

ENVIRONMENTAL MONITORING REPORT

For

BENIFICIATION PLANT

Extent: 17.50 Acres

Of

M/s. THAKUR INDUSTRIES, HOSAPETE

at

**HIREBAGNAL VILLAGE,
KOPPAL TALUK & KOPPAL DISTRICT,
KARNATAKA.**

MARCH-2024

Prepared by



GLOBAL ENVIRONMENT & MINING SERVICES

NABL & MOEFCC RECOGNISED LABORATORY

(Consulting Engineers, Mine Designers, Geologists & Surveyors)

3rd main road, Basaveswara badavane

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PREFACE

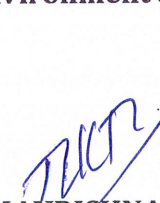
Any industry is required to apply in the prescribed form to the concerned Pollution Control Board to obtain the consent to establish as well as to operate the industry after establishment. Those industries who require the consent under the Air (prevention & control of pollution) act 1981 and in supersession of the Notification dated 14th October 1998, the Central Pollution Control Board every year National Ambient Air Quality Standards Central Pollution Control Board Notification effect on 18th November 2009. Environment quality monitoring (Ambient air, noise, and water) constitutes the basis for environment appraisal of a project. Thus, data on environment quality has to be monitored periodically for getting the environment consents.

Beneficiation Plant of M/s Thakur Industries entrusted the work of environment monitoring to **M/s. Global Environment & Mining Services, Hosapete**. The assignment involves ambient air/ Work zone quality monitoring for parameters of PM₁₀, PM_{2.5}, SO₂& NO₂ and Collection of environment data water quality and noise in around Beneficiation Plant of M/s Thakur Industries. Accordingly, the data collection work is being carried out and this interim report presents the data for the month of- **MARCH-2024**.

We convey our sincere thanks to for the opportunity provided to be associated in this endeavor. All officials for their valuable co-ordination & assistance during our study.

For GLOBAL Environment & Mining Services

Place: Hosapete
Date: 05.04.2024


K. RAMAKRISHNA REDDY
(Technical Manager)



LIST OF ANNEXURES

Sl. No	Locations	Annexure No
ANALYSIS REPORT OF AMBIENT AIR QUALITY DATA		
1	Near Plant Main Gate	1
2	Near Weigh Bridge (Inside Plant)	2
3	Hirebaganal Village	3
4	Halawarti Village	4
5	Kunikere Tanda Village	5
6	Allanagara Village	6
AMBIENT NOISE LEVEL MONITORING REPORT		
7	Near Plant Main Gate Near Weigh Bridge (Inside Plant) Hirebaganal Village Halawarti Village Kunikere Tanda Village Allanagara Village	7
ANALYSIS REPORT OF WATER QUALITY DATA		
8	Near Canteen Bore Water.	8
9	Canteen R.O. Water.	9
10	Hirebaganal Village. (Tap Water)	10
11	Halawarti Village. (Tap Water)	11
12	Kunikere Tanda. (Tap Water)	12
13	Allanagara Village. (Bore Water)	13



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TC-5323

ANNEXURE-1
GEMS-LD/TF/11/01

ANALYSIS REPORT OF AMBIENT AIR QUALITY DATA

Name of the Industry : Beneficiation Plant of M/s Thakur Industries.
Address : M/s. Thakur Industries,
Hirebaganal Village, Koppal Tq & Dist.
Sample collected by : Global Environment & Mining Services
Discipline : Chemical
Group : Atmospheric Pollution
Sample Type : Ambient Air Quality Monitoring
Particulars of Sample Collected : Respirable Dust Sampler & FPS Sampler
Month : **MARCH-2024**
Location : **A1-Near Plant Main Gate**
Duration of Monitoring : 24 Hour
Report Issued Date : **05.04.2024**
Report No : **ULR-TC532324000002354F**

Parameters		PM ₁₀ [µg/m ³]		PM _{2.5} [µg/m ³]		SO ₂ [µg/m ³]		NO ₂ [µg/m ³]	
Reference Method		IS:5182: (Part-23) 2006 (RF-2017)		Gravimetric Method		IS:5182: (Part-2) 2001 (RF-2017)		IS:5182: (Part-6) 2006 (RF-2017)	
Date	Sample Code	Result	STD	Result	STD	Result	STD	Result	STD
01.03.2024	5640	85.82	100	19.46	60	7.26	80	13.99	80
02.03.2024	5664	74.01		22.14		13.00		13.44	
06.03.2024	5744	86.56		25.65		13.73		15.11	
07.03.2024	5765	69.47		31.53		11.66		11.21	
13.03.2024	5919	86.62		36.26		14.73		13.65	
16.03.2024	5942	74.61		28.70		9.33		11.55	
18.03.2024	5963	82.39		39.17		9.94		14.78	
20.03.2024	6022	80.98		27.62		12.58		20.26	
Average		80.05		28.81		11.53		14.25	

INFERENCE

As per CPCB Standards,
Report Status: -Measured Values for the above parameters are within the limit.

Analysed By
Priyanka B M
Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

Note:

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ANNEXURE-2
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ANALYSIS REPORT OF AMBIENT AIR QUALITY DATA

Name of the Industry : Beneficiation Plant of M/s Thakur Industries.
Address : M/s. Thakur Industries,
Hirebaganal Village, Koppal Tq & Dist.
Sample collected by : Global Environment & Mining Services
Discipline : Chemical
Group : Atmospheric Pollution
Sample Type : Ambient Air Quality Monitoring
Particulars of Sample Collected : Respirable Dust Sampler & FPS Sampler
Month : **MARCH-2024**
Location : **A2-Near Weigh Bridge (Inside Plant)**
Duration of Monitoring : 24 Hour
Report Issued Date : **05.04.2024**
Report No : **ULR-TC532324000002355F**

Parameters		PM10 [$\mu\text{g}/\text{m}^3$]		PM2.5 [$\mu\text{g}/\text{m}^3$]		SO ₂ [$\mu\text{g}/\text{m}^3$]		NO ₂ [$\mu\text{g}/\text{m}^3$]	
Reference Method		IS :5182: (Part-23)2006 (RF 2017)		Gravimetric Method		IS: 5182: (Part 2) 2001 (RF 2017)		IS: 5182: (Part 6) 2006 (RF 2017)	
Date	Sample Code	Result	STD	Result	STD	Result	STD	Result	STD
01.03.2024	5641	74.99	100	19.34	8.71	11.79	80	15.08	80
02.03.2024	5665	70.06		15.19		9.85		15.15	
06.03.2024	5745	66.14		20.91		9.04		15.42	
07.03.2024	5766	78.05		24.52		6.56		11.48	
13.03.2024	5920	68.73		25.71		6.04		9.62	
16.03.2024	5943	81.60		28.36		11.13		9.51	
18.03.2024	5964	78.12		24.40		12.10		11.41	
20.03.2024	6023	64.99		21.72		8.27		8.88	
Average		72.83		22.52		9.35		12.07	

INFERENCE

As per CPCB Standards,
Report Status: -Measured Values for the above parameters are within the limit.

