stipulations made by the U.P. Pollution Control Board.	Adhering to all conditions mentioned in the existing air consent, water consent and hazardous waste authorization. The compliance status report of NOC No. F 32710 / C-1 / N / NOC-152/2004 dated June 01st 2004 & Upgradation NOC F 98553 C-1/N/NOC-1168/2016/10 are enclosed.																																				
ii	No further modification or expansion of the plant should be carried out without approval of the Ministry of Environment and Forests.	Construction part of expansion has been completed as per the approval obtained from MOEF, New Delhi.																																				
iii	The emission from various units should conform to the standards prescribed by the concerned authorities from time to time. At no time, the emissions should go beyond the prescribed standards. In the event of failure of any pollution control system adopted by the unit should be put out of operation immediately and should not be restarted until the control systems are rectified to achieve the desired efficiency.  Monitoring of ambient air quality and stack emissions should be carried out periodically in consultation with the State Pollution Control Board and report submitted on quarterly basis.	Ambient Air and the Stack emissions from utilities are monitored every month. Stack emissions are within specified limits. Ambient Air Quality has been found to be bad in the NCR region. The Ambient Air Quality readings for the months of October, November, December, January, February and March were found to be out of specified limits  Annexure 1 ( Stack Analysis ) is attached for your reference.																																				
iv	Liquid effluent generated should be treated so as to meet the following minimum standards. <table style="width: 100%; border-collapse: collapse;"> <tr><td>a. pH</td><td style="text-align: right;">6.0 - 8.5</td></tr> <tr><td>b. Oil &amp; grease</td><td style="text-align: right;">10 mg/l</td></tr> <tr><td>c. Suspended solids</td><td style="text-align: right;">100 mg/l</td></tr> <tr><td>d. BOD at 27°C</td><td style="text-align: right;">30 mg/l</td></tr> <tr><td>e. Phenolics as C H OH</td><td style="text-align: right;">1.0 mg/l</td></tr> <tr><td>f. Lead as pb</td><td style="text-align: right;">0.1mg/l</td></tr> <tr><td>g. Chromium as Cr Hexa.</td><td style="text-align: right;">0.1 mg/l</td></tr> <tr><td>h. Copper as Cu</td><td style="text-align: right;">2.0 mg/l</td></tr> <tr><td>i. Nickel as Ni</td><td style="text-align: right;">2.0 mg/l</td></tr> <tr><td>j. Zinc as Zn</td><td style="text-align: right;">5.0 mg/l</td></tr> <tr><td>k. Total heavy metal</td><td style="text-align: right;">7.0 mg/l</td></tr> </table> <p>The quantity of and quality (including general) parameters of the treated effluent should be measured regularly and data so collected should be submitted to this Ministry once in six months. The effluent would also be required to meet any additional stipulation laid down by State Pollution Control Board.</p>	a. pH	6.0 - 8.5	b. Oil & grease	10 mg/l	c. Suspended solids	100 mg/l	d. BOD at 27°C	30 mg/l	e. Phenolics as C H OH	1.0 mg/l	f. Lead as pb	0.1mg/l	g. Chromium as Cr Hexa.	0.1 mg/l	h. Copper as Cu	2.0 mg/l	i. Nickel as Ni	2.0 mg/l	j. Zinc as Zn	5.0 mg/l	k. Total heavy metal	7.0 mg/l	Total quantity of the treated effluent on monthly basis are as follows <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Month</th> <th>Qty of treated effluent (KL)</th> </tr> </thead> <tbody> <tr><td>Oct'18</td><td style="text-align: right;">1082.30</td></tr> <tr><td>Nov'18</td><td style="text-align: right;">683.90</td></tr> <tr><td>Dec'18</td><td style="text-align: right;">966.40</td></tr> <tr><td>Jan'19</td><td style="text-align: right;">1018.90</td></tr> <tr><td>Feb'19</td><td style="text-align: right;">1050.60</td></tr> <tr><td>Mar'19</td><td style="text-align: right;">1006.60</td></tr> </tbody> </table> <p>In addition, physico-chemical analysis of the treated effluent is carried out by MoEF recognised lab. Annexure 2 (Treated effluent quality analysis) is attached for your reference. All the parameters related to effluent quality are found to be within specified limits.