(1)

BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH, NEW DELHI

ORIGINAL APPLICATION NO 1019/2019

AMRITA PURI RESIDENTIAL COLONY RESIDENTS' WELFARE ASSOCIATION

.....APPLICANT(S)

VERSUS

SMS WATER GRACE (P) LTD. & ORS

....RESPONDENT(S)

NDOH:-31-01-2020

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Filed By:-

Ajeeta Dayal Agrawal
Sr. Environmental Engineer,
Delhi Pollution Control Committee

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COMPLIANCE REPORT FILED FOR AND ON BEHALF OF DPCC IN COMPLIANCE OF THE ORDER DATED 20-11-19.

A. That This Hon'ble Tribunal has pleased to pass the following order on 20.11.19 in the above mentioned matter:

> *" ..... we find it necessary to require a factual and action taken report in the matter from a joint Committee of the CPCB, DPCC and the SDM, Nangloi....*
>
> *The applicant may furnish a separate set of papers to the CPCB, DPCC and the SDM, Nangloi and file affidavit of service within one week.."*

B. That it is most respectfully submitted that, the applicant has not furnished separate set of papers to Delhi Pollution Control Committee so far, as directed in the order dated 20.11.19 of Hon'ble NGT.

C. That, M/s SMS Water Grace (P) Ltd., under consideration in the present proceedings, is one of the Common Bio-medical Waste Treatment and Disposal (CBTWF) Facilities operating in Delhi and is engaged in the collection, transportation, treatment and disposal of biomedical waste from the health care facilities of the East, Shahdara, North East, South West, West and Central districts of Delhi.

D. That the facility has been developed as a joint venture with Directorate of Health Services, GNCTD and is situated on the land leased by Government of Delhi in the year 2009. The facility is operating since 2011 on the present location.

E. That, in compliance of the above orders of Hon'ble Tribunal, inspection of M/s SMS Water Grace (P) Ltd. was carried out by the joint team of CPCB, DPCC and SDM (Punjabi Bagh) on 27/12/19. Detailed inspection report along with observations and recommendations is enclosed at **Annexure I.**

F. That, during the inspection, the facility was found to be complying with the operating parameters w.r.t. incinerator as well as autoclave as defined under the Bio-medical Waste Management Rules, 2016.

G. That, M/s SMS Water Grace (P) Ltd. during the joint inspection has provided the supporting documents. The documents also contain the results of monitoring of incinerator stack, effluent analysis report, DG set stack & noise monitoring, incineration ash, ETP sludge etc carried out by it through M/s SGS India (P) Ltd. on 24/04/18, M/s Enviro Lab on 05/06/19, 14/09/19 and 14/11/19, M/s Shri Ram Institute of Industrial Research on 30/08/2019 and DPCC on 15/10/19. Copies of the test reports along with other documents are enclosed herewith as **Annexure II (Colly).** The monitoring results show that all the emission and effluent parameters are meeting with the prescribed standards as provided under BMWM Rules, 2016.

H. That M/s SMS Water Grace (P) Ltd is being operated with valid authorization under BMW Rules, 2016 (valid upto 27.10.24) and with valid Consent to Operate (valid upto 02.05.2024).

I. That it is further submitted that, Delhi Pollution Control Committee regularly inspects the Common Biomedical Waste Treatment & Disposal facilities operating in Delhi along with CPCB and external experts. M/s SMS Grace was last inspected by DPCC on 11.10.19

jointly with CPCB and an external expert. On this day of inspection, stack monitoring for checking compliance of emission standards was also carried out through M/s Shri Ram Institute of Industrial Research. The results of the stack monitoring showed the emission parameters to be exceeding the prescribed parameters in Bio-medical Waste Management Rules, 2016. Accordingly, DPCC has issued Notice to the facility on 09/01/2020 to show cause as to why action will not be taken against the facility, including revocation of the authorization and levying of Environmental Damage Charges (EDC), for not meeting the emission standards. Reply of the facility is awaited. Further action shall be taken based on the reply of the facility, if any.

The compliance report may kindly be taken on record in compliance of the order of the Hon'ble Tribunal passed vide dated 20/11/2019. The DPCC is bound with the orders of the Hon'ble Tribunal.

Dated : 28.01.2020

(Ajeeta Dayal Agrawal)
Sr. Env. Engineer,
DPCC

Annexure - I

(5)

Joint Inspection Report for Performance Evaluation of the M/s SMS Water Grace (P) Ltd., Nilothi (CBWTF)

S.No.	Details		Particulars
01.	Name of CBWTF with contact details	:	**M/S SMS WATER GRACE PVT LTD, NILOTHI, DELHI** **Sh. Prabal Pratap Singh** **Mob. 8744076042**
02.	Date of visit	:	27/12/2019
03.	Location details of the CBWTF	:	a) Near to Residential Area : :Yes ▫ No☑ (however some of the local residents have constructed their houses nearby in last 2 to 3 years) b) In/Near Sensitive Area : Yes ▫ No ☑ c) In Industrial Area : Yes ▫No ☑ d) Is There a buffer zone of 500 m : Yes ▫ No ☑ Indicate exact distance e) Is it as a part of TSDF Yes ▫ No ☑ f) Is the facility proposed in metropolitan city : Yes ☑ No ▫ (i) Name of the City: Delhi (ii) Population of the city (as per latest census): 1.5 cr. g) Is the facility proposed in hills area : Yes ▫ No ☑ Name of the Town/City : N.A. **The facility is located at the site leased by Delhi Government.**
04	Month / year of establishment and the Consents status	:	Establishment Month/Year : May **2010** Consent Status **–Valid till02.05.2024**
05.	CBWTF set up by	:	**M/s SMS WATER GRACE PVT LTD, DELHI**
06.	CBWTF operated by	:	**M/s SMS WATER GRACE PVT LTD, DELHI**
07.	Total number of healthcare facilities and beds covered (as on date of visit)	:	Total no. of HCFs :5,613 No. of Beds :32,924
08.	Total Bio-medical Waste Treatment Capacity of CBWTF (in kg / day)	:	**Incineration :12,000 kg/day** (02 x 250 Kg /hr including standby) **Autoclave : 16,800 kg/day** (2 autoclaves of capacity-300 Kg/cycle and 400 KG/ cycle)
09.	**Consents and Authorization details :**		
9.1	Consent under Water (Prevention and Control of Pollution) Act, 1974	:	▫Applied for ☑ Possess Valid Consent ▫ Not renewed ▫ No consent If obtained: Consent under Air and Water Act is valid upto**02.05.2024**and issued by **DPCC vide letter dated 11-09-2019**
9.2	Consent under Air (Prevention and Control of Pollution) Act, 1981	:	▫ Applied for ☑ Possess Valid Consent ▫ Not renewed ▫ No consent If obtained: Consent under Air and Water Act is valid upto**02.05.2024** and issued by **DPCC vide letter dated 11-09-2019**
9.3	Environmental Clearance (EC)		▫ Applied for ▫ Not applied ▫ Obtained ▫ Not obtained ☑Not Applicable (NA)

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9.4	Authorization under BMW Rules, 1998	:	□ Applied for☑ Possess Valid Authorization □ Not renewed □ No consent If obtained: Authorization valid upto **27/10/2024**
10.	Investment in setting up the CBWTF	:	4.5 crore
11.	Area of plot size for CBWTF (Sq. ft.)	:	2246 sq.mtrs
12	Annual Report submission for the year 2018	:	Submitted before due date : Yes ☑No□ If yes, provide details of waste collected received and treated & disposed of: 12,021 kg/day
13	Coverage area of CBWTF (Radius in KM covered)	:	Coverage area upto 75 km radius : In Delhi, there are 2 CBWTFs within 75 km area. Yes ☑ No □
14.	Name of Districts/Cities / places being covered	:	Districts covered: **East, Shahdara , North East , South West , West & Central districts of Delhi.** W.r.to the CBWTF (i) Farthest HCF located at : 45 km (ii) Nearest HCF located at : 01 km
15.	Daily operation schedule (timings)	:	(i) Collection: (Next day) 7:00 Am to 6:00Pm. (ii) Incineration :11.00 AM to 5 AM next day (iii) Whether waste from member HCFs Collected in holidays : Yes ☑ No □
16.	Cost charged to the healthcare facilities	:	(i) Charges as per DHS rate list (ii) Cost to be levied is suggested by: **DHS Organization**
17	**Total quantity of bio-medical waste treated: 14,601 kg/day (avg.)**		
17.1	Incinerable	:	48-55% 6,163 kg/day
17.2	Autoclaving	:	35-37% 6,780 kg/day
17.3	Others (please specify)	:	10 – 15 %1,658kg/day Glass treatment with chemical (1% hypochlorite)
18	**Staff Involvement in CBWTF Operation (Number of Persons)**		
18.1	Managerial Administration	:	**21**
18.2	Equipment operations	:	**6**
18.3	Transportation of BMW	:	No. of Drivers : 40 + 11 (for two wheelers) = **51** No. of Helpers **:48**
18.4	Sanitation and others	:	**6**
18.5	Total Person excluding managers	:	**17**
19.0	**Collection and Transportation of bio-medical waste from member HCFs :**		
19.1	No. of Vehicles used for collection of waste from member HCFs	:	(i) Four Wheelers: 36. Nos and Vehicle Number : (ii) Two Wheelers: 11. Nos and Vehicle Number :
19.2	Vehicles are labeled as per BMW Rules	:	☑ Satisfactory □ No satisfactory
19.3	Vehicles are labeled as per CPCB Guidelines	:	☑ Satisfactory □ No satisfactory

19.4	Vehicles attached with GPS Provision as per BMWM rule 2016		☑ Satisfactory □ No satisfactory
20.0	Whether waste collected from member HCFs adopted bar Coding system		☑Yes (Partially)□ No
21.0	Temporary untreated waste reception area	:	☑ Satisfactory □ No satisfactory
22.0	Mode of Conveyance of bio medical waste from untreated waste area to the treatment equipment within CBWTF.		☑ Closed Trolley / Pull Cart with bio –hazard symbol □ No Closed Trolley/ Pull Cart □ Other Like ----
23.0	**Treatment equipment installed at CBWTF**		
23.1	Incinerator capacity and make	:	(i) No. of incinerators including standby: 2 (ii) Incineration Capacity: 2X250 Kg/ Hour (12000 kg/day)
23.2	Daily Operation Schedule of the incinerator /Plasma pyrolysis (timing)		11.0 am -5.00 am (next day) a) Whether bio medical waste collected from member HCFs is treated during holidays : Yes
23.3	Consumption of auxiliary fuels		S.No. / Type of fuel / Consumption Quantity in liters per day / Bill Number Purchase of a) **Diesel** / 315 lit/day for Incinerator, Boiler, D.G
23.4	Stack attached with the incinerator / plasma pyrolysis	:	1) Diameter: 410 mm 2) Height : 30 m above ground level
23.5	Monitoring provision attached with the stack	:	☑Platform ☑Porthole ☑ access to the platform
23.6	Is stack monitoring provision satisfactory and as per CPCB guidelines	:	☑ Yes □ No
23.7	air pollution control systems attached with the incinerator	:	**For conventional incinerator** (i) Venturi Scrubber ☑YES □NO (ii) Droplet Separator ☑YES □NO (iii) Quenching ☑YES □NO (iv) Mist eliminator ☑YES □NO (v) Filters □YES □NO (vi) ID FAN ☑YES □NO **(vii)** Lime and Activated Carbon injection ☑YES □NO
23.8	Waste feeding mechanism	:	Manual feeding : ☑Yes □ No PLC based automatic feeding : ☑ Yes □ No
23.09	Is PLC and automatic recording system (for recording operating parameters of the incinerator /plasma pyrolysis	:	(i) PLC synchronized with waste feeding mechanism & in working condition : □ Yes ☑ No (ii) PLC synchronized and recording system attached with incinerator and in working condition : □Yes □ No OLMS system with recording facility installed.

23.10	Operational conditions of the Incineration/Plasma Pyrolysis as observed during the visit	:	(i) Whether burners is working condition : ☑ Yes □ No (ii) Temperature maintained in primary chamber (range):**881^{0}C during time of inspection** (iii) Temperature maintained in secondary chamber (range):**1090^{0}C during time of inspection** (iv) Negative draft in primary chamber : ...2-5.....mm of water column **(v)** Pressure drop in the venture : .....280-350... mm of water level
23.11	Is continuous on-line monitoring system/fuel gas analyzer attached with the incinerator /plasma pyrolysis for flue gas analysis (i.eCO, $O_2$and CO_2)	:	(i) Is continuous online monitoring system (COMS) attached with incinerator : ☑ Yes □ No Observed values of flue gas parameters : CO-14 mg/Nm3 O_2- 18% , (ii) Observed combustion efficiency :99.4%
23.12	Emergency and fire safety measures adopted with in the facility is adequate	:	Is emergency attack attached with the incinerator : ☑ Yes □ No Whether fire safety measures adopted (fire extinguishers, sand buckets etc.) ☑ Yes □ No
23.13	Log book for incinerator is maintained and satisfactory	:	Log Book Maintained : ☑ Yes □ No Log Book Maintained is satisfactory : ☑ Yes □ No
	Details of heat recovery system installed with incinerator /plasma pyrolysis		□ Yes ☑ No
24.00	**Capacity of autoclave and—make**	:	**700 kg/batch** (2 autoclaves i.e. of Fabwell -300 KG/ cycle and Hospharma-400 KG)
22.1	Operating conditions of autoclave/microwave as observed during the visit	:	Operating parameters observed: (i) Temperature : 121: in ^{0}C (ii) Pressure : 15 in psi (iii) Residence time : 45 in minutes (iv)
22.2	Provision made for the autoclave /microwave	:	Trolley for waste feeding :☑ Yes □ No Graphic or computer recording device attached: ☑ Yes □ No
22.3	Spore test or strip test or validation test conducted as per BMWM Rules. And records maintained	:	☑ Yes □ No Pl. Indicate frequency of strips test conducted : Every batch☑ once in week quarterly yearly Pl. indicate frequency of spore test conducted : Every batch once in a week ☑ quarterly yearly
22.4	Performance of autoclaving by spore testing or routine test	:	☑Satisfactory □ Not satisfactory
22.5	Log book maintained for autoclave is satisfactory	:	Log Book Maintained : ☑ Yes □ No Log Book Maintained is satisfactory : ☑ Yes □ No

23.0	**Capacity of shredder and make**	:	**600 kg/hr.** Alfatherm & 2 Seiko India (250+250+100)
24.0	Details of sharp pit / Encapsulation facility	:	(i)Sharp Pits are provided ☑ Yes □ No (ii)Is it as per CPCB Guideline ☑ Yes □ No (iii)Records maintained ☑ Yes □ No (iv)Total quantity of waste sharps treated and disposed: **Facility handover the shredded sharp waste (needles) to metal recycler after pretreatment and shredding**
25.0	**Water Balance**		
25.1	Source and quantity of water intake per day (cu.m / day)	:	Water consumption source: **Tankers** Water is taken at 6 KLD approximately. Is magnetic water flow meter attached to the water source /water storage tank □ Yes □ No -----N.A. Total quantity of water consumed during the previous six months 174KL
25.2	Break up of water usage (such as washing, scrubbing etc.)	:	Scrubber – 3 KLD Washing – 1 KLD Disinfections – 0.5 KLD Gardening – 0.5 KLD Domestic – 0.2 KLD
26.0	**Total wastewater effluent generated per day**	:	About **4-5** KLD generated Quantity of treated water reused/recycled in :**100 %** Any other mode of disposal:
27.	**Effluent treatment plant details**		
27.1	ETP Capacity	:	**100 KLD**
27.2	Flow Chart of ETP	:	ETP comprising of : Oil & grease trap, collection tank, chemical dosing, mixing tank, settling tank, holding tank, PSF, ACF and treated water tank
27.3	Intake and Discharge of ETP	:	(i) Magnetic Flow measuring device provided at the outlet of ETP: ☑ Yes □ No (ii) Energy meter attached to the ETP : □ Yes ☑ No Total Energy consumed in the plant over a period of one month :=**25059 units for SEPT-2019** (iii) pH meter attached at the outlet of ETP: ☑Yes □ No
27.4	Final mode of disposal of treated water	:	(i) Is treated waste water complying with the discharge norms ☑Yes □ No (ii) Is Treated water is reused in the scrubber: ☑ Yes □ No (ii) Is Treated water is reused for gardening: □ Yes ☑ No (iii) Is Treated water is discharged in drain: □ Yes ☑No (iv) Is Treated water is discharged in open area: □ Yes ☑No
28.	**Status of infrastructure provided (Pl. indicate (Yes / No) whichever is applicable**		
28.1	Separate space for treatment equipment room	:	☑ Yes □ No

28.2	Main waste storage room	:	☑ Yes □ No (Separate rooms/areas have been built for different types of waste)
28.3	Treated waste Storage room	:	☑ Yes □ No
28.4	Administrative room	:	☑Yes □ No
28.5	Generator set	:	☑ Yes □ No
	(i) Capacity	:	125 KVA
	(ii) Is Stack attached as per DG Set norms	:	☑Yes □ No
	(iii) Is Acoustic enclosure provided as per DG Set norms	:	☑ Yes □ No
	(iv) Is DG Set complying to the noise level as per Norms	:	☑ Yes □ No the monitoring results was found within limits as per analysis report dated 16/10/2019
28.6	Site security (high walls, fencing, guarded gates etc.)	:	High walls on all four sides : ☑ Yes □ No Fencing on all the sides : ☑ Yes □ No Guarded Gates : ☑ Yes □ No Any other observation pl. indicates .....
28.7	Parking facility	:	☑ Yes □ No
28.8	Sign board	:	☑ Yes □ No
28.9	Green belt	:	☑ Yes □ No
28.10	Washing room	:	☑ Yes □ No
28.11	First aid box	:	☑Yes □ No
28.12	Lighting arrangements in the facility	:	☑ Yes □ No
28.13	Odour problem remedial	:	☑ Yes □ No
28.14	Firefighting and emergency facilities	:	☑ Yes □ No
28.15	Measures for control of pests / insects etc.	:	☑ Yes □ No
28.16	Protective gear for waste handlers	:	☑ Yes □ No
28.17	Telephone facility	:	☑ Yes □ No
28.18	Provision of washing toilets and safe place for eating for the workers		☑ Yes □ No
28.19	Fire alarm system provided in the facility		☑ Yes □ No
29.	**Record maintenance and record keeping details(Yes / No) whichever is applicable**		
29.1	Waste Movement /Manifest record	:	☑Yes □ No
29.2	Log book for treatment equipment	:	☑Yes □ No
29.3	Site records	:	☑ Yes □ No
29.4	Incineration ash generation and final disposal records	:	☑ Yes □ No
29.5	Treated plastic waste generation and its sale to the registered recycler	:	☑Yes □ No
29.6	Syringestreated and its final disposal record	:	☑Yes □ No
29.7	Workers health status record	:	☑ Yes □ No
29.8	Workers immunization records	:	☑ Yes □ No

