

CIN No. : L26943RJ1979PLC001935
Phone : 01462 228101-6
Toll Free : 1800 180 6003 / 6004
Fax : 01462 228117 / 228119
E-Mail : shreebwr@shreecement.com
Website : www.shreecement.com



SHREE CEMENT LTD.

An ISO 9001, 14001, 45001 & 50001 Certified Company

Regd. Office:

BANGUR NAGAR, POST BOX NO.33, BEAWAR 305901, RAJASTHAN, INDIA

SCL/RAS/PPP/ESR/2021-2022/1098

Date: 10/09/2021

Speed Post

To,
The Member Secretary,
Rajasthan State Pollution Control Board,
4, Institutional Area, Jhalana Doongri Road,
JAIPUR-302004 (Rajasthan)

File No. P-120

Sub:- Environmental Statement for the period from 1st April 2020 to 31st March 2021 for 263.33 MW Power Plant (160 MW Thermal Power Generation & 103.33 MW Waste Heat Power Generation) including 1000 KVA D.G. Set by Shree Cement Limited situated at Village- Ras Bhingarh, Tehsil- Jaitaran, Dist- Pali (Raj).

Ref: - 1. CTO No. - F(Tech)/Pali(Jaitaran)/2(1)/2008-2009/8240-8242 dated 29/12/2017
2. CTO No. -F(Tech)/Pali(Jaitaran)/2(1)/2008-2009/5907-5909 dated 11/01/2019.

Respected Sir,

We are submitting herewith the Environmental Statement for the **period from 1st April 2020 to 31st March 2021 for 263.33 MW Power Plant (160 MW Thermal Power Generation & 103.33 MW Waste Heat Power Generation) including 1000 KVA D.G. Set by Shree Cement Limited situated at Village- Ras Bhingarh, Tehsil- Jaitaran, Dist- Pali (Raj)**

This is for your kind information please.

Thanking you,
Yours faithfully,

For Shree Cement Ltd;

(Dr. Anil Kumar Trivedi)
Sr. GM (Environment)

Copy to:-

1. Deputy Director General of Forests (C), Ministry of Environment, Forest and Climate Change, Integrated Regional Office, Jaipur , A-209&218, Aranya Bhawan, Mahatma Gandhi Road, Jhalana Institutional Area, Jaipur – 304002, Rajasthan
2. The Regional Officer (Regional Office), Rajasthan State Pollution Control Board, S / A-6, Mandia Road, Industrial Area, Near Pali Urban Co-Operative Bank, Pali- 306401 (Raj.)

JAIPUR OFFICE : SB-187, Bapu Nagar, Opp. Rajasthan University, JLN Marg, Jaipur 302015
Phone : 0141 4241200, 4241204

NEW DELHI OFFICE : 122-123, Hans Bhawan, 1, Bahadurshah Zafar Marg, New Delhi 110002
Phone : 011 23370828, 23379218, 23370776

CORP. OFFICE : 21, Strand Road, Kolkata 700001 Phone : 033 22309601-4 Fax : 033 22434226

ENVIRONMENTAL STATEMENT

FORM – V

Shree Cement Limited - Captive Power Plant Including WHRS & D.G. Set
Period from: 1st April 2020 to 31st March 2021

PART – A

1.	Name and address of the Owner / Occupier of the Industry operation or process	M/S Shree Cement Ltd Captive Power Plant Village: Ras/Bhimgarh, Tehsil: Jaitaran, Dist:Pali - 306107 (Rajasthan)
2.	Industry Category Primary (S.T.C. Code) Secondary (S.T.C. Code)	Red Category
3.	Production Capacity	160 MW Thermal Power generation, 103.33 MW Waste Heat recovery based Power Generation & 1000 KVA D.G.
4.	Year of Establishment	Power Plant: 2007-2010 Waste Heat Power Plant: 2009-2014 D.G. Set: 2006
5.	Date of the last Environmental Statement submitted	10/09/2020

PART – B

WATER AND RAW MATERIAL CONSUMPTION

(I) WATER CONSUMPTION:

Process & Cooling/ Construction : 247995 KL

Domestic : 57688 KL (Common for Cement Plant, Power Plant, Synthetic Gypsum Plant and Mines)

Name of Product	Process Water Consumption per Unit of Product Output	
	During Previous Financial Year (2019-2020)	During Current Financial Year (2020-2021)
Power	0.000258 KL / KWH	0.000227 KL / KWH