</p>	Month	Qty of treated effluent (KL)	Oct'18	1082.30	Nov'18	683.90	Dec'18	966.40	Jan'19	1018.90	Feb'19	1050.60	Mar'19	1006.60
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	As per the EMP, process wastewater generation will increase from 60m <sup>3</sup> /d to 175 m <sup>3</sup> /d. The company should explore the feasibility of maximum recycling/ reuse of treated effluent. A report indicating firm-ed-up scheme in this regard should be submitted to the Ministry within 3 months.	We had submitted the scheme for recycling of treated water vide letter dated 02.03.1997, 22.05.1998 & 24.03.1999. That included the recycling scheme. Accordingly, at present, the scheme is being followed for use of recycled water for Gardening, Toilet flushing and Chemical preparation in ETP and reuse of water for mixer cleaning and in production batches. We have already installed & commissioned <b>Tertiary Treatment</b> system. Presently we are <b>not discharging any treated effluent outside the factory premises.</b>
v	The project authorities should comply with the provisions of Manufacture, Storage and Import of Hazardous Chemicals Rules, 1989 as amended on 03.10.1994.	Complied. All hazardous chemicals as identified in schedule I, II, III of Manufacture, Storage and Import of Hazardous Chemicals, Rules 1989 and amendment 2003 are stored with proper identification and well segregated from other chemicals.
vi	As indicated in the EMP there will be no disposal of solid waste generated from the solvent based paint section as landfills. The solid waste generated will be stored in containers and sold to contractors for manufacture of low paint grade formulation. The ETP sludge to be disposed of in a secured land fill area so as ensure there is no ground water contamination. Design details of the land fill site should be submitted to the Ministry for review within a period of 3 months.	Complied.  Solid Waste generated from solvent based paint is either reused or sold off to authorised parties. Waste which is found to be unusable is declared as hazardous waste and sent to TSDF or cement kiln for pre-processing and co-processing  ETP sludge is disposed off in secured landfills of the TSDF : - UPWMP (Ramky Enviro Engineers Ltd.) in Kanpur.
vii	Observation wells should be developed and ground water quality around the solvent storage area should be monitored regularly and the reports submitted to this Ministry as well as the State Pollution Control Board along with other compliance reports.	Complied.  Observation wells have been dug and developed in and around areas as suggested.  Ground water quality is regularly monitored by MoEF recognised lab and reports of these monitoring is also submitted to Ministry and SPCB. Annexure 3 is attached for your reference.
viii	Occupational health surveillance programme should be undertaken as a regular exercise for the employees especially engaged in handling hazardous substances.	All workmen undergo a detailed annual medical Examination. The check up comprise of following tests: a. Complete Blood Count b. Chest X-ray c. Blood Sugar d. Lipid Profile(Cholesterol, LDL, HDL, VLDL, Triglycerides, ratios) e. Routine Urine f. Abdominal Ultrasound g. Audiome