29.9	Medical or paramedical workers training records	:	☑ Yes □ No
29.10	Whether records maintained with regards to the accidents (such as fire , spills and injury and measures taken)	:	☑ Yes □ No
30.	**Collection and transportation status (Yes / No)*(could not observe during inspection)**		
30.1	Whether waste collected in a container of similar colour with label as per the Rules?	:	☑ Yes □ No
30.2	Whether the person who collects BMW maintain a register with him / her?	:	☑ Yes □ No
30.3	Has due attention have been given in vehicles to prevent spillage / pilferage/ loading / unloading etc.?	:	☑ Yes □ No
30.4	Is the vehicle labeled with the symbol and display the name, address, telephone number etc.?	:	☑ Yes □ No
30.5	Does the CBWTF operator use satellite station to store the waste? If yes, give details	:	□ Yes ☑ No
30.6	The CBWTF operator collects waste daily or alternate day including holidays ?	:	☑ Yes □ No (In case of small clinics the waste Is collected as per the need)
30.7	Whether waste treatment criterion of 48 hours is complied?		☑ Yes □ No
31.	**Disposal of treated waste:**		
31.1	Plastic waste after treatment	:	Plastic waste sold to : M/s Sitaram Plastic and approved By DPCC
31.2	Treated sharps	:	Treated sharp(needles) disposal by autoclave followed by shredding through M/s Sparsh Impex, Jajjar and approved By Bahadurgarh, Haryana Treated sharps (glass bottles) disposal after treatment by 1% hypoclorite solution through M/s Mathur Glass Works Firozabad.
31.3	Incineration ash	:	Incineration ash disposal by: Disposal in sanitary landfill : ☑ Yes □ No Disposal through TDSF: □ Yes ☑No
31.4	Other treated solid wastes	:	**NIL**
31.5	Oil & grease	:	**NIL**
31.6	Treated wastewater	:	**Reused**
32.	Frequency of incinerator / autoclave / microwave / hydroclave / ETP discharge effluent testing and name of the laboratory (specify approved or not). Give details of compliance / non-compliance)	:	**Reported Monitoring frequency: -** i. Stack monitoring : Quarterly☑ Yes □ No ii. Waste water : Monthly/☑Quarterly/Yearly iii. Incineration ash : Monthly/☑Quarterly/Yearly iv. Name of laboratory conducted test: Sriram Institute & Enviro Lab v. Is the laboratory approved under E (P) Act, 1986/...SPCB/PCC/NABL: ☑ Yes □ No

32.1	Frequency of site inspection by SPCBs/PCCs/CPCB/any other agencies	:	i. No. of times in a year by inspected by the SPCB/PCC/: 3 ii. No. of times in a year by inspected by the CPCB: 3 iii. DHS- Every Month
33.	**Monitoring Results :**		
33.1	Incinerator stack emission (parameters stipulated in the Rules, temperature attainment in the chambers, residence time in the secondary chamber etc.)	:	Monitoring was not conducted during the inspection.
33.2	Incineration ash characteristics	:	As per the analysis results provided by facility operator, incinerator ash does not contain any hazardous constituents beyond the prescribe limit given under Schedule –II Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016:
33.3	ETP inlet/outlet characteristics	:	All values are in mg/l except pH Monitoring was not conducted on the date of inspection; the operator has submitted waste water sample analysis report conducted by M/s Enviro Lab dated 14.11.2019.
33.4	Whether liquid effluent discharge norms are complying by the CBWTF		☑ Yes □ No Report attached
33.5	Whether CBWFT is submitting the annual report within the due date for the preceding year	:	☑ Yes □ No If yes annual report submitted vide letter No **SMS-WGPL/DPCC/ND/BMW/18-19/002 dated07.02.2019**
34.0	Any other relevant observation	:	**(pl. see annexure)**
35.0	Name of the officials with designation inspected the CBWTF and the signature	:	**1. Sh. Nishant Bodh, SDM (Punjabi Bagh)** **2. Ms. Ajeeta Dayal Agrawal , SEE, DPCC** **3. Ms Youthika, Sc.' D', CPCB** **4. Sh.D.K. Shrivastava AEE, DPCC** **5. Sh. Puneet Kumar, Trainee Engineer , DPCC** **6. Sh. Anshuman Sharma Trainee Engineer, DPCC**

Parameter	pH	TSS	COD	BOD	O&G
ETP Inlet Result	8.11	161.4	480.0	89.1	11.6
ETP Outlet Result	7.30	29.3	120.0	22.6	6.7

Observations/ Remarks

1. During the inspection the facility was found operational.
2. The facility is engaged in collection, transportation, treatment and disposal of biomedical waste from the member health care facilities located in East, Shahadara , North East , South West , West & Central districts of Delhi.

3. The facility is operating with valid Authorization under Bio-medical Waste Management Rules, 2016 which is valid upto 27/10/2024 and Consent to Operate under Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981which is valid upto 02/05/2024.

4. Facility has 47 vehicles for collection of biomedical waste, out of which 36 are four wheelers and 11 numbers are two wheelers. All the vehicles are equipped with GPS system and the movement of the vehicles is displayed in real time on the control panel in the facility. During inspection 4 vehicles which had reached the facility after collecting the waste from HCF were inspected and found in order.

5. The facility has incineration capacity of 500 kg/hr., autoclaving capacity is 700 kg/ batch and shredding capacity of 600 kg per hr. Facility has two incinerators of 250 kg/hr capacity each (one standby). Operational time of incinerator is 11.00 AM to 5.00 AM of the next day. The incinerators are upgraded to have 2 seconds Residence Time in Secondary Combustion Chamber.

6. The facility has separate space for storing different category of waste. However, untreated glass bottles (blue waste) were found stored in open in covered trolleys.

7. During the inspection incinerator was in operation. Incinerator is connected with Programmable Logic Controller based recording system, but the feeding of the waste is done manually. Temperature in Primary and Secondary chambers of incinerator being maintained during inspection was around 881^{0}C and 1090^{o}C respectively.

8. The facility is using diesel as fuel in incineration as well as in DG sets.

9. The facility has installed two autoclaves having capacity of 400 kg/batch and 300 kg/batch. During the inspection autoclave was in operation. Operating parameters of autoclave observed during the monitoring were:
   Temperature : 121 in ^{O}C
   Pressure : 15 in psi
   Residence time : 45 in minutes
   which were found complying with the prescribed standards. The facility is conducting strip test for every batch and spore test once in a week as required under the Rules. Autoclave is connected to a graphic/ computer recording device. Log book was found maintained for all the parameters.

10. The facility, after treatment of the plastic waste, segregates the treated waste into different types/ grades of plastics/ rubber manually on a conveyer belt. Then this waste is shredded and stored in different bags and handed over to the plastic recycler having consent from DPCC.

11. The facility has provided sharp pits. However, these are only used in emergency. Normally the sharps (needles) after autoclaving/ treatment are shredded and handed over to the authorized recycler i.e M/s Sparsh Impex, located in Jhajjar.

12. Treated sharps (glass bottles) are disposed off through M/s Mathur Glass Works Firozabad after treatment by 1% hypochlorite solution.

13. The Air Pollution Control System (APCS) installed by the facility consists of the following:

Venturi Scrubber
Droplet Separator
Quenching
Mist eliminator
Lime and Activated Carbon injection

Stack height of the facility is 30 m. During inspection APCS was in operation. However, slight leakage of water from venture scrubber was observed.

14. The facility has installed online continuous emissions monitoring system (OCEMS) for CO, CO2, and primary chamber temperature and Secondary Chamber temperature. The OCEMS is connected with DPCC and CPCB servers.

15. Monitoring platform and ladder attached with the stack is adequate for monitoring.

16. The stack monitoring of the facility was carried out by DPCC, through M/s Shriram Institute of Industrial Research on 11/10/2019 wherein the parameters in stack emission were found to be more than the prescribed limits. Subsequently, DPCC vide letter dated 09.01.2020 issued Show Cause Notice for revocation of Authorization under BMWM Rules 2016, for closure of CBWTF and levying of Environmental Damage Compensation of Rs 4,50,000.

17. However, during this inspection on 27/12/19, the facility handed over/ showed the results of emission monitoring carried out on 19/11/19 by M/s Enviro Lab (authorized under EPA) which indicates that the parameters for stack emissions (di-oxin and furans for which the monitoring was not carried out) to be well within the prescribed limits.

18. The facility has provided acoustic enclosure and adequate stack height with the DG set of 125 KVA. Noise monitoring report of the DG sets dated 16/10/19 by DPCC laboratory, shows the parameters to be within the prescribed limits.

19. The facility has installed an Effluent Treatment Plant (ETP) of 100 KLD capacity for treatment of waste water generated from facility. The ETP comprises of Oil & grease trap, collection tank, chemical dosing, mixing tank, settling tank, holding tank, pressure sand filter (PSF), activated carbon filter (ACF) and treated water tank. Facility has ZLD system. Treated water is reused in air pollution control system (APCS).

20. During inspection the ETP was found operational. The analysis results of the effluent dated 19/11/12, by M/s Enviro Lab, from the outlet from effluent treatment plant installed in the facility indicates the parameters to be within the prescribed limits.

21. The facility is meeting its daily water requirements through tankers and reuse of the treated wastewater.

22. All HCFs covered by the Facility have still not adopted bar code system.

Remarks/ Recommendations:

1. Joint inspection of the facility was undertaken as per the orders of Hon'ble NGT dated 20/11/19 in Q.A. No. 1019/ 2019 in the matter of Amrita Puri Residential Colony RWA Vs SMS Water Grace (P) Ltd. & Ors. although, copy of the petition/complaint/ filed by the applicant in the Hon'ble NGT had not been received by DPCC, the joint inspection of the facility has been carried out due to urgency of the matter.

2. DPCC has already issued show cause notice to the facility based on the results of the monitoring carried out by DPCC through Shriram Institute of Industrial Research on 11/10/19 levying an Environmental Damage Compensation of Rs. 4,50,000/- (Rupees four lakh fifty thousand only).

3. The facility should take steps to prevent water leakage from the ventury scrubber.

4. The facility should store the untreated blue category biomedical waste (glass bottles) in a covered area.

All related documents have been attached with this observation sheet/ inspection report.

(Nishant Bodh)
SDM (Punjabi Bagh)

Youthika
Scientist 'D', CPCB

(Ajeeta Dayal Agrawal)
SEE, DPCC

(D. K. Srivastava)
AEE (DPCC)

Annexure- II

(16)

DELHI POLLUTION CONTROL COMMITTEE
DEPARTMENT OF ENVIRONMENT, (GOVT. OF NCT OF DELHI)
4TH &5th FLOOR, ISBT BUILDING, KASHMERE GATE, DELHI-6
visit us at : http://dpccocmms.nic.in

FORM –III

AUTHORISATION UNDER BIO MEDICAL WASTE MANAGEMENT RULES, 2016

File Number of Authorization DPCC/(11)(5)(01)/BMW/2019/NST/AUTH NO/20227 Dated: 4/11/19
Application No:2154761

1. M/s PRABAL PRATAP SINGH JADON an occupier or operator of the facility located at DELHI JAL BOARD, SEWAGE TREATMENT PLANT NILOTHI 110041 is hereby granted an authorisation for; Activity for, **Collection, Transportation Reception Storage Treatment and Disposal or processing or conversion Recycling Disposal or destruction use offering for sale, transfer Any other form of handling**

2. M/s M/s SMS WATER GRACE BMW PVT. LTD. is hereby authorized for handling of biomedical waste as per the capacity given below:

   (i) Number of beds of HCF: 32763
   (ii) Number of healthcare facilities covered by CBMWTF: 5198
   (iii) Installed treatment and disposal capacity: 28800 Kg per day
   (iv) Area or distance covered by CBMWTF: SOUTHWEST, WEST, CENTRAL, NORTHEAST, SHAHADARA & EAST DISTRICTS OF DELHI
   (v) Quantity of Biomedical waste handled, treated or disposed:

Type of Waste Category	Quantity permitted for Handling
Yellow	5211
Red	5155
White (Translucent)	325
Blue	1330

3. This authorisation shall be in force for a period of Five Years and valid up to 27-10-2024 or till the expiry of agreement with DHS, Govt. of NCT of Delhi whichever is earlier.

4. This authorisation is subject to the conditions stated below and to such other conditions as may be specified in the rules for the time being in force under the Environment (Protection) Act, 1986.

Signature
S.E.E, WMC-I
AJEETA D. AGRAWAL
Senior Environmental Engineer
Delhi Pollution Control Committee
4th & 5th Floor, ISBT Building,
Kashmere Gate, New Delhi-110006

Terms and conditions of authorization

1. This authorization is subject to the conditions specified under the agreement with DHS.
2. The operator shall comply with the provisions of Bio-Medical Waste Management Rules, 2016 as amended to date.
3. The operator shall comply with the provisions of Environment (Protection) Act, 1986 and the rules made there under.
4. The operator shall comply with the standards prescribed in Schedule II of Bio Medical Waste management Rules, 2016, for the discharge of the wastewater/ Effluent generated and Emission generated from incineration. Enclosed as Annexure-I
5. The operator shall not rent, lend, sell, transfer, or otherwise transport the bio-medical waste without obtaining prior permission of DPCC.
6. The operator shall ensure that the untreated human anatomical waste, animal anatomical waste, soiled waste and, biotechnology waste shall not be stored beyond a period of forty –eight hours. If for any reason it becomes unavoidable, intimation should be given in writing to DPCC and measures are to be ensured so that the waste does not adversely affect human health and environment.

7. The operator shall maintain records of the Bio-Medical Waste generated and disposed of/ handled on daily basis. The record shall be made available, for inspection & verification, to any officer authorized by DPCC.
8. D.G set of capacity 125 KVA installed by operator shall comply with the noise standards laid down vide Gazette Notification of Ministry of Environment and Forest (MOEF), Government of India Dated 17.05.2002 and 12.07.2004, as amended to date, for the Diesel Generator Set(s). Stack height with the DG Set shall be as per the following formula, H is equal to h plus (0.2 X square root of KVA) where 'H' is Total Height of stack in meter, 'h' is Height of the building in meters where the Generator Set is installed and KVA is the capacity of the Generator set in KVA.
9. The operator is required to supply the treated plastic waste and other waste to recycler authorized/consented by the respective Pollution Control Board/ Committee. Copies of the consent or authorization of the recyclers to whom the waste(s) are being sent are required to be submitted to this office from time to time.
10. The operator shall submit details about plastic, glass, metal scrap generation and their final disposal as per the Bio-Medical Waste Management Rules, 2016. The operator is also required to maintain its proper record in compliance with the new rules and submit the same to DPCC on monthly basis.
11. The operator shall comply with the Guidelines of CPCB for Bar Code system for effective management of Bio-Medical Waste Management.
12. The operator shall ensure collection of biomedical waste on holidays as well.
13. The operator must conduct validation test for autoclave once every 3 months and submit the test report every 3 months to the prescribed authority.
14. The Operator must conduct Routine test for Autoclave (as explained in Schedule II of the Rules) during autoclaving of each batch and maintain the records in this regard. The operator must also conduct the Spore test (as explained in Schedule II of the Rules) once every week and maintain the records. All such records must be submitted to DPCC every month.
15. The Operator is required to ensure the pre-treatment of microbiological waste generated by its registered HCF's, at the end of HCF's. Non compliance shall be brought to the notice of the Prescribed Authority.
16. The Operator shall inform DPCC regarding the occupiers which are not handing over the segregated bio medical waste in accordance with these Rules.
17. The Operator shall provide training to all its workers involved in handling of Bio Medical waste at the time of induction and at least once a year thereafter.
18. The Operator shall assist the occupier in training conducted by them for Biomedical Waste Management.
19. The operator shall undertake an appropriate medical examination at the time of induction and at least once in a year and immunize all its workers involved in handling of Biomedical waste for protection against diseases, including Hepatitis B and Tetanus ,that are likely to be transmitted while handling Biomedical waste and maintain the records for the same.
20. The operator shall ensure occupational safety of all its workers involved in handling of biomedical waste by providing appropriate adequate personal protective equipment's (PPE's).
21. The operator shall report major accidents including accidents caused by fire hazards, blasts during handling of Biomedical waste and the remedial actions taken and the records relevant thereto (including nil report) in Form I to DPCC and also along with annual report.
22. The operator shall maintain a log book of each of its treatment equipment according to weight of batch, categories of waste treated, time, date and duration of treatment cycle and total hours of operation.
23. The operator shall allow occupier(S), who are giving waste for treatment to the operator, to see whether the treatment is carried out as per the Rules.
24. The operator shall display the details of Authorization, treatment, annual report etc on its website.
25. The Operator shall not accept any chlorinated gloves and any waste in the chlorinated plastic bags after 27.3.2019. The operator shall supply non chlorinated plastic coloured bag to the occupiers on chargeable basis, if required.
26. The operator shall maintain all records for operation of incineration, hydro or autoclaving for a period of five years.
27. The operator shall maintain existing incinerators to achieve the standards for retention time in secondary Chamber and dioxin and furans.
28. The vehicles used for transportation of bio-medical waste shall comply with the requirement contained in the motor Vehicle Act, 1988(59 of 1988) , if any or the rules made there under for transportation of such infectious waste.
29. Operator shall submit details of the CCTV cameras i.e number of CCTV cameras, theirs location and areas they cover to DPCC. Additionally, Operator must submit footage /recording of all CCTV cameras installed in their premises every month along with its linkage to the DPCC.
30. Operator shall install Continuous Emission Monitoring System for the parameters as stipulated by DPCC in authorization/ Consent and transmit the data real time to the servers at DPCC and Central Pollution Control Board.
31. Operator shall submit the linkage of the GPS system of the vehicles with the server of CPCB and DPCC.