Analysed By
Priyanka B M
Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

Note:

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ANNEXURE-3
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ANALYSIS REPORT OF AMBIENT AIR QUALITY DATA

Name of the Industry : Beneficiation Plant of M/s Thakur Industries.
Address : M/s. Thakur Industries,
Hirebaganal Village, Koppal Tq & Dist.
Sample collected by : Global Environment & Mining Services
Discipline : Chemical
Group : Atmospheric Pollution
Sample Type : Ambient Air Quality Monitoring
Particulars of Sample Collected : **Respirable Dust Sampler & FPS Sampler**
Month : **MARCH-2024**
Location : **A3-Hirebaganal Village**
Duration of Monitoring : 24 hours
Report Issued Date : **05.04.2024**
Report No : **ULR-TC532324000002356F**

Parameters		PM10 [$\mu\text{g}/\text{m}^3$]		PM2.5 [$\mu\text{g}/\text{m}^3$]		SO ₂ [$\mu\text{g}/\text{m}^3$]		NO ₂ [$\mu\text{g}/\text{m}^3$]	
Reference Method		IS: 5182: (Part 23)2006 (RF2017)		Gravimetric Method		IS: 5182: (Part 2) 2001 (RF 2017)		IS: 5182: (Part 6) 2006 (RF 2017)	
Date	Sample Code	Result	STD	Result	STD	Result	STD	Result	STD
01.03.2024	5642	66.58	100	19.37	60	7.81	80	9.52	80
02.03.2024	5666	70.51		17.73		6.81		8.42	
06.03.2024	5746	72.70		18.50		10.84		13.52	
07.03.2024	5767	66.14		19.13		10.0		9.54	
13.03.2024	5921	68.08		21.55		11.81		13.28	
16.03.2024	5944	76.39		18.83		9.46		12.55	
18.03.2024	5965	73.82		19.59		6.35		10.35	
20.03.2024	6024	69.67		22.57		5.80		9.20	
Average		70.48		19.66		8.61		10.80	

INFERENCE

As per CPCB Standards,
Report Status: -Measured Values for the above parameters are within the limit.

Analysed By
Priyanka B M
Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

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ANNEXURE-4
GEMS-LD/TF/11/01

ANALYSIS REPORT OF AMBIENT AIR QUALITY DATA

Name of the Industry : Beneficiation Plant of M/s Thakur Industries.
Address : M/s. Thakur Industries,
Hirebaganal Village, Koppal Tq & Dist.
Sample collected by : Global Environment & Mining Services
Discipline : Chemical
Group : Atmospheric Pollution
Sample Type : Ambient Air Quality Monitoring
Particulars of Sample Collected : **Respirable Dust Sampler & FPS Sampler**
Month : **MARCH-2024**
Location : **A4-Halawarti Village**
Duration of Monitoring : 24 hours
Report Issued Date : **05.04.2024**
Report No : **ULR-TC532324000002390F**

Parameters		PM10 [$\mu\text{g}/\text{m}^3$]		PM2.5 [$\mu\text{g}/\text{m}^3$]		SO ₂ [$\mu\text{g}/\text{m}^3$]		NO ₂ [$\mu\text{g}/\text{m}^3$]	
Reference Method		IS: 5182: (Part 23)2006 (RF2017)		Gravimetric Method		IS: 5182: (Part 2) 2001 (RF 2017)		IS: 5182: (Part 6) 2006 (RF 2017)	
Date	Sample Code	Result	STD	Result	STD	Result	STD	Result	STD
04.03.2024	5686	51.43	100	19.43	60	4.89	80	5.91	80
05.03.2024	5717	61.60		15.99		7.58		7.89	
09.03.2024	5811	60.80		18.70		7.26		8.95	
11.03.2024	5842	58.15		17.05		8.2		9.05	
14.03.2024	5930	55.98		15.11		8.71		7.13	
15.03.2024	5936	73.23		13.53		8.61		10.24	
19.03.2024	5988	62.76		16.70		5.14		6.48	
20.03.2024	6010	74.93		14.11		9.18		16.80	
Average		62.36		16.33		7.45		9.06	

INFERENCE

As per CPCB Standards,

Report Status: -Measured Values for the above parameters are within the limit.

Analysed By
Priyanka B M
Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

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ANNEXURE-5
GEMS-LD/TF/11/01

ANALYSIS REPORT OF AMBIENT AIR QUALITY DATA

Name of the Industry : Beneficiation Plant of M/s Thakur Industries.
Address : M/s. Thakur Industries,
Hirebaganal Village, Koppal Tq & Dist.
Sample collected by : Global Environment & Mining Services
Discipline : Chemical
Group : Atmospheric Pollution
Sample Type : Ambient Air Quality Monitoring
Particulars of Sample Collected : Respirable Dust Sampler & FPS Sampler
Month : MARCH-2024
Location : A5-Kunikere Tanda Village
Duration of Monitoring : 24 hours
Report Issued Date : 05.04.2024
Report No : ULR-TC532324000002391F

Parameters		PM10 [µg/m ³]		PM2.5 [µg/m ³]		SO ₂ [µg/m ³]		NO ₂ [µg/m ³]	
Reference Method		IS: 5182: (Part 23) 2006 (RF2017)		Gravimetric Method		IS: 5182: (Part 2) 2001 (RF 2017)		IS: 5182: (Part 6) 2006 (RF 2017)	
Date	Sample Code	Result	STD	Result	STD	Result	STD	Result	STD
04.03.2024	5687	65.44	100	14.10	60	6.12	80	6.29	80
05.03.2024	5718	56.47		15.01		4.82		5.40	
09.03.2024	5812	54.33		14.89		6.49		6.25	
11.03.2024	5843	58.57		11.57		7.59		8.95	
14.03.2024	5931	44.93		17.97		5.55		8.81	
15.03.2024	5937	76.45		12.73		9.06		10.48	
19.03.2024	5989	55.06		14.74		7.69		7.62	
20.03.2024	6011	50.71		8.48		9.35		9.33	
Average		57.74		13.69		7.09		7.89	

INFERENCE

As per CPCB Standards,
Report Status: -Measured Values for the above parameters are within the limit.