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		<p>g. Audiometry Test - Air Conduction  h. Computerized Lung Function  i. Vision Test - Far, near &amp; Colour  j. Computerised Electrocardiography  k. Body Fat Analysis  l. Physical Examination  m. Liver Function tests( SGOT, SGPT)  n. Kidney Function test ( BUN, S. Creatinine)  o. Thyroid Function test (TSH)</p> <p>Occupational Health Surveillance at the plant has been conducted by Max Super Specialty Hospital, Greater Noida.</p>
ix	A green belt of adequate width and density should be raised within the plant premises using native plant species. The existing green belt needs to be improved on a scientific basis in consultation with the local DFO/BSI/Pusa Research Institute.	The plant has about 6707 trees inside its campus. We have planted the local variety of plants like Gulmohar, Neem, Elastonia, Oak, in and around the plant including the green belt. Dr. R. K. Singh of Forest Research Institute (ICFRE) Dehradun gave us the list of local variety of trees for green belt development. Further augmentation of green belt was completed in the past as per the suggestion by the local Forest Range Officer. Since 2018-19, for any plantation we are adhering Green belt guidelines as mentioned in order no. H16405/220/2018/02.
x	A separate environmental management cell with suitably qualified personnel to carry out various functions should be set up under the control of Senior Executive who will report directly to the Head of Organisation.	<p>A management cell comprising of the following competent people has been set up:</p> <p>a) Sh Yogesh Pethkar – GM (Manufacturing)  b) Sh Sunil Singh – GWM (General Works Manager)  c) Sh Anjum Perwez – Sr. Manager EHS  d) Sh Siddharth Bhadhoria – Manager EHS  e) Sh Pawan Kumar Yadav – Sr. Officer EHS  f) Sh Amit Kumar Jha – Officer Level - 1 EHS  g) Sh Jagat Ram – Officer Level - 1 EHS  h) Sh Amit Kumar – Officer Level - 1 EHS  i) Sh. Ankit jain – Officer Level - 1 EHS</p> <p>The Environment Cell is headed by Sh Sunil Singh General Works Manager, Kasna Plant.</p>
xi	The project authority must set up laboratory facilities for collection and analysis of samples under the supervision of competent technical personnel who will directly report to the Chief Executive.	A laboratory facility is already available in the plant to monitor, receive and analyse samples of treated effluent etc.
xii	The funds earmarked for environmental protection measures should not be diverted for other purposes and year-wise expenditure should be reported to this Ministry.	<p>Complied.</p> <p>The expenditure on environmental protection measures in the current financial year till Mar'19 is Rs 14,504,205.34</p>
xiii	The Regional Office of this Ministry located at Lucknow/ the CPCB/ the SPCB will monitor the stipulated conditions. A six monthly compliance status report should be submitted to them regularly.	As per EIA notification 2006 and further amendments to EIA in 2009, we are submitting the six monthly compliance reports for the period of Oct'2018 to Mar'2019.