32. Operator shall submit the waste water analysis report of the installed ETP every 6 months to DPCC from the DPCC laboratory or from a laboratory empanelled by it or a laboratory approved under Environment (Protection) Act. 1986 if the DPCC laboratory is not in a position to carry out the monitoring & analysis.
33. Operator shall dispose of the ash generated from the process in accordance with the Hazardous Waste (Management, Handling and Transboundary) Movement Rule, 2008 & revision made thereafter/ as per the provision of Environment (Protection) Act, 1986 whichever is applicable.
34. The Operator shall monitor the stack gaseous emission (under optimum capacity of the incinerator) once in three months through DPCC Laboratory or a laboratory approved under the Environment (Protection) Act 1986 and record of such analysis/ result shall be maintained and submitted to the DPCC. In case of Dioxin and furans, monitoring should be done once in a year.
35. Incinerator (Combustion Chamber) shall be operated with such temperature, retention time and turbulence, as to achieve Total Organic Carbon Content in the slag and bottom ashes less than 3% or their loss on ignition shall be less than 5% of the dry weight.
36. All Monitored values shall be corrected to 11% Oxygen on dry basis.
37. The operator shall convert its incinerator into PNG fired and submit the compliance to DPCC within 30 days.
38. Wastes to be incinerated shall not be chemically treated with any chlorinated disinfectants.
39. The operator shall submit the Annual Report in Form-IV by 30th June every year, including information about the categories and quantities of bio-medical waste generated from 1st January to 31st December of the preceding year.
40. Submission of false information shall make the authorization liable for cancellation without any notice.
41. The operator shall apply for renewal of authorization under the aforementioned Rules before one month of the expiry of this authorization.
42. The operator shall apply for fresh Authorization in case of any change in the activity, capacity etc.
43. In case of violation of any of above said conditions, penal action will be initiated against the operator including withdrawal of authorization/consent etc.
44. The operator shall be liable for environmental compensation if any biomedical waste of their registered HCFs is found illegally dumped in public place.
45. The operator shall inform to the District Level Monitoring Committee (DLMC) of the area and DPCC if any biomedical waste is found illegally dumped by its field staff in their area of jurisdiction.
46. In case of failure to comply with any of the above conditions and / or with any provision of the Act or of these Rules, authorization issued to the Occupier may be suspended or cancelled as per the provisions under sub-rule 10 (2) of Bio-Medical Waste Management Rules, 2016, as amended to date.
47. DPCC reserves the right to change / amend/ add any condition from time to time.
48. The operator shall take prior permission of Delhi Pollution Control Committee to close down the facility and such other terms and conditions may be stipulated by the prescribed authority.

Signature
AEE, WMC-I

D. K. SRIVASTAVA
Assistant Environmental Engineer
Delhi Pollution Control Committee
4th & 5th Floor, ISBT
Kashmere Gate, New Delhi-110006

(Annexure –I)

1. STANDARDS FOR LIQUID WASTE :

The effluent generated or treated from the premises of occupier or operator of a common bio medical waste treatment and disposal facility, before discharge into the sewer should conform to the following limits-

PARAMETERS	PERMISSIBLE LIMITS
• pH	6.5-9.0
• Suspended solids	100 mg/l
• Oil and grease	10 mg/l
• BOD	30 mg/l
• COD	250 mg/l
• Bio-assay test	90% survival of fish after 96 hours in 100% effluent

2. EMISSION STANDARDS FOR INCINERATOR :

Sl. No.	Parameter	Standards	
(1)	(2)	(3)	(4)
		Limiting concentration in mg Nm^3 unless started	Sampling duration in minutes, unless started
1.	Particulate matter	50	30 or $1NM^3$ of sample volume, whichever is more
2.	Nitrogen oxides NO and NO_2 expressed as NO_2	400	30 for online sampling or grab sample
3.	HCL	50	30 or $1NM^3$ of sample volume, whichever is more
4.	Total dioxins and furans	0.1 ng TEQ/Nm^3 (at 11% O_2	8 hours or 5 NM^3 of sample volume, whichever is more
5.	Hg and its compounds	0.05	2 hours or $1NM^3$ of sample volume, whichever is more

DELHI POLLUTION CONTROL COMMITTEE

(Government of N.C.T. of Delhi)

4th & 5th Floor, ISBT Building Kashmere Gate, Delhi 110006

CONSENT ORDER

Certificate No. :G-2828

Name of the unit	:	SMS WATER GRACE BMW PVT. LTD.
Address	:	DELHI JAL BOARD, SEWAGE TREATMENT PLANT NILOTHI, Nangloi Industrial Area, Delhi - 110041
Consent Order No	:	DPCC/CMC/2019/850567
Date of issue	:	11/09/2019
Product/Activity	:	Health Care Establishments
Manufacturing Activities	:	Operator of Facility under Bio Medical Waste (Management) Rules 2016 as amended to date

This Consent to **Operate** is hereby granted under section 21 of the Air (Prevention & Control of Pollution) Act, 1981 and under section 25/26 of the Water (Prevention & Control of Pollution) Act, 1974 under **RED** Category.This consent is subjected to terms and conditions specified overleaf.**This is being issued with reference to your application id 850567 valid from 03/05/2019 to 02/05/2024.**

AJEETA DAYAL AGRAWAL

Digitally signed by AJEETA DAYAL AGRAWAL
Date: 2019.09.11 20:14:27 +05'30'

Senior Environmental Engineer

Terms and Conditions

1. This consent to Operate issued shall be valid upto 5 years or till the expiry of agreement with DHS, Govt. of Nct of Delhi whichever is earlier.
2. The Consentee is required to adhere to the standards for treatment and disposal of Bio Medical waste, including standards for incinerators, autoclaves, other equipments and standards for liquid waste as mentioned in schedule II of BMWM Rules, 2016.
3. The Consenttee shall ensure the following emissions standards in the stack.

Parameter	Standards	sampling duration in minutes, unless stated
Particulate Matter	50 mg/Nm3	30 or 1 NM3 of sample volume, whichever is more
HCl	50 mg/Nm3	30 or 1 NM3 of sample volume, whichever is more
NOx (NO and NO2 expressedas NO2)	400 mg/Nm3	30 for online sampling or grab sample
Total dioxins and furans	0.1 ng TEQ/Nm3	8 hours or 5 NM3 of sample volume, whichever is more.
Hg and its compounds	0.05 mg/Nm3	2 hours or 1 NM3 of sample volume, whichever is more.

Note.- All values corrected to 11% oxygen on a dry basis.

4. The consenttee shall adhere to the following effluents standards:

Parameters	Permissible limits
pH	6.5-9
Total Suspended Solids (TSS)	<100 mg/l
Oil and Grease	10mg/l
Bio-Chemical Oxygen demand (3 days at 27 degree C)	30 mg/l
COD	<250mg/l
Bio Assay Test (survival of fish after96 hours in100% effluent)	90-100 %

5. The Consent is activity specific. The unit shall apply for fresh consent in case of there is any change in the activity/ process.
6. Separate drainage system shall be provided for collection of trade and sewage effluent. Terminal Manholes shall be provided at end of collection system.
7. The unit shall ensure proper channelization control system for fugitive emissions generated and good housekeeping so as to maintain clean and safe environment in and around the Premises.
8. The unit shall comply with the norms laid down vide Gazette Notification of Ministry of Environment and Forests, government of India Dated 17.05.2002 for the Diesel generator set(s).
9. The unit shall comply with the emission standards prescribed for diesel Engines (Engine rating more than0.8 MW used for generations of power), and other requirements as notified vide govt.of India Notification dated 09.07.2002 of Ministry Of Environment forests.
10. In the event of any Information furnished by the consentee found to be false, consent granted through this order shall be deemed to be revoked and necessary action as per law taken, which may include closure of the unit/stoppage of construction and prosecution for wrong declaration.
11. The unit shall comply with requirement of hazardous waste (Management Handling and transboundary Move me Rules,2016, as amended to date and the Batteries (Management and Handling)Rules, 2001, as amended to date whichever applicable.
12. Notwithstanding anything contained in this Consent order the Committee reserves the right to review any or all conditions imposed herein above and to make such variations as deemed fit for the purpose of enforcement of Air (Prevention and Control of Pollution) Act, 1981 and Water (Prevention and Control of Pollution) Act , 1974.
13. The unit shall comply with the prescribed standards of emission as applicable under provisions of Environmental (Protections) Acts and Rules.
14. This Consent to Operate is granted subject to the provisions of Air (Prevention and Control of Pollution) Act, 1981 as amended to date and rules and orders made thereof and under section 25/26 of the Water

(Prevention and Control of Pollution) Act, 1974 as amended to date and rules and orders made thereof and based on the information provided in the consent application along with the documents submitted to this office.

15. The Consentee shall comply with the provisions of the Environment (Protection) Act, 1986 as amended to date.

16. Capacity of DG sets is 125 KVA. The consenttee shall not discharge the treated effluent and shall reuse the treated effluent for quenching purpose and the domestic water shall be discharged through soakpit.

17. The consenttee shall operate and maintain the facility as per the CPCB guidelines for common bio medical waste treatment facility.

18. The consent to operate is valid for the activity of collection, transportation, treatment and disposal of biomedical waste operator of facility and transporter as per biomedical waste management and handling rules, 2016 as amended to date.

19. The consentee shall operate and maintain the installed Effluent treatment plant (ETP) to the prescribed standard.

20. The consenttee shall operate and maintained the installed Air pollution control device (PCD) to control the emission from the incinerator so as to meet the prescribed standard under schedule 5 of the said bio medical waste management rules, 2016.

21. The consenttee is advised to take adequate measures so that during its operation surrounding area should not be affected.

22. The Consent to operate is valid subject to the fulfilment of all the others statutory requirement in other law/ acts / rules as applicable.

23. The consenttee shall maintain partition between storage area for incinerable and autoclavable biomedical waste.

24. The consent is subject to the condition that you are operating as per the provision of master plan of Delhi 2021.

25. In case of failure to comply with any of the consent condition the consent issue to the unit shall automatically stands revoked without any notice.

26. The consenttee shall take adequate measures to control the noise level from its own sources within the premises in respect of noise to less than 65 Dba leq during day time and 55 Dba leq during night time to meet the prescribed ambient noise standards. Day time is reckoned in between 6 AM to 10 PM and night time is reckoned in between 10 PM to 6 AM.

27. The consent to operate is being issued as per the decision taken by the BMW Committee no. 1 in its meeting held on 22.01.2019

DELHI POLLUTION CONTROL COMMITEE
DEPARTMENT OF ENVIRONMENT (GOVT. OF NCT OF DELHI)
4TH & 5TH FLOOR, ISBT BUILDING, KASHMERE GATE, DELHI-6
visit us at http://dpccoemms.nic.in

Noise Monitoring Report

Result No- DPCC/Comm/N/2896/1596 18/10/2019 Date:16/10/2019

1. Name & Address of Ind/Unit : M/s.SMS WATER GRACE BMW PVT. LTD.
DELHI JAL BOARD, SEWAGE TREATMENT PLANT
NILOTHI
Delhi--110041
2. Date of Monitoring : 15/10/2019
3. Year of Manufacture : After Jan 2005 but upto 1000KVA
4. Time of Monitoring : 15 : 05

Results :

S. No.	Location	Noise Level	Remarks	Standard
1.	Ambient Noise Level in dB(A)	60.3	D.G. Set(s) Non-Operational	
2.	Ambient Noise Level in dB(A)	66.8	D.G. Set(s) Operational	
3.	Noise Level at 1.0 m away from the enclosure surface in dB(A)	74.4	D.G. Set(s) Operational	<=75

Note
=> The unit is engaged in CBMWTF.
=> The unit has 1 D.G.Set(s) of 125 KVA bearing engine no. 6H.3538/1001723 with stack height 7.5 m above from acoustic enclosure .
=> D.G.Set of the unit is installed in an acoustic enclosure at front side in the premises.
=> D.G.Set monitored is meeting the permissible limit as per the G.S.R.371(E) dated 17/05/2002 and amended till date. However Ambient Air Quality Standards in Respect of Noise as mentioned in Schedule III of the Environment(protection) Rules,1986 is meeting

SCIENTIST (D)
Dr. M. P. GEORGE
Scientist

ENV.ENGINEER
TRILOK CHAND
AEE

SHRIRAM INSTITUTE FOR INDUSTRIAL RESEARCH

(A unit of Shriram Scientific and Industrial Research Foundation)

19, University Road, Delhi – 110007 (India)
An ISO - 9001, 14001 & OHSAS 18001 Certified Institute

Website : www.shriraminstitute.org
E-mail id : customercare@shriraminstitute.org

TEST CERTIFICATE NO : C1/0000189193

Issued To :
Client Code : (NDLS01S1751)
SMS WATER GRACE BMW PVT. LTD
DJB, S.T.P NILOTHI
NEW DELHI
DELHI-110041
Kind Attn: MR. PRABAL PRATAP SINGH,MANAGER OPERATION

Date	: 09-09-2019
Job No	: 1908-1-421-3341
Booking No	: RG1920/1/6243
Booking Date	: 26-08-2019
Customer Ref No.	: EMAIL
Customer Ref Dt.	: 09-08-2019
ULR NO.	: TC544419000015799P

ilac-MRA TC-5444

Sample Particulars:
Stack gas emission sampling was carried out by our representative as per details given below.
(The plant data details provided in test certificate is based on declaration by the sponsor).

PLANT DATA:

1.	Name & address of the industry	: M/s. SMS Water Grace BMW Pvt. Ltd. DJB STP, Nilothi Delhi-110041
	a) Plant Representative	: Mr. Prabal Jadon, Sr. Manager
	b) Facility Provided	: Bio-Medical Waste Disposal
	c) Capacity	: 6500 Kg/day (Approx.)
2.	Date of sampling	: 30.08.2019
3.	Name of the plant/section	: Incinerator
4.	Normal operating schedule of the plant (hrs/day)	: 16-18
5.	Name of the emission source monitored	: Incinerator No. # 2 (Make: Alfatherm; Model: BMW-250)
	a) Date of installation	: 05/2010
	b) Rated capacity	: 250 Kg/hr.
	c) Capacity on the sampling day	: 240 Kg/hr.
	d) Type of fuel used and its consumption	: H.S.D.; 35 litre/hr.
6.	Stack identification	: Common stack attached to Incinerator No.- 1 & 2
7.	Type of chimney	: MS (Circular)
8.	Location of the sampling point	: 18 Mtr. above from ground level
9.	Stack height (m)	
	a) From ground level	: 30
	b) From bend/disturbance	: --
	c) Above roof level	: --
	d) From source of emission	: --

AUTHORISED SIGNATORY
EMPLOYEE CODE:(6093)

Phone : 91-11-27667267, 27667983, 27667860 Fax : 91-11-27667676, 27667207

See overleaf for terms & conditions

SHRIRAM INSTITUTE FOR INDUSTRIAL RESEARCH

(A unit of Shriram Scientific and Industrial Research Foundation)

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Website : www.shriraminstitute.org
E-mail id : customercare@shriraminstitute.org

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TEST CERTIFICATE NO : C1/0000189193

TC-5444

10.	Internal diameter of the stack (cm)	: 41
11.	Sampling duration	: 60 min.
12.	Parameter required	: PM, NOx, HCl, Hg & C.E.
13.	Purpose of monitoring	: To assess the pollution load for internal purpose
14.	Air Pollution control measures	: Venturi Scrubber, Droplet Separator, Packed Bed Scrubber, Mist Eliminator, Activated Carbon Filter
	a) Status	: Working
	b) Recovery of material	: Ash; 20 Kg/hr.
15.	Fugitive emissions, if any	: Nil

OBSERVATIONS

1.	Ambient air temperature (°C)	: 29
2.	Stack gas temperature (°C), average	: 85
3.	Stack gas velocity (m/s), average	: 6.4
4.	Volumetric flow rate ($Nm^3/hr.$)	: 2385
5.	Primary chamber temp. (°C)), average*	: 869
6.	Secondary chamber temp. (°C), average*	: 1053

Results Table

S.No.	Parameter	Unit	Test Result	Emission Limits	Protocol / Method
1.	Particulate matter (PM)	mg/Nm^3	37	**50**	IS:11255 (Pt-1) 1985 (RA 2014)
2.	Oxides of Nitrogen (as NO_2)	mg/Nm^3	202	**400**	IS:11255 (Pt-7) 2005 (RA 2017)
3.	Hydrogen chloride (HCl)	mg/Nm^3	3.5	**50**	US EPA Method No.26
4.	Total Mercury (Hg)	mg/Nm^3	0.003	**0.050 (Hg + its compounds)**	US EPA Method No.29
5.	Combustion Efficiency#	%	99.541	**At least 99.99**	By Calculation

*Temperature recorded from panel display

Note: 1. Oxygen was observed to be 14.0 % during the monitoring.
2. All test values except Combustion Efficiency corrected to 11 % oxygen on a dry basis.
3. Emission limits mentioned above as per Schedule II of Bio-Medical Waste Management Rules, 2016
4. The parameter marked with an '#' is not covered under NABL scope.

****

DOR: 30.08.2019
DOC: 09.09.2019

AUTHORISED SIGNATORY
EMPLOYEE CODE:(6095)

Phone : 91-11-27667267, 27667983, 27667860 Fax : 91-11-27667676, 27667207

See overleaf for terms & conditions

website: www.pollutionconsultants.com
mail: anupam@pollutionconsultants.com
Mob.: 09214012627
☎ 09314012627

ENVIRO LAB

(Pollution Control Consultants)

An ISO 9001 : 2015, 14001 : 2015, & OHSAS 18001-2007 Certified Laboratory
Recognized from Ministry of Environment, Forest & Climate Change (MoEFCC) Govt. of India
Under the Environment Protection Act 1986

Certificate No. TC-6773

	Controlled Format	No. 5.10F-04
	TEST REPORT	Issue Date: 11/06/2019
		Sampling Due Date: 04/09/2019

(Stack Emission Analysis)

Certificate No.	:	EL/BWD/RPTSK/2163-19		
Issued To	:	M/S SMS WATER GRACE BMW PVT. LTD. D.J.B., S.T.P., Nilothi New Delhi-110041.		
Sample Id	:	SE/05/06/19/03		
Sample Description	:	Stack Emission		
Sampling Location	:	Plant Back Side		
Type of Stack	:	MS		
Source of Emission	:	Incinerator Stack No. 1		
Sampling Date	:	05/06/2019		
Receiving Date	:	05/06/2019		
Time of Sampling	:	02:25 p.m.		
Analysis Duration	:	35 min.		
Ambient Temperature (^{0}C)	:	44^{0}C		
Stack Temperature (^{0}C)	:	118^{0}C		
Capacity	:	250 kg/hr.		
Velocity (m/sec)	:	7.31 m/sec		
Height of Stack from Ground Level	:	30 meter		
Diameter of Stack	:	410 mm		
Instrument Used	:	Stack Monitoring Kit		
Sampling Done By	:	Lab Representative (Mr. Koshlendra & Anil Tiwari)		
Latitude	:	N 28°39'11"		
Longitude	:	E 77°2'50"		
Test Protocol	:	As Per Indian Standard 11255		
Sampling Plan & Procedure	:	No. 5.7P-01		
Details of Environmental Conditions during sampling	:	Temp-44^{0}C	RH- 11%	Weather – Clear

RESULTS

S. No.	PARAMETER	UNIT	RESULT	STANDARD LIMIT	TEST METHOD
1.	PM	mg/Nm^3	30.4	50	IS:11255(Part –I)
2.	HCL*	mg/Nm^3	4.9	50	USEPA Method
3.	NO_2	mg/Nm^3	14.1	400	IS:11255(Part –VII)
4.	CO*	mg/Nm^3	6.9	100	USEPA Method
5.	O_2 (at 11% O_2 correction)*	%	17	---	NDIR Method
6.	Combustion Efficiency*	%	99.6	At least 99.0	Flue Gas Analyzer
7.	Mercury (as Hg)*	mg/Nm^3	BDL	---	USEPA Method

Remarks	**BDL=Below Detection Limit**
	Star (*) Mark Parameter are not Accredited by NABL.