Analysed By
Priyanka B M
Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

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ANNEXURE-6
GEMS-LD/TF/11/01

ANALYSIS REPORT OF AMBIENT AIR QUALITY DATA

Name of the Industry : Beneficiation Plant of M/s Thakur Industries.
Address : M/s. Thakur Industries,
Hirebaganal Village, Koppal Tq & Dist.
Sample collected by : Global Environment & Mining Services
Discipline : Chemical
Group : Atmospheric Pollution
Sample Type : Ambient Air Quality Monitoring
Particulars of Sample Collected : **Respirable Dust Sampler & FPS Sampler**
Month : **MARCH-2024**
Location : **A6-Allanagara Village**
Duration of Monitoring : 24 hours
Report Issued Date : **05.04.2024**
Report No : **ULR-TC532324000002392F**

Parameters		PM10 [$\mu\text{g}/\text{m}^3$]		PM2.5 [$\mu\text{g}/\text{m}^3$]		SO ₂ [$\mu\text{g}/\text{m}^3$]		NO ₂ [$\mu\text{g}/\text{m}^3$]	
Reference Method		IS: 5182: (Part 23) 2006 (RF2017)		Gravimetric Method		IS: 5182: (Part 2) 2001 (RF 2017)		IS: 5182: (Part 6) 2006 (RF 2017)	
Date	Sample Code	Result	STD	Result	STD	Result	STD	Result	STD
04.03.2024	5688	75.88	100	16.37	60	4.89	80	10.51	80
05.03.2024	5719	64.30		17.48		5.37		11.28	
09.03.2024	5813	62.10		14.14		7.57		10.99	
11.03.2024	5844	69.38		18.52		7.8		9.76	
14.03.2024	5932	59.51		14.29		9.65		7.65	
15.03.2024	5938	71.23		15.42		9.25		9.17	
19.03.2024	5990	62.23		15.53		11.25		10.24	
20.03.2024	6012	67.46		25.87		11.88		11.01	
Average		66.51		17.20		8.46		10.08	

INFERENCE

As per CPCB Standards,

Report Status: - Measured Values for the above parameters are within the limit.

Analysed By
Priyanka B M
Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

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ANNEXURE-7
GEMS-LD/TF/08/01

AMBIENT NOISE LEVEL MONITORING REPORT

Name of the Industry : Beneficiation Plant of M/s. Thakur Industries.
Address : M/s. Thakur Industries,
Hirebaganal Village, Koppal Tq & Dist.
Sample collected by : Global Environment & Mining Services
Discipline : Chemical
Group : Atmospheric Pollution
Sample Type : Noise Level Monitoring
Particulars of Sample Collected : Lutron 4001
Month : MARCH-2024
Report Issued Date : 05.04.2024
Method Adopted : IS 9989-1981 Reaffirmed 2014
Duration of Monitoring : 24 hours
Report No : ULR-TC532324000002357F

Noise Level dB (A)

Sl. No	Sample Location	Date	Parameters						
			Lmin	Lmax	L90	Ld	Ln	Ldn	Leq
1	Near Weigh Bridge (Inside Plant)	02.03.2024	42.4	64.3	62.71	57.09	40.14	55.99	58.60
2	Near Plant Main Gate	01.03.2024	41.8	62.8	60.13	56.10	40.35	55.17	56.33
3	Hirebaganal Village	04.03.2024	40.2	58.9	57.24	52.55	38.65	51.90	52.67
4	Halawarti Village	06.03.2024	38.9	57.4	56.30	50.91	38.34	50.53	52.76
5	Kunikere Tanda Village	07.03.2024	39.2	58.6	56.03	52.63	39.38	52.10	53.62
6	Allanagara Village	09.03.2024	40.1	55.5	54.15	50.71	38.80	52.49	52.98

INFERENCE

As per CPCB Standards

Report Status: - Measured Values for the above parameters are within the limit.


Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

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ANNEXURE-8
GEMS-LD/TF/23/01

ANALYSIS REPORT OF WATER QUALITY DATA

- | | | |
|------------------------------------|---|---|
| 1. Name of the Industry | : | Beneficiation Plant of M/s. Thakur Industries |
| 2. Address | : | M/s. Thakur Industries,
Hirebaganal Village, Koppal Tq & Dist. |
| 3. Sample collected by | : | GLOBAL Environment & Mining Services |
| 4. Particulars of sample collected | : | Grab Sampling |
| 5. Sampling Procedure | : | GEMS-LD/SOP/32 |
| 6. Discipline | : | Chemical |
| 7. Group | : | Pollution & Environment |
| 8. Sample type | : | Ground Water |
| 9. Sample code | : | 5845 |
| 10. Date of sample collection | : | 11.03.2024 |
| 11. Date of sample Received | : | 12.03.2024 |
| 12. Date of sample Analysed | : | 13.03.2024 |
| 13. Date of Analysis Completion | : | 18.03.2024 |
| 14. Report Issue Date | : | 05.04.2024 |
| 15. Report Number | : | ULR-TC532324000002471F |

Sl. No.	Parameters	Protocol	Unit	W1 Results	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	pH	APHA 23 rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.34	6.5 to 8.5	No relaxation
2.	Conductivity	APHA 23 rd Edition 2017 2510 B (Pg. No.2-58)	μS/cm	1450	-	-
3.	Total Dissolved Solids	APHA 23 rd Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	870	500	2000
4.	Turbidity (NTU)	APHA 23 rd Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	0.2	1	5
5.	Total Suspended Solids	APHA 23 rd Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	Nil	-	-
6.	Phosphorous as P	APHA 23 rd Edition 2017 4500-P D (Page No. 4-163 to 4-164)	mg/L	<0.01	-	-
7.	Sodium as Na	APHA 23 rd Edition 2017 Na 3500 B (Pg. No.3-99 to 3-100)	mg/L	210.68	-	-
8.	Potassium as K	APHA 23 rd Edition 2017 K 3500 B (Pg. No.3-89 to 3-90)	mg/L	0.0	-	-
9.	Calcium as Ca	APHA 23 rd Edition 2017 3500 Ca B (Pg. No.3-69 to 3-70)	mg/L	69.36	75	200
10.	Magnesium as Mg	APHA 23 rd Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	39.56	30	100
11.	Total Hardness as CaCO ₃	APHA 23 rd Edition 2017 2340 C (Page No. 2-48 to 2-50)	mg/L	332.80	200	600
12.	Chloride as Cl	APHA 23 rd Edition 2017 4500 Cl- (Page No. 4-75 to 4-76)	mg/L	218.51	250	1000
13.	Sulphate as SO ₄	APHA 23 rd Edition 2017 4500 -SO ₄ ²⁻ E (Page No. 4-199 to 4-200)	mg/L	110.56	200	400

Note:

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TC-5323

ANNEXURE-8

Sl. No.	Parameters	Protocol	Unit	Results	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
14.	Fluoride as F	APHA 23 rd Edition 2017 4500 F- D (Page No. 4-90 to 4-91)	mg/L	0.48	1	1.50
15.	Nitrate Nitrogen as NO ₃	APHA 23 rd Edition 2017 4500 NO ₃ E (Pg. No.4-131 to 4-132)	mg/L	9.58	45	No relaxation
16.	Total Alkalinity as CaCO ₃	APHA 22 nd Edition 2017 2320 B (Pg. No.2-37 to 2-39)	mg/L	271.2	200	600
17.	Acidity as CaCO ₃	APHA 22 nd Edition 2017 2320 B (Pg. No.2-34 to 2-36)	mg/L	0.0	-	-
18.	Total Iron as Fe	APHA 23 rd Edition 2017 3500 Fe-B (Pg. No.3-80 to 3-82)	mg/L	0.12	0.30	No relaxation
19.	Nickel as Ni	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	0.02	No relaxation
20.	Manganese as Mn	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.1	0.10	0.30
21.	Copper as Cu	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.05	0.05	1.50
22.	Zinc as Zn	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.1	5	15
23.	Lead as Pb	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	0.01	No relaxation

Note: W1: Near Canteen Bore Water.

