

O/C

Ref. UML/CPP/JSPCB/ES/18/009 /09

25th Sept, 2018

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

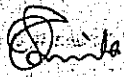
Subject: Environment Statement for M/S Usha Martin Limited (2X10 MW Captive Power Plant), Tatisilwai for the financial year 2017 - 18 in Form - V as required under the Environment(Protection) Act, 1986.

Dear Sir,

Please find enclosed herewith the Environment Statement for the financial year 2017-18 in Form - V as required under the Environment Protection Act, 1986.

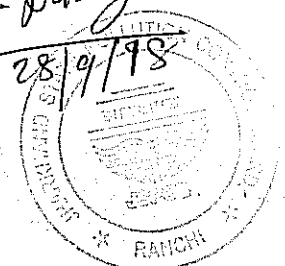
Trust you will find this in order.

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


Tanmoy Sinha
(Head-CPP)

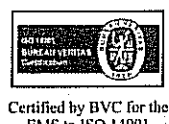
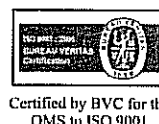
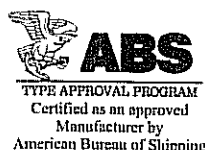
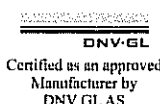
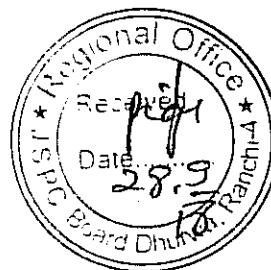
CPP (2 X 10MW)
USHAMARTIN LTD.
TATISIL WAI, RANCHI
JHARKHAND. PIN-835103

Recd
Badri Naraya
28/9/18



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

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



[FORM - V]

(See Rule 14)

Environmental Statement for the financial year ending the 31st March 2018**PART - A**

(i)	Name & address of the owners / occupier of the industry / operation / process	Mr P.K.JAIN 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	19.09.2017 (Ref. UML/CPP/JSPCB/ES/17/009/01)

PART - B**WATER & RAW MATERIAL CONSUMPTION**i. Water consumption m³/d : **2017-2018**Process : 268.43 m³/dCooling : 63.11 m³/dDomestic : 11.61 m³/d

Name of products	Process water consumption per unit of product output	
	During the previous financial year (1)	During the current financial year (2)
Electrical Power	0.00104 KL/unit	0.00101 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		0.000206 kg/unit	0.000204 kg/unit
Fuel (Coal)		1.062 kg/unit	1.08 kg/unit
Lubricant / Grease		0.00000571 Ltr/unit	0.00000639 Ltr/unit

PART - CPollutants 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

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

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 2017-18
(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	42263.47 MT	50266.14 MT
(b) From pollution control facility - ETP Sludge	2.6 MT	2.9 MT
(c) (1) Quantity recycled or re-utilized within the unit	43631.2 MT	54923.24 MT**
(2) Sold	NIL	
(3) Disposal	Kept in Secured retention Tanks meant for the purpose	

**** Unutilized from the previous year is also being utilized in FY 17-18**

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.

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

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 plant has planted in FY 17-18. More trees Plantation in coming years is proposed.
6. Water sprinkling system has been installed in different places in CPP

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 fully utilized. 109 % in FY 17-18
4. Treated effluent is being used in brick plant

usha martin

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

E-Mail: tanmay_roy@ushamartin.co.in, cpp_wtornc@ushamartin.co.in

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

AMBIENT AIR AND STACK MONITORING REPORT

Sample Details

Client Details

Date & Time of Sampling	: FY17-18	Client Name	: Usha Martin limited (CPP)
Sample ID	: Average of monthly Test Results	Client Address	: Tatisilwai, Ranchi
Date of Receipt	: FY17-18	State	: Jharkhand
Sample Drawn by	: CPP	Type of Sample	: Ambient Air and Stack
Test Report No	: FY17-18/01	Duration of Sampling	: As per Std.
Date of Report	: FY17-18	Sample Description	: Ambient air and Stack

AMBIENT AIR MONITORING REPORT (FY17-18)

STACK MONITORING REPORT (FY 17-18)

2017-2018	LOCATION	PARAMETER			
		PM2.5	PM10	SOX	NOX
Qtr-1 & 2	WTP	65.86	72.68	5.86	15.85
	MAIN GATE	50.29	70.58	5.17	19.86
	MATERIAL GATE	59.12	86.16	7.89	21.58
	SLF AREA	49.97	60.83	7.89	13.47
Qtr-3 & 4	WTP	46.06	67.46	12.93	25.55
	MAIN GATE	46.29	69.84	14.24	23.32
	MATERIAL GATE	43.98	63.54	13.64	22.95
	SLF AREA	36.65	51.82	10.68	15.94
AVERAGE		49.78	67.86	9.79	19.82
MAXIMUM		65.86	86.16	14.24	25.55
MINIMUM		36.65	51.82	5.17	13.47

