



InlandPower

— Imagine. Integrate. Impact. —

Ref. No- IPL/JSPCB/2019-20/226

Dated- 31.10.2019

To,

The Member Secretary

Jharkhand State Pollution Control Board
TA, Building, HEC Dhurwa, Ranchi.

Sub: Submission of Form V Environmental Statement for the year 2018-19

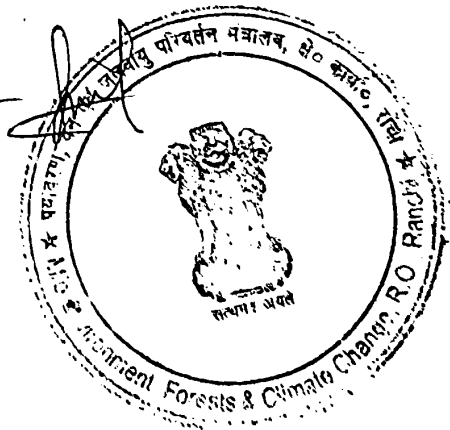
Dear Sir

Enclosed please find herewith the captioned statement for the year 2018-19 for your record and compliance of current CTO & CTE.

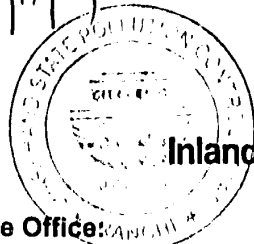
Thanking you,
Yours Faithfully
For Inland Power Limited

S. N. Sinha
DGM (Coml)

Copy To- 1. Scientist D, Regional office Ranchi, MOEF
2. Regional Officer, JSPCB, Hazaribagh



Handwritten signature and date:
01/11/19



Inland Power Ltd.

Registered Office:
P 221/2, Strand Bank Road
Kolkata - 700001

Corporate Office:
3A, Auckland Place, Sult No. 5A
5th Floor, Kolkata - 700 017
t : +91 33 4012 4150
t : +91 33 2283 1917

Plant Office:
Inland Nagar, Village - Tonagatu,
Gola Charu Ramgarh Bypass
Tonagatu - 829 110
Jharkhand, India.

Ranchi Office:
C/218 Road No. 2, Ashok Na
Ranchi - 864 002
t : +91.65 2240532

FORM- V**Environmental Statement for the Financial Year ending 31st March 2019****PART- A**

(i)	Name and Address of the Owner/ Occupier of the industry operation or process	Mr. Giriraj Kumar Jhawar Inland Power Ltd. Inland Nagar, Vill: Tonagtu, P.O: Saram, Gola Dist: Ramgarh, Jharkhand.
(ii)	Industry category	Large
(iii)	Production capacity	63MW
(iv)	Year of establishment	2014
(v)	Date of last Environmental statement submitted	5 th Environmental Statement. Company has started the commercial production on 21.05.2014.

PART – B**Water and Raw Material Consumption****(1) Water Consumption m³ / day: for FY(18-19)**

Process	: 133 m ³ / day
Cooling	: 3056 m ³ / day
Domestic	: 147 m ³ /day

Name Of the Products	Water consumption per unit of product output (M3/MWH)	
	Previous Year(17-18)	Current FY(18-19)
Electricity	3.36	3.44

(2) Raw Material consumption

Name of the Raw Materials	Name of Product	Consumption of Raw Material per unit of output(Ton/MWH)	
		Previous Year(17-18)	Current Year (18-19)
Coal	Electricity	0.343	0.243
W.Reject	Electricity	0.731	0.738
Dolochar	Electricity	0.018	0.00
HSD(Liter\MWH)	Electricity	0.936	0.972

PART - C
Pollution discharge to Environment

1. Water

Plant is running on the concept of Zero Liquid Discharge concept. So, there is no discharge of water to outside of plant boundary. All the waste water after treatment has been utilized in the plantation, dust separation and brick plant within the plant premises. In the Year 18-19 IPL has utilized 13,79,110 KL of water from the Senegarha Nala.

Quality of surface and ground water are regularly on quarterly basis monitored by NABL accreted lab. (Reports are attached herewith on Annexure(i).

2. Air (Stack)

Inland power has installed a 95 mtrs. high stack and ESP to control the emission of particulate matters under the limit of 50 mg/nm³.

We have also installed Continues Emission Monitoring System for PM, SO₂ and NO_x.

We have also done the third-party monitoring for Core and Buffer Zone on quarterly basis by NABL approved lab. (Reports are attached herewith on Annexure(ii).

Concentration of Discharges(Stack)

Pollutants	Average Concentration of pollutants in discharges(mass/volume) mg/Nm ³	Remarks
PM	38.02	Within Limit
SO ₂	32	
NO _x	53	
CO	19	
Hg	0.002	

3. Air (Ambient)(Core Zone)- Yearly Average(Annexure(iii))

Parameters	Site A	Site B	Site C	Site D	Remarks
PM 10(µg/m ³)	81.8	74.89	70.49	82.58	Within Limit
PM 2.5(µg/m ³)	54.58	52.5	50.0	56.25	
SO ₂ (µg/m ³)	11.36	14.77	13.64	15.91	
NO _x (µg/m ³)	18.53	20.21	21.5	19.37	

*Monitored by Yugantar Bharati, NABL Accredited Lab.

PART - D

Hazardous Wastes

Hazardous Waste	Previous Year(17-18)	Current Year (18-19)
From Process -Used Lub. Oil	1260 liters	650 liters

Total waste oil has been utilized for the Boiler light-up.

PART - E

Solid Waste

A. Solid Waste Generation:

Solid Waste	Previous Year (17-18)	Current Year (18-19)
	Quantity(MT/Annum)	Quantity(MT/Annum)
OB		5252
Total Ash Generated	233982	214236

B. Solid Waste Disposal:

	Previous Year (17-18)	Current Year (18-19)
	Quantity(MT/Annum)	Quantity(MT/Annum)
1. Re-utilized within the unit		
i) Road Construction	Nil	NIL
ii) In house bricks manufacturing Plant	3144	13098
2. Disposed outside plant		
i) Supplied to other brick manufacturer	5105	72917
ii) For backfilling in abandoned mines	NIL	NIL
iii) Cement Plant	3132	51189
iv) Highway (Ring Road)Construction	271925	61788
v) Road Construction, Charhi	26374	NIL
3. Balance yet to disposed off		20496

PART - F

Please specify the characterizations (in terms of quantum) of hazardous as well as solid wastes and indicate disposal practice adopted for both these categories of wastes.

1. The hazardous waste: 650 liters of used lube oil was generated and stored in barrels at site as per norms and has been utilized in the boiler during the lightup.
2. Solid waste: 214236 tones of fly ash and bottom ash was generated and utilized by in house/outside bricks manufacturing plant, Road construction.

3. Fly ash Heavy Metal Report : (Annexure(iv))

Tested Parameters	Unit	Bottom Ash	Fly Ash
Arsenic	ppm	< 0.01	< 0.01
Mercury	ppm	< 0.01	< 0.01
Chromium	ppm	0.07	0.04
Lead	ppm	0.05	0.04
Cadmium	ppm	0.04	0.03
Copper	ppm	0.04	0.03
Nickel	ppm	0.03	0.02
Selenium	ppm	0.02	0.01
Zinc	ppm	0.74	0.53
Unborn Carbon	%	1.14	0.14

PART - G

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

Domestic water is being treated through soak pit and has re-utilized in the plantation and gardening purposes.

Process water is being treated through n-pits and being re-utilized in brick plant, dust separations etc.

The above process has saved the utilization fresh water and resulting conservation of natural resource like water.

We are utilizing Washery Reject and Dolochar as fuel for the generation of electricity that conserve the coal which is a limited natural resource.

We have installed fly ash bricks manufacturing plant of 80000 brick per day capacity which conserved the top soil of agriculture fields. Utilization of fly ash bricks in comparison of conventional red bricks also helps in reduction of carbon footprint of atmosphere.

Details of expenditure for abatement of pollution are as under and which costs Rs. 0.03/kWh of gross generation.

DETAIL EXPENSES INCURRED FOR THE PERIOD FROM 01/04/18 TO 31/03/19		
Sl.	Particular	Amount (Rs.)
A	Any capital expenditure for purchase of pollution control equipment.	263,388.00
B	O&M expenses on ESP and bag filters.	115,404.00
C	O&M Expenses for online monitoring equipments.	97,191.00
D	Plantation	278,178.00
E	Ash disposal expenses	11,393,491.00
F	Expenses for monitoring of pollution	197,237.00
T G. TOTAL AMOUNT IN Rs.		12,344,889.00

PART - H

Additional measures / investment proposal for environmental protection including abatement of pollution, prevention of pollution:

Following Pollution control equipments has been installed to control the pollution:

A. Equipment Details:

SN	EQUIPMENT/SYSTEM	LOCATION	DESCRIPTION
1	Silencer	Outside TG Building	Noise Control
2	Turbine Enclosure	Turbine Building, 11 Mtr. Level	Noise Control 90 dBA at 1 Mtr. Distance
3	Electro Static Precipitator	ESP Double Pass, Five Field Each Between Boiler and Chimney	<50 mg/ Nm ³ With 8 Out of 10 field in service
4	SPM Analyser	ID Fan outlet Duct before Stack	<50 mg/ Nm ³ With 8 Out of 10 field in service
5	Dust Extraction System 1	Crusher House	35000 M ³ /hr, <50 mg/ Nm ³
6	Dust Extraction System 1	Screening House	35000 M ³ /hr, <50 mg/ Nm ³
7	Dust Extraction System 1	Bunker Floor	35000 M ³ /hr, <50 mg/ Nm ³
8	Bed Ash Silo 1	Near CHP	700 M ³
9	Fly Ash Silo 1 & 2	Near CHP	1300 M ³ Each
10	Bag Filter Fly Ash Silo	Top of Fly Ash Silo	2200 M ³ /hr, <50 mg/ Nm ³
11	Bag Filter Bed Ash Silo	Top of Bed Ash Silo	1100 M ³ /hr, <50 mg/ Nm ³
12	Bag Filter Bunker Bed Material	Bunker	1100 M ³ /hr, <50 mg/ Nm ³

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10	Bag Filter Fly Ash Silo	Top of Fly Ash Silo	2200 M ³ /hr, <50 mg/ Nm ³
11	Bag Filter Bed Ash Silo	Top of Bed Ash Silo	1100 M ³ /hr, <50 mg/ Nm ³
12	Bag Filter Bunker Bed Material	Bunker	1100 M ³ /hr, <50 mg/ Nm ³

13	Chimney	After ESP	Height of 96 Mtrs and Diameter Ø 4.5 Mtr.
14	Neutralisation Pit	Outside DM plant	45 M ³
15.	Water Sprinkler	Coal stock yard	
16.	Water Tanker with sprayer	For Water Sprinkling at Road side.	

PART - I

Any other particular for improving the quality of the environment

1. Regular check-ups and timely Maintenance of pollution control equipments.
2. Regular sprinkling of water on the roads outside the plant area also for controlling of fugitive dust.
3. Transportation of material by the covered trucks.
4. Maintaining Zero discharge.

Annexure.....(ii)

Monitoring Report March'2019

1. Stack Monitoring Test Report
2. Water Test Report Buffer Zone 4 Samples.
3. Water Test Report Core Zone 2 Samples.
4. Ambient Air Buffer Zone 4 Samples
5. Ambient Air Core Zone 4 Samples
6. Noise Monitoring Report 4 Sites.
7. Fly ash Heavy Metal Test Report
8. Bottom Ash Heavy Metal Test Report.