Analysed By
Priyanka B. M
Chemist



Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

Note:

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ANNEXURE-8
GEMS-LD/TF/23/01

ANALYSIS REPORT OF WATER QUALITY DATA

1	Name of the Industry	:	Beneficiation Plant of M/s. Thakur Industries
2	Address	:	M/s. Thakur Industries, Hirebaganal Village, Koppal Tq & Dist.
3	Sample collected by	:	GLOBAL Environment & Mining Services
4	Particulars of sample collected	:	Grab Sampling
5	Sampling Procedure	:	GEMS-LD/SOP/32
6	Discipline	:	Chemical
7	Group	:	Pollution & Environment
8	Sample type	:	Ground Water
9	Sample code	:	5845
10	Date of sample collection	:	11.03.2024
11	Date of sample Received	:	12.03.2024
12	Date of sample Analysed	:	13.03.2024
13	Date of Analysis Completion	:	18.03.2024
14	Report Issue Date	:	05.04.2024
15	Report Number	:	GEMS/THAKUR/2023-24/2471

Results

Sl. No.	Parameters	Protocol	Unit	Results	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	Colour	IS: 3025 (PART 14)- 1984, RA-2012 Platinum cobalt Method	Hazen units	<5	5	15
2.	Temperature	IS:3025 (PART 9)-1984, RA-2012, Thermometer	°C	25.8	-	-
3.	Total Coli form count	IS 1622: 1981 (Reaffirmed 1996)	1 CFU/ 100 ml	Absent	Shall not be detectable in any 100 ml sample	-
4.	Escherichia coli count	IS 1622: 1981 (Reaffirmed 1996)	1 CFU/ 100 ml	Absent	Shall not be detectable in any 100 ml sample	-

Note: W1: Near Canteen Bore Water.

Analysed By
Priyanka B M
Chemist



Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

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TC-5323

ANNEXURE-9
GEMS-LD/TF/23/01

ANALYSIS REPORT OF WATER QUALITY DATA

- | | | | |
|----|---------------------------------|---|---|
| 1 | Name of the Industry | : | Beneficiation Plant of M/s Thakur Industries |
| 2 | Address | : | M/s. Thakur Industries,
Hirebaganal Village, Koppal Tq & Dist. |
| 3 | Sample collected by | : | GLOBAL Environment & Mining Services |
| 4 | Particulars of sample collected | : | Grab Sampling |
| 5 | Sampling Procedure | : | GEMS-LD/SOP/32 |
| 6 | Discipline | : | Chemical |
| 7 | Group | : | Pollution & Environment |
| 8 | Sample type | : | RO Water |
| 9 | Sample code | : | 5846 |
| 10 | Date of sample collection | : | 11.03.2024 |
| 11 | Date of sample Received | : | 12.03.2024 |
| 12 | Date of sample Analysed | : | 13.03.2024 |
| 13 | Date of Analysis Completion | : | 18.03.2024 |
| 14 | Report Issue Date | : | 05.04.2024 |
| 15 | Report Number | : | ULR-TC532324000002472F |

Sl. No.	Parameters	Protocol	Unit	W2 Results	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	pH	APHA 23rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.04	6.5 to 8.5	No relaxation
2.	Conductivity	APHA 23rd Edition 2017 2510 B (Pg. No.2-58)	μS/cm	160	-	-
3.	Total Dissolved Solids	APHA 23rd Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	102.0	500	2000
4.	Turbidity (NTU)	APHA 23rd Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	0.0	1	5
5.	Total Suspended Solids	APHA 23rd Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	Nil	-	-
6.	Phosphorous as P	APHA 23rd Edition 2017 4500-P D (Page No. 4-163 to 4-164)	mg/L	<0.01	-	-
7.	Sodium as Na	APHA 23rd Edition 2017 Na 3500 B (Pg. No.3-99 to 3-100)	mg/L	22.65	-	-
8.	Potassium as K	APHA 23rd Edition 2017 K 3500 B (Pg. No.3-89 to 3-90)	mg/L	0.0	-	-
9.	Calcium as Ca	APHA 23rd Edition 2017 3500 Ca B (Pg. No.3-69 to 3-70)	mg/L	4.08	75	200
10.	Magnesium as Mg	APHA 23rd Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	2.62	30	100
11.	Total Hardness as CaCO ₃	APHA 23rd Edition 2017 2340 C (Page No. 2-48 to 2-50)	mg/L	20.80	200	600
12.	Chloride as Cl	APHA 23rd Edition 2017 4500 Cl- (Page No. 4-75 to 4-76)	mg/L	14.25	250	1000
13.	Sulphate as SO ₄	APHA 23rd Edition 2017 4500 -SO ₄ ²⁻ E (Page No. 4-199 to 4-200)	mg/L	16.52	200	400

Note:

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ANNEXURE-9

Sl. No.	Parameters	Protocol	Unit	Results	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
14.	Fluoride as F	APHA 23 rd Edition 2017 4500 F- D (Page No. 4-90 to 4-91)	mg/L	0.38	1	1.50
15.	Nitrate Nitrogen as NO ₃	APHA 23 rd Edition 2017 4500 NO ₃ E (Pg. No.4-131 to 4-132)	mg/L	5.12	45	No relaxation
16.	Total Alkalinity as CaCO ₃	APHA 22 nd Edition 2017 2320 B (Pg. No.2-37 to 2-39)	mg/L	32.55	200	600
17.	Acidity as CaCO ₃	APHA 22 nd Edition 2017 2320 B (Pg. No.2-34 to 2-36)	mg/L	0.0	-	-
18.	Total Iron as Fe	APHA 23 rd Edition 2017 3500 Fe-B (Pg. No.3-80 to 3-82)	mg/L	0.10	0.30	No relaxation
19.	Nickel as Ni	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	0.02	No relaxation
20.	Manganese as Mn	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.1	0.10	0.30
21.	Copper as Cu	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.05	0.05	1.50
22.	Zinc as Zn	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.1	5	15
23.	Lead as Pb	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	0.01	No relaxation

Note: W2: Canteen R.O. Water.

