

Ref. UML/CPP/JSPCB/ES/20/004

Dtd: 24.09.2020

To
The Member Secretary
Jharkhand State Pollution Control Board
T.A building, Ground floor
HEC complex, P.O Dhurwa
Ranchi - 834004

Subject: Environment Statement for M/S Usha Martin Limited (2X10 MW Captive Power Plant), Tatisilwai for the financial year 2019-20 in Form - V as required under the Environment (Protection) Act, 1986.

Dear Sir,

Please find enclosed herewith the Environment Statement for the financial year 2019-20 in Form - V as required under the Environment Protection Act, 1986.

Trust you will find this in order.

Thanking you,
Yours Sincerely,
For Usha Martin Limited
(2X10MW Captive Power Plant)



Tanmoy Sinha
(Head-CPP)



Encl: Duly filled up Form - V (Environmental Statement)

Copy to:
The Regional Officer
Jharkhand State Pollution Control Board
Tupudana Industrial Area
Ranchi - 834003

CPP (2 X 10MW)
USHAMARTIN LTD.
TATISIL WAI, RANCHI
JHARKHAND. PIN-835103

RD
Bhadar
29/9/2020



[FORM – V]

(See Rule 14)

Environmental Statement for the financial year ending the 31st March 2020

PART – A

| | | |
|-------|---|---|
| (i) | Name & address of the owners / occupier of the industry / operation / process | Mr D.J.Basu Occupier Usha Martin Wire Private Limited Tatisilwai, Ranchi- 835103 |
| (ii) | Industry Category : Primary (STC code) , Secondary (SIC code) | Secondary SIC code: |
| (iii) | Production capacity : Units | 2 x 10 MW |
| (iv) | Year of establishment | 2012 |
| (v) | Date of last environmental statement submitted | 28.05.2019 (Ref. UML/CPP/JSPCB/ES/19/005/01) |

PART – B

WATER & RAW MATERIAL CONSUMPTION

i. Water consumption m³/d : **2019 –2020**

Process : 160.15 m³/d

Cooling : 62.96 m³/d

Domestic : 10.19 m³/d

| Name of products | Process water consumption per unit of product output | |
|------------------|--|-----------------------------------|
| | During the previous financial year | During the current financial year |
| | (1) | (2) |
| Electrical Power | 0.00100 KL/unit | 0.00074 KL/unit |

(1) RAW MATERIAL CONSUMPTION

| Name of raw materials | Name of products | Consumption of raw material per unit of output | |
|-----------------------|------------------|--|-----------------------------------|
| | | During the previous financial year | During the current financial year |
| Metal & Alloy | Electrical power | NIL | NIL |
| Chemicals | | 0.000179 kg/unit | 0.000135 Kg/Unit |
| Fuel (Coal) | | 1.13 kg/unit | 1.146 Kg/Unit |
| Lubricant / Grease | | 0.00000467 Ltr/unit | 0.00000347 Ltr/Unit |
| | | | |

PART – C

Pollutants discharges to environment / unit of output
(Parameters as specified in the consent issued)

(i) Pollutants: Quantity of pollutants, concentration of pollutants, % of variation, discharge, mass in discharge (mass/volume) from prescribed with reasons.

The reports of Stack monitoring, Water Analysis, Effluent analysis & Ambient Air Monitoring is enclosed as Annex-1

PART – D

HAZARDOUS WASTES

(As specified under Hazardous waste / management & handling Rules 1989 & amended Rules)

| Hazardous wastes | Total Quantity | |
|--|------------------------------------|---|
| | During the previous financial year | During the current financial year 2019-20 |
| (a) From process Spent/ waste Oil | Nil | NIL |
| (b) From pollution control facilities a) Waste oil b) Sludge | Nil | NIL |

PART – E

SOLID WASTES

| Solid wastes | Total Quantity (MT') | |
|--|---|-----------------------------------|
| | During the previous financial year | During the current financial year |
| (a) From process, fly ash | 70342.04 MT' | 72216.60 MT' |
| (b) From pollution control facility - ETP Sludge | 2.6 MT' | 1.9 MT' |
| (c) (1) Quantity recycled or re-utilized within the unit | 71204.77 MT' | 70605.31 MT' |
| (2) Sold | NIL | |
| (3) Disposal | Kept in Secured retention Tanks meant for the purpose | |

PART – F

Please specify the characteristics (in terms of composition & quantum) of Hazardous as well as solid wastes & indicate disposal practice adopted for both these categories of wastes.

A. Hazardous Waste: NO hazardous waste is generated

B. Solid Waste: Most of generated Fly ash has been utilized at our brick plant & rest is given to third party mainly Cement & brick manufacturers as per FOC basis

ETP sludge is disposed off to secure Land fill.

PART – G

Impact of the pollution abatement measures taken on conservation of natural resources and on the cost of production.

Installation of ETP/STP for treatment of waste water and reuse of treated waste water has positive impact on environment. Reuse of treated wastewater in fly ash brick making also considerably reduced the fresh water requirement.

Construction & implementation of rain water harvesting system augmented the ground water availability and also caters to water requirement during lean season.

Development of green belt by way of tree plantation within plant premises in phased manner contributes to minimize air pollution impacts and also improves the aesthetic beauty of the plant.

PART – H

Additional measures / investment proposals for environmental protection including abatement of pollution , prevention of pollution.

1. ESP has been installed to limit the SPM
2. Bag filters has been installed
3. Online monitoring system has been installed.
4. Maintain ZERO discharge from CPP
5. Large numbers of new pant has planted in FY 19-20. More trees Plantation in coming years is proposed.
6. Water sprinkling system has been installed in different places in CPP (Mostly Covered the Coal & Ash handling area)

PART – I

Any other particulars for improving the quality of the environment. –

1. More greenbelt development is being undertaken.
 2. Very good housekeeping is being maintained inside the CPP
 3. Ash is being almost fully utilized.98 % in FY 19-20
 4. Treated effluent is being used in brick plant
- .



ENVIRONMENTAL LABORATORY, 2X10 MW CPP, TATISILWAI, RANCHI (JHARKHAND) – 835103

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OFFICE NO: 06513051 683, 06513051 689 Fax: 06513051 409/410

TEST REPORT AMBIENT AIR MONITORING

Sample Details

Client Details

| | |
|--|---|
| Date & Time of Sampling : 16.12.2019 & 10:45AM | Client Name : Usha Martin Limited (CPP Div) |
| Sample ID : CPP/ENV/DEC/MG/32 | Client Address : Tatisilwai, Ranchi |
| Type of Sample : Ambient Air | Client Code : UML/CPP/03 |
| Duration of Sampling : 24 hrs | State : Jharkhand |
| Sample Drawn by : Mr Suraj Kumar | Date of Receipt of Sample : 17.12.2019 |
| Sample Plan Reference : UML/DOC/110 | Date of testing : 17.12.2019 |
| Testing Condition : 24.1°C, 62%RS | Test Performed : At Permanent Lab |
| UNIQUE LAB REPORT NO : TC540419000000361F | Date of Report : 26.12.2019 |

REPORT

| Sl.No. | Sample Location | Parameter | Unit | Desirable limit * | Results | Test Method |
|--------|-----------------|------------------------------------|-------------------|-------------------|---------|--|
| 1 | MAIN GATE | Particulate Matter PM2.5 | µg/M ³ | ≤60.00 | 50.82 | SOP/UML/WT/02 Based on CPCB guideline Vol-I : 2012 |
| 2 | | Respirable Particulate Matter PM10 | µg/M ³ | ≤100.00 | 71.82 | IS:5182 (PT - 23) : 2006 |
| 3 | | Sulphur Dioxide | µg/M ³ | ≤80.00 | 20.81 | IS:5182 (PT - 2) : 1999 Reaffirmed 2001 |
| 4 | | Nitrogen Dioxide | µg/M ³ | ≤80.00 | 23.71 | IS:5182 (PT - 6) : 2006 |

* Norms: National Ambient Air Quality Standards as per CPCB vide notification dated 18th November, 2009 for industrial, Residential, Rural and other area are followed:

Declaration:-

1. Results reported are valid at the time of testing and under the stated testing condition.
2. Result in the report refers to only the sample mentioned above in Sample ID.
3. There is no Addition to/ Deviation from/ Exclusion from the Test Method mentioned above.
4. This report shall be reproduced except in full and without the written permission of environmental laboratory, CPP, UML, Ranchi

TESTED BY
(Manish Kumar)CHECKED BY
(Tanmay Roy)AUTHORISED BY
(Tanmoy Sinha)

CPP (2 X 10MW)

USHAMARTIN LTD.