(II) RAW MATERIAL CONSUMPTION: (Power Plant)

Name of Raw Material	Name of Product	Consumption of Raw Material Per Unit of Output (Power)	
		During Previous Financial Year (2019-2020)	During Current Financial Year (2020-2021)
1. Water	Power	0.000258 KL / KWH	0.000227 KL / KWH
2. Coal (Fuel)		0.00027944 Metric ton / KWH	0.00029126 Metric ton / KWH
3. Limestone for mitigation of SO ₂ emission		0.00004917 Metric ton / KWH	0.00007552 Metric ton / KWH

(III) RAW MATERIAL CONSUMPTION: (D.G. SET)

D.G. Set is not operated on continuous basis. D.G. Set is operated only during the breakdown/shutdown of Power Plant. The total fuel consumption during the year 2019 - 2020 and 2020 - 2021 was nil.

Name of Raw Material	Name of Product	Consumption of Raw Material per unit of Output (LTR / KWH)	
		During Previous Financial Year (2019-2020)	During Current Financial Year (2020-2021)
H.S. Diesel	Power	0.00	0.00

(IV) POWER CONSUMPTION (KWH/KWH OF POWER):

During Previous Financial Year (2019-2020)	During Current Financial Year (2020-2021)
0.0612	0.0572

(V) TOTAL POWER PRODUCTION (KWH):

During Previous Financial Year (2019-2020)	During Current Financial Year (2020-2021)
Gross Generation - 1078816345 Auxiliary Consumption – 66024953 Net Generation - 1012791392	Gross Generation - 1091535547 Auxiliary Consumption – 62403522 Net Generation - 1029132025

(VI) TOTAL D.G. POWER PRODUCTION (KWH):

During Previous Financial Year (2019-2020)	During Current Financial Year (2020-2021)
0.00 KWH	0.00 KWH

PART – C

DISCHARGED TO ENVIRONMENTAL / UNIT OF OUTPUT

Pollutants	Quantity of Pollutants Discharged (Mass/Day)		Concentration of Pollutants in Discharge (Mass/Value)	Percentage of variation from prescribed standard with reasons
(a) Water	No waste water is being generated & discharged outside the plant premises.		<p>The waste water generated from the office toilet and canteen is being treated in STP and treated water & sludge generated is being used in plantation and horticulture activities.</p> <p>Analysis Report of STP treated water is attached as Annexure-4.</p> <p>During the year 2020-2021 total 17546 KL waste water was generated from the Power plant. The entire waste water generated from the power plant is used for the Synthetic Gypsum Manufacturing and ash quenching.</p>	
(b) Air	PM	0.1993 Ton/Day	Please refer Annexure – 1 & 2 *Note: - Ton/Day is calculated with 365 operational days.	
	SO ₂	0.3193 Ton/Day		
	NO _x	0.7843 Ton/Day		

PART – D

HAZARDOUS WASTE

As specified under Hazardous Wastes (Management, Handling & Trans boundary Movement Rule, 2016)

Hazardous Waste	Total Quantity	
	During Previous Financial Year (2019-2020)	During Current Financial Year (2020-2021)
a) From Process	<p>Common authorization for Hazardous Waste Management & Handling for Cement Plant, Power Plant, Sy. Gypsum Plant, D.G.Set and Nimbeti Limestone Mines.</p> <p>Total Quantity generated from April-2019 to March-2020 = 26820 Ltrs.</p> <p>Old Stock = 0 Ltrs.</p> <p>Total Used oil = 26820 Ltrs.</p> <p>Sold-out to registered recycler = 0.0 Ltrs.</p> <p>Co-processed in cement kiln = 26820 Ltrs.</p> <p>Balance Quantity = 0 Ltrs</p>	<p>Common authorization for Hazardous Waste Management & Handling for Cement Plant, Power Plant, Sy. Gypsum Plant, D.G.Set and Nimbeti Limestone Mines.</p> <p>Total Quantity generated from April-2020 to March-2021 = 65250 Ltrs.</p> <p>Old Stock = 0 Ltrs.</p> <p>Total Used oil = 65250 Ltrs.</p> <p>Sold-out to registered recycler = 0.0 Ltrs.</p> <p>Co-processed in cement kiln = 26820 Ltrs.</p> <p>Balance Quantity = 0 Ltrs</p>
(b) From Pollution Control Facilities	N.A.	N.A.

