

**BEFORE THE NATIONAL GREEN TRIBUNAL**  
**EASTERN ZONE BENCH, KOLKATA**  
**Original Application No. 43/2024/EZ**

**Akash Kalo**

... Applicant

-Versus-

**M/s. JSW Bhushan Power and Steel Limited & Ors.**

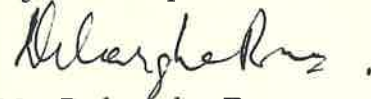
... Respondents

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Through

By the Respondent No. 1



Mr. Debargha Basu

Advocate

Email : [debargha.basu@khaitanco.com](mailto:debargha.basu@khaitanco.com)

Phone No. : 8697232023



BEFORE PRATAP NARAYAN TIWARI  
NOTARY JHARSUGUDA  
REGD. NO. CN-01/13  
SL NO...03...DT...11.11.24

Before the National Green Tribunal

Eastern Zone Branch, Kolkata

Original Application No. 43/2024/EZ

Akash Kalo

... Applicant

Versus

M/s. JSW Bhushan Power and Steel  
Limited & Ors.

... Respondents

**ADDITIONAL AFFIDAVIT ON BEHALF OF THE RESPONDENT NO. 1**

I, Rakesh Kumar Pujari, son of Binaya Pujari, aged about 53 years, working as General Manager (Legal) for gain at Bhushan Power and Steel Limited, Thekoloji, PO Lapanga, Tehsil Rengali, District – Sambalpur, Odisha – 768 212, do hereby solemnly affirm and state as follows:

1. I am the constituted attorney of the respondent no. 1 and have made myself fully acquainted with the facts and circumstances of the instant case and am competent to make, sign and affirm the present affidavit on behalf of the respondent no. 1.
2. The present additional affidavit is filed as per liberty granted by this Hon'ble Tribunal by its order dated 23 October 2024. A copy of the order dated 23 October 2024 is annexed hereto and marked with the letter "R-A/1".
3. Subsequent to filing of the present application, by an order dated 12 March 2024, a Committee was constituted by this Hon'ble Tribunal and direction was given on the said Committee to visit the subject site and submit their report. A copy of the order dated 12 March 2024 is annexed hereto for your ready reference and marked with the letter "R-A/2".
4. In compliance of the said order dated 12 March 2024, a Committee was duly constituted which had visited the respondent no. 1's subject site (Tailings Pond) at Thekoloji, P.O. Lapanga, Dist. Sambalpur in the State of Odisha. Thereafter, a show cause notice dated 21 October 2024 was issued to the respondent no. 1 where certain non-compliances were observed by the



*Rakesh Kumar Pujari*  
Authorised Signatory

Committee. A copy of the show cause notice dated 21 October 2024 is annexed hereto and marked with the letter "R-A/3".

5. The respondent no. 1 duly responded to the show cause notice by their letter dated 22 October 2024. In the said reply, respondent no.1, inter alia:-

- a. Undertook to commence the operation of the stone pitching work on priority and further undertook completion before February 2025.
- b. Reported engagement of NABL, MOEF & CC accredited laboratory for monitoring of ground water, pond and dug well and tube well of the alleged village as well as ambient air quality monitoring at the dump site.
- c. Undertook to take steps to plant 500 more trees by November 2024.
- d. Reported engagement of third party (The Chemistry Department of Veer Surendra Sai University of Technology (VSSUT) to study the environmental impact of the iron ore tailing pond around a 10 KM radius of the tailing pond.

6. Thereafter, by a letter dated 27 Decembre 2024 as a follow up to the earlier letter dated 22 October 2024, the respondent no. 1 reported further compliance of the recommendations made by the Committee. A copy of the letter dtd. 22 October 2024 letter dated 27 December 2024 is annexed hereto and marked with the letter "R-A/4". The said letter has been duly received by the Member Secretary, State Pollution Control Board, Odisha.

7. It is therefore humbly submitted that the respondent no. 1 has duly complied with the recommendations made by the Committee constituted as per the Hon'ble Tribunal's order dated 12 March 2024.

8. The statements made in paragraphs 2 to 5 of the foregoing affidavit are derived from records which I believe to be true and the statement made in paragraph 6 is my humble submission before this Hon'ble Tribunal.



For Bhushan Power & Steel Ltd.

*Rakesh Kumar Pujari*  
Authorised Signatory.

Deponent

The Deponent Solemnly Affirms  
Before Adv. *[Signature]*  
Today at 9:00 am/pm

*[Signature]*  
P. N. TIWARI  
NOTARY, JHARSUGUDA

*[Signature]*  
PRATAP NARAYAN TIWARI  
NOTARY JHARSUGUDA  
REGD. NO. ON-01/13  
IACB. No. - 9497346350



ANNEXURE - RA11

Item No. 05

Court No. 1

**BEFORE THE NATIONAL GREEN TRIBUNAL  
EASTERN ZONE BENCH, KOLKATA**

Original Application No. 43/2024/EZ

Akash Kalo

Applicant

Versus

M/s. JSW Bhushan Power  
& Steel Limited & Ors.

Respondents

Date of hearing: 23.10.2024

**CORAM: HON'BLE MR. JUSTICE ARUN KUMAR TYAGI, JUDICIAL MEMBER  
HON'BLE DR. SATYAGOPAL KORLAPATI, EXPERT MEMBER**

Applicant: Mr. Batakrishna Behera, Advocate for the Applicant (in Virtual Mode).

Respondents: Mr. Tridib Bose, Mr. Sourav Ray and Mr. Debargha Basu, Advocate for Respondent no. 1 (in Virtual Mode).  
Ms. Papiya Banerjee Bihani, Advocate for Respondent no. 3 (in Virtual Mode).  
Mr. Shakti Prasad Panda, AGA for Respondents no. 4, 5 and 6 (in Virtual Mode).  
Mr. Rajib Ray, Advocate for Respondent no. 7 (in Virtual Mode).

**ORDER**

1. Additional affidavit has been filed by respondent no. 3-OSPCB but the same is lying under defect pointed out by the Registry.
2. Learned Counsel for the respondent no. 3-OSPCB undertakes to cure the defect.
3. The defect be cured and thereafter the additional affidavit be placed on record and uploaded on the website of this Tribunal.
4. Learned Counsel for the applicant seeks time to file Rejoinder affidavit.
5. Learned Counsel for the respondent no. 1 also seeks time to file additional affidavit.

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6. Rejoinder by the applicant and additional affidavit by respondent no. 1 be filed at least one week before the next date of hearing.
7. List on 08.01.2025 for further consideration.

Arun Kumar Tyagi, JM

Dr. Satyagopal Korlapati, EM

October 23<sup>rd</sup>, 2024  
O.A. No. 43/2024/EZ  
ag



ANNEXURE RA/2

Item No.03

Court No.1

**BEFORE THE NATIONAL GREEN TRIBUNAL  
EASTERN ZONE BENCH, KOLKATA  
(THROUGH PHYSICAL HEARING WITH HYBRID MODE)**

Original Application No.43/2024/EZ

Akash Kalo

Applicant(s)

Versus

M/s JSW Bhushan Power and Steel Limited &amp; Ors.

Respondent(s)

Date of hearing: 12.03.2024

**CORAM: HON'BLE MR. JUSTICE B. AMIT STHALEKAR, JUDICIAL MEMBER  
HON'BLE DR. ARUN KUMAR VERMA, EXPERT MEMBER**

For Applicant(s) : Mr. Batakrishna Behera, Advocate (in Virtual Mode)

**ORDER**

1. Heard Mr. Batakrishna Behera, learned Counsel appearing (in Virtual Mode) for the Applicant.
2. The allegation of the Applicant in the present Original Application is that the Respondent No.1, M/s JSW Bhushan Power and Steel Limited, is causing illegal deposition of raw iron dust over the forest land by constructing a pond-cum-stockyard and operating the same in the highly risky level near village Bisadihi, District-Sambalpur, Odisha.
3. It is stated that the Respondent No.1 industry has been established with the objective of operating and manufacturing production of Iron, Sponge Iron, Steel etc. by burning huge quantities of coal situated at Thelkoloi, P.O.- Lapanga, District-Sambalpur, Odisha. It is also stated that for production of iron materials the Respondent Nos.1 & 2 are supposed to keep the raw iron in the stockyard-cum-iron pond by mixing it with water.
4. It is further stated that the iron pond having been constructed by Respondent No.1 is about 200 meters from the Applicant's village



and there is no green belt surrounding the area nor any boundary or polythene sheet has been installed before depositing the raw iron dust after digging 50 feet near the Village-Bisadihi and the underground water is also contaminated with crude iron and turned in red colour.

5. It is stated that construction of raw iron pond-cum-iron stockyard was started in the month of November, 2020, and due to heavy dust pollution and contamination of ground water, the Applicant and other villagers submitted the representation on 14.07.2023 (Annexure-B (colly), before the Respondent No.4, Collector and District Magistrate, Sambalpur, but no action has been taken till date.
6. Photographs have been filed with the Original Application in support of the allegations made in the Original Application.
7. Matter requires consideration.
8. Issue notice to the Respondents, returnable within four weeks.
9. Ms. Papiya Banerjee Binani, learned Counsel who is present in Court, accepts notice on behalf of the Respondent No.3, State Pollution Control Board, Odisha.
10. Mr. Shakti Prasad Panda, learned Additional Government Advocate who is present (in Virtual Mode), accepts notice on behalf of the Respondent Nos.4, 5 & 6, State Respondents, Government of Odisha.
11. Mr. Dipanjan Ghosh, learned Counsel who is present in Court, accepts notice on behalf of the Respondent No.7, Central Pollution Control Board.
12. Issue notice to the Respondent Nos.1&2, M/s JSW Bhushan Power and Steel Limited, returnable within four weeks.



13. All the Respondents shall file their counter-affidavits within four weeks.
14. Considering the allegations made, we deem it appropriate to constitute a Committee comprising of the following Members:
  - (i) Senior Scientist, Odisha State Pollution Control Board;
  - (ii) Senior Scientist, Central Pollution Control Board;
  - (iii) Collector-cum-District Magistrate, Sambalpur, or his representative not below the rank of Additional District Magistrate,
15. The Committee shall visit the site in question and submit its report on affidavit within four weeks with regard to the allegations made in the Original Application.
16. The District Magistrate, Sambalpur, shall be the Nodal Office for all logistic purposes.
17. The Committee Report on affidavit shall be filed by the State Pollution Control Board, Odisha.
18. The Counsel Applicant shall serve e-copy/soft copy of the Original Application along with all its annexures upon Mr. Shakti Prasad Panda, Ms. Papiya Banerjee Bihani and Mr. Dipanjan Ghosh, Counsel for the Respondents within 48 hours.
19. **List on 02.05.2024.**

.....  
**B. Amit Sthalekar, JM**

.....  
**Dr. Arun Kumar Verma, EM**

March 12, 2024,  
Original Application No.43/2024/EZ  
AK

ANNEXURE-R-A13



## STATE POLLUTION CONTROL BOARD, ODISHA

(FOREST, ENVIRONMENT & CLIMATE CHANGE DEPARTMENT, GOVT. OF ODISHA)

A/118, Nilakanthanagar, Unit-VIII, Bhubaneswar 751012

EPABX-2560929, 2561909, Tel: 2564573, 2562368,

Email : [paribesh1@ospcbboard.org](mailto:paribesh1@ospcbboard.org), Website : [www.ospcbboard.org](http://www.ospcbboard.org)

No 16756 /IND-I-CON-4650

Dt 21.10.2024

**By Speed Post / Email**

[anilkumar.singh@jswbpsl.in](mailto:anilkumar.singh@jswbpsl.in)

[Prakash.baral@jswbpsl.in](mailto:Prakash.baral@jswbpsl.in)

### **SHOW CAUSE NOTICE U/S. 21 & 31A OF THE AIR (PCP) ACT, 1981 & U/S. 25 & 33A OF WATER (PCP) ACT, 1974 AND AMENDMENTS THEREUNDER.**

**WHEREAS**, you are operating an Integrated Steel Plant of capacity 4.5 MTPA along with captive power plant of 506 MW in the name & style of M/s. Bhushan Power and Steel Ltd. At: Thelkolci, P.O.: Lapanga, Dist: Sambalpur with consent of the Board valid up to 31.03.2025 subject to strict compliance to consent conditions.

**AND WHEREAS**, a joint enquiry was conducted by the committee comprising of Scientist-D, Regional Directorate, CPCB, Kolkata, Addl. District Magistrate, Sambalpur and Regional Officer, SPC Board, Sambalpur on 28.06.2024 in compliance to the order dt. 12.03.2024 of Hon'ble NGT, EZB, Kolkata in the matter of O.A. No. 43/2024/EZ - Akash Kalo & others Vrs. JSW (BPSL) Power and Steel Limited & Ors., and certain lapses were observed by the committee.

**AND WHEREAS**, a direction under section 31A of the Air (PCP) Act, 1981 & U/s. 33A of Water (PCP) Act, 1974 as amended thereafter was issued to your unit vide Board's letter no. 13279 dt. 21.08.2024 to take the following corrective measures as per the recommendation of joint enquiry committee and furnish action taken report to the Board within 15 days:

- Construct stone pitching around the tailing pond facing towards the Pond of village Bisadihi to protect any spillage towards the village Pond.
- Engage an accredited organization for carrying periodical monitoring of groundwater and Pond, dug well, and tube well of the alleged village as well as ambient air quality monitoring at the dump site and the report shall be submitted to the Board.
- Carry out plantation activity beside the tailing pond towards the Bisadihi village.
- Engage a third party to study the environmental impact of the iron ore tailing pond around a 10 km radius of the Tailing Pond in consultation with the State Pollution Control Board.

**AND WHEREAS**, you have submitted your reply in pursuance to above direction vide letter no. JSWBPSL/ENV/24-25/042 dt. 21.08.2024.

**AND WHEREAS**, your unit was inspected on 07.10.2024 by Regional Office, Sambalpur (**Copy of inspection enclosed**) to verify the compliance status in pursuance to the order dt. 23.08.2024 of the Hon'ble NGT, Kolkata and following non compliances are observed:

- The embankment of the tailing pond facing the Pond of the village Bisadihi was not stone pitched and no work has been commenced for stone pitching till date.

~~X~~

- b) You have not submitted a periodical monitoring report of groundwater and Pond, dug well, and tube well of the alleged village as well as ambient air quality monitoring at the dump site to the Board.
- c) You have not yet carried out plantation activity beside the tailing pond towards the Bisadihi village.
- d) You have not yet engaged a third party to study the environmental impact of the iron ore tailing pond around a 10 km radius of the Tailing Pond in consultation with the State Pollution Control Board.

**AND WHEREAS**, the non-compliances mentioned above establishes that you have failed to failed to comply with the direction issued on 21.8.2024 and in controlling pollution created by your industry .

NOW, THEREFORE, you are directed to show cause under Section 25 & 33A of the Water (PCP) Act, 1974 and Section 21 & 31 A of the Air (PCP) Act, 1981 as amended thereafter and Rules framed there under within 15 (fifteen) days from the date of issue of this notice as to why consent to operate granted in favour of 1200 TPH Iron Ore beneficiation Plant vide Board's CTO order No-3439 Dt 12/3/2024 in favour of your unit shall not be revoked and direction of closure shall not be issued to the said process unit . In case your explanation is not received within the stipulated time period or the explanation is found to be not satisfactory, appropriate action as deemed proper shall be taken against your industry.

**Encl: As above.**

*14/10/24*  
**MEMBER SECRETARY**

To  
**The Director  
M/s Bhusan Power and Steel Ltd.  
At-Thekoi, P.O.-Lapanga  
Dist-Sambalpur, Odisha**

Memo No. 16757 /Dt. 21.10.2024 / (By E-mail)

Copy forwarded to the Regional Officer, State Pollution Control Board, Sambalpur for information and necessary action.