Analysed By
Priyanka B. M
Chemist

Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

Note:

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ANNEXURE-9
GEMS-LD/TF/23/01

ANALYSIS REPORT OF WATER QUALITY DATA

1. Name of the Industry : Beneficiation Plant of M/s. Thakur Industries
2. Address : M/s. Thakur Industries,
Hirebaganal Village, KoppalTq&Dist.
3. Sample collected by : GLOBAL Environment & Mining Services
4. Particulars of sample collected : Grab Sampling
5. Sampling Procedure : GEMS-LD/SOP/32
6. Discipline : Chemical
7. Group : Pollution & Environment
8. Sample type : **RO Water**
9. Sample code : **5846**
10. Date of sample collection : 11.03.2024
11. Date of sample Received : 12.03.2024
12. Date of sample Analysed : 13.03.2024
13. Date of Analysis Completion : 18.03.2024
14. Report Issue Date : 05.04.2024
15. Report Number : **GEMS/THAKUR/2023-24/2472**

Results

Sl. No.	Parameters	Protocol	Unit	Results	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	Colour	IS: 3025 (PART 14)- 1984, RA-2012 Platinum cobalt Method	Hazen units	<5	5	15
2.	Temperature	IS:3025 (PART 9)-1984, RA-2012, Thermometer	°C	25.2	-	-
3.	Total Coli form count	IS 1622: 1981 (Reaffirmed 1996)	1 CFU/ 100 ml	Absent	Shall not be detectable in any 100 ml sample	-
4.	Escherichia coli count	IS 1622: 1981 (Reaffirmed 1996)	1 CFU/ 100 ml	Absent	Shall not be detectable in any 100 ml sample	-

Note: W2: Canteen R.O. Water.

Analysed By
Priyanka B M
Chemist



Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

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ANNEXURE-10
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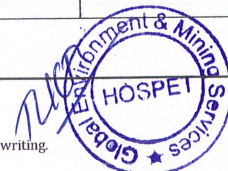
ANALYSIS REPORT OF WATER QUALITY DATA

1. Name of the Industry : Beneficiation Plant of M/s Thakur Industries
2. Address : M/s. Thakur Industries,
Hirebaganal Village, Koppal Tq & Dist.
3. Sample collected by : GLOBAL Environment & Mining Services
4. Particulars of sample collected : Grab Sampling
5. Sampling Procedure : GEMS-LD/SOP/32
6. Discipline : Chemical
7. Group : Pollution & Environment
8. Sample type : **Drinking Water (Tap Water)**
9. Sample code : **5847**
10. Date of sample collection : 11.03.2024
11. Date of sample Received : 12.03.2024
12. Date of sample Analysed : 13.03.2024
13. Date of Analysis Completion : 18.03.2024
14. Report Issue Date : **05.04.2024**
15. Report Number : **ULR-TC532324000002473F**

Sl. No.	Parameters	Protocol	Unit	W3 Results	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	pH	APHA 23 rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.65	6.5 to 8.5	No relaxation
2.	Conductivity	APHA 23 rd Edition 2017 2510 B (Pg. No.2-58)	µS/cm	1050	-	-
3.	Total Dissolved Solids	APHA 23 rd Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	630	500	2000
4.	Turbidity (NTU)	APHA 23 rd Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	0.2	1	5
5.	Total Suspended Solids	APHA 23 rd Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	Nil	-	-
6.	Phosphorous as P	APHA 23 rd Edition 2017 4500-P D (Page No. 4-163 to 4-164)	mg/L	<0.01	-	-
7.	Sodium as Na	APHA 23 rd Edition 2017 Na 3500 B (Pg. No.3-99 to 3-100)	mg/L	130.56	-	-
8.	Potassium as K	APHA 23 rd Edition 2017 K 3500 B (Pg. No.3-89 to 3-90)	mg/L	0.0	-	-
9.	Calcium as Ca	APHA 23 rd Edition 2017 3500 Ca B (Pg. No.3-69 to 3-70)	mg/L	102.0	75	200
10.	Magnesium as Mg	APHA 23 rd Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	40.33	30	100
11.	Total Hardness as CaCO ₃	APHA 23 rd Edition 2017 2340 C (Page No. 2-48 to 2-50)	mg/L	416.0	200	600
12.	Chloride as Cl	APHA 23 rd Edition 2017 4500 Cl- (Page No. 4-75 to 4-76)	mg/L	133.0	250	1000
13.	Sulphate as SO ₄	APHA 23 rd Edition 2017 4500 -SO ₄ ²⁻ E (Page No. 4-199 to 4-200)	mg/L	60.56	200	400

Note:

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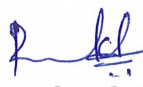


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ANNEXURE-10

Sl.No.	Parameters	Protocol	Unit	Results	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
14.	Fluoride as F	APHA 23 rd Edition 2017 4500 F- D (Page No. 4-90 to 4-91)	mg/L	0.65	1	1.50
15.	Nitrate Nitrogen as NO ₃	APHA 23 rd Edition 2017 4500 NO ₃ E (Pg. No.4-131 to 4-132)	mg/L	7.12	45	No relaxation
16.	Total Alkalinity as CaCO ₃	APHA 22 nd Edition 2017 2320 B (Pg. No.2-37 to 2-39)	mg/L	195.3	200	600
17.	Acidity as CaCO ₃	APHA 22 nd Edition 2017 2320 B (Pg. No.2-34 to 2-36)	mg/L	0.0	-	-
18.	Total Iron as Fe	APHA 23 rd Edition 2017 3500 Fe-B (Pg. No.3-80 to 3-82)	mg/L	0.14	0.30	No relaxation
19.	Nickel as Ni	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	0.02	No relaxation
20.	Manganese as Mn	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.1	0.10	0.30
21.	Copper as Cu	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.05	0.05	1.50
22.	Zinc as Zn	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.1	5	15
23.	Lead as Pb	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	0.01	No relaxation

Note: W3: Hirebaganal Village.