Annexure.....(i)

Monitoring Report September'2018

1. Stack Monitoring Test Report
2. Water Test Report Buffer Zone 4 Samples.
3. Water Test Report Core Zone 2 Samples.
4. Ambient Air Buffer Zone 4 Samples
5. Ambient Air Core Zone 4 Samples
6. Noise Monitoring Report 4 Sites.

Bubble Zone - ①

YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

LAB ACCREDITED BY: National Accreditation Board for Testing & Calibration Laboratory (NABL), New Delhi
Jharkhand State Pollution Control Board (JSPCB);



Water Test Report		URL (Unique Lab Report) No.	TC78131910000038P
Issued to : - M/s Inland Power Ltd. Tonagatu, Gola Dist: Jharkhand		Job code - Chemical	YBAEEL/WA/LC/Mar.-19/04
		Sample Code	190309-GW-W01
		Report ID	YBAEEL/AM/19-03-09/GW/W01
		Date of Issue	27th April 2019

Sample Particulars		Details of Sampling	
Sample Name/Description	Ground Water	Date of sampling	08-03-2019
Sample Quantity	2000 ml	Sample Received Date	09-03-2019
Sample pkg. Condition	Plastic sealed Bottles	Sampling Protocol	YBAEEL/SP/01/00
Test started on	09-03-2019	Sample collected by	OWN/ Niraj Kumar & Team
Test completed on	16-03-2019	Sample Location	Bamhi Village

Test Result

Sl. No.	Tested Parameter	Unit	Results	Method Name	Permissible Limit (As per IS 10500 Specification)
1.	Colour	CU	< 5	IS:3025 (Part-04)	5 to 15
2.	Odour	-	Agr.	IS:3025 (Part-05)	Agreeable
3.	Alkalinity (as CaCO ₃)	mg/l	142.0	IS:3025 (Part-23)	200 to 600
4.	Hardness (as CaCO ₃)	mg/l	141.4	IS 3025 (Part-21)	200 to 500
5.	Total Dissolved Solid	mg/l	206.0	IS 3025 (Part-16)	500 - 2000
6.	pH value	--	6.62	IS 3025 (Part-11)	6.5 to 8.5
7.	Nitrate (as NO ₃)	mg/l	3.5	APHA 4500 NO ₃ - B	45 to no relaxation
8.	Arsenic (as As)	mg/l	ND(DL 0.01)	APHA 3112 B	0.01 to 0.05
9.	Calcium (as Ca ⁺)	mg/l	35.5	IS 3025 (Part-40)	75 to 200
10.	Magnesium (as Mg ⁺)	mg/l	12.7	IS 3015 (Part-46)	30 - 100
11.	Iron (as Fe)	mg/l	0.07	APHA 3111 B	0.3 to no relaxation
12.	Zinc (as Zn)	mg/l	ND(DL 0.1)	APHA 3111 B	5 to 15
13.	Turbidity	NTU	0.0	IS 3025 (Part-10)	1-5
14.	Chloride (as CL ⁻)	mg/l	4.9	IS 3025 (Part-32)	250-1000
15.	Fluoride (as F ⁻)	mg/l	0.6	APHA 4500 (F-C)	1.0-1.5
16.	R-chlorine	mg/l	ND (DL 0.07)	IS 3025 (Part-26)	0-5
17.	Copper (as Cu)	mg/l	ND (DL 0.01)	APHA 3111 B	0.05
18.	Sulphate (as SO ₄ ²⁻)	mg/l	10.6	IS 3025 (Part-24)	200-400
19.	Temperature*	°C	23.2	IS 3025 (Part-09)	-

*****End of Test*****

Remarks:- According to tested parameter, the results found within prescribe limit of Drinking water specification IS 10500
Note - The parameters marked with * are not accredited by NABL

Specific contractual notes: -

- The results listed refer only to the tested sample and applicable parameter.
- This report, in full or in part, shall not be used for advertising or as evidence in any court of law.
- This report can be reproduced, except when in full, without the written permission of the Lab In-charge
- The samples received shall be destroyed after two month from the date of issue of the certificate unless specified otherwise and sample for biological testing will be destroyed after one two week of testing.
- The liability of the laboratory is limited to the involved amount.
- All disputes are subjected to the Ranchi Jurisdiction.
- ND - not detected, DL - detectable limit

<p><i>Saima Afrin</i></p> <p>Tested by Saima Afrin Lab Analyst</p>	<p><i>B. Kumar</i> 27/04/19</p> <p>Checked by Bajrang Kumar</p>	<p><i>Umesh Das</i> 27/04/19</p> <p>Issued by Umesh Das Technical Manager</p>
<p>Authorized Signatory of Jharkhand State Pollution Control Board</p>		
<p>Post Box 10, Ranchi, Jharkhand - 834010 (Jharkhand)</p>		



YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Core Zone
Site - (1)



LAB ACCREDITED BY National Accreditation Board for Testing & Calibration Laboratory (NABL), New Del.
Jharkhand State Pollution Control Board (JSPCB)

Water Test Report Issued to : M/s Inland Power Ltd. Tonagatu , Gola Dist : Jharkhand	URL (Unique Lab Report) No.	TC78131910000036P
	Job code - Chemical	YBAEELN/IALICIMar-19/05
	Job code - Biological	N/A
	Sample Code	190309-DW-W/01
	Report ID	YBAEELRAM/19-03-09/DW/01
	Date of Issue	27 th April 2019

Sample Particulars		Details of Sampling	
Sample Name/Description	Drinking Water	Date of sampling	08-03-2019
Sample Quantity	2000 ml	Sample Received Date	09-03-2019
Sample pkg. Condition	Plastic sealed Bottles	Sampling Protocol	YBAEELSP/C1/00
Test started on	09-03-2019	Sample collected by	Ovm / Niraj Kumar & team
Test completed on	16-03-2019	Sample Location	Carteen

Test Result					
Sl. No.	Tested Parameter	Unit	Results	Method Name	Permissible Limit (As per IS 10500 Specification)
1.	Colour	Hazen	< 5	IS:3025 (Part-04)	5 to 15
2.	Odour*	-	Agr.	IS:3025 (Part-05)	Agreeable
3.	Alkalinity (as CaCO ₃)	mg/l	38.0	IS:3025 (Part-23)	200 to 500
4.	Hardness (as CaCO ₃)	mg/l	36.3	IS 3025 (Part-21)	200 to 500
5.	Total Dissolved Solid	mg/l	70.0	IS 3025 (Part-16)	500 - 2000
6.	pH value	--	6.63	IS 3025 (Part-11)	6.5 to 8.5
7.	Nitrate (as NO ₃)	mg/l	5.5	APHA 4500 NO ₃ - B	45 to no relaxation
8.	Arsenic (as As)	mg/l	ND(DL 0.01)	APHA 3112 B	0.01 to 0.05
9.	Calcium (as Ca ⁺)	mg/l	13.7	IS 3025 (Part-40)	75 to 200
10.	Magnesium (as Mg ⁺)	mg/l	0.5	IS 3015 (Part-46)	30 - 100
11.	Iron (as Fe)	mg/l	0.10	APHA 3111 B	0.3 to no relaxation
12.	Zinc (as Zn)	mg/l	0.15	APHA 3111 B	5 to 15
13.	Turbidity	NTU	01	IS 3025 (Part-10)	1-5
14.	Conductivity	µS/cm	108.0	IS 3025 (Part-14)	
15.	Chloride (as CL ⁻)	mg/l	2.9	IS 3025 (Part-32)	250-1000
16.	Fluoride (as F ⁻)	mg/l	0.3	APHA 4500 (F-C)	1.0-1.5
17.	BOD	mg/l	2.4	IS 3025 (Part-44)	
18.	COD	mg/l	28.0	IS 3025 (Part-58)	
19.	Oil & Grease	mg/l	0.2	IS 3025 (Part-39)	

Tested by: *Saima Afrin*
 Saima Afrin
 Lab Analyst

Checked by: *BK*
 Bajrang Kumar
 Authorized Signatory

Issued by: *Umesh Das*
 Umesh Das
 Technical Manager

Authorized Signatory
 Chemical Section



Core zone
Site - ②

YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY



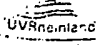
LAB ACCREDITED BY: National Accreditation Board for Testing & Calibration Laboratory (NABL), New Delhi
Jharkhand State Pollution Control Board (JSPCB)

Water Test Report		URL (Unique Lab Report) No.	TC78131910000037P
Issued to :- M/s Inland Power Ltd. Tonagatu, Gola Dist: Jharkhand	Job code - Chemical	YBAEEL/WA/LC/Mar.-19/05	
	Job code - Biological	N/A	
	Sample Code	190309-DW-W02	
	Report ID	YBAEEL/RAM/19-03-09/DW/W02	
	Date of Issue	27 th April 2019	

Sample Particulars		Details of Sampling	
Sample Name/Description	Drinking Water	Date of sampling	08-03-2019
Sample Quantity	2000 ml	Sample Received Date	09-03-2019
Sample pkg. Condition	Plastic sealed Bottles	Sampling Protocol	YBAEEL/SP/01/00
Test started on	09-03-2019	Sample collected by	OWN/ Niraj Kumar & Team
Test completed on	16-03-2019	Sample Location	Near Stack

Test Result					
Sl. No.	Tested Parameter	Unit	Results	Method Name	Permissible Limit (As per IS 10500 Specification)
1.	Colour	Hazen	< 5	IS:3025 (Part-04)	5 to 15
2.	Odour*	-	Agr.	IS:3025 (Part-05)	Agreeable
3.	Alkalinity (as CaCO ₃)	mg/l	190.0	IS:3025 (Part-23)	200 to 600
4.	Hardness (as CaCO ₃)	mg/l	254.5	IS 3025 (Part-21)	200 to 600
5.	Total Dissolved Solid	mg/l	360.0	IS 3025 (Part-16)	500 - 2000
6.	pH value	--	6.67	IS 3025 (Part-11)	6.5 to 8.5
7.	Nitrate (as NO ₃)	mg/l	5.9	APHA 4500 NO ₃ - B	45 to no relaxation
8.	Arsenic (as As)	mg/l	ND(DL 0.01)	APHA 3112 B	0.01 to 0.05
9.	Calcium (as Ca ⁺)	mg/l	61.4	IS 3025 (Part-40)	75 to 200
10.	Magnesium (as Mg ⁺)	mg/l	24.5	IS 3015 (Part-46)	30 - 100
11.	Iron (as Fe)	mg/l	0.11	APHA 3111 B	0.3 to no relaxation
12.	Zinc (as Zn)	mg/l	ND(DL 0.1)	APHA 3111 B	5 to 15
13.	Turbidity	NTU	01	IS 3025 (Part-10)	1-5
14.	Conductivity	µS/cm	568.0	IS 3025 (Part-14)	-
15.	Chloride (as CL ⁻)	mg/l	29.7	IS 3025 (Part-32)	250-1000
16.	Fluoride (as F)	mg/l	0.4	APHA 4500 (F-C)	1.0-1.5
17.	BOD	mg/l	0.8	IS 3025 (Part-44)	-
18.	COD	mg/l	8.0	IS 3025 (Part-58)	-
19.	Oil & Grease	mg/l	11.6	IS 3025 (Part-39)	-

Tested by: Saima Afrin
 Checked by: BK 27/04/19
 Issued by: Umesh Das
 Lab Analyst: Saima Afrin
 Authorized Signatory: Bajrang Kumar
 Technical Manager: Umesh Das



Cor Zone.
Site-①



YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY



LAB ACCREDITED BY: National Accreditation Board for Testing & Calibration Laboratory (NABL), New Delhi
Jharkhand State Pollution Control Board (JSPCB)