*R. Singh*  
**CHIEF ENV. ENGINEER**

*J. Singh*



3430



**Inspection report of visit regarding verification of observations of the Hon'ble NGT in the matter of O.A. No. 43/2024/EZ - Akash Kalo & Others - Vrs. M/s. JSW Bhusan Power and Steel Limited, At- Thelkoloji, PO- Lapanga, Dist.- Sambalpur, Odisha**

In pursuance of the order dtd. 23.08.2024 of the Hon'ble NGT, EZB, Kolkata in the matter of O.A. No. 43/2024/EZ - Akash Kalo & others - Vrs. JSW (BPSL) Power and Steel Limited & Ors., the above site of M/s. JSW Bhusan Power and Steel Limited, At- Thelkoloji, PO- Lapanga, Dist- Sambalpur, Odisha was inspected on dtd 07.10.2024 to verify the compliance to Direction u/s 31 (A) of Air (PCP) Act, & U/s 33(A) of Water (PCP) Act, 1974 amendments thereunder issued vide Head Office letter no. 13279 dtd 21.08.2024. (Copy Enclosed Annexure-1). The above site was last inspected by a joint inquiry committee comprising of Scientist-D, Regional Directorate, CPCB, Kolkotta, Addl District Magistrate, Sambalpur and Regional Officer, State Pollution Control Board Sambalpur on dt.28.06.2024 and certain corrective measures as per the recommendation of joint inquiry committee were suggested. Based on the recommendation of the joint inquiry committee report the industry was issued Direction u/s 31 (A) of Air (PCP) Act, & U/s 33(A) of Water (PCP) Act, 1974 amendments thereunder issued vide Head Office letter no. 13279 dtd 21.08. 2024.. The industry has replied to the above directions to the Board vide their letter no. JSWBPSL/ENV/24-25/042 dtd 21<sup>st</sup> August 2024. (Copy Enclosed Annexure-2). The unit was again inspected on dt.07.10.2024 for verification of the above Directions. Sri Akul Senapati, DGM-Environment, M/s. JSW Bhushan Power & Steel Ltd., Sambalpur, and Sri Niranjan Parida, Sr. Mgr, Environment, M/s JSW Bhusan Power & Steel Ltd., Sambalpur were present during the visit along with other representatives of the industry.


**Observation to the points raised in the Direction issued from the Head Office, SPCB, Odisha vide letter no. 13279 dtd. 21.08.2024**


Sl.No.	Points raised	Observation on dtd 07.10.2024
1.	Construct stone pitching around the tailing pond facing towards the Pond of village Bisadihi to protect any spillage towards the village Pond.	It was observed that the embankment of the tailing pond facing the Pond of the village Bisadihi was not stone pitched and no work has commenced for stone pitching during the day of

X

		inspection..
2.	Engage an accredited organization for carrying periodical monitoring of groundwater and Pond, dug well, and tube well of the alleged village as well as ambient air quality monitoring at the dump site and the report shall be submitted to the Board.	The unit has not submitted a periodical monitoring report of groundwater and Pond, dug well, and tube well of the alleged village as well as ambient air quality monitoring at the dump site to the Board. The unit submitted a monitoring report in July 2024 on 21 <sup>st</sup> August 2024(Copy Enclosed Annexure-3)
3.	Carry out plantation activity beside the tailing pond towards the Bisadihi village.	The unit did not carry out plantation activity beside the tailing pond towards the Bisadihi village during the day of inspection
4.	Engage a third party to study the environmental impact of the iron ore tailing pond around a 10 km radius of the Tailing Pond in consultation with the State Pollution Control Board.	The industry has not complied to this point to date.

**Recommendations:** The unit has not complied with the directions of the Board. Therefore, necessary action may be issued in favor of the unit for not complied the Directions of the Board.

  
**Asst Env Scientist**  
 SPC Board, Sambalpur  
**Asst. Environmental Scientist**  
 Regional Office of State Pollution  
 Control Board Sambalpur.

  
**Asst Env Engineer**  
 SPC Board, Sambalpur  
**Asst. environmental Engineer**  
 State Pollution Control Board  
 Regional Office, Sambalpur

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**Inspection report of visit regarding verification of observations of the Hon'ble NGT in the matter of O.A. No. 43/2024/EZ – Akash Kalo & Others – Vrs. M/s. JSW Bhushan Power and Steel Limited. At- Thekoloi, PO- Lapanga, Dist.- Sambalpur, Odisha**

In pursuance of the order dtd. 23.08.2024 of the Hon'ble NGT, EZB, Kolkata in the matter of O.A. No. 43/2024/EZ – Akash Kalo & others – Vrs. JSW (BPSL) Power and Steel Limited & Ors., the above site of M/s. JSW Bhushan Power and Steel Limited, At- Thekoloi, PO- Lapanga, Dist.- Sambalpur, Odisha was inspected on dtd 07.10.2024 to verify the compliance to Direction u/s 31 (A) of Air (PCP) Act, & U/s 33(A) of Water (PCP) Act, 1974 amendments thereunder issued vide Head Office letter no. 13279 dtd 21.08.2024. (Copy Enclosed Annexure-1). and further clarification of the Hon'ble NGT, EZB, Kolkata which are not reflected in the above order but forwarded to the Head Office, SFCB, Odisha, via E-mail dtd. 02.09.2024 The above site was last inspected by a joint inquiry committee comprising of Scientist-D, Regional Directorate, CPCB, Kolkotta, Addl District Magistrate, Sambalpur and Regional Officer, State Pollution Control Board Sambalpur on dt.28.06.2024 and certain corrective measures as per the recommendation of joint inquiry committee were suggested. Based on the recommendation of the joint inquiry committee report the industry was issued Direction u/s 31 (A) of Air (PCP) Act, & U/s 33(A) of Water (PCP) Act, 1974 amendments thereunder issued vide Head Office letter no. 13279 dtd 21.08. 2024.. The industry has replied to the above directions to the Board vide their letter no. JSWBPSL/ENV/24-25/042 dtd 21<sup>st</sup> August 2024. (Copy Enclosed Annexure-2). The unit was again inspected on dt.07.10.2024 for verification of the above Directions. Sri Akul Senapati, DGM-Environment, M/s. JSW Bhushan Power & Steel Ltd., Sambalpur, and Sri Niranjan Parida, Sr. Mgr, Environment, M/s JSW Bhushan Power & Steel Ltd., Sambalpur were present during the visit along with other representatives of the industry.

**Background of the industry:**

M/s. JSW Bhushan Power & Steel Limited, Sambalpur is operating an integrated steel plant of capacity 4.5 MTPA with a captive power plant of 506 MW at village Thekoloi, PO- Lapanga, Tahasil: Rengali under Sambalpur district. The Company has valid consent to operate issued by OSPCB vide letter no. 3439/IND-I-CON-4650, dated 12.03.2024 valid till 31.03.2025.

~~3~~

Tailing is a mixture of crushed rock and processing fluids from mills washeries or concentrators that remain after extracting economic metals from the mine source. It is the by-product of iron ore beneficiation. The tailing contains mainly silica, alumina, iron oxide, and calcium oxide and a small fraction of metal oxide like magnesium oxide, sodium oxide, potassium oxide, titanium oxide, etc. Tailings are heterogeneous. There are 14 nos. of Tailing ponds. The tailings from the iron ore beneficiation process come into the paste thickener and the high molecular weight polymer is added into the paste thickener to concentrate the tailings and clarified water from the paste thickener is taken back into the beneficiation process. The tailings stored in the tailing ponds are sun-dried and taken back into the sinter plants and small amounts of water from the tailing yard are taken back into the beneficiation plant.

Observation to the points raised in the Direction issued from the Head Office, SPCB, Odisha vide letter no. 13279 dtd. 21.08.2024

Sl.N o.	Points raised	Observation on dtd 07.10.2024
1.	Construct stone pitching around the tailing pond facing towards the Pond of village Bisadihi to protect any spillage towards the village Pond.	It was observed that the embankment of the tailing pond facing the Pond of the village Bisadihi was not stone pitched and no work commenced for stone pitching during the day of inspection..
2.	Engage an accredited organization for carrying periodical monitoring of groundwater and Pond, dug well, and tube well of the alleged village as well as ambient air quality monitoring at the dump site and the report shall be submitted to the Board.	The unit has not submitted a periodical monitoring report of groundwater and Pond, dug well, and tube well of the alleged village as well as ambient air quality monitoring at the dump site to the Board. The unit submitted a monitoring report in July 2024 on 21 <sup>st</sup> August 2024 (Copy Enclosed Annexure-3)
3.	Carry out plantation activity beside the tailing pond towards	The unit did not carry out plantation activity beside the tailing pond towards



	the Bisadihi village.	the Bisadihi village during the day of inspection
4.	Engage a third party to study the environmental impact of the iron ore tailing pond around a 10 km radius of the Tailing Pond in consultation with the State Pollution Control Board.	The industry has not complied to this point to date.

The following observations were made as per E-mail dtd. 02.09.2024 by Head Office,

Sl.no.	Points raised in the E-mail	Observations
1.	Whether the manufacturing procedure that was explained in the said report, of the said industry violates any environmental norms	The industry has obtained Consent to Operate from the Board vide letter no. 3439/IND-I-CON-4650, dated 12.03.2024 valid till 31.03.2025. The tailings stored in the tailing ponds are sun-dried and taken back into both the sinter plants and small amounts of water from the tailing yard is taken back into the beneficiation plant. This process is not in violation of any environmental norms.
2.	Whether the level of iron in the groundwater is exceeding its permissible limit in the entire village area:	The nearby village area was visited and water samples were collected from 13 (Thirteen) locations as follows: <ol style="list-style-type: none"> <li>1. Water sample from Bisadihi village pond no.1 near iron ore tailing pond of M/s JSW Bhushan Power &amp; Steel Ltd., Thelkoloi, Sambalpur.</li> <li>2. Water sample from Bisadihi village pond no.2 near iron ore</li> </ol>



		<p>tailing pond of M/s JSW Bhushan Power &amp; Steel Ltd., Thekoloi, Sambalpur.</p> <p>3. Groundwater of Test well -1 near iron ore tailing pond-3 of M/s. JSW Bhushan Power &amp; Steel Ltd, Thekoloi, Sambalpur.</p> <p>4. Groundwater of test wells- 3 near iron ore tailing pond-4 &amp; 12 of M/s. JSW Bhushan Power &amp; Steel Ltd., Thekoloi, Sambalpur.</p> <p>5. Groundwater of Test well -3 near iron ore tailing pond-2 of M/s. JSW Bhushan Power &amp; Steel Ltd, Thekoloi, Sambalpur.</p> <p>6. Groundwater from tube well at Banji berna village entrance.</p> <p>7. Groundwater from tube well at Gandapada in front of Siba Nayak house, Bisadihi village.</p> <p>8. Ground water from the tube well at Govt. Primary School, Bisadihi village.</p> <p>9. Ground water from the tube well at Brahamanpada, Bisadihi village.</p> <p>10. Groundwater sample from Dug well of Santosh Kalo house, Bisadihi village.</p> <p>11. Ground water sample from Tube well in front of Santosh Kalo house, Bisadihi village.</p> <p>12. Ground water from tube well at</p>
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		<p>Sunamal village – 1</p> <p>13. Groundwater from tube well at Sunamal village – 2.</p> <p>The samples were sent to the Central Laboratory, State Pollution Control Board, Odisha for analysis and the analysis report is enclosed with this report. It is revealed from the analysis report that the iron in the water samples is under the prescribed standards of the Board except for the water sample collected from the tube well in front of Sri Santosh Kalo residence which is highly exceeding the standard parameter of the Board.</p>
3.	Whether the high level of iron in the groundwater is due to the leaching of iron pond or for any natural reason as the place is rich in iron ore.	<p>From the analysis report of the water samples, it is revealed that the iron in the water samples are under the prescribed standards of the Board except for the water sample collected from the tube well in front of Sri Santosh Kalo residence which highly exceeds the standard parameter of the Board. During the inquiry with the villagers, it was known that the particular tube well in front of Sri Santosh Kalo had not been used for many months which is why the rust formation in the bore pipe must have been the reason for the increase in iron content in the water sample collected from the Tube well.</p>
4.	If there is any lack on the part of the industry, then what would be	No. There is no lack on the part of the industry to exceed the Standards of the



	<p>the steps to overcome it.</p>	<p>Tube well of Sri Santosh Kalo of Bisadihi village. One village Pond is also situated in between M/s. JSW Bhushan Power &amp; Steel Ltd, Iron ore tailing Pond and Tube well of Sri Santosh Kalo. The Village Pond of Bisadihi village situated adjacent to the iron ore tailing Pond is within the prescribed Standard of the Board. This concludes that there is no seepage or contamination of the iron ore tailing pond to the nearby Tube well used for drinking water in the Bisadihi village</p>
--	----------------------------------	---

**Some Photographs taken during the visit to Nearby Village areas**

<p>Groundwater of the Test well -1 near iron ore tailing pond-3</p>	<p>Groundwater of the test well- 3 near iron ore tailing pond-4 &amp; 12</p>	<p>Groundwater of the Test well -3 near iron ore tailing pond-2</p>
<p>Ground water from the tube well at Banji berna village entrance</p>	<p>Ground water from the tube well at at Gandapada infront of Siba Nayak house</p>	<p>Ground water from the tube well at Govt. Primary School, Bisadihi village</p>
<p>Ground water from the tube well at Brahamanpada , Bisadihi village</p>	<p>Ground water sample from the Dug well of Santosh Kalo house, Bisadihi village</p>	<p>Ground water sample from the Dug well of Santosh Kalo house, Bisadihi village</p>



<p>Water sample from Bisadihi village pond no.1 near iron ore tailing pond of M/s. JSW BPSL., Thelkoloi, Sambalpur</p>	<p>Water sample from Bisadihi village pond no.2 near iron ore tailing pond of M/s. JSW BPSL., Thelkoloi, Sambalpur</p>	<p>Ground water from the tube well at Sunamal village – 1</p>
<p>Ground water from the tube well at Sunamal village – 2</p>		

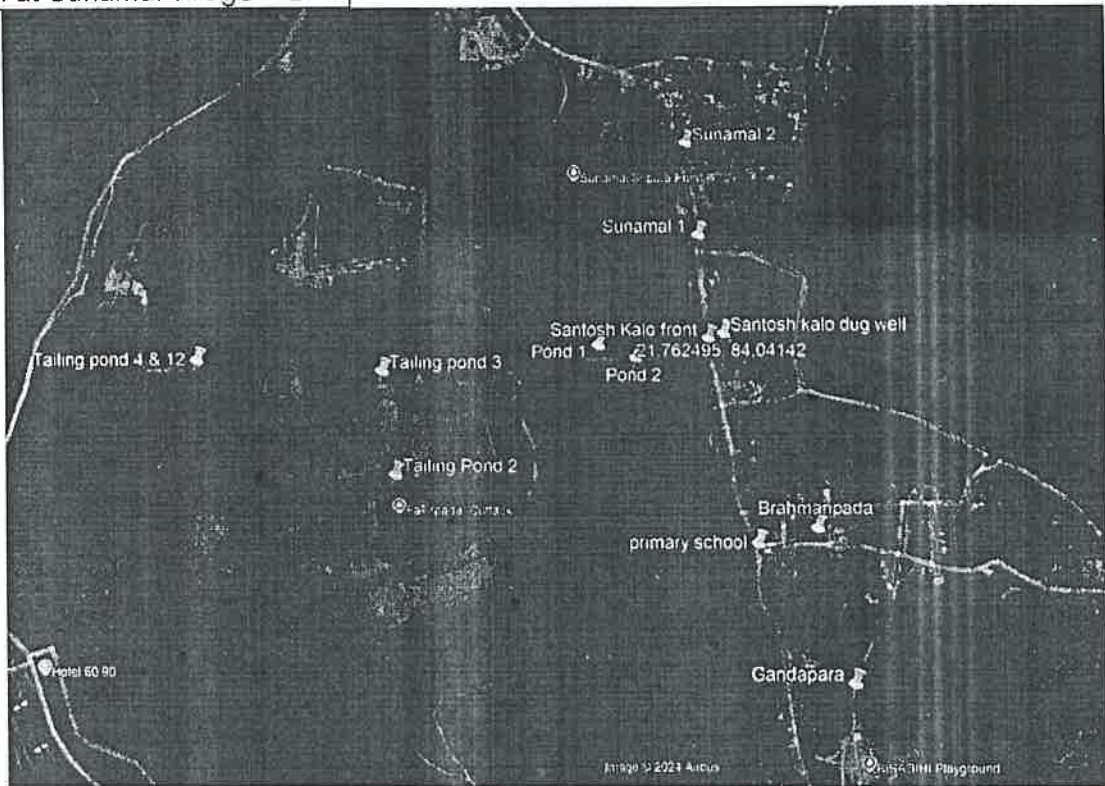


Fig. Google Earth image of the water sample taken in the vicinity of the tailing pond in the village area.