2017-2018	LOCATION	PARAMETER		
		SPM	SOX	NO2
Qtr-1	ESP O/L 140	43.32	67.15	56.77
Qtr-3	ESP O/L 140	44.85	41.38	34.11
Qtr-4	ESP O/L 140	46.98	45.67	34.22
AVERAGE		45.05	51.4	41.7
MAXIMUM		46.98	67.15	56.77
MINIMUM		43.32	41.38	34.11

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

Declaration:-

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2. Result in the report refers to only the sample submitted by the client.
3. This report shall will be reproduced expect in full and without the written permission of environmental laboratory, CPP, UML, Ranchi

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

Environmental Laboratory, 2x10MW CPP, Tatisilwai, Ranchi-835103

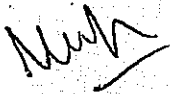
Date :- 04-1-18
 Test Report No. :- UML/CP/11/06
 Client / Party :- Usha Martin Ltd. 2x10 MW CPP
 Date of Receipt of Sample :- 31/12/17
 Date of Start of Analysis :-
 Date of End of Analysis :-
 Type of Sample/Container :- DRINKING WATER
 Date & Time of Sample Collection :- 31/12/17

WATER TEST REPORT


Sl.No.	Analysis	unit	Result	Test method
1	pH		6.84	APHA 22 nd Edition-4500 H ⁺
2	Total Dissolved Solids	Mg/ltr	22.30	APHA 22 nd Edition-2540 C
3	Turbidity	NTU	<0.10	APHA 22 nd Edition-2130 B
4	Total Suspended Solids	Mg/ltr	-	APHA 22 nd Edition-2540 D
5	Alkalinity	Mg/ltr	22.00	IS:3025, (part-23) 2014
6	Acidity	Mg/ltr	38.00	IS:3025, (part-22) 2014
7	Total hardness (as CaCO ₃)	Mg/ltr	28.00	IS:3025, (part-21) 2014
8	Calcium (as CaCO ₃)	Mg/ltr	24.00	IS:3025, (part-40) 2014
9	Magnesium (as CaCO ₃)	Mg/ltr	4.00	APHA 22 nd Edition - 3500mg B
10	Chloride	Mg/ltr	20.12	IS:3025, (part-32) 2014
11	Sulphate	Mg/ltr	2.88	APHA 22 nd Edition-4500 So ₄ 2
12	Residual free chlorine	Mg/ltr	<0.10	IS:3025, (part-26) 2014
13	Iron	Mg/ltr	0.08	IS:3025, (part-53) 2014
14	Nitrate	Mg/ltr	1.14	IS:3025, (part-39) 2014
15	Nitrite	Mg/ltr	0.10	APHA 22 nd Edition-4500 No ₂ B
16	Silica	Mg/ltr	0.94	IS:3025, (part-35) 2014
17	Dissolved oxygen	Mg/ltr	-	IS:3025, (part-38) 2014
18	Oil & greases	Mg/ltr	-	IS:3025, (part-39) 2014
19	Temperature	°C	20	IS:3025, (part-9) 2006

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HOD-LABORATORY
CPP (2 X 10MW)-
USHAMARTIN LTD.
TATISILWAI, RANCHI



usha martin

Usha Martin Limited

(Wire Ropes & Speciality Products Division)

Works: Tatisilwai – 835 103, Ranchi, Jharkhand,

Ph.: (00 91 651) 226 5241/42/3051400/430, Fax : (00 91 651) 3051409/410

ENVIRONMENTAL LABORATORY, 2 X 10 MW CPP, TATISILWAI, RANCHI-835103

Project Name: Usha Martin Limited, 2x10MW CPP

Nature of Sample: Drinking water

Date of Sampling: 31-12-2017

Sl.No.	Characteristics	Requirement (Desirable Limits)	Drinking Water
1.	Colour, Hazen units, Max.	5	<5
2.	Odour	Agreeable	Agree.
3.	Taste	Agreeable	Agree.
4	Fluoride (as F) mg/L, Max.	1.0	0.16
5	Copper (Cu), mg/l, Max.	0.05	<0.025
6	Manganese (as Mn), mg/l, Max.	0.1	<0.04
7	Lead (as Pb), mg/l, Max.	0.05	<0.05
8	Zinc (as Zn), mg/l, Max.	5.0	0.42
9	Total Chromium (As Cr), mg/l, Max.	0.05	<0.05

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



Certified as an approved Manufacturer by Lloyd's Register of Shippii



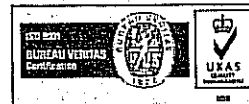
Certified as an approved Manufacturer by Det Norske Veritas



