

NABL accredited testing laboratory vide certificate Number TC-4032 Jharkhand State Poliution Control Board (JSPCB)

ISO 9001:2015 & ISO 45001:2018



## Test Certificate

ULR (Unique	Lab Report) No.		T	C	4	0	3	2	2	2	0	0	0	0	0	7	2	9	∏F	
Discipline	Chemical	Group	Atmospheric Pollution				Sar	Sample Description					Ambient Air Quality (Core Zone)							
Report Release Date 06th May, 20								Rep	Report ID						YBAEEL-220428-124042-A01					
W. Order/ J	SPCB App. No.	Telephonic C	Telephonic Order				Wo	Work Order Date					04.20	22						
Type of Ind	ustry(if any)	Thermal Power Plant						Job	Job code/ Ref. no.					AEEL	/WA/I	JAJM	ay-22/	01		
Report Issu Sampling P		M/s Inland F Tonagatu, G	ola, R	tamg	jarh,				nnle (	coll	ectio			Ru VR	AFFI	Toom				
Sampling P								e of sample collection By YBAEEL Team (NAAQM/36/2012-13)												
<u></u>	·	<u> </u>	r Main					23º28'59.74"N, 85º39'38.39"E												
Sampling L	ocations	B. Near Weight Bridge							23º29'57.99"N, 8						85°39'22.10"E					
-		C. Near T G Building							23º28'59.23"N					I, 85°39'23.57"E						
Meteorolog	ical Cond. of Field	W.C Clear	W.C Clear RH % - 38						Temp 34°C					W.D East - West						
Sample rec	eipt Date	02/05/2022	2 Analysis Started on				02/0	<del></del>				sis completed on 06/05/2022								

#### \*\*\*\*\*\*Test Results \*\*\*\*\*

Parameters	Test Methods	Units	MU %	Sa	Limite			
	i apr watiion2	Othes	mu /e	Site A	Site B	Site C	Limits	
Particulate matter (PMse)	IS:5182 (P-23) 2006, RA 2017	µg/m³	2.68	87.4	90.4	85.2	100	
Particulate matter (PM2.5)	IS:5182 (P-24) 2019	hā\w <sub>3</sub>	2.60	49.3	52.4	48.4	60	
Sulphure Dioxide (SO <sub>2</sub> )	IS:5182 (P-2) 2001 RA 2017	, hā\w <sub>3</sub>	7.84	25.0	21.7	19.0	80	
Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182 (P-6) 2006 RA 2017	µg/m³	4.17	53.7	50.3	45.3	80	

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

Limit is specified as	Environmental (Protection) Rule – 1986.
Abbreviation	MDL: Minimum detection limit, BDL; Below detection limit.
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility.
notes	This report, in full or in part, shall not be used for advertising or as evidence in any court of law.
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	The samples collected shall be destroyed after 7 days from the date of issue of the certificate unless specified otherwise
	The liability of the laboratory is limited to the invoiced amount.
ļ	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Samples comply with prescribed limit.

Sample Drawn By

- Angad Munda

Tested By

- Amit Kumar Sinha (Lab Analyst)

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Or otto	3-818182
Verified by	Issued by
Brij Nandan Kumar	Umesh Das
Section In-Charge	Ţechnicai Manager

**Authorized Signatory** Atmospharic Pollution Yugantar Emirati Analytical & **Environmental Engineering Laboratory** 

Technical Manager Yugantar Bharati Analytical & Environmental Engineering Laboratory



Dhanbad Branch Office : - Jamshedpur Hazanbag Pakur



Main Office: Namkum Post Office, Sidroul, Ranchi - 834010, Jharkhand Ph: 09835-97960, 098357-86677, Email - ybaeel@gmail.com; Web - https://ybaeel.in



## ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited by: -Certified by:-

Jharkhand State Pollution Control Board (JSPCB)

An ISO 9001:2015 & ISO 45001:2018



#### Test Certificate

Discipline Chemical	Group	Atmospheric Poliu	tion Sample De	scription	Ambient Air Quality (Core Zor						
Report Release Date	06th May, 202	2	Report ID		YBAEEL-220428-124042-A01						
W. Order/ JSPCB App. No.	Telephonic O	rder	Work Order	Date .	28.04.2022						
Type of Industry(# any)	Thermal Pow	er Plant	Job code/ F	Ref. no.	YBAEEL/WA/L/	A/May-22/01					
Report Issue to		ower Limited ola, Ramgarh, Jha	khand.								
Sampling Period	29/04/2022 - 3	30/04/2022	Mode of sample col	lection	By YBAEEL Team						
Sampling Protocol	IS:5182 and C	PCB Air Manual Vol	me-1(NAAQM/36/20	-1(NAAQM/36/2012-13)							
	A. Nea	r Main Gate	23	23°28'59.74"N, 85°39'38.39"E							
Sampling Locations	B. Nea	r Weight Bridge	23	23°29'57.99"N, 85°39'22.10"E							
•	C. Nea	r T G Building	23	23º28'59.23"N, 85º39'23.57"E							
Meteorological Cond. of Field	teorological Cond. of Field W.C Clear RH % - 38				C W.D.— East - Wes						
Sample receipt Date	ple receipt Date 02/05/2022 Analysis Started on				ysis completed on 06/05/2022						

#### \*\*\*\*\*\*Test Results \*\*\*\*\*

Parameters	Test Methods	Units	MII %	Sa	1 imite			
	1 est incarous	Othica	WIO 76	Site A	Site B	Site C	Limits	
Carbon Monoxide (CO)	SOP No. YBAEEL/SOP/AIR/01	mg/m³		BOL	BDL	BOL		
- monoxido (oo)	COT TEO. TEALELISOFIAIROT	HIBAU.		(MDL 1.8)	(MDL 1.8)	(MDL 1.8)	<del></del>	

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

Limit is specified as	Erwironmental (Protection) Rule - 1986.
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	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Samples comply with prescribed limit.

Sample Drawn By

- Angad Munda

Teeted By

ISO 45001:2018

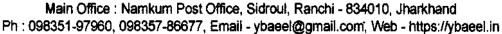
- Amit Kumar Sinha (Lab Analyst)

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Verified by	Issued by
Brij Nandan Kumar	` Umesh Das
Section In-Charge	Technical Manager

**Authorized Signatory** Atmospharic Pollution Yugantar Baarati Analytical & **Environmental Engineering Laboratory** 

**Technical Manager** Yugantar Bharati Analytical & Environmental Engineering Laboratory

Branch Office : - Jamshedpur Dhanbad Hazaribag Pakur





# **ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY**

Accredited by: Certified by:-

NABL accredited testing laboratory vide certificate Number TC-4032 Jharkhand State Pollution Control Board (JSPCB) ISO 9001:2015 & ISO 45001:2018



## Test Certificate

ULR (Unique Lab Report) No.		T	С	4	0	3	2	2	1	!	0	0	0	0	0	7	3	2	! F		
Discipline Chemical	Group	Atr	Atmospheric Pollution				Şa	Sample Description					Ambient Air Quality (Buffer Zone)								
Report Release Date	06th May, 2022						Report ID					YBAEEL-220428-124042-A02					<del></del>				
W. Order/ JSPCB App. No.	Telephonic O	lephonic Order					Wo	Work Order Date					28.	04.20	22						
Type of Industry(if any)	Thermal Power Plant						Job code/ Ref. no.					ΥB	AEEL	WAI	JAIN	lay-2	2/01				
Report Issue to Sampling Period	M/s inland F Tonagatu, G 30/04/2022 -	iola, l	Ramo					mole		llect	lon		T <sub>F</sub>	v VR	AFFI	Tear	<b></b>				
Sampling Protocol	<del>                                     </del>			anua			e of sample collection By YBAEEL Team (NAAQM/36/2012-13)														
	<del></del>	engha											N, 85º40'30.15"E								
Sampling Locations	B. Biya	23º30'0.99"N,						85°39'4.99"E													
	C. Bari	C. Bariyatu														i, 85°40'17.24"E					
Meteorological Cond. of Field	W.C Clear RH % - 24					4	Temp 37ºC					37ºC	W.D East - West								
Sample receipt Date	02/05/2022	Ana	alysis	Start	ed on	_	02/						s co	ompleted on 06/05/2022							

#### \*\*\*\*\*\*Test Results \*\*\*\*\*

Parameters	Test Methods	Units	MU %	Si	l Jacks			
	1 det metilous	Ollita	MU /	Site A	Site B	Site C	Limits	
Particulate matter (PM16)	IS:5182 (P-23) 2006, RA 2017	ha\w <sub>3</sub>	2.68	80.2	79.6	74,1	100	
Particulate matter (PM <sub>2.5</sub> )	IS:5182 (P-24) 2019	µg/m³	2.60	45.8	42.4	44.2	60	
Suiphure Dioxide (SO <sub>2</sub> )	IS:5182 (P-2) 2001 RA 2017	, hã/w <sub>3</sub>	7.84	16.2	17.3	18.4	80	
Nitrogen Dioxide (NO <sub>2</sub> )	IS:5182 (P-6) 2006 RA 2017	µg/m³	4,17	38.0	40.0	36.0	80	

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

Limit is specified as	Environmental (Protection) Rule 1986.
Abbreviation	MDL: Minkmum detection limit, BDL: Selow detection limit.
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
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	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Samples comply with prescribed limit.

Sample Drawn By

- Angad Munda

Tested By

- Amit Kumar Sinha (Lab Analyst)

Environmental Engl

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0 601	
Verified by	Issued by
Brij Nandan Kumar	` Umesh Das
Section tn-Charge	Technical Manager

Authorized Signatory Atmospharic Pollution \*\*\* Analytical & Yugantar :

ming Laboratory

Technical Manager Yugantar Bharati Analytical & Environmental Engineering Laboratory



Dhanbad Branch Office: - Jamshedpur Hazaribag Pakur

Main Office: Namkum Post Office, Sidroul, Ranchi - 834010, Jharkhand Ph: 09835-97960, 098357-86677, Email - ybaeel@gmail.com; Web - https://ybaeel.in





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#### Test Certificate

Discipline Chemical	Group	Atmospheric Poliut	on Sample	e Description	Ambient A	dr Quality (Buffer Zone)			
Report Release Date	06 <sup>th</sup> May, 202	2	Report			20428-124042-A02			
W. Order/ JSPCB App. No.	Telephonic C	rder	Work (	Order Date	28.04.2022	- <del></del>			
Type of Industry(if any)	Thermal Pow	er Plant	<del></del>	de/ Ref. no.		VA/L/A/May-22/01			
Report Issue to	1	ower Limited iola, Ramgarh, Jhari	hand.						
Sampling Period	30/04/2022	01/05/2022	Mode of sample	e collection	By YBAE	EL Team			
Sampling Protocoi	IS:5182 and (	PCB Air Manual Volu	ne-1(NAAQM/3	8/2012-13)					
	A. Sere	enghatu		23029'25.99'	'N, 85°40'30.15	5"E			
Sampling Locations	8. Biya	ing	· .	23º30'0.99"N, 85º39'4.99"E					
	C. Bari	yatu	<del></del>	'N, 85º40'17.24	E				
Meteorological Cond. of Field	W.C Clear	RH % - 2	4	Temp 37º	<del></del>	W.D East - West			
Sample receipt Date	02/05/2022	Analysis Started on	02/05/2	<del></del>	sis completed				

#### \*\*\*\*\*\*Test Results \*\*\*\*\*

Parameters	Test Methods	Units	MU %	Sa			
				Site A	Site B	Site C	Limits
Carbon Monoxide (CO)	SOP No. YBAEEL/SOP/AIR/01	mg/m³	_	BDL	BDL	BDL	
	<u></u>	1	<u>L </u>	(MDL 1.8)	(MDL 1.8)	(MDL 1,8)	
	****	""End of Re	port****				

Limit is specified as Environmental (Protection) Rule - 1986 Abbreviation MDL: Minimum detection limit, BDL: Below detection limit Env. Condition of Lab Laboratory is maintaining. Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C) Specific contractual All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility notes 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 CEO The samples collected shall be destroyed after 7 days from the date of issue of the certificate unless specified otherwise The liability of the laboratory is limited to the involced amount. All disputes are subjected to the Ranchi Jurisdiction. Remarks Samples comply with prescribed limit.

Sample Drawn By

- Anged Munda

Tested By

ISO 45001:2018

- Amit Kumar Sinha (Lab Analyst)

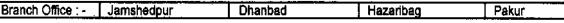
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Bullion 105 ( 200	888
Verified by	issued by
Brij Nandan Kumar Section In-Charge	Urnesh Das
Authorized Signature	Technical Manager

Authorized Signatory
Atmospharic Pollution
Yugantar Bharati Analytical &
Environmental Engineering Laboratory

Technical Manager

Yugantar Bharati Analyticat &

Environmental Engineering Laboratory



Main Office: Namkum Post Office, Sidroul, Ranchi - 834010, Jharkhand Ph: 098351-97960, 098357-86677, Email - ybaeel@gmail.com; Web - https://ybaeel.in



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Test Certificate

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	Lab Report) No.		<u>,                                    </u>	Ն	4	บ	J		2	4	U	ĮŲ,	T.V.	<u> </u>	U		3	0	F
Discipline	Chemical	Group	Group Atmospheric Pollution		Sample Description					Am	bient I	Voise							
Report Rele	ase Date	06 <sup>th</sup> May, 202	22					Rep	ort ID	1			YBA	EEL-	22042	8-12	4042-	N01	
W. Order / J	ISPCB App. No.	Telephonic (	Telephonic Order				Wor	k Ord	ler (	)ate		28.0	4.202	2					
Type of Ind	ustry (If any)	Thermal Power Plant Job code/ Ref. no.							YB/	EEU	WA/L	A/Ma	y-22	/01	····				
Report Issu	e w	M/s Inland I Tonagatu, (				Jhark	hand	i.									•		
Sampling P	eriod	29/04/2022	30/04/2	2022		A	lode	of sample collection				1	By YBAEEL Team						
Sampling P	rotocol	IS 9989:1981	(RA 20	120)									•						
Meteorolog	Ical Cond. of Field	W.C Clear				F	Н%-	- 36					Temp 40°C						
	eipt Date	02/05/2022	T	Analysis Started on				02/05/2022 Analys				els completed on 06/05/2022							

*****	-	Quenite	*****

	T						
SI	Locations	Parameters	Units	MU%	Day Time (6.00 a.m. to 10.00 p.m.)	Night Time (10.00 p.m. to 6.00 a.m.)	Limits
1.	Near Main Gate	Leq	dB (A)	3,32	54.8	46.9	
2.	Near Weight Bridge	Leq	dB (A)	3.32	61.1	48.6	
3.	Near T G Building	Leq	dB (A)	3.32	64.5	62.6	Day 75 Night 70
4.	Near Cooling Tower	Leq	dB (A)	3.32	64.7	64.6	ing.n.
5.	Near Hostel	Leq	dB (A)	3.32	61.3	43.3	

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

•	Silence zone is an area comprising not less than 100 meters around		Area	Ųnit	Day Time	Night time
	hospitals, educational institutions, courts, religious places or any other area which is declared as such by the competent authority.	٨	Industrial Area	dB (A)	75.0	70.0
•	Mixed categories of areas may be declared as one of the four above	В	Commercial Area	dB (A)	65.0	55.0
	mentioned categories by the competent authority.  dB(A) Leg denotes the time weighted average of the level of sound in	С	Residential Area	dB (A)	55.0	45.0
L	decibels on scale(A) which is relatable to human hearing.	D	Silence Zone	dB (A)	50.0	40.0

Limit is specified as	Noise poliution (Regulation & Control) Rules, 2000.
Abbreviation	MDL: Minimum detection irruit, BDL: Below detection limit,
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
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Remarks	Samples comply with prescribed limit.

Sample Drawn By

- Angad Munda

Tested By

- Amit Kumar Sinha (Lab Analyst)

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0100005	2 3 8 2
Verified by	Issued by
Brij Nandan Kumar	` Urnesh Das
Section In-Charge	Technical Manager

Authorized Signatory
Atmospharic Pollution
Yugantar Bharati Analytical &
Environmental Engineering Laboratory

Technical Manager

Yugantar Bharati Analytical &
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Certified by:-

## Test Certificate

ULR (Unique Lab Report) No.		Ť	C	4	0	3	2	2	2	T	0	0	0	0	0	7	3	1		F
Discipline Chemical	Group	Atm	iosph	eric I	ollut	ion	San	nple I	)05	crip	tion		Stat	ionar	y Sou	rce E	Emis	sion		
Report Release Date	06th May, 2022						Rep	ort IE	<u> </u>			┪	YBA	EEL.	2204	8-12	4042	2-51		_
W. Order/ JSPCB App. No.	Telephonic Or	Telephonic Order				Wo	Work Order Date 28.04.2022													
Type of Industry(If any)	Thermal Power Plant Job code/ Ref. no.				ヿ	YBAEEL/WA/L/A/May-22/01														
Report Issue to	M/s Inland Pe Tonagatu, Ge				hark	han	d,													
Sampling Period	30/04/2022				N	lode	of sample collection					By YBAEEL Team								
Sampling Protocol	IS: 11255 & CF	CB G	uidel	ine (L																_
Meteorological Cond. of Field	W.C Clear					žΗ %							Ť	emp.	- 34%	;				
Sample receipt Date	02/05/2022	Ana	lvsis	Start	ed or	T	02/05	2022		$T_i$	Ana	lvsi			ed on		6/05	/2022	2	

General	information
---------	-------------

As observed while sa	mpling	As reported by customer				
Location	Sampling port hole	Type of fuel Used	Coal			
Platform	Permanent	Quantity of Fuel Used(During Sampling)	60 MT/Hr.			
Stack Description (Shape & Material )	Circular / RCC	Total production Capacity	59 MW			
Sampling port	Available	Height of Stack from ground level	95.0 m			
Stack Identification	Single	Inner Diameter of Stack	3.0 m			
Height of port hole from Ground level	48.0 m	Poliution Controlling Device (if any)	ESP			
Running Oven during sampling (if any)	N/A	Total No. of Oven (if any)	N/A			

#### \*\*\*\*\*\*Test Results \*\*\*\*\*

SI	Parameters	Test Method	Units	MU %	Results	Limits
1.	Stack gas Temperature	IS 11255 (Part 3)2008	k		427.0	
2.	Stack gas Velocity	IS 11255 (Part 3)2008	m/s		22.08	
3.	Volumetric Flow Rate	IS 11255 (Part 3)2008	Nm³/hr		378536.7	-
3.	Particulate Matter (PM)	IS 11255 (Part 1)2009	mg/Nm³	2.12	46.0	50
4.	Sulphure Dioxide (SO <sub>2</sub> )	IS 11255 (Part 2)2009	mg/Nm³	3.06	165.7	600
5.	Oxide of Nitrogen (as NO <sub>x</sub> )	IS 11255 (Part 7)2005 RA 2012	mg/Nm³	2.70	69.2	450
7.	Carbon Monoxide (CO)	IS 13270:1992 (RA 2009)	%		BDL (MDL 0.2)	-

#### **Emission Rate**

1.	Particulate Matter (PM)	IS 11255 (Part 1)2009	kg/hr.	17,41	••
2.	Sulphure Dioxide (SO <sub>2</sub> )	IS 11255 (Part 2)2009	kg/hr.	62.72	**
3.	Oxide of Nitrogen (as NO <sub>x</sub> )	IS 11255 (Part 7)2005 RA 2012	kg/hr.	26.19	**

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

Limit is specified as	Environmental (Protection) Rule – 1986.
Abbreviation	MDL: Minimum detection limit, BDL: Below detection limit,
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
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Remarks	Sample compiles with prescribed limits.