TATISILWAI, RANCHI

JHARKHAND, PIN-835103



usha martin



TC - 5404

UML/F/27 (AA)

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TEST REPORT AMBIENT AIR MONITORING

Sample Details

Client Details

| | |
|--|---|
| Date & Time of Sampling : 14.12.2019 & 12:10PM | Client Name : Usha Martin Limited (CPP Div) |
| Sample ID : CPP/ENV/DEC/MTG/30 | Client Address : Tatisilwai, Ranchi |
| Type of Sample : Ambient Air | Client Code : UML/CPP/03 |
| Duration of Sampling : 24 hrs | State : Jharkhand |
| Sample Drawn by : Mr Suraj Kumar | Date of Receipt of Sample : 15.12.2019 |
| Sample Plan Reference : UML/DOC/110 | Date of testing : 15.12.2019 |
| Testing Condition : 24.0°C, 60%RS | Test Performed : At Permanent Lab |
| UNIQUE LAB REPORT NO : TC540419000000359F | Date of Report : 26.12.2019 |

REPORT

| Sl.No. | Sample Location | Parameter | Unit | Desirable limit * | Results | Test Method |
|--------|------------------|------------------------------------|-------------------|-------------------|---------|--|
| 1 | MATERIAL GATE | Particulate Matter PM2.5 | µg/M ³ | ≤60.00 | 39.66 | SOP/UML/WT/02 Based on CPCB guideline Vol-I : 2012 |
| 2 | | Respirable Particulate Matter PM10 | µg/M ³ | ≤100.00 | 69.06 | IS:5182 (PT – 23) : 2006 |
| 3 | | Sulphur Dioxide | µg/M ³ | ≤80.00 | 21.27 | IS:5182 (PT – 2) : 1999 Reaffirmed 2001 |
| 4 | | Nitrogen Dioxide | µg/M ³ | ≤80.00 | 29.53 | IS:5182 (PT – 6) : 2006 |

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Manish

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(Manish Kumar)

Tanmay

CHECKED BY
(Tanmay Roy)

Tanmoy

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(Tanmoy Sinha)

UML - RANCHI
TATISILWAI, RANCHI - 835103
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TEST REPORT AMBIENT AIR MONITORING

Sample Details

Client Details

| | | | |
|-------------------------|------------------------|---------------------------|---------------------------------|
| Date & Time of Sampling | : 15.12.2019 & 11:25AM | Client Name | : Usha Martin Limited (CPP Div) |
| Sample ID | : CPP/ENV/DEC/SLF/31 | Client Address | : Tatisilwai, Ranchi |
| Type of Sample | : Ambient Air | Client Code | : UML/CPP/03 |
| Duration of Sampling | : 24 hrs | State | : Jharkhand |
| Sample Drawn by | : Mr Suraj Kumar | Date of Receipt of Sample | : 16.12.2019 |
| Sample Plan Reference | : UML/DOC/110 | Date of testing | : 16.12.2019 |
| Testing Condition | : 24.1°C, 61%RS | Test Performed | : At Permanent Lab |
| UNIQUE LAB REPORT NO | : TC540419000000360F | Date of Report | : 26.12.2019 |

REPORT

| Sl.No. | Sample Location | Parameter | Unit | Desirable limit * | Results | Test Method |
|--------|-----------------|------------------------------------|-------------------|-------------------|---------|--|
| 1 | SLF | Particulate Matter PM2.5 | µg/M ³ | ≤60.00 | 40.29 | SOP/UML/WT/02 Based on CPCB guideline Vol-I : 2012 |
| 2 | | Respirable Particulate Matter PM10 | µg/M ³ | ≤100.00 | 52.63 | IS:5182 (PT – 23) : 2006 |
| 3 | | Sulphur Dioxide | µg/M ³ | ≤80.00 | 19.30 | IS:5182 (PT – 2) : 1999 Reaffirmed 2001 |
| 4 | | Nitrogen Dioxide | µg/M ³ | ≤80.00 | 17.54 | IS:5182 (PT – 6) : 2006 |

* Norms: National Ambient Air Quality Standards as per CPCB vide notification dated 18th November, 2009 for industrial, Residential, Rural and other area are followed:

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TESTED BY
(Manish Kumar)

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(Tanmay Roy)

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(Tanmoy Sinha)

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TEST REPORT

AMBIENT AIR MONITORING

Sample Details
Client Details

| | |
|---|---|
| Date & Time of Sampling : 17.12.2019 & 10:50 AM | Client Name : Usha Martin Limited (CPP Div) |
| Sample ID : CPP/ENV/DEC/WTP/33 | Client Address : Tatisilwai, Ranchi |
| Type of Sample : Ambient Air | Client Code : UML/CPP/03 |
| Duration of Sampling : 24 hrs | State : Jharkhand |
| Sample Drawn by : Mr Suraj Kumar | Date of Receipt of Sample : 18.12.2019 |
| Sample Plan Reference : UML/DOC/110 | Date of testing : 18.12.2019 |
| Testing Condition : 24.1°C, 62%RS | Test Performed : At Permanent Lab |
| UNIQUE LAB REPORT NO : TC54041900000362F | Date of Report : 26.12.2019 |

REPORT

| Sl.No. | Sample Location | Parameter | Unit | Desirable limit * | Results | Test Method |
|--------|-----------------|------------------------------------|-------------------|-------------------|---------|--|
| 1 | WTP | Particulate Matter PM2.5 | µg/M ³ | ≤60.00 | 55.84 | SOP/UML/WT/02 Based on CPCB guideline Vol-I : 2012 |
| 2 | | Respirable Particulate Matter PM10 | µg/M ³ | ≤100.00 | 77.90 | IS:5182 (PT – 23) : 2006 |
| 3 | | Sulphur Dioxide | µg/M ³ | ≤80.00 | 11.20 | IS:5182 (PT – 2) : 1999 Reaffirmed 2001 |
| 4 | | Nitrogen Dioxide | µg/M ³ | ≤80.00 | 12.17 | IS:5182 (PT – 6) : 2006 |

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Tanmoy
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(Tanmoy Sinha)

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usha martin



TC - 5404

UML/F/27 (S)

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TEST REPORT STACK MONITORING

Sample Details

Client Details

| | |
|---|---|
| Date & Time of Sampling : 12.12.2019 & 10:10 AM | Client Name : Usha Martin Limited (CPP Div) |
| Sample ID : CPP/ENV/DEC/STK/29 | Client Address : Tatisilwai, Ranchi |
| Type of Sample : STACK | Client Code : UML/CPP/03 |
| Duration of Sampling : 2 hrs | State : Jharkhand |
| Sample Drawn by : Mr. Suraj Kumar | Date of Receipt of Sample : 12.12.2019 |
| Sample Plan Reference : UML/DOC/110 | Date of testing : 13.12.2019 |
| Testing Condition : 24.2°C, 60%RS | Test Performed : At Permanent Lab |
| UNIQUE LAB REPORT NO : TC540419000000358F | Date of Report : 26.12.2019 |

TEST REPORT

| Sl. No. | Description | Unit | Desirable limit | Result | Test Method |
|---------|-------------------------|-----------------------|-----------------|---------|---|
| 1 | Location | | | CHIMNEY | |
| 2 | Area of Stack | (M ²) | | 1.485 | |
| 3 | Temperature of flue gas | (°C) | | 110.0 | |
| 4 | Average Velocity | (m/s) | | 19.57 | |
| 6 | Particulate matter | (mg/Nm ³) | 50.00 | 46.32 | IS 11255, (part-1) 1985 reaffirmed 2003 |
| 7 | Sulphur Dioxide | (mg/Nm ³) | 350.00 | 223.69 | IS 11255, (part-2) 1985 reaffirmed 2003 |
| 8 | Nitrogen Oxides | (mg/Nm ³) | 350.00 | 181.89 | IS 11255, (part-7) 2005 |

Note: - General Emission standards as per Gazette of India, published by ministry of Environment & forests, 19th May, 1993 are for PM- 150 mg/Nm³.