Certified by the American Petroleum Institute License number 9A - 0017



Certified as an approved Manufacturer by American Bureau of Shipping



Certified by BVC for the Quality management system to ISO 9001



Environmental Laboratory, 2x10MW CPP, Tatisilwai, Ranchi-835103

TC-5404

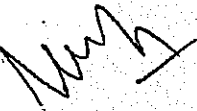
Date :- 04-01-18
 Test Report No. :- UML/ CPP/11/07
 Client / Party :- Usha Martin Ltd. 2X10 MW CPP
 Date of Receipt of Sample :- 25/12/17
 Date of Start of Analysis :-
 Date of End of Analysis :-
 Type of Sample/Container :- TREATED ETP WATER
 Date & Time of Sample Collection :- 25/12/17

WATER TEST REPORT

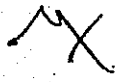
Sl.No.	Analysis	unit	Result	Test method
1	pH		8.25	APHA 22 nd Edition-4500 H ⁺
2	Total Dissolved Solids	Mg/ltr	854.00	APHA 22 nd Edition-2540 C
3	Turbidity	NTU	2.14	APHA 22 nd Edition-2130 B
4	Total Suspended Solids	Mg/ltr	13.20	APHA 22 nd Edition-2540 D
5	Alkalinity	Mg/ltr	168.00	IS:3025, (part-23) 2014
6	Acidity	Mg/ltr	8.00	IS:3025, (part-22) 2014
7	Total hardness (as CaCO ₃)	Mg/ltr	168.00	IS:3025, (part-21) 2014
8	Calcium (as CaCO ₃)	Mg/ltr	100.00	IS:3025, (part-40) 2014
9	Magnesium (as CaCO ₃)	Mg/ltr	68.00	APHA 22 nd Edition - 3500mg B
10	Chloride	Mg/ltr	223.88	IS:3025, (part-32) 2014
11	Sulphate	Mg/ltr	24.44	APHA 22 nd Edition-4500 So ₄ 2
12	Residual free chlorine	Mg/ltr	0.10	IS:3025, (part-26) 2014
13	Iron	Mg/ltr	0.88	IS:3025, (part-53) 2014
14	Nitrate	Mg/ltr	19.44	IS:3025, (part-39) 2014
15	Nitrite	Mg/ltr	0.64	APHA 22 nd Edition-4500 No ₂ B
16	Silica	Mg/ltr	18.40	IS:3025, (part-35) 2014
17	Dissolved oxygen	Mg/ltr	6.40	IS:3025, (part-38) 2014
18	Oil & greases	Mg/ltr	13.20	IS:3025, (part-39) 2014
19	Temperature	°C	20.0	IS:3025, (part-9) 2006

Declaration:-

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HOD-LABORATORY

CPP (2 X 10MW)
 USHAMARTIN LTD.
 TATISIL WAI, RANCHI



usha martin



Environmental Laboratory, 2x10MW CPP, Tatisilwai, Ranchi-835103

Date :- 04-01-18
 Test Report No. :- UML/ CPP/ 11/ 08
 Client / Party :- Usha Martin Ltd. 2x10 MW CPP
 Date of Receipt of Sample :- 30-12-17
 Date of Start of Analysis :-
 Date of End of Analysis :-
 Type of Sample/Container :- RIVER WATER, CPP
 Date & Time of Sample Collection :- 30/12/17

WATER TEST REPORT

Sl.No.	Analysis	unit	Result	Test method
1	pH		7.75	APHA 22 nd Edition-4500 H ⁺
2	Total Dissolved Solids	Mg/ltr	481.00	APHA 22 nd Edition-2540 C
3	Turbidity	NTU	2.10	APHA 22 nd Edition-2130 B
4	Total Suspended Solids	Mg/ltr	-	APHA 22 nd Edition-2540 D
5	Alkalinity	Mg/ltr	144.00	IS:3025, (part-23) 2014
6	Acidity	Mg/ltr	12.00	IS:3025, (part-22) 2014
7	Total hardness (as CaCO ₃)	Mg/ltr	200.00	IS:3025, (part-21) 2014
8	Calcium (as CaCO ₃)	Mg/ltr	128.00	IS:3025, (part-40) 2014
9	Magnesium (as CaCO ₃)	Mg/ltr	72.00	APHA 22 nd Edition - 3500mg B
10	Chloride	Mg/ltr	138.10	IS:3025, (part-32) 2014
11	Sulphate	Mg/ltr	9.10	APHA 22 nd Edition-4500 So ₄ 2
12	Residual free chlorine	Mg/ltr	<0.10	IS:3025, (part-26) 2014
13	Iron	Mg/ltr	0.45	IS:3025, (part-53) 2014
14	Nitrate	Mg/ltr	9.44	IS:3025, (part-39) 2014
15	Nitrite	Mg/ltr	0.42	APHA 22 nd Edition-4500 No ₂ B
16	Silica	Mg/ltr	5.42	IS:3025, (part-35) 2014
17	Dissolved oxygen	Mg/ltr	8.20	IS:3025, (part-38) 2014
18	Oil & greases	Mg/ltr	-	IS:3025, (part-39) 2014
19	Temperature	°C	20.0	IS:3025, (part-9) 2006