Sample Drawn By

- Angad Munda

Tested By

- Amit Kumar Sinha (Lab Analyst)

Nucliar	
00/05/	5/5/52
Verified by	Issued by
Brij Nandan Kumar	Umesh Das
Section in Charge	Technical Manager
4 43 ( ) 201	

Authorized Signatory
Atmospharic Pollution
Yugantar Sharati Analytical &
Environmental Engineering Laboratory

Technical Manager
Yugantar Bharati Analytical &
Environmental Engineering Laboratory



Branch Office : - Jamshedpur Dhanbad Hazaribag Pakur





## **ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY**

Accredited by: -

Jharkhand State Pollution Control Board (JSPCB)

An ISO 9001:2015 & ISO 45001:2018



#### Test Certificate

Discipline Cl	hemical	Group	Atmospheric Pollu	tion Sample Desc	ription Stationary Source Emission
Report Release Date		06th May, 2022		Report iD	YBAEEL-220428-124042-S1
W. Order/ JSPCB App. No.		Telephonic Order		Work Order I	
Type of Industry(if any) Report issue to		Thermal Power Plant		Job code/ Re	f. no. YBAEEL/WA/L/A/May-22/01
		M/s inland Power Limited Tonagatu, Gola, Ramgarh, Jharkhand.			
Sampling Perio	d	30/04/2022 Mode of sample collection By YBAEEL Team			
Sampling Protocol Meteorological Cond. of Field		IS: 11255 & C	PCB Guideline (Lats/8		
		W.C Clear	<del></del>	RH % - 40	Temp 34°C
Sample receipt	Date	02/05/2022	Analysis Started or	02/05/2022	Analysis completed on 06/05/2022

#### General Information

As observed while sa	mpling	As reported by customer	
Location	Sampling port hole	Type of fuel Used	Coal
Platform	Permanent	Quantity of Fuel Used(During Sampling)	60 MT/Hr.
Stack Description (Shape & Material)	Circular / RCC	Total production Capacity	59 MW
Sampling port	Available	Height of Stack from ground level	95.0 m
Stack Identification	Single	Inner Diameter of Stack	3.0 m
Height of port hole from Ground level	48.0 m	Pollution Controlling Device (if any)	ESP
Running Oven during sampling (if any)	N/A	Total No. of Oven (if any)	N/A

#### \*\*\*\*\*\*Test Results \*\*\*\*\*\*

SI	Parameters	Test Method	Units	MU %	Results	Limits	
1.	Mercury (as Hg)	Lat's/80/2013-14	mg/Nm <sup>3</sup>	-	BDL (MDL 0.003)	0.03	
	******End of Report******						

Limit is specified as	Environmental (Protection) Rule – 1986.
Abbreviation	MDL: Minimum detection limit, BDL: Below detection limit.
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C)
Specific contractual	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
notes	This report, in full or in part, shall not be used for advertising or as evidence in any court of law
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	The samples collected shall be destroyed after 7 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.
Remarks	Sample complies with prescribed limits.

Sample Drawn By

- Angad Munda

Tested By

ISO 45001:2018

- Amit Kumar Sinha (Lab Analyst)

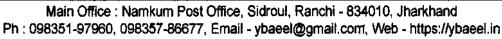
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Pring 6 163,	3-315102
Verified by	Issued by
Brij Nandan Kumar	'Umesh Das
Section In-Charge	Technical Manager

Authorized Signatory
Atmospharic Poliution
Yugantar Charati Analytical &
Environmental Engineering Laboratory

Technical Manager
Yugantar Bharati Analytical &
Environmental Engineering Laboratory

Branch Office : - Jamshedpur Dhanbad Hazaribag Pakur







Accredited by: - | Jharkhand State Pollution Control Board (JSPCB)

Certified by :- Art ISO 9001:2015 & ISO 45001:2018

Test Certificate

Discipline Chemical	Group Pollution & Environment	Sample Description	ASH	
Report Release Date	09th May, 2022	Report ID	YBAEEL-220428-124042- S01	
W. Order/ JSPCB App. No.	Telephonic Order	Work Order Date	28.04.2022	
Type of Industry(if any)	Thermal Power Plant	Job code/ Ref. no.	YBAEEL/WA/L/S/May-22/01	
Sampling Date	M/s Inland Power Limited Tonagatu, Gola, Ramgarh, Jharkha	and.  Mode of sample collection	By YBAEEL Team	
		<del></del>	O) TORLLE TEAM	
Sampling Protocol	15 ; JUZ3 [Part-1] 1987, R-2003	Sample Code	220502-S-X01	
<del></del>	15 : 3025 (Part-1) 1987, R-2003	Sample Code Sampling Source	220502-S-X01 Fly Ash	
Sampling Location	<del></del>	T	Fly Ash	
Sampling Protocol Sampling Location Sample pkg. Condition Meteorological Cond. of Field	Silo Sealed Pack in Zipper Bag	Sampling Source	<del>                                     </del>	

#### \*\*\*\*\*\*Test Results \*\*\*\*\*\*

Sł	Parameter	Test Method	Units	MU %	Results
1.	Iron (as Fe)	USEPA 3050 B :1996/APHA 3111 B	ppm	2.73	20.02
2.	Zinc (as Zn)	USEPA 3050 B :1996/APHA 3111 B	ppm	4.44	0.26
3.	Copper (as Cu)	USEPA 3050 B :1996/APHA 3111 B	ppm	10.18	BDL (MDL 0.01)
4.	Lead (as Pb)	USEPA 3050 8 :1996/APHA 3111 B	ppm	2.82	BDL (MDL 0.02)
5.	Nickel (as Ni)	USEPA 3050 B :1996/APHA 3111 B	ppm	4.10	BDL (MDL 0.02)
6.	Cadmium (as Cd)	USEPA 3050 B :1996/APHA 3111 B	ppm	9.57	0.08
7.	Chromium (as Cr)	USEPA 3050 B :1996/APHA 3111 B	ppm	5.44	0.14
		******End of Report******			1. 3117

Limit is specified as

Abbreviation

Env. Condition of Lab

Specific contractual notes

All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility.

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This report cannot be reproduced, except when in full, without the written permission of the CEO.

The samples collected shall be destroyed after 15 days from the date of issue of the certificate unless specified otherwise

The liability of the laboratory is limited to the involced amount.

All disputes are subjected to the Ranchi Jurisdiction.

Sample Drawn By

Angad Munda

Tested By

Shivani Kumari Singh (Lab Analyst)

- vara	
De 3105/202	315/32
Verified by	Issued by
Brij Nandan Kumar	Umesh Das
Section In-Charge	Fechnical Manager

Authorized Signatory
Pollution & Environment
Yugantar Bharati Analytical &
Environmental Engineering Laboratory

Technical Manager
Yugantar Bharati Analytical &
Environmental Engineering Laboratory



Branch Office : - Jamshedpur

Dhanbad

Hazaribag

Pakur



Main Office: Namkum Post Office, Sidroul, Ranchi - 834010, Jharkhand Ph: 098351-97960, 098357-86677, Email - ybaeel@gmail.com, Web - https://ybaeel.in



## **ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY**

Accredited by: -

Jharkhand State Pollution Control Board (JSPCB)

Certified by:-

An ISO 9001:2015 & ISO 45001:2018



## Test Certificate

Discipline	Chemical	Group	Pollution & Environme	nt	Sample Desc	ription	ASH		
Report Release Date		09th May,	2022		Report ID	·· <del>·</del>	YBAEEL-220428-124042- S		
W. Order/ JSF	CB App. No.	Telephor	ic Order		Work Order D	ate	28.04.2022		
Type of Indus	try(if any)	Thermal	Power Plant		Job code/ Re	f. no.	YBAEELW	A/L/S/May-22/01	
Report Issue Sampling Dat			nd Power Limited u, Gola, Ramgarh, Jh	arkhan	d. Mode of samp	de collection	B. VDAEE	T	
Sampling Pro			<del>-</del>				By YBAEEL Team		
<u></u>			(Part-1) 1987, R-2003		Sample Code		220502-S-X02		
Sampling Loc	ation	Bed Ash Drain Area			Sampling Sou	irce 📉 🛬	Bottom Ash		
Sample pkg. Condition Sealed Pack in Zipper Bag				Sample Quan	tity	2.5 Kg Approx.			
Meteorologica	cal Cond. of Fletd W.C Clear Rh			RH %	- 30		Temp 38°C		
Camala resal	ample receipt Date 02/05/2022 Analysis Started on			02/05/2022	A	ompleted on	09/05/2022		

\*\*\*\*\*\*Test Results \*\*\*\*\*

Si	Parameter	Test Method	Units	MU %	Results
1.	Iron (as Fe)	USEPA 3050 B :1996/APHA 3111 B	ppm	2.73	18.92
2.	Zinc (as Zn)	USEPA 3050 B :1996/APHA 3111 B	ppm	4.44	0.24
3.	Copper (as Cu)	USEPA 3050 B :1996/APHA 3111 B	ppm	10.18	BDL (MDL 0.01)
4.	Lead (as Pb)	USEPA 3050 B :1996/APHA 3111 B	ppm	2.82	BDL (MDL 0.02)
5.	Nickel (as Ni)	USEPA 3050 B :1996/APHA 3111 B	ppm	4,10	BDL (MDL 0.02)
6.	Cadmium (as Cd)	USEPA 3050 B :1996/APHA 3111 B	ppm	9.57	0.06
7.	Chromium (as Cr)	USEPA 3050 B :1996/APHA 3111 B	ppm	5.44	0.10

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

Limit is specified as	
Abbreviation	MDL: Minimum detection limit, BOL: Selow detection limit.
Env. Condition of Lab	Laboratory is maintaining. Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility.
notes	This report, in full or in part, shall not be used for advertising or as evidence in any court of law.
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	The samples collected shall be destroyed after 15 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 durisdiction.
Remarks	

Sample Drawn By

Angad Munda

**Tested By** 

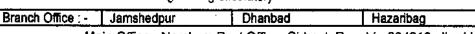
Shivani Kumari Singh (Lab Analyst)

Br 55 7201	31510
Verified by	issued by
Brij Nandan Kumer	Umesh Das
Section In-Charge	Technical Manager

Authorized Signatory
Pollution & Environment
Yugantar Bharati Analytical &
Environmental Engineering Laboratory

Technical Manager
Yugantar Bharati Analytical &
Environmental Engineering Laboratory

Pakur





Main Office: Namkum Post Office, Sidroul, Ranchi - 834010, Jharkhand Ph: 098351-97960, 098357-86677, Email - ybaeel@gmail.com; Web - https://ybaeel.in



## **ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY**

Accredited by:

NABL accredited testing laboratory vide certificate Number TC-4032 Jharkhand State Pollution Control Board (JSPCB) ISO 9001:2015 & ISO 45001:2018



## Test Certificate

ULR (Unique Lab Report) No.		T	C	4	0	3	2	2	2	0		)	0	0	0	7	[]	3 3	F
Discipline Chemical	Group	Group Water				Sample Description				5	urla	ce Wa	iter						
Report Release Date	06th May, 202	2	•				Repor	t ID					1	BAE	EL-22	20421	B-12	4042-	SW01
W. Order/ JSPCB App. No.	Telephonic O	rder				Ì	Work	Orde	Da	te			1	8.04	2022				
Type of industry(if any)	Thermal Pow	er Pla	ant	··· <del></del>			Job c	ode/ F	₹ef.	no.			Ţ	'BAE	EL/W	A/L/	C/M	ay-22	01
Sampling Date	Tonagatu, G	iola,	Ram	garh,	Jhar		nd. Mode	of sa	mpi	e col	lecti	<b>O</b> n	Te	By YE	BAEE	L Tea	ım		
Sampling Protocol	I\$ : 3025 (Par	t-1) 1	987.	R-200	3	<del></del>	Sample Code					220502-SW-X01							
Sampling Location Near Cooling Tower					Sampling Source				Surface Water (Effluent)										
Sample pkg. Condition	ample pkg. Condition Sealed Pack in PP Bottle				Sample Quantity				3000 ml										
Meteorological Cond. of Fleid	W.C Clear						RH %	- 23		-			17	emp	42	°C			
Sample receipt Date	<del></del>	2022 Analysis Started on 02/05/202						Ana							05/20				

#### \*\*\*\*\*\*\*Test Results \*\*\*\*\*\*

SI Parameter	Test Method	Units	MU %	Results	Limits
1. pH value	IS 3025 (P-11):2002	рĤ	1.77	7.98	p-
2. Total Alkalinity (as CaCO <sub>3</sub> )	IS 3025 (P-23);2003	mg/l	3.68	90.0	-
3. Total Hardness (as CaCO <sub>3</sub> )	IS 3025 (P-21):2009	mg/l	1.35	110.0	
4. Oxygen (dissolved)	IS 3025 (P-38):2003	mg/l	6.5	6.7	
5. Total dissolved solids	IS 3025 (P-16):2006	mg/l	2.85	164.0	
6. Total suspended solids	IS 3025 (P-17):2012	mg/l	5.7	BDL (MDL 10.0)	
7. Oll and grease	IS 3025 (P-39):2003	mg/l	8.79	4.2	
8. BOD	IS 3025 (P-44):2009	mg/l	11,04	1.4	
9. COD	IS 3025 (P-58):2006	mg/l	8.75	28.0	**
10. Chioride (as Ci)	IS 3025 (P-32):2003	mg/l	3.41	28.5	
11. Nitrate (as NO <sub>3</sub> -)	APHA 4500 NO <sub>3</sub> - (B) 23rdedition 2017	mg/l	11.33	0.38	
12. Sulphate (as SO <sub>4</sub> <sup>2</sup> ·)	IS 3025 (P-24):2003	mg/i	5.42	16.2	
13. Sodium (as Na+)	APHA 3111 B 23rd edition 2017	mg/l	16.98	12.0	
14. Potassium (as K*)	APHA 3111 B 23rd edition 2017	mg/i	9.21	1.0	
	*****End of Report	*****		· · · · · · · · · · · · · · · · · · ·	

Limit is apecified as	Environmental (Protection) Rule – 1986.
Abbreviation	MOL: Minimum detection limit. BOL: Below detection limit,
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1968 (C).
Specific contractual	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
notes	This report, in full or in part, shall not be used for advartising or as evidence in any court of law.
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	All disputes are subjected to the Ranchi Junsdiction.
Remarks	Sample compiles with prescribed limits.

Sample Drawn By

- Anged Munda

Tested By

- Shivani Kumari singh / Akash Khaikho (Lab Analyst)

(Mr. 105)	7/18/2
V. 0010 >	1 1 1
Verified by	issued by
Brij Nandao Kumar	Umesh Das
Section in-Charge	Technical Manager

**Authorized Signatory** Chemical Section Yugantar Bharati Analytical & **Environmental Engineering Laboratory** 

Technical Manager Yugantar Bharati Analytical & **Environmental Engineering Laboratory** 



Dhanbad Branch Office : - Jamshedpur Hazanbag Pakur





Accredited by: - Jharkhand State Pollution Control Board (JSPCB)
Certified by: - An ISO 9001:2015 & ISO 45001:2018

Test Certificate

Discipline	Chemical	Group	Water	Sample Descriptio	on Surface Water
Report Release Date		06 <sup>th</sup> May, 202	2	Report ID	YBAEEL-220428-124042-SW0
W. Order/ JS	SPCB App. No.	Telephonic O	rder	Work Order Date	28.04.2022
Type of Indu	istry(if any)	Thermal Pow	er Plant	Job code/ Ref. no.	YBAEEL/WA/L/C/May-22/01
Report issu	,	11110 11110	Power Limited iola, Ramgarh, Jharkh	and.	ollection By YBAEEL Team
Sampling P			t-1) 1987, R-2003	Sample Code	220502-SW-X01
Sampling Location Near Cooling Tower		<del></del>	Sampling Source	Surface Water (Effluent)	
Sample pkg. Condition		Sealed Pack	in PP Bottle	Sample Quantity	3000 ml
Meteorologi	ical Cond. of Field	W.C Clear		RH % - 23	Temp. – 42°C
Sample rec	aint Data	02/05/2022	Analysis Started on	02/05/2022	Analysis completed on 06/05/2022

#### \*\*\*\*\*\*Test Results \*\*\*\*\*\*

SI	Parameter	Test Method	Units	MU %	Results	Limits
1,	Nitrogen Ammonia	IS 3025 (P-34):1988	mg/l	. +	BDL (MDL 0.1)	
2.	Phosphate (as PO43-)	IS 3025 (P-31):2003	mg/l	-	0.246	5

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

Limit is specified as	Environmental (Protection) Rule – 1986.
Abbreviation	MDL: Minimum detection limit, BDL: Below detection limit,
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196 1966 (C).
Specific contractual	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
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	The liability of the laboratory is limited to the invoiced amount.
	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Sample compiles with prescribed limits.