PART – E
SOLID WASTE

Sr. No.	Particulars	Total Quantity (Metric ton)	
		During Previous Financial Year (2019-2020)	During Current Financial Year (2020-2021)
(a)	From Process	Bed Ash : Nil	Bed Ash : Nil
(b)	From Pollution Control Facility	Fly Ash : 0 Synthetic Gypsum : 114660	Fly Ash : 10837 (LCV) Synthetic Gypsum : 111711
(c)	1. Quantity rejected or re- utilized within the unit	Fly ash and Bed ash are generated from the power plant as a solid waste are characterized as Synthetic gypsum due to limestone feeding for Desulfurization.	
	2. Sold	Nil	Nil
	3. Disposed	Nil	Nil

PART – F

Please specify the characterization (in terms of composition and quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both the categories of wastes:

Hazardous Wastes

A. Cement manufacturing is based on “Dry Process” technology. No Hazardous waste is generated from the process except used oil which is drained from machineries / equipment. Used oil is being Co-processed in cement kiln as authorization obtained from RSPCB. Old and scrap lead acid batteries are sold to CPCB authorized recyclers.

Sr. No.	Particulars	Total Quantity	
		During Previous Financial Year (2019-2020)	During Current Financial Year (2020-2021)
1	Used oil (Co processed in Cement Kiln)	26820 KL	65250 KL
2	Lead acid battery waste (Sell to authorized recycler)	4.986 MT	11.170 MT

B. Hazardous wastes were received and co-processed as specified under Hazardous Wastes (Management, Handling & Trans boundary Movement Rule, 2016) during the Current Financial Year (2020-2021) – (During the Period of April -2020 to March-2021)

S. No.	Type of hazardous waste	Category	Quantity (MT)
1	Paint Sludge	21.1	2757.327
2	ETP/CETP Sludge	35.3	18799.861
3	Phosphate sludge	12.5	633.888
4	Oil soaked cotton, Industrial Waste, residue containing oil, Grinding sludge etc.	5.2	4571.519
5	Incineration ash	36.2	12.835
6	SOBM/Drill cutting oil	2.1	16639.22

7	Cotton rags	33.2	9.6
8	Spent Clay	4.5	63.045
9	Waste or residues	23.1	1689.905
10	Organic Residue	4.4	14.22
11	Spent Carbon	28.3	1741.78
12	Expired products/Spent catalyst	28.2	196.66
13	Distillation residue	20.3	705.53
14	Spent Solvent	28.6	7259.18
15	Empty barrel	33.1	48.14
16	Distillation residue	36.1	1750.51
17	Spent catalyst	4.2	583.23
18	Spent resin	35.2	25.07
19	Mix liquid waste	Sch-I	1782.65
20	Spent Solvent	20.2	7285.845
21	Process wastes or residues	29.1	2238.105
22	Process residues & wastes	28.1	4050.915
23	Process waste residue	21.1	1042.339
24	Date expiry medicine	Sch-I	6.25
25	Evaporation residue	37.2	29.98
26	Organic residues	1.4	36.59
27	Dust for air filtration system	26.2	3.73
28	Spent solvents	29.4	86.35
29	Disposal of barrel	34.2	4.16
30	Expiry products	28.5	11.545
31	Process waste sludge	26.1	2987.065
Total Quantity			77067.044

77067.044 MT hazardous waste has been co-processed at Ras complex during FY 2020-2021.

Bio-Medical Wastes:

Bio-medical waste generated is common for cement plant, power plant and mines during current financial year April 2020 to March 2021 under the Bio-Medical Waste (Management & Handling) Rules 2016, are as follows.

Period	Bio-Medical Waste Quantity (Kg) as per Color Coding			
	Red	Blue	Yellow	White
During Previous Financial Year (2019-2020)	49.0	46.3	19.8	24.2
During Current Financial Year (2020-2021)	58.6	53.5	20.2	28.3

Above mentioned waste has been sent to Sales Promoter, CBWTF Bio Medical Treatment Facility, Jaipur Bye Pass Road, Ajmer (Raj.) for disposal.