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**Oct'18 to Mar'19**

**Enclosure:**

1. Point wise Compliance Status to N.O.C No. F 32710 / C-1 / N / NOC-152/2004 dated June 01st 2004.
2. Point wise Compliance Status to N.O.C No. F 98553 C-1/N/NOC-1168/2016/10 dated March 22nd 2017.

**Annexure:**

1. Stack Monitoring Analysis.
2. Treated Effluent Monitoring Analysis.
3. Ground Water Monitoring Analysis.
4. Ambient Noise Monitoring Analysis.

**Point wise Compliance Status to N.O.C No. F 32710 / C-1 / N / NOC-152/2004 dated June 01st 2004**

No	Conditions	Compliance Status
1.	a) Operating Unit -: A-1,B-2 UPSIDC Industrial Area, Kasna, Greater Noida b) Main Products -: Paint, Varnish & Enamels Total Capacity -: 80,000 KL/Year c) Resin/Emulsion(Total solid Resin)-:36000 MT/Year c) Main Raw Materials -: Titanium Di-oxide, Coloured Pigments, Vegetable Oil, Resin, Toluene, Mineral Turpentine, Extenders, etc. d) Industrial Effluent at enhanced production :- 100 KL/day e) Used Fuel: No addition of any air pollution source after expansion.	Paint production is below the consent limit of 80,000 KL. Actual Production in 2018-19 for the period Oct'18 to Mar'19 is 35672.83 KL. For Resin/Emulsion it is 8394.25 MT (Total Solid Resin in MT) for the period Oct'18 to Mar'19 <ul style="list-style-type: none"> <li>• There is no change in the operating condition and main Raw Materials remain the same.</li> <li>• Industrial effluent discharge has been below 100 KL on all the days of the month.</li> <li>• There is no new air pollution Source.</li> </ul>
2	Progress reports on installation of all the essential machinery, equipment, green belt, effluent treatment plant and air pollution abatement facilities are to be submitted to this office by 10 <sup>th</sup> of every month.	<ul style="list-style-type: none"> <li>• Said progress reports have been submitted to UPPCB on or before 10<sup>th</sup> of every month</li> </ul>
3	The unit will not undertake trial production for expanded capacity till it obtains consent under the Air & Water Act.	<ul style="list-style-type: none"> <li>• Air &amp; Water consent for expanded capacity (50k to 80k) was obtained from UPPCB prior to undertaking trial production for enhanced capacity.</li> </ul>
4	Inspection of the unit by Regional Office will be organized prior to start of trial production	<ul style="list-style-type: none"> <li>• Inspection by Regional office was organized and completed.</li> </ul>
5.	Domestic effluent discharged should be less than 60KL/day. The effluent will be treated by means of safety tank and soak pit before discharge to meet all the standards set by the Board.  **As per the latest water consent domestic effluent discharged should be less than 100KL/day.	<ul style="list-style-type: none"> <li>• Domestic effluent discharge is below 60 KL for all days of the month. Average domestic effluent generation for the period Oct'18 to Mar'19 was 24.12 KL /day.</li> <li>• Domestic effluent is treated along with industrial effluent and the final treated effluent is meeting all the standards set by the board.</li> </ul>
6.	Plan for proposed treatment facility for pollution control is to be submitted to this office	<ul style="list-style-type: none"> <li>• The existing facilities are adequate for the pollution control.</li> </ul>
7.	M/S Asian Paints Limited, A-1,B-2 UPSIDC Area- Greater Noida will not produce paint in excess of 80,000 KL/annum	<ul style="list-style-type: none"> <li>• Paint production is below the consent limit of 80,000 KL.</li> </ul>
8.	Treatment of Industrial Effluent is to be done through existing Effluent Treatment Plant. A separate power meter is to be installed for the same.	<ul style="list-style-type: none"> <li>• Treatment of Industrial Effluent is being done through existing Effluent Treatment Plant. A separate power meter is installed for the same.</li> </ul>
9	The industry operates its Effluent Treatment Facility in a manner so as to meet the existing standard for discharged effluent specified by the board.	<ul style="list-style-type: none"> <li>• The treated effluent is meeting all the standards specified by the Pollution Control Board.</li> <li>• Physico-chemical analysis of the final treated effluent is carried out by MOEF recognized lab.</li> </ul>
10	No air pollution equipment is proposed by the industry for expansion of capacity. So, no new air pollution source is installed.	<ul style="list-style-type: none"> <li>• Complied.</li> </ul>