Sample Drawn By

- Angad Munda

Tested By

ISO 45001:2018

- Shivani Kumari singh / Akash Khalkho (Lab Analyst)

Walland S	7.1512
VE 36 100 >	
Verified by	Issued by
Brij Nandan Kumar	Umesh Das
Section In-Charge	Technical Manager

Authorized Signatory
Chemical Section
Yugantar Bharati Analytical &
Environmental Engineering Laboratory

Technical Manager

Yugantar Bharati Analytical &
Environmental Engineering Laboratory

Branch Office : - Jamshedpur Dhanbad Hazaribag Pakur



Main Office: Namkum Post Office, Sidroul, Ranchi - 834010, Jharkhand Ph: 098351-97960, 098357-86677, Email - ybaeel@gmail.com, Web - https://ybaeel.in



NABL accredited testing laboratory vide certificate Number TC-4032

Jharkhand State Pollution Control Board (JSPCB)

ISO 9001:2015 & ISO 45001:2018



## Test Certificate

ULR (Unique Lab Report) No.	T	C	4	Q	3	2	2	2	:	0	0	0	0	0	7	Τ:	3 .	4	F	
Discipline Chemical	Group		Wate	r		:	Sample Description					T	Residue & Contaminants in Water					er		
Report Release Date 06th May, 2022				· · · · · ·		Report ID							1	YBAEEL-220428-124042-SW01						)1
W. Order/ JSPCB App. No.	Telephonic Order					1	Work Order Date					1	28.04	2022						
Type of Industry(if any)	Thermai Power Plant						Job code/ Ref. no.					寸:	/BAE	ELW	ALLI	R/Ma	ay-22	/01	_	
Sampling Date	M/s inland Portion of the Miles				Jhark	_	d. Mode	of sa	mp	le co	llec	tion		3v YE	BAEE	L Tea	im			
Sampling Protocol	IS : 3025 (Part	-1) 19	987, R	-2003		<del></del> -	Sample Code						<del>-</del> i-	220502-SW-X01						
Sampling Location	Near Cooling	Towe	er			1	Sampl	ing S	ou	rce				Surface Water (Effluent)						_
Sample pkg. Condition	Sealed Pack is	PP	Bottle			1	Sampl	e Qu	ant	ity			1	000	ml					
Meteorological Cond. of Fleid	W.C Clear					Ti	RH %	- 23					٠,	Temp	. – 42	°Ç				
Sample receipt Date	02/05/2022 Analysis Started on			1	02/05/2022 Analysis					is c	is completed on 06/05/2022					_				

#### \*\*\*\*\*\*Test Results \*\*\*\*\*\*

\$I	Parameter	Test Method	Units	MU %	Results	Limits
1.	Copper (as Cu)	APHA 3111 B 23rd edition 2017	mg/l	11,11	BDL (MDL 0.01)	-
2.	Iron (as Fe)	APHA 3111 B 23rd edition 2017	mg/l	2.34	0.25	
3.	Lead (as Pb)	APHA 3111 B 23rd edition 2017	mg/l	10.64	BDL (MDL 0.02)	
4.	Cadmium (as Cd)	APHA 3111 B 23rd edition 2017	mg/l	5.0	BDL (MDL 0.02)	-
5.	Chromium (as Cr)	APHA 3111 B 23rd edition 2017	mg/f	12.53	BDL (MDL 0.02)	0.2
6.	Nickel (as Ni)	APHA 3111 B 23rd edition 2017	mg/l	13.72	BDL (MDL 0.02)	***
7.	Cobait (Co)	APHA 3111 B 23rd edition 2017	mg/l	28.33	BDL (MDL 0.03)	

Limit is specified as	Environmental (Protection) Rule – 1986.
Abbreviation	MDL: Minimum detection limit, BDL: Selow detection limit,
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196: 1966 (C)
Specific contractual	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
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	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Sample compiles with prescribed limits.

Sample Drawn By

- Angad Munda

Tested By

- Shivani Kumari Singh (Lab Analyst)

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Wall and The Control of the Control	25/22
	0-8131
Verified by	Issued by
8nj Nandan Kumar	Umest Das
Section in-Charge	Ţechnical Manager

Authorized Signatory
Chemical Section
Yugantar Bharati Analytical &
Environmental Engineering Laboratory

Technical Manager

Yugantar Bharati Analytical &
Environmental Engineering Laboratory

Branch Office : - Jamshedpur Dhanbad Hazaribag Pakur





Main Office: Namkum Post Office, Sidroul, Ranchi - 834010, Jharkhand Ph: 09835-97960, 098357-86677, Email - ybaeel@gmail.com, Web - https://ybaeel.in



#### **ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY**

Accredited by: -Certified by:-

Jharkhand State Pollution Control Board (JSPCB)

An ISO 9001:2015 & ISO 45001:2018

#### Test Certificate

<del></del>		Near Cooling	Tower	Sampling Source	5	Surface Water	(Effluent)			
Sampling Pr		Sampling Location Near Cooling Tower				Surface Water (Effluent)				
Sampling Protocol IS: 3025 (Part-1) 1987, R-2003			l-1) 1987, R-2003	Sample Code	I	220502-SW-X01				
Sampling Da	nte	30/04/2022		Mode of sample coll	ection	By YBAEEL Team				
Report Issue	to .		ower Limited ola, Ramgarh, Jharkh	and.	<b>_</b>		<b>V.18</b> . <b>i</b>			
Type of Indu	stry(if any)	Thermal Power	er Plant	Job code/ Ref. no.		YBAEELWA/L/R/May-22/01				
W. Order/ JSPCB App. No. Telepho			rder	Work Order Date		28.04.2022				
Report Release Date		06 <sup>th</sup> May, 2022	2	Report ID		YBAEEL-220428-124042-SV				
Discipline	Chemical	Group	Water	Sample Description		Residue & Cont	aminants in Water			

#### \*\*\*\*\*\*Test Results \*\*\*\*\*\*

Şſ	Parameter	Test Method	Units	MU %	Results	Limits			
1.	Aluminium (as Al)	IS 3025 (P-55):2003	mg/l	·_	BDL (MDL 0.02)				
	******End of Report*****								

Limit is specified as	
Abbreviation	MDL: Minimum detection limit, BDL: Below detection limit.
Env. Condition of Lab	Laboratory is maintaining. Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
notes	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 CEO.
•	The samples collected shall be destroyed after 15 days from the date of issue of the certificate unless specified otherwise
	The tability of the laboratory is limited to the invoiced amount.
	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	

Sample Drawn By

- Angad Munda

Tested By

- Shivani Kumari Singh (Lab Analyst)

AND STOUTON	3-03/8/32
Verified by	issued by
Brij Nandan Kumar	Umesh Das
Section in-Charge	Technical Manager

Authorate a Dignotory
Chemical Section
Yugantar Bharati Analytical &
Environmental Engineering Laboratory

Technical Manager
Yugantar Bharati Analytical &
Fovironmental Engineering Labor



Branch Office : - Jamshedpur Dhanbad Hazanbag Pakur





Accredited by: - NABL accredited testing laboratory vide certificate Number TC-4032

Certified by :- ISO 9001:2015 & ISO 45001:2018

Jharkhand State Pollution Control Board (JSPCB)



## Test Certificate

ULR (Unique Lab Report) No.				3	4	0	3	3 2 2 2 0 0					0	0	0	7	4	5	TF					
Discipline	Chemical	Group Water				1	Sample Description					Ground Water												
Report Rele	ase Date	09 <sup>th</sup> May, 2022						ī	Repor	t ID			YBAEEL-220428-124042-G			3W01								
W. Order/ J	SPCB App. No.	Telephonic Order					١	Work Order Date					2	8.04.	2022									
Type of Ind	ustry(if any)	Thermal Power Plant						7.	Job code/ Ref. no.					YBAEELWA/L/C/May-22/02										
Sampling D	ate	Tonagatu, G 30/04/2022	via, 	nai:			nidi#	· · · · · · · · · · · · · · · · · · ·																
Sampling D	ate	30/04/2022						1	Mode of sample collection					By YBAEEL Team										
Sampling P	rotocol	IS : 3025 (Par	l-1) 1	987,	R-2	003			Sample Code					220502-GW-X01										
	anation.	Tonaghatu					Sampling Source					Ground Water												
Sampling L	ocauon	i onagnatu						1 1	nple pkg. Condition Sealed Pack in PP Bottle Sample										3000 ml					
<del></del> -		<del></del>	n PP	Bott	le			-	<del></del> -					+										
Sample pkg		<del></del>	n PP	Bott	le			1	<del></del> -	le Qua			·	3		nl	С							

#### \*\*\*\*\*\*Test Results \*\*\*\*\*

Parameter	Test Method	Units	MU %	Results	Limits
pH value	IS 3025 (P-11):2002	рH	1,77	6.72	6,5-8.5
Colour	IS 3025 (P-04):1983	Hazen	-	10	5-15
Conductivity	IS 3025 (P-14):2013	µs/cm	1.90	220.0	
Total Alkalinity (as CaCO <sub>3</sub> )	IS 3025 (P-23):2003	mg/l	3.68		200-600
Total Hardness (as CaCO <sub>3</sub> )	IS 3025 (P-21):2009	mg/l	1.35	74.0	200-600
Total dissolved solids	IS 3025 (P-16):2006	tng/l	2.85	120.0	500-2000
Chlorine Residual	IS 3025 (P-26):2003	<del>1                                    </del>	30.64		0.2-1
Chloride (as Ci)	IS 3025 (P-32):2003	<del></del>	3,41		250-1000
Fluoride (as F-)	APHA 4500 F-C 23rd edition 2017	mg/l	12.22		1,0-1,5
Nitrate (as NO <sub>3</sub> -)	APHA 4500 NO <sub>3</sub> - (B) 23rdedition 2017	mg/l	11.33		45-No relaxation
Calcium (as Ca <sup>2+</sup> )	IS 3025 (P-40): 2003		4.19		75-200
Magnesium (as Mg <sup>2+</sup> )	APHA 3500 Mg B : 2017	mg/l	1.90		30-100
Sodium (as Na*)	APHA 3111 B 23rd edition 2017	mg/l	16.98		
Potassium (as K+)	APHA 3111 B 23rd edition 2017	mg/l	9.21	1.9	-
	pH value Colour Conductivity Total Alkalinity (as CaCO <sub>3</sub> ) Total Hardness (as CaCO <sub>3</sub> ) Total dissolved solids Chlorine Residual Chloride (as Ci) Fluoride (as F-) Nitrate (as NO <sub>3</sub> -) Calcium (as Ca <sup>2+</sup> ) Magnesium (as Mg <sup>2+</sup> ) Sodium (as Na*)	DH value	Description	PH value	DH value

	· · · · · · · · · · · · · · · · · · ·
Limit is specified as	I \$ 10500: 2021
Abbreviation	MDL: Minimum detection limit, BDL: Below detection limit,
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per (\$196:1966 (C)).
Specific contractual	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
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	The samples collected shall be destroyed after 15 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.
Remarks	Sample compiles with prescribed limits.

Sample Drawn By

- Angad Munda

Tested By

- Shivani Kumari singh / Akash Khalkho (Lab Analyst)

011111	
Wall of the last o	36132
Verified by	issued by
Brij Nandan Kumar	Umesh Das
Section In-Charge	Technical Manager

Authorized Signatory
Chemical Section
Yugantar Bharati Analytical &
Environmental Engineering Laboratory

Technical Manager
Yugantar Bharati Analytical &
Environmental Engineering Laboratory

7

Branch Office : - Jamshedpur

Dhanbad

Hazaribag

Pakur

ISO 9001:2015 ISO 45001:2018

Main Office: Namkum Post Office, Sidroul, Ranchi - 834010, Jharkhand Ph: 09835-97960, 098357-86677, Email - ybaeel@gmail.com, Web - https://ybaeel.in



**ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY** Accredited by: -Jharkhand State Pollution Control Board (JSPCB)

Certified by: -

An ISO 9001:2015 & ISO 45001:2018

### Test Certificate

Discipline	Chemical	Group	Water	Sample Description	П	Ground Water				
Report Relea	ase Date	09th May, 202	2	Report ID		YBAEEL-2204	28-124042-GW01			
W. Order/ JS	PCB App. No.	Telephonic C	rder	Work Order Date		28.04.2022 YBAEELWA/L/C/May-22/02				
Type of Indu	Stry(If any)	Thermal Pow	er Plant	Job code/ Ref. no.						
Report Issue	•	Tonagatu, G	Power Limited Sola, Ramgarh, Jharkh							
Sampling Da	· · · · · · · · · · · · · · · · · · ·	30/04/2022		Mode of sample co	ollection	By YBAEEL To	eam			
Sampling Pr	otocol	IS: 3025 (Pai	rt-1) 1987, R-2003	Sampie Code		220502-GW-X0	)1			
Sampling Lo	cation	Tonaghatu		Sampling Source		Ground Water				
Sample pkg.	Condition	Sealed Pack	in PP Bottle	Sample Quantity		3000 ml	<u> </u>			
Meteorologic	cal Cond. of Field	W.C Clear		RH % - 23		Temp. – 39°C				
Sample rece	ipt Date	ample receipt Date 02/05/2022 Analysis Started on 02/05/2022 Analysis completed on 0								

#### \*\*\*\*\*\*Test Results \*\*\*\*\*\*

SI	Parameter	Test Method	Units	MU %	Results	Limits
1.	Odour	IS 3025 (P-05):2002		·	Agree.	Agreeable
2.	Taste	IS 3025 (P-07):2002	144		Agree.	Agreeable
3.	Phosphate (as PO43)	IS 3025 (P-31):2003	mg/l		BDL (MDL 0.003)	4+
4.	Cyanide(as CN-)	IS 3025 (P-27)	mg/l		BDL (MDL 1.0)	0.05-No relaxation

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

Limit is specified as	IS 10500: 2021 •
Abbreviation	MDL: Minimum detection limit, BDL: Below detection limit.
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
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	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Sample complies with prescribed limits.

Sample Drawn By . - Angad Munda

Tested By

- Shivani Kumari singh / Akash Khalkho (Lab Analyst)

100 mates 2222	3/18/2
Verified by	issued by
Brij Nandan Kumar	Umesh Das
Section In-Charge	Technical Manager

Authorized Signatory Chemical Section Yugantar Bharati Analytical & Environmental Engineering Laboratory

Technical Manager Yugantar Bharati Analytical & **Environmental Engineering Laboratory** 

Branch Office : - Jamshedpur Dhanbad Hazaribag Pakur



ISO 45001:2018

Main Office: Namkum Post Office, Sidroul, Ranchi - 834010, Jharkhand Ph: 098351-97960, 098357-86677, Email - ybaeel@gmail.com, Web - https://ybaeel.in



## ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited by:

NABL accredited testing laboratory vide certificate Number TC-4032 Jharkhand State Pollution Control Board (JSPCB)

ISO 9001:2015 & ISO 45001:2018



## Test Certificate

ULR (Unique Lab Report) No.		T	C	4	Û	3	2	2	2	0	0	0	10	0	7	3		) F	
Discipline Chemical	Group		Wate	r	•		Sample Description						Residue & Contaminants in Water						
Report Release Date	09th May, 2022					T	Report ID						YBAEEL-220428-124042-GW01						
W. Orderi JSPCB App. No.	Telephonic Or	der				ī	Work Order Date					$\neg$	28.04	2022					
Type of Industry(# any)	Thermal Powe	Thermal Power Plant			١,	Job code/ Ref. no.						YBAE	EL/W	AJUR	VMa	y-22	02		
Sampling Date	M/s Inland Po Tonagatu, Go 30/04/2022				Jhark	_	d. Mode	of sa	mole	coll	ectic		Bv YI	BAEEL	Tea	m			
Sampling Protocol	IS : 3025 (Part	-1) 1:	987, R	-2003		$\rightarrow$	Sampl		<del></del>			$\rightarrow$	220502-GW-X01						
Sampling Location	Tonaghatu					-	Sampl			e			Grou	nd Wa	ter				
Sample pkg. Condition	Sealed Pack in	1 PP	Bottle	· · · · ·		7	Sampl	e Qua	antit	y			1000	m!					
Meteorological Cond. of Field	W.C Clear	_				1	RH % - 23					t	Temp. – 39°C						
Sample receipt Date	02/05/2022	Ar	alysis	Star	ted on	7	2/05/2	2022		$\top$	naly	sis c	ompl	eted o	n [	07/0	5/20	22	

#### \*\*\*\*\*\*Test Results \*\*\*\*\*

SI	Parameter	Test Method	Units	MU %	Results	Limits
1.	Arsenic (as As)	APHA 3114 B 23rd edition 2017	mg/l	10.34	BDL (MDL 0.003)	0.01-No relaxation
2.	Copper (as Cu)	APHA 3111 B 23rd edition 2017	mg/l	11.11	BDL (MDL 0.01)	0.05-1.5
3.	Iron (as Fe)	APHA 3111 B 23rd edition 2017	mg/l	2.34	0.16	1.0-No relaxation
4.	Lead (as Pb)	APHA 3111 B 23rd edition 2017	mg/l	10.64	BDL (MDL 0.02)	0.01-No relaxation
5.	Zinc (as Zn)	APHA 3111 B 23rd edition 2017	mg/l	15.35	0.21	5-15
6.	Cadmium (as Cd)	APHA 3111 B 23rd edition 2017	mg/l	5.0	BDL (MDL 0.02)	0.003-No relaxation
7.	Chromium (as Cr)	APHA 3111 B 23 <sup>rd</sup> edition 2017	mg/l	12.53	BDL (MDL 0.02)	0.05-No relaxation
8.	Nickei (as Ni)	APHA 3111 B 23rd edition 2017	mg/l	13.72	BDL (MDL 0.02)	0.02-No relaxation
9.	Cobalt (Co)	APHA 3111 B 23rd edition 2017	mg/l	28.33	BDL (MDL 0,03)	-

Limit is specified as IS 10500: 2021 Abbreviation MDL: Minimum detection limit, BDL: Below detection limit, Env. Condition of Lab Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C) Specific contractual All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility This report, in full or in part, shall not be used for advertising or as evidence in any court of law. notes This report cannot be reproduced, except when in full, without the written permission of the CEO The samples collected shall be destroyed after 15 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. Remarks Sample compiles with prescribed limits

Sample Drawn By

- Angad Munda

Tested By

- Shivani Kumari Singh (Lab Analyst)

03/01/20	31582
Verified by	issued by
Brij Nandan Kumar	Umesh Das
Section In-Charge	Technical Manager

Authorized Signatory Chemical Section Yugantar Bharati Analytical & **Environmental Engineering Laboratory** 