E- Wastes:

Particulars	Total Quantity	
	During Previous Financial Year (2019-2020)	During Current Financial Year (2020-2021)
From Process	Nil	Nil
From Pollution Control Facility	Nil	Nil

Solid Wastes: -

Only Fly ash and Bed ash is generated from the power plant as a solid waste which is used in the cement manufacturing process of our existing cement plants.

Other Municipal solid waste generated from all units (Cement Plant, Power Plant, Sy. Gypsum Plant and Nimbeti Limestone Mines) of the entire campus is being collected, manage and disposed as per MSW Rules, 2016.

Battery Wastes:

As specified under Batteries (Management and Handling) Amendment Rules, 2010, we have purchased following new batteries of different categories is common for Cement Plant, Power Plant, Sy. Gypsum Plant and Limestone Mines –

Number of used batteries of categories mentioned in Sl. No 3 and Tonnage of scrap sent manufacturer/dealer/importer /registered recycler/or any other agency to whom the used batteries scrap was sent	Previous Year Financial Year (1 st Apr 2019 to 31 st Mar 2020)		Current Year Financial Year (1 st Apr 2020 to 31 st Mar 2021)	
	(i) No. of Batteries	(ii) Approximate Weight (In Metric Tonnes)	(i) No. of Batteries	(ii) Approximate Weight (In Metric Tonnes)
(i) Automotive				
a) Four wheeler	168	4.986	275	10.914
b) Two wheeler	Nil	Nil	Nil	Nil
(ii) Industrial				
a) UPS	0	0	32	0.256
b) Motive Power	Nil	Nil	Nil	Nil
c) Stand –by	Nil	Nil	Nil	Nil
(iii) Others	Nil	Nil	Nil	Nil
Total	168 Nos.	4.986 MT	307 Nos.	11.170 MT

Used battery scrap was sent to CPCB authorized recycler

PART – G

IMPACT OF THE POLLUTION CONTROL MEASURES ON CONSERVATION OF NATURAL RESOURCES AND CONSEQUENTLY ON THE COST OF PRODUCTION

Captive Power Plant is being operated on environmentally clean technology. The stack emissions from the plant are controlled by ESP's. Bag Filters are installed at various material transfer points to clean the process and arrest the fugitive emissions. The boiler Ash collected in the pollution control equipment is used in the process of existing cement plants, thus it can be said that the utilization of raw material is being done at their cost. Since the system is operated on total recycle, there is no effect on the cost of production.

Synthetic Gypsum is being used in place of natural gypsum thus directly conserves the mineral gypsum. Waste Heat Recovery System (WHRS) is installed at Pre- heater and cooler section for trapping gasses of high temperatures are being used for generation of Green Power which has resulted in conservation of fuel, reduction of GHG emissions and water conservation.

PART – H

ADDITIONAL MEASURES / INVESTMENTS PROPOSAL FOR ENVIRONMENT PROTECTION INCLUDING ABATEMENT OF POLLUTION

Green belt development and tree plantation is our ongoing process within our plant area and also outside the plant boundary. Every year we are doing new tree plantation to increase the density and bio-diversity of the area. Plantation has been carried out in an area of around 63.8 hectare with (Total land: 187.56 ha.) 165311 trees, which is ~34 % of the total land of plant area.

We have been incurred total Rs. 14,97,66,931 in environment management in following activities:

1. Plantation and greenbelt development and their maintenance.
2. General and periodically maintenance of all pollution control measures i.e. Bag houses, ESPs, dust collectors.
3. Flooring, paved roads and continuous housekeeping by vacuum sweeping machines machine and maintenance of vacuum sweeping machines.
4. Effective waste managements in plant, mine and colony premises.
5. General and periodically maintenance of CEMS and CAAQMS instruments.
6. Operation and reoccurring of STP installed in plant and colony premises.
7. Celebration of important days for spreading awareness tor protection of environment and conservation of natural resources.