**Remarks & Recommendations:**

1. The iron ore tailings are pumped to the tailing ponds in highly concentrated slurry form. However, after drying the iron ore tailing, heavy vehicles transport it back to the industry. The industry has provided mobile water tankers and multi-utility vehicles for dust suppression on the bund road and approach road to the industry. In addition to that, 15 nos of fixed type 360 deg. Rotation water sprinklers are installed on the bund of the tailing pond towards the Bisadihi village.
2. Thirteen nos. of water samples were collected from different areas of the periphery village areas as mentioned above and the water samples were collected and sealed and sent to Central Laboratory, SPCB, Bhubaneswar for analysis. The analysis reports are enclosed. (Copy Enclosed Annexure- 4 & 5). The analysis reports reveal that the Iron (Fe) of the groundwater sample taken in front of the residence of Sri Santosh Kalo exceeds the standard parameter of the Board which is unsuitable for drinking purposes.
3. The revenue authority of Jharsuguda district is advised to take needful action for booking encroachment cases of the forest land against the industry authority and further necessary action.
4. The water from the tube well near the residence of Sri Santosh Kalo shall not be used by the villagers for drinking purposes as Iron (Fe) content is high. Proper advisory shall be given to the villagers by M/s. JSW Bhushan Power & Steel Limited, Sambalpur.

Asst. Env. Scientist  
 SPC Board, Sambalpur  
 Asst. Environmental Scientist  
 Regional Office of State Pollution  
 Control Board, Sambalpur.

Asst. Env. Engineer  
 SPC Board, Sambalpur  
 Asst. environmental Engineer  
 State Pollution Control Board  
 Regional Office, Sambalpur.

~~26~~Annexure - 1**STATE POLLUTION CONTROL BOARD, ODISHA**

(DEPARTMENT OF FOREST, ENVIRONMENT &amp; CLIMATE CHANGE, GOVT. OF ODISHA)

A/118, Nilakanthanagar, Unit-VIII, Bhubaneswar 751012

EPABX-2560929, 2561909, Tel: 2564573, 2562368,

Email : cto17category@ospboard.org, Website : www.ospboard.org

No 13279 /IND-I-CON- 4650Dt 21.08.2024

By Speed Post / Email

anilkumar.singh@jswbpsl.in

prakash.baral@jswbpsl.in

**DIRECTION U/S. 31A OF THE AIR (PCP) ACT, 1981 & U/S. 33A OF WATER (PCP) ACT, 1974 AMENDMENTS THEREUNDER.**

WHEREAS, you are operating an Integrated Steel Plant in the name & style of M/s. Bhushan Power and Steel Ltd. At: Thelkolo, Po: Lapanga, Dist: Sambalpur with Consent of the Board valid up to 31.03.2025, subject to strict compliance to consent conditions:

AND WHEREAS, in pursuance of the order of Hon'ble NGT, EZB, Kolkata dtd. 12.03.2024 in the matter of O.A. No. 43/2024/EZ - Akash Kalo & others - Vrs. JSW (BPSL) Power and Steel Limited & Ors., a joint enquiry committee comprising of Scientist-D, Regional Directorate, CPCB, Kolkata, Addl. District Magistrate, Sambalpur and Regional Officer, SPC Board, Sambalpur had conducted inspection on 28.06.2024. (Copy of inspection report is enclosed). From the inspection report, following non-compliances were observed:

- The analysis result of groundwater sample collected from tube well of Bisadihi Village reveals that the Iron (Fe) concentration exceeded the prescribed standard for potable water rendering it unsuitable for drinking purposes.

NOW THEREFORE, by virtue of the power conferred under section 31A of the Air (PCP) Act, 1981 & U/s. 33A of Water (PCP) Act, 1974 as amended thereafter, the competent authority in the State Pollution Control Board, Odisha do hereby direct you to take the following corrective measures as per the recommendation of joint enquiry committee and furnish action taken report to the Board within 15 days:

- Construct stone pitching around the tailing pond facing towards the Pond of village Bisadihi to protect any spillage towards the village Pond.
- Engage an accredited organization for carrying periodical monitoring of groundwater and Pond, dug well, and tube well of the alleged village as well as ambient air quality monitoring at the dump site and the report shall be submitted to the Board.
- Carry out plantation activity beside the tailing pond towards the Bisadihi village.

- d) Engage a third party to study the environmental impact of the iron ore tailing pond around a 10 km radius of the Tailing Pond in consultation with the State Pollution Control Board.


Encl: As above

  
MEMBER SECRETARY

To

The Director,  
M/s. Bhushan Power and Steel Ltd.  
At: Thelkoloi Po: Lapanga.  
Dist: Sambalpur

Memo No. 13280 Dt. 21-08-2024 By Speed Post/E-mail  
Copy forwarded to the Regional Officer, State Pollution Control Board,  
Sambalpur for information and necessary action.

  
CHIEF ENV. ENGINEER







## 22

### Bhushan Power & Steel Limited

(A JSW Group Company)  
 Village : Thelkoloji, Post : Lapanga, Teh. : Rengali  
 Dist. : Sambalpur - 768 212, Odisha, INDIA  
 T +91(0)663 6636000  
 Website : [www.jsw.in](http://www.jsw.in), CIN : U27100DL1999PLC108350

Annexure - 2

JSWBPSL/ENV/24-25/042  
 21<sup>st</sup> August 2024.

To,  
 The Member Secretary,  
 State Pollution Control Board, Odisha  
 Paribesh Bhawan, A/118, Nilakantha Nagar,  
 Unit-VIII, Bhubaneswar-751012.

Subject- Compliance to the Direction under section 31(A) of Air (PCP) act, 1981 and 33A of Water (PCP) Act, 1974 Amendment there under.

Reference-Your Letter No-13297/IND-I-CON-4650, dated.21.08.2024

Dear Sir,

Inviting your kind attention to the subject cited above, we would like to submit point wise compliance status of the direction issued to take corrective measures as per the recommendation of Joint enquiry committee.

Sl.No	Recommendation	Compliance Status
a	Construct stone pitching around the tailing pond facing towards the pond of village Bisadihi to protect any spillage towards the village pond	The embankment of the tailing pond facing towards the village Bisadihi is regularly inspected and maintained. As recommended, the stone pitching work will be started after the rainy season around the tailing pond facing towards Bisadihi village to protect any spillage towards the village pond.
b	Engage an accredited organization for carrying periodical monitoring of ground water, pond and dug well and tube well of the alleged village as well as ambient air quality monitoring at the dump site and the report shall be submitted to the Board.	We have already engaged NABL & MOEF accredited Laboratory for monitoring of ground water, pond and dug well and tube well of the alleged village as well as ambient air quality periodic monitoring at the dump site. The latest monitoring reports are attached in Annexure-1.
c	Carryout plantation activity besides the tailing pond towards the Bisadihi village.	We have started plantation besides the pond. Recently 500 new trees planted. More sapling will be planted towards the Bisadihi village.
d	Engage a third party to study the	We will engage third party to study the

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	environmental impact of the iron ore tailing pond around a 10 KM radius of the tailing Pond in consultation with the state pollution Control Board.	environmental impact of the iron ore tailing pond around a 10 KM radius of the tailing Pond in consultation with the State pollution Control Board.
--	---	---

We are continuously working to improve the environmental condition and sustainable development. We are committed to comply with all the recommendations stipulated in the direction.

Thanking You,

Yours faithfully,

For Bhushan Power & Steel Limited

  
Anil Kumar Singh  
President & WTD

Copy to: The Regional Officer, Odisha State Pollution Control Board, Sambalpur



TC-5418



NABL Scope

## Test Report

**Issued To:**

BHUSHAN POWER & STEEL LIMITED  
THELKOLOI,  
TEH-RENGALI  
SAMBALPUR-768232  
ODISHA,IND  
Ph: Mob:9437150569

**Registration/Report Number: VLL/VLS/24/06493/005**

Issue Date: 2024-07-15  
Your Ref: 2024-07-04  
and Date: 1764811  
Lab Ref No.: 556893-A  
LIMS Report No.:



Page 1 of 3

Kind Attn:Mr. Alope Datta

**Customer Provided Details :**

<b>Sample Name:</b>	Ground Water- Tailing Pond Tube Well No-1		
<b>Batch Number:</b>	NA	<b>AR/Sample Code:</b>	NA
<b>Mfg. Date:</b>	NA	<b>Exp. Date:</b>	NA
<b>Test Required:</b>	Colour, Odour, Taste, Turbidity, pH, Dissolved Solid, Residual free chlorine, Total Hardness, Calcium, Magnesium, Alkalinity, Chloride, Fluoride, Sulphate, Nitrate, Chromium, Phenolic Compounds, Iron, Cyanide, Copper, Manganese, Mercury, Cadmium, Selenium, Arsenic, Lead, Zinc, Aluminium, Boron, Anionic Detergents, Mineral Oil		
<b>Other Details if Any:</b>	NA		
<b>Lab Provided Details :</b>			
<b>Sample Received Date:</b>	2024-07-04	<b>Sample Registration Date:</b>	2024-07-05
<b>Analysis Starting Date:</b>	2024-07-05	<b>Analysis Completion Date:</b>	2024-07-09
<b>Quantity Received:</b>	1 Ltr Bottle X 2No's		
<b>Sampling Details:</b>	Sampling Date:2024.06.30		
<b>Other Details if Any:</b>	NA		

ULR-TC541824000026358F

**Chemical  
Water**
**TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
1	pH at 25°C	---	APHA 24th Ed 4500 H+	6.70
2	Color	Pt/Co units	APHA 24th 2120-C	<1.0
3	Residual Free Chlorine as RFC	mg/l	IS 3025 (Part-26)	<0.05
4	Arsenic as As	mg/l	APHA 3125_24th_EDITION	<0.001
5	Mercury as Hg	mg/l	APHA 3125_24th_EDITION	<0.0002
6	Lead as Pb	mg/l	APHA 3125_24th_EDITION	<0.005

**Name and Designation of Authorized Signatory**


Scan the QR  
code to check  
the report  
authenticity

**Dr. Subbareddy Mallampati**  
Manager - Environment

**Note : This report is subject to the terms and conditions mentioned at the end of the report.**

Vimta Labs Ltd., Life Sciences Campus, Plot No. 5, MN Park (Formerly Alexandria Knowledge Park),  
Genome Valley, Shamirpet, Medchal - Malkajiri - 500 101, Hyderabad, Telangana, India. Phone : +91-40-6740 4040

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TC-5418



NABL Scope

## Test Report

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THELKOLOI,  
TEH-RENGALI  
SAMBALPUR-768232  
ODISHA,IND  
Ph: Mob:9437150569

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Issue Date: 2024-07-15

Your Ref:  
and Date: 2024-07-04

Lab Ref No.: 1764811

LIMS Report No.: 556893-A



Page 2 of 3

Kind Attn:Mr. Alope Datta

ULR-TC541824000026358F

Chemical  
Water

### TEST RESULTS

S. No.	Test Parameters	UOM	Method	Results
7	Cadmium as Cd	mg/l	APHA 3125_24th_EDITION	<0.0005
8	Copper as Cu	mg/l	APHA 3125_24th_EDITION	<0.01
9	Total Chromium as Cr	mg/l	APHA 3125_24th_EDITION	<0.005
10	Selenium as Se	mg/l	APHA 3125_24th_EDITION	<0.001
11	Boron as B	mg/l	APHA 3125_24th_EDITION	0.01
12	Phenolic Compounds as C6H5OH	mg/l	APHA 24th 5530D	<0.001
13	Manganese as Mn	mg/l	APHA 3125_24th_EDITION	0.01
14	Total Dissolved Solids at 180°C	mg/l	APHA 24th Edition 2540 C	135
15	Turbidity	NTU	APHA 24th Edition 2130 B	<0.1
16	Nitrate Nitrogen as NO3-	mg/l	APHA 24th 4500 NO3 B	5.12
17	Sulphates as SO4	mg/l	APHA 24th Ed 4500 SO4E	16.5
18	Cyanide as CN-	mg/l	APHA 24th 4500 CN E	<0.02
19	Calcium as Ca	mg/l	APHA 24th Ed 3500 Ca B	22.04
20	Magnesium as Mg	mg/l	APHA 24th Ed 3500 Mg B	7.29
21	Total Alkalinity as CaCO3	mg/l	APHA 24th Ed 2320 B	55
22	Total Hardness as CaCO3	mg/l	APHA23RD2340B	85
23	Zinc as Zn	mg/l	APHA 3125_24th_EDITION	0.02
24	Iron as Fe	mg/l	APHA 3125_24th_EDITION	0.01
25	Chloride as Cl	mg/l	APHA 24th Ed 4500 Cl B	20
26	Fluoride as F	mg/l	APHA 24th Ed 4500 F-D	0.52
27	Odour	---	IS 3025 (Part 5)	Agreeable
28	Anionic Surfactants as MBAS	mg/l	APHA 24th Edition 5540 C	≥0.02
29	Mineral Oil	mg/l	IS 3025 (Part 39): 1991	<0.01
30	Taste	---	IS:3025 PART 7 & 8:1984	Agreeable



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Name and Designation of Authorized Signatory

Dr.Subbareddy Mallampati  
Manager - Environment

**Note : This report is subject to the terms and conditions mentioned at the end of the report.**

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NABL Scope

## Test Report

Issued To:

BHUSHAN POWER & STEEL LIMITED  
THELKOLOI,  
TEH-RENGALI  
SAMBALPUR-768232  
ODISHA,IND  
Ph: Mob:9437150569

**Registration/Report Number: VLL/VLS/24/06493/005**

Issue Date: 2024-07-15

Your Ref: and Date: 2024-07-04

Lab Ref No.: 1764811

LIMS Report No.: 556893-A



Page 3 of 3

Kind Attn:Mr. Alope Datta

**ULR-TC541824000026358F**

**Chemical  
Water**

### TEST RESULTS

S. No.	Test Parameters	UOM	Method	Results
31	Aluminium as Al	mg/l	APHA 3125_24th_EDITION	<0.001

Results relate only to the sample tested.