Technical Manager Yugantar Bharati Analytical & الرعبينيا 1 م

Branch Office : - Jamshedpur Dhanbad Hazaribag Pakur





Main Office: Namkum Post Office, Sidroul, Ranchi - 834010, Jharkhand Ph: 09835-97960, 098357-86677, Email - ybaeel@gmail.com, Web - https://ybaeel.in



### **ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY**

Accredited by: Certified by:-

Jharkhand State Pollution Control Board (JSPCB)

An ISO 9001:2015 & ISO 45001:2018

### Test Certificate

Discipline Chemical	Group	Water	Sample Description		Residue & Cont	aminants in Water			
Report Release Date	09th May, 202	2 .	Report ID		YBAEEL-2204	28-124042-GW01			
W. Order/ JSPCB App. No.	Telephonic C	Order	Work Order Date		28.04.2022				
Type of industry(if any)	Thermal Pow	er Plant	Job code/ Ref. no.		YBAEEL/WA/L/R/May-22/02				
Report Issue to	Tonagatu, G	Power Limited Sola, Ramgarh, Jharkh	· <u>·······</u>		1				
Sampling Date	30/04/2022	<del></del>	Mode of sample co	ollection	By YBAEEL To	Bam			
Sampling Protocol	IS : 3025 (Pai	rt-1) 1987, R-2003	Sample Code		220502-GW-X(	)1			
Sampling Location	Tonaghatu	<u></u>	Sampling Source	A <sub>E</sub>	Ground Water	<u> </u>			
Sample pkg. Condition	Sealed Pack	in PP Bottle	Sample Quantity		1000 ml	74-4			
Meteorological Cond. of Fleid	W.C Clear		RH % - 23		Temp 39°C				
Sample receipt Date	02/05/2022	Analysis Started on	02/05/2022	Analysis	completed on	07/05/2022			

#### \*\*\*\*\*\*Test Results \*\*\*\*\*\*

SI	Parameter	Test Method	Units	MU %	Results	Limits
1.	Aluminium (as Al)	IS 3025 (P-55):2003	rng/l		BDL (MDL 0.02)	0.03-0.2

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

Limit is specified as	IS 10500: 2021
Abbreviation	MDL: Minimum detection limit, BDL: Below detection limit,
Env. Condition of Lab	Laboratory is maintaining. Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C)
Specific contractual	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
notes	This report, in full or in part, shalf not be used for advertising or as evidence in any court of law.
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•	The samples collected shall be destroyed after 15 days from the date of issue of the certificate unless specified otherwise
	The liability of the laboratory is limited to the involced amount.
	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Sample compiles with prescribed limits

Sample Drawn By

- Angad Munda

Tested By

ISO 45001:2018

- Shivani Kumari Singh (Lab Analyst)

- All Marion	
0.9(0) 70:	318122
Verified by	Issued by
Brij Nandan Kumar	Umesh Das
Section In-Charge	Technical Manager

Authorized Signatory
Chemical Section
Yugantar Bharati Analytical &
Environmental Engineering Laboratory

Technical Manager

Yugantar Bharati Analytical &
Fournamental Engineering Laboratory





Main Office: Namkum Post Office, Sidroul, Ranchi - 834010, Jharkhand Ph: 098351-97960, 098357-86677, Email - ybaeel@gmail.com, Web - https://ybaeel.in



Accredited by: NABL accredited testing laboratory vide certificate Number TC-4032

Certified by:-ISO 9001:2015 & ISO 45001:2018

Jharkhand State Poliution Control Board (JSPCB)



#### Test Certificate

ULR (Unique Lab Report) No.		T	C	4	0	3	2	2	2	0	$\top$	0	T 0	0	7	2	4	TF
Discipline Biological	Group		Wate	er			Sam	pie D	986	riptic	n .	Grou	ind M	/ater		<del></del> -	<u> </u>	1
Report Release Date	06th May, 2022						Report ID					YBAEEL-220428-124042-GW01						
W. Order/ JSPCB App. No.	Telephonic Ord	ier					Wor	k Ord	ler l	Date		28.0	4.2022	<u></u>				
Type of Industry(if any)	Thermal Power Plant				Job	code	/Re	f. no		YBA	EEL/V	VA/L/N	//Ma	v-22/	01			
Sampling Date	Tonagatu, Go 30/04/2022	la, R 	amga —	ırh, J			i. of sa	mple	CO	lectio	อก	By Y	BAEE	L Tea				
oampring Date	30/04/2022					MOGI	5 OL 25	ımpie	CO	IECII	)FI	<del></del>			m			
Sampling Protocol	IS - 1822-1982	P - 2	110		······ [ (	Cam	ole Co	da				1 2206	מס כו	W YA4				
Sampling Protocol Sampling Location	IS : 1622:1982, Tonaghatu	R - 2	019	· ····-			ple Co pling S						02-GV and W	V-X01 ater				
<del></del>	<del></del>			· ····		Sam		Sourc			·-		nd W					
Sampling Location	Tonaghatu			· · · · · · · · · · · · · · · · · · ·	;	Sam	pling S ple Qu	Sourc				Grou 250	nd W					

#### \*\*\*\*\*\*Test Results \*\*\*\*\*

SI	Parameter	Test Method	Units	Results	Limits
1.	Total coliform	APHA 9221B 23rd Edition 2017	MPN/100 ml	BDL (MDL 1.1)	Shall not to be
2.	Fecal coliform	APHA 9221E 23™ Edition 2017	MPN/100 ml	BDL (MDL 1.1)	Detectable in any
3.	E coli	APHA 9221-F 23rd Edition 2017	MPN/100 mil	BDL (MDL 1.1)	100 mi sample

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

Limit is specified as	IS 10500: 2012							
Abbreviation	MDL: Minimum detection limit. BDL: Below detection limit.							
	<1.8 / < 1.1 MPN/100 ml denotes that the presence probability of bacteria is absent in the tested sample.							
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).							
Specific contractual	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility.							
notes	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 CEO.							
	The samples collected shall be destroyed after 7 days from the date of issue of the certificate unless specified otherwise							
	The flability of the laboratory is limited to the invoiced amount.							
	All disputes are subjected to the Ranchi Jurisdiction.							
Remarks	Sample compiles with prescribed limit.							

Sample Drawn By

- Angad Munda

Tested By

- Madhuri Sinha (Lab Analyst)

Hukerhkumer. Verified by issued by Mukesh Kumar Umesh Das Section in-Charge Authorized Signatory Technical Manager

Microbiological Section Yugantar Bharati Analytical & **Environmental Engineering Laboratory** 

Technical Manager Yugantar Bharati Analytical & Commental Projection

Dhanbad Branch Office : - Jamshedpur Hazaribag

Pakur Main Office: Namkum Post Office, Sidroul, Ranchi - 834010, Jharkhand Ph: 09835-97960, 098357-86677, Email - ybaeel@gmail.com, Web - https://ybaeel.in







# ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited by:

NABL accredited testing laboratory vide certificate Number TC-4032 Jharkhand State Pollution Control Board (JSPCB) ISO 9001:2015 & ISO 45001:2018



Test Certificate

ULR (Unique	Lab Report) No.	•	T	. C	4	0	3	2	2	2	0	0	0	0	0	7	4	6	F				
Discipline		Water Sample Description									To	Ground Water											
Report Rele	ase Date	09th May, 2022 Report iD YBAEEL-220428-124042							42-G	W02													
W. Order/ J	SPCB App. No.	Telephonic C	)rder			··· · · · · · · · · · · · · · · · · ·	١	Vork (	Örder	Date			2	8.04.	2022		-						
Type of Ind	ustry(if any)	Thermal Pow	er Pla	ant			Τ.	lob co	de/ F	Ref. no	D.		YBAEELWA/L/C/May-22/02					2					
Sampling D	ate	M/s Inland I Tonagatu, ( 30/04/2022	_	and.  Mode of sample collection							By YBAEEL Team												
Sampling P	rotocol	IS: 3025 (Pa	rt-1) 1	987, R	-2003		1	Sampl	е Со	de		*	. 2	2050	2-GW	-X02							
Sampling L	ocation	Bariyatu			•		1	Sampl	ing S	ource	•		1	Foun	d Wa	ter							
Sample pkg	mple pkg. Condition Sealed Pack in PP Bottle Sample Quantity						3000 ml																
Meteorolog	eteorological Cond. of Field W.C Clear RH % - 23						Temp 40°C																
		<del>+</del>			Start		-					nalys		<del></del>				2022					

\*\*\*\*\*\*\*Test Results \*\*\*\*\*\*

SI	Parameter	Test Method	Units	MU %	Results	Limits
1.	pH value	IS 3025 (P-11):2002	ρН	1.77	6.85	6.5-8.5
2.	Colour	iS 3025 (P-94):1983	Hazen	-	< 5	5-15
3.	Conductivity	IS 3025 (P-14):2013	µs/cm	1.90	516.0	
4.	Total Alkaiinity (as CaCO <sub>3</sub> )	IS 3025 (P-23):2003	mg/l	3.68	52.0	200-600
5.	Total Hardness (as CaCO <sub>3</sub> )	iS 3025 (P-21):2009	mg/l	1.35	192.0	200-600
6.	Total dissolved sollds	IS 3025 (P-16):2006	mg/l	2.85	270.0	500-2000
7.	Chlorine Residual	IS 3025 (P-26):2003	mg/l	30.64	BDL (MDL 0.07)	0.2-1
8.	Chloride (as CI)	IS 3025 (P-32):2003	mg/l	3.41	51.5	250-1000
9.	Fluoride (as F-)	APHA 4500 F-C 23rd edition 2017	mg/l	12.22	0.7	1.0-1.5
10.	Nitrate (as NO <sub>3</sub> -)	APHA 4500 NO <sub>3</sub> - (B) 23rdedition 2017	mg/l	11.33	3.86	45-No relaxation
11.	Calcium (as Ca <sup>2+</sup> )	IS 3025 (P-40): 2003	mg/l	4.19	55.2	75-200
12.	Magnesium (as Mg <sup>2+</sup> )	APHA 3500 Mg B : 2017	mg/l	1.90	13.12	30-100
13.	Sodium (as Na+)	APHA 3111 B 23rd edition 2017	mg/l	16.98	19.0	
14.	Potassium (as K*)	APHA 3111 B 23rd edition 2017	mg/l	9.21	2.0	Be .
		*****End of Repor	*****			<b>.</b>

Limit is specified as	IS 10500: 2021
Abbreviation	MDL : Minimum detection limit. BDL : Below detection limit,
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
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	All disputes are subjected to the Ranchi Junsdiction.
Remarks	Sample compiles with prescribed limits.

Sample Drawn By

- Angad Munda

**Tested By** 

- Shivani Kumari singh / Akash Khalkho (Lab Analyst)

(kn) (land 2012	24/01513
VIE OGTOST	
Verified by	issued by
Brij Nandan Kumer	Umesh Das
Section In-Charge	Technical Manager

Authorized Signatory Chemical Section Yugantar Bharati Analytical & Environmental Engineering Laboratory

Technical Manager Yugantar Bharati Analytical & Pronmental Engineering Laboratory



Hazaribag Pakur Branch Office : - Jamshedpur Dhanbad





#### **ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY**

Accredited by:

Jharkhand State Pollution Control Board (JSPCB)

An ISO 9001:2015 & ISO 45001:2018

#### Test Certificate

Discipline	Chemical	Group	Water	Sample Description	Ground Water
Report Rele	ase Date	09th May, 202	12	Report ID	YBAEEL-220428-124042-GW02
W. Order/ J:	SPCB App. No.	Telephonic C	28.04.2022		
Type of Indi	ustry(# any)	Thermal Pow	ver Plant	Job code/ Ref. no.	YBAEEL/WA/L/C/May-22/02
Report Issu Sampling D	•	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Power Limited Sola, Ramgarh, Jharkh	and.  Mode of sample co	llection By YBAEEL Team
Sampling P			rt-1) 1987, R-2003	Sample Code	220502-GW-X02
Sampling L	···	Bariyatu		Sampling Source	Ground Water
Sample pkg	. Condition	Sealed Pack	in PP Bottle	Sample Quantity	3000 ml
Meteorologi	ical Cond. of Field	W.C Clear		RH % - 23	Temp. – 40°C
Sample receipt Date		02/05/2022	Analysis Started on	02/05/2022	Analysis completed on 07/05/2022

#### \*\*\*\*\*\*Test Results \*\*\*\*\*

\$I	Parameter	Test Method	Units	MU %	Results	Limits
1.	Taste	IS 3025 (P-07):2002	-	-	Agree.	Agreeable
2.	Phosphate (as PO <sub>4</sub> <sup>3</sup> )	IS 3025 (P-31):2003	mg/l		0.244	4.0
3.	Cyanide(as CN-)	iS 3025 (P-27)	mg/f	<b>-</b>	BDL (MDL 1.0)	0.05-No relaxation

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

Limit is specified as	IS 10500: 2021
Abbreviation	MDL: Minimum detection limit, BDL: Belsw detection limit,
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humadity 65 ± 5% in all testing areas as per IS 196.1966 (C).
Specific contractual	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
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	The samples collected shall be destroyed after 15 days from the date of issue of the certificate unless specified otherwise
	The liability of the laboratory is limited to the invoiced amount.
<u> </u>	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Sample complies with prescribed limits.

Sample Drawn By

- Angad Munda

Tested By

- Shivani Kumari singh / Akash Khaikho (Lab Analyst)

Man of the state o	S-313-32
Varified by	Issued by
Brij Nand <b>an</b> Kumar	Umesh Das
Section In-Charge	Technical Manager

Authorized Signatory Chemical Section Yugantar Bharati Analytical & Technical Manager
Yugantar Bharati Analytical &
Environmental Engineering Laboratory

Branch Office: - Jamshedpur Dhanbad Hazaribag Pakur





Main Office: Namkum Post Office, Sidroul, Ranchi - 834010, Jharkhand Ph: 098351-97960, 098357-86677, Email - ybaeel@gmail.com, Web - https://ybaeel.in



Certified by:-ISO 9001:2015 & ISO 45001:2018

NABL accredited testing laboratory vide certificate Number TC-4032 Jharkhand State Pollution Control Board (JSPCB)



## Test Certificate

ULR (Unique Lab Report) No.	T	C	4	0	3	2	2		2	(	)	0	T	ō	Ç	0	7	T	4	T	0	F			
Discipline Chemical	Group	١	Water		Sample Description							Ť	Residue & Contaminants in Water												
Report Release Date	09th May, 2022					F	Repor	t ID							YI	BAE	EL-22	042	8-1	24	042	:-G\	<b>N</b> 02		
W. Order/ JSPCB App. No.	Telephonic Ord	er		-		٧	York	Orde	r D	at	8				28	.04.	2022								
Type of Industry(If any)	Thermal Power	Plan	t			J	ob co	code/ Ref. no. YBAEEL/WA/L/R/May-2					1-22	2/02	<u>:</u>										
	M/s Inland Power Limited Tonagatu, Gola, Ramgarh, Jharkha							and.  Mode of sample collection							By YBAEEL Team										
Sampling Date	30/04/2022							of sa	m	o le	CO	Rec	tio	,	Βν	/ YB	AEEI	Tea	am						
Sampling Date Sampling Protocol	30/04/2022 IS: 3025 (Part-1	) 198	37, R-			, N		~~~			CO	llec	tio	1 ]		<u> </u>	AEEI 2-GW								
	1	) 198	37, R-			N 9	lode.	e Co	de			lec	tio	1	22	050		-X02			·				
Sampling Protocol	IS: 3025 (Part-1				-	9 9	kode Sampl	e Co ing S	de Sou	irc	e	lec	tio	) }-	22 G	050	2-GW d Wa	-X02							
Sampling Protocol Sampling Location	iS : 3025 (Part-1 Bariyatu					9 9	Mode Sampl	le Co ling ( le Qu	de Sou	irc	e	lec	tio	1	22 Gr	050: roun 100 n	2-GW d Wa	-X02 ter							

\*\*\*\*\*\*Test Results \*\*\*\*\*

	Parameter	Test Method	Units	MU %	Results	Limits
1.	Arsenic (as As)	APHA 3114 B 23rd edition 2017	mg/l	10.34	BDL (MDL 0.003)	0.01-No relaxation
2.	Copper (as Cu)	APHA 3111 B 23rd edition 2017	mg/l	11.11	BDL (MDL 0.01)	0.05-1.5
3.	iron (as Fe)	APHA 3111 B 23rd edition 2017	mg/l	2.34	0.18	1.0-No relaxation
4.	Lead (as Pb)	APHA 3111 B 23rd edition 2017	mg/l	10.64	BDL (MDL 0.02)	0.01-No relaxation
5.	Zine (as Zn)	APHA 3111 B 23™ edition 2017	mg/l	15.35	0.22	5-15
6.	Cadmium (as Cd)	APHA 3111 B 23™ edition 2017	mg/i	5.0	BDL (MDL 0.02)	0.003-No relaxation
7.	Chromium (as Cr)	APHA 3111 B 23 <sup>rd</sup> adition 2017	mg/l	12.53	BDL (MDL 0.02)	0.05-No relaxation
8.	Nickel (as Ni)	APHA 3111 B 23rd edition 2017	mg/l	13.72	BDL (MDL 0.02)	0.02-No relaxation
9.	Cobalt (Co)	APHA 3111 B 23rd edition 2017	mg/l	28.33	BDL (MDL 0.03)	==

Limit is specified as	IS 10500: 2021
Abbreviation	MDL: Minimum detection limit, BDI, : Below detection limit,
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
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	The samples collected shall be destroyed after 15 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.
Remarks	Sample compiles with prescribed limits

Sample Drawn By

- Angad Munda

Tested By

- Shivani Kumari Singh (Lab Analyst)

- Natar	
be oghist.	315132
Verified by	Issued by
Brij Nandan Kumar	Umesh Das
Section In-Charge	Technical Manager

Authorized Signatory Chemical Section Yugantar Bharati Analytical & Environmental Engineering Laboratory

**Technical Manager** Yugantar Bharati Analytical & **Environmental Engineering Laboratory** 

Branch Office : - Jamshedpur Dhanbad Hazaribag





Main Office: Namkum Post Office, Sidroul, Ranchi - 834010, Jharkhand Ph: 09835-97960, 098357-86677, Email - ybaeel@gmail.com, Web - https://ybaeel.in



#### **ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY**

Accredited by: -

Jharkhand State Pollution Control Board (JSPCB)