Water Test Report		URL (Unique Lab Report) No.	TC78131910000036P
Issued to : M/s Inland Power Ltd. Tonagatu, Gola Dist : Jharkhand	Job code - Chemical	YBAEEL/WA/LJC/Mar.-19/05	
	Job code - Biological	N/A	
	Sample Code	190309-DW-W01	
	Report ID	YBAEEL/RAM/19-03-09/DW/01	
	Date of Issue	27 th April 2019	

Sample Particulars		Details of Sampling	
Sample Name/Description	Drinking Water	Date of sampling	08-03-2019
Sample Quantity	2000 ml	Sample Received Date	09-03-2019
Sample pkg. Condition	Plastic sealed Bottles	Sampling Protocol	YBAEEL/SP/01/00
Test started on	09-03-2019	Sample collected by	Own / Niraj Kumar & team
Test completed on	16-03-2019	Sample Location	Canteen

20.	Aluminium (as AL)*	mg/l	ND (DL 0.001)	IS 3025 (Part-52)	-
21.	Chromium (as Cr)	mg/l	0.01	APHA 3111 B	0.03
22.	Copper (as Cu)	mg/l	0.02	APHA 3111 B	0.05-0.15
23.	Lead (as Pb)	mg/l	0.01	APHA 3111 B	0.01
24.	Cadmium (as Cd)	mg/l	0.01	APHA 3111 B	0.003
25.	Sulphate (as SO ₄ ²⁻)	mg/l	3.5	IS 3025 (Part-24)	200-400
26.	Nickel (as Ni)	mg/l	0.05	APHA 3111 B	0.02
27.	Ammonia (Free)*	mg/l	ND (DL 0.1)	IS 3025 (Part-34)	0.5
28.	Temperature*	°c	25.1	IS 3025 (Part-09)	-

*****End of Test*****

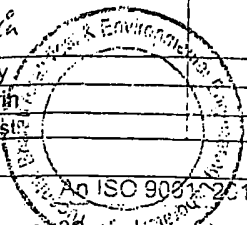
Remarks:- According to tested parameter, the results found within prescribe limit of Drinking water specification IS 10500.

Note : the parameters marked with * are not accredited by NABL

Specific contractual notes :-

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- The liability of the laboratory is limited to the invoiced amount.
- All disputes are subjected to the Ranchi Jurisdiction.
- ND - not detected, DL - detectable limit

<i>Saima Afrin</i>	<i>IS/27/04/19</i>	<i>Umesh Das</i>
Tested by Saima Afrin Lab Analyst	Checked by Bajrang Kumar Authorized Signatory	Issued by Umesh Das Technical Manager
Chemical Section		



An ISO 9001:2015 & OHSAS 18001:2007 Certified Laboratory

Bubblezone G



YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

LAB ACCREDITED BY National Accreditation Board for Testing & Calibration Laboratory (NABL), New Delhi
Jharkhand State Pollution Control Board (JSPCB)

Water Test Report		URL (Unique Lab Report) No.	TC78131910000041P
Issued to : Ms Inland Power Ltd. Tonagatu, Gola Dist : Jharkhand		Job code - Chemical	YBAEEL/WA/LC/Mar.-19/04
		Sample Code	190309-GW-W04
		Report ID	YBAEEL/RA/19-03-09/GW/W04
		Date of Issue	27th April 2019

Sample Particulars		Details of Sampling	
Sample Name/Description	Ground Water	Date of sampling	08-03-2019
Sample Quantity	2000 ml	Sample Received Date	09-03-2019
Sample pkg. Condition	Plastic sealed Bottles	Sampling Protocol	YBAEEL/SP/01/00
Test started on	09-03-2019	Sample collected by	OWN/ Niraj Kumar & Team
Test completed on	16-03-2019	Sample Location	Bayang Village

Test Result					
Sl. No.	Tested Parameter	Unit	Results	Method Name	Permissible Limit (As per IS 10500 Specification)
1.	Colour	CU	15	IS:3025 (Part-04)	5 to 15
2.	Odour	-	Agr.	IS:3025 (Part-05)	Agreeable
3.	Alkalinity (as CaCO ₃)	mg/l	138.0	IS:3025 (Part-23)	200 to 600
4.	Hardness (as CaCO ₃)	mg/l	240.3	IS 3025 (Part-21)	200 to 600
5.	Total Dissolved Solid	mg/l	402.0	IS 3025 (Part-16)	500 - 2000
6.	pH value	--	6.50	IS 3025 (Part-11)	6.5 to 8.5
7.	Nitrate (as NO ₃)	mg/l	63.4	APHA 4500 NO ₃ - B	45 to no relaxation
8.	Arsenic (as As)	mg/l	ND(DL 0.01)	APHA 3112 B	0.01 to 0.05
9.	Calcium (as Ca ⁺)	mg/l	71.1	IS 3025 (Part-40)	75 to 200
10.	Magnesium (as Mg ⁺)	mg/l	15.2	IS 3015 (Part-46)	30 - 100
11.	Iron (as Fe)	mg/l	0.39	APHA 3111 B	0.3 to no relaxation
12.	Zinc (as Zn)	mg/l	0.10	APHA 3111 B	5 to 15
13.	Turbidity	NTU	17.0	IS 3025 (Part-10)	1-5
14.	Chloride (as CL ⁻)	mg/l	57.5	IS 3025 (Part-32)	250-1000
15.	Fluoride (as F ⁻)	mg/l	0.4	APHA 4500 (F-C)	1.0-1.5
16.	R-chlorine	mg/l	ND (DL 0.07)	IS 3025 (Part-2S)	0-0.5
17.	Copper (as Cu)	mg/l	ND (DL 0.01)	APHA 3111 B	0.05
18.	Sulphate (as SO ₄ ²⁻)	mg/l	57.2	IS 3025 (Part-24)	200-300
19.	Temperature*	°C	23.3	IS 3025 (Part-09)	

*****End of Test*****

Remarks - According to tested parameter, the results found within prescribe limit of Drinking water specification IS 10500.
Note - the parameters marked with * are not accredited by NABL.

Specific contractual notes :-

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- All disputes are subjected to the Ranchi Jurisdiction.
- ND - not detected, DL - detectable limit

Tested by
Salma Afria
Lab Analyst

Checked by
Bajrang Kumar
Authorized Signatory

Issued by
Umesh Das
Technical Manager

An ISO 9001:2015 & ISO/IEC 17025:2005 Certified Laboratory

Post Box No. 132, Namikom Post Office, Ranchi - 834010 (Jharkhand)

Pn. 092351-97960, 9304955304 Tel. Fax. 0651-2249977 Email: ybaeel@gmail.com

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Bubbu Zonal

YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

LAB ACCREDITED BY National Accreditation Board for Testing & Calibration Laboratory (NABL), New Delh. Jharkhand State Pollution Control Board (JSPCB)



Water Test Report		URL (Unique Lab Report) No.	TC78131910000049P
Issued to : M/s Inland Power Ltd. Tonagatu, Gola Dist : Jharkhand		Job code - Chemical	YBAEEL/WA/LC/Mar.-19/04
		Sample Code	190309-GW-W03
		Report ID	YBAEEL/AM/19-03-09/GW/W03
		Date of Issue	27 th April 2019

Sample Particulars		Details of Sampling	
Sample Name/Description	Ground Water	Date of sampling	08-03-2019
Sample Quantity	2000 ml	Sample Received Date	09-03-2019
Sample pkg. Condition	Plastic sealed Bottles	Sampling Protocol	YBAEEL/SP/01/00
Test started on	09-03-2019	Sample collected by	OWN/ Niraj Kumar & Team
Test completed on	16-03-2019	Sample Location	Bariyatu Village

Sl. No.	Tested Parameter	Unit	Results	Method Name	Permissible Limit (As per IS 10500 Specification)
1.	Colour	CU	10	IS:3025 (Part-04)	5 to 15
2.	Odour	-	Agr.	IS:3025 (Part-05)	Agreeable
3.	Alkalinity (as CaCO ₃)	mg/l	194.0	IS:3025 (Part-23)	200 to 600
4.	Hardness (as CaCO ₃)	mg/l	428.2	IS 3025 (Part-21)	200 to 600
5.	Total Dissolved Solid	mg/l	704.0	IS 3025 (Part-16)	500 - 2000
6.	pH value	--	6.40	IS 3025 (Part-11)	6.5 to 8.5
7.	Nitrate (as NO ₃)	mg/l	23.7	APHA 4500 NO ₃ - B	45 to no relaxation
8.	Arsenic (as As)	mg/l	ND(DL 0.01)	APHA 3112 B	0.01 to 0.05
9.	Calcium (as Ca ⁺)	mg/l	125.2	IS 3025 (Part-40)	75 to 200
10.	Magnesium (as Mg ⁺)	mg/l	27.9	IS 3015 (Part-46)	30 - 100
11.	Iron (as Fe)	mg/l	0.35	APHA 3111 B	0.3 to no relaxation
12.	Zinc (as Zn)	mg/l	0.22	APHA 3111 B	5 to 15
13.	Turbidity	NTU	34.0	IS 3025 (Part-10)	1-5
14.	Chloride (as Cl ⁻)	mg/l	163.7	IS 3025 (Part-32)	250-1000
15.	Fluoride (as F ⁻)	mg/l	0.5	APHA 4500 (F-C)	1.0-1.5
16.	R-chlorine	mg/l	ND (DL 0.07)	IS 3025 (Part-26)	0-0.5
17.	Copper (as Cu)	mg/l	ND (DL 0.03)	APHA 3111 B	0.05
18.	Sulphate (as SO ₄ ²⁻)	mg/l	91.3	IS 3025 (Part-24)	200-400
19.	Temperature*	°C	23.2	IS 3025 (Part-09)	-

*****End of Test*****

Remarks - According to tested parameter, the results found within prescribe limit of Drinking water specification IS 10500, Note - The parameters Marked with * are not accredited by NABL

Specific contractual notes -

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- All disputes are subjected to the Ranchi Jurisdiction.
- ND - not detected, DL - detectable limit

Tested by: Saima Afrin
 Lab Analyst: Saima Afrin
 Checked by: Bajrang Kumar
 Issued by: Umesh Das
 Technical Manager

Signature: Saima Afrin, Bajrang Kumar, Umesh Das

Post Box No. 32, Kankom Post Office, Ranchi - 834010 (Jharkhand)

Page 1 of 1

Rusht Zone-2



YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

LAB ACCREDITED BY: National Accreditation Board for Testing & Calibration Laboratory (NABL), New Delhi
Jharkhand State Pollution Control Board (JSPCB)



Water Test Report		URL (Unique Lab Report) No.	TC7813191000039P
Issued to : M/s Inland Power Ltd. Tonagatu, Gola Dist : Jharkhand	Job code - Chemical		YBAEEL/WA/LC/Mar.-19/04
	Job code - Biological		N/A
	Sample Code		190309-GW-W02
	Report ID		YBAEEL/RAM/19-03-09/GW/W02
		Date of Issue	27 th April 2019

Sample Particulars		Details of Sampling	
Sample Name/Description	Ground Water	Date of sampling	08-03-2019
Sample Quantity	2000 ml	Sample Received Date	09-03-2019
Sample pkg. Condition	Plastic sealed Bottles	Sampling Protocol	YBAEEL/SP/01/00
Test started on	09-03-2019	Sample collected by	OWNI Niraj Kumar & Team
Test completed on	16-03-2019	Sample Location	Tonaghatu Village