Remarks:

- END OF THE TEST REPORT -



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Name and Designation of Authorized Signatory

**Dr.Subbareddy Mallampati**  
Manager - Environment

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## Test Report

**Issued To:**

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THELKOLOI,  
TEH-RENGALI  
SAMBALPUR-768232  
ODISHA,IND  
Ph: Mob:9437150569

**Registration/Report Number: VLL/VLS/24/06493/006**

Issue Date: 2024-07-15  
Your Ref:  
and Date: 2024-07-04  
Lab Ref No.: 1764812  
LIMS Report No.: 556894-A



Page 1 of 3

Kind Attn:Mr. Alope Datta

Customer Provided Details :			
Sample Name:	Ground Water- Tailing Pond Tube Well No-2		
Batch Number:	NA	AR/Sample Code:	NA
Mfg. Date:	NA	Exp. Date:	NA
Test Required:	Colour, Odour, Taste, Turbidity, pH, Dissolved Solid, Residual free chlorine, Total Hardness, Calcium, Magnesium, Alkalinity, Chloride, Fluoride, Sulphate, Nitrate, Chromium, Phenolic Compounds, Iron, Cyanide, Copper, Manganese, Mercury, Cadmium, Selenium, Arsenic, Lead, Zinc, Aluminium, Boron, Anionic Detergents, Mineral Oil		
Other Details if Any:	NA		
Lab Provided Details :			
Sample Received Date:	2024-07-04	Sample Registration Date:	2024-07-05
Analysis Starting Date:	2024-07-05	Analysis Completion Date:	2024-07-09
Quantity Received:	1 Ltr Bottle X 2No's		
Sampling Details:	Sampling Date:2024.06.30		
Other Details if Any:	NA		

ULR-TC541824000026359F

**Chemical  
Water**

### TEST RESULTS

S. No.	Test Parameters	UOM	Method	Results
1	pH at 25°C	---	APHA 24th Ed 4500 H+	7.13
2	Color	Pt/Co units	APHA 24th 2120-C	<1.0
3	Residual Free Chlorine as RFC	mg/l	IS 3025 (Part-26)	<0.05
4	Arsenic as As	mg/l	APHA 3125_24th_EDITION	<0.001
5	Mercury as Hg	mg/l	APHA 3125_24th_EDITION	<0.0002
6	Lead as Pb	mg/l	APHA 3125_24th_EDITION	<0.005



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Manager - Environment

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Page 2 of 3

Kind Attn:Mr. Alope Datta

**ULR-TC541824000026359F**
**Chemical**
**Water**
**TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
7	Cadmium as Cd	mg/l	APHA 3125_24th_EDITION	<0.0005
8	Copper as Cu	mg/l	APHA 3125_24th_EDITION	<0.01
9	Total Chromium as Cr	mg/l	APHA 3125_24th_EDITION	<0.005
10	Selenium as Se	mg/l	APHA 3125_24th_EDITION	<0.001
11	Boron as B	mg/l	APHA 24th Ed 3120 B	0.04
12	Phenolic Compounds as C6H5OH	mg/l	APHA 24th 5530D	<0.001
13	Manganese as Mn	mg/l	APHA 3125_24th_EDITION	0.03
14	Total Dissolved Solids at 180°C	mg/l	APHA 24th Edition 2540 C	254
15	Turbidity	mg/l	APHA 24th Edition 2130 B	<0.1
16	Nitrate Nitrogen as NO3-	NTU	APHA 24th 4500 NO3 B	9.52
17	Sulphates as SO4	mg/l	APHA 24th Ed 4500 SO4E	31.2
18	Cyanide as CN-	mg/l	APHA 24th 4500 CN E	<0.02
19	Calcium as Ca	mg/l	APHA 24th Ed 3500 Ca B	32.06
20	Magnesium as Mg	mg/l	APHA 24th Ed 3500 Mg B	14.59
21	Total Alkalinity as CaCO3	mg/l	APHA 24th Ed 2320 B	100
22	Total Hardness as CaCO3	mg/l	APHA23RD2340B	140
23	Zinc as Zn	mg/l	APHA 3125_24th_EDITION	0.03
24	Iron as Fe	mg/l	APHA 3125_24th_EDITION	0.02
25	Chloride as Cl	mg/l	APHA 24th Ed 4500 Cl B	45
26	Fluoride as F	mg/l	APHA 24th Ed 4500 F-D	0.68
27	Odour	---	IS 3025 (Part 5)	Agreeable
28	Anionic Surfactants as MBAS	mg/l	APHA 24th Edition 5540 C	<0.02
29	Mineral Oil	mg/l	IS 3025 (Part 39): 1991	<0.01
30	Taste	---	IS:3025 PART 7 & 8:1984	Agreeable



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**Name and Designation of Authorized Signatory**

**Dr.Subbareddy Mallampati**  
Manager - Environment

**Note : This report is subject to the terms and conditions mentioned at the end of the report.**

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NABL Scope

## Test Report

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THELKOLOI,  
TEH-RENGALI  
SAMBALPUR-768232  
ODISHA,IND  
Ph: Mob:9437150569

**Registration/Report Number: VLL/VLS/24/06493/006**

Issue Date: 2024-07-15

Your Ref: and Date: 2024-07-04

Lab Ref No.: 1764812

LIMS Report No.: 556894-A



Page 3 of 3

Kind Attn:Mr. Alope Datta

**ULR-TC541824000026359F**

**Chemical**

**Water**

### TEST RESULTS

S. No.	Test Parameters	UOM	Method	Results
31	Aluminium as Al	mg/l	APHA 3125_24th_EDITION	<0.001

Results relate only to the sample tested.

Remarks:

- END OF THE TEST REPORT -



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Name and Designation of Authorized Signatory

**Dr.Subbareddy Mallampati**  
Manager - Environment

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8. A satisfactory test report in no way implies that the product so tested or equipment calibrated is approved by NABL.

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## Test Report

**Issued To:**

BHUSHAN POWER & STEEL LIMITED  
THELKOLOI,  
TEH-RENGALI  
SAMBALPUR-768232  
ODISHA,IND  
Ph: Mob:9437150569

**Registration/Report Number: VLL/VLS/24/06493/007**

Issue Date: 2024-07-16

 Your Ref: 2024-07-04  
and Date:

Lab Ref No.: 1764813

LIMS Report No.: 557198-A



Page 1 of 3

Kind Attn:Mr. Alope Datta

Customer Provided Details :			
Sample Name:	Ground Water-Tailing Pond Old Tube Well		
Batch Number:	NA	AR/Sample Code:	NA
Mfg. Date:	NA	Exp. Date:	NA
Test Required:	Colour, Odour, Taste, Turbidity, pH, Dissolved Solid, Residual free chlorine, Total Hardness, Calcium, Magnesium, Alkalinity, Chloride, Fluoride, Sulphate, Nitrate, Chromium, Phenolic Compounds, Iron, Cyanide, Copper, Manganese, Mercury, Cadmium, Selenium, Arsenic, Lead, Zinc, Aluminium, Boron, Anionic Detergents, Mineral Oil		
Other Details if Any:	NA		
Lab Provided Details :			
Sample Received Date:	2024-07-04	Sample Registration Date:	2024-07-05
Analysis Starting Date:	2024-07-05	Analysis Completion Date:	2024-07-09
Quantity Received:	1 Ltr Bottle X 2No's		
Sampling Details:	Sampling Date:2024.06.30		
Other Details if Any:	NA		

ULR-TC541824000026360F

**Chemical  
Water**
**TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
1	pH at 25°C	---	APHA 24th Ed 4500 H+	6.96
2	Color	Pt/Co units	APHA 24th 2120-C	<1.0
3	Residual Free Chlorine as RFC	mg/l	IS 3025 (Part-26)	<0.05
4	Arsenic as As	mg/l	APHA 3125_24th_EDITION	<0.001
5	Mercury as Hg	mg/l	APHA 3125_24th_EDITION	<0.0002
6	Lead as Pb	mg/l	APHA 3125_24th_EDITION	<0.005


 Scan the QR  
code to check  
the report  
authenticity

**Name and Designation of Authorized Signatory**
**Dr.Subbareddy Mallampati  
Manager - Environment**
**Note : This report is subject to the terms and conditions mentioned at the end of the report.**

 Vimta Labs Ltd., Life Sciences Campus, Plot No. 5, MN Park (Formerly Alexandria Knowledge Park),  
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## Test Report

Issued To:

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ODISHA,IND  
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**Registration/Report Number: VLL/VLS/24/06493/007**

Issue Date: 2024-07-16

Your Ref: and Date: 2024-07-04

Lab Ref No.: 1764813

LIMS Report No.: 557198-A



Page 2 of 3

Kind Attn:Mr. Alope Datta

**ULR-TC541824000026360F**

**Chemical  
Water**

### TEST RESULTS

S. No.	Test Parameters	UOM	Method	Results
7	Cadmium as Cd	mg/l	APHA 3125_24th_EDITION	<0.0005
8	Copper as Cu	mg/l	APHA 3125_24th_EDITION	<0.01
9	Total Chromium as Cr	mg/l	APHA 3125_24th_EDITION	<0.005
10	Selenium as Se	mg/l	APHA 3125_24th_EDITION	<0.001
11	Boron as B	mg/l	APHA 24th Ed 3120 B	0.05
12	Phenolic Compounds as C6H5OH	mg/l	APHA 24th 5530D	<0.001
13	Manganese as Mn	mg/l	APHA 3125_24th_EDITION	0.03
14	Total Dissolved Solids at 180°C	mg/l	APHA 24th Edition 2540 C	490
15	Turbidity	mg/l	APHA 24th Edition 2130 B	<0.1
16	Nitrate Nitrogen as NO3-	NTU	APHA 24th 4500 NO3 B	9.4
17	Sulphates as SO4	mg/l	APHA 24th Ed 4500 SO4E	42.1
18	Cyanide as CN-	mg/l	APHA 24th 4500 CN E	<0.02
19	Calcium as Ca	mg/l	APHA 24th Ed 3500 Ca B	44.08
20	Magnesium as Mg	mg/l	APHA 24th Ed 3500 Mg B	19.10
21	Total Alkalinity as CaCO3	mg/l	APHA 24th Ed 2320 B	130
22	Total Hardness as CaCO3	mg/l	APHA23RD2340B	190
23	Zinc as Zn	mg/l	APHA 3125_24th_EDITION	0.07
24	Iron as Fe	mg/l	APHA 3125_24th_EDITION	0.04
25	Chloride as Cl	mg/l	APHA 24th Ed 4500 Cl B	140
26	Fluoride as F	mg/l	APHA 24th Ed 4500 F-D	0.69
27	Odour	---	IS 3025 (Part 5)	Agreeable
28	Anionic Surfactants as MBAS	mg/l	APHA 24th Edition 5540 C	<0.02
29	Mineral Oil	mg/l	IS 3025 (Part 39): 1991	<0.01
30	Taste	---	IS:3025 PART 7 & 8:1984	Agreeable



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Name and Designation of Authorized Signatory

**Dr.Subbareddy Mallampati**  
Manager - Environment

**Note : This report is subject to the terms and conditions mentioned at the end of the report.**

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TC-5418



NABL Scope

## Test Report

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TEH-RENGALI  
SAMBALPUR-768232  
ODISHA,IND  
Ph: Mob:9437150569

**Registration/Report Number: VLL/VLS/24/06493/007**

Issue Date: 2024-07-16

Your Ref: and Date: 2024-07-04

Lab Ref No.: 1764813

LIMS Report No.: 557198-A



Page 3 of 3

Kind Attn:Mr. Alope Datta

**ULR-TC541824000026360F**

**Chemical**

**Water**

### TEST RESULTS

S. No.	Test Parameters	UOM	Method	Results
31	Aluminium as Al	mg/l	APHA 3125_24th_EDITION	<0.001

**Results relate only to the sample tested.**

Remarks: This report is superceded to report with Reg. No. VLL/VLS/23/06493.007 with copy bearing Lims Report NO. 556896-A

**- END OF THE TEST REPORT -**



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Name and Designation of Authorized Signatory

**Dr.Subbareddy Mallampati**  
Manager - Environment

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## Test Report

**Issued To:**

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THELKOLOI,  
TEH-RENGALI  
SAMBALPUR-768232  
ODISHA,IND  
Ph: Mob:9437150569

**Registration/Report Number: VLL/VLS/24/06493/017**

Issue Date: 2024-07-15  
Your Ref: and Date: 2024-07-04  
Lab Ref No.: 1764823  
LIMS Report No.: 556907-A



Page 1 of 3

Kind Attn:Mr. Alope Datta

Customer Provided Details :			
Sample Name:	Ground Water-Bisidihi Village Tubewell,N-21007'06" E-84004'12"		
Batch Number:	NA	AR/Sample Code:	NA
Mfg. Date:	NA	Exp. Date:	NA
Test Required:	Colour, Odour, Taste, Turbidity, pH, Dissolved Solid, Residual free chlorine, Total Hardness, Calcium, Magnesium, Alkalinity, Chloride, Fluoride, Sulphate, Nitrate, Chromium, Phenolic Compounds, Iron, Cyanide, Copper, Manganese, Mercury, Cadmium, Selenium, Arsenic, Lead, Zinc, Aluminium, Boron, Anionic Detergents, Mineral Oil		
Other Details if Any:	NA		
Lab Provided Details :			
Sample Received Date:	2024-07-04	Sample Registration Date:	2024-07-05
Analysis Starting Date:	2024-07-05	Analysis Completion Date:	2024-07-09
Quantity Received:	1 Ltr Bottle X 2No's		
Sampling Details:	Sampling Date:2024.06.30		
Other Details if Any:	NA		

ULR-TC541824000026372F

**Chemical  
Water**

### TEST RESULTS

S. No.	Test Parameters	UOM	Method	Results
1	pH at 25°C	---	APHA 24th Ed 4500 H+	7.22
2	Color	Pt/Co units	APHA 24th 2120-C	<1.0
3	Residual Free Chlorine as RFC	mg/l	IS 3025 (Part-26)	<0.05
4	Arsenic as As	mg/l	APHA 3125_24th_EDITION	<0.001
5	Mercury as Hg	mg/l	APHA 3125_24th_EDITION	<0.0002
6	Lead as Pb	mg/l	APHA 3125_24th_EDITION	<0.005



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**Name and Designation of Authorized Signatory**

**Dr.Subbareddy Mallampati  
Manager - Environment**

**Note : This report is subject to the terms and conditions mentioned at the end of the report.**

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ODISHA,IND  
Ph: Mob:9437150569

**Registration/Report Number: VLL/VLS/24/06493/017**

Issue Date: 2024-07-15

Your Ref: and Date: 2024-07-04

Lab Ref No.: 1764823

LIMS Report No.: 556907-A



Page 2 of 3

Kind Attn:Mr. Alope Datta

ULR-TC541824000026372F

Chemical

Water

### TEST RESULTS

S. No.	Test Parameters	UOM	Method	Results
7	Cadmium as Cd	mg/l	APHA 3125_24th_EDITION	<0.0005
8	Copper as Cu	mg/l	APHA 3125_24th_EDITION	<0.01
9	Total Chromium as Cr	mg/l	APHA 3125_24th_EDITION	<0.005
10	Selenium as Se	mg/l	APHA 3125_24th_EDITION	<0.001
11	Boron as B	mg/l	APHA 24th Ed 3120 B	0.08
12	Phenolic Compounds as C6H5OH	mg/l	APHA 24th 5530D	<0.001
13	Manganese as Mn	mg/l	APHA 3125_24th_EDITION	0.05
14	Total Dissolved Solids at 180°C	mg/l	APHA 24th Edition 2540 C	618
15	Turbidity	NTU	APHA 24th Edition 2130 B	<0.1
16	Nitrate Nitrogen as NO3-	mg/l	APHA 24th 4500 NO3 B	12.2
17	Sulphates as SO4	mg/l	APHA 24th Ed 4500 SO4E	72.5
18	Cyanide as CN-	mg/l	APHA 24th 4500 CN E	<0.02
19	Calcium as Ca	mg/l	APHA 24th Ed 3500 Ca B	56.02
20	Magnesium as Mg	mg/l	APHA 24th Ed 3500 Mg B	23.1
21	Total Alkalinity as CaCO3	mg/l	APHA 24th Ed 2320 B	170
22	Total Hardness as CaCO3	mg/l	APHA23RD2340B	235
23	Zinc as Zn	mg/l	APHA 3125_24th_EDITION	0.09
24	Iron as Fe	mg/l	APHA 3125_24th_EDITION	0.08
25	Chloride as Cl	mg/l	APHA 24th Ed 4500 Cl B	160
26	Fluoride as F	mg/l	APHA 24th Ed 4500 F-D	0.64
27	Odour	---	IS 3025 (Part 5)	Agreeable
28	Anionic Surfactants as MBAS	mg/l	APHA 24th Edition 5540 C	<0.02
29	Mineral Oil	mg/l	IS 3025 (Part 39): 1991	<0.01
30	Taste	---	IS:3025 PART 7 & 8:1984	Agreeable



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Name and Designation of Authorized Signatory

**Dr. Subbareddy Mallampati**  
Manager - Environment

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THELKOLOI,  
TEH-RENGALI  
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ODISHA,IND  
Ph: Mob:9437150569

**Registration/Report Number: VLL/MLS/24/06493/017**

Issue Date: 2024-07-15

Your Ref: 2024-07-04  
and Date:

Lab Ref No.: 1764823

LIMS Report No.: 556907-A



Page 3 of 3

Kind Attn:Mr. Alope Datta

**ULR-TC541824000026372F**

**Chemical**

**Water**

### TEST RESULTS

S. No.	Test Parameters	UOM	Method	Results
31	Aluminium as Al	mg/l	APHA 3125_24th_EDITION	<0.001

Results relate only to the sample tested.