Note:
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Certificate No. TC-6773

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	Controlled Format	No. 5.10F-02	
	Test Report	Issue Date:	11/06/2019

(Stack Emission Analysis)

Certificate No.	:	EL/BWD/RPTWS/2164-19
Issued To	:	M/S SMS WATER GRACE BMW PVT. LTD. D.J.B., S.T.P., Nilothi New Delhi-110041.
Sample ID	:	SE/05/06/19/04
Sample Description	:	Stack Emission
Sample Location	:	Boiler
Sampling Date	:	05/06/2019
Receiving Date	:	05/06/2019
Type of Stack	:	MS
Source of Emission	:	Boiler Stack
Time of Sampling	:	03:05 p.m.
Time of Duration	:	40 minute
Ambient Temperature (^{0}C)	:	44^{0}C
Stack Temperature (^{0}C)	:	91^{0}C
Capacity of Boiler	:	300 kg/hr
Velocity (m/sec)	:	7.24 m/sec
Average Flow Rate (LPM)	:	25 lpm
Height of Stack from Ground Level	:	25 Feet
Diameter of Stack	:	10 inch
Fuel Used	:	HSD
Instrument Used	:	Stack Monitoring Kit
Sampling Done By	:	Lab Representative (Mr. Anil Tiwari & Koshlendra)
Latitude	:	N 28°24'12"
Longitude	:	E 77°2'50"
Test Protocol	:	As Per Indian Standard 11255
Sampling Plan & Procedure	:	No. 5.7P-01
Details of Environmental Condition During Sampling	:	Temperature 44^{0}C | RH 11% | Weather –Clear

RESULTS

S. No.	PARAMETER	UNIT	RESULT	STANDARD LIMIT	TEST METHOD
1.	PM	Mg/Nm^3	108	1200	IS: 11255 Part-1
2.	SO_2	Mg/Nm^3	14.2	600	IS: 11255 Part-2
3.	Nox	Mg/Nm^3	23.4	300	IS: 11255 Part-7

NOTE	BDL=Below Detection Limit

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Certificate No. TC-6773

	Controlled Format			No. 5.10F-02
	TEST REPORT		Issue Date:	11/06/2019
			Sampling Due Date:	04/09/2019
(Waste Water Sample Analysis)				
Certificate No.	:	EL/BWD/RPTTW/2165-19		
Issued To	:	M/S SMS WATER GRACE BMW PVT. LTD. D.J.B., S.T.P., Nilothi New Delhi-110041.		
Sample Id	:	EIW/05/06/19/02		
Sample Description	:	ETP Inlet Water		
Sampling Location	:	ETP Plant		
Sampling Date	:	05/06/2019		
Sample Quantity	:	02 ltr.		
Analysis Duration	:	06/06/2019-10/06/2019		
Sample Collected By	:	Lab Representative		
Latitude	:	N 28°39'11"		
Longitude	:	E 77°2'49"		
Details of Environmental Conditions during sampling	:	Temp.- 44°C	RH- 11%	Weather-Clear

RESULTS

S. No.	PARAMETER	UNIT	RESULT	TEST METHOD
1.	pH	--	7.51	IS:3025 Part-11
2.	TSS	mg/l	123	IS:3025 Part-17
3.	C.O.D.	mg/l	402	IS:3025 Part-58
4.	B.O.D (Days3,at 27°C)	mg/l	101.10	IS:3025 Part-44
5.	Oil & Grease	mg/l	5.8	IS:3025 Part-39

NOTE	:	BDL = Below Detection Limit

Notes:
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Certificate No. TC-6773

	Controlled Format		No. 5.10F-02
	TEST REPORT	Issue Date:	11/06/2019
		Sampling Due Date:	04/09/2019

(Waste Water Sample Analysis)

Certificate No.	:	EL/BWD/RPTTW/2166-19		
Issued To	:	M/S SMS WATER GRACE BMW PVT. LTD. D.J.B., S.T.P., Nilothi New Delhi-110041.		
Sample Id	:	EOW/05/06/19/01		
Sample Description	:	ETP Outlet Water		
Sampling Location	:	ETP Plant		
Sampling Date	:	05/06/2019		
Sample Quantity	:	02 ltr.		
Analysis Duration	:	06/06/2019-11/06/2019		
Sample Collected By	:	Lab Representative		
Latitude	:	N 28°39'11"		
Longitude	:	E 77°2'49"		
Test Protocol	:	As Per CPCB Standard, Schedule-VI		
Details of Environmental Conditions during sampling	:	Temp.- 44°C	RH- 11%	Weather-Clear

RESULTS

S. No.	PARAMETER	UNIT	RESULT	STANDARD LIMIT (Schedule VI)	TEST METHOD
1.	pH	--	7.18	5.5-9.0	IS:3025 Part-11
2.	TSS	mg/l	28	100	IS:3025 Part-17
3.	C.O.D.	mg/l	105	250	IS:3025 Part-58
4.	B.O.D (Days3,at 27°C)	mg/l	24.8	30	IS:3025 Part-44
5.	Oil & Grease	mg/l	2.8	10	IS:3025 Part-39
6.	Bio Assay Test*	%	94% survival of fish after 96 hrs. in 100% effluent	90% survival of fish after 96 hrs. in 100% effluent	APHA 8910

Remarks	:	BDL = Below Detection Limit
	:	Star (*) Mark Parameter are not Accredited by NABL.

Notes:
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	Controlled Format	No. 5.10F-04
	TEST REPORT	Issue Date: 20/09/2019 Sampling Due Date: 13/12/2019

(Stack Emission Analysis)

Certificate No.	:	EL/BWD/RPTSK/3905-19
Issued To	:	M/S SMS WATER GRACE BMW PVT. LTD. D.J.B., S.T.P., Nilothi New Delhi-110041.
Sample Id	:	SE/14/09/19/01
Sample Description	:	Stack Emission
Sampling Location	:	Plant Back Side
Type of Stack	:	MS
Source of Emission	:	Incinerator Stack No. 1
Sampling Date	:	14/09/2019
Receiving Date	:	14/09/2019
Time of Sampling	:	01:50 p.m.
Analysis Duration	:	37 min.
Ambient Temperature (^{0}C)	:	37^{0}C
Stack Temperature (^{0}C)	:	116^{0}C
Capacity	:	250 kg/hr.
Velocity (m/sec)	:	7.25 m/sec
Height of Stack from Ground Level	:	30 meter
Diameter of Stack	:	410 mm
Instrument Used	:	Stack Monitoring Kit
Sampling Done By	:	Lab Representative (Mr. Anil Tiwari & Intesh Verma)
Latitude	:	N 28°39'11"
Longitude	:	E 77°2'50"
Test Protocol	:	As Per Indian Standard 11255
Sampling Plan & Procedure	:	No. 5.7P-01
Details of Environmental Conditions during sampling	:	Temp-36^{0}C RH- 52% Weather – Clear

RESULTS

S. No.	PARAMETER	UNIT	RESULT	STANDARD LIMIT	TEST METHOD
1.	PM	mg/Nm^3	28.4	50	IS:11255(Part –I)
2.	HCL*	mg/Nm^3	5.1	50	USEPA Method
3.	NO_2	mg/Nm^3	15.5	400	IS:11255(Part –VII)
4.	CO*	mg/Nm^3	8.1	100	USEPA Method
5.	O_2 (at 11% O_2 correction)*	%	18	---	NDIR Method
6.	Combustion Efficiency*	%	99.7	At least 99.0	Flue Gas Analyzer
7.	Mercury (as Hg)*	mg/Nm^3	BDL	---	USEPA Method

Remarks	BDL=Below Detection Limit
	Star (*) Mark Parameter are not Accredited by NABL.

Note:
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	Controlled Format	No. 5.10F-04
	TEST REPORT	Issue Date: 20/09/2019 Sampling Due Date: 13/12/2019

(Stack Emission Analysis)

Certificate No.	:	EL/BWD/RPTSK/3911-19
Issued To	:	M/S SMS WATER GRACE BMW PVT. LTD. D.J.B., S.T.P., Nilothi New Delhi-110041.
Sample Id	:	SE/14/09/19/02
Sample Description	:	Stack Emission
Sampling Location	:	Plant Back Side
Type of Stack	:	MS
Source of Emission	:	Incinerator Stack No. 2
Sampling Date	:	14/09/2019
Receiving Date	:	14/09/2019
Time of Sampling	:	02:35 p.m.
Analysis Duration	:	40 min.
Ambient Temperature (^{0}C)	:	37^{0}C
Stack Temperature (^{0}C)	:	119^{0}C
Capacity	:	250 kg/hr.
Velocity (m/sec)	:	7.28 m/sec
Height of Stack from Ground Level	:	30 meter
Diameter of Stack	:	410 mm
Instrument Used	:	Stack Monitoring Kit
Sampling Done By	:	Lab Representative (Mr. Anil Tiwari & Intesh Verma)
Latitude	:	N 28°39'11"
Longitude	:	E 77°2'50"
Test Protocol	:	As Per Indian Standard 11255
Sampling Plan & Procedure	:	No. 5.7P-01
Details of Environmental Conditions during sampling	:	Temp-36^{0}C RH- 52% Weather – Clear

RESULTS

S. No.	PARAMETER	UNIT	RESULT	STANDARD LIMIT	TEST METHOD
1.	PM	mg/Nm^3	27	50	IS:11255(Part –I)
2.	HCL*	mg/Nm^3	4.5	50	USEPA Method
3.	NO_2	mg/Nm^3	15.8	400	IS:11255(Part –VII)
4.	CO*	mg/Nm^3	10.2	100	USEPA Method
5.	O_2 (at 11% O_2 correction)*	%	14.9	---	NDIR Method
6.	Combustion Efficiency*	%	99.9	At least 99.0	Flue Gas Analyzer
7.	Mercury (as Hg)*	mg/Nm^3	BDL	---	USEPA Method

Remarks	BDL=Below Detection Limit
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Controlled Format		No. 5.10F-04
TEST REPORT	Issue Date:	20/09/2019
	Sampling Due Date:	13/12/2019

(Stack Emission Analysis)

Certificate No.	:	EL/BWD/RPTSK/3911A-19
Issued To	:	M/S SMS WATER GRACE BMW PVT. LTD. D.J.B., S.T.P., Nilothi New Delhi-110041.
Sample Id	:	SE/14/09/19/03
Sample Description	:	Stack Emission
Sampling Location	:	D.G. Area
Type of Stack	:	MS
Source of Emission	:	D.G. Stack No. 01
Sampling Date	:	14/09/2019
Receiving Date	:	14/09/2019
Time of Sampling	:	03:25 p.m.
Analysis Duration	:	35 min.
Ambient Temperature (^{0}C)	:	37^{0}C
Stack Temperature (^{0}C)	:	88^{0}C
Capacity	:	125 KVA
Velocity (m/sec)	:	7.20 m/sec
Height of Stack from Ground Level	:	8.0 meter
Diameter of Stack	:	101.6 mm
Fuel Used	:	HSD
Instrument Used	:	Stack Monitoring Kit
Sampling Done By	:	Lab Representative (Mr. Anil Tiwari & Intesh Verma)
Latitude	:	N 28°39'11"
Longitude	:	E 77°2'50"
Test Protocol	:	As Per Indian Standard 11255
Sampling Plan & Procedure	:	No. 5.7P-01
Details of Environmental Conditions during sampling	:	Temp-36^{0}C RH- 52% Weather – Clear

RESULTS

S. No.	PARAMETER	UNIT	RESULT	STANDARD LIMIT	TEST METHOD
1.	PM	gm/kw-hr	0.016	≤0.2	IS:11255(Part –I)
2.	HC*	gm/kw-hr	0.18	≤4.0	USEPA Method
3.	NOx	gm/kw-hr	0.41		IS:11255(Part –VII)
4.	CO*	gm/kw-hr	0.57	≤3.5	USEPA Method

Remarks	BDL=Below Detection Limit
	Star (*) Mark Parameter are not Accredited by NABL.

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	Controlled Format		No. 5.10F-02
	TEST REPORT	Issue Date:	20/09/2019
		Sampling Due Date:	13/12/2019

(Waste Water Sample Analysis)

Certificate No.	:	EL/BWD/RPTTW/3913-19		
Issued To	:	M/S SMS WATER GRACE BMW PVT. LTD. D.J.B., S.T.P., Nilothi New Delhi-110041.		
Sample Id	:	EIW/14/09/19/01		
Sample Description	:	ETP Inlet Water		
Sampling Location	:	ETP Plant		
Sampling Date	:	14/09/2019		
Sample Quantity	:	02 ltr.		
Analysis Duration	:	16/09/2019-20/09/2019		
Sample Collected By	:	Lab Representative		
Latitude	:	N 28°39'11"		
Longitude	:	E 77°2'49"		
Details of Environmental Conditions during sampling	:	Temp.- 36°C	RH- 52%	Weather-Clear

RESULTS

S. No.	PARAMETER	UNIT	RESULT	TEST METHOD
1.	pH	--	8.11	IS:3025 Part-11
2.	TSS	mg/l	214	IS:3025 Part-17
3.	C.O.D.	mg/l	510	IS:3025 Part-58
4.	B.O.D (Days3,at 27°C)	mg/l	114.9	IS:3025 Part-44
5.	Oil & Grease	mg/l	8.2	IS:3025 Part-39

NOTE : BDL = Below Detection Limit

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	Controlled Format		No. 5.10F-02
	TEST REPORT	Issue Date:	20/09/2019
		Sampling Due Date:	13/12/2019

(Waste Water Sample Analysis)

Certificate No.	:	EL/BWD/RPTTW/3914-19		
Issued To	:	M/S SMS WATER GRACE BMW PVT. LTD. D.J.B., S.T.P., Nilothi New Delhi-110041.		
Sample Id	:	EOW/14/09/19/02		
Sample Description	:	ETP Outlet Water		
Sampling Location	:	ETP Plant		
Sampling Date	:	14/09/2019		
Sample Quantity	:	02 ltr.		
Analysis Duration	:	16/09/2019-20/09/2019		
Sample Collected By	:	Lab Representative		
Latitude	:	N 28°39'11"		
Longitude	:	E 77°2'49"		
Test Protocol	:	As Per CPCB Standard, Schedule-VI		
Details of Environmental Conditions during sampling	:	Temp.- 36°C	RH- 52%	Weather-Clear

RESULTS

S. No.	PARAMETER	UNIT	RESULT	STANDARD LIMIT (Schedule VI)	TEST METHOD
1.	pH	--	7.30	5.5-9.0	IS:3025 Part-11
2.	TSS	mg/l	41	100	IS:3025 Part-17
3.	C.O.D.	mg/l	97	250	IS:3025 Part-58
4.	B.O.D (Days3,at 27°C)	mg/l	22.4	30	IS:3025 Part-44
5.	Oil & Grease	mg/l	4.9	10	IS:3025 Part-39
6.	Bio Assay Test*	%	95% survival of fish after 96 hrs. in 100% effluent	90% survival of fish after 96 hrs. in 100% effluent	APHA 8910

Remarks	:	BDL = Below Detection Limit
	:	Star (*) Mark Parameter are not Accredited by NABL.

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	Controlled Format	No. 5.1 10F-06	
	Test Report	Issue Date:	20/09/2019

(Hazardous Waste Sample Analysis)

Certificate No.	:	**EL/BWD/RPTHSW/3910-19**		
Issued To	:	**M/S SMS WATER GRACE BMW PVT. LTD.** **D.J.B., S.T.P., Nilothi New Delhi-110041.**		
Sample ID	:	HSW/14/09/19/01		
Sample Description	:	Incinerator Ash		
Sample Location	:	Incinerator		
Sampling Date	:	14/09/2019		
Receiving Date	:	14/09/2019		
Sample Quantity	:	500 gm.		
Analysis Duration	:	16/09/2019/-20/09/2019		
Sample Collected By	:	Lab Representative (Mr. Anil Tiwari & Intesh Verma)		
Latitude	:	N 28°39'12"		
Longitude	:	E 77°2'49"		
Details of Environmental Condition During Sampling	:	Temp-36^{0}C	RH-52%	Weather –Cloudy

RESULTS

S. No.	PARAMETER	UNIT	RESULT	STANDARD LIMIT	TEST PROTOCOL
1.	Physical State	-	Solid	Not Specified	-
2.	Color	-	Grey	Not Specified	-
3.	Texture	-	Dry	Not Specified	-
4.	PFLT (paint filter liquid Test)	-	Pass	Passes	SW 846 9095 A
5.	Bulk Density	g/cm3	0.52	Not Specified	ASTM-D 5057-90
6.	Calorific Value	Cal/g	712	<2500 cal/g	IS:1350 PART II-1970
7.	Flash Point	0C	>98	>65.0	SW 846 1020 A
8.	Moisture Content	%	13.5	Not Specified	KF Titration
9.	LOD @ 105^{0}C	%	0.38	Not Specified	APHA 2540
10.	LOI @ 550^{0}C	%	6.8	<20 %	APHA 2540
11.	Ash Content @ 9000C	%	85	Not Specified	APHA 2540
12.	pH (AT Room Temperature)	-	7.45	> 4 To < 12	-
13.	Sulphate as SO4	Mg/kg	BDL	Not Specified	APHA 4500 SO4 – E
14.	Chlorides as CL	Mg/kg	18.8	Not Specified	APHA 4500 Cl- - B
15.	Fluorides as F	Mg/kg	BDL	Not Specified	APHA 4500 F - D
16.	Organic Halogens	Mg/kg	BDL	Not Specified	SW 846 5050&9253
18.	Nitrate	Mg/l	BDL	<30	APHA 4500 NO3 – B
19.	Cadmium as Cd	Mg/l	BDL	<0.2	SW 846 7130
20.	Total Chromium as Cr	Mg/l	BDL	Not Specified	SW 846 7190

S - 3, Phase - II, (Near Dee Pharma) Indl. Area, Bhiwadi - 301019, Distt. Alwar (Raj.)