11.	The Present N.O.C is valid for one year	<ul style="list-style-type: none"> <li>This clause is now made redundant vide letter <b><u>F51408/C-1/N/N.O.C.-152/2005</u></b> dated 14.10.2005</li> </ul>
12.	The industry should ensure compliance to Hazardous Waste (Management & Handling) Rules 1989 & Amendment thereafter.	<ul style="list-style-type: none"> <li>Hazardous Waste (Management, Handling &amp; Transboundary) Rules 2016 are being complied with.</li> <li>Hazardous waste authorization dated 10-02-15 received on 13-02-15 and is valid for five years from the date of issue.</li> </ul>
13.	The industry should ensure compliance to The Water (Prevention & Control of Pollution) Cess Act, 1977.	<ul style="list-style-type: none"> <li>The Water (Prevention &amp; Control of Pollution) Cess Act, 1977 is being complied with.</li> <li>Monthly returns in Form-I are being submitted to UPPCB office regularly.</li> </ul>
14.	There should be a terminal manhole, flow-measuring device and sample collection facility at the last point of discharge of effluent. The terminal manhole should be in form of chamber made of cement & concrete, covered from the top with provision of locking system.	<ul style="list-style-type: none"> <li>"V"-notch has been provided at the point of discharge for the measurement of effluent and sample collection.</li> <li>The terminal manhole is in form of chamber made of cement &amp; concrete, covered from the top with provision of locking system.</li> </ul>
15.	Industry should establish facility for rainwater harvesting.	<ul style="list-style-type: none"> <li>Rain-Water Harvesting System has been commissioned.</li> <li>370.779 KL of rain water recharged and 1657.00 KL rain water reused from Oct'18 to Mar'19.</li> </ul>
16.	Industry should comply with conditions of N.O.C dated 23 December 1996	<ul style="list-style-type: none"> <li>Conditions are being complied with.</li> </ul>
17.	Condition no. 3, 9, 10, 12, 14 & 15 of this N.O.C are sensitive. In case of non-compliance of said conditions the bank guarantee given by the industry will be seized.	<ul style="list-style-type: none"> <li>Condition no. 3, 9, 10, 12, 14 &amp; 15 of this N.O.C are being complied with.</li> <li>Bank guarantee has been released by your office vide letter <b><u>F51408/C-1/N/N.O.C.-152/2005</u></b> dated 14.10.2005 and received by us.</li> </ul>