Remarks:

- END OF THE TEST REPORT -



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Name and Designation of Authorized Signatory

**Dr.Subbareddy Mallampati**  
Manager - Environment

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## Test Report

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TEH-RENGALI  
SAMBALPUR-768232  
ODISHA,IND  
Ph: Mob:9437150569

**Registration/Report Number: VLL/VLS/24/06493/018**

Issue Date: 2024-07-15

 Your Ref: 2024-07-04  
and Date:

 Lab Re<sup>n</sup> No.: 1764824

LIMS Report No.: 556908-A



Page 1 of 2

Kind Attn:Mr. Aloke Datta

Customer Provided Details :			
Sample Name:	Surface Water-Bisidhi Village Talab-1,N-21007'06" E-84003'09"		
Batch Number:	NA	AR/Sample Code:	NA
Mfg. Date:	NA	Exp. Date:	NA
Test Required:	Colour, Turbidity, pH, Electrical Conductivity, Chemical Dissolved Oxygen (COD), BOD (3 days at 27°C), Total Hardness, Iron as Fe, Chloride, Fluoride, Total Dissolved Solids, Calcium, Magnesium, Copper, Manganese, Sulphates, Nitrate, Phenolic Compounds, Mercury, Cadmium, Selenium, Arsenic, Cyanide, Lead, Zinc & Anionic Surfactants.		
Other Details if Any:	NA		
Lab Provided Details :			
Sample Received Date:	2024-07-04	Sample Registration Date:	2024-07-05
Analysis Starting Date:	2024-07-05	Analysis Completion Date:	2024-07-10
Quantity Received:	1 Ltr Bottle X 2No's		
Sampling Details:	Sampling Date:2024.06.30		
Other Details if Any:	NA		

**ULR-TC541824000026373F**
**Chemical  
Water**
**TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
1	pH at 25°C	---	APHA 24th Ed 4500 H+	7.74
2	Electrical Conductivity at 25°C	µS/cm	APHA 24rd Ed 2510 B	460
3	Color	Pt/Co units	APHA 24th 2120-C	<1.0
4	Arsenic as As	mg/l	APHA 3125_24th_EDITION	<0.001
5	Mercury as Hg	mg/l	APHA 3125_24th_EDITION	<0.0002
6	Lead as Pb	mg/l	APHA 3125_24th_EDITION	<0.005


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**Name and Designation of Authorized Signatory**

**Dr.Subbareddy Mallampati**  
Manager - Environment

**Note : This report is subject to the terms and conditions mentioned at the end of the report.**

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TC-5418



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## Test Report

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Ph: Mob:9437150569

**Registration/Report Number: VLL/VLS/24/06493/018**

Issue Date: 2024-07-15

Your Ref: and Date: 2024-07-04

Lab Ref No.: 1764824

LIMS Report No.: 556908-A



Page 2 of 2

Kind Attn:Mr. Alope Datta

**ULR-TC541824000026373F**

**Chemical**

**Water**

### TEST RESULTS

S. No.	Test Parameters	UOM	Method	Results
7	Cadmium as Cd	mg/l	APHA 3125_24th_EDITION	<0.0005
8	Copper as Cu	mg/l	APHA 3125_24th_EDITION	<0.01
9	Selenium as Se	mg/l	APHA 3125_24th_EDITION	<0.001
10	Phenolic Compounds as C6H5OH	mg/l	APHA 24th 5530D	<0.001
11	Manganese as Mn	mg/l	APHA 3125_24th_EDITION	0.01
12	Total Dissolved Solids at 180°C	mg/l	APHA 24th Edition 2540 C	284
13	Turbidity	NTU	APHA 24th Edition 2130 B	<0.1
14	Nitrate Nitrogen as NO3-	mg/l	APHA 24th 4500 NO3 B	26.8
15	Sulphates as SO4	mg/l	APHA 24th Ed 4500 SO4E	9.56
16	Cyanide as CN-	mg/l	APHA 24th 4500 CN E	<0.02
17	Calcium as Ca	mg/l	APHA 24th Ed 3500 Ca B	18.04
18	Magnesium as Mg	mg/l	APHA 24th Ed 3500 Mg B	9.72
19	Total Hardness as CaCO3	mg/l	APHA23RD2340B	85
20	Biochemical Oxygen Demand 3days at 27°C	mg/l	IS 3025 Part 44 :2023	<3
21	Chemical Oxygen Demand at 150 °C	mg/l	APHA 23rd Ed 5220 B	<5
22	Zinc as Zn	mg/l	APHA 3125_24th_EDITION	0.05
23	Iron as Fe	mg/l	APHA 3125_24th_EDITION	0.02
24	Chloride as Cl	mg/l	APHA 24th Ed 4500 Cl B	45
25	Fluoride as F	mg/l	APHA 4500 FD-(SPADNS) 23rd Edition	0.22
26	Anionic Surfactants as MBAS	mg/l	APHA 24th Edition 5540 C	<0.02

**Results relate only to the sample tested.**

Remarks:

**- END OF THE TEST REPORT -**



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**Name and Designation of Authorized Signatory**

**Dr.Subbareddy Mallampati  
Manager - Environment**

**Note : This report is subject to the terms and conditions mentioned at the end of the report.**

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## Test Report

**Issued To:**

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TEH-RENGALI  
SAMBALPUR-768232  
ODISHA,IND  
Ph: Mob:9437150569

**Registration/Report Number: VLL/VLS/24/06493/019**

Issue Date: 2024-07-15  
Your Ref: and Date: 2024-07-04  
Lab Ref No.: 1764825  
LIMS Report No.: 556909-A



Page 1 of 2

Kind Attn:Mr. Alope Datta

**Customer Provided Details :**

<b>Sample Name:</b>	Surface Water-Bisidhi Village Talab-2,N-21007'06" E-84004'01"		
Batch Number:	NA	AR/Sample Code:	NA
Mfg. Date:	NA	Exp. Date:	NA
Test Required:	Colour, Turbidity, pH, Electrical Conductivity, Chemical Dissolved Oxygen (COD), BOD (3 days at 27°C), Total Hardness, Iron as Fe, Chloride, Fluoride, Total Dissolved Solids, Calcium, Magnesium, Copper, Manganese, Sulphates, Nitrate, Phenolic Compounds, Mercury, Cadmium, Selenium, Arsenic, Cyanide, Lead, Zinc & Anionic Surfactants.		
Other Details if Any:	NA		

**Lab Provided Details :**

Sample Received Date:	2024-07-04	Sample Registration Date:	2024-07-05
Analysis Starting Date:	2024-07-05	Analysis Completion Date:	2024-07-10
Quantity Received:	1 Ltr Bottle X 2No's		
Sampling Details:	Sampling Date:2024.06.30		
Other Details if Any:	NA		

ULR-TC541824000026374F

**Chemical  
Water**

**TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
1	pH at 25°C	---	APHA 24th Ed 4500 H+	7.74
2	Electrical Conductivity at 25°C	µS/cm	APHA 24rd Ed 2510 B	975
3	Color	Pt/Co units	APHA 24th 2120-C	<1.0
4	Arsenic as As	mg/l	APHA 3125_24th_EDITION	<0.001
5	Mercury as Hg	mg/l	APHA 3125_24th_EDITION	<0.0002
6	Lead as Pb	mg/l	APHA 3125_24th_EDITION	<0.005



Scan the QR code to check the report authenticity

**Name and Designation of Authorized Signatory**

**Dr.Subbareddy Mallampati  
Manager - Environment**

**Note : This report is subject to the terms and conditions mentioned at the end of the report.**

Vimta Labs Ltd., Life Sciences Campus, Plot No. 5, MN Park (Formerly Alexandria Knowledge Park), Genome Valley, Shamirpet, Medchal - Malkajgiri - 500 101, Hyderabad, Telangana, India. Phone : +91-40-6740 4040



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TC-5418



NABL Scope

## Test Report

**Issued To:**

BHUSHAN POWER & STEEL LIMITED  
THELKOLOI,  
TEH-RENGALI  
SAMBALPUR-768232  
ODISHA,IND  
Ph: Mob:9437150569

**Registration/Report Number: VLL/VLS/24/06493/019**

Issue Date: 2024-07-15

Your Ref:

and Date: 2024-07-04

Lab Ref No.: 1764825

LIMS Report No.: 556909-A



Page 2 of 2

Kind Attn:Mr. Aloke Datta

ULR-TC541824000026374F

Chemical

Water

### TEST RESULTS

S. No.	Test Parameters	UOM	Method	Results
7	Cadmium as Cd	mg/l	APHA 3125_24th_EDITION	<0.0005
8	Copper as Cu	mg/l	APHA 3125_24th_EDITION	<0.01
9	Selenium as Se	mg/l	APHA 3125_24th_EDITION	<0.001
10	Phenolic Compounds as C6H5OH	mg/l	APHA 24th 5530D	<0.001
11	Manganese as Mn	mg/l	APHA 3125_24th_EDITION	0.06
12	Total Dissolved Solids at 180°C	mg/l	APHA 24th Edition 2540 C	618
13	Turbidity	NTU	APHA 24th Edition 2130 B	<0.1
14	Nitrate Nitrogen as NO <sub>3</sub> -	mg/l	APHA 24th 4500 NO <sub>3</sub> B	31.5
15	Sulphates as SO <sub>4</sub>	mg/l	APHA 24th Ed 4500 SO <sub>4</sub> E	52.16
16	Cyanide as CN-	mg/l	APHA 24th 4500 CN E	<0.02
17	Calcium as Ca	mg/l	APHA 24th Ed 3500 Ca B	32.06
18	Magnesium as Mg	mg/l	APHA 24th Ed 3500 Mg B	24.32
19	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA23RD2340B	180
20	Biochemical Oxygen Demand 3days at 27°C	mg/l	IS 3025 Part 44 :2023	<3
21	Chemical Oxygen Demand at 150 °C	mg/l	APHA 23rd Ed 5220 B	<5
22	Zinc as Zn	mg/l	APHA 3125_24th_EDITION	0.11
23	Iron as Fe	mg/l	APHA 3125_24th_EDITION	0.08
24	Chloride as Cl	mg/l	APHA 24th Ed 4500 Cl B	210
25	Fluoride as F	mg/l	APHA 4500 FD-(SPADNS) 23rd Edition	0.19
26	Anionic Surfactants as MBAS	mg/l	APHA 24th Edition 5540 C	<0.02

Results relate only to the sample tested.

Remarks:

- END OF THE TEST REPORT -



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Name and Designation of Authorized Signatory

Dr.Subbareddy Mallampati  
Manager - Environment

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**Test Report**

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SAMBALPUR-768232  
ODISHA,IND  
Ph: Mob:9437150569

**Registration/Report Number: VLL/VLS/24/02332/023**

Issue Date: 2024-05-11  
Your Ref: 2024-05-06  
and Date: 1708535  
Lab Ref No.: 536799-A  
LIMS Report No.:

**\*VLL/VLS/24/02332/023\***

Page 1 of 2

Kind Attn:Mr. Aloke Datta

<b>Customer Provided Details :</b>			
Sample Name:	AAQM -Tailing Pond		
Manufacturer:	NA		
Batch Number:	NA	A.R. Number/Sample Code:	NA
Mfg. Date:	NA	Exp. Date:	NA
Test Required:	PM(10),PM(2.5),Pb,Ni,As,BaP,SO2,NOx,NH3,O3,CO,C6H6		
Other Details if Any:	NA		
<b>Lab Provided Details :</b>			
Sample Received Date:	2024-05-06	Sample Registration Date:	2024-05-06
Analysis Starting Date:	2024-05-06	Analysis Completion Date:	2024-05-09
Quantity Received:	2 Filter papers X 2 Nos+ Abs Sol 30ml X 4 Nos+ Co tube X 01 No		
Sampling Details:	Sampling Date & Time: 2024-04-25;10:45 AM to 2024-04-26;10:45 AM		
Other Details if Any:	NA		

**Chemical  
Atmospheric Pollution**



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**Name and Designation of Authorized Signatory**

**Dr.SUBBAREDDY MALLAMPATI  
Manager - Environment**

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Genome Valley, Shamirpet, Medchal - Malkajgiri - 500 101, Hyderabad, Telangana, India. Phone : +91-40-6740 4040

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NABL Scope

Test Report

Issued To:

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TEH-RENGALI  
SAMBALPUR-768232  
ODISHA,IND  
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Registration/Report Number: **VLL/VLS/24/02332/023**

Issue Date: 2024-05-11

Your Ref: 2024-05-06  
and Date: 1708535

Lab Ref No.:

LIMS Report No.: 536799-A

**\*VLL/VLS/24/02332/023\***

Page 2 of 2

Kind Attn:Mr. Aloke Datta

TEST RESULTS

S. No.	Test Parameters	UOM	Method	Requirements	Results
1	Particulate Matter (PM10)	µg/m³	IS 5182 (PART-23) RA 2017	100	92.3
2	Particulate Matter (PM2.5)	µg/m³	IS 5182 (Part-24) 2019	60	44.9
3	Sulphurdioxide as SO2	µg/m³	IS 5182 (Part-2) RA 2017	80	30.7
4	Oxides of Nitrogen as NO2	µg/m³	IS 5182 (Part-6) RA 2017	80	36.4
5	Ozone as O3	µg/m³	IS 5182 (Part-9) RA 2019	100	12.4
6	Ammonia as NH3	µg/m³	APHA 401	400	19.4
7	Carbonmonoxide as CO	mg/m3	IS5182PART10 RA 2019	2.0	0.82
8	Lead as Pb	µg/m³	USEPA IO 3.4	1.0	<0.1
9	Nickel as Ni	ng/m³	USEPA IO 3.4	20	12.2
10	Arsenic as As	ng/m³	USEPA IO 3.4	6.0	<1.0
11	Benzene as C6H6	µg/m³	IS5182 (PART-11) RA 2017	5.0	BDL
12	Benzo(a)Pyrene	ng/m³	IS 5182 (Part-12) RA 2019	1.0	BDL

Results relate only to the sample tested.

Remarks: Requirements as per National Ambient Air Quality Standards:2009, Instrument used GC MS/MS & GC MS Head Space (Limit of quatification-0.00001 ppb).

- END OF THE TEST REPORT -



Scan the QR code to check the report authenticity

Name and Designation of Authorized Signatory

Dr.SUBBAREDDY MALLAMPATI  
Manager - Environment

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~~4~~

**CENTRAL LABORATORY**  
**STATE POLLUTION CONTROL BOARD, ODISHA**

Plot No. B-59/2 & 59/3, Chandaka Industrial Estate, Patia,  
Bhubaneswar - 751 024

E-mail: [centrallab@ospcbboard.org](mailto:centrallab@ospcbboard.org)

OSPCB/CNLJF0718



Annexure - 4

**TEST REPORT**

Page 1 of 1

1. ULR No. : TC127402400000872F  
 2 (i). Report No. : OS/829/10/2024  
 3 (i) Date : 15.10.2024  
 4. Sample Submitted By : Sri B. K. Nayak, FA  
 (Name and address) Regional Office, SPCB, Odisha, Sambalpur  
 5. Reference Letter No. : 3396/VI-Lab(Misc)-13/2018-19 dt.08.10.2024  
 6. Date of sample receipt : 09.10.2024  
 7. Sample Description :

- 2(ii). Amendment No : ---  
 3(ii). Amendment Date : ---

(i) Discipline : Chemical Testing  
 (Biological Testing,  
 Chemical testing)

(ii) Group : Water  
 (Water/ Pollution and Environment  
 / Atmospheric Pollution/ Soil and  
 Hazardous Waste)

(iii) Sub Group : Surface water  
 (Surface water/ Ground water/ Drinking  
 water / Wastewater/ Effluent/ Ambient Air/  
 Stack/ Soil and Hazardous Waste)

8. Analysis Starting Date-Analysis Completion Date : 09.10.2024 – 14.10.2024  
 9. If uncertainty is desired by Customer : No  
 10. Analysis Results :

(Attach separate sheet if necessary)

Sl. No.	Parameter, Unit	Standards/ Regulatory Limits		Test Method	Sample collected from Water body near iron ore tailing pond of M/s Bhushan Power & Steel Ltd., (BPSL) Thekoloi, Lapanga, Sambalpur	
		Applicable for Sl. No. Others/Oct - 24/SW/1742 & Others/Oct -24/ SW/1743			Others/Oct - 24/ SW/ 1742	Others/Oct -24/ SW/ 1743
		IS : 2296, (1982) Class -B *	G.S.R.742 (E) **		Water sample from Bisadihi village pond no.1 near iron ore tailing pond of M/s BPSL, Thekoloi, Sambalpur	Water sample from Bisadihi village pond no.2 near iron ore tailing pond of M/s BPSL, Thekoloi, Sambalpur
1.	pH	6.5-8.5	6.5-8.5	4500-11-B, APHA, 23 <sup>rd</sup> Edn., 2017	Results	
2.	Total Dissolved Solids (TDS), mg/L	-	-	2540 C, APHA, 23 <sup>rd</sup> Edn., 2017	7.8	7.7
3.	Iron (Fe), mg/L	-	-	5500 Fe - B, APHA, 23 <sup>rd</sup> Edn., 2017	204.0	316.0
					0.258	0.249

\* Tolerance limit for inland surface water subject to pollution (IS : 2296-1982), for Class 'B' (Outdoor bathing)  
 \*\* Primary water quality criteria for bathing water (water used for organised outdoor bathing)

11. Deviation from Test Method, if any :  
 12. If Sampling Conducted by the Central Laboratory, Yes/ No. - No  
 If Yes,  
 (a) Date of Sampling : (b) Method Used\* :  
 (c) Name of Sampler with Designation :

-----End of Test Report-----

15-10-2024  
 Authorised Signatory  
 (Water/wastewater)

(Dr. (Mrs) Usharani Patnaik, Addl. Chief Env. Scientist)

15/10/24  
 Board Analyst

(Mr. Niranjan Mallick, Chief Env. Scientist)

**Note :**

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 (iv) The Test Item will not be retained for more than 15 days from the date of issue of Test Report except in case as required by applicable Regulation.