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HOD-LABORATORY

CPP (2 X 10MW)
USHAMARTIN LTD.
TATISIL WAI, RANCHI



usha martin

Usha Martin Limited

(Wire Ropes & Speciality Products Division)

Works: Tatisilwai – 835 103, Ranchi, Jharkhand,

Ph.: (00 91 651) 226 5241/42/3051400/430, Fax : (00 91 651) 3051409/410

ENVIRONMENTAL LABORATORY, 2 X 10 MW CPP, TATISILWAI, RANCHI-835103

Project Name: Usha Martin Limited, 2x10MW CPP

Nature of Sample: (TFW-1) Treated Effluent water ; (RW-2) River water

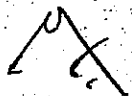
Date of Sampling: TFW-1 : 25 -12-2017 & RW-2 : 30-12-2017

USHA MARTIN LTD, RANCHI

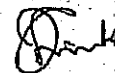
Sl.No	Parameters	Unit	TFW1	RW2
1	Lead as Pb	Mg/Ltr	0.81	0.16
2	Zinc as Zn	Mg/Ltr	1.09	2.96
3	Phosphate as P	Mg/Ltr	6.32	1.66
4	BOD, 3 days at 27°C	Mg/Ltr	14	12
5	COD	Mg/Ltr	53	49
6	Manganese as Mn	Mg/Ltr	1.19	0.94

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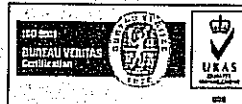


Tested By



Authorized Signatory

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



Certified as an approved
Manufacturer by
Lloyd's Register of Shippu

Certified as an approved
Manufacturer by
Det Norske Veritas

Certified by the
American Petroleum Institute
License number 9A - 0017

Certified as an approved
Manufacturer by
American Bureau of Shipping

Certified by BVC for the Quality management system to ISO 9001



usha martin



Environmental Laboratory, 2x10MW CPP, Tatisilwai, Ranchi-835103

Date :- 26/12/17
 Test Report No. :- UML/CP/11/05
 Client / Party :- Usha Martin Ltd. 2x10 Mw CPP.
 Date of Receipt of Sample :-
 Date of Start of Analysis :- 21/12/17
 Date of End of Analysis :-
 Type of Sample/Container :- Stack Monitoring at CPP
 Date & Time of Sample Collection :- 21-12-17

STACK MONITORING REPORT

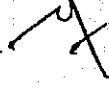
Sl. No.	Description	Unit	Result	Test Method
1	Location		CPP-CHIMNEY	
2	Area of Stack	(M ²)	1.485	
3	Temperature of flue gas	(°C)	127	
4	Average Velocity	(m/s)	21.11	
5	Particulate matter	(mg/Nm ³)	43.32	IS 11255, (part-1) 1985 reaffirmed 2003
6	Sulphur Dioxide	(mg/Nm ³)	67.15	IS 11255, (part-2) 1985 reaffirmed 2003
7	Nitrogen Oxides	(mg/Nm ³)	56.77	IS 11255, (part-7) 2005

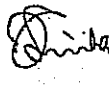
Note: - General Emission standards as per Gazette of India, published by ministry of Environment & forests 19th May, 1993 are for PM- 150 mg/Nm³.

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ANALYSED BY: -


CHECKED BY: -


HOD-LABORATOR

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

Environmental Laboratory, 2x10MW CPP, Tatisilwai, Ranchi-835103

Date :- 26-12-17
 Test Report No. :- UML/1CPP/11/01
 Client / Party :- Usha Martin Ltd. 2x10Mw CPP.
 Date of Receipt of Sample :- 7/12/17 to 8/12/17
 Date of Start of Analysis :-
 Date of End of Analysis :-
 Type of Sample Container :- Ambient Air Monitoring at WTP Area
 Date & Time of Sample Collection :- 7/12/17 to 8/12/17