PART – I**ANY OTHER PARTICULATES FOR IMPROVING THE QUALITY OF ENVIRONMENT.**

1. We have full-fledged Environment Department with three separate cells, for monitoring, maintenance of pollution control equipment and Green Belt development.
2. Monitoring of stack emission and ambient air and water quality is being done regularly.
3. Maintenance department is doing regular checking and scheduled maintenance of all the pollution control devices.
4. Civil dept. taking care for of Housekeeping.
5. Truck parking area and vehicle movement areas are paved and concreted to avoid any fugitive emissions.
6. Horticulture Department in coordination with environment department is taking care of tree plantation and green belt development. Every year during monsoon season, we are doing new tree plantation and every year carbon sequestration being is carried out during 2020-2021, 1772.86 Tonnes of carbon and 6506.38 Tonnes of CO2 eq. has been sequestered.
7. Air cooled condensers has been installed at all the boilers for water conservation.
8. Covered shed and silos have been constructed for raw material storage.
9. Domestic waste water generated from office toilets and canteen is being treated at Sewage Treatment Plant (STP) and treated water is being utilized in plantation & gardening.
10. We are committed and maintaining Zero Liquid Discharge (ZLD) from our premises.
11. Waste water generated is reused in synthetic gypsum plant.

We are enclosing herewith following documents

- Annexure-1: Stack Emission monitoring report.
- Annexure-2: Ambient Air Quality (PM10, PM2.5, SO2 and NO2) & Ambient Noise Level monitoring report
- Annexure-3: STP treated water analysis report

Annexure: 1

Shree Cement Ltd; Ras - Captive Power Plant, WHRS & D.G.Set
Stack Emission Report (PM, SO₂ & NO_x)
(All values in mg/Nm³)
Year: - 2020-2021

S. No.	Month	Boiler-II & III			Boiler-IV & V			Boiler-VI & VII		
		PM	NO _x	SO ₂	PM	NO _x	SO ₂	PM	NO _x	SO ₂
1	Apr-2020	0.0	0.0	0.0	0.0	0	0	0.0	0	0
2	May-2020	17.0	147.0	511.5	19.0	137.6	238.7	16.5	169.7	249.2
3	Jun-2020	30.0	135.7	380.3	41.0	192.3	485.2	38.3	156.5	398.7
4	Jul-2020	38.0	216.8	314.8	34.0	198.0	377.7	40.0	237.5	257.0
5	Aug-2020	16.0	224.3	466.9	28.0	252.6	398.7	41.0	216.8	327.9
6	Sep-2020	26.1	116.9	327.9	20.0	209.3	354.1	38.0	203.6	275.4
7	Oct-2020	37.0	122.5	406.6	33.0	230.0	522.0	41.0	263.9	459.0
8	Nov-2020	29.7	290.3	223.0	38.6	198.0	406.6	36.0	132.0	524.6
9	Dec-2020	35.2	105.6	304.3	42.2	237.5	456.4	32.4	188.5	380.3
10	Jan-2021	28.0	267.7	485.2	41.0	179.1	419.7	36.0	84.8	464.3
11	Feb-2021	33.0	228.1	367.2	44.0	260.2	312.1	39.0	239.4	409.2
12	Mar-2021	16.0	192.3	312.1	28.0	122.5	514.1	41.0	218.7	348.9
Average		26	171	342	31	185	374	33	176	341