Analysed By
Priyanka B. M
Chemist


Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

Note:

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ANNEXURE-10
GEMS-LD/TF/23/01

ANALYSIS REPORT OF WATER QUALITY DATA

1. Name of the Industry : Beneficiation Plant of M/s. Thakur Industries
2. Address : M/s. Thakur Industries,
Hirebaganal Village, Koppal Tq & Dist.
3. Sample collected by : GLOBAL Environment & Mining Services
4. Particulars of sample collected : Grab Sampling
5. Sampling Procedure : GEMS-LD/SOP/32
6. Discipline : Chemical
7. Group : Pollution & Environment
8. Sample type : **Drinking Water (Tap Water)**
9. Sample code : **5847**
10. Date of sample collection : 11.03.2024
11. Date of sample Received : 12.03.2024
12. Date of sample Analysed : 13.03.2024
13. Date of Analysis Completion : 18.03.2024
14. Report Issue Date : **05.04.2024**
15. Report Number : **GEMS/THAKUR/2023-24/2473**

Results

Sl. No.	Parameters	Protocol	Unit	Results	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	Colour	IS: 3025 (PART 14)- 1984, RA-2012 Platinum cobalt Method	Hazen units	<5	5	15
2.	Temperature	IS:3025 (PART 9)-1984, RA-2012, Thermometer	°C	25.8	-	-
3.	Total Coli form count	IS 1622: 1981 (Reaffirmed 1996)	1 CFU/ 100 ml	Absent	Shall not be detectable in any 100 ml sample	-
4.	Escherichia coli count	IS 1622: 1981 (Reaffirmed 1996)	1 CFU/ 100 ml	Absent	Shall not be detectable in any 100 ml sample	-

Note: W3: Hirebaganal Village.

Analysed By
Priyanka B M
Chemist



Authorised Signatory
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Technical Manager

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TC-5323

ANNEXURE-11
GEMS-LD/TF/23/01

ANALYSIS REPORT OF WATER QUALITY DATA

- | | | |
|------------------------------------|---|---|
| 1. Name of the Industry | : | Beneficiation Plant of M/s Thakur Industries |
| 2. Address | : | M/s. Thakur Industries,
Hirebaganal Village, Koppal Tq & Dist. |
| 3. Sample collected by | : | GLOBAL Environment & Mining Services |
| 4. Particulars of sample collected | : | Grab Sampling |
| 5. Sampling Procedure | : | GEMS-LD/SOP/32 |
| 6. Discipline | : | Chemical |
| 7. Group | : | Pollution & Environment |
| 8. Sample type | : | Drinking Water (Tap Water) |
| 9. Sample code | : | 5848 |
| 10. Date of sample collection | : | 11.03.2024 |
| 11. Date of sample Received | : | 12.03.2024 |
| 12. Date of sample Analysed | : | 13.03.2024 |
| 13. Date of Analysis Completion | : | 18.03.2024 |
| 14. Report Issue Date | : | 05.04.2024 |
| 15. Report Number | : | ULR-TC532324000002474F |

Sl. No.	Parameters	Protocol	Unit	W4 Results	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	pH	APHA 23 rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.21	6.5 to 8.5	No relaxation
2.	Conductivity	APHA 23 rd Edition 2017 2510 B (Pg. No.2-58)	µS/cm	500	-	-
3.	Total Dissolved Solids	APHA 23 rd Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	300	500	2000
4.	Turbidity (NTU)	APHA 23 rd Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	0.1	1	5
5.	Total Suspended Solids	APHA 23 rd Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	Nil	-	-
6.	Phosphorous as P	APHA 23 rd Edition 2017 4500-P D (Page No. 4-163 to 4-164)	mg/L	<0.01	-	-
7.	Sodium as Na	APHA 23 rd Edition 2017 Na 3500 B (Pg. No.3-99 to 3-100)	mg/L	50.65	-	-
8.	Potassium as K	APHA 23 rd Edition 2017 K 3500 B (Pg. No.3-89 to 3-90)	mg/L	0.0	-	-
9.	Calcium as Ca	APHA 23 rd Edition 2017 3500 Ca B (Pg. No.3-69 to 3-70)	mg/L	32.64	75	200
10.	Magnesium as Mg	APHA 23 rd Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	9.72	30	100
11.	Total Hardness as CaCO ₃	APHA 23 rd Edition 2017 2340 C (Page No. 2-48 to 2-50)	mg/L	124.80	200	600
12.	Chloride as Cl	APHA 23 rd Edition 2017 4500 Cl- (Page No. 4-75 to 4-76)	mg/L	61.75	250	1000
13.	Sulphate as SO ₄	APHA 23 rd Edition 2017 4500 -SO ₄ ²⁻ E (Page No. 4-199 to 4-200)	mg/L	25.80	200	400

Note:

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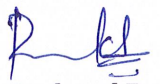


TC-5323

ANNEXURE-11

Sl. No.	Parameters	Protocol	Unit	Results	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
14.	Fluoride as F	APHA 23rd Edition 2017 4500 F- D (Page No. 4-90 to 4-91)	mg/L	0.58	1	1.50
15.	Nitrate Nitrogen as NO ₃	APHA 23rd Edition 2017 4500 NO ₃ E (Pg. No.4-131 to 4-132)	mg/L	8.38	45	No relaxation
16.	Total Alkalinity as CaCO ₃	APHA 22nd Edition 2017 2320 B (Pg. No.2-37 to 2-39)	mg/L	108.5	200	600
17.	Acidity as CaCO ₃	APHA 22nd Edition 2017 2320 B (Pg. No.2-34 to 2-36)	mg/L	0.0	-	-
18.	Total Iron as Fe	APHA 23rd Edition 2017 3500 Fe-B (Pg. No.3-80 to 3-82)	mg/L	0.11	0.30	No relaxation
19.	Nickel as Ni	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	0.02	No relaxation
20.	Manganese as Mn	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.1	0.10	0.30
21.	Copper as Cu	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.05	0.05	1.50
22.	Zinc as Zn	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.1	5	15
23.	Lead as Pb	APHA 23rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	0.01	No relaxation

Note: W4: Halawarti Village.


Analysed By
Priyanka B. M
 Chemist


Authorised Signatory
K. Ramakrishna Reddy
 Technical Manager

Note:

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Ph : 08394 355369

e-mail : gems_hpt@yahoo.com

Website : www.globalmining.in

ANNEXURE-11
GEMS-LD/TF/23/01

ANALYSIS REPORT OF WATER QUALITY DATA

1. Name of the Industry : Beneficiation Plant of M/s. Thakur Industries
2. Address : M/s. Thakur Industries,
Hirebaganal Village, Koppal Tq & Dist.
3. Sample collected by : GLOBAL Environment & Mining Services
4. Particulars of sample collected : Grab Sampling
5. Sampling Procedure : GEMS-LD/SOP/32
6. Discipline : Chemical
7. Group : Pollution & Environment
8. Sample type : **Drinking Water (Tap Water)**
9. Sample code : **5848**
10. Date of sample collection : 11.03.2024
11. Date of sample Received : 12.03.2024
12. Date of sample Analysed : 13.03.2024
13. Date of Analysis Completion : 18.03.2024
14. Report Issue Date : **05.04.2024**
15. Report Number : **GEMS/THAKUR/2023-24/2474**

Results

Sl. No.	Parameters	Protocol	Unit	Results	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	Colour	IS: 3025 (PART 14)- 1984, RA-2012 Platinum cobalt Method	Hazen units	<5	5	15
2.	Temperature	IS:3025 (PART 9)-1984, RA-2012, Thermometer	°C	25.4	-	-
3.	Total Coli form count	IS 1622: 1981 (Reaffirmed 1996)	1 CFU/ 100 ml	Absent	Shall not be detectable in any 100 ml sample	-
4.	Escherichia coli count	IS 1622: 1981 (Reaffirmed 1996)	1 CFU/ 100 ml	Absent	Shall not be detectable in any 100 ml sample	-

Note: W4: Halawarti Village.