AMBIENT AIR MONITORING REPORT

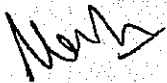
Sl. No.	Location	Parameter	Unit	Results	Test Method
01	WTP AREA	Particulate Matter PM2.5	($\mu\text{g}/\text{M}^3$)	65.86	IS 5182,(part-4) 1999 reaffirmed 2005
02	WTP AREA	Respirable Particulate Matter PM10	($\mu\text{g}/\text{M}^3$)	72.68	IS 5182,(part-23) 2006
03	WTP AREA	Sulphur Dioxide	($\mu\text{g}/\text{M}^3$)	5.86	IS 5182,(part-2) 1999 reaffirmed 2001
04	WTP AREA	Nitrogen Dioxide	($\mu\text{g}/\text{M}^3$)	15.85	IS 5182,(part-6) 1999 reaffirmed 2006

Norms – National Ambient Air Quality Standards as per CPCB vide notification dated 18th November, 2009 for industrial, residential, Rural and other area as follows:

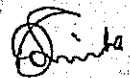
PM2.5, 24 hrs. Average : $60\mu\text{g}/\text{M}^3$
 PM10, 24 hrs. Average : $100\mu\text{g}/\text{M}^3$

Declaration:-

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 USHAMARTIN LTD.
 TATISILWAI, RANCHI
 JHARKHAND. PIN-835103

Environmental Laboratory, 2x10MW CPP, Tatisilwai, Ranchi-835103

Date :- 26-12-17
 Test Report No. :- UML/CPP/11/02
 Client / Party :- Usha Martin Ltd. 2x10 MW CPP
 Date of Receipt of Sample :- 15/12/17 to 16/12/17
 Date of Start of Analysis :-
 Date of End of Analysis :-
 Type of Sample/Container :- Ambient Air Monitoring at SLF Area
 Date & Time of Sample Collection :- 15/12/17 to 16/12/17

AMBIENT AIR MONITORING REPORT


Sl. No.	Location	Parameter	Unit	Results	Test Method
01	SLF AREA	Particulate Matter PM2.5	($\mu\text{g}/\text{M}^3$)	49.97	IS 5182,(part-4) 1999 reaffirmed 2005
02	SLF AREA	Respirable Particulate Matter PM10	($\mu\text{g}/\text{M}^3$)	60.83	IS 5182,(part-23) 2006
03	SLF AREA	Sulphur Dioxide	($\mu\text{g}/\text{M}^3$)	7.89	IS 5182,(part-2) 1999 reaffirmed 2001
04	SLF AREA	Nitrogen Dioxide	($\mu\text{g}/\text{M}^3$)	13.47	IS 5182,(part-6) 1999 reaffirmed 2006

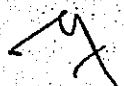
Norms – National Ambient Air Quality Standards as per CPCB vide notification dated 18th November, 2009 for industrial, residential, Rural and other area as follows:

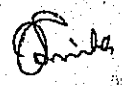
PM2.5, 24 hrs. Average : $60\mu\text{g}/\text{M}^3$
 PM10, 24 hrs. Average : $100\mu\text{g}/\text{M}^3$

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 JHARKHAND, PIN-835103



usha martin



Environmental Laboratory, 2x10MW CPP, Tatisilwai, Ranchi-835103

Date :- 26/12/17
 Test Report No. :- UML/CP/11/03
 Client / Party :- Usha Martin Ltd. 2x10 MW CPP.
 Date of Receipt of Sample :-
 Date of Start of Analysis :- 8/12/17 to 9/12/17
 Date of End of Analysis :-
 Type of Sample/Container :- Ambient Air Monitoring at Material Gate
 Date & Time of Sample Collection :- 8/12/17 to 9/12/17

AMBIENT AIR MONITORING REPORT

Sl. No.	Location	Parameter	Unit	Results	Test Method
01	Material Gate	Particulate Matter PM2.5	($\mu\text{g}/\text{M}^3$)	59.12	IS 5182,(part-4) 1999 reaffirmed 2005
02	Material Gate	Respirable Particulate Matter PM10	($\mu\text{g}/\text{M}^3$)	86.16	IS 5182,(part-23) 2006
03	Material Gate	Sulphur Dioxide	($\mu\text{g}/\text{M}^3$)	7.89	IS 5182,(part-2) 1999 reaffirmed 2001
04	Material Gate	Nitrogen Dioxide	($\mu\text{g}/\text{M}^3$)	21.58	IS 5182,(part-6) 1999 reaffirmed 2006

Norms – National Ambient Air Quality Standards as per CPCB vide notification dated 18th November, 2009 for industrial, residential, Rural and other area as follows:

PM2.5, 24 hrs. Average : $60\mu\text{g}/\text{M}^3$
 PM10, 24 hrs. Average : $100\mu\text{g}/\text{M}^3$

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Environmental Laboratory, 2x10MW CPP, Tatisilwai, Ranchi-835103