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Certificate No.		:	EL/BWD/RPTHSW/3910-19			
21.	Cobalt as Co		Mg/l	BDL	Not Specified	SW 846 7200
22.	Copper as Cu		Mg/l	BDL	<10.0	SW 846 7210
23.	Iron as Fe		Mg/l	BDL	Not Specified	SW 846 7380
24.	Lead as Pb		Mg/l	BDL	<2.0	SW 846 7420
25.	Manganese as Mn		Mg/l	BDL	Not Specified	SW 846 7460
26.	Nickel as Ni		Mg/l	BDL	<3.0	SW 846 7520
27.	Zinc as Zn		Mg/l	BDL	<10	SW 846 7950

NOTE	BDL=Below Detection Limit

Note: 1. The result listed refer only to the tested samples and applicable parameters.
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		Controlled Format	No. 5.10F-06
	TEST REPORT	Issue Date:	20/09/2019
		Sampling Due Date:	13/12/2019

(Hazardous Waste Sample Analysis)

Certificate No.	:	EL/BWD/RPTHSW3910A-19		
Issued To	:	M/S SMS WATER GRACE BMW PVT. LTD. D.J.B., S.T.P., Nilothi New Delhi-110041.		
Sample Id	:	HSW/14/09/19/02		
Sample Description	:	Incinerator Ash		
Sampling Location	:	Incinerator		
Sampling Date	:	14/09/2019		
Receiving Date	:	14/09/2019		
Sample Quantity	:	250 gm.		
Analysis Duration	:	16/09/2019-20/09/2019		
Sample Collected By	:	Lab Representative (Mr. Anil Tiwari)		
Latitude	:	N 28°39'12"		
Longitude	:	E 77°2'49"		
Details of Environmental Conditions during sampling	:	Temperature-36°C	RH-52%	Weather- Clear

RESULTS

S. No.	PARAMETER	UNIT	RESULT	Standard Limit	TEST METHOD
1.	Volatile Matter*	%	BDL	<0.01	APHA

Remarks	:	BDL=Below Detection Limit
	:	Star (*) Mark Parameter are not Accredited by NABL.

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	Controlled Format	No. 5.1 10F-06	
	Test Report	Issue Date:	20/09/2019

(Sludge Sample Analysis)

Certificate No.	:	EL/BWD/RPTHSW/3915-19		
Issued To	:	M/S SMS WATER GRACE BMW PVT. LTD. D.J.B., S.T.P., Nilothi New Delhi-110041.		
Sample ID	:	SL/14/09/19/01		
Sample Description	:	ETP Sludge		
Sample Location	:	ETP Plant		
Sampling Date	:	14/09/2019		
Receiving Date	:	14/09/2019		
Sample Quantity	:	500 gm.		
Analysis Duration	:	16/09/2019/-20/09/2019		
Sample Collected By	:	Lab Representative (Mr. Anil Tiwari)		
Latitude	:	N 28°39'12"		
Longitude	:	E 77°2'49"		
Details of Environmental Condition During Sampling	:	Temp-36^{0}C	RH-52%	Weather –Cloudy

RESULTS

S. No.	PARAMETER	UNIT	RESULT	STANDARD LIMIT	TEST PROTOCOL
1.	Physical State	-	Solid	Not Specified	-
2.	Color	-	Grey	Not Specified	-
3.	Texture	-	Dry	Not Specified	-
4.	PFLT (paint filter liquid Test)	-	Pass	Passes	SW 846 9095 A
5.	Bulk Density	g/cm3	0.71	Not Specified	ASTM-D 5057-90
6.	Calorific Value	Cal/g	521	<2500 cal/g	IS:1350 PART II-1970
7.	Flash Point	0C	>61	>65.0	SW 846 1020 A
8.	Moisture Content	%	10.2	Not Specified	KF Titration
9.	LOD @ 105^{0}C	%	5.3	Not Specified	APHA 254o
10.	LOI @ 550^{0}C	%	>5	<20 %	APHA 2540
11.	Ash Content @ 900^{0}C	%	65.3	Not Specified	APHA 2540
12.	pH (AT Room Temperature)	-	7.30	> 4 To < 12	-
13.	Sulphate as SO4	Mg/kg	BDL	Not Specified	APHA 4500 SO4 – E
14.	Chlorides as CL	Mg/kg	28.7	Not Specified	APHA 4500 Cl- - B
15.	Fluorides as F	Mg/kg	BDL	Not Specified	APHA 4500 F- - D
16.	Organic Halogens	Mg/kg	BDL	Not Specified	SW 846 5050&9253
18.	Nitrate	Mg/l	BDL	<30	APHA 4500 NO3 – B
19.	Cadmium as Cd	Mg/l	BDL	<0.2	SW 846 7130
20.	Total Chromium as Cr	Mg/l	0.05	Not Specified	SW 846 7190

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Certificate No.		:	EL/BWD/RPTHSW/3915-18			
21.	Cobalt as Co		Mg/l	BDL	Not Specified	SW 846 7200
22.	Copper as Cu		Mg/l	0.4	<10.0	SW 846 7210
23.	Iron as Fe		Mg/l	0.08	Not Specified	SW 846 7380
24.	Lead as Pb		Mg/l	0.18	<2.0	SW 846 7420
25.	Manganese as Mn		Mg/l	BDL	Not Specified	SW 846 7460
26.	Nickel as Ni		Mg/l	0.14	<3.0	SW 846 7520
27.	Zinc as Zn		Mg/l	0.07	<10	SW 846 7950

NOTE	BDL=Below Detection Limit

Note: 1. The result listed refer only to the tested samples and applicable parameters.
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	Controlled Format	No. 7.8 F-04
	TEST REPORT	Issue Date: 19/11/2019
		Sampling Due Date: 13/02/2020

(Stack Emission Analysis)

Certificate No.	:	EL/141119-4675
Issued To	:	M/S SMS WATER GRACE BMW PVT. LTD. D.J.B., S.T.P., Nilothi New Delhi-110041.
Sample Id	:	El/141119-4675
Sample Description	:	Stack Emission
Sampling Location	:	Plant Back Side
Type of Stack	:	MS
Source of Emission	:	Incinerator Stack No. 1
Sampling Date	:	14/11/2019
Receiving Date	:	14/11/2019
Time of Sampling	:	01:35 p.m.
Analysis Duration	:	38 min.
Ambient Temperature (^{0}C)	:	31^{0}C
Stack Temperature (^{0}C)	:	147^{0}C
Capacity	:	250 kg/hr.
Velocity (m/sec)	:	8.5 m/sec
Height of Stack from Ground Level	:	30 meter
Diameter of Stack	:	410 mm
Instrument Used	:	Stack Monitoring Kit
Sampling Done By	:	Lab Representative (Mr. Koshlendra Singh & Intesh Verma)
Latitude	:	28.650472N
Longitude	:	77.043555E
Test Protocol	:	As Per Indian Standard 11255
Sampling Plan & Procedure	:	No. 7.3P-01
Details of Environmental Conditions during sampling	:	Temp-31^{0}C / RH- 39% / Weather – Clear

RESULTS

S. No.	PARAMETER	UNIT	RESULT	STANDARD LIMIT	TEST METHOD
1.	PM	mg/Nm^3	33.7	50	IS:11255(Part –I)
2.	HCL*	mg/Nm^3	5.9	50	USEPA Method
3.	NO_2	mg/Nm^3	16.63	400	IS:11255(Part –VII)
4.	CO*	mg/Nm^3	12.90	100	USEPA Method
5.	O_2 (at 11% O_2 correction)*	%	17	---	NDIR Method
6.	Combustion Efficiency*	%	99.4	At least 99.0	Flue Gas Analyzer
7.	Mercury (as Hg)*	mg/Nm^3	BDL	---	USEPA Method

NOTE	
	BDL=Below Detection Limit
	Star (*) Mark Parameter are not Accredited by NABL.

Note:
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	Controlled Format	No. 7.8 F-04
	TEST REPORT	Issue Date: 19/11/2019
		Sampling Due Date: 13/02/2020

(Stack Emission Analysis)

Certificate No.	:	EL/141119-4676
Issued To	:	M/S SMS WATER GRACE BMW PVT. LTD. D.J.B., S.T.P., Nilothi New Delhi-110041.
Sample Id	:	El/141119-4676
Sample Description	:	Stack Emission
Sampling Location	:	Plant Back Side
Type of Stack	:	MS
Source of Emission	:	Incinerator Stack No. 2
Sampling Date	:	14/11/2019
Receiving Date	:	14/11/2019
Time of Sampling	:	02:20 p.m.
Analysis Duration	:	45 min.
Ambient Temperature (^{0}C)	:	31^{0}C
Stack Temperature (^{0}C)	:	149^{0}C
Capacity	:	250 kg/hr.
Velocity (m/sec)	:	8.5 m/sec
Height of Stack from Ground Level	:	30 meter
Diameter of Stack	:	410 mm
Instrument Used	:	Stack Monitoring Kit
Sampling Done By	:	Lab Representative (Mr. Koshlendra Singh & Intesh Verma)
Latitude	:	28.650472N
Longitude	:	77.043555E
Test Protocol	:	As Per Indian Standard 11255
Sampling Plan & Procedure	:	No. 7.3P-01
Details of Environmental Conditions during sampling	:	Temp-31^{0}C / RH- 39% / Weather – Clear

RESULTS

S. No.	PARAMETER	UNIT	RESULT	STANDARD LIMIT	TEST METHOD
1.	PM	mg/Nm^3	31.7	50	IS:11255(Part –I)
2.	HCL*	mg/Nm^3	6.2	50	USEPA Method
3.	NO_2	mg/Nm^3	17.76	400	IS:11255(Part –VII)
4.	CO*	mg/Nm^3	14.0	100	USEPA Method
5.	O_2 (at 11% O_2 correction)*	%	18	--	NDIR Method
6.	Combustion Efficiency*	%	99.7	At least 99.0	Flue Gas Analyzer
7.	Mercury (as Hg)*	mg/Nm^3	BDL	--	USEPA Method

NOTE	
	BDL=Below Detection Limit
	Star (*) Mark Parameter are not Accredited by NABL.

Note:
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	Controlled Format	No. 7.8 F-04
	TEST REPORT	Issue Date: 19/11/2019
		Sampling Due Date: 13/02/2020

(Stack Emission Analysis)

Certificate No.	:	EL/141119-4677
Issued To	:	M/S SMS WATER GRACE BMW PVT. LTD. D.J.B., S.T.P., Nilothi New Delhi-110041.
Sample Id	:	EL/141119-4677
Sample Description	:	Stack Emission
Sampling Location	:	D.G. Area
Type of Stack	:	MS
Source of Emission	:	D.G. Stack No. 01
Sampling Date	:	14/11/2019
Receiving Date	:	14/11/2019
Time of Sampling	:	04:27 p.m.
Analysis Duration	:	46 min.
Ambient Temperature (^{0}C)	:	31^{0}C
Stack Temperature (^{0}C)	:	132^{0}C
Capacity	:	125 KVA
Velocity (m/sec)	:	6.7 m/sec
Height of Stack from Ground Level	:	8.0 meter
Diameter of Stack	:	101.6 mm
Fuel Used	:	HSD
Instrument Used	:	Stack Monitoring Kit
Sampling Done By	:	Lab Representative (Mr. Intesh verma)
Latitude	:	28.647190N
Longitude	:	77.045832E
Test Protocol	:	As Per Indian Standard 11255
Sampling Plan & Procedure	:	No. 7.3P-01
Details of Environmental Conditions during sampling	:	Temp-31^{0}C / RH- 39% / Weather – Clear

RESULTS

S. No.	PARAMETER	UNIT	RESULT	STANDARD LIMIT	TEST METHOD
1.	PM	gm/kw-hr	0.07	≤0.2	IS:11255(Part –I)
2.	HC*	gm/kw-hr	0.18	≤4.0	USEPA Method
3.	NOx	gm/kw-hr	0.21		IS:11255(Part –VII)
4.	CO*	gm/kw-hr	0.27	≤3.5	USEPA Method

NOTE	
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	Star (*) Mark Parameter are not Accredited by NABL.

Note:
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	Controlled Format	No. 7.8F-02
	TEST REPORT	Issue Date: 19/11/2019
		Sampling Due Date: 13/02/2020

(Waste Water Sample Analysis)

Certificate No.	:	EL/141119-4679		
Issued To	:	M/S SMS WATER GRACE BMW PVT. LTD. D.J.B., S.T.P., Nilothi New Delhi-110041.		
Sample Id	:	EL/141119-4679		
Sample Description	:	ETP Intlet Water		
Sampling Location	:	ETP Plant		
Sampling Date	:	14/11/2019		
Sample Quantity	:	02 ltr.		
Analysis Duration	:	15/11/2019-19/11/2019		
Sample Collected By	:	Lab Representative		
Latitude	:	28.652135N		
Longitude	:	77.045112E		
Test Protocol	:	As Per CPCB Standard, Schedule-VI		
Details of Environmental Conditions during sampling	:	Temp.- 31°C	RH- 39%	Weather-Clear

RESULTS

S. No.	PARAMETER	UNIT	RESULT	TEST METHOD
1.	pH	--	8.11	IS:3025 Part-11
2.	TSS	mg/l	161.4	IS:3025 Part-17
3.	C.O.D.	mg/l	480.0	IS:3025 Part-58
4.	B.O.D (Days3,at 27°C)	mg/l	89.1	IS:3025 Part-44
5.	Oil & Grease	mg/l	11.6	IS:3025 Part-39

Remarks	:	BDL = Below Detection Limit
	:	Star (*) Mark Parameter are not Accredited by NABL.

Notes:
1. The result listed above refer only to the tested samples and applicable parameters.
2. Balance sample will be destroyed after one month from the date of issue of test report /certificate.
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	Controlled Format	No. 7.8F-02
	TEST REPORT	Issue Date: 19/11/2019 Sampling Due Date: 13/02/2020

(Waste Water Sample Analysis)

Certificate No.	:	EL/141119-4680		
Issued To	:	M/S SMS WATER GRACE BMW PVT. LTD. D.J.B., S.T.P., Nilothi New Delhi-110041.		
Sample Id	:	EL/141119-4680		
Sample Description	:	ETP Outlet Water		
Sampling Location	:	ETP Plant		
Sampling Date	:	14/11/2019		
Sample Quantity	:	02 ltr.		
Analysis Duration	:	15/11/2019-19/11/2019		
Sample Collected By	:	Lab Representative		
Latitude	:	28.652135N		
Longitude	:	77.045112E		
Test Protocol	:	As Per CPCB Standard, Schedule-VI		
Details of Environmental Conditions during sampling	:	Temp.- 31°C	RH- 39%	Weather-Clear

RESULTS

S. No.	PARAMETER	UNIT	RESULT	STANDARD LIMIT (Schedule VI)	TEST METHOD
1.	pH	--	7.30	5.5-9.0	IS:3025 Part-11
2.	TSS	mg/l	29.3	100	IS:3025 Part-17
3.	C.O.D.	mg/l	120.0	250	IS:3025 Part-58
4.	B.O.D (Days3,at 27°C)	mg/l	22.6	30	IS:3025 Part-44
5.	Oil & Grease	mg/l	6.7	10	IS:3025 Part-39
6.	Bio Assay Test*	%	94% survival of fish after 96 hrs. in 100% effluent	90% survival of fish after 96 hrs. in 100% effluent	APHA 8910

Remarks	:	BDL = Below Detection Limit
	:	Star (*) Mark Parameter are not Accredited by NABL.

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		Controlled Format	No. 7.8F-06
	TEST REPORT	Issue Date:	19/11/2019
		Sampling Due Date:	13/02/2020

(Hazardous Waste Sample Analysis)

Certificate No.	:	EL/141119-4680A		
Issued To	:	M/S SMS WATER GRACE BMW PVT. LTD. D.J.B., S.T.P., Nilothi New Delhi-110041.		
Sample Id	:	EL/141119-4680A		
Sample Description	:	Incinerator Ash		
Sampling Location	:	Incinerator		
Sampling Date	:	14/11/2019		
Receiving Date	:	14/11/2019		
Sample Quantity	:	250 gm.		
Analysis Duration	:	15/11/2019-19/11/2019		
Sample Collected By	:	Lab Representative (Mr. Intesh Verma)		
Latitude	:	28.663000N		
Longitude	:	77.047262E		
Details of Environmental Conditions during sampling	:	Temperature-31^{0}C	RH-39%	Weather- Clear

RESULTS

S. No.	PARAMETER	UNIT	RESULT	Standard Limit	TEST METHOD
1.	Volatile Matter*	%	BDL	<0.01	APHA

Remarks	:	BDL=Below Detection Limit
	:	Star (*) Mark Parameter are not Accredited by NABL.

Note:
1. The result listed refer only to the tested samples and applicable parameters.
2. Sample will be destroyed one month from the date of issue of test certificate.
3. Any complaints about this report should be communicated within 7 days of issue of this report.
4. The report is not to be reproduced-wholly or in part and can Not be used as an evidence in the Court of l aw and should Not be used in any advertising media without our special permission in writing.
5. Any Backup either related to re-issue or changing of report should be given within 30 days of issue of this report.

(Analysed By)

ENVIRO LAB BHIWADI

(Authorised By)

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Test Report

SAMPLE DRAWN BY SGS INDIA PVT. LTD.