Shree Cement Ltd, Ras																
Ambient Air Quality Monitoring Report For The Period Of April 2020 To March 2021																
Common for Cement plant & Power plant																
Year:- 2020-2021																
Location →	Plant Boundary Near Main Gate				Plant Boundary Near Mess				Plant Boundary towards Stack & Reclaimer				Plant boundary towards village Khera & Jawangarh			
	AAQ in $\mu\text{g}/\text{m}^3$				AAQ in $\mu\text{g}/\text{m}^3$				AAQ in $\mu\text{g}/\text{m}^3$				AAQ in $\mu\text{g}/\text{m}^3$			
Parameter →	PM 2.5	PM 10	SO₂	NO₂	PM 2.5	PM 10	SO₂	NO₂	PM 2.5	PM 10	SO₂	NO₂	PM 2.5	PM 10	SO₂	NO₂
Apr-2020	36.9	53.9	10.2	14.4	29.9	49.4	10.	15.5	31.4	47.4	8.9	14.8	26.9	46.6	9.6	14.3
May-2020	34.3	56.1	9.1	13.1	31.9	53.5	9.2	13.8	31.9	52.5	8.8	13.5	30.1	51.3	8.3	12.9
Jun-2020	35.6	57.4	8.4	13.9	33.3	55.1	9.0	14.2	30.1	49.1	8.2	13.9	28.8	50.0	7.8	13.4
Jul-2020	18.5	24.0	12.7	10.7	16.9	27.4	14.	12.4	15.3	27.4	14.	12.0	15.0	28.0	13.5	11.3
Aug-2020	10.6	23.4	13.1	12.6	12.9	24.4	11.	12.9	14.1	20.0	13.	13.1	11.9	26.4	12.8	12.7
Sep-2020	12.6	19.9	8.9	13.9	10.6	20.3	13.	15.0	8.4	17.9	11.	14.0	10.8	23.8	10.6	13.6
Oct-2020	14.4	21.5	9.1	12.0	12.9	22.3	11.	12.6	10.9	18.8	11.	12.3	12.3	19.5	10.1	11.8
Nov-2020	17.6	26.0	10.1	12.2	15.3	25.5	12.	13.1	15.3	25.5	11.	12.6	18.5	25.3	10.9	12.0
Dec-2020	21.0	28.5	11.0	11.7	18.6	30.5	12.	12.1	19.6	29.3	11.	11.7	20.6	30.4	11.4	11.3
Jan-2021	28.8	38.5	14.2	16.4	26.9	39.0	16.	16.8	25.9	37.9	15.	15.6	28.4	40.5	13.9	15.1
Feb-2021	32.9	39.5	11.1	16.9	28.6	41.8	11.	16.7	30.0	40.4	11.	16.0	30.9	41.3	10.9	15.6
Mar-2021	37.6	42.5	8.4	16.9	33.3	47.1	10.	17.1	33.8	49.6	8.9	17.6	34.3	47.6	8.3	17.0
Average	25.1	35.9	10.5	13.7	22.6	36.4	11.8	14.4	22.2	34.7	11.2	13.9	22.4	35.9	10.7	13.4

Shree Cement Ltd, Ras								
Ambient Noise Level dB(A) Monitoring Report For The Period Of April 2020 To March 2021								
Common for Cement Plant & Power Plant								
Year:- 2020-2021								
Location →	Plant Boundary Near Main Gate		Plant Boundary Near Mess		Plant Boundary towards Stack & Reclaimer		Plant boundary towards village Khera & Jawangarh	
	Noise Level in dB(A)		Noise Level in dB(A)		Noise Level in dB(A)		Noise Level in dB(A)	
Parameter → Month ↓	Day time	Night time	Day time	Night time	Day time	Night time	Day time	Night time
Apr-2020	51.5	42.6	48.2	37.6	46.0	36.7	43.5	37.1
May-2020	72.6	61.2	67.7	56.4	70.4	61.5	65.3	56.1
Jun-2020	72.1	62.3	67.2	54.2	69.5	61.7	62.6	55.7
Jul-2020	70.5	62.0	67.2	54.3	69.4	62.0	62.5	54.6
Aug-2020	48.7	64.8	64.2	55.6	71.5	61.8	61.3	56.0
Sep-2020	71.7	62.3	67.3	62.0	71.2	61.8	67.3	62.3
Oct-2020	72.1	68.0	70.5	62.3	71.5	66.3	67.0	63.2
Nov-2020	71.7	67.0	69.2	61.9	70.6	65.8	68.6	64.2
Dec-2020	72.6	63.4	71.2	62.8	65.8	67.3	68.1	60.1
Jan-2021	70.2	62.3	73.1	62.8	60.8	59.7	66.1	62.4
Feb-2021	68.2	59.3	70.3	62.6	65.2	61.9	62.3	58.2
Mar-2021	70.3	64.1	66.9	60.7	73.1	63.8	65.5	59.4
Average	67.7	61.6	66.9	57.8	67.1	60.9	63.3	57.4

Annexure: 3

(STP Treated Water Quality, Year 2020-2021)														
S. No.	Parameter ↓	Apr-20	May-20	Jun-20	Jul-20	Aug-20	Sep-20	Oct-20	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Avg.
1	pH	7.54	7.44	7.65	6.96	7.33	7.82	7.22	7.29	7.36	7.11	7.4	7.61	7.39
2	Total Suspended Solids	59	63	71	66	52	68	73	52	44	59	38	73	60
3	Oil and Grease	2.8	3.6	4.3	0.9	0.7	1.0	5.1	1.6	2.4	2.1	2.3	1.4	2.4
4	BOD 3days 27°C	14.6	17.8	19.5	21.7	14.8	17	22	11	10	16	12	19	16.3
5	COD	75	88	97	138	122	157	141	80	74	103	71	88	103