Certified by:- An

An ISO 9001:2015 & ISO 45001:2018

#### Test Certificate

Discipline C	hemical	Group	Water	Sample Description	on	Residue & Cont	aminants in Water			
Report Release	Date	09th May, 202	22	Report ID		YBAEEL-220428-124042-G				
W. Order/ JSPC	CB App. No.	Telephonic (	Order	Work Order Date		28.04.2022				
Type of Industr	Ty(If any)	Thermal Pov	ver Plant	Job code/ Ref. no.	•	YBAEELWAIL	/R/May-22/02			
Report Issue to	·		Power Limited Gola, Ramgarh, Jharkh	and.	ollantion	By YBAEEL TO				
Sampling Proto			rt-1) 1987, R-2003	Sample Code	Onechoti .	220502-GW-X				
Sampling Loca		Bariyatu		Sampling Source	**	Ground Water	<del>-</del>			
Sample pkg. Co	ondition	Sealed Pack	in PP Bottle	Sample Quantity		1000 ml				
Meteorological	teorological Cond. of Field W.C Clear RH % - 23					Temp 40°C	······································			
Sample receipt	Date	02/05/2022 Analysis Started on 02/05/2022 Analysis			Analysis	completed on	07/05/2022			

#### \*\*\*\*\*\*Test Results \*\*\*\*\*\*

SI	Parameter	Test Method	Units	MU %	Results	Limits
1.	Atuminium (as Ai)	IS 3025 (P-55):2003	mg/l		BDL (MDL 0.02)	0.03-0.2

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

Limit is specified as	IS 10500: 2021
Abbreviation	MDL: Minimum detection limit, BDL: Below detection limit,
Env. Condition of Lab	Laboratory is maintaining. Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
notes	This report, in full or in part, shall not be used for advertising or as evidence in any court of law.
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•	The samples collected shall be destroyed after 15 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.
Remarks	Sample complies with prescribed limits

Sample Drawn By

- Anged Munda

Tested By

- Shivani Kumari Singh (Lab Analyst)

- M. 1022	
(be 05/05)	2/5/8
Verified by	issued by
Brij Nandan Kumar	Umesh Das
Section In-Charge	Technical Manager

Authorized Signatory
Chemical Section
Yugantar Bharati Analytical &
Environmental Engineering Laboratory

Technical Manager
Yugantar Bharati Analytical &
F. Frammental Engineering Laboratory



Branch Office : - Jamshedpur Dhanbad Hazaribag Pakur





NABL accredited testing laboratory vide certificate Number TC-4032 Jharkhand State Pollution Control Board (JSPCB)

ISO 9001:2015 & ISO 45001:2018



Test Certificate

ULR (Unique Lab Report) No.		T	С	4	0	3	2	2	1:	2	0	T	П	0	0	Τö	7	7	2	Ţ	5
Discipline Biological	Group	T	Wate	er	Sample Description					n	Ground Water										
Report Release Date	06th May, 2022							ort l	D				YBAEEL-220428-124042-GW02							)2	
W. Order/ JSPCB App. No.	pp. No. Telephonic Order Work Order Date							28	.04.	2022	?										
Type of Industry(If any)	Thermal Power	Plan	t t				Job	cod	le/ F	₹ef.	NQ.		YE	AE	EL/V	VAJU	M/M	lay	-22	01	
	M/s Inland Pov Tonagatu, Gola				hark	hand	l.														
Sampling Date	30/04/2022				Τ	Mode	of sa	amp	le c	olle	ctio	n	В	YE	AEE	L Tea	am				
	30/04/2022 IS: 1622:1982, F	₹ - 20	)19		-		of sa		le c	olle	ctlo	n	-			L Te					
Sampling Protocol		₹ - 2(	)19		Ţ	Sam	of sa	de		olle	ctlo	n	22	050		V-X02					
Sampling Protocol Sampling Location	IS : 1622:1982, F					Sam Sam	ole Co	ode Sou	rce	olle	ctio	n	22 Gr	050	2-GV nd W	V-X02		<del>-</del>			
Sampling Date Sampling Protocol Sampling Location Sample pkg. Condition Meteorological Cond. of Field	IS : 1622:1982, F Bariyatu					Sam Sam	ole Co oling to ole Qu	ode Sou	rce	olle	ctlo	n	22 Gr	050 our 0 m	2-GV nd W	V-X02	2		-		

#### \*\*\*\*\*\*Test Results \*\*\*\*\*

SI	Parameter	Test Method	Units	Results	Limits
1.	Total collform	APHA 9221B 23rd Edition 2017	MPN/100 ml	BDL (MDL 1.1)	Shall not to be
2.	Fecal coliform	APHA 9221E 23rd Edition 2017	MPN/100 mi	BOL (MDL 1.1)	Detectable in any
3.	E coli	APHA 9221-F : 23rd Edition 2017	MPN/100 mi	BDL (MDL 1.1)	100 ml sample

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

Limit is specified as	IS 10500, 2012
Abbreviation	MDL: Minimum detection limit. BDL: Below detection limit.
~D0101180011	<1.8 / < 1.1 MPN/100 ml denotes that the presence probability of bacteria is absent in the tested sample,
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility.
notes	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 CEO.
	The samples collected shall be destroyed after 7 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.
Remarks	Sample compiles with prescribed limit.

Sample Drawn By

- Angad Munda

Tested By

- Madhuri Sinha (Lab Analyst)

Verified by Issued by

Mukesh Kumar

Umesh Das
Section In-Charge
Technical Manager

Authorized Signatory
Microbiological Section
Yugantar Bharati Analytical &
Environmental Engineering Laboratory

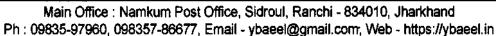
Technical Manager
Yugantar Bharati Analytical &
Environmental Engineering Laboratory

Branch Office : - Jamshedpur Dhanbad

Hazaribag

Pakur





150 9001:2015 SO 45001:2018



## ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited by:

NABL accredited testing laboratory vide certificate Number TC-4032 Jharkhand State Pollution Control Board (JSPCB) ISO 9001:2015 & ISO 45001:2018



## Test Cextificate

ULR (Unique Lab Report) No.	· · · · · · · · · · · · · · · · · · ·	Ť	C	4	0	3	2	2	2	0	0	0	0	0	7	4	7	TF	
Discipline Chemical	Group		Wate	r		1	Sampl	e Des	scrip	tion		Ground Water							
Report Release Date	Report Release Date 09th May, 2022					Ţī	Report ID						YBAEEL-220428-124042-GW03						
W. Order/ JSPCB App. No. Telephonic Order Work Order D						Dat	9			28.04.	2022								
Type of Industry(if any)	Thermal Powe	r Pla	nt		Job code/ Ref. no. YBAEEL/WA/L/C/May-						y-22/0	2							
Sampling Date	M/s Inland Po Tonagatu, Go 30/04/2022				Jhark	_	d. Mode	of sa	mple	colle	ction	,	By YE	AEEL	. Tea	m			
Sampling Protocol	IS : 3025 (Part-	-1) 19	987, R	-2003		1	Sample Code						MACAA ALL VAN						
Sampling Location	Biyang			•		1	Samp	ing S	our	e			Ground Water						
Sample pkg. Condition	Sealed Pack in	PP	Bottle	1			Samp	e Qu	antit	y	···· - <del></del> ···		3000	nl				, <del></del>	
Meteorological Cond. of Field	W.C Clear					T	RH %	- 23	•			1	Temp	- 38	PC PC				
Sample receipt Date	02/05/2022	An	alysis	Star	rted on 02/05/2022 Analysis completed on				07/0	5/202	2								

#### \*\*\*\*\*\*Test Results \*\*\*\*\*\*

SI	Parameter	Test Method	Units	MU %	Results	Limits
1.	pH value	IS 3025 (P-11):2002	pН	1.77	6.51	6.5-8.5
2.	Colour	IS 3025 (P-04):1983	Hazen		5	5-15
3.	Conductivity	IS 3025 (P-14):2013	hs/cm	1.90	802.0	
4.	Total Alkalinity (as CaCO <sub>2</sub> )	IS 3025 (P-23):2003	mg/l	3.68	134.0	200-600
5.	Total Hardness (as CaCO <sub>3</sub> )	IS 3025 (P-21):2009	mg/l	1.35	324.0	200-600
6.	Total dissolved sollds	IS 3025 (P-18):2006	mg/l	2.85	412.0	500-2000
7.	Chlorine Residual	IS 3025 (P-26):2003	mg/l	30.64	BDL (MDL 0.07)	0.2-1
8.	Chloride (as Ci)	IS 3025 (P-32):2003	mg/l	3,41	76.0	250-1000
9.	Fluoride (as F-)	APHA 4500 F-C 23rd edition 2017	mg/l	12.22	0.9	1.0-1.5
10.	Nitrate (as NO <sub>3</sub> -)	APHA 4500 NO <sub>3</sub> - (B) 23 <sup>rd</sup> edition 2017	mg/l	11.33	3.87	45-No relaxation
11.	Calcium (as Ca <sup>2+</sup> )	IS 3025 (P-40): 2003	mg/l	4.19	79.2	75-200
12.	Magnesium (as Mg <sup>2+</sup> )	APHA 3500 Mg B : 2017	mg/l	1.90	30.61	30-100
13,	Sodium (as Na+)	APHA 3111 B 23 <sup>rd</sup> edition 2017	mg/l	16.98	18,6	
14.	Potassium (as K+)	APHA 3111 B 23rd edition 2017	mg/l	9.21	1.4	
		*****End of Repor	£*****			·

Limit is specified as	I iS 10500: 2021
Abbreviation	MDL: Minimum detection limit. BDL: Below detection limit,
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
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	The samples collected shall be destroyed after 15 days from the date of issue of the certificate unless specified otherwise
	The kability of the laboratory is limited to the invoked amount.
	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Sample compiles with prescribed limits.

Sample Drawn By

- Angad Munda

Tested By

- Shiveni Kumari Singh / Akash Khalkho (Lab Analyst)

Marine 201	38 22
00.291000	
Verified by	Issued by
Brij Nandan Kumar	' Umesh Das
Section in-Charge	Technical Manager

Authorized Signatory Chemical Section Yugantar Bharati Analytical & Environmental Engineering Laboratory

**Technical Manager** Yugantar Bharati Analytical & **Environmental Engineering Laboratory** 



Branch Office : - Jamshedpur Dhanbad Hazaribag Pakur





### ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited by: -

Jharkhand State Pollution Control Board (JSPCB)

Certified by:-An ISO 9001:2015 & ISO 45001:2018

#### Test Certificate

Discipline Cl	nemical	Group	Water	Sample Description	on Ground Water
Report Release	Date	09th May, 202	2	Report ID	YBAEEL-220428-124042-GW03
W. Order/ JSPC	B App. No.	Telephonic C	)rder	Work Order Date	28.04.2022
Type of Industry	/(If any)	Thermal Pow	er Plant	Job code/ Ref. no.	. YBAEEL/WA/L/C/May-22/02
Report Issue to Sampling Date	•		Power Limited Gola, Ramgarh, Jharkh	and.	oilection   By YBAEEL Team
Sampling Proto	col		rt-1) 1987, R-2003	Sample Code	220592-GW-X03
Sampling Locat	·	Blyang	1 1 1001,11 2000	Sampling Source	Ground Water
Sample pkg. Co	ndition	Sealed Pack	in PP Bottle	Sample Quantity	3000 ml
Meteorological	Cond. of Field	W.C Clear		RH % - 23	Temp. – 38°C
Sample receipt	Date	02/05/2022	Analysis Started on	02/05/2022	Analysis completed on 07/05/2022

#### \*\*\*\*\*\*Test Results \*\*\*\*\*

Şi	Parameter	Test Method	Units	MU %	Results	Limits
1.	Odour	IS 3025 (P-05):2002		**	Agree.	Agreeable
2.	Taste	IS 3025 (P-07):2002		-	Agree.	Agreeable
3.	Phosphate (as PO <sub>4</sub> 3-)	IS 3025 (P-31):2003	mg/i		BDL (MDL 0.003)	
4.	Cyanide(as CN-)	IS 3025 (P-27)	mg/l	-	BDL (MDL 1.0)	0.05-No relaxation

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

Limit is specified as	IS 10500: 2021 •
Abbreviation	MDL: Minimum detection limit, BDL: Below detection limit.
Env. Condition of Lab	Laboratory is maintaining. Temperature 27 ± 2°C and Relative Humidity 85 ± 5% in all lesting areas as per IS 196:1966 (C).
Specific contractual	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
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	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Sample complies with prescribed limits.

Sample Drawn By

- Angad Munda

Tested By

- Shivani Kumari Singh / Akash Khaikho (Lab Analyst)

04002	
100 00 100 100 100 100 100 100 100 100	85128
Verified by	Issued by
Brij Nandan Kumar	` Umesh Das
Section In-Charge	Technical Manager

Authorized Signatory Chemical Section Yugantar Bharati Analytical &

Technical Manager Yugantar Bharati Analyticat & Environmental Engineering Laboratory

Environmental Engineering Laboratory Branch Office : - Jamshedpur Dhanbad Hazaribag Pakur



ISO 45001:2018

ISO 9001:2015

Main Office: Namkum Post Office, Sidroul, Ranchi - 834010, Jharkhand Ph: 098351-97960, 098357-86677, Email - ybaeel@gmail.com, Web - https://ybaeel.in



Accredited by: - NABL accredited testing laboratory vide certificate Number TC-4032

Jharkhand State Pollution Control Board (JSPCB)

ISO 9001:2015 & ISO 45001:2018



## Test Certificate

ULR (Unique	Lab Report) No.	•	7	C	4	0	3	3 2 2 2 0 0			0	0	0	7	4	1	TF		
Discipline	Chemical	Group		Wate	er .	<del>,</del>	Τ	Samp	le Des	cripti	on		R	esidu	e & C	ontan	ninan	ts in \	Nater
Report Rele	ase Date	09th May, 202	2				7	Repor	t ID	•			Y	YBAEEL-220428-124042-GW0			W03		
W. Order/ J	SPCB App. No.	Telephonic O	rder	<del></del>			_	Work	Order	Date			2	8.04.	2022				
Type of Ind	ustry(if any)	Thermal Pow	er Pla	ant			T	Job co	ode/ R	ef. no	).		Y	BAE	EL/W	A/L/R	/May	-22/0	12
Sampling D	ate	Tonagatu, G 30/04/2022	ola,	Kamç	jarh, .	Jhark			of san	nple d	ofler	ction	В	y YB	AEEL	. Tea			
Sampling P				097 D	2002		<del>-+</del> -	Mode of sample collection					By YBAEEL Team 220502-GW-X03			<del></del>			
Sampling L		Biyang	IS : 3025 (Part-1) 1987, R-2003 Biyano				Sample Code Sampling Source					Ground Water				<del>~</del>			
Sample pko	. Condition	Sealed Pack i	n PP	Bottle	1	Sample Quantity 1000 ml			-										
Author bus		<del></del>					RH % - 23 Temp 38°C												
	ical Cond. of Fleld	W.C Clear						KH 70	- 23				1	emp.	- 38º	C			

#### \*\*\*\*\*\*Test Results \*\*\*\*\*

SI	Parameter	Test Method	Units	MU %	Results	Limits
1.	Arsenic (as As)	APHA 3114 B 23rd edition 2017	mg/l	10.34	BDL (MDL 0.003)	0.01-No relaxation
2.	Copper (as Cu)	APHA 3111 B 23 <sup>rd</sup> edition 2017	mg/l	11.11	BDL (MDL 0.01)	0.05-1.5
3.	Iron (as Fe)	APHA 3111 B 23rd edition 2017	mg/l	2.34	0.17	1.0-No relaxation
4.	Lead (as Pb)	APHA 3111 B 23rd edition 2017	mg/l	10.64	BDL (MDL 0.02)	0.01-No relaxation
5.	Zinc (as Zn)	APHA 3111 B 23rd edition 2017	mg/l	15.35	0.22	5-15
6.	Cadmium (as Cd)	APHA 3111 B 23™ edition 2017	mg/i	5.0	BDL (MDL 0.02)	0.003-No relaxation
7.	Chromium (as Cr)	APHA 3111 B 23rd edition 2017	mg/l	12.53	BDL (MDL 0.02)	0.05-No relaxation
8.	Mickel (as NI)	APHA 3111 B 23rd edition 2017	mg/i	13.72	BDL (MDL 0.02)	0.02-No relaxation
9.	Cobalt (Co)	APHA 3111 B 23 <sup>rd</sup> edition 2017	mg/l	28.33	BDL (MDL 0.03)	

	and or mapore
Limit is specified as	IS 10500: 2021
Abbreviation	MDL: Minimum detection limit, BDL: Selow detection limit,
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C)
Specific contractual	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
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	The liability of the laboratory is limited to the invoiced amount.
	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Sample compiles with preacribed limits

Sample Drawn By

- Angad Munda

Tested By

- Shivani Kumari Singh (Lab Analyst)

Ballos III	1152
Verified by	Issued by
Brij Nandan Kumar	Umesh Das
Section In-Charge	Technical Manager
Authorized O	ाठातारम् तमानुस

Authorized Signatory
Chemical Section
Fagantar Bhareti Analytical &
Environmental Eng. ring Laboratory

Technical Manager

Yugantar Bharati Analytical &

BISING OTHER - COMMENTALE COMMENT

Main Office: Namkum Post Office, Sidroul, Ranchi - 834010, Jharkhand Ph: 09835-97960, 098357-86677, Email - ybaeel@gmail.com, Web - https://ybaeel.in

60 9001:2015 ISO 45001:2018



Accredited by: -

Jharkhand State Pollution Control Board (JSPCB)

An ISO 9001:2015 & ISO 45001:2018

## Test Certificate

Discipiine C	hemical	Group	Water	Sample Description Residue & Conta			taminants in Water	
Report Release Date		09th May, 202	22	Report ID		YBAEEL-2204	28-124042-GW03	
W. Order/ JSPC	B App. No.	Telephonic C	Order	Work Order Da	te	28.04.2022		
Type of Industr	'y(if any)	Thermal Pow	er Plant	Job code/ Ref. no. YBAEEL/WA/L/R			/R/May-22/02	
Report Issue to		*************************************	Power Limited Sola, Ramgarh, Jharkh	and.  Mode of sample	a collection	By YBAEEL To	District	
Sampling Proto			rt-1) 1987, R-2003	Sample Code	<del> </del>	220502-GW-X03		
Sampling Loca		Biyang	,,	Sampling Source		Ground Water		
Sample pkg. Co	ondition	Sealed Pack	in PP Bottle	Sample Quantity		1000 ml		
Meteorological	Cond. of Field	W.C Clear		RH % - 23		Temp 38°C		
Sample receipt	Date	02/05/2022	Analysis Started on	02/05/2022	Analysis	completed on	07/05/2022	