Print Date : 01/06/2018

Report No : CE18-002428.001

JOE No : CE18-002428

Report Control No : CER0000217182

Sample Described by Customer as : FLUE GAS

Client Name	:	SMS WATER GRACE BMW PRIVATE LIMITED
Client Address	:	DELHI JAL BOARD
	:	SEWAGE TREATMENT PLANT
City	:	NILOTHI
Postal Code	:	110041
State	:	National Capital Territory of Delhi
Country	:	INDIA
Sample Type	:	FLUE GAS
Received	:	26/4/2018
Sampling Location	:	INCINERATOR AREA
Sampling Date	:	24.04.18
Sampling Time	:	12.00 HRS TO 18.00 HRS
Sampling Method	:	As per below mentioned protocol
Test Start/End Date	:	26/04/2018 - 01/06/2018

Analysis	Method	Result	Unit	Requirement/Limit As per CPCB	
				Min	Max
2,3,7,8 substituted PCDF's and PCDD's					
* 2,3,7,8-TCDF	HRGC/HRMS; ECO/AV/IAC/020	0.024	ng	-	-
* 2,3,7,8-TCDD	HRGC/HRMS; ECO/AV/IAC/020	0.028	ng	-	-
* 1,2,3,7,8-PeCDF	HRGC/HRMS; ECO/AV/IAC/020	0.0074	ng	-	-
* 2,3,4,7,8-PeCDF	HRGC/HRMS; ECO/AV/IAC/020	0.055	ng	-	-
* 1,2,3,7,8-PeCDD	HRGC/HRMS; ECO/AV/IAC/020	0.013	ng	-	-
* 1,2,3,4,7,8-HxCDF	HRGC/HRMS; ECO/AV/IAC/020	0.0046	ng	-	-
* 1,2,3,6,7,8-HxCDF	HRGC/HRMS; ECO/AV/IAC/020	0.0043	ng	-	-
* 2,3,4,6,7,8-HxCDF	HRGC/HRMS; ECO/AV/IAC/020	0.0026	ng	-	-
* 1,2,3,7,8,9-HxCDF	HRGC/HRMS; ECO/AV/IAC/020	<0.00063	ng	-	-
* 1,2,3,4,7,8-HxCDD	HRGC/HRMS; ECO/AV/IAC/020	0.00081	ng	-	-
* 1,2,3,6,7,8-HxCDD	HRGC/HRMS; ECO/AV/IAC/020	0.0011	ng	-	-
* 1,2,3,7,8,9-HxCDD	HRGC/HRMS; ECO/AV/IAC/020	0.001	ng	-	-
* 1,2,3,4,6,7,8-HpCDF	HRGC/HRMS; ECO/AV/IAC/020	0.00026	ng	-	-

SGS India Pvt. Ltd. | Multi Laboratory, 28 B/1 (SP), 28 B/2 (SP), IInd Main Road, Opposite to State Bank of India, Ambattur Industrial Estate, Chennai - 600 058, Tel: 91-44-66081600

Regd & Corp. Off : SGS House, 4B, A.S. Marg, Vikhroli (West), Mumbai-400083. Tel : (022) 25798421 to 28 Fax : (022) 25798431 to 35 www.sgs.com

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Test Report

SAMPLE DRAWN BY SGS INDIA PVT. LTD.

Print Date : 01/06/2018

Report No : CE18-002428.001

JOE No : CE18-002428

Report Control No : CER0000217182

Analysis	Method	Result	Unit	Requirement/Limit As per CPCB	
				Min	Max
* 1,2,3,4,7,8,9-HpCDF	HRGC/HRMS; ECO/AV/IAC/020	<0.00025	ng	-	-
* 1,2,3,4,6,7,8-HpCDD	HRGC/HRMS; ECO/AV/IAC/020	0.00064	ng	-	-
* OCDF	HRGC/HRMS; ECO/AV/IAC/020	<0.00013	ng	-	-
* OCDD	HRGC/HRMS; ECO/AV/IAC/020	0.00013	ng	-	-
* Total	HRGC/HRMS; ECO/AV/IAC/020	0.143 - 0.144	ng	-	-
* Dioxins & Furans @ Effective Oxygen	HRGC/HRMS; ECO/AV/IAC/020	0.0281	ng I-TEQ/Nm3	-	-
* Dioxins & Furans @ 10% Oxygen	HRGC/HRMS; ECO/AV/IAC/020	0.0870	ng I-TEQ/Nm3	-	-
* Dioxins & Furans @ 11% Oxygen	HRGC/HRMS; ECO/AV/IAC/020	0.0790	ng I-TEQ/Nm3	-	0.1

Remark : * Marked test parameter(s) is subcontracted to other SGS Lab

Per pro SGS India Private Ltd

M_ELLAPPAN

Senior executive

Authorized Signatory

****End of Report****

SGS India Pvt. Ltd. Multi Laboratory, 28 B/1 (SP), 28 B/2 (SP), IInd Main Road, Opposite to State Bank of India, Ambattur Industrial Estate, Chennai - 600 058, Tel: 91-44-66081600

Regd & Corp. Off : SGS House, 4B, A.S. Marg, Vikhroli (West), Mumbai-400083. Tel : (022) 25798421 to 28 Fax : (022) 25798431 to 35 www.sgs.com

Member of the SGS Group (SGS SA)

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Online Pollution Monitoring Portal

SMS WATER GRACE BMW PVT LTD

Average Report

Report Created by SWGPL on 2019-12-27 12:32:26

Time	ACK_1_Incinerator-CO(mg/N	STACK_1_Incinerator-CO2(%)	1_Incinerator-Primay_Temp(	_Incinerator-Seconday_Temp
2019-12-23 00:00:00	86.15	8.28	859.39	1094.89
2019-12-23 00:15:00	87.14	8.39	859.14	1095.16
2019-12-23 00:30:00	86.47	8.33	857.67	1092.64
2019-12-23 00:45:00	86.48	8.37	860.1	1096.46
2019-12-23 01:00:00	86.41	8.29	859.88	1094.58
2019-12-23 01:15:00	87.56	8.44	859.77	1095.57
2019-12-23 01:30:00	86.4	8.28	857.32	1092.41
2019-12-23 01:45:00	86.94	8.41	860.58	1096.28
2019-12-23 02:00:00	86.81	8.38	860.19	1096.3
2019-12-23 02:15:00	87.61	8.41	858.89	1095.14
2019-12-23 02:30:00	86.18	8.31	857.24	1092.38
2019-12-23 02:45:00	86.9	8.37	860.07	1096.31
2019-12-23 03:00:00	86.12	8.31	859.71	1095.21
2019-12-23 03:15:00	87.59	8.4	859.35	1095.09
2019-12-23 03:30:00	86.34	8.3	858.61	1094.39
2019-12-23 03:45:00	86.43	8.32	859.5	1094
2019-12-23 04:00:00	86.71	8.42	860.91	1096.51
2019-12-23 04:15:00	87.92	8.47	858.94	1095.28
2019-12-23 04:30:00	86.21	8.29	858.6	1094.1
2019-12-23 04:45:00	85.98	8.25	858.78	1093.69
2019-12-23 05:00:00	86.93	8.41	860.21	1096.52
2019-12-23 05:15:00	87.58	8.44	858.93	1094.73
2019-12-23 05:30:00	86.51	8.31	858.76	1094.57
2019-12-23 05:45:00	86.38	8.27	859.16	1093.81
2019-12-23 06:00:00	86.65	8.3	859.84	1094.54
2019-12-23 06:15:00	87.86	8.43	859.07	1094.47
2019-12-23 06:30:00	86.18	8.32	858.32	1094.51
2019-12-23 06:45:00	86.76	8.34	859.77	1095.4
2019-12-23 07:00:00	86.98	8.36	858.93	1094.36
2019-12-23 07:15:00	87.59	8.41	858.81	1094.55

2019-12-23 07:30:00	85.61	8.25	858.09	1093.13
2019-12-23 07:45:00	85.97	8.31	859.45	1094.13
2019-12-23 08:00:00	87.28	8.47	860.12	1097.5
2019-12-23 08:15:00	87.35	8.44	858.23	1094.33
2019-12-23 08:30:00	85.85	8.25	858.62	1093.5
2019-12-23 08:45:00	86.8	8.34	861.19	1097.57
2019-12-23 09:00:00	NA	NA	NA	NA
2019-12-23 09:15:00	NA	NA	NA	NA
2019-12-23 09:30:00	NA	NA	NA	NA
2019-12-23 09:45:00	NA	NA	NA	NA
2019-12-23 10:00:00	NA	NA	NA	NA
2019-12-23 10:15:00	NA	NA	NA	NA
2019-12-23 10:30:00	NA	NA	NA	NA
2019-12-23 10:45:00	81.07	7.75	854.97	1084.6
2019-12-23 11:00:00	87.69	8.4	859.93	1096.28
2019-12-23 11:15:00	87.12	8.39	858.47	1093.83
2019-12-23 11:30:00	86.21	8.26	858.65	1094.1
2019-12-23 11:45:00	86.01	8.3	859.31	1093.78
2019-12-23 12:00:00	87.53	8.48	860.45	1096.79
2019-12-23 12:15:00	87.05	8.49	858.43	1094.6
2019-12-23 12:30:00	85.69	8.28	859.3	1094.37
2019-12-23 12:45:00	85.82	8.24	858.94	1093.81
2019-12-23 13:00:00	87.76	8.37	858.67	1094.47
2019-12-23 13:15:00	86.6	8.3	859.56	1094.95
2019-12-23 13:30:00	85.48	8.23	858.18	1092.78
2019-12-23 13:45:00	87.19	8.4	858.05	1094.19
2019-12-23 14:00:00	86.99	8.42	859.9	1095.97
2019-12-23 14:15:00	86.22	8.37	859.9	1096
2019-12-23 14:30:00	85.88	8.36	858.39	1093.83
2019-12-23 14:45:00	87.59	8.38	858.61	1093.6
2019-12-23 15:00:00	86.28	8.34	859.48	1095.76
2019-12-23 15:15:00	86.24	8.29	860.08	1095.75
2019-12-23 15:30:00	86.49	8.28	858.24	1092.17
2019-12-23 15:45:00	87.23	8.41	858.88	1095.24
2019-12-23 16:00:00	86.36	8.27	860.25	1095.75
2019-12-23 16:15:00	87.16	8.38	860.66	1095.59

2019-12-23 16:30:00	87.65	8.46	858.98	1094.89
2019-12-23 16:45:00	86.17	8.27	858.23	1093.68
2019-12-23 17:00:00	86.55	8.35	860.54	1095.76
2019-12-23 17:15:00	87.72	8.46	860.07	1095.87
2019-12-23 17:30:00	87.35	8.42	859.26	1095.37
2019-12-23 17:45:00	86.02	8.3	859.15	1093.69
2019-12-23 18:00:00	86.56	8.37	859.56	1095.2
2019-12-23 18:15:00	87.83	8.47	858.75	1094.29
2019-12-23 18:30:00	85.89	8.25	858.76	1093.48
2019-12-23 18:45:00	86.25	8.31	859.3	1094.19
2019-12-23 19:00:00	87.06	8.37	857.76	1093.18
2019-12-23 19:15:00	88.01	8.43	860.39	1097.01
2019-12-23 19:30:00	85.8	8.26	859.16	1094.4
2019-12-23 19:45:00	86.4	8.31	858.85	1094.24
2019-12-23 20:00:00	87.14	8.38	858.63	1094.46
2019-12-23 20:15:00	86.53	8.38	859.93	1095.48
2019-12-23 20:30:00	85.6	8.28	858.06	1093.27
2019-12-23 20:45:00	87.86	8.4	858.63	1094.24
2019-12-23 21:00:00	86.71	8.36	859.25	1094.59
2019-12-23 21:15:00	86.82	8.38	860.74	1096.53
2019-12-23 21:30:00	85.8	8.25	858.1	1093.06
2019-12-23 21:45:00	87.4	8.42	858.43	1094.41
2019-12-23 22:00:00	86.52	8.33	858.53	1095
2019-12-23 22:15:00	86.48	8.37	860.29	1096.05
2019-12-23 22:30:00	85.97	8.35	858.58	1094.03
2019-12-23 22:45:00	87.34	8.39	858.26	1094.02
2019-12-23 23:00:00	86.7	8.33	859.31	1094.83
2019-12-23 23:15:00	86.88	8.33	860.16	1095.86
2019-12-23 23:30:00	85.89	8.32	857.83	1093.23
2019-12-23 23:45:00	87.76	8.39	858.77	1094.09
2019-12-24 00:00:00	86.56	8.36	859.45	1095.69
2019-12-24 00:15:00	86.55	8.33	859.73	1095.58
2019-12-24 00:30:00	87.24	8.38	859.48	1095.59
2019-12-24 00:45:00	86.44	8.36	857.54	1092.1
2019-12-24 01:00:00	86.4	8.35	859.01	1095.1
2019-12-24 01:15:00	86.3	8.29	859.71	1095.16

2019-12-24 01:30:00	87.26	8.4	859.56	1095.57
2019-12-24 01:45:00	86.92	8.42	857.95	1092.55
2019-12-24 02:00:00	86.67	8.31	859.77	1096.45
2019-12-24 02:15:00	86.1	8.29	859.69	1095.24
2019-12-24 02:30:00	87.09	8.41	858.6	1094.57
2019-12-24 02:45:00	86.14	8.29	856.97	1091.82
2019-12-24 03:00:00	86.58	8.39	859.43	1095.55
2019-12-24 03:15:00	86.37	8.3	860.02	1095.53
2019-12-24 03:30:00	80.42	7.71	781.87	997.08
2019-12-24 03:45:00	86.07	8.32	859.2	1094.48
2019-12-24 04:00:00	86.81	8.36	858.31	1093.54
2019-12-24 04:15:00	87.38	8.41	858.73	1095.09
2019-12-24 04:30:00	86.58	8.28	859.81	1095.45
2019-12-24 04:45:00	85.99	8.27	858.51	1093.75
2019-12-24 05:00:00	87.39	8.44	858.76	1093.83
2019-12-24 05:15:00	87.57	8.4	859.9	1096.58
2019-12-24 05:30:00	86.56	8.31	859.46	1095.12
2019-12-24 05:45:00	86.4	8.28	858.52	1093.33
2019-12-24 06:00:00	87.29	8.4	858.02	1093.31
2019-12-24 06:15:00	87.06	8.42	859.31	1095.79
2019-12-24 06:30:00	86.29	8.37	859.91	1095.96
2019-12-24 06:45:00	86.87	8.41	859.17	1095.95
2019-12-24 07:00:00	86.67	8.29	857.34	1091.68
2019-12-24 07:15:00	86.68	8.34	859.87	1095.3
2019-12-24 07:30:00	82.12	7.94	819.33	1043.98
2019-12-24 07:45:00	86.38	8.35	858.85	1094.4
2019-12-24 08:00:00	87.9	8.41	860.23	1096.15
2019-12-24 08:15:00	86.38	8.28	858.08	1093.63
2019-12-24 08:30:00	85.75	8.22	858.8	1093.14
2019-12-24 08:45:00	86.22	8.28	858.23	1093.7
2019-12-24 09:00:00	88.09	8.45	859.87	1096.43
2019-12-24 09:15:00	86.41	8.34	859.01	1093.26
2019-12-24 09:30:00	86.24	8.33	859.63	1094.64
2019-12-24 09:45:00	87.56	8.34	858.71	1094.87
2019-12-24 10:00:00	NA	NA	NA	NA
2019-12-24 10:15:00	NA	NA	NA	NA

2019-12-24 10:30:00	NA	NA	NA	NA
2019-12-24 10:45:00	NA	NA	NA	NA
2019-12-24 11:00:00	NA	NA	NA	NA
2019-12-24 11:15:00	NA	NA	NA	NA
2019-12-24 11:30:00	NA	NA	NA	NA
2019-12-24 11:45:00	NA	NA	NA	NA
2019-12-24 12:00:00	NA	NA	NA	NA
2019-12-24 12:15:00	NA	NA	NA	NA
2019-12-24 12:30:00	NA	NA	NA	NA
2019-12-24 12:45:00	NA	NA	NA	NA
2019-12-24 13:00:00	NA	NA	NA	NA
2019-12-24 13:15:00	NA	NA	NA	NA
2019-12-24 13:30:00	NA	NA	NA	NA
2019-12-24 13:45:00	NA	NA	NA	NA
2019-12-24 14:00:00	NA	NA	NA	NA
2019-12-24 14:15:00	89.82	8.61	856.19	1093.44
2019-12-24 14:30:00	85.9	8.25	859.29	1092.92
2019-12-24 14:45:00	86.29	8.32	858.9	1094.08
2019-12-24 15:00:00	86.63	8.37	857.99	1094.76
2019-12-24 15:15:00	86.53	8.31	858.98	1094.26
2019-12-24 15:30:00	86.14	8.3	858.23	1093.83
2019-12-24 15:45:00	87.92	8.47	858.99	1094.61
2019-12-24 16:00:00	86.79	8.4	859.75	1095.57
2019-12-24 16:15:00	86.33	8.38	859.52	1095.87
2019-12-24 16:30:00	86.41	8.33	857.22	1093.12
2019-12-24 16:45:00	87.38	8.41	859.42	1095.24
2019-12-24 17:00:00	86.31	8.28	860.03	1095.17
2019-12-24 17:15:00	86.48	8.34	859.37	1095.86
2019-12-24 17:30:00	87.28	8.33	857.98	1092.94
2019-12-24 17:45:00	86.95	8.38	859.57	1095.15
2019-12-24 18:00:00	86.55	8.35	860.41	1096.33
2019-12-24 18:15:00	87.23	8.44	859.85	1096.57
2019-12-24 18:30:00	87.59	8.39	858.94	1094.74
2019-12-24 18:45:00	85.63	8.27	858.19	1093.41
2019-12-24 19:00:00	86.28	8.28	859.31	1094.72
2019-12-24 19:15:00	87.12	8.42	859.33	1095.94