Head Office: State Pollution Control Board, Odisha, Paribesh Bhawan, A/118, Nilakanthanagar, Unit-VIII, Bhubaneswar - 751 012. FAX : 2562822/2560955  
 TEL : 2564033/2563294 EPABX : 2561909/2562847. E-mail: [paribesh1@spcbboard.org](mailto:paribesh1@spcbboard.org) Website: [www.ospcbboard.org](http://www.ospcbboard.org)



OSPCB/CNL/F0718

## CENTRAL LABORATORY STATE POLLUTION CONTROL BOARD, ODISHA

Plot No. B-59/2 & 59/3, Chandaka Industrial Estate, Patia,  
Bhubaneswar - 751 024

E-mail: [centrallab@ospcbboard.org](mailto:centrallab@ospcbboard.org)



*Annexure - 5*

### TEST REPORT

Page 1 of 2

1. ULR No. : TC127402400000873F
- 2 (i) Report No. : OS/830/10/2024
- 3 (i) Date : 15.10.2024
4. Sample Submitted By : Sri B.K. Nayak, FA  
(Name and address) Regional Office, SPCB, Odisha, Sambalpur
5. Reference Letter No. : 3396/ VI -Lab(Misc) -13/2018-19 dt.08.10.2024
6. Date of sample receipt : 09.10.2024
7. Sample Description :
  - (i) Discipline : Chemical Testing  
(Biological Testing, Chemical testing)
  - (ii) Group : Water  
(Water/ Pollution and Environment / Atmospheric Pollution/ Soil and Hazardous Waste)
  - (iii) Sub Group : Ground water  
(Surface water/ Ground water/ Drinking water / Wastewater/ Effluent/ Ambient Air/ Stack/ Soil and Hazardous Waste)
8. Analysis Starting Date-Analysis Completion Date : 09.10.2024 – 14.10.2024
9. If uncertainty is desired by Customer : No
10. Analysis Results :  
(Attach separate sheet if necessary)

Sl. No.	Parameter, Unit	Standards/ Regulatory Limits *		Test Method	Ground water samples collected from nearby village from iron ore tailing pond of M/s Bhushan Power & Steel Ltd., (BPSL) Thekoloi, Lapanga, Sambalpur
		Requirement (Acceptable limit)	Permissible limit in the absence of alternate source		
1.	pH	6.5-8.5	No relaxation	4500-H* -B, APHA, 23 <sup>rd</sup> Edn., 2017	Others/Oct - 24/ GW/1744 Ground water of Test well -1 near iron ore tailing pond-3 of M/s. BPSL., Thekoloi, Sambalpur
2.	Total Dissolved Solids (TDS), mg/L	500, max	2000, max	2540 C, APHA, 23 <sup>rd</sup> Edn., 2017	Results 7.8
3.	Iron (Fe), mg/L	1.0	No relaxation	3500 Fe - B, APHA, 23 <sup>rd</sup> Edn., 2017	140.0 0.273

Sl. No.	Parameter, Unit	Ground water samples collected from nearby village from iron ore tailing pond of M/s Bhushan Power & Steel Ltd., (BPSL) Thekoloi, Lapanga, Sambalpur				
		Others/Oct - 24/ GW/1745	Others/Oct - 24/ GW/1746	Others/Oct - 24/ GW/1747	Others/Oct - 24/ GW/1748	Others/Oct - 24/ GW/1749
		Ground water of Test well -2 near iron ore tailing pond - 4 & 12 of M/s. BPSL., Thekoloi, Sambalpur	Ground water of Test well -3 near iron ore tailing pond-2 of M/s. BPSL., Thekoloi, Sambalpur	Ground water from tube well at Banji bererna village entrance	Ground water from tube well at Gandapada in front of Siba Nayak house, Bisadishi village	Ground water from Tube well at Govt. Primary School, Bisadishi village
1.	pH	Results				
2.	Total Dissolved Solids (TDS), mg/L	7.6	7.3	7.7	7.5	7.2
3.	Iron (Fe), mg/L	244.0	736	148	192	292
		0.408	0.050	0.137	0.994	0.736

(Cont)

Sl. No	Parameter, Unit	Ground water samples collected from nearby village from iron ore tailing pond of M/s Bhushan Power & Steel Ltd., (BPSL) Theikoloi, Lapanga, Sambalpur				
		Others/Oct - 24/ GW/1750	Others/Oct - 24/ GW/1751	Others/Oct - 24/ GW/1752	Others/Oct - 24/ GW/1753	Others/Oct - 24/ GW/1754
		Ground water from tube well at Brahamanpada, Bisadithi village	Ground water from Dug well of Santosh Kalo house Bisadithi village	Ground water sample from tube well in front of Santosh Kalo house Bisadithi village	Ground water from tube well at Sunamai village -1	Ground water from tube well at Sunamai village -2
1	pH	7.4	7.5	7.4	6.9	7.1
2	Total Dissolved Solids (TDS), mg/L	256.0	172.0	188.0	484.0	516.0
3	Iron (Fe), mg/L	0.348	0.035	16.153	0.994	0.447

\* Drinking water specification, IS 10500: 2012, and its amendments, applicable for Sl. No. Others/Oct - 24/ GW/1744 to Others/Oct - 24/ GW/1754

11. Deviation from Test Method, if any :  
 12. If Sampling Conducted by the Central Laboratory, Yes/ No - No  
 If Yes,  
 (a) Date of Sampling : (b) Method Used\* :  
 (c) Name of Sampler with Designation :

-----End of Test Report-----

*Usharani*  
 15-10-2024  
 Authorised Signatory  
 (Water/wastewater)

(Dr. (Mrs) Usharani Patnaik, Addl. Chief Env. Scientist)

*N. Mallick*  
 15/10/24  
 Board Analyst

(Mr. Niranjan Mallick, Chief Env. Scientist)

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 TEL: 2564033/2563294 EPABX - 2561909/2562847. E-mail: spcb@spcb.oda.nic.in Website: www.spcb.oda.nic.in



~~52~~

**Bhushan Power & Steel Limited**  
(A JSW Group Company)  
Village : Thekoloi, Post : Lapanga, Teh. : Rengali  
Dist. : Sambalpur - 768 212, Odisha, INDIA  
T +91(0)663 6636000  
Website : [www.jsw.in](http://www.jsw.in), CIN : U27100DL1999PLC108350

JSWBPSL/ENV/24-25/074  
27<sup>th</sup> December 2024.

To,  
The Member Secretary,  
State Pollution Control Board, Odisha  
Paribesh Bhawan, A/118, Nilakantha Nagar,  
Unit-VIII, Bhubaneswar-751012.

Subject-Status of Compliance to the Show cause notice u/s.21 & 31A of the Air (PCP) act, 1981 and 23 & 33A of Water (PCP) Act, 1974 Amendments there under.

Reference-Your Letter No-16756/IND-I-CON-4650, Dated.21.10.2024.

Our letter No-JSWBPSL/ENV/24-25/059. Dated.22.10.2024

Dear Sir,

Pursuant to our reply dated 22.10.2024, we are pleased to submit a point-wise compliance status report addressing the recommendations contained in your Letter No-16756/IND-I-CON-4650, Dated.21.10.2024 as follows:

Sl. No	Recommendation	Compliance Status
a	The embankment of tailing pond facing the Pond of village Bisadihi was not stone pitched, and no work has been commenced for stone pitching till date	The embankment of the tailing pond facing towards the Bisadihi village stone pitching work completed photographs is enclosed as <b>Annexure-1</b> for your kind reference.
b	You have not submitted periodic monitoring report of ground water, pond and dug well and tube well of the alleged village as well as ambient air quality monitoring at the dump site and the report shall be submitted to the Board.	We have engaged Visiontek Consultancy Services Pvt. Limited a NABL, MOEF&CC accredited Laboratory for monitoring of ground water, pond and tube well of the alleged village as well as ambient air quality monitoring at the dump site. Copy of the recent report is attached as <b>Annexure-2</b>
c	You have not yet carried out plantation activity besides the tailing pond towards the Bisadihi village.	We have planted total 1000 nos. saplings in tailing pond area. The photographs plantation done is enclosed as <b>Annexure-3</b> .
d	You have not yet Engage a third party to study the environmental	As per board's advice, we have already engaged third party (The chemistry

Regd. Office: 4<sup>th</sup> Floor, A-2, NTH Complex, Shaheed Jeet Singh Marg, USO Road, Qutab Institutional Area, New Delhi - 110067, T +91(0)11 30451000, 48178600, INDIA  
Kolkata: (O) J K Millennium Centre, 6<sup>th</sup> Floor, 46-D, Jawahar Lal Nehru Road, Kolkata - 71, T +91(0)33 40512299, INDIA  
(W) NH-2, Delhi Road, Vill. Banghati, Post Mallickpara, Dist Hooghly - 712203, T +91(0)33 35013000, INDIA  
Chandigarh: 3, Industrial Area, Phase-I, Chandigarh - 160002, T +91(0)172 3911700, INDIA




	<p>impact of the iron ore tailing pond around a 10 KM radius of the tailing Pond in consultation with the state pollution Control Board.</p>	<p>department of Veer Surendra Sai University of Technology (VSSUT) to study the environmental impact of the iron ore tailing pond around a 10 KM radius of the tailing Pond. The study has been completed, and report is under preparation, it will submit at your good office at the first week of January 25.</p>
--	--	--

We are pleased to confirm that we have now complied with all the recommendations outlined in your Letter No-16756/IND-I-CON-4650, Dated.21.10.2024. Furthermore, we remain committed to improving environmental conditions and fostering sustainable development. We assure you of our dedication to adhering to all the stipulations set forth in the directives provided.

Thanking You,

Yours's faithfully,

For Bhushan Power & Steel Limited

  
 Anil Kumar Singh  
 President & WTD

Copy to: The Regional Officer, Odisha State Pollution Control Board, Sambalpur

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**Annexure-1**

**Photographs of the stone pitching work at tailing pond towards Bisadihi village.**



**SK**



# Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

(ISO 9001:2015, ISO 14001:2015, ISO 45001:2018(OH&S), ISO/IEC 17025:2017 Certified)



TC-7944

## TEST REPORT

ULR No: **TC794424000001539F**

Date: **09.12.2024**

Name & Address of the Customer	: <b>M/s Bhusan Power &amp; Steel Limited, Sambalpur, Odisha-768210</b> (A JSW Group Company)	Date of Sampling	: <b>29.11.2024</b>
Sample Code	: <b>VCSPL/ENV/041224/004</b>	Sample Received on	: <b>02.12.2024</b>
Sample Description	: <b>Ambient Air</b>	Sampling Procedure	: <b>VCSPL/F-SOP/001, Dt. 04.09.2021</b>
Identification by Customer	: <b>AAQMS-4</b>	Sampling Location	: <b>Bishidihi Village</b>
Environment Condition during Sampling	: <b>Atmospheric Temp.: 26 - 36°C</b> <b>Barometric Pressure: 750 mm of Hg</b>	Instrument used for Sampling	: <b>RDS (APM 460 BL), FPS (APM 550), VOC Sampler</b>
Sample Condition	: <b>Air Tight Sealed and gaseous Sample</b>	Sampling done by	: <b>Mr. Shrikant Das Mistry</b>
Sampling plan reference No.	: <b>4500201422/29.11.2024</b>	Sampling Coordinates	: <b>Lat: 21.760388 N</b> <b>Long: 84.043215 E</b>
Test Started on	: <b>02.12.2024</b>	Test Completed on	: <b>07.12.2024</b>

### 1. Chemical Testing

#### A. Atmospheric Pollution

Sl. No	Parameters	Unit	Test Method	CPCB, New Delhi AAQ Standard	Analysis Result
1	Particulate matter as PM <sub>10</sub>	(µg/m <sup>3</sup> )	IS 5182: Part 23: 2006, RA 2017	<b>100/24hr</b>	<b>67.2</b>
2	Particulate matter as PM <sub>2.5</sub>	(µg/m <sup>3</sup> )	IS 5182 (Part 24):2019	<b>60/24hr</b>	<b>37.4</b>
3	Sulphur Oxides as SO <sub>2</sub>	(µg/m <sup>3</sup> )	IS 5182 (Part 2): 2001, RA 2017	<b>80/24hr</b>	<b>25.9</b>
4	Nitrogen Oxides as NO <sub>2</sub>	(µg/m <sup>3</sup> )	IS 5182 (Part 6): 2006, RA 2017	<b>80/24hr</b>	<b>17.3</b>
5	Carbon monoxide as CO	(mg/m <sup>3</sup> )	IS 5182(Part 10):2019	<b>2/8hr</b>	<b>0.70</b>
6	Ozone as O <sub>3</sub>	(µg/m <sup>3</sup> )	VCSPL/AAQ-SOP/001:2019	<b>180/1hr</b>	<b>&lt;4.0</b>
7	Ammonia as NH <sub>3</sub>	(µg/m <sup>3</sup> )	IS 5182 (Part 25): 2018	<b>400/24hr</b>	<b>&lt;20.0</b>
8	Lead as Pb	(µg/m <sup>3</sup> )	IS 5182(Part -22):2019	<b>1/24hr</b>	<b>&lt;0.02</b>
9	Nickel as Ni	(ng/m <sup>3</sup> )	IS 5182(Part -22):2019	<b>20/Annual</b>	<b>&lt;2.5</b>
10	Arsenic as As	(ng/m <sup>3</sup> )	IS 5182(Part -22):2019	<b>6/Annual</b>	<b>&lt;1.0</b>
11	Benzene as C <sub>6</sub> H <sub>6</sub>	(µg/m <sup>3</sup> )	IS 5182 (Part 11):2006	<b>5/Annual</b>	<b>&lt;4.0</b>
12	Benzo-a-pyrene as BaP	(ng/m <sup>3</sup> )	IS 5182 (Part 12):2017	<b>1/Annual</b>	<b>&lt;0.5</b>

**BDL Values:** SO<sub>2</sub><4 µg/m<sup>3</sup>, NO<sub>x</sub><9 µg/m<sup>3</sup>, O<sub>3</sub><4 µg/m<sup>3</sup>, NH<sub>3</sub><20 µg/m<sup>3</sup>, Ni<2.5 ng/m<sup>3</sup>, As < 1.0 ng/m<sup>3</sup>, C<sub>6</sub>H<sub>6</sub><4.0 µg/m<sup>3</sup>, BaP<0.5 ng/m<sup>3</sup>, Pb<0.02 µg/m<sup>3</sup>, CO<0.1 mg/m<sup>3</sup>

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



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(Committed For Better Environment)

(ISO 9001:2015, ISO 14001:2015, ISO 45001:2018(OH&S), ISO/IEC 17025:2017 Certified)



TC-7944

## TEST REPORT

ULR No: TC794424000001544F

Date: 09.12.2024

Name & Address of the Customer	M/s Bhusan Power & Steel Limited, Sambalpur, Odisha-768210 (A JSW Group Company)		
Sample Code	VCSP/ENV/041224/009	Date of Sampling	30.11.2024
Sample Description	Surface Water	Sample Received on	02.12.2024
Identification by Customer	SW-3	Sampling Procedure	VCSP/F-SOP/003
Sample Condition	Ice Preserved	Sampling Location	Bishdih Village (pond)
Sampling Coordinates	Lat: 21.762102 N Long: 84.039878 E	Sampling done by	Mr. Shrikant Das Mistry
Test Started on	02.12.2024	Sampling Plan ref. no.	4500201422/29.11.2024
		Test Completed on	07.12.2024