Date : 26-12-17
 Test Report No. : UML/CP/11/04
 Client / Party : Usha Martin Ltd. 2x10 MW CPP.
 Date of Receipt of Sample : 10/12/17 to 11/12/17
 Date of Start of Analysis :
 Date of End of Analysis :
 Type of Sample/Container : Ambient Air Monitoring at Main Gate
 Date & Time of Sample Collection : 10/12/17 to 11/12/17

AMBIENT AIR MONITORING REPORT

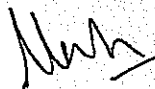
Sl. No.	Location	Parameter	Unit	Results	Test Method
01	MAIN GATE	Particulate Matter PM2.5	($\mu\text{g}/\text{M}^3$)	50.29	IS 5182, (part-4) 1999 reaffirmed 2005
02	MAIN GATE	Respirable Particulate Matter PM10	($\mu\text{g}/\text{M}^3$)	70.58	IS 5182, (part-23) 2006
03	MAIN GATE	Sulphur Dioxide	($\mu\text{g}/\text{M}^3$)	5.17	IS 5182, (part-2) 1999 reaffirmed 2001
04	MAIN GATE	Nitrogen Dioxide	($\mu\text{g}/\text{M}^3$)	10.86	IS 5182, (part-6) 1999 reaffirmed 2006

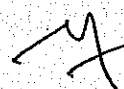
Norms – National Ambient Air Quality Standards as per CPCB vide notification dated 18th November, 2009 for industrial, residential, Rural and other area as follows:

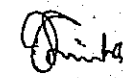
PM2.5, 24 hrs. Average : $60\mu\text{g}/\text{M}^3$
 PM10, 24 hrs. Average : $100\mu\text{g}/\text{M}^3$

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Pan No. - AANFB6770B
 GST No. - 20AANFB6770B1ZT
 Memo No. : CIF Ranchi - 561 12-05-2017

S.Parida, V.K. Sinha
 Competent Person
 Mob: 9431768713
 6201186550

REF NO: - BIC/USHA/PPP/WA/08/2018

DATE: 18/07/2018

RESULTS OF WATER ANALYSIS


Project : Usha Martin Limited
Date of sampling : 17.07.2018
Location : Surface water

Sl.No.	Characteristics	Results
1.	Electrical Conductivity, $\mu\text{S/cm}$	569.00
2.	pH	7.49
3.	Dissolved Oxygen (as O_2), mg/l	5.12
4.	BOD, 3 days at 27°C , mg/l	4.00
5.	Free Ammonia (as N), mg/l	<0.01
6.	Sodium Absorption (SAR)	0.99
7.	Boron, mg/l	<1.00
8.	Iron (as Fe), mg/l	<0.10
9.	Chloride (as Cl), mg/l	65.12
10.	Fluoride (as F), mg/l	0.75
11.	Nitrate Nitrogen (as N), mg/l	2.02
12.	Mercury (as Hg), mg/l	<0.0005
13.	Arsenic (as As), mg/l	<0.03
14.	Cyanide (as CN), mg/l	<0.01
15.	Copper (Cu), mg/l	<0.025
16.	Manganese (as Mn), mg/l	<0.061
17.	Cadmium (as Cd), mg/l	<0.01
18.	Lead (as Pb), mg/l	<0.05
19.	Zinc (as Zn), mg/l	<0.005
20.	Chromium (as Cr), mg/l	<0.05
21.	Aluminium (as Al), mg/l	<0.02
22.	Coliform organisms, MPN/100ml	730.0

CPQB Water Quality Criteria For Surface Water As Per Use

Sl.no.	Parameters	Class A	Class B	Class C	Class D	Class E
1.	pH	6.5-8.5	6.5-8.5	6.0-9.0	6.5-8.5	6.5-8.5
2.	Dissolved Oxygen (as O_2), mg/l	6	5	4	4	-
3.	BOD, 3 days at 27°C , mg/l	2	3	3	-	-
4.	Coliform organisms, MPN/100ml	50	500	5000	-	-
5.	Free Ammonia (as N), mg/l	-	-	-	1.2	-
6.	Electrical Conductivity, $\mu\text{S/cm}$	-	-	-	-	2250
7.	Sodium Absorption (SAR)	-	-	-	-	26
8.	Boron, mg/l	-	-	-	-	2

Class A : Drinking water source without conventional treatment but after disinfection
 Class B : Outdoor bathing (Organized)
 Class C : Drinking water source without conventional treatment and after disinfection
 Class D : Propagation of wild life and fisheries
 Class E : Irrigation, industrial cooling, and controlled waste disposal
 Below E : Not meeting A, B, C, D & E Criteria


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Competent Person
Mob: 9431768713
6201186550

REF NO: - BIC/USHA/PPP/WA/10/2018

DATE: 18/07/2018


RESULTS OF WATER ANALYSIS

Project : Usha Martin Limited
Date of sampling : 17.07.2018
Location : Ground water