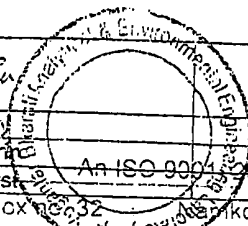
Test Result					
Sl. No.	Tested Parameter	Unit	Results	Method Name	Permissible Limit (As per IS 10500 Specification)
1.	Colour	CU	< 5	IS:3025 (Part-04)	5 to 15
2.	Odour	-	Agr.	IS:3025 (Part-05)	Agreeable
3.	Alkalinity (as CaCO ₃)	mg/l	62.2	IS:3025 (Part-23)	200 to 600
4.	Hardness (as CaCO ₃)	mg/l	70.7	IS 3025 (Part-21)	200 to 600
5.	Total Dissolved Solid	mg/l	186.0	IS 3025 (Part-16)	500 - 2000
6.	pH value	--	6.61	IS 3025 (Part-11)	6.5 to 8.5
7.	Nitrate (as NO ₃)	mg/l	24.2	APHA 4500 NO ₃ - B	45 to no relaxation
8.	Arsenic (as As)	mg/l	ND(DL 0.01)	APHA 3112 B	0.01 to 0.05
9.	Calcium (as Ca ⁺)	mg/l	22.6	IS 3025 (Part-40)	75 to 200
10.	Magnesium (as Mg ⁺)	mg/l	3.4	IS 3015 (Part-46)	30 - 100
11.	Iron (as Fe)	mg/l	0.41	APHA 3111 B	0.3 to no relaxation
12.	Zinc (as Zn)	mg/l	ND (DL 0.1)	APHA 3111 B	5 to 15
13.	Turbidity	NTU	7.0	IS 3025 (Part-10)	1-5
14.	Chloride (as CL ⁻)	mg/l	7.9	IS 3025 (Part-32)	250-1000
15.	Fluoride (as F ⁻)	mg/l	0.6	APHA 4500 (F-C)	1.0-1.5
16.	R-chlorine	mg/l	ND (DL 0.07)	IS 3025 (Part-26)	0-0.5
17.	Copper (as Cu)	mg/l	ND (DL 0.01)	APHA 3111 B	0.05
18.	Sulphate (as SO ₄ ²⁻)	mg/l	8.2	IS 3025 (Part-24)	200-400
19.	Temperature	°C	23.1	IS 3025 (Part-09)	

*****End of Test*****

Remarks:- According to tested parameter, the results found within prescribe limit of Drinking water specification IS 10500.
Note :- The parameters marked with * are not accredited by NABL

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 Tested by: Saima Afrin Checked by: Balraj Kumar Issued by: Umesh Das
 Lab Analyst: Saima Afrin Authorized Signatory: Balraj Kumar Technical Manager: Umesh Das
 Post Box No: 32 Siroahat, Biranchi, Jharkhand - 834010 (Jharkhand)

SAC/11

YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

LAB ACCREDITED BY: National Accreditation Board for Testing & Calibration Laboratory (NABL), New Delhi, Jharkhand State Pollution Control Board (JSPCB)



STACK MONITORING TEST REPORT		URL (Unique Lab Report) No.	TC78131920000230P
Report Release Date	27 th April 2019	Job code/ Ref. No.	YBAEEL/WA/LJA/Mar-19/
Report ID	YBAEEL/RAM/19-03-09/Stack/03	Sample Description	Stack Monitoring
Sampling Date	9 th March, 2019	Type of Industry	Electric Power Plant
Name of Industry	M/s Inland Power Ltd. Tonagatu, Gola Dist : Jharkhand.	Sampling Location	Port Hole
		Pollution Control System	ESP
		Ladder/ Platform	Permanent
		Weather Condition	Clear
		Relative Humidity	67%
		Sample drawn by	Ovm Mr. Niraj kr. & Team
Customer Ref.	Mr. S.N. Sinha		

General Information

Stack No. if any	-	One
Height of Stack from ground	meter	95
Inner Dimension of Stack	meter	3.3
Height of porthole from ground	meter	48

Fuel Characteristic Report

Type of Fuel	-	Coal+Dola Char+Washery Reject
Fuel Consumption	-	1400 -1500 MT/Day
Production Capacity	-	63 MW

Results of Analysis

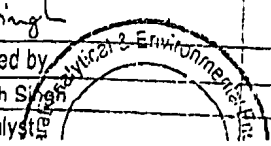
Stack gas temperature	°C	---	129
Stack gas velocity	m/s	IS 11255 P III :2008	8.00
Volumetric flow rate	Nm ³ /hr	IS 11255 P III :2008	173777.5
Particulate Matter (PM)	mg/Nm ³	IS: 11255 (P-1)2009	38.02
Sulphur dioxide (SO ₂)	mg/Nm ³	IS: 11255 (P-2) 2009	32
Oxides of Nitrogen (NO _x) [*]	mg/Nm ³	IS: 11255 (P-7) 2005	53
Carbon Monoxide (CO)	mg/Nm ³	IS 13270 : 1992 RA 2009	19
Mercury (Hg) [*]	mg/Nm ³	---	0.002

Emission Rate

Dust	kg/hr	6.61
Sulphure dioxide	kg/hr	5.56
Oxides of nitrogen	kg/hr	9.21

***** END of REPORT *****

Remarks	All values are observed well within the limit
Specific contractual notes	All values are expressed in as unit
The Parameters marked with * are not accredited by NABL	The results listed refer only to the tested sample and applicable parameter.
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	All disputes are subjected to the Ranchi Jurisdiction
Tested by Mukesh Singh Analyst	Verified by Amit Kumar Sinha Authorized Signatory
	Issued by Umesh Das



An ISO 9001:2015 & OHSAS 18001:2007 Certified Laboratory
 Jharkhand State Pollution Control Board
 Technical Manager

Core Zone
Sela - 2



YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

LAB ACCREDITED BY: National Accreditation Board for Testing & Calibration Laboratory (NABL), New Delhi
Jharkhand State Pollution Control Board (JSPCB)

Water Test Report		URL (Unique Lab Report) No.	TC7813191000037P
Issued to : M/s Inland Power Ltd. Tonagatu, Gola Dist: Jharkhand		Job code - Chemical	YBAEEL/WA/LC/Mar.-19/05
		Job code - Biological	N/A
		Sample Code	190309-DW-W02
		Report ID	YBAEEL/JRAM/19-03-09/DW/W02
		Date of Issue	27 th April 2019

Sample Particulars		Details of Sampling	
Sample Name/Description	Drinking Water	Date of sampling	08-03-2019
Sample Quantity	2000 ml	Sample Received Date	09-03-2019
Sample pkg. Condition	Plastic sealed Bottles	Sampling Protocol	YBAEEL/SP/01/09
Test started on	09-03-2019	Sample collected by	OWNI Niraj Kumar & Team
Test completed on	16-03-2019	Sample Location	Near Stack

No.	Parameter	Unit	Result	Standard	Limit
20.	Aluminium (as AL)*	mg/l	ND (DL 0.001)	IS 3025 (Part-52)	-
21.	Chromium (as Cr)	mg/l	0.02	APHA 3111 B	0.03
22.	Copper (as Cu)	mg/l	0.03	APHA 3111 B	0.05-0.15
23.	Lead (as Pb)	mg/l	0.01	APHA 3111 B	0.01
24.	Cadmium (as Cd)	mg/l	0.02	APHA 3111 B	0.003
25.	Sulphate (as SO4 ²⁻)	mg/l	72.3	IS 3025 (Part-24)	200-400
26.	Nickel (as Ni)	mg/l	0.01	APHA 3111 B	0.02
27.	Ammonia (Free)*	mg/l	ND (DL 0.1)	IS 3025 (Part-34)	0.5
28.	Temperature*	°C	25.1	IS 3025 (Part-09)	-

*****End of Test*****

Remarks:- According to tested parameter, the results found within prescribe limit of Drinking water specification IS 10500.
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<i>Saima Afrin</i>	<i>BK</i> 27/04/19	<i>Umesh Das</i> 27/4/19
Tested by Saima Afrin Lab Analyst	Checked by Bajrang Kumar Authorized Signatory	Issued by Umesh Das Technical Manager
ISO 9001:2015 & OHSAS 18001:2007 Certified Laboratory Chemical Section Analytical & Environmental Engineering Laboratory		

Page 2 of 2



Ambient air Buffer zone

YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

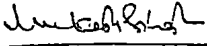
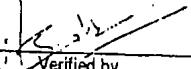
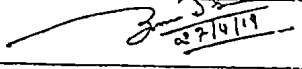
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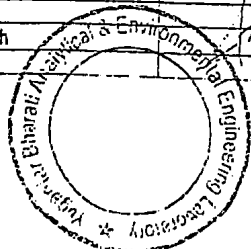
Ambient Air Quality Report		URL (Unique Lab Report) No.	TC78131920000227F
Report Release Date	27 th April 2019	Job code/ Ref. no.	YBAEEL/WAL/JA/Mar-19/
Report ID	YBAEEL/RAM/19-03-08/AAQ/03	Sample Description	Ambient Air Quality
Sampling Date	8 th to 9 th March 2019	Type of Industry	Electricity Power Plant
Sampling duration	24hrs.	Work Order No./ Date	Telephonic Order
Name of Industry	M/s Inland Power Ltd. Tonagatu, Gola Dist : Jharkhand.	Sampling Locations	AAQ - A : Seranghatu Village
			AAQ - B : Bariatu village
			AAQ - C : Urba village
			AAQ - D : Tonagatu village
		Weather Condition	clear
	Relative Humidity	67%	
	Average Temperature	30°C	
Customer Ref.	Mr.S.N.Sinha	Sample drawn by	Mr.Niraj Kr. & Team

Parameters	Method	Sampling Location				Units	NAAQS (2009)
		Site A	Site B	Site C	Site D		
Particulate Matter (PM10)	IS 5182 (Part 23)	81.8	74.89	70.49	82.58	µg/m ³	100 µg/m ³
Particulate Matter (PM2.5)	US EPA. 40 CFR (P-50) (50.7)	54.58	52.5	50.0	56.25	µg/m ³	60 µg/m ³
Sulphur Dioxide (SO ₂)	IS 5282 (Part 2)	11.36	14.77	13.64	15.91	µg/m ³	80 µg/m ³
Nitrogen Dioxide (NO ₂)	IS 5182 (Part 6)	18.53	20.21	21.5	19.37	µg/m ³	80 µg/m ³

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

Remarks	All values are observed well within the limit
Specific contractual notes	All values are expressed in as unit.
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	All disputes are subjected to the Ranchi Jurisdiction

		
Tested by Mukesh Singh Analyst	Verified by Amit Kumar Sinha Lab Analyst	Issued by Umesh Das Technical Manager



Authorized Signatory
Atmospheric Pollution
Yugantar Bharati Analytical &
Environmental Engineering Laboratory

Ambient air Core zone

YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

AS ACCREDITED BY: National Accreditation Board for Testing & Calibration Laboratory (NABL), New Delhi
Jharkhand State Pollution Control Board (JSPCB)

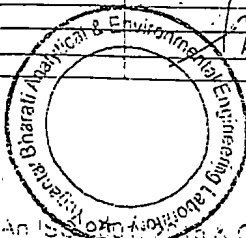


Ambient Air Quality Report		URL (Unique Lab Report) No.	TC78131920000228F
Report Release Date	27 th April 2019	Job code/ Ref. no.	YBAEEL/WA/LJA/Apr-19/
Report ID	YBAEEL/RAM/19-03-07/AAQ/03	Sample Description	Ambient Air Quality
Sampling Date	7 th to 8 th March 2019	Type of Industry	Electricity Power Plant
Sampling duration	24hrs.	Work Order No./ Date	Telephonic
Name of Industry	M/s Inland Power Ltd. Tonagatu, Gola Dist : Jharkhand.	Sampling Locations	AAQ - A Near Main Gate
			AAQ - B Near Guard Rest Room
			AAQ - C Near Switch Yard
			AAQ - D Near B Gate
		Weather Condition	clear
	Relative Humidity	67%	
	Average Temperature	30 ^o c	
Customer Ref.	Mr.S. N.Sinha	Sample drawn by	Mr.Niraj Kr.&Team