### 1. Chemical Testing

#### A. Water

Sl. No	Parameter	Unit	Testing Methods	Standard As per IS:2296 (Class-C)	Analysis Result
1	Colour	Hazen	APHA 23 <sup>rd</sup> Edition 2120B	300 (Max)	15
2	Turbidity	NTU	APHA 23 <sup>rd</sup> Edition 2130 B	--	3.23
3	pH at 25°C	-	APHA 23 <sup>rd</sup> Edition 4500 H+B	6.5-8.5	7.63
4	Electrical Conductivity (at 25°C)	µg/cm	APHA 23 <sup>rd</sup> Edition 2510C: 2017	--	743
5	Total Dissolve Solids (TDS)	mg/l	APHA 23 <sup>rd</sup> Edition 2540 C	1500 (Max)	320
6	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 23 <sup>rd</sup> Edition 2340 C: 2017	--	167
7	Total Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 23 <sup>rd</sup> Edition 2320 B: 2017	--	109
8	Chloride (as Cl <sup>-</sup> )	mg/l	APHA 23 <sup>rd</sup> Edition 4500 Cl- B: 2017	600 (Max)	62.7
9	Sulphate (as SO <sub>4</sub> <sup>2-</sup> )	mg/l	APHA 23 <sup>rd</sup> Edition 4500 SO <sub>4</sub> <sup>2-</sup> E: 2017	400 (Max)	8.88
10	Hexavalent Chromium (as Cr <sup>6+</sup> )	mg/l	APHA 23 <sup>rd</sup> Edition 3500 Cr B: 2017	0.05 (Max)	BLQ (<0.1)
11	Nitrate (as NO <sub>3</sub> <sup>-</sup> )	mg/l	APHA 23 <sup>rd</sup> Edition 4500 NO <sub>3</sub> <sup>-</sup> B: 2017	50 (Max)	BLQ (<0.5)
12	Fluoride (as F <sup>-</sup> )	mg/l	APHA 23 <sup>rd</sup> Edition 4500 F- C, D: 2017	1.5 (Max)	0.98
13	Calcium (as Ca)	mg/l	APHA 23 <sup>rd</sup> Edition 3500 Ca-B: 2017	--	37.0
14	Magnesium as Mg	mg/l	APHA 23 <sup>rd</sup> Edition 3500 Mg-B: 2017	--	18.2
15	Chemical Oxygen Demand (as COD)	mg/l	APHA 23 <sup>rd</sup> Edition 5220 B: 2017	--	7.97
16	Biochemical Oxygen Demand (BOD) at 27°C For 3 days	mg/l	IS3025 (P-44): 2019	3.0 (Max)	2.35
17	Free Ammonia (as NH <sub>3</sub> )	mg/l	By Calculation	--	ND
18	Cyanide (as CN <sup>-</sup> )	mg/l	APHA 23 <sup>rd</sup> Edition 4500 CN-C, E: 2017	0.05 (Max)	BLQ (<0.02)
19	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 23 <sup>rd</sup> Edition 5520 B,D: 2017	0.005 (Max)	BLQ (<0.001)
<b>B. Toxic Substance</b>					
20	Copper (as Cu)	mg/l	APHA 23 <sup>rd</sup> Edition 3111 B: 2017	1.50 (Max)	BLQ (<0.05)
21	Iron (as Fe)	mg/l	APHA 23 <sup>rd</sup> Edition 3111 B: 2017	50 (Max)	BLQ (<0.15)
22	Manganese (as Mn)	mg/l	APHA 23 <sup>rd</sup> Edition 3111 B: 2017	--	BLQ (<0.05)
23	Total Arsenic (as As)	mg/l	APHA 23 <sup>rd</sup> Edition 3500 As: 2017	0.2 (Max)	BLQ (<0.004)
24	Mercury (as Hg)	mg/l	APHA 23 <sup>rd</sup> Edition 3112 B: 2017	--	BLQ (<0.004)
25	Cadmium (as Cd)	mg/l	APHA 23 <sup>rd</sup> Edition B: 2017: 2017	0.01 (Max)	BLQ (<0.03)
26	Selenium (as Se)	mg/l	APHA 23 <sup>rd</sup> Edition 3500 Se C: 2017	0.05 (Max)	BLQ (<0.001)
<b>C. Biological Testing: -</b>					
	Total Coliform (as TC)	Per 100 ml	IS 15185: 2016	5000	100

Reviewed by  
Abburi Sivarama Iyva  
(Assistant Manager)

Approved by  
Somenendra manajit Biswal  
(Authorized Signatory)

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TC-7944

# 5X

## TEST REPORT

ULR No: TC79442400001545F

Date: 09.12.2024

Name & Address of the Customer	M/s Bhusan Power & Steel Limited, Sambalpur, Odisha-768210 (A JSW Group Company)		
Sample Code	VCSP/ENV/041224/010	Date of Sampling	29.11.2024
Sample Description	Surface Water	Sample Received on	30.11.2024
Identification by Customer	SW-4	Sampling Procedure	VCSP/F-SOP/003
Sample Condition	Ice Preserved	Sampling Location	IB near Brajrajnagar bridge
Sampling Coordinates	Lat: 21.863592 N Long: 83.947396 E	Sampling done by	Mr. Shrikant Das Mistry
Test Started on	30.11.2024	Sampling Plan ref. no.	4500201422/29.11.2024
		Test Completed on	07.12.2024

### I. Chemical Testing A. Water

Sl. No	Parameter	Unit	Testing Methods	Standard As per IS:2296 (Class-C)	Analysis Result
1	Colour	Hazen	APHA 23 <sup>rd</sup> Edition 2120B	300 (Max)	10
2	Turbidity	NTU	APHA 23 <sup>rd</sup> Edition 2130 B	300 (Max)	10
3	pH at 25°C	-	APHA 23 <sup>rd</sup> Edition 4500 H+B	6.5-8.5	BLQ (<1.0)
4	Electrical Conductivity (at 25°C)	µg/cm	APHA 23 <sup>rd</sup> Edition 2510C: 2017	1500 (Max)	7.92
5	Total Dissolve Solids (TDS)	mg/l	APHA 23 <sup>rd</sup> Edition 2540 C	1500 (Max)	86.0
6	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 23 <sup>rd</sup> Edition 2320 B: 2017	50 (Max)	74.8
7	Total Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 23 <sup>rd</sup> Edition 2320 B: 2017	50 (Max)	58.6
8	Chloride (as Cl)	mg/l	APHA 23 <sup>rd</sup> Edition 4500 Cl- B: 2017	600 (Max)	4.61
9	Sulphate (as SO <sub>4</sub> )	mg/l	APHA 23 <sup>rd</sup> Edition 4500 SO <sub>4</sub> - E: 2017	400 (Max)	7.60
10	Hexavalent Chromium (as Cr <sup>6+</sup> )	mg/l	APHA 23 <sup>rd</sup> Edition 3500 Cr B: 2017	0.05 (Max)	BLQ (<0.1)
11	Nitrate (as NO <sub>3</sub> )	mg/l	APHA 23 <sup>rd</sup> Edition 4500 NO <sub>3</sub> - B: 2017	50 (Max)	BLQ (<0.5)
12	Fluoride (as F)	mg/l	APHA 23 <sup>rd</sup> Edition 4500 F- C, D: 2017	1.5 (Max)	BLQ (<0.2)
13	Calcium (as Ca)	mg/l	APHA 23 <sup>rd</sup> Edition 3500 Ca-B: 2017	17.6	7.48
14	Magnesium as Mg	mg/l	APHA 23 <sup>rd</sup> Edition 3500 Mg-B: 2017	3.98	3.98
15	Chemical Oxygen Demand (as COD)	mg/l	APHA 23 <sup>rd</sup> Edition 5220 B: 2017	3.0 (Max)	BLQ (<2.0)
16	Biochemical Oxygen Demand (BOD at 27°C For 3 days)	mg/l	IS 3025 (P-4) 2019	3.0 (Max)	BLQ (<2.0)
17	Free Ammonia (as NH <sub>3</sub> )	mg/l	By Calculation	ND	ND
18	Cyanide (as CN)	mg/l	APHA 23 <sup>rd</sup> Edition 4500 CN- C, E: 2017	0.05 (Max)	BLQ (<0.02)
19	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 23 <sup>rd</sup> Edition 5530 B.D: 2017	0.005 (Max)	BLQ (<0.001)
<b>B. Toxic Substance</b>					
20	Copper (as Cu)	mg/l	APHA 23 <sup>rd</sup> Edition 3111 B: 2017	1.50 (Max)	BLQ (<0.05)
21	Iron (as Fe)	mg/l	APHA 23 <sup>rd</sup> Edition 3111 B: 2017	50 (Max)	BLQ (<0.15)
22	Manganese (as Mn)	mg/l	APHA 23 <sup>rd</sup> Edition 3111 B: 2017	50 (Max)	BLQ (<0.05)
23	Total Arsenic (as As)	mg/l	APHA 23 <sup>rd</sup> Edition 3500 As: 2017	0.2 (Max)	BLQ (<0.004)
24	Mercury (as Hg)	mg/l	APHA 23 <sup>rd</sup> Edition 3112 B: 2017	0.01 (Max)	BLQ (<0.004)
25	Cadmium (as Cd)	mg/l	APHA 23 <sup>rd</sup> Edition B: 2017: 2017	0.01 (Max)	BLQ (<0.03)
26	Selenium (as Se)	mg/l	APHA 23 <sup>rd</sup> Edition 3500 Se C: 2017	0.05 (Max)	BLQ (<0.001)
<b>C. Biological Testing: -</b>					
	Total Coliform (as TC)	Per 100 ml	IS 15185: 2016	5000	3200

Reviewed by  
**Abhuri Sivaramayya**  
(Assistant Manager)

Approved by  
**Sumendra manojit Biswal**  
(Authorized Signatory)

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TC-7044

## TEST REPORT

ULR No: TC794424000001548F

Date: 09.12.2024

Name & Address of the Customer	M/s Bhusan Power & Steel Limited, Sambalpur, Odisha-768210 (A JSW Group Company)		
Sample Code	VCSPL/ENV/041224/011	Date of Sampling	30.11.2024
Sample Description	Surface Water	Sample Received on	02.12.2024
Identification by Customer	SW-7	Sampling Procedure	VCSPL/F-SOP/003
Sample Condition	Ice Preserved	Sampling Location	IB River near Patrapali Village
Sampling Coordinates	Lat: 21.740471 N Long: 83.981148 E	Sampling done by	Mr. Shrikant Das Mistry
Test Started on	02.12.2024	Sampling Plan ref. no.	4500201422/29.11.2024
		Test Completed on	07.12.2024

### 1. Chemical Testing

#### A. Water

SL No	Parameter	Unit	Testing Methods	Standard As per IS:2296 (Class-C)	Analysis Result
1	Colour	Hazen	APHA 23 <sup>rd</sup> Edition 2120B	300 (Max)	10
2	Turbidity	NTU	APHA 23 <sup>rd</sup> Edition 2130 B	--	8.63
3	pH at 25°C	-	APHA 23 <sup>rd</sup> Edition 4500 H-B	6.5-8.5	7.91
4	Electrical Conductivity (at 25°C)	µg/cm	APHA 23 Edition 2510C, 2017	--	95.6
5	Total Dissolve Solids (TDS)	mg/l	APHA 23 <sup>rd</sup> Edition 2540 C	1500 (Max)	88.0
6	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 23 Edition 2340 C, 2017	--	59.4
7	Total Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 23 Edition 2320 B, 2017	--	62.9
8	Chloride (as Cl)	mg/l	APHA 23 <sup>rd</sup> Edition 4500 Cl- B, 2017	600 (Max)	7.37
9	Sulphate (as SO <sub>4</sub> )	mg/l	APHA 23 <sup>rd</sup> Edition 4500 SO <sub>4</sub> - E, 2017	400 (Max)	9.36
10	Hexavalent Chromium (as Cr <sup>VI</sup> )	mg/l	APHA 23 <sup>rd</sup> Edition 3500 Cr B, 2017	0.05 (Max)	BLQ (<0.1)
11	Nitrate (as NO <sub>3</sub> )	mg/l	APHA 23 <sup>rd</sup> Edition 4500 NO <sub>3</sub> - B, 2017	50 (Max)	BLQ (<0.5)
12	Fluoride (as F)	mg/l	APHA 23 <sup>rd</sup> Edition 4500 F- C, D, 2017	1.5 (Max)	BLQ (<0.2)
13	Calcium (as Ca)	mg/l	APHA 23 <sup>rd</sup> Edition 3500 Ca-B, 2017	--	15.8
14	Magnesium as Mg	mg/l	APHA 23 <sup>rd</sup> Edition 3500 Mg-B, 2017	--	4.81
15	Chemical Oxygen Demand (as COD)	mg/l	APHA 23 <sup>rd</sup> Edition 5220 B, 2017	--	7.97
16	Biochemical Oxygen Demand (BOD at 27°C For 3 days)	mg/l	IS3025 (P-44): 2019	3.0 (Max)	2.15
17	Free Ammonia (as NH <sub>3</sub> )	mg/l	By Calculation	--	ND
18	Cyanide (as CN)	mg/l	APHA 23 <sup>rd</sup> Edition 4500 CN-C, E, 2017	0.05 (Max)	BLQ (<0.02)
19	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 23 <sup>rd</sup> Edition 5530 B,D, 2017	0.005 (Max)	BLQ (<0.001)
<b>B. Toxic Substance</b>					
20	Copper (as Cu)	mg/l	APHA 23 <sup>rd</sup> Edition 3111 B, 2017	1.50 (Max)	BLQ (<0.05)
21	Iron (as Fe)	mg/l	APHA 23 <sup>rd</sup> Edition 3111 B, 2017	50 (Max)	BLQ (<0.15)
22	Manganese (as Mn)	mg/l	APHA 23 <sup>rd</sup> Edition 3111 B, 2017	--	BLQ (<0.05)
23	Total Arsenic (as As)	mg/l	APHA 23 <sup>rd</sup> Edition 3500 As, 2017	0.2 (Max)	BLQ (<0.004)
24	Mercury (as Hg)	mg/l	APHA 23 <sup>rd</sup> Edition 3112 B, 2017	--	BLQ (<0.004)
25	Cadmium (as Cd)	mg/l	APHA 23 <sup>rd</sup> Edition B, 2017: 2017	0.01 (Max)	BLQ (<0.03)
26	Selenium (as Se)	mg/l	APHA 23 <sup>rd</sup> Edition 3500 Se C, 2017	0.05 (Max)	BLQ (<0.001)
<b>C. Biological Testing: -</b>					
	Total Coliform (as TC)	Per 100 ml	IS 15185: 2016	5000	3000

Reviewed by  
Abburi Sivaramayya  
(Assistant Manager)

Approved by  
Soumendran Manojit Biswal  
(Authorized Signatory)

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TC-7944

## TEST REPORT

ULR No: TC79442400001543F

Date: 09.12.2024

Name & Address of the Customer	M/s Bhusan Power & Steel Limited, Sambalpur, Odisha-768210 (A JSW Group Company)		
Sample Code	VCSP/ENV/041224/008	Date of Sampling	22.11.2024
Sample Description	Surface Water	Sample Received on	23.11.2024
Identification by Customer	SW-2	Sampling Procedure	VCSP/F-SOP/003
Sample Condition	Ice Preserved	Sampling Location	Sripura Village (Pond)
Sampling Coordinates	Lat: 21.765408 N Long: 84.038712 E	Sampling done by	Mr. Shrikant Das Mistry
Test Started on	23.11.2024	Sampling Plan ref. no.	4500201422/29.11.2024
		Test Completed on	30.11.2024