#### \*\*\*\*\*\*Test Results \*\*\*\*\*\*

SI	Parameter	Test Method	Units	MU %	Results	Limits
1.	Aluminium (as Al)	IS 3025 (P-55):2003	mg/l	**	BDL (MDL 0.02)	0.03-0.2
		******End of R	eport*****			

Limit is specified as	IS 10500: 2021
Abbreviation	MDL: Minimum detection limit, BDI; Below detection limit,
Env. Condition of Lab	Laboratory is maintaining. Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
notes	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 CEO.
	The samples collected shall be destroyed after 15 days from the date of issue of the certificate unless specified otherwise
	The liability of the laboratory is limited to the involced amount.
	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Sample compiles with prescribed limits

Sample Drawn By

- Anged Munda

Tested By

ISO 45001:2018

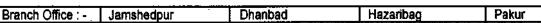
- Shiveni Kumari Singh (Lab Analyst)

0 Mysoc 2222	
800 00 TOS TOS	3/5/2
Verified by	Issued by
Brij Nandan Kumar	Umesh Das
Section In-Charge	Technical Manager

Authorized Signatory
Chemical Section
Yugantar Bharati Analytical &
Environmental Eng. —ring Laboratory

Technical Manager

Yugantar Bharati Analytical &
Fourtonmental Engineering Laboratory





Main Office: Namkum Post Office, Sidroul, Ranchi - 834010, Jharkhand Ph: 098351-97960, 098357-86677, Email - ybaeel@gmail.com, Web - https://ybaeel.in



Accredited by: NABL accredited testing laboratory vide certificate Number TC-4032 Jharkhand State Pollution Control Board (JSPCB)

ISO 9001;2015 & ISO 45001:2018



#### Test Certificate

ULR (Unique (	Lab Report) No.		T	C	4	0	3	2	2	1 2	<u>: T</u>	0 1	0	0	Ð	To	7	7	2	6	F	
Discipline	Biological	Group	·	Wate	<b>}</b> Γ			San	nple I	Des	crip	tion	Ť	Grou	nd W	/ater	<u> </u>		_	<u>.                                     </u>	<u> </u>	
						Report ID							YBAEEL-220428-124042-GW03									
W. Order/ JS	PCB App. No.	Telephonic Or	der				•	Wor	k On	der	Date	•	1	28.04	.2022	2						
Type of Indu	Stry(If any)	Thermal Powe	r Plar	ıt				Job	code	y R	ef, n	Q.	۲,	YBAE	ELV	VAJLIN	WM.	av-	22/	01		
·. <u>.</u>						hark	hand	i.														
Sampling Da	te	30/04/2022				T	Mode	of sa	mole	e co	llec	tion	Ti	Bv YE	BAEE	L Tea	m	_				
Sampling Da Sampling Pro	—— <u>"                                   </u>	30/04/2022 IS: 1622:1982	R • 2	019	·	<del>-</del>		of sa		e CC	llec	tion	—-	~		L Tea V-X03						
Sampling Pro	otocol		R·2	019			Sam	pie Co	xde		llec	tion	3	22050		V-X03						
Sampling Pro Sampling Lo	otocol cation	IS : 1622:1982	<u></u>				Sam Sam	oie Co pilng	ode Sour	ce	llec	tion	3	22050	02-GV nd W	V-X03						
Sampling Pro Sampling Lo Sample pkg.	otocol cation	IS : 1622:1982 Biyang	<u></u>				Sam Sam	pie Co pilng pie Qu	ode Sour	ce	llec	tion	3	2205( Grou 250 m	)2-GV nd W.	V-X03						

#### \*\*\*\*\*\*Test Results \*\*\*\*\*

SI	Parameter	Test Method	Units	Results	Limits
1.	Total coliform	APHA 9221B 23rd Edition 2017	MPN/100 ml	BDL (MDL 1.1)	Shall not to be
2.	Fecal coliform	APHA 9221E 23rd Edition 2017	MPN/100 ml	BDL (MDL 1.1)	Shall not to be Detectable in any
3.	E coll	APHA 9221-F 23rd Edition 2017	MPN/100 ml	BDL (MDL 1.1)	100 ml sampie

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

Limit is specified as	IS 10500 2012
Abbreviation	MDL: Minimum detection limit, BDL: Below detection limit, <1.8 / < 1.1 MPN/100 ml denotes that the presence probability of bacteria is absent in the tested sample.
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual notes	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility.  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 CEO.  The samples collected shall be destroyed after 7 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.
Remarks	Sample compiles with prescribed limit.

Sample Drawn By

- Angad Munda

Tested By

- Madhuri Sinha (Lab Analyst)

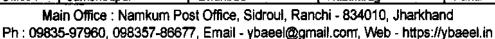
Muksehfamue	3/15/18/18
Verified by	Issued by
Mukesh Kumar	` Umesh Das
Section in-Charge	Technical Manager
Attitude: 1 Constant	

Section Microbio. Yugantar Dha.au mialytical & **Environmental Engineering Laboratory** 

Technical Manager Yugantar Bharati Analytical & **Environmental Engineering Laboratory** 



Dhanbad Branch Office: - Jamshedpur Hazaribag Pakur







## ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited by:

NABL accredited testing laboratory vide certificate Number TC-4032 Jharkhand State Pollution Control Board (JSPCB)

ISO 9001:2015 & ISO 45001:2018



## Test Certificate

ULR (Unique Lab Report) No.		T	C	4	0	3	2	2	2	0	0	0	0	0	7	4	8	F	
Discipline Chemical	Group		Wate	¥			Sampi	e Des	cripti	on		10	iroun	d Wa	ter				
Report Release Date	09th May, 202	2 ·				F	Report ID						BAE	EL-22	0428	-12404	12-G	W04	
W. Order/ JSPCB App. No.	Telephonic O	elephonic Order					Nork	Order	Date			2	8.04.	2022					
Type of Industry(# any)	Thermal Pow	er Pla	ant			٦,	iob co	ode/ R	ef. no	),		Y	BAE	EL/W	A/L/C	/May-	22/0	2	
Sampling Date	Tonagatu, G	Tonagatu, Gola, Ramgarh, Jharkhand.							of sample collection					on By YBAEEL Team					
Sampling Protocol	IS : 3025 (Par	t-1) 1	987. R	2003		<del></del>		le Coc			220502-GW-X04								
Sampling Location	Serengatu	,	,	<u> </u>		_		ling S		)		(	Foun	d Wa	ter			-	
Sample pkg. Condition Sealed Pack in PP Bottle					1	Samp	le Qua	intity			3000 ml								
	Meteorological Cond. of Field W.C Clear						RH % - 24							Temp. – 37°C					
Meteorological Cond. of Field	My.C Clear					1 -									-				

#### \*\*\*\*\*\*Test Results \*\*\*\*\*\*

SI	Parameter	Test Method	Units	MU%	Results	Limits
1.	pH value	IS 3025 (P-11):2002	pН	1.77	7.06	6.5-8.5
2.	Colour	IS 3025 (P-94):1983	Hazen		< 5	5-15
3.	Conductivity	IS 3025 (P-14):2013	µs/cm	1.90	380.0	-
4.	Total Alkalinity (as CaCO <sub>3</sub> )	IS 3025 (P-23):2003	mg/l	3.68	146.0	200-600
5,	Total Hardness (as CaCOs)	IS 3025 (P-21):2009	mg/l	1.35	146.0	200-600
6.	Total dissolved sollds	IS 3025 (P-16):2006	mg/l	2.85	204.0	500-2000
7.	Chlorine Residual	IS 3025 (P-26):2003	mg/l	30.64	BOL (MDL 0.07)	0.2-1
8.	Chloride (as Ci)	IS 3025 (P-32):2003	mg/l	3.41	14.0	250-1000
9.	Fluoride (as F-)	APHA 4500 F-C 23rd edition 2017	mg/l	12,22	1.0	1.0-1.5
10.	Nitrate (as NO <sub>3</sub> -)	APHA 4500 NO <sub>3</sub> - (B) 23 <sup>rd</sup> edition 2017	mg/t	11.33	2.48	45-No relaxation
11.	Calcium (as Ca <sup>2+</sup> )	IS 3025 (P-40): 2003	mg/l	4.19	37.6	75-200
12.	Magnesium (as Mg <sup>2+</sup> )	APHA 3500 Mg B : 2017	mg/i	1.90	12.63	30-100
13.	Sodium (as Na*)	APHA 3111 B 23rd edition 2017	mg/l	16.98	19.2	
14.	Potassium (as K+)	APHA 3111 B 23rd edition 2017	mg/i	9,21	1.6	
		*****End of Repor	******			

Limit is specified as IS 10500: 2021 Abbreviation MDL: Minimum detection limit, BDL: Below detection limit, Env. Condition of Lab Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 198:1986 (C) Specific contractual All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility notes 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 CEO The samples collected shall be destroyed after 15 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. Remarks Sample complies with prescribed limits.

Sample Drawn By

- Angad Munda

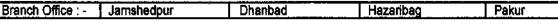
Tested By

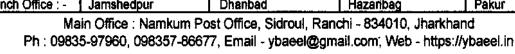
- Shivani Kumari Singh / Akash Khalkho (Lab Analyst)

Manager Co.	35122
- V W	
Verified by	Issued by
Brij Nandan Kumar	Umesh Das
Section In-Charge	Technical Manager

Authorized Signatory Chemical Section Yugantar Bharati Analytical & **Environmental Engineering Laboratory** 

**Technical Manager** Yugantar Bharati Analytical & Environmental Engineering Laboratory





Main Office: Namkum Post Office, Sidroul, Ranchi - 834010, Jharkhand





## ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited by: -Certified by:-

Jharkhand State Pollution Control Board (JSPC8) An ISO 9001:2015 & ISO 45001:2018

Test Certificate

Discipline	Chemical	Group	Water	Sample Descrip	otion Ground Water
Report Rele	ase Date	09th May, 202	22	Report ID	YBAEEL-220428-124042-GW04
W. Order/ J	SPCB App. No.	Telephonic C	)rder	Work Order Dat	
Type of Indi	eport Release Date  I. Order/ JSPCB App. No.  ype of industry(if any) eport Issue to  ampling Date empling Protocol empling Location emple pkg. Condition	Thermal Pow	er Plant	Job code/ Ref. r	
Sampling D	ate .		Power Limited Bola, Ramgarh, Jharkh		Andrew D. VRACCI T.
<del>-</del> _	<del></del>		1-1) 1987, R-2003	Mode of sample	
<u></u>	<del></del>	Serengatu	1-11 1901, 8-2003	Sample Code Sampling Source	220502-GW-X04 Ground Water
Sample pkg	. Condition	Sealed Pack	in PP Bottle	Sample Quantity	
Meteorologi	cal Cond. of Fleid	W.C Clear	·• <u> </u>	RH % - 24	Temp 37°C
Sample rece	eipt Date	02/05/2022	Analysis Started on	02/05/2022	Analysis completed on 07/05/2022

#### \*\*\*\*\*\*Test Results \*\*\*\*\*

SI	Parameter	Test Method	Units	MU %	Results	Limits
1.	Odour	IS 3025 (P-05):2002	+9	-	Agree,	Agreeable
2.	Taste	IS 3025 (P-07):2002			Agree.	Agreeable
3.	Phosphate (as PO <sub>4</sub> <sup>2</sup> )	IS 3025 (P-31):2003	mg/l		BDL (MDL 0.003)	-
4.	Cyanide(as CN-)	IS 3025 (P-27)	mg/f		BDL (MDL 1.0)	0.05-No relaxation
		******End	of Report*****		-	

Limit is specified as IS 10500: 2021 Abbreviation MOL: Minimum detection limit, BOL: Below detection limit, Env. Condition of Lab Laboratory is maintaining. Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C). Specific contractual All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility 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 CEO The samples collected shall be destroyed after 15 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. Remarks Sample compiles with prescribed limits

Sample Drawn By

- Anged Munda

Tested By

ISO 45001:2018

- Shivani Kumari Singh / Akash Khaikho (Lab Analyst)

	<u> </u>
Jan Star	8-015-
	Issued by
Brij Nandan Kumar	Umesh Das
Section In-Charge	Technical Manager

Authorized Signatory Chemical Section Yugantar Bharnti Analytical & Environme ing Laboratory ξħ.,

Technical Manager Yugantar Bharati Analytical & **Environmental Engineering Laboratory** 

Branch Office : - Jamshedpur Dhanbad Hazanbag



# ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited by:

NABL accredited testing laboratory vide certificate Number TC-4032 Jharkhand State Pollution Control Board (JSPCB)

ISO 9001:2015 & ISO 45001:2018



### Test Certificate

ULR (Unique Lab Report) No.		T	C	4	0	3	2	2	2	0	To		0	0	0	7	4	T 2	2   F
Discipline Chemical	Group		Water	•	•	S	ampi	e Des	scri	ption			R	esidu	e & C	ontan	ninar	ts in	Wate
Report Release Date	09th May, 2022	<u> </u>				Report ID								BAE	EL-22	0428	-124	042-	GW0
W. Order/ JSPCB App. No.	Telephonic Or	elephonic Order				٧	Work Order Date							8.04.	2022				
Type of industry(# any)	Thermal Power	r Pia	nt	•		J	ob co	ode/ F	₹ef.	no.			Y	BAE	ELW	A/L/F	₹/Ma	y-22/	02
Sampling Date	M/s Inland Po Tonagatu, Go 30/04/2022				hark		d. Mode	of sa	mp	e coli	ectio	 on	E	v YB	AEEL	Tea	m		
Sampling Protocol	IS: 3025 (Part	-1) 1	987, R-	2003		<del></del>	ampl	-	<u> </u>			٠. ٨.	+	•	2-GW				
Sampling Location	Serengatu					S	ampl	ing \$	our	ce		· · · ·	1	roun	d Wa	ter		•	
Sample pkg. Condition	Sealed Pack is	n PP	Bottle			S	ampl	e Qu	anti	ty			1000 ml						
Meteorological Cond. of Field	W.C Clear					R	kH %	- 24	•				Ŧ	emp.	- 37	C			
Sample receipt Date	02/05/2022	T	nalysis			<del></del>	2/05/2					_	4.		ted o			5/20:	

#### \*\*\*\*\*\*Test Results \*\*\*\*\*

neter	Test Method	Units	MU %	Results	Limits
ic (as As)	APHA 3114 B 23rd edition 2017	mg/l	10.34	BDL (MDL 0.003)	0.01-No relaxation
er (as Cu)	APHA 3111 B 23 <sup>rd</sup> edition 2017	mg/l	11.11	BDL (MDL 0.01)	0.05-1.5
s Fe)	APHA 3111 B 23rd edition 2017	mg/l	2.34	0.18	1.0-No relaxation
(as Pb)	APHA 3111 B 23 <sup>rd</sup> edition 2017	mg/l	10.64	BDL (MDL 0.02)	0.01-No relaxation
as Zn)	APHA 3111 B 23 <sup>rd</sup> edition 2017	mg/l	15.35	0.20	5-15
ium (as Cd)	APHA 3111 B 23rd edition 2017	mg/l	5.0	BDL (MDL 0.02)	0.003-No relaxation
nium (as Cr)	APHA 3111 B 23 <sup>rd</sup> edition 2017	mg/l	12.53	BDL (MDL 0.02)	0.05-No relaxation
(as Ni)	APHA 3111 B 23 <sup>rd</sup> edition 2017	mg/i	13.72	BDL (MDL 0.02)	0.02-No relaxation
t (Co)	APHA 3111 B 23rd edition 2017	mg/l	28.33	BDL (MDL 0.03)	<del>+</del>
•	<del></del>	APHA 3111 B 23rd edition 2017	APHA 3111 B 23 <sup>rd</sup> edition 2017 mg/l		APHA 3111 B 23 <sup>rd</sup> edition 2017 mg/l 28.33 BDL (MDL 0,03)

Limit is specified as	IS 10500: 2021
Abbreviation	MDL: Minimum detection limit, BDL: Below detection limit,
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
notes	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 CEO.
	The samples collected shall be destroyed after 15 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.
Remarks	Sample compiles with prescribed limits

Sample Drawn By

- Angad Munda

Tested By

- Shivani Kumari Singh (Lab Analyst)

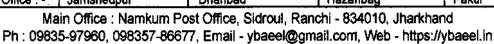
140/02	
6370512	3/5/22
Verified by	Issued by
Brij Nandan Kumar	Umesh Das
Section In-Charge	Technical Manager

**Authorized Signatory** Chemical Section Yugantar Bharati Analytical & **Environmental Engineering Laboratory** 

Technical Manager Yugantar Bharati Analytical &



Dhanbad Branch Office : - Jamshedpur Hazaribag Pakur







Accredited by: Jharkhand State Pollution Control Board (JSPCB) An ISO 9001:2015 & ISO 45001:2018

Test Certificate

Discipline (	Chemical	Group	Water	Sample Descript	tion	Residue & Cont	aminants in Water					
Report Releas	e Date	09th May, 20	22	Report ID		YBAEEL-220428-124042-GW04 28.04.2022						
W. Order/ JSP	CB App. No.	Telephonic	Order	Work Order Date	}							
Type of indust	l'y(if any)	Thermal Por	wer Plant	Job code/ Ref. n	<b>0.</b>	YBAEEL/WA/I	/R/May-22/02					
Report Issue to	-		Power Limited Gola, Ramgarh, Jharkh	and.	anilostica	D. VOACEL T						
Sampling Prot			art-1) 1987, R-2003	Sample Code	CONSCION	By YBAEEL Team 220502-GW-X04						
Sampling Loca		Serengatu		Sampling Source	8 %	Ground Water						
Sample pkg. C	ondition	Sealed Pack	in PP Bottle	Sample Quantity		1000 ml						
Meteorologica	Cond. of Fleid	W.C Clear	· · · · ·	RH % - 24	· · · · · · · · · · · · · · · · · · ·	Temp 37°C						
Sample receipt Date 02/05/2022 An		Analysis Started on	02/05/2022	Amelianta	completed on	07/05/2022						