2019-12-24 19:30:00	86.99	8.43	858.55	1094.41
2019-12-24 19:45:00	85.65	8.27	858.42	1094.05
2019-12-24 20:00:00	86.67	8.28	860.22	1094.59
2019-12-24 20:15:00	87.55	8.46	859.75	1095.43
2019-12-24 20:30:00	87.46	8.39	858.33	1094.49
2019-12-24 20:45:00	86.39	8.29	858.98	1094.18
2019-12-24 21:00:00	86.25	8.29	859.64	1094.71
2019-12-24 21:15:00	87.25	8.44	859.24	1095.77
2019-12-24 21:30:00	86.95	8.34	858.03	1094.41
2019-12-24 21:45:00	86.09	8.33	859.24	1093.97
2019-12-24 22:00:00	86.26	8.33	859.62	1094.92
2019-12-24 22:15:00	87.46	8.42	859.1	1095.43
2019-12-24 22:30:00	86.75	8.28	858.2	1092.97
2019-12-24 22:45:00	86.45	8.39	859.74	1094.2
2019-12-24 23:00:00	86.15	8.35	859.33	1095.76
2019-12-24 23:15:00	87.49	8.41	858.41	1094.7
2019-12-24 23:30:00	86.67	8.33	858.18	1093.99
2019-12-24 23:45:00	86.04	8.26	858.71	1093.43
2019-12-25 00:00:00	87.4	8.39	859.77	1096.55
2019-12-25 00:15:00	87.63	8.43	859.19	1094.37
2019-12-25 00:30:00	85.82	8.26	858.29	1093.77
2019-12-25 00:45:00	85.86	8.24	858.06	1092.79
2019-12-25 01:00:00	87.19	8.42	857.78	1094.28
2019-12-25 01:15:00	87.21	8.39	859.74	1096.12
2019-12-25 01:30:00	85.69	8.24	859.03	1092.93
2019-12-25 01:45:00	86.81	8.28	858.41	1093.68
2019-12-25 02:00:00	87.36	8.4	858.98	1095.46
2019-12-25 02:15:00	86.87	8.36	859.63	1095.5
2019-12-25 02:30:00	86.1	8.31	859.5	1093.87
2019-12-25 02:45:00	86.48	8.4	858.28	1094.01
2019-12-25 03:00:00	86.8	8.47	858.99	1096.42
2019-12-25 03:15:00	86.41	8.28	859.9	1095.18
2019-12-25 03:30:00	86.02	8.23	858.06	1092.75
2019-12-25 03:45:00	87.32	8.4	858.7	1093.76
2019-12-25 04:00:00	87.14	8.41	859.74	1095.53
2019-12-25 04:15:00	86.34	8.33	859.99	1095.87

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2019-12-25 04:30:00	86.05	8.26	857.9	1093.11
2019-12-25 04:45:00	87.47	8.42	858.38	1094.03
2019-12-25 05:00:00	86.29	8.32	858.63	1094.45
2019-12-25 05:15:00	86.62	8.38	860.42	1095.81
2019-12-25 05:30:00	85.84	8.33	857.98	1094.23
2019-12-25 05:45:00	87.75	8.4	858.75	1094.82
2019-12-25 06:00:00	86.73	8.31	859.69	1095.07
2019-12-25 06:15:00	86.48	8.3	859.56	1094.55
2019-12-25 06:30:00	86.09	8.33	858.29	1093.75
2019-12-25 06:45:00	87.76	8.44	858.33	1094.02
2019-12-25 07:00:00	86.65	8.31	859.73	1095.58
2019-12-25 07:15:00	86.19	8.29	859.34	1094.24
2019-12-25 07:30:00	85.94	8.29	857.55	1093.14
2019-12-25 07:45:00	87.53	8.42	858.63	1095.19
2019-12-25 08:00:00	85.55	8.32	857.92	1093.51
2019-12-25 08:15:00	86.64	8.33	860.13	1095.41
2019-12-25 08:30:00	87.37	8.39	859.22	1094.33
2019-12-25 08:45:00	86.19	8.28	856.87	1091.93
2019-12-25 09:00:00	86.93	8.37	860.38	1095.98
2019-12-25 09:15:00	86.4	8.3	859.29	1094.5
2019-12-25 09:30:00	87.46	8.43	858.31	1094.92
2019-12-25 09:45:00	86.07	8.24	855.95	1091.27
2019-12-25 10:00:00	NA	NA	NA	NA
2019-12-25 10:15:00	NA	NA	NA	NA
2019-12-25 10:30:00	81.88	7.97	858.94	1090.97
2019-12-25 10:45:00	86.95	8.37	857.41	1093.72
2019-12-25 11:00:00	86.52	8.37	858.94	1094.93
2019-12-25 11:15:00	86.67	8.37	860.24	1095.88
2019-12-25 11:30:00	86.32	8.37	858.55	1094.21
2019-12-25 11:45:00	87.44	8.42	858.13	1093.8
2019-12-25 12:00:00	86.75	8.41	861.36	1097.88
2019-12-25 12:15:00	NA	NA	NA	NA
2019-12-25 12:30:00	NA	NA	NA	NA
2019-12-25 12:45:00	NA	NA	NA	NA
2019-12-25 13:00:00	92.54	8.83	863.47	1103.47
2019-12-25 13:15:00	86.8	8.31	859.21	1094.29

2019-12-25 13:30:00	87.72	8.46	858.97	1094.3
2019-12-25 13:45:00	85.38	8.22	857.98	1092.68
2019-12-25 14:00:00	86.92	8.34	859.63	1095.98
2019-12-25 14:15:00	87.03	8.4	858.08	1094.18
2019-12-25 14:30:00	85.65	8.23	858.04	1093.33
2019-12-25 14:45:00	85.73	8.23	858.23	1093.02
2019-12-25 15:00:00	87.26	8.38	858.44	1094.67
2019-12-25 15:15:00	86.74	8.38	860	1096.87
2019-12-25 15:30:00	86.11	8.24	858.8	1093.16
2019-12-25 15:45:00	86.08	8.3	857.74	1093.42
2019-12-25 16:00:00	87.26	8.35	859.74	1095.33
2019-12-25 16:15:00	86.3	8.28	859.9	1094.76
2019-12-25 16:30:00	86.2	8.29	858	1092.71
2019-12-25 16:45:00	87.83	8.46	858.68	1094.94
2019-12-25 17:00:00	86.66	8.3	859.49	1095.59
2019-12-25 17:15:00	86.63	8.3	860.11	1095.54
2019-12-25 17:30:00	87.5	8.41	859.59	1095.44
2019-12-25 17:45:00	86.53	8.36	857.15	1092.38
2019-12-25 18:00:00	86.4	8.4	859.41	1096.27
2019-12-25 18:15:00	86.98	8.41	860.13	1096.57
2019-12-25 18:30:00	87.83	8.44	859.2	1095.07
2019-12-25 18:45:00	85.63	8.22	857.8	1092.78
2019-12-25 19:00:00	86.22	8.37	860.07	1095.15
2019-12-25 19:15:00	86.71	8.44	859.07	1095.01
2019-12-25 19:30:00	87.21	8.42	858.1	1094.87
2019-12-25 19:45:00	85.94	8.23	858.76	1093.22
2019-12-25 20:00:00	86.66	8.32	859.31	1093.68
2019-12-25 20:15:00	87.15	8.42	859.62	1095.59
2019-12-25 20:30:00	87.63	8.41	858.34	1094.41
2019-12-25 20:45:00	85.61	8.23	858.29	1093.27
2019-12-25 21:00:00	86.11	8.26	858.97	1094.29
2019-12-25 21:15:00	87.07	8.41	858.92	1094.92
2019-12-25 21:30:00	87.19	8.53	858.14	1093.83
2019-12-25 21:45:00	85.43	8.21	858.03	1093.27
2019-12-25 22:00:00	86.02	8.25	856.8	1092.84
2019-12-25 22:15:00	88.48	8.46	860.01	1096.4

2019-12-25 22:30:00	85.47	8.2	857.95	1092.05
2019-12-25 22:45:00	86.19	8.31	858.43	1093.23
2019-12-25 23:00:00	87.23	8.38	858.03	1093.67
2019-12-25 23:15:00	87.17	8.43	859.88	1096.39
2019-12-25 23:30:00	85.67	8.31	859.26	1094.09
2019-12-25 23:45:00	85.42	8.33	858.07	1094.39
2019-12-26 00:00:00	87.59	8.4	858.08	1094.42
2019-12-26 00:15:00	86.83	8.35	859.26	1095.46
2019-12-26 00:30:00	86.26	8.32	859.67	1094.49
2019-12-26 00:45:00	86.29	8.31	858.19	1093.26
2019-12-26 01:00:00	87.44	8.46	858.61	1095.12
2019-12-26 01:15:00	86.4	8.33	858.79	1094.93
2019-12-26 01:30:00	86.19	8.3	858.37	1093.59
2019-12-26 01:45:00	85.97	8.36	858.72	1093.71
2019-12-26 02:00:00	87.87	8.44	858.78	1094.24
2019-12-26 02:15:00	86.48	8.38	859.73	1095.58
2019-12-26 02:30:00	86.19	8.28	859.21	1093.79
2019-12-26 02:45:00	86.31	8.27	858.54	1094.31
2019-12-26 03:00:00	87.3	8.37	858.58	1094.54
2019-12-26 03:15:00	86.99	8.4	860.16	1094.77
2019-12-26 03:30:00	86.75	8.3	859.72	1095.41
2019-12-26 03:45:00	86.77	8.36	857.62	1092
2019-12-26 04:00:00	87.33	8.45	859.22	1095.53
2019-12-26 04:15:00	86.56	8.32	859.61	1095.31
2019-12-26 04:30:00	86.26	8.33	858.66	1095
2019-12-26 04:45:00	86.52	8.3	856.98	1091.46
2019-12-26 05:00:00	86.8	8.46	859.51	1095.06
2019-12-26 05:15:00	86.48	8.31	860.05	1095.74
2019-12-26 05:30:00	86.51	8.36	858.64	1095.65
2019-12-26 05:45:00	86.3	8.3	856.7	1091.82
2019-12-26 06:00:00	87.25	8.37	859.68	1095.34
2019-12-26 06:15:00	86.75	8.32	859.87	1094.54
2019-12-26 06:30:00	86.81	8.37	858.87	1094.34
2019-12-26 06:45:00	86.71	8.33	857.33	1092.24
2019-12-26 07:00:00	86.43	8.37	858.9	1095.62
2019-12-26 07:15:00	86.19	8.3	859.53	1094.85

2019-12-26 07:30:00	87.07	8.41	859.27	1095.64
2019-12-26 07:45:00	86.67	8.31	857.53	1091.9
2019-12-26 08:00:00	86.29	8.31	859.37	1094.86
2019-12-26 08:15:00	86.16	8.26	859.66	1094.36
2019-12-26 08:30:00	87.39	8.53	859.38	1096.36
2019-12-26 08:45:00	86.48	8.32	857.69	1093.66
2019-12-26 09:00:00	86.01	8.26	859.28	1093.76
2019-12-26 09:15:00	86.14	8.3	859.23	1094.72
2019-12-26 09:30:00	87.83	8.43	858.31	1094.67
2019-12-26 09:45:00	86.38	8.31	858.26	1093.38
2019-12-26 10:00:00	85.72	8.27	857.42	1091.89
2019-12-26 10:15:00	88.38	8.46	860.26	1095.92
2019-12-26 10:30:00	82.8	8.17	858.84	1092.04
2019-12-26 10:45:00	NA	NA	NA	NA
2019-12-26 11:00:00	NA	NA	NA	NA
2019-12-26 11:15:00	NA	NA	NA	NA
2019-12-26 11:30:00	NA	NA	NA	NA
2019-12-26 11:45:00	NA	NA	NA	NA
2019-12-26 12:00:00	NA	NA	NA	NA
2019-12-26 12:15:00	NA	NA	NA	NA
Prescribed Standards	0 -	0 -	0 - 800	0 - 1050
Maximum Value	92.54	8.83	863.47	1103.47
Maximum Value At Time	2019-12-25 13:00:00	2019-12-25 13:00:00	2019-12-25 13:00:00	2019-12-25 13:00:00
Minimum Value	80.42	7.71	781.87	997.08
Minimum Value At Time	2019-12-24 03:30:00	2019-12-24 03:30:00	2019-12-24 03:30:00	2019-12-24 03:30:00
Geometric Mean	86.64	8.34	858.59	1094.05
Median	86.58	8.34	858.98	1094.54
Standard Deviation	0.98	0.09	5.07	6.47
Valid Data Points	302	302	302	302
Total Data Points	338	338	338	338
Data Availablity %	89.35	89.35	89.35	89.35

Online Pollution Monitoring Portal

SMS WATER GRACE BMW PVT LTD

Average Report

Report Created by SWGPL on 2019-12-28 13:00:50

Time	ACK_1_Incinerator-CO(mg/Nm	STACK_1_Incinerator-CO2(%)	K_1_Incinerator-Primay_Temp(De	_1_Incinerator-Seconday_Temp(D
2019-12-27 09:30:00	86.35	8.29	857.54	1092.9
2019-12-27 09:45:00	85.93	8.24	858.76	1092.85
2019-12-27 10:00:00	86.38	8.3	859.03	1093.84
2019-12-27 10:15:00	87.61	8.44	858.08	1093.7
2019-12-27 10:30:00	87.26	8.36	860.24	1095.75
2019-12-27 10:45:00	85.52	8.22	858.52	1092.45
2019-12-27 11:00:00	86.95	8.37	858.33	1093.76
2019-12-27 11:15:00	86.54	8.27	859.34	1094.23
2019-12-27 11:30:00	86.55	8.32	858.88	1094.61
2019-12-27 11:45:00	87.46	8.4	858.05	1092.85
2019-12-27 12:00:00	85.81	8.23	858.26	1093.12
2019-12-27 12:15:00	86.96	8.31	860.15	1095.48
2019-12-27 12:30:00	87.12	8.35	857.78	1092.84
2019-12-27 12:45:00	85.95	8.37	859.52	1094.6
2019-12-27 13:00:00	86.06	8.31	858.33	1093.5
2019-12-27 13:15:00	86.4	8.39	859.48	1095.4
2019-12-27 13:30:00	87.7	8.43	859.02	1094.5
2019-12-27 13:45:00	86.02	8.25	858.04	1092.44
2019-12-27 14:00:00	85.67	8.24	859.02	1093.46
2019-12-27 14:15:00	86.57	8.36	859.37	1095.83
2019-12-27 14:30:00	87.38	8.42	858.23	1094.23
2019-12-27 14:45:00	86.03	8.26	858.18	1093.29
2019-12-27 15:00:00	86.13	8.29	859.12	1092.93
2019-12-27 15:15:00	87.21	8.43	861.14	1097.62
2019-12-27 15:30:00	86.92	8.4	858.7	1093.98
2019-12-27 15:45:00	86.91	8.29	857.81	1093.81
2019-12-27 16:00:00	85.82	8.21	858.53	1092.65
2019-12-27 16:15:00	87.92	8.47	859.47	1095.68
2019-12-27 16:30:00	86.18	8.34	859.78	1095.76
2019-12-27 16:45:00	86.51	8.32	857.56	1093.06
2019-12-27 17:00:00	87.59	8.39	859	1094.55
2019-12-27 17:15:00	86.48	8.31	860.1	1095.26

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2019-12-27 17:30:00	86.5	8.36	859.26	1094.92
2019-12-27 17:45:00	87.61	8.48	858.47	1095.42
2019-12-27 18:00:00	84.67	8.15	857.83	1091.57
2019-12-27 18:15:00	86.71	8.38	857.57	1093.1
2019-12-27 18:30:00	86.92	8.37	859.5	1095.99
2019-12-27 18:45:00	86.86	8.32	858.51	1093.58
Prescribed Standards	0 -	0 -	0 - 800	0 - 1050
Maximum Value	87.92	8.48	861.14	1097.62
Maximum Value At Time	2019-12-27 16:15:00	2019-12-27 17:45:00	2019-12-27 15:15:00	2019-12-27 15:15:00
Minimum Value	84.67	8.15	857.54	1091.57
Minimum Value At Time	2019-12-27 18:00:00	2019-12-27 18:00:00	2019-12-27 09:30:00	2019-12-27 18:00:00
Geometric Mean	86.61	8.33	858.8	1094.09
Median	86.54	8.33	858.73	1093.82
Standard Deviation	0.71	0.08	0.84	1.29
Valid Data Points	38	38	38	38
Total Data Points	39	39	39	39
Data Availablity %	97.44	97.44	97.44	97.44

MANUFACTURED BY : HOSPHARMA INDUSTRIES Date: 27/12/19

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CLIENT NAME :
BATCH NO. : 4
OPERATOR NAME/CODE : MANAGER
STERLIZATION TEMP : 121.5
STERLIZATION TIME : 45min
FO VALUE : 56.63262
TEST START TIME : 19:35:00

TIME	TEMP1	PRESSURE
	PRE VACCUM PHASE	
19:35:00	041.5	-0.00
19:36:00	054.8	-0.09
19:37:00	058.9	-0.30
19:38:00	068.0	-0.00
	HEATING PHASE	
19:39:25	102.2	0.07
19:40:25	117.9	0.94
	STERLIZATION PHASE	
19:41:25	121.2	1.12
19:42:25	121.1	1.14
19:43:25	121.3	1.13
19:44:25	121.2	1.13
19:45:25	121.1	1.13
19:46:25	121.2	1.16
19:47:25	121.6	1.14
19:48:25	121.2	1.14
19:49:25	121.8	1.14
19:50:25	121.1	1.14
19:51:25	121.2	1.08
19:52:25	121.9	1.09
19:53:25	121.0	1.09
19:54:25	121.1	1.06
19:55:25	121.2	1.11
19:56:25	121.7	1.08
19:57:25	121.7	1.09
19:58:25	121.2	1.08
19:59:25	121.7	1.08
20:00:25	121.7	1.08
20:01:25	121.5	1.12
20:02:25	121.5	1.05
20:03:25	121.1	1.05
20:04:25	121.8	1.05
20:05:25	121.5	1.06
20:06:25	121.1	1.05
20:07:25	121.8	1.05
20:08:25	121.7	1.12
20:09:25	121.5	1.14
20:10:25	121.1	1.07

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20:11:25	121.3	1.05
20:12:25	121.1	1.05
20:13:25	121.3	1.05
20:14:25	121.5	1.05
20:15:25	121.7	1.12
20:16:25	121.4	1.07
20:17:25	121.3	1.05
20:18:25	121.2	1.05
20:19:25	121.6	1.12
20:20:25	121.6	1.07
20:21:25	121.2	1.12
20:22:25	121.5	1.07
20:23:25	121.2	1.13
20:24:25	121.2	1.06
20:25:25	121.2	1.14
.....	EXHAUST PHASE	
20:26:25	116.1	0.82
.....	POST VACCUM PHASE	
20:27:25	094.8	0.27
20:28:25	081.5	0.16
.....	CYCLE ENDS	

CHECKED BY : .....