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OFFICE NO: 06513051 683, 06513051 689 Fax: 06513051 409/410

TEST REPORT OF COAL

Sample Details

Client Details


| | |
|---|--|
| Date & Time of Sampling : 07.12.2019 & 10:30 AM | Client Name : Usha Martin Limited(CPP Div) |
| Sample ID : CPP/DEC/01 | Client Address : Tatisilwai, Ranchi |
| Type of Sample : COAL | Client Code : UML/ CPP/03 |
| Duration of Sampling : 1 hrs | State : Jharkhand |
| Sample Drawn by : Mr SUBHAS CHATTERJEE | Date of Receipt of Sample : 07.12.2019 |
| Sample Plan Reference : UML/DOC/110 | Date of testing : 07.12.2019 |
| Testing Condition : 24.0°C , 61%RS | Test Performed : At Permanent Lab |
| UNIQUE LAB REPORT NO : TC540419000000329F | Date of Report : 24.12.2019 |

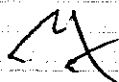
COAL TEST REPORT

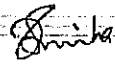
| Sl.no. | Analysis | unit | Result | Test method |
|--------|----------|---------|---------|---------------------------------|
| 1 | MOISTURE | % | 0.41 | IS : 1350 (part-1) 1984 RA 2013 |
| 2 | ASH | % | 38.59 | IS : 1350 (part-1) 1984 RA 2013 |
| 3 | VM | % | 21.49 | IS : 1350 (part-1) 1984 RA 2013 |
| 4 | GCV | Kcal/kg | 4620.00 | IS : 1350 (part-2) 1970 RA 2015 |

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(Manish Kumar)


CHECKED BY
(Tanmay Roy)


AUTHORISED BY
(Tanmoy Sinha)

CPP (2 X 10MW)
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OFFICE NO: 06513051 683, 06513051 689 Fax: 06513051 409/410

TEST REPORT DRINKING WATER

Sample Details

Client Details

| | |
|---|--|
| Date & Time of Sampling : 06.12.2019 & 5:40PM | Client Name : Usha Martin Limited(CPP Div) |
| Sample ID : DEC/DW/ CPP/09 | Client Address : Tatisilwai, Ranchi |
| Type of Sample : DRINKING WATER | Client Code : UML/ CPP/03 |
| Duration of Sampling : 1 hrs | State : Jharkhand |
| Sample Drawn by : Mr Suraj Kumar | Date of Receipt of Sample : 06.12.2019 |
| Sample Plan Reference : UML/DOC/110 | Date of testing : 08.12.2019 |
| Testing Condition : 23.4°C , 55%RS | Test Performed : At Permanent Lab |
| UNIQUE LAB REPORT NO : TC540419000000326F | Date of Report : 18.12.2019 |

REPORT

| Sl.No. | Characteristics | Unit | Requirement (Desirable limit) | Results | Test Method |
|--------|--|--------|-------------------------------|---------|--|
| 1 | pH | | 6.50 to 8.50 | 6.82 | APHA 22 nd Edition-4500 H ⁺ |
| 2 | Total Dissolved Solids | Mg/ltr | 500.00 | 46.0 | APHA 22 nd Edition-2540 C |
| 3 | Turbidity | NTU | 1.00 | < 0.10 | APHA 22 nd Edition-2130 B |
| 4 | Alkalinity | Mg/ltr | 200.00 | 12.0 | IS:3025, (part-23) 2014 |
| 5 | Acidity | Mg/ltr | | 48.0 | IS:3025, (part-22) 2014 |
| 6 | Total hardness (as CaCO ₃) | Mg/ltr | 300.00 | 32.0 | IS:3025, (part-21) 2014 |
| 7 | Calcium (as CaCO ₃) | Mg/ltr | 75.00 | 16.0 | IS:3025, (part-40) 2014 |
| 8 | Magnesium (as CaCO ₃) | Mg/ltr | 30.00 | 2.0 | APHA 22 nd Edition -3500mg B |
| 9 | Chloride | Mg/ltr | 250.00 | 14.18 | IS:3025, (part-32) 2014 |
| 10 | Sulphate | Mg/ltr | 200.00 | 1.42 | APHA 22 nd Edition-4500 So ₄ 2 |
| 11 | Residual free chlorine | Mg/ltr | 0.20 | < 0.10 | IS:3025, (part-26) 2014 |
| 12 | Iron | Mg/ltr | 0.30 | < 0.075 | IS:3025, (part-53) 2014 |
| 13 | Nitrate | Mg/ltr | 45.00 | 1.71 | IS:3025, (part-39) 2014 |
| 14 | Nitrite | Mg/ltr | | 0.99 | APHA 22 nd Edition-4500No ₂ B |
| 15 | Silica | Mg/ltr | | 0.22 | IS:3025, (part-35) 2014 |
| 16 | Temperature | °C | | 24.0 | IS:3025, (part-9) 2006 |

** IS: 10500(2012): Drinking Water Specification

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TESTED BY
(Manish Kumar)

CHECKED BY
(Tanmay Roy)

AUTHORISED BY
(Tanmoy Sinha)

CPP (2 X 10MW)
USHAMARTIN LTD.
TATISIL WAI, RANCHI
JHARKHAND. PIN-835103

TEST REPORT DRINKING WATER

Sample Details

Client Details

| | |
|---|--|
| Date & Time of Sampling : 06.12.2019 & 5:40PM | Client Name : Usha Martin Limited(CPP Div) |
| Sample ID : DEC/DW/ CPP/09 | Client Address : Tatisilwai, Ranchi |
| Type of Sample : DRINKING WATER | Client Code : UML/ CPP/03 |
| Duration of Sampling : 1 hrs | State : Jharkhand |
| Sample Drawn by : Mr Suraj Kumar | Date of Receipt of Sample : 06.12.2019 |
| Sample Plan Reference : UML/DOC/110 | Date of testing : 08.12.2019 |
| Testing Condition : 23.4°C , 55%RS | Test Performed : At Permanent Lab |
| UNIQUE LAB REPORT NO : TC540419000000326F | Date of Report : 18.12.2019 |

TEST REPORT

| Sl.No. | Characteristics | Unit | Requirement (Desirable limit) | Results |
|--------|-----------------|--------|----------------------------------|-----------|
| 1 | Colour | Hazen | 5.00 | <5.00 |
| 2 | Odour | | AGREEABLE | AGREEABLE |
| 3 | Taste | | AGREEABLE | AGREEABLE |
| 4 | Fluoride | Mg/ltr | 1.00 | 0.011 |
| 5 | Manganese | Mg/ltr | 0.10 | 0.047 |
| 6 | Mercury | Mg/ltr | 0.001 | <0.0005 |
| 7 | Lead | Mg/ltr | 0.01 | <0.005 |
| 8 | Zinc | Mg/ltr | 5.00 | <0.400 |