Parameters	Method	Sampling Location				Units	NAAQS (2009)
		Site A	Site B	Site C	Site D		
Particulate Matter (PM10)	IS 5182 (Part 23)	96.55	89.95	89.60	72.78	µg/m ³	100 µg/m ³
Particulate Matter (PM2.5)	US EPA. 40 CFR (P-50) (50.7)	55.33	49.58	50.42	48.75	µg/m ³	60 µg/m ³
Sulphur Dioxide (SO ₂)	IS 5282 (Part 2)	19.32	17.04	21.59	20.45	µg/m ³	80 µg/m ³
Nitrogen Dioxide (NO ₂)	IS 5182 (Part 6)	36.21	31.16	37.89	27.79	µg/m ³	80 µg/m ³

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

Remarks	All values are observed well within the limit	
Specific contractual notes	All values are expressed in as unit	
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	All disputes are subjected to the Ranchi Jurisdiction	
	Tested by Mukesh Singh Analyst	Verified by Amit Kumar Sinha Lab Analyst
		Issued by Umesh Das Technical Manager



Authorized Signatory
Atmospheric Pollution
Yugantar Bharati Analytical &
Environmental Engineering Laboratory



YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY



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Jharkhand State Pollution Control Board (JSPCB)

Noise Monitoring Report		URL (Unique Lab Report) No.	TC78131920000229F
Report Release Date	27 th April 2019	Job code / Ref. No.	YBAEEL/WA/L/A/April-19/
Report ID	YBAEEL/RAM/19-03-08/Noise/03	Sample Description	Noise Level Monitoring
Sampling Date	8 th to 9 th March 19	Type of Industry	Electric Power Plant
Sampling duration	24 hrs.	Work Order No./ Date	Telephonic Order
Name of Industry	M/s Inland Power Ltd. Tonagatu, Gola Dist : Jharkhand.	Sampling Locations & Time	N1 Main Gate
			N2 Weight Bridge
			N3 Cooling Tower
			N4 T.G Building
			N5 Hostel
			Weather Condition
	Relative Humidity	67%	
	Average Temperature	30°C	
Customer Rep.	Mr. S.N. Sinha	Monitored by	Own/ Mr.Niraj Kr.& Team

	Locations	Method	Leq in dB (Day Time)	Leq in dB (Night Time)	(Norms) CPCB
N 1	Main Gate	IS:15575.1.2005	68.5	57.2	Industrial Area Day 75 dB Night 70 dB
N 2	Weight Bridge		69.3	56.9	
N 3	Cooling Tower		71.9	63.7	
N 4	T.G Building		73.5	67.9	
N 5	Hostel		60.1	50.6	

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

CPCB Standard	Day Time	Night time
A Industrial Area	75.0	70.0
B Commercial Area	65.0	55.0
C Residential Area	55.0	45.0
D Silence Zone	50.0	40.0

Remarks	All values are observed well within the limit
Specific contractual notes	Day Time - From 6:00 Am to 10:00Pm, Night Time - From 10:00 PM to 6:00 Am The results listed refer only to the tested sample and applicable parameter. This report, in full or in part, shall not be used for advertising or as evidence in any court of law This report cannot be reproduced, except when in full, without the written permission of the Lab In-charge The samples collected shall be destroyed after 45days from the date of issue of the certificate unless specified otherwise The liability of the laboratory is limited to the invoiced amount All disputes are subjected to the Ranchi Jurisdiction

Tested by Niraj Kumar Analyst	Verified by Amit Kumar Sinha Lab Analyst	Issued by Umesh Das Technical Manager
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Test Report

Issued to :- M/s - Inland Power Limited Tonagatu, Gola, Dist. - Ramgarh, Jharkhand		Sample Code: -190309-FA-E01 Report ID : - YBAEEL/AM/19-03-09/FA/01 Date of Issue: - 27 th April 2019 Reference : - YBAEEL/WA/LC/Mar-19/03	
Sample Particulars		Details of Sampling	
Sample Name/Description: - Fly Ash		Date of sampling : - 09-03-2019	
Sample Quantity : - 10 kg		Sample Received Date: -09/03/2019	
Sample pkg. Condition : - Sealed in plastic bag		Sample collected by: -Mr.Niraj Kumar& team	
		Sampling Location: -Fly Ash	

Test Result			
Test started on: - 09.03.2019		Test completed on :- 18.03.2019	
Sl. No.	Tested Parameter	Unit	Results
1.	Arsenic	ppm	< 0.01
2.	Mercury	ppm	< 0.01
3.	Chromium	ppm	0.04
4.	Lead	ppm	0.04
5.	Cadmium	ppm	0.03
6.	Copper	ppm	0.03
7.	Nickel	ppm	0.02
8.	Selenium	ppm	0.01
9.	Zinc	ppm	0.53
10.	Unburn carbon	%	0.14

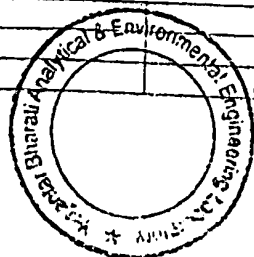
*****End of Test*****

Remarks:-According to tested parameter, the results found as above.

Specific contractual notes: -

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- ◆ All disputes are subjected to the Ranchi Jurisdiction.

Tested by (Saima Afrin)	Verified by (Bajrang Kumar)	Issued by (Umesh Das)
Analyst	Authorized Signatory	Technical Manager



Authorized Signatory
Pollution & Environment
Yugantar Bharati Analytical &
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Ph. 098351-97960 9304955304





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Test Report

Issued to :- M/s – Inland Power Limited Tonagatu, Gola, Dist. – Ramgarh, Jharkhand		Sample Code :- 190309-BA-E01 Report ID :- YBAEEL/RAM/19-03-09/BA/E01 Date of Issue :- 27 th April 2019 Reference :- YBAEEL/WAL/C/Mar-19/03	
Sample Particulars Sample Name/Description :- Bottom Ash Sample Quantity :- 10 kg Sample pkg. Condition :- Sealed in plastic bag		Details of Sampling Date of sampling :- 09-03-2019 Sample Received Date :- 09/03/2019 Sample collected by :- Niraj Kumar & Team Sampling Location :- Bottom Ash Hopper	

Test started on :-		Test Result		Test completed on :-	
09.03.2019				18.04.2019	
Sl. No.	Tested Parameter	Unit	Results		
1.	Arsenic	ppm	< 0.01		
2.	Mercury	ppm	< 0.01		
3.	Chromium	ppm	0.07		
4.	Lead	ppm	0.05		
5.	Cadmium	ppm	0.04		
6.	Copper	ppm	0.04		
7.	Nickel	ppm	0.03		
8.	Selenium	ppm	0.02		
9.	Zinc	ppm	0.74		
10.	Unborn carbon	%	1.14		

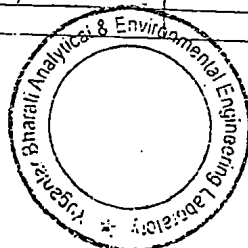
*****End of Test*****

Remarks:- According to tested parameter, the results found as above.

Specific contractual notes: -

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- ◆ All disputes are subjected to the Ranchi Jurisdiction.

Tested by (Saima Afrin) Analyst	Verified by (Bajrang Kumar) Authorised Signatory	Issued by (Umesh Das) Technical Manager



Authorised Signatory
Pollution & Environment
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Water Test Report		URL (Unique Lab Report) No.	TC78131930000086P
Issued to : - M/s Inland Power Ltd. Tonagatu, Gola Dist: Jharkhand		Job code - Chemical	YBAEEL/WA/LC/Mar.-19/06
		Sample Code	190309-WW-W01
		Report ID	YBAEEL/RAM/19-03-09/WWW01
		Date of Issue	27 th April 2019

Sample Particulars		Details of Sampling	
Sample Name/Description	Waste Water	Date of sampling	08-03-2019
Sample Quantity	2000 ml	Sample Received Date	09-03-2019
Sample pkg. Condition	Plastic sealed Bottles	Sampling Protocol	YBAEEL/SP/01/00
Test started on	09-03-2019	Sample collected by	OWNI Niraj Kumar & Team
Test completed on	14-03-2019	Sample Location	Final Effluent

Test Result					
No.	Tested Parameter	Unit	Results	Method	Permissible Limit (As per IS 2490 Specification)
1.	pH value	--	6.45	IS 3025 (Part-11)	5.5 to 9.0
2.	Temperature*	°c	25.8	IS 3025 (Part-09)	Not exceed from 40°
3.	Chloride (as CL ⁻)	mg/l	100.2	IS 3025 (Part-32)	--
4.	Fluoride (as F)	mg/l	0.4	APHA 4500 (F-C)	2 mg/l
5.	Total Dissolved Solid	mg/l	604.0	IS 3025 (Part-16)	2100 mg/l
6.	Total Suspended Solid	mg/l	98	IS 3025 (Part-17)	100 mg/l
7.	BOD	mg/l	8.0	IS 3025 (Part-44)	30 mg/l
8.	COD	mg/l	72.0	IS 3025 (Part-58)	250 mg/l
9.	Nitrate (as NO ₃)	mg/l	6.5	APHA 4500 NO ₃ -B	--
10.	Sulphate (as SO ₄ ²⁻)	mg/l	137.2	IS 3025 (Part-24)	1000 mg/l
11.	Phenols*	mg/l	0.42	IS 3025 (Part-43)	1
12.	Oil & Grease	mg/l	6.4	IS 3025 (Part-39)	<10 mg/l

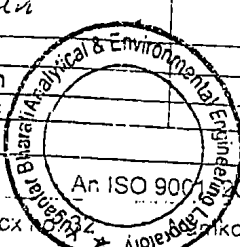
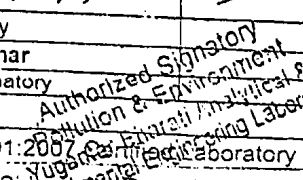


*****End of Test*****

Remarks:- According to tested parameter, the results found within prescribe limit of Effluent water specification IS 2490.