Sl.No	Characteristics	Requirement (Desirable Limits)	Results			
			GW-5	GW-6	GW-7	GW-8
1.	Colour, Hazen units, Max.	5	<5.00	<5.00	<5.00	<5.00
2.	Odour	Agreeable	Agree	Agree	Agree	Agree
3.	Taste	Agreeable	Agree	Agree	Agree	Agree
4.	Turbidity, NTU, Max.	5	<0.10	<0.10	<0.10	<0.10
5.	pH	6.5 to 8.5	7.80	7.10	6.92	7.19
6.	Total Hardness (as CaCO ₃), mg/l, Max.	300	80.00	180.00	112.00	142.00
7.	Iron (as Fe), mg/l, Max.	0.3	0.30	0.27	0.22	0.29
8.	Chloride (as Cl), mg/l, Max.	250	49.25	66.81	40.66	32.55
9.	Residual Free Chlorine, mg/l, Min.	0.2	Not Detected	Not Detected	Not Detected	Not Detected
10.	Fluoride (as F), mg/l, Max.	1.0	0.21	0.18	0.44	0.40
11.	Dissolved Solids, mg/l, Max.	500	280.00	360.00	210.00	258.00
12.	Calcium (as Ca), mg/l, Max.	75	60.00	55.00	40.00	38.00
13.	Magnesium (as Mg), mg/l, Max.	30	20.00	42.00	28.00	28.00
14.	Copper (Cu), mg/l, Max.	0.05	<0.01	<0.01	<0.01	<0.01
15.	Manganese (as Mn), mg/l, Max.	0.1	0.40	0.32	0.39	0.12
16.	Sulphate (as SO ₄), mg/l, Max.	200	22.66	28.00	49.6	21.66
17.	Nitrate (as NO ₃), mg/l, Max.	45	1.5	2.55	2.19	1.69
18.	Phenolic Compounds (as C ₆ H ₅ OH), mg/l, Max.	0.001	<0.001	<0.001	<0.001	<0.001
19.	Mercury (as Hg), mg/l, Max.	0.001	<0.0005	<0.0005	<0.0005	<0.0005
20.	Cadmium (as Cd), mg/l, Max.	0.01	<0.005	<0.005	<0.005	<0.005
21.	Selenium (as Se), mg/l, Max.	0.01	<0.005	<0.005	<0.005	<0.005
22.	Arsenic (as As), mg/l, Max.	0.05	<0.03	<0.03	<0.03	<0.03
23.	Cyanide (as CN), mg/l, Max.	0.05	<0.01	<0.01	<0.01	<0.01
24.	Lead (as Pb), mg/l, Max.	0.05	<0.05	<0.05	<0.05	<0.05
25.	Zinc (as Zn), mg/l, Max.	5.0	0.22	0.29	0.88	0.066
26.	Chromium (as Cr6+), mg/l, Max.	0.05	<0.01	<0.01	<0.01	<0.01
27.	Mineral oil, mg/l, Max.	0.01	<0.01	<0.01	<0.01	<0.01
28.	Alkalinity (as CaCO ₃), mg/l, Max.	200	48.00	96.00	58.00	110.00
29.	Aluminium (as Al), mg/l, Max.	0.03	<0.01	<0.01	<0.01	<0.01
30.	Boron, mg/l, Max.	1.0	<0.2	<0.2	<0.2	<0.2
31.	Coliform organisms, MPN/100ml	0	Nil	Nil	Nil	Nil

*IS: 10500 (2012): Drinking water specification

1. GW5 = CPP near material gate
2. GW6 = Tatisilwai Village New tool Room
3. GW7 = Ajad Basti
4. GW8 = Aara Gate

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Subas Kumar
Director Bharat Industrial Consultant
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M. 9334002535, 7633855938



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GST No. - 20AANFB6770B1ZT
Memo No. - CIF Ranchi - 561 - 12-05-2017

S.Patida, V.K. Sinha
Competent Person
Mob: 9431768713
6201186550

REF NO: - BIC/USHA/PPP/SM/09/2018

DATE: 18/07/2018

STACK MONITORING RESULTS OF CPP OF M/S USHA MARTIN LIMITED

SL. NO.	Location	Date of Sampling	Area Of stack M ²	Temp. °C	Average Velocity m/s	Particulate matter mg/Nm ³	Sulphur Dioxide mg/Nm ³	Nitrogen Oxides mg/Nm ³	Carbon Monoxide %	Mercury µg/Nm ³
1.	ESP Outlet	17/07/2018	1.485	118.0	22.9	46.60	92.00	66.00	<0.10	BDL

BDL denotes Below Detection Limit for Hg <0.03 µgN/m³

Note: General Emission standards as per Gazette of India, Published by Ministry Of Environment & forest, 19th May, 1993 are for PM - 150 mg/Nm³ and CO: 1%