** IS: 10500(2012): Drinking Water Specification

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TESTED BY
(Manish Kumar)

CHECKED BY
(Tanmay Roy)

AUTHORISED BY
(Tanmoy Sinha)

CPP (2 X 10MW)
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TEST REPORT

ETP WATER

Sample Details

Client Details

| | |
|---|--|
| Date & Time of Sampling : 06.12.2019 & 6:00PM | Client Name : Usha Martin Limited(CPP Div) |
| Sample ID : DEC/EW/CPP/11 | Client Address : Tatisilwai, Ranchi |
| Type of Sample : TREATED ETP WATER | Client Code : UML/CPP/03 |
| Duration of Sampling : 1 hrs | State : Jharkhand |
| Sample Drawn by : Mr Suraj Kumar | Date of Receipt of Sample : 06.12.2019 |
| Sample Plan Reference : UML/DOC/110 | Date of testing : 08.12.2019 |
| Testing Condition : 23.4°C , 55%RS | Test Performed : At Permanent Lab |
| UNIQUE LAB REPORT NO : TC540419000000328F | Date of Report : 18.12.2019 |

REPORT

| SI.No. | Characteristics | Unit | Requirement (Desirable limit) | Results | Test Method |
|--------|------------------------|--------|----------------------------------|---------|---|
| 1 | pH | | 5.50 – 9.00 | 7.12 | APHA 22 nd Edition-4500 H ⁺ |
| 2 | Total Dissolved Solids | Mg/ltr | | 912 | APHA 22 nd Edition-2540 C |
| 3 | Total Suspended solids | Mg/ltr | 100.00 | 10.2 | APHA 22 nd Edition-2540 D |
| 4 | Dissolved oxygen | Mg/ltr | | 9.5 | IS:3025, (part-38) 2014 |
| 5 | Oil & Grease | Mg/ltr | 10.00 | 8.6 | IS:3025, (part-39) 2014 |

**** General standards for discharge of environmental pollutants vide Ministry of Env. And Forests notification dated 19th May, 1993 and amendment dated 31st December, 1993.**

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TEST REPORT ETP WATER

Sample Details

Client Details

| | |
|---|---|
| Date & Time of Sampling : 06.12.2019 & 6:00PM | Client Name : Usha Martin Limited (CPP Div) |
| Sample ID : DEC/EW/CPP/11 | Client Address : Tatisilwai, Ranchi |
| Type of Sample : TREATED ETP WATER | Client Code : UML/CPP/03 |
| Duration of Sampling : 1 hrs | State : Jharkhand |
| Sample Drawn by : Mr Suraj Kumar | Date of Receipt of Sample : 06.12.2019 |
| Sample Plan Reference : UML/DOC/110 | Date of testing : 08.12.2019 |
| Testing Condition : 23.4°C, 55%RS | Test Performed : At Permanent Lab |
| UNIQUE LAB REPORT NO : TC540419000000328F | Date of Report : 18.12.2019 |

TEST REPORT

| Sl.No. | Characteristics | Unit | Requirement (Desirable limit) | Results |
|--------|----------------------|--------|-------------------------------|---------|
| 1 | Lead | Mg/ltr | 0.10 | <0.10 |
| 2 | Zinc | Mg/ltr | 5.00 | 1.32 |
| 3 | Phosphate | Mg/ltr | 5.00 | 1.96 |
| 4 | Chloride | Mg/ltr | - | 702 |
| 5 | BOD, 3 days at 27 °C | Mg/ltr | 30.00 | 4.48 |
| 6 | COD | Mg/ltr | 250.00 | 45 |
| 7 | Iron | Mg/ltr | 3.00 | 2.01 |
| 8 | Manganese | Mg/ltr | 2.00 | 0.81 |

** General standards for discharge of environmental pollutants vide Ministry of Env. And Forests notification dated 19th May, 1993 and amendment dated 31st December, 1993.

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TEST REPORT GROUND WATER

Sample Details

Client Details

| | |
|---|--|
| Date & Time of Sampling : 06.12.2019 & 5.40PM | Client Name : Usha Martin Limited(CPP Div) |
| Sample ID : DEC/DW/ CPP/10 | Client Address : Tatisilwai, Ranchi |
| Type of Sample : GROUND WATER | Client Code : UML/ CPP/03 |
| Duration of Sampling : 1 hrs | State : Jharkhand |
| Sample Drawn by : Mr Suraj Kumar | Date of Receipt of Sample : 06.12.2019 |
| Sample Plan Reference : UML/DOC/110 | Date of testing : 08.12.2019 |
| Testing Condition : 23.4°C, 55%RS | Test Performed : At Permanent Lab |
| UNIQUE LAB REPORT NO : TC540419000000327F | Date of Report : 18.12.2019 |

REPORT

| Sl.No. | Characteristics | Unit | Requirement (Desirable limit) | Results | Test Method |
|--------|--|--------|-------------------------------|---------|--|
| 1 | pH | | 6.50 to 8.50 | 7.13 | APHA 22 nd Edition-4500 H ⁺ |
| 2 | Total Dissolved Solids | Mg/ltr | 500.00 | 212 | APHA 22 nd Edition-2540 C |
| 3 | Turbidity | NTU | 1.00 | 23.14 | APHA 22 nd Edition-2130 B |
| 4 | Alkalinity | Mg/ltr | 200.00 | 132.0 | IS:3025, (part-23) 2014 |
| 5 | Acidity | Mg/ltr | | 24.0 | IS:3025, (part-22) 2014 |
| 6 | Total hardness (as CaCO ₃) | Mg/ltr | 300.00 | 160.0 | IS:3025, (part-21) 2014 |
| 7 | Calcium (as CaCO ₃) | Mg/ltr | 75.00 | 80.0 | IS:3025, (part-40) 2014 |
| 8 | Magnesium (as CaCO ₃) | Mg/ltr | 30.00 | 80.0 | APHA 22 nd Edition -3500mg B |
| 9 | Chloride | Mg/ltr | 250.00 | 63.98 | IS:3025, (part-32) 2014 |
| 10 | Sulphate | Mg/ltr | 200.00 | 27.24 | APHA 22 nd Edition-4500 So ₄ 2 |
| 11 | Residual free chlorine | Mg/ltr | 0.20 | <0.10 | IS:3025, (part-26) 2014 |
| 12 | Iron | Mg/ltr | 0.30 | 1.47 | IS:3025, (part-53) 2014 |
| 13 | Nitrate | Mg/ltr | 45.00 | 3.43 | IS:3025, (part-39) 2014 |
| 14 | Nitrite | Mg/ltr | | <0.05 | APHA 22 nd Edition-4500No ₂ B |
| 15 | Silica | Mg/ltr | | 14.12 | IS:3025, (part-35) 2014 |
| 16 | Temperature | °C | | 24.0 | IS:3025, (part-9) 2006 |

** IS: 10500(2012): Drinking Water Specification

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TEST REPORT

Sample Details

Client Details

| | |
|---|--|
| Date & Time of Sampling : 06.12.2019 & 5.40PM | Client Name : Usha Martin Limited(CPP Div) |
| Sample ID : DEC/DW/ CPP/10 | Client Address : Tatisilwai, Ranchi |
| Type of Sample : GROUND WATER | Client Code : UML/ CPP/03 |
| Duration of Sampling : 1 hrs | State : Jharkhand |
| Sample Drawn by : Mr Suraj Kumar | Date of Receipt of Sample : 06.12.2019 |
| Sample Plan Reference : UML/DOC/110 | Date of testing : 08.12.2019 |
| Testing Condition : 23.4°C, 55%RS | Test Performed : At Permanent Lab |
| UNIQUE LAB REPORT NO : TC540419000000327F | Date of Report : 18.12.2019 |
| Date & Time of Sampling : 06.12.2019 & 5.40PM | Client Name : Usha Martin Limited(CPP Div) |