**Point Wise Compliance Status to N.O.C No.F98553 C-1/N/NOC-1168/2016/10 dated March 22<sup>nd</sup> 2017**

Sr. No.	Conditions	Compliance Status
1.	Production Capacity:- Paints:- 80,000 MT/KL Per Annum Resin/Emulsion(Total Solid Resin):- 36,000 MT Per Annum	Paint production is below the consent limit of 80,000 KL. Actual Production in 2018-19 for the period Oct'18 to Mar'19 is 35672.83 KL. For Resin/Emulsion it is 8394.25 MT (Total Solid Resin in MT) for the period Oct'18 to Mar'19
2.	Please arrange for inspection of Unit by our Regional Office before starting trial production	We will inform your esteemed office in advance in case any changes are made w.r.t increase in production capacity.
3	It shall be ensured that directions given by National Green Tribunal for use of clean fuel in industry in case of O.A. No.-01/2012 Sanjay Agnihotri versus Union of India and other directions given from time to time shall be followed meticulously.	We will make necessary changes and ensure compliance with new requirements as and when we receive communication from your esteemed office regarding these requirements.
4	In future if C.N.G. is available then the previously installed D.G.sets will be operated by C.N.G.	We will make necessary changes and ensure compliance with requirement of PNG for DG sets as and when we receive communication from your esteemed office regarding the same.
5	The disposal of hazardous waste like E.T.P. sludge, paint chemical sludge, process dust, residue, incinerated ash, used oil, discarded asbestos etc will be done in T.S.D.F.	All categories of Hazardous Waste mentioned in point no. 5 of NOC are already been disposed to TSDF.
6	The sludge generated by S.T.P. should be used for gardening etc	We do not have separate STP and sewage is treated in Effluent Treatment Plant. The bio-Sludge obtained from the process is used for gardening purpose.
7	Appropriate green belt should be developed around the industry	We wish to inform you that we are maintaining a green belt cover in compliance with the green belt requirements given by your esteemed office.
8	Compliance of Environment (protection) 1986 will be done.	We are complying with all the requirements as prescribed under Environment Protection Act 1986.
9	For exploitation of ground water NOC from Ground Water Authority should be obtained and submitted	We have received borewell NOC from CGWA. The application no. is 21-4/1556/UP/IND/2017.

	to the State Board.	
10	Rain water harvesting and green belt shall be provided/ established.	We practice rain water harvesting within factory premises as well as in and around villages in Kasna. Total recharge potential created within factory premise and outside factory premises between Oct'18 and Mar'19 is 0 KL. 370.779 KL of rain water recharged and 1657 KL of rain water reused within plant from Oct'18 to Mar'19. 8429.40 KL of rain water recharged outside plants as part of CSR initiatives.
11	Height of chimnies for existing 500KVA capacity, 6 No. D.G.sets should be 8m from GL for each.	DG stack heights are in accordance with the formula for calculating minimum height of stack of DG sets as mentioned in CPCB guidelines "Environmental Standards for Ambient Air, Automobiles, Fuels, Industries and Noise" – Pollution Control Law Series: PCL/4/2000-2001 on page no. 19
12	E-waste management shall be done according to E-waste management rules 2016	We are compliant with requirements as mentioned under E-Waste Management rules 2016
13	Capacity of the plant cannot be increased without prior permission of the Board	Any such plans in future will be communicated to UPPCB well in advance and we will not increase production capacity without prior approval from UPPCB