Note : The Parameters marked with * are not accredited by NABL

Specific contractual notes: -

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- ◆ The liability of the laboratory is limited to the invoiced amount.
- ◆ All disputes are subjected to the Ranchi Jurisdiction.
- ◆ ND - not detected, DL - detectable limit

<i>Saima Afrin</i>	<i>27/04/19</i>	<i>Umesh Das</i>
Tested by Saima Afrin Lab Analyst	Checked by Bajrang Kumar Authorized Signatory	Issued by Umesh Das Technical Manager
		
Post Box No. 3243, Jharkhand State Post Office : Sidhupur, Ranchi - 834010 (Jharkhand) Ph. 098351-97960, 98343-55304 Tele Fax : 0661-2560787 E-mail : ybhael@gmail.com		Page 1 of 1  



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LAB ACCREDITED BY

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Jharkhand State Pollution Control Board (JSPCB)

STACK MONITORING TEST REPORT		URL	TC7813182000022P
Report Release Date	4 th October 2018	Ref. No.	YBAEEL/WA/LIA/Sep-18/
Report ID	YBAEEL/AM/18-09-28/Stack/01	Sample Description	Stack Emission
Sampling Date	26 th September 2018	Type of Industry	Power Generation
Name of Industry	M/s Inland Power Limited Tonaghata, Gola, Ramgarh, Jharkhand	Sampling Location	Port hole
		Pollution Control System	ESP + Bag Filter
		Ladder	Permanent
		Platform	Permanent
		Weather Condition	Clear
Customer Ref.	Mr. S.N. Sinha	Sample drawn by	Mr. Mukesh Singh & Team

General Information			
Stack No. if any			One
Height of Stack from ground	in meter		95
Inner Dimension of Stack	in meter		3
Height of porthole from ground	in meter		48

Fuel Characteristic Report & Oven Description			
Type of Fuel			Coal + Dola Char + Washy Reject
Fuel Consumption			1400 - 1500 MT/ Day
Production Capacity			63 MW

Result of Analysis			
Atmospheric temperature	in °C		34
Stack gas temperature	in °C		141
Stack gas velocity	in m/s		9.68
Volumetric flow rate	in Nm ³ /hr		176015.57
Concentration of Particulate Matter	in mg/Nm ³		37.74
Concentration of Sulphur dioxide	in mg/Nm ³		20.14
Concentration of Oxides of Nitrogen	in mg/Nm ³		16.43
Concentration of CO	%		21
Concentration of Hg	in mg/Nm ³		0.003

Emission Rate			
Dust	kg/hr		5.29

***** END of REPORT *****

Remarks	All values are observed well within the limit		
Note	The results listed refer only to the tested sample and applicable parameter.		
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	This report cannot be reproduced, except when in full, without the written permission of the Lab In-charge		
	The samples collected shall be destroyed after 45 days from the date of issue of the certificate unless specified otherwise		
	Tested by	Verified by	Issued by
	Mukesh Singh	Amit Kr Sinha	Umesh Das
	Field Analyst	Lab Analyst	Technical Manager

Authorized Signatory
Atmospheric Pollution
Yugantar Bharati Analytical &
Environmental Engineering Laboratory



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LAB ACCREDITED BY: National Accreditation Board for Testing & Calibration Laboratory (NABL), New Delhi
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Water Test Report		URL	TC7813181000050P
Issued to: M/s Inland Power Limited Tonagatu, Gola, Dist.-Ramgarh, Jharkhand	Reference	YBAEEL/WA/LC/Sep-18/13	
	Sample Code	180926-GW-W04	
	Report ID	YBAEEL/RAM/18-09-28/GW/04	
	Date of Issue	4 th October 2018	
Sample Particulars		Details of Sampling	
Sample Name/Description	Ground Water	Date of sampling	26-09-2018
Sample Quantity	Two litre (1000 ml X 2)	Sample Received Date	26-09-2018
Sample pkg. Condition	Sealed in plastic bottle	Sampling Protocol	YBAEEL/SP/01/00
Test started on	26-09-2018	Sample collected by	Own / Mukesh Singh & team
Test completed on	03-10-2018	Sampling Location	Bayang Village

Test Result					
Sl. No.	Tested Parameter	Unit	Results	Method Name	Permissible Limit (As per IS 10500 Specification)
1.	pH value	-	6.46	IS:3025 (Part-11)	6.5 to 8.5
2.	Temperature	°C	27.1	2550 B	< 40° C
3.	Total dissolved solid	mg/l	126	IS:3025 (Part-16)	2000 mg/l
4.	Fluoride (as F)	mg/l	0.6	4500 F C	1.5 mg/l
5.	T. Hardness (as CaCO ₃)	mg/l	86.8	IS:3025 (Part-21)	600mg/l
6.	Chloride (as Cl)	mg/l	4.8	IS:3025 (Part-32)	1000mg/l
7.	Turbidity	NTU	1.0	IS:3025 (Part-10)	5NTU
8.	Nitrate (as NO ₃)	mg/l	6.8	4500 NO3 B	45 mg/l
9.	Iron (as Fe)	mg/l	ND (DL 0.1)	3111 B	0.3 mg/l
10.	Odour	mg/l	Agreeable	IS:3025 (Part-05)	-
11.	Colour	mg/l	< 5	IS:3025 (Part-4)	-
12.	Alkalinity (as CaCO ₃)	mg/l	76	IS:3025 (Part-23)	600 mg/l
13.	Magnesium (as Mg ⁺)	mg/l	8.3	IS:3025 (Part-46)	100mg/l
14.	Calcium (as Ca ⁺)	mg/l	21.0	IS:3025 (Part -40)	200 mg/l
15.	Arsenic (as As)	mg/l	ND (DL 0.003)	APHA 3114 B	0.05 mg/l
16.	Zinc (as Zn)	mg/l	3.26	APHA 3111 B	15 mg/l
17.	R. Chlorine	mg/l	ND (DL 0.07)	IS:3025 (Part-26)	1.0 mg/l
18.	Sulphate (as SO ₄)	mg/l	2.9	IS:3025 (Part-24)	400 mg/l
19.	Copper (as Cu)	mg/l	ND (DL 0.01)	APHA 3111 B	1.5 mg/l

*****End of Test*****

Remarks: According to tested parameter, the results found within prescribe limit of Drinking water specification IS 10500

Specific contractual notes:

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- All disputes are subjected to the Ranchi Jurisdiction
- ND - not detected, DL - Detectable limit

<i>Saima Afrin</i>	<i>BK</i> 4/10/18	<i>Umesh Das</i> 4/10/18
Tested by	Checked by	Issued by
Saima Afrin	Bajrang Kumar	Umesh Das
Lab Analyst	Section In-Charge	Technical Manager

Authorized Signatory
Chemical Section
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 Jharkhand State Pollution Control Board (JSPCB)

Water Test Report Issued to : M/s Inland Power Limited Tonagatu, Gola, Dist.-Ramgarh, Jharkhand	URL	TC78131810000049P
	Reference	YBAEEL/W/LIC/Rep-18/12
	Sample Code	180926-GW-W03
	Report ID	YBAEEL/IRAM/18-09-26/OVI/03
	Date of Issue	4 th October 2018

Sample Particulars		Details of Sampling	
Sample Name/Description	Ground Water	Date of sampling	26-09-2018
Sample Quantity	Two litre (1000 ml X 2)	Sample Received Date	26-09-2018
Sample pkg. Condition	Scaled in plastic bottle	Sampling Protocol	YBAEEL/SP/01/00
Test started on	26-09-2018	Sample collected by	Ovm / Mukesh Singh & team
Test completed on	03-10-2018	Sampling Location	Totnagatu Village

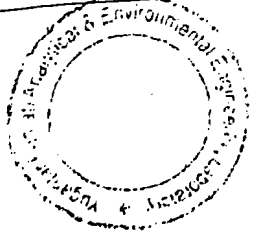
Test Result					
Sl. No.	Tested Parameter	Unit	Results	Method Name	Permissible Limit (As per IS 10500 Specification)
1.	pH value	-	6.59	IS:3025 (Part-11)	6.5 to 8.5
2.	Temperature	°C	27.2	2550 B	< 40° C
3.	Total dissolved solid	mg/l	842	IS:3025 (Part-16)	2000 mg/l
4.	Fluoride (as F)	mg/l	0.6	4500 F C	1.5 mg/l
5.	T. Hardness (as CaCO ₃)	mg/l	113.1	IS:3025 (Part-21)	600mg/l
6.	Chloride (as Cl)	mg/l	4.8	IS:3025 (Part-32)	1000mg/l
7.	Turbidity	NTU	1.0	IS:3025 (Part-10)	5NTU
8.	Nitrate (as NO ₃)	mg/l	3.4	4500 NO3 B	45 mg/l
9.	Iron (as Fe)	mg/l	ND (DL 0.1)	3111 B	0.3 mg/l
10.	Odour	mg/l	Agreeable	IS:3025 (Part-05)	-
11.	Colour	mg/l	< 5	IS:3025 (Part-4)	-
12.	Alkalinity (as CaCO ₃)	mg/l	98	IS:3025 (Part-23)	600 mg/l
13.	Magnesium (as Mg ⁺)	mg/l	5.4	IS:3025 (Part-46)	100mg/l
14.	Calcium (as Ca ⁺)	mg/l	36.3	IS:3025 (Part-40)	200 mg/l
15.	Arsenic (as As)	mg/l	ND (DL 0.003)	APHA 3114 B	0.05 mg/l
16.	Zinc (as Zn)	mg/l	ND (DL 0.01)	APHA 3111 B	15 mg/l
17.	R. Chlorine	mg/l	ND (DL 0.07)	IS:3025 (Part-26)	1.0 mg/l
18.	Sulphate (as SO ₄)	mg/l	17.6	IS:3025 (Part-24)	400 mg/l
19.	Copper (as Cu)	mg/l	ND (DL 0.01)	APHA 3111 B	1.5 mg/l

*****End of Test*****

Remarks	According to tested parameter, the results found within prescribe limit of Drinking water specification IS 10500
Specific contractual notes	<ul style="list-style-type: none"> The results listed refer only to the tested sample and applicable parameter. This report, in full or in part, shall not be used for advertising or as evidence in any court of law. This report can be reproduced, except when in full, without the written permission of the Lab In-charge The samples received shall be destroyed after two month from the date of issue of the certificate unless specified otherwise and sample for biological testing will be destroyed after one two week of testing. The liability of the laboratory is limited to the invoiced amount. All disputes are subjected to the Ranchi Jurisdiction ND - not detected, DL - Detectable limit

<i>Saima Afrin</i>	<i>BK</i> 4/10/18	<i>Umesh Das</i> 4/10/18
Tested by	Checked by	Issued by
Saima Afrin	Bajrang Kumar	Umesh Das
Lab Analyst	Section In-Charge	Technical Manager

Authorized Signatory
 Chemical Section
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Water Test Report Issued to : M/s Inland Power Limited Tonagatu, Gola, Dist.-Rangarh, Jharkhand	URL	TC78131810000048P
	Reference	YBAEEL/WA/LJC/Sep-18/13
	Sample Code	180926-GW-W02
	Report ID	YBAEEL/RAM/18-09-26/GW/02
	Date of Issue	4 th October 2018

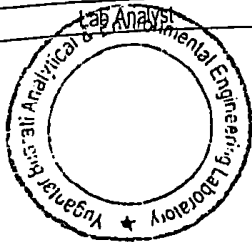
Sample Particulars		Details of Sampling	
Sample Name/Description	Ground Water	Date of sampling	26-09-2018
Sample Quantity	Two litro (1000 ml X 2)	Sample Received Date	26-09-2018
Sample pkg. Condition	Sealed in plastic bottle	Sampling Protocol	YBAEEL/SP/01/00
Test started on	26-09-2018	Sample collected by	Own / Mukesh Singh & team
Test completed on	03-10-2018	Sampling Location	Barlyatu Village

Sl. No.	Tested Parameter	Unit	Results	Method Name	Permissible Limit (As per IS 10500 Specification)
1.	pH value	-	6.58	IS:3025 (Part-11)	6.5 to 8.5
2.	Temperature	°C	27.1	2550 B	< 40° C
3.	Total dissolved solid	mg/l	854.0	IS:3025 (Part-16)	2000 mg/l
4.	Fluoride (as F)	mg/l	0.6	4500 F C	1.5 mg/l
5.	T. Hardness (as CaCO ₃)	mg/l	121.2	IS:3025 (Part-21)	600mg/l
6.	Chloride (as Cl)	mg/l	5.8	IS:3025 (Part-32)	1000mg/l
7.	Turbidity	mg/l	1.0	IS:3025 (Part-10)	5NTU
8.	Nitrate (as NO ₃)	NTU	3.5	4500 NO3 B	45 mg/l
9.	Nitrate (as NO ₃)	mg/l	ND (DL 0.1)	3111 B	0.3 mg/l
10.	Iron (as Fe)	mg/l	ND (DL 0.1)	IS:3025 (Part-05)	-
11.	Odour	mg/l	Agreeable	IS:3025 (Part-04)	-
12.	Colour	mg/l	5	IS:3025 (Part-23)	600 mg/l
13.	Alkalinity (as CaCO ₃)	mg/l	104.0	IS:3025 (Part-46)	100mg/l
14.	Magnesium (as Mg ⁺)	mg/l	8.8	IS:3025 (Part-40)	200 mg/l
15.	Calcium (as Ca ⁺)	mg/l	33.9	APHA 3114 B	0.05 mg/l
16.	Arsenic (as As)	mg/l	ND (DL 0.003)	APHA 3111 B	15 mg/l
17.	Zinc (as Zn)	mg/l	ND (DL 0.01)	IS:3025 (Part-26)	1.0 mg/l
18.	R. Chlorine	mg/l	ND (DL 0.07)	IS:3025 (Part-24)	400 mg/l
19.	Sulphate (as SO ₄)	mg/l	19.3	APHA 3111 B	400 mg/l
19.	Copper (as Cu)	mg/l	ND (DL 0.01)	APHA 3111 B	1.5 mg/l