TEST REPORT

| Sl.No. | Characteristics | Unit | Requirement (Desirable limit) | Results |
|--------|-----------------|--------|-------------------------------|-----------|
| 1 | Colour | Hazen | 5.00 | <5.00 |
| 2 | Odour | | AGREEABLE | AGREEABLE |
| 3 | Taste | | AGREEABLE | AGREEABLE |
| 4 | Fluoride | Mg/ltr | 1.00 | 0.38 |
| 5 | Manganese | Mg/ltr | 0.10 | 0.094 |
| 6 | Mercury | Mg/ltr | 0.001 | <0.0005 |
| 7 | Lead | Mg/ltr | 0.01 | <0.005 |
| 8 | Zinc | Mg/ltr | 5.00 | 3.11 |

* IS: 10500(2012): Drinking Water Specification

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UML/F/27 (N)

TC - 5404

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TEST REPORT NOISE MONITORING

Sample Details

Client Details

| | | | |
|-----------------------|---------------------------|--------------------|--|
| Date of Sampling | : 15.12.2019 – 20.12.2019 | Client Name | : Usha Martin limited (CPP) |
| Sample ID | : DEC/ CPP/NOS/04 | Client Address | : Tatisilwai, Ranchi |
| Type of Sample | : Noise | Client Code | : UML/ CPP/03 |
| Duration of Sampling | : 24hrs (Per Location) | State | : Jharkhand |
| Sample Drawn by | : Mr. Suraj Kumar | Test Performed | : At Permanent Lab |
| Sample Plan Reference | : UML/DOC/110 | Date of Report | : 22.12.2019 |
| UNIQUE LAB REPORT NO | : TC540419000000366F | Sample Description | : Measurement of Noise at UML CPP Area |

TEST REPORT OF NOISE LEVEL

| Monitoring Date | 15.12.2019 – 20.12.2019 | | |
|--------------------|-------------------------|---------|---------|
| | Noise Results in dB(A) | | |
| Station Location | AVERAGE | MAXIMUM | MINIMUM |
| CPP MAIN GATE | 64.8 | 69.2 | 59.6 |
| CPP WTP AREA | 64.5 | 68.5 | 59.4 |
| CPP BOILER AREA | 73.9 | 82.5 | 66.5 |
| CPP ADM BUILDING | 66.2 | 71.4 | 63.5 |
| CPP COAL YARD AREA | 55.2 | 63.5 | 50.2 |

Ambient Air Quality Norms in Respect of Noise

| AREA | CATEGORY AREA | NOISE LEVEL in dB(A) | |
|------|------------------|----------------------|------------|
| | | DAY TIME | NIGHT TIME |
| A | INDUSTRIAL AREA | 75 | 70 |
| B | COMMERCIAL AREA | 65 | 55 |
| C | RESIDENTIAL AREA | 55 | 45 |
| D | SILENCE ZONE | 50 | 40 |

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TEST REPORT STACK MONITORING

Sample Details

Client Details

| | |
|---|---|
| Date & Time of Sampling : 12.12.2019 & 10:10 AM | Client Name : Usha Martin Limited (CPP Div) |
| Sample ID : CPP/ENV/DEC/STK/29 | Client Address : Tatisilwai, Ranchi |
| Type of Sample : STACK | Client Code : UML/CPP/03 |
| Duration of Sampling : 2 hrs | State : Jharkhand |
| Sample Drawn by : Mr. Suraj Kumar | Date of Receipt of Sample : 12.12.2019 |
| Sample Plan Reference : UML/DOC/110 | Date of testing : 12.12.2019 |
| Testing Condition : 24.2°C, 60%RS | Test Performed : At Permanent Lab |
| UNIQUE LAB REPORT NO : TC540419000000358F | Date of Report : 26.12.2019 |


TEST REPORT


| Sl. No. | Description | Unit | Desirable limit | Result | Test Method |
|---------|-------------------------|-----------------------|-----------------|---------|---|
| 1 | Location | | | CHIMNEY | |
| 2 | Area of Stack | (M ²) | | 1.485 | |
| 3 | Temperature of flue gas | (°C) | | 110.0 | |
| 4 | Average Velocity | (m/s) | | 22.54 | |
| 6 | Particulate matter | (mg/Nm ³) | 50.00 | 46.32 | IS 11255, (part-1) 1985 reaffirmed 2003 |
| 7 | Sulphur Dioxide | (mg/Nm ³) | 350.00 | 223.69 | IS 11255, (part-2) 1985 reaffirmed 2003 |
| 8 | Nitrogen Oxides | (mg/Nm ³) | 350.00 | 181.89 | IS 11255, (part-7) 2005 |
| 9 | Mercury | (µg/m ³) | | BDL* | |

Note: - General Emission standards as per Gazette of India, published by ministry of Environment & forests, 19th May, 1993 are for PM- 150 mg/Nm³. *BDL denotes below limit for Hg <0.03 µg/m³
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TEST REPORT OF COAL

Sample Details

Client Details

| | |
|--|--|
| Date & Time of Sampling : 10.12.2019 & 10:15AM | Client Name : Usha Martin Limited(CPP Div) |
| Sample ID : CPP/MAR/01 | Client Address : Tatisilwai, Ranchi |
| Type of Sample : COAL | Client Code : UML/ CPP/03 |
| Duration of Sampling : 1 hrs | State : Jharkhand |
| Sample Drawn by : Mr SUBHAS CHATTERJEE | Date of Receipt of Sample : 10.12.2019 |
| Sample Plan Reference : UML/DOC/110 | Date of testing : 10.12.2019 |
| Testing Condition : 24.1°C, 60%RS | Test Performed : At Permanent Lab |
| LAB REPORT NO : TC509F | Date of Report : 20.12.2019 |

COAL TEST REPORT

| Sl.no. | Analysis | unit | Result | Test method |
|--------|----------|---------|---------|---------------------------------|
| 1 | MOISTURE | % | 4.23 | IS : 1350 (part-1) 1984 RA 2013 |
| 2 | ASH | % | 39.91 | IS : 1350 (part-1) 1984 RA 2013 |
| 3 | VM | % | 30.13 | IS : 1350 (part-1) 1984 RA 2013 |
| 4 | GCV | Kcal/kg | 4471.00 | IS : 1350 (part-2) 1970 RA 2015 |
| 5 | SULPHUR | % | 0.30 | IS : 1350 (part-3) 1969 RA 2015 |

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TEST REPORT

NOISE MONITORING

Sample Details

Client Details

| | | | |
|-----------------------|---------------------------|--------------------|--|
| Date of Sampling | : 15.03.2020 – 20.03.2020 | Client Name | : Usha Martin limited (CPP) |
| Sample ID | : MAR/CPP/NOS/03 | Client Address | : Tatisilwai, Ranchi |
| Type of Sample | : Noise | Client Code | : UML/CPP/03 |
| Duration of Sampling | : 24hrs (Per Location) | State | : Jharkhand |
| Sample Drawn by | : Mr. Suraj Kumar | Test Performed | : At Permanent Lab |
| Sample Plan Reference | : UML/DOC/110 | Date of Report | : 23.03.2020 |
| UNIQUE LAB REPORT NO | : TC540419000000445F | Sample Description | : Measurement of Noise at UML CPP Area |

TEST REPORT OF NOISE LEVEL

| Monitoring Date | 15.03.2020 – 20.03.2020 | | |
|--------------------|-------------------------|---------|---------|
| Station Location | Noise Results in dB(A) | | |
| | AVERAGE | MAXIMUM | MINIMUM |
| CPP MAIN GATE | 64.1 | 69.4 | 56.2 |
| CPP WTP AREA | 64.5 | 68.5 | 59.4 |
| CPP BOILER AREA | 74.8 | 84.2 | 68.4 |
| CPP ADM BUILDING | 66.8 | 72.4 | 55.4 |
| CPP COAL YARD AREA | 58.1 | 65.9 | 49.2 |