Analysed By
Priyanka B M
Chemist



Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

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TC-5323

ANNEXURE-12
GEMS-LD/TF/23/01

ANALYSIS REPORT OF WATER QUALITY DATA

1. Name of the Industry : Beneficiation Plant of M/s Thakur Industries
2. Address : M/s. Thakur Industries,
Hirebaganal Village, Koppal Tq & Dist.
3. Sample collected by : GLOBAL Environment & Mining Services
4. Particulars of sample collected : Grab Sampling
5. Sampling Procedure : GEMS-LD/SOP/32
6. Discipline : Chemical
7. Group : Pollution & Environment
8. Sample type : **Drinking Water (Tap Water)**
9. Sample code : **5849**
10. Date of sample collection : 11.03.2024
11. Date of sample Received : 12.03.2024
12. Date of sample Analysed : 13.03.2024
13. Date of Analysis Completion : 18.03.2024
14. Report Issue Date : **05.04.2024**
15. Report Number : **ULR-TC532324000002475F**

Sl. No.	Parameters	Protocol	Unit	W5 Results	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	pH	APHA 23 rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.65	6.5 to 8.5	No relaxation
2.	Conductivity	APHA 23 rd Edition 2017 2510 B (Pg. No.2-58)	μS/cm	950	-	-
3.	Total Dissolved Solids	APHA 23 rd Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	570	500	2000
4.	Turbidity (NTU)	APHA 23 rd Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	0.2	1	5
5.	Total Suspended Solids	APHA 23 rd Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	Nil	-	-
6.	Phosphorous as P	APHA 23 rd Edition 2017 4500-P D (Page No. 4-163 to 4-164)	mg/L	<0.01	-	-
7.	Sodium as Na	APHA 23 rd Edition 2017 Na 3500 B (Pg. No.3-99 to 3-100)	mg/L	86.74	-	-
8.	Potassium as K	APHA 23 rd Edition 2017 K 3500 B (Pg. No.3-89 to 3-90)	mg/L	0.0	-	-
9.	Calcium as Ca	APHA 23 rd Edition 2017 3500 Ca B (Pg. No.3-69 to 3-70)	mg/L	81.60	75	200
10.	Magnesium as Mg	APHA 23 rd Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	32.27	30	100
11.	Total Hardness as CaCO ₃	APHA 23 rd Edition 2017 2340 C (Page No. 2-48 to 2-50)	mg/L	332.80	200	600
12.	Chloride as Cl	APHA 23 rd Edition 2017 4500 Cl- (Page No. 4-75 to 4-76)	mg/L	123.50	250	1000
13.	Sulphate as SO ₄	APHA 23 rd Edition 2017 4500 -SO ₄ ²⁻ E (Page No. 4-199 to 4-200)	mg/L	90.30	200	400

Note:

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TC-5323

ANNEXURE-12

Sl. No.	Parameters	Protocol	Unit	Results	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
14.	Fluoride as F	APHA 23 rd Edition 2017 4500 F- D (Page No. 4-90 to 4-91)	mg/L	0.55	1	1.50
15.	Nitrate Nitrogen as NO ₃	APHA 23 rd Edition 2017 4500 NO ₃ E (Pg. No.4-131 to 4-132)	mg/L	6.23	45	No relaxation
16.	Total Alkalinity as CaCO ₃	APHA 22 nd Edition 2017 2320 B (Pg. No.2-37 to 2-39)	mg/L	162.75	200	600
17.	Acidity as CaCO ₃	APHA 22 nd Edition 2017 2320 B (Pg. No.2-34 to 2-36)	mg/L	0.0	-	-
18.	Total Iron as Fe	APHA 23 rd Edition 2017 3500 Fe-B (Pg. No.3-80 to 3-82)	mg/L	0.10	0.30	No relaxation
19.	Nickel as Ni	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	0.02	No relaxation
20.	Manganese as Mn	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.1	0.10	0.30
21.	Copper as Cu	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.05	0.05	1.50
22.	Zinc as Zn	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.1	5	15
23.	Lead as Pb	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	0.01	No relaxation

Note: W5: Kunikere Tanda (Tap Water)

Priyanka B. M.
Analysed By
 Priyanka B. M
 Chemist

K. Ramakrishna Reddy
Authorised Signatory
 K. Ramakrishna Reddy
 Technical Manager

Note:

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ANNEXURE-12
GEMS-LD/TF/23/01

ANALYSIS REPORT OF WATER QUALITY DATA

1. Name of the Industry : Beneficiation Plant of M/s. Thakur Industries
2. Address : M/s. Thakur Industries,
Hirebaganal Village, Koppal Tq & Dist.
3. Sample collected by : GLOBAL Environment & Mining Services
4. Particulars of sample collected : Grab Sampling
5. Sampling Procedure : GEMS-LD/SOP/32
6. Discipline : Chemical
7. Group : Pollution & Environment
8. Sample type : **Drinking Water (Tap Water)**
9. Sample code : **5849**
10. Date of sample collection : 11.03.2024
11. Date of sample Received : 12.03.2024
12. Date of sample Analysed : 13.03.2024
13. Date of Analysis Completion : 18.03.2024
14. Report Issue Date : **05.04.2024**
15. Report Number : **GEMS/THAKUR/2023-24/2475**

Results

Sl. No.	Parameters	Protocol	Unit	Results	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	Colour	IS: 3025 (PART 14)- 1984, RA-2012 Platinum cobalt Method	Hazen units	<5	5	15
2.	Temperature	IS:3025 (PART 9)-1984, RA-2012, Thermometer	°C	25.6	-	-
3.	Total Coli form count	IS 1622: 1981 (Reaffirmed 1996)	1 CFU/ 100 ml	Absent	Shall not be detectable in any 100 ml sample	-
4.	Escherichia coli count	IS 1622: 1981 (Reaffirmed 1996)	1 CFU/ 100 ml	Absent	Shall not be detectable in any 100 ml sample	-

Note: W5: Kunikere Tanda (Tap Water).