Director

Subas Kumar

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ANNEXURE-II

REF NO: - BIC/USHA/PPP/SR/02/2018

DATE: 17/07/2018

Codes..... CIE S 008/E: 2001/ISO 8995-1:2002(E)

As per Is code 1944-5 (1981)

1. Name of Factory **M/S USHA MARTIN LIMITED (2x10MW CPP)**
2. Address of the Factory **Tatisilwai, Dist-Ranchi, Jharkhand.**
3. **READING OF SOUND METER**

SL	LOCTION	READING AT DAY/SOUND METER(DB)			READING AT NIGHT/ SOUND METER(DB)			REMARK
		MAX	MIN	Log Avg	MAX	MIN	Log Avg	
1.	Near Laboratory	70.1	57.6	65.9	59.3	47.3	53.6	GOOD
2.	Near CPP Main Gate	69.0	60.3	66.1	60.5	50.1	57.7	GOOD
3.	Near CPP Main Gate-2	64.5	53.1	61.9	53.5	49.9	51.1	GOOD
4.	Near Coal Handling Plant	69.7	62.1	67.5	62.2	60.4	61.1	GOOD
5.	Near Turbine Area	83.1	79.2	81.1	81	78	79.5	GOOD
6.	Near Boiler Area	78.2	73.6	75.4	75.8	72.4	74.1	GOOD

Note:- Sound Range should be between 20DB to 85 DB

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Memo No. 637 Dated 10/05/2018
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ANNEXURE-I

REF NO.-BIC/USHA/PPP/DUST/01/2018

DATE- 17/07/2018

AMBIENT AIR QUALITY RESULTS

(ALL VALUES IN MICROGRAMS/ CUBIC METER)
(DUST & AIR)

1. Name of Factory : M/S Usha Martin Limited (CPP)
2. Address of the Factory Name : Tatisilwai, Dist-Ranchi, Jharkhand.

Sl NO.	LOCATION	Result in $\mu\text{g}/\text{m}^3$					Remarks
		Particulate Matter (PM_{10})	Particulate Matter ($\text{PM}_{2.5}$)	Sulphur dioxide (SO_2)	Nitrogen Oxides (NO_x)	Carbon Monoxide (CO)	
1.	CPP-Main Gate	73	25	12	26	2068	O.K
2.	Residential Quarter	78	23	12	25	2311	O.K
3.	Near SIF	75	21	11	28	2611	O.K

Norms: National Ambient Air Quality Standards (NAAQS) for Industrial, Residential, Rural, and other area as per MOEF, New Delhi vide notification dated 18th November, 2009 for 24 hours averages are as follows:

Industrial Area: PM (PM_{10}) - $100\mu\text{g}/\text{m}^3$; PM($\text{PM}_{2.5}$) - $60\mu\text{g}/\text{m}^3$;

NO_2 - $80\mu\text{g}/\text{m}^3$; SO_2 - $80\mu\text{g}/\text{m}^3$; CO - $4000\mu\text{g}/\text{m}^3$

S. Parida
Competent Person

Bharat Industrial Consultant
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Memo No. 637 Dated 10/05/2018
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ANNEXURE-V

REF NO.-BIC/USHA/PPP/SATR/ 05/2018

DATE- 17/07/2018

GROUND WATER ANALYSIS REPORT

1. Name of Factory : M/S Usha Martin Limited (CPP)
2. Address of the Factory Name : Tatisilwai Dist-Ranchi, Jharkhand.
- Date of Sampling : 16.07.2018
Type of Sample : Ground Water near Ash handling Area

Sl.No	Parameter	Standards (Concentration Limits)	Results Total Metal Concentration (mg/Kg)
1.	pH	6.5 - 8.5	7.7
2.	Manganese (as Mn) mg/l	0.1 - 0.3 mg/l	0.074
3.	Cadmium (as Cd)	0.05 mg/l	<0.001
4.	Mercury (as Hg)	0.001 mg/l	<0.0005
5.	Cyanide (As CN)	0.05 mg/l	<0.01
6.	Zinc (As Zn)	5.0 - 15.0 mg/l	6.89
7.	Lead (as Pb)	0.05 mg/l	<0.05
8.	Total Chromium (as Cr6+)	0.05 mg/l	<0.05
9.	Copper (as Cu)	0.05 mg/l	<0.025

Ministry of Environment & Forest notification, New Delhi, the Hazardous Wastes Management and Handling Rules, 1989 as amended, on 24 September, 2008 (Schedule-2)

S. Parida
Competent Person
Bharat Industrial Consultant

Bharat Industrial Consultant
Competent Person
Memo No. 637 Dated 10/05/2018
M. - 9431768713, 6201186550