Ambient Air Quality Norms in Respect of Noise

| AREA | CATEGORY AREA | NOISE LEVEL in dB(A) | |
|------|------------------|----------------------|------------|
| | | DAY TIME | NIGHT TIME |
| A | INDUSTRIAL AREA | 75 | 70 |
| B | COMMERCIAL AREA | 65 | 55 |
| C | RESIDENTIAL AREA | 55 | 45 |
| D | SILENCE ZONE | 50 | 40 |

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TEST REPORT STACK MONITORING

Sample Details

Client Details

| | |
|--|---|
| Date & Time of Sampling : 04.03.2020 & 12:30PM | Client Name : Usha Martin Limited (CPP Div) |
| Sample ID : CPP/ENV/MAR/STACK/40 | Client Address : Tatisilwai, Ranchi |
| Type of Sample : STACK | Client Code : UML/ CPP/03 |
| Duration of Sampling : 2 hrs | State : Jharkhand |
| Sample Drawn by : Mr. Suraj Kumar | Date of Receipt of Sample : 4.03.2020 |
| Sample Plan Reference : UML/DOC/110 | Date of testing : 4.03.20-5.03.20 |
| Testing Condition : 25.1°C, 58%RS | Test Performed : At Permanent Lab |
| UNIQUE LAB REPORT NO : TC540420000000442F | Date of Report : 23.03.2020 |


TEST REPORT

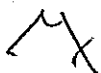
| Sl. No. | Description | Unit | Desirable limit | Result | Test Method |
|---------|-------------------------|-----------------------|-----------------|---------|---|
| 1 | Location | | | CHIMNEY | |
| 2 | Area of Stack | (M ²) | | 1.485 | |
| 3 | Temperature of flue gas | (°C) | | 120.0 | |
| 4 | Average Velocity | (m/s) | | 19.52 | |
| 6 | Particulate matter | (mg/Nm ³) | 50.00 | 47.23 | IS 11255, (part-1) 1985 reaffirmed 2003 |
| 7 | Sulphur Dioxide | (mg/Nm ³) | 350.00 | 251.31 | IS 11255, (part-2) 1985 reaffirmed 2003 |
| 8 | Nitrogen Oxides | (mg/Nm ³) | 350.00 | 192.37 | IS 11255, (part-7) 2005 |


Note: - General Emission standards as per Gazette of India, published by ministry of Environment & forests, 19th May, 1993 are for PM- 150 mg/Nm³.

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TEST REPORT GROUND WATER

Sample Details

Client Details

| | |
|---|---|
| Date & Time of Sampling : 08.03.2020 & 5:30PM | Client Name : Usha Martin Limited (CPP Div) |
| Sample ID : MAR/DW/CPP/10 | Client Address : Tatisilwai, Ranchi |
| Type of Sample : GROUND WATER | Client Code : UML/CPP/03 |
| Duration of Sampling : 1 hrs | State : Jharkhand |
| Sample Drawn by : Mr Anil Kumar Pradhan | Date of Receipt of Sample : 08.03.2020 |
| Sample Plan Reference : UML/DOC/110 | Date of testing : 09.03.2020 |
| Testing Condition : 23.8°C, 55.3%RS | Test Performed : At Permanent Lab |
| UNIQUE LAB REPORT NO : TC540420000000400F | Date of Report : 23.03.2020 |

REPORT

| Sl.No. | Characteristics | Unit | Requirement (Desirable limit) | Results | Test Method |
|--------|--|--------|-------------------------------|---------|--|
| 1 | pH | | 6.50 to 8.50 | 7.02 | APHA 22 nd Edition-4500 H ⁺ |
| 2 | Total Dissolved Solids | Mg/ltr | 500.00 | 232.0 | APHA 22 nd Edition-2540 C |
| 3 | Turbidity | NTU | 1.00 | 0.40 | APHA 22 nd Edition-2130 B |
| 4 | Alkalinity | Mg/ltr | 200.00 | 104.0 | IS:3025, (part-23) 2014 |
| 5 | Acidity | Mg/ltr | | 12.0 | IS:3025, (part-22) 2014 |
| 6 | Total hardness (as CaCO ₃) | Mg/ltr | 300.00 | 96.0 | IS:3025, (part-21) 2014 |
| 7 | Calcium (as CaCO ₃) | Mg/ltr | 75.00 | 56.0 | IS:3025, (part-40) 2014 |
| 8 | Magnesium (as CaCO ₃) | Mg/ltr | 30.00 | 40.0 | APHA 22 nd Edition -3500mg B |
| 9 | Chloride | Mg/ltr | 250.00 | 40.0 | IS:3025, (part-32) 2014 |
| 10 | Sulphate | Mg/ltr | 200.00 | 9.05 | APHA 22 nd Edition-4500 So ₄ 2 |
| 11 | Residual free chlorine | Mg/ltr | 0.20 | <0.10 | IS:3025, (part-26) 2014 |
| 12 | Iron | Mg/ltr | 0.30 | 6.13 | IS:3025, (part-53) 2014 |
| 13 | Nitrate | Mg/ltr | 45.00 | 0.15 | IS:3025, (part-39) 2014 |
| 14 | Nitrite | Mg/ltr | | < 0.05 | APHA 22 nd Edition-4500No ₂ B |
| 15 | Silica | Mg/ltr | | 25.85 | IS:3025, (part-35) 2014 |
| 16 | Temperature | °C | | 22.3 | IS:3025, (part-9) 2006 |

** IS: 10500(2012): Drinking Water Specification

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Tanmay

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TEST REPORT GROUND WATER

Sample Details

Client Details

| | |
|---|--|
| Date & Time of Sampling : 08.03.2020 & 5:30PM | Client Name : Usha Martin Limited(CPP Div) |
| Sample ID : MAR/DW/ CPP/10 | Client Address : Tatisilwai, Ranchi |
| Type of Sample : GROUND WATER | Client Code : UML/ CPP/03 |
| Duration of Sampling : 1 hrs | State : Jharkhand |
| Sample Drawn by : Mr Anil Kumar Pradhan | Date of Receipt of Sample : 08.03.2020 |
| Sample Plan Reference : UML/DOC/110 | Date of testing : 09.03.2020 |
| Testing Condition : 23.8°C, 55.3%RS | Test Performed : At Permanent Lab |
| UNIQUE LAB REPORT NO : TC540420000000400F | Date of Report : 23.03.2020 |
| Date & Time of Sampling : 08.03.2020 & 5:30PM | Client Name : Usha Martin Limited(CPP Div) |


TEST REPORT


| Sl.No. | Characteristics | Unit | Requirement (Desirable limit) | Results |
|--------|-----------------|--------|-------------------------------|-----------|
| 1 | Colour | Hazen | 5.00 | <5.00 |
| 2 | Odour | | AGREEABLE | AGREEABLE |
| 3 | Taste | | AGREEABLE | AGREEABLE |
| 4 | Fluoride | Mg/ltr | 1.00 | 0.44 |
| 5 | Manganese | Mg/ltr | 0.10 | 0.049 |
| 6 | Mercury | Mg/ltr | 0.001 | <0.0005 |
| 7 | Lead | Mg/ltr | 0.01 | <0.005 |
| 8 | Zinc | Mg/ltr | 5.00 | 2.09 |

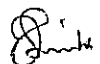
** IS: 10500(2012): Drinking Water Specification