Analysed By
Priyanka B M
Chemist



Authorised Signatory
K.Ramakrishna Reddy
Technical Manager

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ANNEXURE-13
GEMS-LD/TF/23/01

ANALYSIS REPORT OF WATER QUALITY DATA

1. Name of the Industry : Beneficiation Plant of M/s Thakur Industries
2. Address : M/s. Thakur Industries,
Hirebaganal Village, Koppal Tq & Dist.
3. Sample collected by : GLOBAL Environment & Mining Services
4. Particulars of sample collected : Grab Sampling
5. Sampling Procedure : GEMS-LD/SOP/32
6. Discipline : Chemical
7. Group : Pollution & Environment
8. Sample type : **Drinking Water (Bore Water)**
9. Sample code : **5850**
10. Date of sample collection : 11.03.2024
11. Date of sample Received : 12.03.2024
12. Date of sample Analysed : 13.03.2024
13. Date of Analysis Completion : 18.03.2024
14. Report Issue Date : **05.04.2024**
15. Report Number : **ULR-TC532324000002476F**

Sl. No.	Parameters	Protocol	Unit	W6 Results	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	pH	APHA 23 rd Edition 2017 4500 H+ B (Pg. No.4-95 to 4-99)	-	7.52	6.5 to 8.5	No relaxation
2.	Conductivity	APHA 23 rd Edition 2017 2510 B (Pg. No.2-58)	μS/cm	1300	-	-
3.	Total Dissolved Solids	APHA 23 rd Edition 2017 2540 C (Pg. No.2-69 to 2-70)	mg/L	780	500	2000
4.	Turbidity (NTU)	APHA 23 rd Edition 2017 2130 B (Pg. No.2-13 to 2-15)	NTU	0.2	1	5
5.	Total Suspended Solids	APHA 23 rd Edition 2017 2540 D (Pg. No.2-70 to 2-71)	mg/L	Nil	-	-
6.	Phosphorous as P	APHA 23 rd Edition 2017 4500-P D (Page No. 4-163 to 4-164)	mg/L	<0.01	-	-
7.	Sodium as Na	APHA 23 rd Edition 2017 Na 3500 B (Pg. No.3-99 to 3-100)	mg/L	200.56	-	-
8.	Potassium as K	APHA 23 rd Edition 2017 K 3500 B (Pg. No.3-89 to 3-90)	mg/L	0.0	-	-
9.	Calcium as Ca	APHA 23 rd Edition 2017 3500 Ca B (Pg. No.3-69 to 3-70)	mg/L	85.68	75	200
10.	Magnesium as Mg	APHA 23 rd Edition 2017 3500-B Mg By calculation (Pg. No.3-86)	mg/L	27.31	30	100
11.	Total Hardness as CaCO ₃	APHA 23 rd Edition 2017 2340 C (Page No. 2-48 to 2-50)	mg/L	322.40	200	600
12.	Chloride as Cl	APHA 23 rd Edition 2017 4500 Cl- (Page No. 4-75 to 4-76)	mg/L	118.75	250	1000
13.	Sulphate as SO ₄	APHA 23 rd Edition 2017 4500 -SO ₄ ²⁻ E (Page No. 4-199 to 4-200)	mg/L	140.56	200	400

Note:

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ANNEXURE-13

Sl. No.	Parameters	Protocol	Unit	Results	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
14.	Fluoride as F	APHA 23 rd Edition 2017 4500 F- D (Page No. 4-90 to 4-91)	mg/L	0.62	1	1.50
15.	Nitrate Nitrogen as NO ₃	APHA 23 rd Edition 2017 4500 NO ₃ E (Pg. No.4-131 to 4-132)	mg/L	11.98	45	No relaxation
16.	Total Alkalinity as CaCO ₃	APHA 22 nd Edition 2017 2320 B (Pg. No.2-37 to 2-39)	mg/L	217.0	200	600
17.	Acidity as CaCO ₃	APHA 22 nd Edition 2017 2320 B (Pg. No.2-34 to 2-36)	mg/L	0.0	-	-
18.	Total Iron as Fe	APHA 23 rd Edition 2017 3500 Fe-B (Pg. No.3-80 to 3-82)	mg/L	0.12	0.30	No relaxation
19.	Nickel as Ni	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	0.02	No relaxation
20.	Manganese as Mn	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.1	0.10	0.30
21.	Copper as Cu	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.05	0.05	1.50
22.	Zinc as Zn	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.1	5	15
23.	Lead as Pb	APHA 23 rd Edition 3111 B. Direct Air Acetylene Flame Method	mg/L	<0.01	0.01	No relaxation

Note: W6: Allanagara Village.

P. B. M.

Analysed By
Priyanka B. M
Chemist



Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

Note:

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Website : www.globalmining.in

ANNEXURE-13
GEMS-LD/TF/23/01

ANALYSIS REPORT OF WATER QUALITY DATA

- | | | |
|------------------------------------|---|--|
| 1. Name of the Industry | : | Beneficiation Plant of M/s. Thakur Industries |
| 2. Address | : | M/s. Thakur Industries,
Hirebaganal Village, KoppalTq&Dist. |
| 3. Sample collected by | : | GLOBAL Environment & Mining Services |
| 4. Particulars of sample collected | : | Grab Sampling |
| 5. Sampling Procedure | : | GEMS-LD/SOP/32 |
| 6. Discipline | : | Chemical |
| 7. Group | : | Pollution & Environment |
| 8. Sample type | : | Drinking Water (Tap Water) |
| 9. Sample code | : | 5850 |
| 10. Date of sample collection | : | 11.03.2024 |
| 11. Date of sample Received | : | 12.03.2024 |
| 12. Date of sample Analysed | : | 13.03.2024 |
| 13. Date of Analysis Completion | : | 18.03.2024 |
| 14. Report Issue Date | : | 05.04.2024 |
| 15. Report Number | : | GEMS/THAKUR/2023-24/2476 |

Results

Sl. No.	Parameters	Protocol	Unit	Results	Standards as per IS: 10500:2012	
					Desirable Limits	Permissible Limits
1.	Colour	IS: 3025 (PART 14)- 1984, RA-2012 Platinum cobalt Method	Hazen units	<5	5	15
2.	Temperature	IS:3025 (PART 9)-1984, RA-2012, Thermometer	°C	25.4	-	-
3.	Total Coli form count	IS 1622: 1981 (Reaffirmed 1996)	1 CFU/ 100 ml	Absent	Shall not be detectable in any 100 ml sample	-
4.	Escherichia coli count	IS 1622: 1981 (Reaffirmed 1996)	1 CFU/ 100 ml	Absent	Shall not be detectable in any 100 ml sample	-

Note: W6: Allanagara Village.

Analysed By
Priyanka B M
Chemist



Authorised Signatory
K. Ramakrishna Reddy
Technical Manager

- Recognised by Ministry of Environment, Forest and Climate Change for Laboratory
- Recognised by Government of Karnataka, Maharashtra, Goa for DGPS survey