MANUFACTURED BY : HOSPHARMA INDUSTRIES Date: 27/12/15

CLIENT NAME :

BATCH NO. : 5

OPERATOR NAME/CODE : MANAGER

STERLIZATION TEMP : 121.6

STERLIZATION TIME : 45min

FO VALUE : 55.12322

TEST START TIME : 21:13:51

TIME	TEMP1	PRESSURE
	PRE VACCUM PHASE	
21:13:51	042.5	-0.00
21:14:51	052.9	-0.08
21:15:51	059.3	-0.30
21:16:51	067.6	-0.00
	HEATING PHASE	
21:17:31	105.3	0.07
21:18:31	116.8	0.81
	STERLIZATION PHASE	
21:19:31	121.2	1.12
21:20:31	121.2	1.13
21:21:31	121.1	1.11
21:22:31	121.1	1.12
21:23:31	121.1	1.09
21:24:31	121.4	1.14
21:25:31	121.4	1.13
21:26:31	121.4	1.11
21:27:31	121.4	1.12
21:28:31	121.6	1.06
21:29:31	121.2	1.08
21:30:31	121.5	1.13
21:31:31	121.2	1.09
21:32:31	121.5	1.11
21:33:31	121.2	1.05
21:34:31	121.3	1.08
21:35:31	121.2	1.09
21:36:31	121.2	1.11
21:37:31	121.7	1.08
21:38:31	121.3	1.08
21:39:31	121.5	1.07
21:40:31	121.3	1.11
21:41:31	121.7	1.07
21:42:31	121.5	1.11
21:43:31	121.5	1.12
21:44:31	121.1	1.12
21:45:31	121.5	1.11
21:46:31	121.9	1.12
21:47:31	121.2	1.14
21:48:31	121.2	1.12

21:49:31	121.2	1.12
21:50:31	121.2	1.12
21:51:31	121.2	1.12
21:52:31	121.5	1.07
21:53:31	121.3	1.12
21:54:31	121.3	1.13
21:55:31	121.3	1.12
21:56:31	121.3	1.07
21:57:31	121.2	1.12
21:58:31	121.1	1.14
21:59:31	121.1	1.06
22:00:31	121.1	1.05
22:01:31	121.2	1.14
22:02:31	121.2	1.13
22:03:31	121.1	1.05
22:04:31	121.3	1.14
.....	EXHAUST PHASE	
22:05:31	112.6	0.82
.....	POST VACCUM PHASE	
22:06:31	098.7	0.26
22:07:31	084.9	0.14
.....	CYCLE ENDS	

CHECKED BY : .....

!! STEAM STERLIZER !!

TIME	- 21:49:14	DATE	-:27.12.19
AUTOCLAVE NO	-:	LOCATION	-:
MODEL NO	-:	MODE	-:
CHARGE NO	-: 0	OPERATOR NAME	-: ARVIND
LOAD NO	-: 2	CODE NO	-: 0
VALIDATION DATE	-:	DUE DATE	-:
PROGRAM *NO	-: 1	CONTROL CH.	- : CH – 1 (DRAIN)

NO OF PULSES	-: 1 NO	STER.TIME	- : 45. 0 MIN
VACCUM PRESSURE	- : - 0.1 BAR	POST VAC PRESSURE	-: -0.2 BAR
PULSING PRESSURE	- : 0.20 BAR	EXHAUST PRESSURE	- : 0.20 BAR
STERLIZE TEMP	- : 121.6 oC	VACCUM DRY TIME	- : 2.00 MIN
HIGH TEMP	- : 126.0 oC	VACCUM BREAK TIME	- : 1.00 MIN
LOW TEMP	- : 116.0 oC	EXHAUST ON	-: FAST
VACCUM STAR TIME	- : 00 MIN	VAC LEAK BREAK TIME	- : 0 MIN
VACCUM LEAK HOLD TIME	- : 00 MIN	VAC LEAK LIMIT Pr	- : 0.00 BAR

TIME	CH-01 oC	CH-04 Pr. BAR	MESSAGE
21:49:14	051.4	- 0.0	PULSING VAC ON
21:50:23	055.5	-0.2	PRE STER ON
21:51:14	121.3	1.25	STER. HOLD ON
21:56:04	123.1	1.12	STER. HOLD ON
22:01:54	121.3	1.23	STER. HOLD ON
22:06:24	122.5	1.23	STER. HOLD ON
22:11:54	122.5	1.12	STER. HOLD ON
22:16:52	121.2	1.22	STER. HOLD ON
22:21:54	123.1	1.12	STER. HOLD ON
22:26:56	122.2	1.22	STER. HOLD ON
22:31:53	124.3	1.22	STER. HOLD ON
22:36:50	121.4	1.12	EXHAUST FAST
22:37:02	087.6	- 0.2	VAC DRY TIME
22:39:42	054.5	- 0.2	VAC BREAK ON
22:40:34	047.6	- 0.1	PROCESS END

!! STEAM STERLIZER !!

TIME	-:20:39:05	DATE	-: 27.12.19
AUTOCLAVE NO	-:	LOCATION	-:
MODEL NO	-:	MODE	-:
CHARGE NO	-: 0	OPERATOR NAME	-: ARVIND
LOAD NO	-: 2	CODE NO	-: 0
VALIDATION DATE	-:	DUE DATE	-:
PROGRAM =NO	-: 1	CONTROL CH.	-: CH – 1 (DRAIN)

NO OF PULSES	-: 1 NO	STER.TIME	-: 45. 0 MIN
VACCUM PRESSURE	-: - 0.1 BAR	POST VAC PRESSURE	-: -0.2 BAR
PULSING PRESSURE	-: 0.20 BAR	EXHAUST PRESSURE	-: 0.20 BAR
STERLIZE TEMP	-: 121.6 oC	VACCUM DRY TIME	-: 2.00 MIN
HIGH TEMP	-: 126.0 oC	VACCUM BREAK TIME	-: 1.00 MIN
LOW TEMP	-: 116.0 oC	EXHAUST ON	-: FAST
VACCUM STAR TIME	-: 00 MIN	VAC LEAK BREAK TIME	-: 0 MIN
VACCUM LEAK HOLD TIME	-: 00 MIN	VAC LEAK LIMIT Pr	-: 0.00 BAR

TIME	CH-01 oC	CH-04 Pr. BAR	MESSAGE
20:39:05	052.5	- 0.0	PULSING VAC ON
20:40:21	057.4	-0.2	PRE STER.ON
20:41:41	121.4	1.14	STER. HOLD ON
20:46:24	122.3	1.22	STER. HOLD ON
20:51:22	123.2	1.23	STER. HOLD ON
20:56:42	122.2	1.13	STER. HOLD ON
21:01:12	121.1	1.22	STER. HOLD ON
21:06:22	122.3	1.12	STER. HOLD ON
21:11:31	124.3	1.22	STER. HOLD ON
21:16:34	121.2	1.21	STER. HOLD ON
21:21:31	121.2	1.22	STER. HOLD ON
21:26:21	122.4	1.24	EXHAUST FAST
21:27:38	098.3	- 0.2	VAC DRY TIME
21:29:32	064.4	- 0.2	VAC BREAK ON
21:30:34	055.4	- 0.1	PROCESS END

!! STEAM STERLIZER !!

TIME	-19:25:15	DATE	-27.12.19
AUTOCLAVE NO	-:	LOCATION	-:
MODEL NO	-	MODE	-:
CHARGE NO	-: 0	OPERATOR NAME	-: ARVIND
LOAD NO	-: 2	CODE NO	-: 0
VALIDATION DATE	-:	DUE DATE	-:
PROGRAM NO	-: 1	CONTROL CH.	-: CH – 1 (DRAIN)

NO OF PULSES	-: 1 NO	STER.TIME	-: 45. 0 MIN
VACCUM PRESSURE	-: -0.1 BAR	POST VAC PRESSURE	-: -0.2 BAR
PULSING PRESSURE	-: 0.20 BAR	EXHAUST PRESSURE	-: 0.20 BAR
STERLIZE TEMP	-: 121.6 oC	VACCUM DRY TIME	-: 2.00 MIN
HIGH TEMP	-: 126.0 oC	VACCUM BREAK TIME	-: 1.00 MIN
LOW TEMP	-: 116.0 oC	EXHAUST ON	-: FAST
VACCUM STAR TIME	-: 00 MIN	VAC LEAK BREAK TIME	-: 0 MIN
VACCUM LEAK HOLD TIME	-: 00 MIN	VAC LEAK LIMIT Pr	-: 0.00 BAR

TIME	CH-01 oC	CH-04 Pr. BAR	MESSAGE
19:25:15	051.1	-0.0	PULSING VAC ON
19:26:22	053.3	-0.2	PRE STER ON
19:27:24	121.0	1.11	STER. HOLD ON
19:32:16	122.5	1.21	STER. HOLD ON
19:37:23	121.5	1.24	STER. HOLD ON
19:42:24	121.3	1.14	STER. HOLD ON
19:47:23	122.3	1.25	STER. HOLD ON
19:52:20	121.4	1.23	STER. HOLD ON
19:57:08	121.2	1.28	STER. HOLD ON
20:02:05	123.4	1.21	STER. HOLD ON
20:07:07	122.3	1.18	STER. HOLD ON
20:12:18	122.0	1.21	EXHAUST FAST
20:13:09	097.4	-0.2	VAC DRY TIME
20:15:09	064.3	-0.2	VAC BREAK ON
20:16:14	045.4	-0.1	PROCESS END

!! STEAM STERLIZER !!

TIME	-:18:15:39	DATE	-:27.12.19
AUTOCLAVE NO	-:	LOCATION	-:
MODEL NO	-:	MODE	-:
CHARGE NO	-: 0	OPERATOR NAME	-: ARVIND
LOAD NO	-: 2	CODE NO	-: 0
VALIDATION DATE	-:	DUE DATE	-:
PROGRAM =NO	-: 1	CONTROL CH.	-: CH – 1 (DRAIN)

NO OF PULSES	-: 1 NO	STER.TIME	-: 45. 0 MIN
VACCUM PRESSURE	-: -0.1 BAR	POST VAC PRESSURE	-: -0.2 BAR
PULSING PRESSURE	-: 0.20 BAR	EXHAUST PRESSURE	-: 0.20 BAR
STERLIZE TEMP	-: 121.6 oC	VACCUM DRY TIME	-: 2.00 MIN
HIGH TEMP	-: 126.0 oC	VACCUM BREAK TIME	-: 1.00 MIN
LOW TEMP	-: 116.0 oC	EXHAUST ON	-: FAST
VACCUM STAR TIME	-: 00 MIN	VAC LEAK BREAK TIME	-: 0 MIN
VACCUM LEAK HOLD TIME	-: 00 MIN	VAC LEAK LIMIT Pr.	-: 0.00 BAR

TIME	CH-01 oC	CH-04 Pr. BAR	MESSAGE
18:15:39	052.0	- 0.0	PULSING VAC ON
18:16:34	054.6	-0.2	PRE STER ON
18:17:16	121.2	1.30	STER. HOLD ON
18:22:31	123.6	1.23	STER. HOLD ON
18:27:20	122.4	1.29	STER. HOLD ON
18:32:16	123.2	1.31	STER. HOLD ON
18:37:36	122.1	1.24	STER. HOLD ON
18:42:38	123.6	1.29	STER. HOLD ON
18:47:30	122.5	1.34	STER. HOLD ON
18:52:30	123.2	1.23	STER. HOLD ON
18:57:39	123.3	1.34	STER. HOLD ON
19:02:38	121.4	1.24	EXHAUST FAST
19:03:30	091.3	- 0.2	VAC DRY TIME
19:05:44	072.5	- 0.2	VAC BREAK ON
19:06:40	044.4	- 0.1	PROCESS END

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Government of India

Form GST REG-06

[See Rule 10(1)]

for SHARP WASTE

Registration Certificate

Registration Number : 06CFUPS1531M1ZU

1.	**Legal Name**	SAMTA AGGARWAL			
2.	**Trade Name, if any**	SPARSH IMPEX			
3.	**Constitution of Business**	Proprietorship			
4.	**Address of Principal Place of Business**	KUBER COLONY, UNDER NAGARPALIKA, BAHADURGARH, Jhajjar, Haryana, 124507			
5.	**Date of Liability**				
6.	**Period of Validity**	From	12/09/2019	To	Not Applicable
7.	**Type of Registration**	Regular			
8.	**Particulars of Approving Authority**				
Signature					
Name					
Designation					
Jurisdictional Office					
9. Date of issue of Certificate	12/09/2019				
Note: The registration certificate is required to be prominently displayed at all places of business in the State.					

This is a system generated digitally signed Registration Certificate issued based on the deemed approval of application on 12/09/2019 .

ITL LABS PVT. LTD.™
Govt. Approved Test House
B-283-84, Mangolpuri, Industrial Area, Phase-I, Delhi - 110 083
PH. : 27915654, 27915608, 65368717, Fax : 27923339
Toll Free No. 1800-532-0999

TEST REPORT

69

D201909300081

Report Number:D2019093000810

Sender / Party	SMS WATER GRACE BMW PVT.LTD. D.J.B,S.T.P.,NILOTHI, NEW DELHI-110041		
Sample Name	**SPORE SAMPLE**		
Letter Reference No.	N.S	**Date**	30/09/2019
Mfgd. By	N.S.		
Supplied by	N.S.		
Batch No.	N.S	**Batch Size**	N.S.
Mfgd. Date	N.S	**Sample Qty**	1 Pcs
Exp. Date	N.S	**Lic.No.**	N.S
Sample Packing	Polythene pack	**Protocol**	MANUFACTURER SPECIFICATION

S. No.	Parameters	Test Result	Requirements
1.	DESCRIPTION	Gloves bottle syringe	
2.	TEST ORGANISM	Geobacillus sterothermo philus	
3.	STERLIZATION DETAILS	121°c for 15 minutes	
4.	INCUBATION DETAILS	55°c for 48hrs	
5.	RESULT	No growth observed	

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

05/10/2019
Date of completion

Authorized signatory

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TEST REPORT

70

D201909250061

Report Number:D2019092500610

Sender / Party	SMS WATER GRACE BMW PVT.LTD. D.J.B,S.T.P.,NILOTHI, NEW DELHI-110041		
Sample Name	**SPORE SAMPLE**		
Letter Reference No.	N.S	**Date**	25/09/2019
Mfgd. By	N.S.		
Supplied by	N.S.		
Batch No.	N.S	**Batch Size**	N.S.
Mfgd. Date	N.S	**Sample Qty**	1 Pcs
Exp. Date	N.S	**Lic.No.**	N.S
Sample Packing	Polythene pack	**Protocol**	MANUFACTURER SPECIFICATION

S. No.	Parameters	Test Result	Requirements
1.	DESCRIPTION	Gloves bottle syringe	
2.	TEST ORGANISM	Geobacillus sterothermo philus	
3.	STERLIZATION DETAILS	121°c for 15 minutes	
4.	INCUBATION DETAILS	55°c for 48hrs	
5.	RESULT	No growth observed	

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

30/09/2019
Date of completion

Authorized signatory

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TEST REPORT

D201909170083

Page : 1/1 **Report Number:D2019091700830**

Sender / Party	SMS WATER GRACE BMW PVT.LTD. D.J.B,S.T.P.,NILOTHI, NEW DELHI-110041		
Sample Name	**SPORE SAMPLE**		
Letter Reference No.	N.S	**Date**	17/09/2019
Mfgd. By	N.S.		
Supplied by	N.S.		
Batch No.	N.S	**Batch Size**	
Mfgd. Date	N.S	**Sample Qty**	1 Pcs
Exp. Date	N.S	**Lic.No.**	N.S
Sample Packing	Polythene pack	**Protocol**	MANUFACTURER SPECIFICATION

S. No.	Parameters	Test Result	Requirements
1.	DESCRIPTION	Gloves bottle syringe	
2.	TEST ORGANISM	Geobacillus sterothermo philus	
3.	STERLIZATION DETAILS	121°c for 15 minutes	
4.	INCUBATION DETAILS	55°c for 48hrs	
5.	RESULT	No growth observed	

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

24/09/2019
Date of completion

Authorized signatory

ITL LABS PVT. LTD.
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TEST REPORT

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D201909090028

Page : 1/1

Report Number:D201909090028O

Sender / Party	SMS WATER GRACE BMW PVT.LTD. D.J.B,S.T.P.,NILOTHI, NEW DELHI-110041		
Sample Name	**SPORE SAMPLE**		
Letter Reference No.	N.S	**Date**	09/09/2019
Mfgd. By	N.S.		
Supplied by	N.S.		
Batch No.	N.S	**Batch Size**	N.S.
Mfgd. Date	N.S	**Sample Qty**	1 Pcs
Exp. Date	N.S	**Lic.No.**	N.S
Sample Packing	Polythene pack	**Protocol**	MANUFACTURER SPECIFICATION

S. No.	Parameters	Test Result	Requirements
1.	DESCRIPTION	Plastic bottle gloves syringe	
2.	TEST ORGANISM	Geobacillus sterothermophilus	
3.	STERLIZATION DETAILS	121°c for 15 minutes	
4.	INCUBATION DETAILS	56°c for 48hrs	
5.	RESULT	No growth observed	

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

14/09/2019
Date of completion

Lab -Incharge

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Toll Free No. 1800-532-099

TEST REPORT

Report No.	:	C201909170006	Date of Reporting	:	23/09/2019
Issued to	:	SMS WATER GRACE BMW PVT.LTD., S.T.P.COMPLEX OF DJB,NILOTHI, DELHI-110041.	Date of Receipt	:	17/09/2019
			Test Started on	:	17/09/2019
			Issue of test report	:	23/09/2019
Nature of Sample	:	VALIDATION TEST	Batch No. & DOM.	:	None
Sample Packing	:	Paper seal pack	Sample Qty.	:	8 strips

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Autoclave used : I & II

Cycle Details : 121°C for 15 minutes

Incubation Details : 55° for 48 hours

Location used for validation : Inner Shell, outer shell, middle shell.

Organism used : Geobacillus stearothermophilus

Result :-

Location	Autoclave used	Observation
Inner of shell (sample V)	Autoclave 1st	No growth observed
Outer of shell (sample VI)	Autoclave 1st	No growth observed
Middle of shell (sample VII)	Autoclave 1st	No growth observed
Middle of shell (sample VIII)	Autoclave 1st	No growth observed
Middle of shell (sample I)	Autoclave 2nd	No growth observed
Middle of shell (sample II)	Autoclave 2nd	No growth observed
Outer of shell (sample III)	Autoclave 2nd	No growth observed
Inner of shell (sample IV)	Autoclave 2nd	No growth observed

Positive Control : Growth observed

Negative control : No growth observed

End of report

ITL LABS PVT. LTD. Auth. Sign. DELHI

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