SI	Parameter	Test Method	Units	MU %	Results	Limits
1.	Aiuminium (as Ai)	IS 3025 (P-55):2003	mg/l	-	BDL (MDL 0.02)	0.03-0.2

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

Limit is specified as	IS 10500: 2021
Abbreviation	MDL: Minimum detection limit, BDL: Below detection limit,
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 85 ± 5% in all testing areas as per iS 196:1966 (C).
Specific contractual	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
notes	This report, in full or in part, shall not be used for advertising or as evidence in any court of law.
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	The liability of the laboratory is limited to the invoiced amount.
	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Semple compiles with prescribed limits

Sample Drawn By

- Angad Munda

Tested By

ISO 45001:2018

- Shivani Kumari Singh (Lab Analyst)

69103.78	3/8/2
Verified by	issued by
Brij Nandari Kumar	Umesh Das
Section In-Charge	Technical Manager

Authorized Signatory Chemical Section Yugantar Bharati Analytical & **Environmental Engineering Laboratory** 

Technical Manager Yugantar Bharati Analytical & **Environmental Engineering Laboratory** 

Branch Office : - Jamshedpur Dhanbad Hazaribag Pakur



Main Office: Namkum Post Office, Sidroul, Ranchi - 834010, Jharkhand Ph: 098351-97960, 098357-86677, Email - ybaeel@gmail.com, Web - https://ybaeel.in



Accredited by: - NABL accredited testing laboratory vide certificate Number TC-4032

Certified by: - ISO 9001:2015 & ISO 45001:2018

NABL accredited testing laboratory vide certificate Number TC-403 Jharkhand State Pollution Control Board (JSPCB)



## Test Certificate

ULR (Unique Lab Report) No.		T	С	4	0	3	2	2	7	2	0		0	0	0	0	7	7	- 2		7	F	
Discipline Biological	Group		Wate	er		Sample Description							Ground Water										
Report Release Date	06th May, 2022					Report ID								YBAEEL-220428-124042-GW04									
W. Order/ JSPCB App. No.	Telephonic Orde	er		··· <u>·</u>			Work Order Date							28.04	.202	2							
Type of Industry(If any)	Thermal Power Plant				Job	code	e/ F	₹e1	. no	,	†	YBAI	EELA	NAIL	/M/N	fay.	-27	/01					
•	M/s inland Pow Tonagatu, Gold	d. e of sample collection																					
Sampling Date	30/04/2022	221	<del></del>					mol	8 C	oli	ecti	on	Т	By Y	BAE	EL Te	am				····		
— <u>-</u> <u> </u>	30/04/2022 IS : 1622:1982, R	R - 20	)19		<del>-</del>	Mod			<b>e</b> C	oli	ecti	on	<del>-i-</del>			L Te							
Sampling Protocol	1	₹ - 20	)19			Mod Sam	of sa	de			ecti	on	Ŀ	2205		N-X0		-					
Sampling Protocol Sampling Location	IS : 1622:1982, R			<del>-</del>		Mode Sam Sam	of sa ple Co	de Sour	ce		ecti	on	\ 	2205	02-G1 nd W	N-X0					-		
Sampling Date Sampling Protocol Sampling Location Sample pkg. Condition Meteorological Cond. of Fleid	IS : 1622:1982, R Serenghatu					Mode Sam Sam	of sa ple Co pling : ple Qu	de Sour	ce		ecti	on	\ 	2205 Grou 250 n	02-G1 nd W	N-X0	4						

#### \*\*\*\*\*Test Results \*\*\*\*\*

SI	Parameter	Test Method	Units	Results	Limits
1.	Total coliform	APHA 9221B 23rd Edition 2017	MPN/100 ml	BDL (MDL 1.1)	Shall not to be
2.	Fecal coliform	APHA 9221E 23rd Edition 2017	MPN/100 ml	BDL (MDL 1.1)	Detectable in any
3.	E coli	APHA 9221-F 23rd Edition 2017	MPN/100 mf	BDL (MDL 1.1)	100 ml sample

#### \*\*\*\*\*\*End of Report\*\*\*\*\*

Limit is specified as	IS 10500: 2012
Abbreviation	MDL: Minimum detection limit, BDL: Befow detection limit, <1.8 / < 1.1 MPN/300 ml denotes that the presence probability of bacteria is absent in the tested sample.
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual notes	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility.  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 CEO.
	The samples collected shall be destroyed after 7 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.
Remarks	Sample complies with prescribed fimit.

Sample Drawn By

- Angad Munda

Tested By

- Madhuri Sinha (Lab Analyst)

Julienthanna	35 5 2 2
Verified by	issued by
Mukesh Kumar	Limesh Das
Section In-Charge	Technical Manager
A 146 1 - 5	· · · · · · · · · · · · · · · · · · ·

Authorized Signatory
Microbiological Section
Yugantar Bhareti Analytical &
Environmental Engineering Laboratory

Technical Manager
Yugantar Bharati Analytical &
Environmental Engineering Laboratory



Branch Office : - Jamshedpur Dhanbad Hazaribag Pakur



Main Office: Namkum Post Office, Sidroul, Ranchi - 834010, Jharkhand Ph: 09835-97960, 098357-86677, Email - ybaeel@gmail.com; Web - https://ybaeel.in



## ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited by:

NABL accredited testing laboratory vide certificate Number TC-4032 Jharkhand State Pollution Control Board (JSPCB) ISO 9001:2015 & ISO 45001:2018



## Test Cextificate

ULR (Unique Lab Report) No.		T	C	4	0	3	2	2 `	2	- (	П	0	0	1	1	0	7	4	9	F	
Discipline Chemical	Group	·	Water	r		- (	Sample Description							Ground Water							
Report Release Date	09th May, 202	2				T	Report ID							YBAEEL-220428-124042-GW05							
W. Order/ JSPCB App. No.	Telephonic C	Telephonic Order			١	Vork	Order	· Da	te			T	28.0	1.202	22				-		
Type of Industry(If any)	Thermal Power Plant				٦,	lob ço	ode/ F	₹ef.	no.			T	YBA	EEL	WA	/L/C	/May	-22/	02		
Sampling Date	Tonagatu, G	ola,	Ramg	arh, .	Jhark	_	đ. Node	of sa	mpi	e co	llec	tion	. T	By YBAEEL Team							
Sampling Protocol	IS : 3025 (Pai	<b>(.1)</b> 1	987 R.	2003		-	Samp		_ <u></u> -	<del>0</del> 00:	HOU		-+	200500 OHI VAS							
Sampling Location	Near Stack	, .	•••,				Samp			Ce			*	Ground Water (Drinking Water)							
Sample pkg. Condition	Sealed Pack	in PP	Bottle			1	Samp	e Qu	anti	ty	•		7	3000 ml							
Meteorological Cond. of Field	W.C Clear					1	₹H %	- 36	•	-				Tem	Temp. – 40°C						
Sample receipt Date	02/05/2022	Ar	naiysis	Start	ted on	on 02/05/2022 Analysis completed on						1	07/0	5/202	!2						

#### \*\*\*\*\*\*Test Results \*\*\*\*\*

Si	Parameter	Test Method	Units	MU%	Results	Limits
1.	pH value	IS 3025 (P-11):2002	pН	1.77	6.96	6.5-8.5
2.	Colour	IS 3025 (P-04):1983	Hazen	. ••	< 5	5-15
3.	Conductivity	IS 3025 (P-14):2013	µs/cm	1.90	376.0	
4.	Total Alkalinity (as CaCO <sub>3</sub> )	IS 3025 (P-23):2003	mg/l	3.68	132.0	200-60D
5.	Total Hardness (as CaCO <sub>3</sub> )	IS 3025 (P-21):2009	mg/l	1.35	162.0	200-600
6.	Total dissolved solids	IS 3025 (P-16):2906	mg/l	2.85	200.0	500-2000
7	Chlorine Residual	IS 3025 (P-26):2003	mg/l	30.64	BDL (MDL 0.07)	0.2-1
8.	Chloride (as CI)	IS 3025 (P-32):2003	mg/l	3.41	12.5	250-1000
9.	Fluoride (as F-)	APHA 4500 F-C 23rd edition 2017	mg/l	12.22	0.8	1.0-1.5
.10.	Nitrate (as NO <sub>3</sub> -)	APHA 4500 NO <sub>3</sub> - (B) 23rdedition 2017	mg/l	11.33	3.77	45-No relaxation
11.	Calcium (as Ca <sup>2+</sup> )	IS 3025 (P-40): 2003	mg/l	4.19	46,40	75-200
12.	Magnesium (as Mg²*)	APHA 3500 Mg B : 2017	mg/i	1.90	11.17	30-100
13.	Sodium (as Na+)	APHA 3111 B 23rd edition 2017	mg/l	16,98	18.0	
14.	Potassium (as K*)	APHA 3111 B 23 <sup>rd</sup> edition 2017	mg/i	9.21	1.6	**
	-	******End of Repor				<u> </u>

Limit is specified as	IS 10500: 2021
Abbreviation	MDL: Minimum detection limit. BDL: Below detection limit,
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
notes ·	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 CEO.
	The samples collected shall be destroyed after 15 days from the date of issue of the certificate unless specified otherwise
i	The liability of the laboratory is limited to the invoiced amount.
	All disputes are subjected to the Ranchi Junsdiction
Remarks	Sample complies with prescribed limits.

Sample Drawn By

- Angad Munda

Tested By

- Shivani Kumari Singh / Akash Khalkho (Lab Analyst)

10 S 20 S	3/5/42
Venfied by	Issued by
Bríj Nandan Kumar	Umesh Das
Section In-Charge	Technical Manager

Authorized Signatory Chemical Section Yugantar Bharati Analytical & **Environmental Engineering Laboratory** 

**Technical Manager** Yugantar Bharati Analytical & Environmental Engineering Laboratory

Branch Office : - Jamshedpur Dhanbad Hazaribag Pakur





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Accredited by: -

Jharkhand State Pollution Control Board (JSPCB)

An ISO 9001:2015 & ISO 45001:2018

#### Test Certificate

Discipline	Chemical	Group	Water	Sample Descripti	on	Ground Water			
Report Release Date		09th May, 202	2	Report ID		YBAEEL-220428-124042-GV			
W. Order/ JSPCB App. No.		Telephonic O	rder	Work Order Date	· · · · · · · · · · · · · · · · · · ·	28.04.2022			
Type of Industry(if any)		Thermal Pow	er Plant	Job code/ Ref. no	).	YBAEELWA/L	JC/May-22/02		
Report Issue	•		ower Limited iola, Ramgarh, Jharkh	and.	o allastica	By YBAEEL To			
			4 4) 4007 D 0000	<del> </del>	CONECTION	<del>-</del>			
Sampling Pr	OKOCOI	15 : 3025 (Par	t-1) 1987, R-2003	Sample Code		220502-GW-X05			
Sampling Lo	cation	Near Stack		Sampling Source	) <u> </u>	Ground Water (Drinking Water)			
Sampie pkg.	Condition	Sealed Pack	in PP Bottle	Sample Quantity		3000 ml			
Meteorological Cond. of Field		W.C Clear		RH % - 36		Temp 40°C			
Sample receipt Date		02/05/2022	Analysis Started on	02/05/2022	Analysis	completed on	07/05/2022		

#### \*\*\*\*\*\*Test Results \*\*\*\*\*\*

SI	Parameter	Test Method	Units	MU %	Results	Limits
1.	Odour	IS 3025 (P-05):2002	-		Agree.	Agreeable
2.	Taste	IS 3025 (P-07):2002			Agree.	Agreeable
3.	Phosphate (as PO <sub>4</sub> <sup>3</sup> -)	IS 3025 (P-31):2003	mg/l	n-s	0.170	
4.	Cyanide(as CN-)	IS 3025 (P-27)	mg/l		BDL (MDL 1.0)	0.05-No relaxation

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

Limit is specified as	IS 10500: 2021
Abbreviation	MDL: Minimum detection limit, BDL: Below detection limit,
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196: 1966 (C).
Specific contractual	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
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	The liability of the laboratory is limited to the invoiced amount.
	All disputes are subjected to the Ranchi Junisdiction.
Remarks	Sample complies with prescribed limits.

Sample Drawn By

- Angad Munda

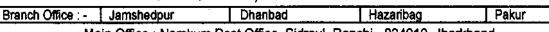
Tested By

- Shivani Kumari Singh / Akash Khaikho (Lab Analyst)

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Jacks 1 to 1 to 1	3/3/3/32
Verified by	Issued by
Brij Nandan Kumar	Umesh Das
Section In-Charge	Technical Manager

Authorized Signatory
Chemical Section
Yugantar Bharati Analytical &
Environmental Engi Pring Laboratory

Technical Manager
Yugantar Bharati Analytical &
Environmental Engineering Laboratory





ISO 45001:2016

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Accredited by: Certified by : -

NABL accredited testing laboratory vide certificate Number TC-4032 Jharkhand State Poliution Control Board (JSPCB) ISO 9001:2015 & ISO 45001:2018



## Test Certificate

ULR (Unique Lab Report) No.	-	T	- T 0	4	To	3	7	7	7	Т	ก	_	n	n	Ι Δ	7	-	<u>,                                    </u>		
Discipline Chemical	Group		Wat	er	1,,	Ť	Samo	ie De	scri	l_ ntio	n		Ť	Pesidi Residi	ie & C	onto	mir	4	3	F
Report Release Date	09th May, 202	2	<u> </u>			→-	Repor			<b>,</b>	<u></u>		<del></del>		EL-22					
W. Order/ JSPCB App. No.	Telephonic O					<del></del>		Orde	r Da	te				8.04.		.042	Q-1	2404	2.0	1403
Type of industry(if any)	Thermal Pow	er Pla	ent					ode/ F					<del>-</del> -		EL/W	A 22 11	D.(4)	4		
	Tonagatu, G	ola.	Rame	oarh	Jhark	han	d.													
<u>.                                    </u>	Tonagatu, G	iola, l	Ram	garh, .	Jhark	han	d.													
Sampling Date	1 onagatu, G 30/04/2022	iola, I	Ram	garh, .	Jhark			of sa	mpl	e co	llec	tion	ļ E	у ҮВ	AEEL	. Tea	iii)	<del>-</del>		
Sampling Protocol	<u> </u>						Aode	of sai		e co	llec	tion	┥–		AEEL 2-GW			<del></del> -		
<del></del>	30/04/2022					N S	Aode Sampl	le Cod	de		llec	tion	2	2050	2-GW	X05	;		Vator	
Sampling Protocol	30/04/2022 IS: 3025 (Par	t-1) 1!	987, F	₹-2003		S	Aode Sampl	le Coo ling S	de	ce	llec	tion	2 G	2050: round	2-GW- 1 Wate	X05	;		Vater	<u> </u>
Sampling Protocol Sampling Location	30/04/2022 IS : 3025 (Par Near Stack	t-1) 1!	987, F	₹-2003		S	Aode Sampl	le Coo ling S le Qua	de	ce	llec	tion	G 1	2050: iround 000 n	2-GW- 1 Wate	X05 r (Dr	;		Vater	)

******Test	Results	*****
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SI	Parameter	Test Method	Units	MU %	Results	Limits
1.	Arsenic (as As)	APHA 3114 B 23rd edition 2017	mg/l	10.34	BDL (MDL 0.003)	0.01-No relaxation
2.	Copper (as Cu)	APHA 3111 B 23 <sup>rd</sup> edition 2017	mg/l	11.11	BDL (MDL 0.01)	0.05-1.5
3.	Iron (as Fe)	APHA 3111 B 23rd edition 2017	mg/l	2.34	0.15	1.0-No relaxation
4.	Lead (as Pb)	APHA 3111 B 23rd edition 2017	mg/l	10.64	BDL (MDL 0.02)	0.01-No relaxation
5.	Zinc (as Zn)	APHA 3111 B 23rd edition 2017	mg/l	15.35	0.19	5-15
3.	Cadmium (as Cd)	APHA 3111 B 23rd edition 2017	mg/l	5.0	BDL (MDL 0.02)	0.003-No relaxation
7.	Chromium (as Cr)	APHA 3111 B 23rd edition 2017	mg/i	12.53	BDL (MDL 0.02)	0.05-No relaxation
3.	Nickel (as NI)	APHA 3111 B 23rd edition 2017	mg/l	13.72	BDL (MDL 0.02)	0.02-No relaxation
7.	Cobalt (Co)	APHA 3111 B 23™ edition 2017	mg/i	28.33	BDL (MDL 0.03)	0.02-100 (618781)011

IS 10500: 2021
MDL : Minimum detection limit, BDL : Below detection limit,
Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
All whites are as as per IS 196:1966 (C).
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All disputes are subjected to the Ranchi Jurisdiction.
Sample compiles with prescribed limits

Sample Drawn By

- Anged Munda

Tested By

- Shivani Kumari Singh (Lab Analyst)

Verified by Brij Nandari Kumar Umesh Das Section In-Charge Technical Manager

Authorized Signatory Chemical Section Yugantar Bharati Analytical & **Environmental Engineering Laboratory** 

Technical Manager Yugantar Bharati Analytica! & **Environmental Engineering Laboratory** 

Branch Office : - Jamshedpur Dhanbad Hazaribag

Pakur





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Jharkhand State Pollution Control Board (JSPCB)

An ISO 9001:2015 & ISO 45001:2018

#### Test Certificate

Discipline	Chemical	Group	Water	Sample Descript	tion Residue & Contaminants in V	Vater
Report Release Date		09th May, 202	2	Report ID	YBAEEL-220428-124042-G	W05
W. Order/ JSPCB App. No.		Telephonic C	rder	Work Order Date	e 28.04.2022	
Type of Industry(If any)		Thermal Pow	er Plant	Job code/ Ref. n	o. YBAEEL/WA/L/R/May-22/0	2
Report Issu Sampling D		1000	Power Limited Sola, Ramgarh, Jharkh	and. Mode of sample	collection D. VBASEL Toom	
Sampling P			1-1) 1987, R-2003	Sample Code	collection By YBAEEL Team 220502-GW-X05	
Sampling L		Near Stack	,	Sampling Source		
Sample pkg. Condition		Sealed Pack	in PP Bottle	Sample Quantity	<u></u>	
Meteorological Cond. of Field		W.C Clear		RH % - 36	Temp. – 40°C	
Sample receipt Date		02/05/2022	Analysis Started on	02/05/2022	Analysis completed on 07/05/2022	<del></del>