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TEST REPORT

ETP WATER

Sample Details

Client Details

| | |
|---|--|
| Date & Time of Sampling : 08.03.2020 & 5:45PM | Client Name : Usha Martin Limited(CPP Div) |
| Sample ID : MAR/EW/ CPP/11 | Client Address : Tatisilwai, Ranchi |
| Type of Sample : TREATED ETP WATER | Client Code : UML/ CPP/03 |
| Duration of Sampling : 1 hrs | State : Jharkhand |
| Sample Drawn by : Mr Anil Kumar Pradhan | Date of Receipt of Sample : 08.03.2020 |
| Sample Plan Reference : UML/DOC/110 | Date of testing : 08.03.2020 |
| Testing Condition : 23.8°C , 55%RS | Test Performed : At Permanent Lab |
| UNIQUE LAB REPORT NO : TC540420000000401F | Date of Report : 23.03.2020 |

REPORT


| Sl.No. | Characteristics | Unit | Requirement (Desirable limit) | Results | Test Method |
|--------|------------------------|--------|-------------------------------|---------|---|
| 1 | pH | | 5.50 – 9.00 | 7.80 | APHA 22 nd Edition-4500 H ⁺ |
| 2 | Total Dissolved Solids | Mg/ltr | 100.00 | 862.0 | APHA 22 nd Edition-2540 C |
| 3 | Total Suspended solids | Mg/ltr | 100.00 | 21.37 | APHA 22 nd Edition-2540 D |
| 4 | Dissolved oxygen | Mg/ltr | | 2.4 | IS:3025, (part-38) 2014 |
| 5 | Oil & Grease | Mg/ltr | 10.00 | 9.33 | IS:3025, (part-39) 2014 |


**** General standards for discharge of environmental pollutants vide Ministry of Env. And Forests notification dated 19th May, 1993 and amendment dated 31st December, 1993.**

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TEST REPORT ETP WATER

Sample Details

Client Details

| | |
|---|---|
| Date & Time of Sampling : 08.03.2020 & 5:45PM | Client Name : Usha Martin Limited (CPP Div) |
| Sample ID : MAR/EW/ CPP/11 | Client Address : Tatisilwai, Ranchi |
| Type of Sample : TREATED ETP WATER | Client Code : UML/ CPP/03 |
| Duration of Sampling : 1 hrs | State : Jharkhand |
| Sample Drawn by : Mr Anil Kumar Pradhan | Date of Receipt of Sample : 08.03.2020 |
| Sample Plan Reference : UML/DOC/110 | Date of testing : 08.03.2020 |
| Testing Condition : 23.8°C, 55%RS | Test Performed : At Permanent Lab |
| UNIQUE LAB REPORT NO : TC540420000000401F | Date of Report : 23.03.2020 |

TEST REPORT

| Sl.No. | Characteristics | Unit | Requirement (Desirable limit) | Results |
|--------|----------------------|--------|-------------------------------|---------|
| 1 | Lead | Mg/ltr | 0.10 | <0.10 |
| 2 | Zinc | Mg/ltr | 5.00 | 1.24 |
| 3 | Phosphate | Mg/ltr | 5.00 | 1.12 |
| 4 | Chloride | Mg/ltr | - | 1251 |
| 5 | BOD, 3 days at 27 °C | Mg/ltr | 30.00 | 2.0 |
| 6 | COD | Mg/ltr | 250.00 | 16.0 |
| 7 | Iron | Mg/ltr | 3.00 | 1.46 |
| 8 | Manganese | Mg/ltr | 2.00 | 0.38 |

** General standards for discharge of environmental pollutants vide Ministry of Env. And Forests notification dated 19th May, 1993 and amendment dated 31st December, 1993.

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TEST REPORT DRINKING WATER

Sample Details

Client Details

| | |
|--|--|
| Date & Time of Sampling : 08.03.2020 & 5:35 PM | Client Name : Usha Martin Limited(CPP Div) |
| Sample ID : MAR/DW/ CPP/09 | Client Address : Tatisilwai, Ranchi |
| Type of Sample : DRINKING WATER | Client Code : UML/ CPP/03 |
| Duration of Sampling : 1 hrs | State : Jharkhand |
| Sample Drawn by : Mr Anil Kumar Pradhan | Date of Receipt of Sample : 08.03.2020 |
| Sample Plan Reference : UML/DOC/110 | Date of testing : 09.03.2020 |
| Testing Condition : 23.8°C , 55%RS | Test Performed : At Permanent Lab |
| UNIQUE LAB REPORT NO : TC54042000000399F | Date of Report : 23.03.2020 |


REPORT


| Sl.No. | Characteristics | Unit | Requirement (Desirable limit) | Results | Test Method |
|--------|--|--------|-------------------------------|---------|--|
| 1 | pH | | 6.50 to 8.50 | 6.79 | APHA 22 nd Edition-4500 H ⁺ |
| 2 | Total Dissolved Solids | Mg/ltr | 500.00 | 40 | APHA 22 nd Edition-2540 C |
| 3 | Turbidity | NTU | 1.00 | 0.28 | APHA 22 nd Edition-2130 B |
| 4 | Alkalinity | Mg/ltr | 200.00 | 10.0 | IS:3025, (part-23) 2014 |
| 5 | Acidity | Mg/ltr | | 6.0 | IS:3025, (part-22) 2014 |
| 6 | Total hardness (as CaCO ₃) | Mg/ltr | 300.00 | 18.0 | IS:3025, (part-21) 2014 |
| 7 | Calcium (as CaCO ₃) | Mg/ltr | 75.00 | 12.0 | IS:3025, (part-40) 2014 |
| 8 | Magnesium (as CaCO ₃) | Mg/ltr | 30.00 | 6.0 | APHA 22 nd Edition -3500mg B |
| 9 | Chloride | Mg/ltr | 250.00 | 9.0 | IS:3025, (part-32) 2014 |
| 10 | Sulphate | Mg/ltr | 200.00 | 2.28 | APHA 22 nd Edition-4500 So ₄ 2 |
| 11 | Residual free chlorine | Mg/ltr | 0.20 | <0.10 | IS:3025, (part-26) 2014 |
| 12 | Iron | Mg/ltr | 0.30 | 0.12 | IS:3025, (part-53) 2014 |
| 13 | Nitrate | Mg/ltr | 45.00 | 0.13 | IS:3025, (part-39) 2014 |
| 14 | Nitrite | Mg/ltr | | < 0.05 | APHA 22 nd Edition-4500No ₂ B |
| 15 | Silica | Mg/ltr | | <0.05 | IS:3025, (part-35) 2014 |
| 16 | Temperature | °C | | 22.2 | IS:3025, (part-9) 2006 |

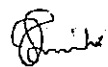
**** IS: 10500(2012): Drinking Water Specification**

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TEST REPORT DRINKING WATER

Sample Details

Client Details

| | |
|--|--|
| Date & Time of Sampling : 08.03.2020 & 5:35 PM | Client Name : Usha Martin Limited(CPP Div) |
| Sample ID : MAR/DW/ CPP/09 | Client Address : Tatisilwai, Ranchi |
| Type of Sample : DRINKING WATER | Client Code : UML/ CPP/03 |
| Duration of Sampling : 1 hrs | State : Jharkhand |
| Sample Drawn by : Mr Anil Kumar Pradhan | Date of Receipt of Sample : 08.03.2020 |
| Sample Plan Reference : UML/DOC/110 | Date of testing : 09.03.2020 |
| Testing Condition : 23.8°C , 55%RS | Test Performed : At Permanent Lab |
| UNIQUE LAB REPORT NO : TC540420000000399F | Date of Report : 23.03.2020 |

TEST REPORT


| Sl.No. | Characteristics | Unit | Requirement (Desirable limit) | Results |
|--------|-----------------|--------|-------------------------------|-----------|
| 1 | Colour | Hazen | 5.00 | <5.00 |
| 2 | Odour | | AGREEABLE | AGREEABLE |
| 3 | Taste | | AGREEABLE | AGREEABLE |
| 4 | Fluoride | Mg/ltr | 1.00 | 0.018 |
| 5 | Manganese | Mg/ltr | 0.10 | 0.088 |
| 6 | Mercury | Mg/ltr | 0.001 | <0.0005 |
| 7 | Lead | Mg/ltr | 0.01 | <0.005 |
| 8 | Zinc | Mg/ltr | 5.00 | <0.400 |