*****End of Test*****

Remarks	According to tested parameter, the results found within prescribe limit of Drinking water specification IS 10500
Specific contractual notes	<ul style="list-style-type: none"> The results listed refer only to the tested sample and applicable parameter. This report, in full or in part, shall not be used for advertising or as evidence in any court of law. This report can be reproduced, except when in full, without the written permission of the Lab In-charge The samples received shall be destroyed after two month from the date of issue of the certificate unless specified otherwise and sample for biological testing will be destroyed after one two week of testing. The liability of the laboratory is limited to the invoiced amount. All disputes are subjected to the Ranchi Jurisdiction ND - not detected, DL - Detectable limit

<i>Saima Afrin</i>	<i>TSK</i> 4/10/18	<i>Umesh Das</i> 4/10/18
Tested by	Checked by	Issued by
Saima Afrin	Bajrang Kumar	Umesh Das
	Section In-Charge	Technical Manager



Authorized Signatory
Chemical Section
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Environmental Engineering Laboratory



An ISO 9001:2008 & OHSAS 18001:2007 Certified Laboratory

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YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

LAB ACCREDITED BY National Accreditation Board for Testing & Calibration Laboratories (NABL), New Delhi
Jharkhand State Pollution Control Board (JSPCB)

Water Test Report		URL	TC78131810000047P
Issued to : M/s Inland Power Limited Tonagatu, Oola, Dist.-Ramgarh, Jharkhand		Reference	YBAEELWA/LIC/Sep-18/13
		Sample Code	180926-GW-W01
		Report ID	YBAEEL/AM/18-09-26/GW/01
		Date of Issue	4 th October 2018

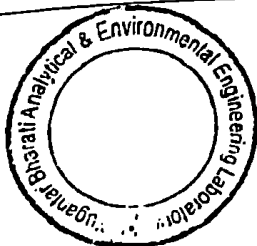
Sample Particulars		Details of Sampling	
Sample Name/Description	Ground Water	Date of sampling	26-09-2018
Sample Quantity	Two litre (1000 ml X 2)	Sample Received Date	26-09-2018
Sample pkg. Condition	Sealed in plastic bottle	Sampling Protocol	YBAEEL/SP/01/00
Test started on	26-09-2018	Sample collected by	Own / Mukesh Singh & team
Test completed on	03-10-2018	Sampling Location	Bhamni Village

Test Result					
Sl. No.	Tested Parameter	Unit	Results	Method Name	Permissible Limit (As per IS 10500 Specification)
1.	pH value	-	6.32	IS:3025 (Part-11)	6.5 to 8.5
2.	Temperature	°C	27.1	2550 B	< 40° C
3.	Total dissolved solid	mg/l	440	IS:3025 (Part-16)	2000 mg/l
4.	Fluoride (as F)	mg/l	0.5	4500 F C	1.5 mg/l
5.	T. Hardness (as CaCO ₃)	mg/l	260.5	IS:3025 (Part-21)	600mg/l
6.	Chloride (as Cl)	mg/l	71.4	IS:3025 (Part-32)	1000mg/l
7.	Turbidity	NTU	4.0	IS:3025 (Part-10)	5NTU
8.	Nitrate (as NO ₃)	mg/l	29.8	4500 NO3 B	45 mg/l
9.	Iron (as Fe)	mg/l	0.11	3111 B	0.3 mg/l
10.	Odour	mg/l	Agreeable	IS:3025 (Part-05)	-
11.	Colour	mg/l	< 5	IS:3025 (Part-4)	-
12.	Alkalinity (as CaCO ₃)	mg/l	138	IS:3025 (Part-23)	600 mg/l
13.	Magnesium (as Mg ⁺)	mg/l	16.7	IS:3025 (Part-46)	100mg/l
14.	Calcium (as Ca ⁺)	mg/l	76.7	IS:3025 (Part-40)	200 mg/l
15.	Arsenic (as As)	mg/l	ND (DL 0.003)	APHA 3114 B	0.05 mg/l
16.	Zinc (as Zn)	mg/l	0.11	APHA 3111 B	15 mg/l
17.	R. Chlorine	mg/l	ND (DL 0.07)	IS:3025 (Part-26)	1.0 mg/l
18.	Sulphate (as SO ₄)	mg/l	57.0	IS:3025 (Part-24)	400 mg/l
19.	Copper (as Cu)	mg/l	ND (DL 0.01)	APHA 3111 B	1.5 mg/l

*****End of Test*****

Remarks	According to tested parameter, the results found within prescribe limit of Drinking water specification IS 10500
Specific contractual notes	<ul style="list-style-type: none"> The results listed refer only to the tested sample and applicable parameter. This report, in full or in part, shall not be used for advertising or as evidence in any court of law. This report can be reproduced, except when in full, without the written permission of the Lab In-charge The samples received shall be destroyed after two month from the date of issue of the certificate unless specified otherwise and sample for biological testing will be destroyed after one two week of testing. The liability of the laboratory is limited to the invoiced amount. All disputes are subjected to the Ranchi Jurisdiction ND - not detected, DL - Detectable limit

<i>Saima Afrin</i>	<i>B. Bajrang Kumar</i> 4/10/18	<i>Umesh Das</i> 4/10/18
Tested by	Checked by	Issued by
Saima Afrin	Bajrang Kumar	Umesh Das
Lab Analyst	Section In-Charge	Technical Manager



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YUGANTAR BHARATI

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

LAB. ADDRESS: National Academy of Chemical Engineering, Sector - 1, GATE NO. 01/31, Near DSI
Jharkhand State Pollution Control Board (JSPCB)

Water Test Report		URL	TC78131810000046P
Issued to:		Reference	YBAEELWALJC/Sep-18/12
M/s Inland Power Limited Tonagatu, Gola, Dist.-Ramgarh, Jharkhand		Sample Code	180226-SW-W01
		Report ID	YBAEELJRAM/18-09-26/SW/01
		Date of Issue	4 th October 2018

Sample Particulars		Details of Sampling	
Sample Name/Description	Surface Water	Date of sampling	26-09-2018
Sample Quantity	Two litre (1000 ml X 2)	Sample Received Date	26-09-2018
Sample pkg. Condition	Sealed in plastic bottle	Sampling Protocol	YBAEEL/SP/01/00
Test started on	26-09-2018	Sample collected by	Ovm / Mukesh Singh & team
Test completed on	03-10-2018	Sampling Location	In front of T.G. Building

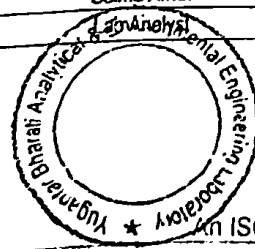
Test Result

Sl. No.	Tested Parameter	Unit	Results	Method Name	Permissible Limit (As per IS 10500 Specification)
1.	pH	-	7.48	IS:3025 (Part-11)	6.5 to 8.5
2.	Temperature	°C	27.2	APHA 2550 B	< 40° C
3.	Total Dissolved Solid	mg/l	680.0	IS:3025 (Part-16)	2000 mg/l
4.	Conductivity	µs/cm	1144	IS:3025 (Part-14)	-
5.	Nitrate (as NO ₃)	mg/l	2.2	APHA 4500 NO3 B	100 mg/l
6.	T. Alkalinity (as CaCO ₃)	mg/l	136.0	IS:3025 (Part-23)	600mg/l
7.	T. Hardness (as CaCO ₃)	mg/l	401.2	IS:3025 (Part-21)	600mg/l
8.	Chloride (as Cl)	mg/l	93.9	IS:3025 (Part-32)	1000mg/l
9.	BOD	mg/l	2.4	IS:3025 (Part-44)	30mg/l
10.	COD	mg/l	10.8	IS:3025 (Part-58)	250mg/l
11.	Oil & grease	mg/l	1.2	IS:3025 (Part-39)	10mg/l
12.	Copper (as Cu)	mg/l	ND (DL 0.01)	APHA 3111 B	1.5mg/l
13.	Odour	mg/l	Agreeable	IS:3025 (Part-5)	-
14.	Sulphate (as SO ₄)	mg/l	56.0	IS:3025 (Part-24)	400mg/l
15.	Iron (as Fe)	mg/l	ND (DL 0.1)	APHA 3111 B	0.3mg/l
16.	Calcium (as Ca ⁺)	mg/l	75.0	IS:3025 (Part-40)	200mg/l
17.	Magnesium (as Mg ⁺)	mg/l	51.8	IS:3025 (Part-37)	100mg/l
18.	Zinc (as Zn)	mg/l	ND (DL 0.01)	APHA 3111 B	15mg/l
19.	Fluoride (as F ⁻)	mg/l	1.0	4500 F C	1.5mg/l
20.	Turbidity	NTU	24.0	IS:3025 (Part-10)	5NTU
21.	Potassium (as K)	mg/l	11	APHA 3111-B	-
22.	Sodium (as Na)	mg/l	44	APHA 3111-B	-

*****End of Test*****

Remarks	According to tested parameter, the results found within prescribe limit of Drinking water specification IS 10500
Specific contractual notes	<ul style="list-style-type: none"> The results listed refer only to the tested sample and applicable parameter. This report, in full or in part, shall not be used for advertising or as evidence in any court of law. This report can be reproduced, except when in full, without the written permission of the Lab In-charge The samples received shall be destroyed after two month from the date of issue of the certificate unless specified otherwise and sample for biological testing will be destroyed after one two week of testing. The liability of the laboratory is limited to the invoiced amount. All disputes are subjected to the Ranchi Jurisdiction ND - not detected, DL - Detectable limit

<i>Saima Afrin</i>	<i>TKK</i> 4/10/18	<i>Umesh Das</i> 4/10/18
Tested by	Checked by	Issued by
Saima Afrin	Bajrang Kumar	Umesh Das
	Section In-Charge	Technical Manager



Authorized Signatory
Chemical Section
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LAB ACCREDITED BY National Accreditation Board for Testing & Calibration Laboratories (NABL), New Delhi
 Jharkhand State Pollution Control Board (JSPCB)

Water Test Report		URL	TC7813181000045P
Issued to : M/s Inland Power Limited Tonagatu, Gola, Dist.-Ramgarh, Jharkhand	Reference	YBAEEL/WAL/C/Sep-18/12	
	Sample Code	180926-DW-W01	
	Report ID	YBAEEL/RAM/18-09-26/DW/01	
	Date of Issue	4 th October 2018	

Sample Particulars		Details of Sampling	
Sample Name/Description	Drinking Water	Date of sampling	26-09-2018
Sample Quantity	Two litre (1000 ml X 2)	Sample Received Date	26-09-2018
Sample pkg. Condition	Sealed in plastic bottle	Sampling Protocol	YBAEEL/SP/01/00
Test started on	26-09-2018	Sample collected by	Own / Mukesh Singh & team
Test completed on	03-10-2018	Sampling Location	Near Mess Area