#### \*\*\*\*\*\*Test Results \*\*\*\*\*

Si	Parameter	Test Method	Units	MU %	Results	Limits	
1.	Aluminium (25 Al)	IS 3025 (P-55):2003	mg/l	-	BDL (MDL 0.02)	0.03-0.2	

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

Limit is specified as	IS 10500: 2021
Abbreviation	MDL: Minimum detection limit, BOL: Below detection limit.
Env. Condition of Lab	Laboratory is maintaining. Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
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	The liability of the laboratory is limited to the invoiced amount.
	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Sample compiles with prescribed limits

Sample Drawn By

- Anged Munda

Tested By

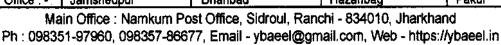
- Shivani Kumari Singh (Lab Analyst)

0 km2 2022	
Bridge 100	315120
Verified by	Issued by
Brij Nandari Kumar	Umesh Das
Section In-Charge	Technical Manager

Authorized Signatory
Chemical Section
Yugantar Bharati Analytical &
Environmental Engir Pring Laboratory

Technical Manager
Yugantar Bharati Analytical &

Branch Office : - Jamshedpur Dhanbad Hazaribag Pakur









Accredited by:

NABL accredited testing laboratory vide certificate Number TC-4032 Jharkhand State Pollution Control Board (JSPCB) ISO 9001:2015 & ISO 45001:2018

## Test Certificate

ULK (Unique L	ab Report) No.		T	С	4	0	3	2	2 .	1 2	<u>. T</u>	0	Đ	10	0	0	T	7	2	8	Т
	Biological	Group		Wate	er		<u> </u>	San	iple l	Des	crit	tion	Ť	Grou	nd V	Vater		<u>.                                     </u>		1.0	
Report Relea	se Date	06th May, 2022						Report ID Work Order Date					YBAEEL-220428-124042-GW05								
W. Order/ JSI	PCB App. No.	Telephonic Or	der										28.04.2022						_		
Type of Indus	Stry(If any)	Thermal Powe	r Plar	nt				Job	code	/R	ef.	10.	1	YBA	EELA	NA/L/	M/N	lav-	22/0	01	
		Tonagatu, Go	ola, R	amga	irh, 、	Jhark	hand	<b>1</b> .													
Sampling Dat	te .	30/04/2022											$\Box$	D., 37	n	71 *					
		30/04/2022 IS : 1622:1982	R . 2	019			Mode	of sa		9 CC	ile	tion		By Y							
Sampling Pro	xocol	30/04/2022 IS: 1622:1982 Near Stack	R - 2	019			Mode Sam	of sa	de		lle	tion		2205	02-G\	N-XO	5	nkir	ın V	Vate	
Sampling Pro Sampling Loc	xocol cation	IS : 1622:1982					Mode Samp	of sa pie Co pling !	de Sourc	ce	lle	tion			02-GV nd W	N-XO	5	nkir	ıg V	Vate	)
Sampling Date Sampling Pro Sampling Loc Sample pkg. Meteorologic	xocol cation	IS : 1622:1982 Near Stack					Mode Samp	of sa pie Co pling ! ple Qu	de Sourc	ce	ile	tion		2205 Grou 250 n	02-GV nd W	N-X0:	5 (Drir	nkir	ıg V	Vater	)

#### \*\*\*\*Test Results \*\*\*\*\*\*

\$I	Parameter	Test Method	Units	Results	Limits
1.	Total coliform	APHA 9221B 23rd Edition 2017	MPN/100 mi	BDL (MDL 1.1)	0.7
2.	Fecal coliform	APHA 9221E 23rd Edition 2017	MPN/100 ml	BDL (MDL 1.1)	Shall not to be Detectable in any
3.	E coii	APHA 9221-F 23rd Edition 2017	MPN/100 ml	BDL (MDL 1.1)	100 ml sample

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

Limit is specified as	IS \$0500: 2012
Abbreviation	MDL : Minimum detection limit, BDL : Below detection limit,
	<1.8 / < 1.1 MPN/100 ml denotes that the presence probability of bacteria is absent in the tested sample.
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 85 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility.
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	The liability of the laboratory is limited to the invoiced amount.
	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Sample complies with prescribed limit.

Sample Drawn By

- Anged Munda

Tested By

- Madhuri Sinha (Lab Analyst)

Venified by issued by Mukesh Kumar Umesh Das Section In-Charge Technical Manage

> 24 Soution Microbian Yugantar Bharda Analytical & **Environmental Engineering Laboratory**

Technical Manager Yugantar Bharati Analytical & **Environmental Engineering Laboratory** 

Branch Office : -Jamshedpur Dhanbad Hazaribag Pakur





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## Test Certificate

ULR (Unique Lab Report) No.		r Ç	4	0	3	2	2 .	2	T	)	0	0	Ð	Τō	7	Τ.	5	0	F
Discipline Chemical	Group	Water				Sample Description					T	Ground Water							
Report Release Date	09 <sup>th</sup> May, 2022					Report ID					٦,	YBAEEL-220428-124042-GW06							
W. Order/ JSPCB App. No.	Order/ JSPCB App. No. Telephonic Order Work Order Date 28.04.2022																		
Type of Industry(Fany)	Thermal Power Plant				Jo	b co	de/ R	lef, r	10.			寸,	BAE	EL/W	AILIC	2/M	ay-2	2/02	
Sampling Date	M/s Inland Powe Tonagatu, Gola, 30/04/2022			iharki			of sar	npie	col	lleci	ion		Sv YB	AEEI	Tea	m	<del></del>	_	
Sampling Protocol	IS : 3025 (Part-1) 1	987 R	.2003		-	Mode of sample collection Sample Code					<del>-</del>	By YBAEEL Team							
Sampling Location	Near Canteen		2000		+	<u> </u>	ng S		:0			-	220502-GW-X06 Ground Water (Drinking Water)						<del></del>
Sample pkg. Condition	Sealed Pack in PP	Bottle	1		+		e Qua					<del></del>	3000 ml						_
Meteorological Cond. of Field	W.C Clear					RH % - 36					1	Temp. – 40°C							
Sample receipt Date	02/05/2022 A		. 04	ed on	02/05/2022 Analysis			s completed on 07/05/2022						—					

#### \*\*\*\*\*\*Test Results \*\*\*\*\*

SI	Parameter	Test Method	Units	MU %	Results	Limits
1.	pH value	IS 3025 (P-11):2002	рН	1.77	6.85	6,5-8,5
2.	Colour	IS 3025 (P-04):1983	Hazen	+	5	5-15
3	Conductivity	IS 3025 (P-14):2013	µs/cm	1.90	380.0	
4.	Total Alkalinity (as CaCO <sub>3</sub> )	IS 3025 (P-23):2003	mg/l	3.68	132.0	200-600
5.	Total Hardness (as CaCO <sub>2</sub> )	IS 3025 (P-21):2009	mg/l	1.35	160.0	200-600
6.	Total dissolved solids	IS 3025 (P-16):2006	mg/l	2.85	216.0	500-2000
7.	Chlorine Residual	IS 3025 (P-26):2003	mg/i	30.64	BDL (MDL 0.07)	0.2-1
8.	Chloride (as Cl)	IS 3025 (P-32):2003	mg/l	3.41	16.0	250-1000
9.	Fluoride (as F-)	APHA 4500 F-C 23rd edition 2017	mg/l	12.22	0.6	1.0-1.5
10.	Nitrate (as NO <sub>3</sub> -)	APHA 4500 NO <sub>3</sub> - (B) 23rdedition 2017	mg/f	11.33	3.74	45-No relaxation
11.	Calcium (as Ca <sup>2+</sup> )	IS 3025 (P-40): 2003	mg/l	4.19	46,4	75-200
12.	Magnesium (as Mg <sup>2+</sup> )	APHA 3500 Mg B : 2017	mg/l	1.90	11.17	30-100
13.	Sodium (as Na*)	APHA 3111 B 23rd edition 2017	mg/l	16.98	16.0	
14.	Potassium (as K+)	APHA 3111 B 23rd edition 2017	mg/l	9.21	2.0	
		******End of Repor				<u> </u>

Limit is specified as	IS 10500: 2021
Abbreviation	MDL: Minimum detection limit. BDL: Selow detection limit,
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1968 (C)
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	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Sample compiles with prescribed limits.

Sample Drawn By

- Angad Munda

Tested By

- Shivani Kumari Singh / Akash Khaikho (Lab Analyst)

69101	8-015Te2
Verified by	Issued by
Brij Nandan Kumar	Umesh Das
Section In-Charge	Technical Manager

**Authorized Signatory Chemical Section** Yugantar Bharati Analytical & Environmental Engineering Laboratory

Technicai Manager Yugantar Bharati Analytical & Environmental Engineering Laboratory

Branch Office : - Jamshedpur Dhanbad Hazaribag Pakur





Main Office: Namkum Post Office, Sidroul, Ranchi - 834010, Jharkhand Ph: 09835-97960, 098357-86677, Email - ybaeel@gmail.com; Web - https://ybaeel.in



Jharkhand State Pollution Control Board (JSPCB)

Certified by:- An ISO 9001:2015 & ISO 45001:2018

Test Certificate

Discipline C	hemical	Group	Water	Sample Description	on	Ground Water	· <del>L</del>			
Report Release	e Date	09th May, 202	2	Report ID		YBAEEL-220428-124042-GW				
W. Order/ JSPC	CB App. No.	Telephonic C	)rder	Work Order Date		28.04.2022				
Type of Industry(Fany)		Thermal Pow	er Plant	Job code/ Ref. no.	•	YBAEEL/WA/I	/C/May-22/02			
Report Issue to	· 		Power Limited iola, Ramgarh, Jharkh			I S. VOLET T				
	<del></del>			Mode of sample c	OHECTION	By YBAEEL Team				
Sampling Proto	ocol	IS : 3025 (Par	t-1) 1987, R-2003	Sample Code		220502-GW-X	)6			
Sampling Loca	tion	Near Canteer	1	Sampling Source	34	Ground Water (	Drinking Water)			
Sample pkg. Co	ondition	Sealed Pack	in PP Bottle	Sample Quantity		3000 ml	_			
Meteorological	Cond. of Field	W.C Clear		RH % - 36		Temp. – 40°C				
Sample receipt	Date	02/05/2022	Analysis Started on	02/05/2022	Analysis	completed on	07/05/2022			

ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

#### \*\*\*\*\*Test Results \*\*\*\*\*

SI	Parameter	Test Method	Units	MU %	Results	Limits
1.	Odour	IS 3025 (P-05):2002		_	Agree.	Agreeable
2.	Taste	IS 3025 (P-07):2002	_	-	Agree.	Agreeable
3.	Phosphate (as PO <sub>4</sub> 3-)	IS 3025 (P-31):2003	mg/l		0.160	
4.	Cyanide(as CN-)	IS 3025 (P-27)	mg/l		BDL (MDL 1.0)	0.05-No relaxation

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

Limit is specified as	IS 10500: 2021
Abbreviation	MDL: Minimum detection limit, BDL: Below detection limit,
Env. Condition of Lab	Laboratory is maintaining. Temperature 27 ± 2°C and Relative Hurridity 65 ± 5% in all testing areas as per IS 196:1966 (C).
Specific contractual	All values are expressed in as unit and results listed refer only to the tested sample and applicable parameter in Lab's Permanent Facility
notes	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 CEO.
	The samples collected shall be destroyed after 15 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.
Remarks	Sample compiles with prescribed limits.

Sample Drawn By

- Angad Munda

Tested By

- Shivani Kumari Singh / Akash Khalkho (Lab Analyst)

House 9103	314122
Verified by	issued by
Brij Nandan Kumar	` Umesh Das
Section In-Charge	Technical Manager

Authorized Signatory
Chemical Section
Yugantar Bharati Analytical &
Environmental Engineering Laboratory

Technical Manager
Yugantar Bharati Analytical &
Environmental Engineering Laborate re-

Branch Office : - Jamshedpur Dhanbad Hazaribag Pakur







## ANALYTICAL & ENVIRONMENTAL ENGINEERING LABORATORY

Accredited by:

NABL accredited testing laboratory vide certificate Number TC-4032 Jharkhand State Pollution Control Board (JSPCB) ISO 9001:2015 & ISO 45001:2018



#### Test Certificate

ULR (Unique Lab Report) No.			- C	4	0	3	2	2	2	П	П	0	0	0	0	7	T	4	4
Discipline Chemical	Group Water			5	Sample Description				F	Residue & Contaminants in Water									
Report Release Date 09th May, 2022			<u> </u>				Report ID					1	YBAEEL-220428-124042-GW06						
W. Order/ JSPCB App. No.	SPC8 App. No. Telephonic Order				٧	Work Order Date				1	28.04.2022								
Type of Industry(If any)	Industry(If any) Thermal Power Plant					J	Job code/ Ref. no.				$\top$	YBAEEL/WA/L/R/May-22/02							
Sampling Date	Tonagatu, G	ola,	Ramg	jarh, .	Jhark	<del></del> -		of sa	mpl	e co	lect	ion	T.	3v YB	AEE	Tea	m		
Sampling Protocol	IS : 3025 (Par	<del>.</del> .1\ 1	987 R	-2003	······	<del></del>	Mode of sample collection Sample Code					By YBAEEL Team 220502-GW-X06							
Sampling Location	Near Canteer		,			Sampling Source					Ground Water (Drinking Water)								
Sample pkg, Condition Sealed Pack in PP Bottle			_	Sample Quantity						1000 mi									
Meteorological Cond. of Field	W.C Clear		· · ·			RH % - 36				Temp. – 40°C									
Sample receipt Date	02/05/2022	Ar	nalysia	Start	ed on	10	2/05/2	2022			Ans	lve	_		ted o		07/	05/20	22

#### \*\*\*\*\*\*Test Results \*\*\*\*\*

SI	Parameter	Test Method	Units	MU %	Results	Limits
1.	Arsenic (as As)	APHA 3114 B 23 <sup>rd</sup> edition 2017	mg/l	16.34	BDL (MDL 0.003)	0.01-No relaxation
2.	Copper (as Cu)	APHA 3111 B 23rd edition 2017	mg/l	11.11	BDL (MDL 0.01)	0.05-1.5
3.	iron (as Fe)	APHA 3111 B 23rd edition 2017	mg/l	2.34	0.14	1.0-No relaxation
4.	Lead (as Pb)	APHA 3111 B 23rd edition 2017	mg/l	10.64	BDL (MDL 0.02)	0.01-No relaxation
5.	Zinc (as Zn)	APHA 3111 B 23rd edition 2017	mg/l	15.35	0.20	5-15
6.	Cadmium (as Cd)	APHA 3111 B 23rd edition 2017	mg/i	5.0	BDL (MDL 0.02)	0.003-No relaxation
7.	Chromium (as Cr)	APHA 3111 B 23 <sup>rd</sup> edition 2017	mg/l	12.53	BDL (MDL 0.02)	0.05-No relaxation
8.	Nickel (as Ni)	APHA 3111 B 23rd edition 2017	mg/l	13.72	BDL (MDL 0.02)	0.02-No relaxation
9.	Cobalt (Co)	APHA 3111 B 23rd edition 2017	mg/l	28,33	BDL (MDL 0.03)	***

Limit is specified as	IS 10500: 2021
Abbreviation	MDL: Minkraum detection limit, BDL: Below detection limit.
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in aff testing areas as per IS 196:1966 (C).
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	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Sample complies with prescribed limits

Sample Drawn By

- Angad Munda

Tested By

- Shivani Kumari Singh (Lab Analyst)

Verified by Issued by Brij Nandan Kumar Umesh Das Technical Manager Section In-Charge

Authorized Signatory Chemical Section Yugantar Bharali Analytical & Environme  $c_{\gamma_{i}}$ ing Laboratory

Technical Manager Yugantar Bharati Analytical & **Environmental Engineering Laboratory** 



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Accredited by: Certified by: -

Jharkhand State Pollution Control Board (JSPCB)

An ISO 9001:2015 & ISO 45001:2018

#### Test Certificate

Discipline	Chemical	Group	Water	Sample Descrip	tion	Residue & Con	taminants in Water		
Report Release Date W. Order/ JSPCB App. No.		09th May, 202	22	Report ID		YBAEEL-220428-124042-GW06 28.04.2022			
		Telephonic C	order	Work Order Date	e				
Type of Industry(If any)		Thermal Pow	ver Plant	Job code/ Ref. n	10.	YBAEEL/WA/L/R/May-22/02			
Sampling Date			Power Limited Sola, Ramgarh, Jharkh	<del></del>	collection	D. VDAEEL T			
Sampling Prot			rt-1) 1987, R-2003	Mode of sample	collection	By YBAEEL Team			
Sampling Loca		Near Canteer	<del></del>	Sample Code		220502-GW-X06			
Sample pkg. Condition		Sealed Pack	·	Sampling Source Sample Quantity		Ground Water (Drinking Water) 1000 ml			
Meteorologica	Cond. of Field	W.C Clear	ν	RH % - 36	·	Temp. – 40°C			
Sample receip	t Date	02/05/2022	Analysis Started on	02/05/2022	Anahala	completed on	07/05/2022		

#### \*\*\*\*\*\*Test Results \*\*\*\*\*

SI	Parameter	Test Method	Units	MU %	Results	Limits		
1.	Aluminium (as Al)	IS 3025 (P-55):2003	mg/l		BDL (MDL 0.02)	0.03-0.2		
	******End of Report*****							

Limit is specified as	IS 10500: 2021
Abbreviation	MDL; Minimum detection limit, BDL: Below detection limit,
Env. Condition of Lab	Laboratory is maintaining, Temperature 27 ± 2°C and Relative Humidity 65 ± 5% in all testing areas as per IS 196:1966 (C).
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	All disputes are subjected to the Ranchi Jurisdiction.
Remarks	Sample complies with prescribed limits

Sample Drawn By

- Angad Munda

Tested By

- Shivani Kumari Singh (Lab Analyst)

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Verified by	Issued by
Brij Nandan Kumar	Umesh Das
Section In-Charge	Technical Manager

Authorized Signatory
Chemical Section
Yugantar Bharati Analytical &
Environmental Engineering Laboratory

Technical Manager
Yugantar Bharati Analytical &
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