**Annexure 1 (Stack Monitoring)**

**Oct'18 - Mar'19**

	Particulate Matter(mg/Nm3)			SO <sub>2</sub> (mg/Nm3)			Nox(mg/Nm3)			CO(mg/kg)			Standard			
	Maximum	Minimum	Average	Standard	Maximum	Minimum	Average	Standard	Maximum	Minimum	Average	Standard		Maximum	Minimum	Average
DG-GEN K 802	25.35	15.84	22.24	50	7.86	4.91	6.53	NS	49.19	36.82	43.63	NS	BDL	BDL	BDL	3.5
DG-GEN K 803	30.71	13.14	22.71	50	7.37	4.07	5.76	NS	51.18	39.25	45.30	NS	BDL	BDL	BDL	3.5
DG-GEN K 804	32.70	17.43	24.45	50	7.71	3.41	5.50	NS	47.93	35.68	42.04	NS	BDL	BDL	BDL	3.5
DG-GEN K 805	31.73	20.49	25.15	50	8.40	3.83	6.40	NS	51.38	39.85	46.95	NS	BDL	BDL	BDL	3.5
DG-GEN K 806	29.96	14.79	23.59	50	9.01	6.15	7.40	NS	51.15	37.12	46.11	NS	BDL	BDL	BDL	3.5
DG-GEN K 807	30.19	16.23	24.25	50	8.54	4.19	6.16	NS	48.68	40.00	43.82	NS	BDL	BDL	BDL	3.5
Thermopac TP - K 407	5.30	3.59	4.31	50	4.60	2.88	3.82	NS	28.71	19.78	23.03	NS	BDL	BDL	BDL	NS
Thermopac TP - K 401 & TP - K 403	7.64	3.62	5.25	50	4.56	2.77	3.71	NS	29.05	22.56	25.80	NS	BDL	BDL	BDL	NS
Thermopac TP - K 408	4.55	1.91	2.93	50	4.17	1.32	3.19	NS	27.70	21.45	25.14	NS	BDL	BDL	BDL	NS
Thermopac TP - K 801	8.60	3.53	5.75	50	4.28	2.04	3.36	NS	25.51	17.65	22.02	NS	BDL	BDL	BDL	NS
Boiler BO - K802	14.27	10.82	12.42	50	6.99	3.70	5.26	NS	38.83	28.43	35.22	NS	BDL	BDL	BDL	NS
Non IBR Boiler	7.59	4.68	6.05	50	4.58	2.43	3.34	NS	26.30	17.75	22.25	NS	BDL	BDL	BDL	NS
IBR Boiler	7.58	2.61	5.33	50	4.19	2.62	3.38	NS	27.71	22.51	24.71	NS	BDL	BDL	BDL	NS

BDL- Below Detection Limit

NS-Not Specified

\* Monitoring is done by Moef recognised Pollution Laboratories pvt. Ltd.

\*\*Monitoring period is from Oct'18 to Mar'19 on monthly basis. Test/sampling methods followed are IS standard & US EPA method



Annexure 2 (Treated Effluent Quality Parameter)- (Oct'18 - Mar'19)						
SR. NO.	Parameter	UNIT	Maximum	Minimum	Average	Standard
1	pH	.....	8.2	7.1	7.58	6.0-8.5
2	Temperature	°C	16	10	13.83	...
3	Total suspended solid	mg/L	80	62	69.17	<100
4	Total dissolved solid	mg/L	1495	819	1087.50	...
5	COD	mg/L	185	166	175.83	<250
6	BOD 3 days, at 27 degree C	mg/L	22	16	19.50	<30
7	Chloride as Cl	mg/L	72	64	68.33	<1000
8	Sulphide as S	mg/L	0	0	#DIV/0!	<2
9	Sulphate as SO4	mg/L	109	90	99.17	<1000
10	Fluoride as F	mg/L	0	0	#DIV/0!	<2
11	Ammonical Nitrogen as N	mg/L	21	11	15.33	<50
12	Sodium as Na	%	0	0	#DIV/0!	NS
13	Copper as Cu	mg/L	0.91	0.6	0.76	<2
14	Zinc as Zn	mg/L	1.85	1.11	1.50	<5
15	Phenolic Compounds	mg/L	0	0	#DIV/0!	<1
16	Oil & Grease	mg/L	7	3.68	4.90	<10
17	Boron as B	mg/L	0	0	#DIV/0!	NS
18	Total Residual Chlorine	mg/L	0	0	#DIV/0!	<1
19	Arsenic as As	mg/L	0	0	#DIV/0!	<0.2
20	Cadmium as Cd	mg/L	0	0	#DIV/0!	<2
21	Total Chromium as Cr	mg/L	1.6	1.3	1.44	<2
22	Hexavalent Chromium as Cr+6	mg/L	0	0	#DIV/0!	<0.1
23	Lead as Pb	mg/L	0	0	#DIV/0!	<0.1
24	Selenium as Se	mg/L	0	0	#DIV/0!	<0.05
25	Mercury as Hg	mg/L	0	0	#DIV/0!	<0.01
26	Pesticides	mg/L	0	0	#DIV/0!	NS
27	Free Ammonia as NH3	mg/L	2.81	1.83	2.19	<5
28	Dissolved Phosphates as P	mg/L	2.23	1.6	1.87	<5
29	Total Kjeldahl Nitrogen as TKN	mg/L	32	18	23.67	<100
30	Cyanide as CN	mg/L	0	0	#DIV/0!	<0.2
31	Nickel as Ni	mg/L	1.82	1.27	1.50	<3
32	Residual Sodium Carbonate	mg/L	0	0	#DIV/0!	NS
33	Iron	mg/L	0	0	#DIV/0!	<3
34	Calcium as Ca	mg/L	87	69	80.59	NS
35	Magnesium as Mg	mg/L	32.16	21	25.45	NS
36	Potassium as K	mg/L	0	0	#DIV/0!	NS
37	Sodium Absorption Ratio	mg/L	0	0	#DIV/0!	NS
38	Carbonate	mg/L	0	0	#DIV/0!	NS
39	Bicarbonate	mg/L	0	0	#DIV/0!	NS
40	Total Nitrogen as N	mg/L	6	4	4.87	<10
41	Colour	Co-pt	0	0	#DIV/0!	NS
42	Bio assay	%	0	0	#DIV/0!	>90% survival in 96 hours
43	Particles size of total Suspended Solids in µ					
	1.0 µm	%	BDL	BDL	#DIV/0!	NS
	2.0 µm	%	BDL	BDL	#DIV/0!	NS
	3.0 µm	%	BDL	BDL	#DIV/0!	NS
	4.0 µm	%	BDL	BDL	#DIV/0!	NS
	5.0 µm	%	BDL	BDL	#DIV/0!	NS
	6.0 µm	%	BDL	BDL	#DIV/0!	NS
44	Total heavy Metal	mg/L	2.3	1.75	2.00	<03