Test Result					
Sl. No.	Tested Parameter	Unit	Results	Method Name	Permissible Limit (As per IS 10500 Specification)
1.	pH	-	7.12	IS:3025 (Part-11)	6.5 to 8.5
2.	Temperature	°C	27.1	APHA 2550 B	< 40° C
3.	Total Dissolved Solid	mg/l	338.0	IS:3025 (Part-16)	2000 mg/l
4.	Conductivity	µs/cm	580	IS:3025 (Part-14)	-
5.	Nitrate (as NO ₃)	mg/l	2.2	APHA 4500 NO3 B	100 mg/l
6.	T. Alkalinity (as CaCO ₃)	mg/l	192	IS:3025 (Part-23)	600mg/l
7.	T. Hardness (as CaCO ₃)	mg/l	246.4	IS:3025 (Part-21)	600mg/l
8.	Chloride (as Cl)	mg/l	18.5	IS:3025 (Part-32)	1000mg/l
9.	BOD	mg/l	0.8	IS:3025 (Part-44)	30mg/l
10.	COD	mg/l	7.2	IS:3025 (Part-58)	250mg/l
11.	Oil & grease	mg/l	0.8	IS:3025 (Part-39)	10mg/l
12.	Copper (as Cu)	mg/l	ND (DL 0.01)	APHA 3111 B	1.5mg/l
13.	Odour	mg/l	Agreeable	IS:3025 (Part-5)	-
14.	Sulphate (as SO ₄)	mg/l	54.2	IS:3025 (Part-24)	400mg/l
15.	Iron (as Fe)	mg/l	ND (DL 0.1)	APHA 3111 B	0.3mg/l
16.	Calcium (as Ca ⁺)	mg/l	83.2	IS:3025 (Part-40)	200mg/l
17.	Magnesium (as Mg ⁺)	mg/l	9.3	IS:3025 (Part-37)	100mg/l
18.	Zinc (as Zn)	mg/l	0.23	APHA 3111 B	15mg/l
19.	Fluoride (as F ⁻)	mg/l	0.3	4500 F C	1.5mg/l
20.	Turbidity	NTU	1.0	IS:3025 (Part-10)	5NTU
21.	Potassium (as K)	mg/l	2.0	APHA 3111-B	-
22.	Sodium (as Na)	mg/l	17.0	APHA 3111-B	-

*****End of Test*****

Remarks	According to tested parameter, the results found within prescribe limit of Drinking water specification IS 10500
Specific contractual notes	<ul style="list-style-type: none"> The results listed refer only to the tested sample and applicable parameter. This report, in full or in part, shall not be used for advertising or as evidence in any court of law. This report can be reproduced, except when in full, without the written permission of the Lab In-charge The samples received shall be destroyed after two month from the date of issue of the certificate unless specified otherwise and sample for biological testing will be destroyed after one two week of testing. The liability of the laboratory is limited to the invoiced amount. All disputes are subjected to the Ranchi Jurisdiction ND - not detected, DL - Detectable limit

<i>Saimatprei</i>	<i>BK</i> 4/10/18	<i>Umesh Das</i> 4/10/18
Tested by	Checked by	Issued by
	Bajrang Kumar	Umesh Das
	Section in-Charge	Technical Manager



Authorized Signatory
 Chemical Section
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ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

LAB ACCREDITED BY National Accreditation Board for Testing & Calibration (NABL) (1624) & Jharkhand State Pollution Control Board (JSPCB)

Ambient Air Quality Report		URL No.	TC78131820000019F
Report Release Date	4 th October 2018	Ref. No.	YBAEEL/WAL/A/Sep.-18
Report ID	YBAEEL/RAM/18 - 09- 26/AAQ/01	Sample Description	Ambient Air Quality (Buffer Zone)
Sampling Date	26 th - 27 th September, 2018	Type of Industry	Electricity Power Plant
Sampling Duration	24 hrs.	Sampling Locations	Site A Serenghatu Village
Name of Industry M/s - Inland Power Ltd. Tonagatu, Gola, Dist.- Ramgarh Jharkhand			Site B Bariatu Village
			Site C Urba Village
			Site D Tonagatu Village
		Work Order No.	-----
		Weather Condition	Partly - Cloudy
		Relative Humidity	73%
		Avg. Ambient Temp.	34°C
Customer Ref.	Mr. S.N. Sinha	Sample drawn by	Mr. Mukesh Singh & Team

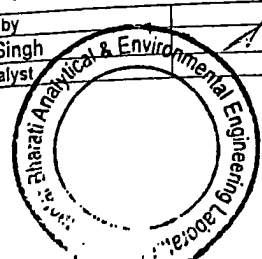
Monitored Parameters	Method	Sampling Location				Units	NAAQS Industrial Area
		Site A	Site B	Site C	Site D		
Particulate Matter (PM10)	IS 5182 Part 23	81.50	87.44	85.29	85.10	µg/m ³	100µg/m ³
Particulate Matter (PM2.5)	CPCB Guideline	37.08	38.75	35.42	36.25	µg/m ³	60µg/m ³
Sulphur Dioxide (SO2)	IS 5282 Part II	13.07	15.91	13.82	16.48	µg/m ³	80µg/m ³
Nitrogen Dioxide (NO2)	IS 5182 Part VI	22.88	23.58	21.89	23.30	µg/m ³	80µg/m ³

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

Remarks Note

- All values are observed well within the limit
- All values are expressed in as unit.
- The results listed refer only to the tested sample and applicable parameter.
- This report, in full or in part, shall not be used for advertising or as evidence in any court of law
- This report cannot be reproduced, except when in full, without the written permission of the Lab In-charge
- The samples collected shall be destroyed after 45 days from the date of issue of the certificate unless specified otherwise
- The liability of the laboratory is limited to the invoiced amount
- All disputes are subjected to the Ranchi Jurisdiction

Tested by: Mukesh Singh, Field Analyst
 Verified by: Amit Kumar Sinha, Lab Analyst
 Issued by: Umesh Das, Technical Manager



Authorized Signatory
 Atmospheric Pollution
 Yugantar Bharati Analytical & Environmental Engineering Laboratory

As per ISO 9001: 2008 & OHSAS 18001:2007 Certified Laboratory



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LAB ACCREDITED BY National Accreditation Board for Testing & Calibration Laboratories (NABL), New Delhi
 Jharkhand State Pollution Control Board (JSPCB)

Ambient Air Quality Report		URL No.	TC7813182000020F
Report Release Date	4 th October 2018	Ref. No.	YBAEELWA/LA/Sep.-18
Report ID	YBAEEL/RAM/18 - 09- 25/AAQ/01	Sample Description	Ambient Air Quality (Core Zone)
Sampling Date	25 th - 26 th September, 2018	Type of Industry	Electricity Power Plant
Sampling Duration	24 hrs.	Sampling Locations	Site A Near Main Gate
Name of Industry M/s Inland Power Ltd. Tonagatu, Gola, Dist.- Ramgarh Jharkhand			Site B Near Switch Yard
			Site C Near Guest Rest Room
			Site D Near B. Gate
		Work Order No.
		Weather Condition	Partly - Cloudy
		Relative Humidity	73%
		Avg. Ambient Temp.	34°C

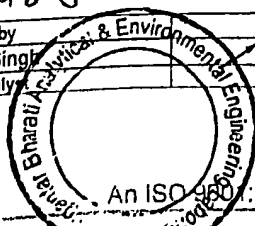
Customer Ref.	Mr. S.N. Sinha	Sample drawn by	Mr. Mukesh Singh & Team
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Monitored Parameters	Method	Sampling Location				Units	NAAQS Industrial Area
		Site A	Site B	Site C	Site D		
Particulate Matter (PM10)	IS 5182 Part 23	95.52	92.55	83.59	91.22	µg/m ³	100 µg/m ³
Particulate Matter (PM2.5)	CPCB Guideline	38.33	37.92	40.83	33.75	µg/m ³	60 µg/m ³
Sulphur Dioxide (SO ₂)	IS 5282 Part II	18.56	17.04	17.61	15.34	µg/m ³	80 µg/m ³
Nitrogen Dioxide (NO ₂)	IS 5182 Part VI	31.44	28.35	33.12	23.30	µg/m ³	80 µg/m ³

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

Remarks Note	All values are observed well within the limit
	All values are expressed in as unit.
	The results listed refer only to the tested sample and applicable parameter.
	This report, in full or in part, shall not be used for advertising or as evidence in any court of law
	This report cannot be reproduced, except when in full, without the written permission of the Lab In-charge
	The samples collected shall be destroyed after 45 days from the date of issue of the certificate unless specified otherwise
	The liability of the laboratory is limited to the invoiced amount

Tested by <i>Mukesh Singh</i> Mukesh Singh Field Analyst	Verified by <i>Amit Kumar Sinha</i> Amit Kumar Sinha Lab Analyst	Issued by <i>Umesh Das</i> Umesh Das Authorized Signatory
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ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

LAB ACCREDITED BY National Accreditation Board for Testing & Calibration (NABL) No. 0
 Jharkhand State Pollution Control Board (JSPCB)

Noise Monitoring Report		URL No.	TC78131820000021F
Report Release Date	4 th October 2018	Ref. No.	YBAEEL/WA/LIA/Sep. -18
Report ID	YBAEELWS/18-09-25/Noise/01	Sample Description	Ambient Noise
Sampling Date	25 th - 26 th September, 2018	Type of Industry	Electricity Power Plant
Sampling duration	24 hrs.	Work Order No./ Date	-----
Name of Industry	M/s - Inland Power Ltd. Tonagatu, Gola, Dist.- Ramgarh Jharkhand	Sampling Locations	N1 Main Gate
		N2 Weigh Bridge	
		N3 Cooling Tower	
		N4 T.G. Building	
		N5 Hostel	
		Weather Condition	Partly - Cloudy
	Relative Humidity	73%	
	Average Temperature	34°C	
Customer Rep.	Mr. S.N. Sinha	Monitored by	Mr. Mukesh Singh & Team

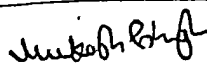
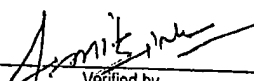
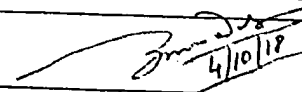
	Locations	Method	Leq in dB (Day Time)	Leq in dB (Night Time)	(Norms) CPCB
N 1	Main Gate	IS:15575.1.2005	65.3	52.2	Industrial Area Day 75 dB Night 70 dB
N 2	Weigh Bridge	IS:15575.1.2005	65.5	51.2	
N 3	Cooling Tower	IS:15575.1.2005	67.9	57.7	
N 4	T. G. Building	IS:15575.1.2005	72.0	65.1	
N 5	Hostel	IS:15575.1.2005	53.3	49.0	
***** End of Report*****					

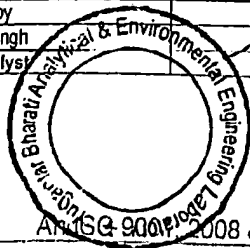
CPCB Standard		Day Time	Night time
A	Industrial Area	75.0	70.0
B	Commercial Area	65.0	55.0
C	Residential Area	55.0	45.0
D	Silence Zone	50.0	40.0

Remarks All values are observed well within the limit

Specific contractual notes

- Day Time - From 6:00 Am to 10:00Pm, Night Time - From 10:00 PM to 6:00 Am
- The results listed refer only to the tested sample and applicable parameter.
- This report, in full or in part, shall not be used for advertising or as evidence in any court of law
- This report cannot be reproduced, except when in full, without the written permission of the Lab in-charge
- The samples collected shall be destroyed after 45days from the date of issue of the certificate unless specified otherwise
- The liability of the laboratory is limited to the invoiced amount
- All disputes are subjected to the Ranchi Jurisdiction

		
Tested by Mukesh Singh Field Analyst	Verified by Amit Kumar Sinha Lab Analyst	Issued by Umesh Das Technical Manager



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 Environmental Engineering Laboratory

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