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TEST REPORT AMBIENT AIR MONITORING

Sample Details

Client Details

| | | | |
|-------------------------|-------------------------|---------------------------|---------------------------------|
| Date & Time of Sampling | : 13.03.2020 & 03:50 PM | Client Name | : Usha Martin Limited (CPP Div) |
| Sample ID | : CPP/ENV/MAR/MG/16 | Client Address | : Tatisilwai, Ranchi |
| Type of Sample | : Ambient Air | Client Code | : UML/CPP/03 |
| Duration of Sampling | : 24 hrs | State | : Jharkhand |
| Sample Drawn by | : Mr Suraj Kumar | Date of Receipt of Sample | : 14.03.2020 |
| Sample Plan Reference | : UML/DOC/110 | Date of testing | : 14.03.2020 |
| Testing Condition | : 23.2°C, 60%RS | Test Performed | : At Permanent Lab |
| UNIQUE LAB REPORT NO | : TC540420000000418F | Date of Report | : 23.03.2020 |


REPORT


| Sl.No. | Sample Location | Parameter | Unit | Desirable limit * | Results | Test Method |
|--------|-----------------|------------------------------------|-------------------|-------------------|---------|--|
| 1 | MAIN GATE | Particulate Matter PM2.5 | µg/M ³ | ≤60.00 | 54.99 | SOP/UML/WT/02 Based on CPCB guideline Vol-I : 2012 |
| 2 | | Respirable Particulate Matter PM10 | µg/M ³ | ≤100.00 | 72.06 | IS:5182 (PT – 23) : 2006 |
| 3 | | Sulphur Dioxide | µg/M ³ | ≤80.00 | <10.00 | IS:5182 (PT – 2) : 1999 Reaffirmed 2001 |
| 4 | | Nitrogen Dioxide | µg/M ³ | ≤80.00 | 11.48 | IS:5182 (PT – 6) : 2006 |


* Norms: National Ambient Air Quality Standards as per CPCB vide notification dated 18th November, 2009 for industrial, Residential, Rural and other area are followed:

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TEST REPORT AMBIENT AIR MONITORING

Sample Details

Client Details

| | |
|---|---|
| Date & Time of Sampling : 14.03.2020 & 02:10 PM | Client Name : Usha Martin Limited (CPP Div) |
| Sample ID : CPP/ENV/MAR/MTG/17 | Client Address : Tatisilwai, Ranchi |
| Type of Sample : Ambient Air | Client Code : UML/CPP/03 |
| Duration of Sampling : 24 hrs | State : Jharkhand |
| Sample Drawn by : Mr Suraj Kumar | Date of Receipt of Sample : 15.03.2020 |
| Sample Plan Reference : UML/DOC/110 | Date of testing : 15.03.2020 |
| Testing Condition : 23.2°C , 58%RS | Test Performed : At Permanent Lab |
| UNIQUE LAB REPORT NO : TC540420000000419F | Date of Report : 23.03.2020 |

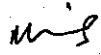
REPORT


| Sl.No. | Sample Location | Parameter | Unit | Desirable limit * | Results | Test Method |
|--------|-----------------|------------------------------------|-------------------|-------------------|---------|--|
| 1 | MATERIAL GATE | Particulate Matter PM2.5 | µg/M ³ | ≤60.00 | 48.05 | SOP/UML/WT/02 Based on CPCB guideline Vol-I : 2012 |
| 2 | | Respirable Particulate Matter PM10 | µg/M ³ | ≤100.00 | 69.74 | IS:5182 (PT – 23) : 2006 |
| 3 | | Sulphur Dioxide | µg/M ³ | ≤80.00 | <10.00 | IS:5182 (PT – 2) : 1999 Reaffirmed 2001 |
| 4 | | Nitrogen Dioxide | µg/M ³ | ≤80.00 | <10.00 | IS:5182 (PT – 6) : 2006 |


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TEST REPORT AMBIENT AIR MONITORING

Sample Details

Client Details

| | | | |
|-------------------------|-------------------------|---------------------------|---------------------------------|
| Date & Time of Sampling | : 15.03.2020 & 02:45 PM | Client Name | : Usha Martin Limited (CPP Div) |
| Sample ID | : CPP/ENV/MAR/SLF/18 | Client Address | : Tatisilwai, Ranchi |
| Type of Sample | : Ambient Air | Client Code | : UML/ CPP/03 |
| Duration of Sampling | : 24 hrs | State | : Jharkhand |
| Sample Drawn by | : Mr.Suraj Kumar | Date of Receipt of Sample | : 16.03.2020 |
| Sample Plan Reference | : UML/DOC/110 | Date of testing | : 16.03.2020 |
| Testing Condition | : 24.5°C, 59%RS | Test Performed | : At Permanent Lab |
| UNIQUE LAB REPORT NO | : TC54042000000420F | Date of Report | : 23.03.2020 |


REPORT

| Sl.No. | Sample Location | Parameter | Unit | Desirable limit * | Results | Test Method |
|--------|-----------------|------------------------------------|-------------------|-------------------|---------|--|
| 1 | SLF-AREA | Particulate Matter PM2.5 | µg/M ³ | ≤60.00 | 43.39 | SOP/UML/WT/02 Based on CPCB guideline Vol-I : 2012 |
| 2 | | Respirable Particulate Matter PM10 | µg/M ³ | ≤100.00 | 77.58 | IS:5182 (PT – 23) : 2006 |
| 3 | | Sulphur Dioxide | µg/M ³ | ≤80.00 | <10.00 | IS:5182 (PT – 2) : 1999 Reaffirmed 2001 |
| 4 | | Nitrogen Dioxide | µg/M ³ | ≤80.00 | <10.00 | IS:5182 (PT – 6) : 2006 |

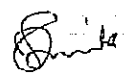
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TEST REPORT AMBIENT AIR MONITORING

Sample Details

Client Details

| | |
|---|---|
| Date & Time of Sampling : 16.03.2020 & 02:10 PM | Client Name : Usha Martin Limited (CPP Div) |
| Sample ID : CPP/ENV/MAR/WTP/19 | Client Address : Tatisilwai, Ranchi |
| Type of Sample : Ambient Air | Client Code : UML/CPP/03 |
| Duration of Sampling : 24 hrs | State : Jharkhand |
| Sample Drawn by : Mr. Suraj Kumar | Date of Receipt of Sample : 17.03.2020 |
| Sample Plan Reference : UML/DOC/110 | Date of testing : 17.03.2020 |
| Testing Condition : 24.5°C, 59%RS | Test Performed : At Permanent Lab |
| UNIQUE LAB REPORT NO : TC54042000000421F | Date of Report : 23.03.2020 |

REPORT

| Sl.No. | Sample Location | Parameter | Unit | Desirable limit * | Results | Test Method |
|--------|-----------------|------------------------------------|-------------------|-------------------|---------|--|
| 1 | WTP AREA | Particulate Matter PM2.5 | µg/M ³ | ≤60.00 | 46.03 | SOP/UML/WT/02 Based on CPCB guideline Vol-I : 2012 |
| 2 | | Respirable Particulate Matter PM10 | µg/M ³ | ≤100.00 | 66.72 | IS:5182 (PT - 23) : 2006 |
| 3 | | Sulphur Dioxide | µg/M ³ | ≤80.00 | <10.00 | IS:5182 (PT - 2) : 1999 Reaffirmed 2001 |
| 4 | | Nitrogen Dioxide | µg/M ³ | ≤80.00 | <10.00 | IS:5182 (PT - 6) : 2006 |

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