BDL- Below Detection Limit

\*\*Not Specified

\* Monitoring is done by Moef recognised enviro-international lab.

\*\*Monitoring period is from Oct'18 to Mar'19 on monthly basis.



Annexure 3 (Ground Water Analysis) Oct'18 - Mar'19

S.No.	Parameters	Unit	19-Dec		19-Dec		6-Mar		6-Mar		6-Mar		6-Mar		Average	Standard Limit
			Monitoring Borewell 1	Monitoring Borewell 2	Monitoring Borewell 3	Monitoring Borewell 4	Monitoring Borewell 1	Monitoring Borewell 2	Monitoring Borewell 3	Monitoring Borewell 4	Maximum	Minimum				
1	Colour	Hazen	1	1	1	1	1	1	1	1	1	1	1	1.00	5	
2	Turbidity	NTU	1	1	1	1	1	1	1	1	1	1	1	1.00	5	
3	pH Value	..	7.3	7.5	7.2	7.2	7.3	7.3	7.3	7.1	7.1	7.1	7.1	7.25	6.5-8.5	
4	Conductivity	mg/L	393	402	376	558	433	461	416	531	531	531	531	446.25	---	
5	Total Suspended Solid	mg/L	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	#DIV/0!	---	
6	Total Dissolved Solid	mg/L	377	380	359	576	347	399	319	434	434	434	434	398.88	500	
7	Total Volatile Solid	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	#DIV/0!	---	
8	Temperature	°C	13	13	13	13	12	12	12	12	12	12	12	12.50	---	
9	Nitrate (as NO3)	mg/L	10	9	9	10	9	9	9	11	11	11	11	9.75	45	
10	Ammoniacal Nitrogen as N	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	#DIV/0!	0.5	
11	Free Ammonia as NH3	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	#DIV/0!	0.5	
12	Total Kjeldahl Nitrogen as N	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	#DIV/0!	---	
13	Magnesium Hardness as Mg	mg/L	13	14	13	16	11	12	11	10	10	10	10	31.00	75	
14	Calcium Hardness as Ca	mg/L	83	80	75	92	80	93	80	93	93	93	93	85.38	200	
15	Total Hardness	mg/L	25	20	24	29	23	23	20	22	22	22	22	24.13	200	
16	Sulphate as SO4	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	#DIV/0!	0.05	
17	Sulphide as S	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	#DIV/0!	---	
18	Fluoride as F	mg/L	23	20	25	22	20	18	24	22	22	22	22	21.75	250	
19	Chloride as Cl	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	#DIV/0!	0.1	
20	Total Chromium as Cr	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	#DIV/0!	---	
21	Pesticides	Bq/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	#DIV/0!	1	
22	Alpha Emitter	Bq/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	#DIV/0!	---	
23	Beta Emitter	Bq/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	#DIV/0!	---	
24	Phenolic Compounds	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	#DIV/0!	---	
25	BOD	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	#DIV/0!	---	
26	COD	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	#DIV/0!	---	
27	Dissolved Phosphates as P	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	#DIV/0!	---	
28	Residual Sodium Carbonate	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	#DIV/0!	0.2	
29	Residual Free Chlorine	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	#DIV/0!	---	
30	Phosphates	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	#DIV/0!	---	
31	Potassium	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	#DIV/0!	0.5	
32	Mineral oil	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	#DIV/0!	---	
33	Oil & Grease	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	#DIV/0!	---	
34	Alkalinity	mg/L	89	85	91	91	87	86	86	81	81	81	81	87.75	200	
35	Sodium	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	#DIV/0!	---	
36	Selenium (as Se)	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	#DIV/0!	0.01	
37	Boron as B	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	#DIV/0!	0.5	
38	Cadmium as Cd	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	#DIV/0!	0.003	
39	Total Arsenic	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	#DIV/0!	0.01	
40	Chromium as (Hexavalent Cr+6)	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	#DIV/0!	0.05	
41	Lead as Pb	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	#DIV/0!	0.01	
42	Nickel as Ni	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	#DIV/0!	0.001	
43	Mercury as Hg	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	#DIV/0!	0.05	
44	Cyanide as CN	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	#DIV/0!	---	
45	Cobalt	mg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	#DIV/0!	---	
46	Iron (as Fe)	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	#DIV/0!	0.3	
47	Aluminium (as Al)	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	#DIV/0!	0.03	
48	Copper (as Cu)	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	#DIV/0!	0.05	
49	Manganese (as Mn)	mg/L	1	1	1	1	1	1	1	1	1	1	1	1.00	5	
50	Zinc (as Zn)	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	#DIV/0!	---	
51	Dissolved Silica as SiO2	mg/L	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	#DIV/0!	41	
52	Particles size of total Suspended Solid in µm															
	1.0 µm	%	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	#DIV/0!	---	
	2.0 µm	%	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	#DIV/0!	---	
	3.0 µm	%	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	#DIV/0!	---	
	4.0 µm	%	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	#DIV/0!	---	
	5.0 µm	%	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	#DIV/0!	---	
	6.0 µm	%	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	#DIV/0!	---	
	7.0 µm	%	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	#DIV/0!	---	

BDL - Below Detection Limit, ND - Not Detected  
 \* Monitoring is done by Meeff recognised enviro-instrumental lab  
 \*\*\*Monitoring period is from Oct'18 to Mar'19 on quarterly basis.





**Annexure 4 (Ambient Noise Monitoring Analysis Mar'19)**

Sr. No.	Ambient noise monitoring locations	Unit	Day	Standard limit
1	Gate no. - 2	dB	63.6	75
2	Gate no. - 3	dB	59.1	75
3	New Aeration-ETP area	dB	59	75
4	Contractor area	dB	55.2	75
5	DC area	dB	57	75
6	BSR area	dB	64.3	75
7	DG area	dB	54.6	75
8	Solvent area	dB	58	75
9	Thinner block area	dB	57	75
10	Resin house area	dB	57.4	75

Sr. No.	Ambient noise monitoring locations	Unit	Night	Standard limit
1	Gate no. - 2	dB	56.9	70
2	Gate no. - 3	dB	54.2	70
3	New Aeration-ETP area	dB	53.2	70
4	Contractor area	dB	49	70
5	DC area	dB	48	70
6	BSR area	dB	55.4	70
7	DG area	dB	48.1	70
8	Solvent area	dB	52.2	70
9	Thinner block area	dB	49	70
10	Resin house	dB	56.4	70

\* Monitoring is done by Moef recognised Pollucon lab.

\*\*Monitoring period is from Oct'18 to Mar'19 on six monthly basis.