### 1. Chemical Testing A. Water

Sl. No	Parameter	Unit	Testing Methods	Standard As per IS:2296 (Class-C)	Analysis Result
1	Colour	Hazen	APHA 25 <sup>th</sup> Edition 2120B	300 (Max)	10
2	Turbidity	NTU	APHA 25 <sup>th</sup> Edition 2130 B	--	BLQ (<1.0)
3	pH at 25°C	-	APHA 25 <sup>th</sup> Edition 4500 H-B	6.5-8.5	7.34
4	Electrical Conductivity (at 25°C)	µg/cm	APHA 25 <sup>th</sup> Edition 2510C: 2017	--	385
5	Total Dissolve Solids (TDS)	mg/l	APHA 25 <sup>th</sup> Edition 2540 C	1500 (Max)	264
6	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 25 <sup>th</sup> Edition 2540 C: 2017	--	128
7	Total Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 25 <sup>th</sup> Edition 2520 B: 2017	--	36.9
8	Chloride (as Cl)	mg/l	APHA 25 <sup>th</sup> Edition 4500 Cl- B: 2017	600 (Max)	73.7
9	Sulphate (as SO <sub>4</sub> )	mg/l	APHA 25 <sup>th</sup> Edition 4500 SO <sub>4</sub> - E: 2017	400 (Max)	6.44
10	Hexavalent Chromium (as Cr <sup>6+</sup> )	mg/l	APHA 25 <sup>th</sup> Edition 3500 Cr B: 2017	0.05 (Max)	BLQ (<0.1)
11	Nitrate (as NO <sub>3</sub> )	mg/l	APHA 25 <sup>th</sup> Edition 4500 NO <sub>3</sub> - B: 2017	50 (Max)	BLQ (<0.5)
12	Fluoride (as F)	mg/l	APHA 25 <sup>th</sup> Edition 4500 F- C, D: 2017	1.5 (Max)	1.07
13	Calcium (as Ca)	mg/l	APHA 25 <sup>th</sup> Edition 3500 Ca-B: 2017	--	31.7
14	Magnesium as Mg	mg/l	APHA 25 <sup>th</sup> Edition 3500 Mg-B: 2017	--	11.8
15	Chemical Oxygen Demand (as COD)	mg/l	APHA 25 <sup>th</sup> Edition 5220 B: 2017	--	3.98
16	Biochemical Oxygen Demand (BOD at 27°C For 3 days)	mg/l	IS:3025 (P-44): 2019	3.0 (Max)	BLQ (<2.0)
17	Free Ammonia (as NH <sub>3</sub> )	mg/l	By Calculation	--	ND
18	Cyanide (as CN)	mg/l	APHA 25 <sup>th</sup> Edition 4500 CN-C, E: 2017	0.05 (Max)	BLQ (<0.02)
19	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 25 <sup>th</sup> Edition 5530 B.D: 2017	0.005 (Max)	BLQ (<0.001)
<b>B. Toxic Substance</b>					
20	Copper (as Cu)	mg/l	APHA 25 <sup>th</sup> Edition 3111 B: 2017	1.50 (Max)	BLQ (<0.05)
21	Iron (as Fe)	mg/l	APHA 25 <sup>th</sup> Edition 3111 B: 2017	50 (Max)	BLQ (<0.15)
22	Manganese (as Mn)	mg/l	APHA 25 <sup>th</sup> Edition 3111 B: 2017	--	BLQ (<0.05)
23	Total Arsenic (as As)	mg/l	APHA 25 <sup>th</sup> Edition 3500 As: 2017	0.2 (Max)	BLQ (<0.004)
24	Mercury (as Hg)	mg/l	APHA 25 <sup>th</sup> Edition 3112 B: 2017	--	BLQ (<0.004)
25	Cadmium (as Cd)	mg/l	APHA 25 <sup>th</sup> Edition B: 2017: 2017	0.01 (Max)	BLQ (<0.03)
26	Selenium (as Se)	mg/l	APHA 25 <sup>th</sup> Edition 3500 Se C: 2017	0.05 (Max)	BLQ (<0.001)
<b>C. Biological Testing</b>					
	Total Coliform (as TC)	Per 100 ml	IS 15185: 2015	5000	Absent

Reviewed by  
Abburi Sivaramaiah  
(Assistant Manager)

Approved by  
Soumendran Manoj Biswal  
BBSR (Authorized Signatory)

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# Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

(ISO 9001:2015, ISO 14001:2015, ISO 45001:2018(OH&S), ISO/IEC 17025:2017 Certified)



TC-7944

## TEST REPORT

ULR No: TC794424000001544F

Date: 09.12.2024

Name & Address of the Customer	M/s Bhusan Power & Steel Limited, Sambalpur, Odisha-768210 (A JSW Group Company)		
Sample Code	VCSPLENV/041224/009	Date of Sampling	30.11.2024
Sample Description	Surface Water	Sample Received on	02.12.2024
Identification by Customer	SW-3	Sampling Procedure	VCSPLE/F-SOP/003
Sample Condition	Ice Preserved	Sampling Location	Bishdih Village (pond)
Sampling Coordinates	Lat: 21.762102 N Long: 84.039878 E	Sampling done by	Mr. Shrikant Das Mistry
Test Started on	02.12.2024	Sampling Plan ref. no.	4500201422/29.11.2024
		Test Completed on	07.12.2024

### 1. Chemical Testing A. Water

Sl. No	Parameter	Unit	Testing Methods	Standard As per IS:2296 (Class-C)	Analysis Result
1	Colour	Hazen	APHA 23 <sup>rd</sup> Edition 2120B	300 (Max)	15
2	Turbidity	NTU	APHA 23 <sup>rd</sup> Edition 2130 B	--	3.23
3	pH at 25°C	-	APHA 23 <sup>rd</sup> Edition 4500 H+B	6.5-8.5	7.63
4	Electrical Conductivity (at 25°C)	ug/cm	APHA 23 <sup>rd</sup> Edition 2510C: 2017	--	743
5	Total Dissolve Solids (TDS)	mg/l	APHA 23 <sup>rd</sup> Edition 2540 C	1500 (Max)	320
6	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 23 <sup>rd</sup> Edition 2340 C: 2017	--	167
7	Total Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 23 <sup>rd</sup> Edition 2320 B: 2017	--	109
8	Chloride (as Cl)	mg/l	APHA 23 <sup>rd</sup> Edition 4500 Cl- B: 2017	600 (Max)	62.7
9	Sulphate (as SO <sub>4</sub> )	mg/l	APHA 23 <sup>rd</sup> Edition 4500 SO <sub>4</sub> - E: 2017	400 (Max)	8.88
10	Hexavalent Chromium (as Cr <sup>VI</sup> )	mg/l	APHA 23 <sup>rd</sup> Edition 3500 Cr B: 2017	0.05 (Max)	BLQ (<0.1)
11	Nitrate (as NO <sub>3</sub> )	mg/l	APHA 23 <sup>rd</sup> Edition 4500 NO <sub>3</sub> - B: 2017	50 (Max)	BLQ (<0.5)
12	Fluoride (as F)	mg/l	APHA 23 <sup>rd</sup> Edition 4500 F- C, D: 2017	1.5 (Max)	0.98
13	Calcium (as Ca)	mg/l	APHA 23 <sup>rd</sup> Edition 3500 Ca-B: 2017	--	37.0
14	Magnesium (as Mg)	mg/l	APHA 23 <sup>rd</sup> Edition 3500 Mg-B: 2017	--	18.2
15	Chemical Oxygen Demand (as COD)	mg/l	APHA 23 <sup>rd</sup> Edition 5220 B: 2017	--	7.97
16	Biochemical Oxygen Demand (BOD) at 27°C For 3 days	mg/l	IS3025 (P-44): 2019	3.0 (Max)	2.35
17	Free Ammonia (as NH <sub>3</sub> )	mg/l	By Calculation	--	ND
18	Cyanide (as CN)	mg/l	APHA 23 <sup>rd</sup> Edition 4500 CN-C, E: 2017	0.05 (Max)	BLQ (<0.02)
19	Phenolic Compound (as C <sub>6</sub> H <sub>5</sub> OH)	mg/l	APHA 23 <sup>rd</sup> Edition 5530 B,D: 2017	0.005 (Max)	BLQ (<0.001)
<b>B. Toxic Substance</b>					
20	Copper (as Cu)	mg/l	APHA 23 <sup>rd</sup> Edition 3111 B: 2017	1.50 (Max)	BLQ (<0.05)
21	Iron (as Fe)	mg/l	APHA 23 <sup>rd</sup> Edition 3111 B: 2017	50 (Max)	BLQ (<0.15)
22	Manganese (as Mn)	mg/l	APHA 23 <sup>rd</sup> Edition 3111 B: 2017	--	BLQ (<0.05)
23	Total Arsenic (as As)	mg/l	APHA 23 <sup>rd</sup> Edition: 3500 As: 2017	0.2 (Max)	BLQ (<0.004)
24	Mercury (as Hg)	mg/l	APHA 23 <sup>rd</sup> Edition: 3112 B: 2017	--	BLQ (<0.004)
25	Cadmium (as Cd)	mg/l	APHA 23 <sup>rd</sup> Edition B: 2017: 2017	0.01 (Max)	BLQ (<0.03)
26	Selenium (as Se)	mg/l	APHA 23 <sup>rd</sup> Edition 3500 Sc C: 2017	0.05 (Max)	BLQ (<0.001)
<b>C. Biological Testing: -</b>					
	Total Coliform (as TC)	Per 100 ml	IS 15185: 2016	5000	100

Reviewed by  
Abhuri Sivarambha  
(Assistant Manager)

Approved by  
manojit Biswal  
(Authorized Signatory)

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# Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

(ISO 9001:2015, ISO 14001:2015, ISO 45001:2018(OH&S), ISO/IEC 17025:2017 Certified)



TC-7944

## TEST REPORT

ULR No: TC794424000001536F

Date: 09.12.2024

Name & Address of the Customer	: M/s Bhusan Power & Steel Limited, Sambalpur, Odisha-768210 (A JSW Group Company)		
Sample Code	: VCSPL/ENV/041224/001	Date of Sampling	: 28.11.2024
		Sample Received on	: 30.11.2024
Sample Description	: Ambient Air	Sampling Procedure	: VCSPL/F-SOP/001, DL 04.09.2021
Identification by Customer	: AAQMS-1	Sampling Location	: Trailing Pond
Environment Condition during Sampling	: Atmospheric Temp.: 26 - 36°C Barometric Pressure: 750 mm of Hg	Instrument used for Sampling	: RDS (APM 460 BL), FPS (APM 550), VOC Sampler
Sample Condition	: Air Tight Sealed and gaseous Sample	Sampling done by	: Mr. Shrikant Das Mistry
Sampling plan reference No.	: 4500201422/29.11.2024	Sampling Coordinates	: Lat: 21.763642 N Long: 84.028473 E
Test Started on	: 30.11.2024	Test Completed on	: 06.12.2024

### I. Chemical Testing

#### A. Atmospheric Pollution

Sl. No	Parameters	Unit	Test Method	CPCB, New Delhi AAQ Standard	Analysis Result
1	Particulate matter as PM <sub>10</sub>	(µg/m <sup>3</sup> )	IS 5182: Part 23: 2006, RA 2017	100/24hr	76.3
2	Particulate matter as PM <sub>2.5</sub>	(µg/m <sup>3</sup> )	IS 5182 (Part 24):2019	60/24hr	40.4
3	Sulphur Oxides as SO <sub>2</sub>	(µg/m <sup>3</sup> )	IS 5182 (Part 2): 2001, RA 2017	80/24hr	28.6
4	Nitrogen Oxides as NO <sub>2</sub>	(µg/m <sup>3</sup> )	IS 5182 (Part 6): 2006, RA 2017	80/24hr	19.2
5	Carbon monoxide as CO	(mg/m <sup>3</sup> )	IS 5182(Part 10):2019	2/8hr	0.89
6	Ozone as O <sub>3</sub>	(µg/m <sup>3</sup> )	VCSPL/AAQ-SOP/001:2019	180/1hr	<4.0
7	Ammonia as NH <sub>3</sub>	(µg/m <sup>3</sup> )	IS 5182 (Part 25): 2018	400/24hr	<20.0
8	Lead as Pb	(µg/m <sup>3</sup> )	IS 5182(Part -22):2019	1/24hr	<0.02
9	Nickel as Ni	(ng/m <sup>3</sup> )	IS 5182(Part -22):2019	20/Annual	<2.5
10	Arsenic as As	(ng/m <sup>3</sup> )	IS 5182(Part -22):2019	6/Annual	<1.0
11	Benzene as C <sub>6</sub> H <sub>6</sub>	(µg/m <sup>3</sup> )	IS 5182 (Part 11):2006	5/Annual	<4.0
12	Benzo-a-pyrene as BaP	(ng/m <sup>3</sup> )	IS 5182 (Part 12):2017	1/Annual	<0.5

BDL Values: SO<sub>2</sub>< 4 µg/m<sup>3</sup>, NO<sub>x</sub>< 9 µg/m<sup>3</sup>, O<sub>3</sub>< 4 µg/m<sup>3</sup>, NH<sub>3</sub>< 20 µg/m<sup>3</sup>, Ni< 2.5 ng/m<sup>3</sup>, As < 1.0 ng/m<sup>3</sup>, C<sub>6</sub>H<sub>6</sub>< 4.0 µg/m<sup>3</sup>, BaP< 0.5 ng/m<sup>3</sup>, Pb< 0.02 µg/m<sup>3</sup>, CO< 0.1 mg/m<sup>3</sup>

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

Reviewed by  
Abbari Sivaramayya  
(Assistant Manager)

Approved by  
Saumendra manajit Biswal  
(Authorized Signatory)

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# Visiontek Consultancy Services Pvt. Ltd.

(Committed For Better Environment)

(ISO 9001:2015, ISO 14001:2015, ISO 45001:2018(OH&S), ISO/IEC 17025:2017 Certified)



TC-7944

## TEST REPORT

ULR No: **TC79442400001538F**

Date: **09.12.2024**

Name & Address of the Customer	: M/s Bhusan Power & Steel Limited, Sambalpur, Odisha-768210 (A JSW Group Company)	Date of Sampling	: 29.11.2024
Sample Code	: VCSPL/ENV/041224/003	Sample Received on	: 02.12.2024
Sample Description	: Ambient Air	Sampling Procedure	: VCSPL/F-SOP/001, Dt. 04.09.2021
Identification by Customer	: AAQMS-3	Sampling Location	: Sripura Village
Environment Condition during Sampling	: Atmospheric Temp.: 26 - 36°C Barometric Pressure : 750 mm of Hg	Instrument used for Sampling	: RDS (APM 460 BL), FPS (APM 550), VOC Sampler
Sample Condition	: Air Tight Sealed and gaseous Sample	Sampling done by	: Mr. Shrikant Das Mistry
Sampling plan reference No.	: 4500201422/29.11.2024	Sampling Coordinates	: Lat: 21.777972 N Long: 84.03153 E
Test Started on	: 02.12.2024	Test Completed on	: 07.12.2024

### 1. Chemical Testing

#### A. Atmospheric Pollution

Sl. No	Parameters	Unit	Test Method	CPCB, New Delhi AAQ Standard	Analysis Result
1	Particulate matter as PM <sub>10</sub>	(µg/m <sup>3</sup> )	IS 5182: Part 23: 2006, RA 2017	100/24hr	64.3
2	Particulate matter as PM <sub>2.5</sub>	(µg/m <sup>3</sup> )	IS 5182 (Part 24):2019	60/24hr	35.7
3	Sulphur Oxides as SO <sub>2</sub>	(µg/m <sup>3</sup> )	IS 5182 (Part 2): 2001, RA 2017	80/24hr	23.9
4	Nitrogen Oxides as NO <sub>2</sub>	(µg/m <sup>3</sup> )	IS 5182 (Part 6): 2006, RA 2017	80/24hr	17.5
5	Carbon monoxide as CO	(mg/m <sup>3</sup> )	IS 5182(Part 10):2019	2/8hr	0.72
6	Ozone as O <sub>3</sub>	(µg/m <sup>3</sup> )	VCSPL/AAQ-SOP/001:2019	180/1hr	<4.0
7	Ammonia as NH <sub>3</sub>	(µg/m <sup>3</sup> )	IS 5182 (Part 25): 2018	400/24hr	<20.0
8	Lead as Pb	(µg/m <sup>3</sup> )	IS 5182(Part -22):2019	1/24hr	<0.02
9	Nickel as Ni	(ng/m <sup>3</sup> )	IS 5182(Part -22):2019	20/Annual	<2.5
10	Arsenic as As	(ng/m <sup>3</sup> )	IS 5182(Part -22):2019	6/Annual	<1.0
11	Benzene as C <sub>6</sub> H <sub>6</sub>	(µg/m <sup>3</sup> )	IS 5182 (Part 11):2006	5/Annual	<4.0
12	Benzo-a-pyrine as BaP	(ng/m <sup>3</sup> )	IS 5182 (Part 12):2017	1/Annual	<0.5

BDL Values: SO<sub>2</sub><4 µg/m<sup>3</sup>, NO<sub>x</sub><9 µg/m<sup>3</sup>, O<sub>3</sub><4 µg/m<sup>3</sup>, NH<sub>3</sub><20 µg/m<sup>3</sup>, Ni<2.5 ng/m<sup>3</sup>, As < 1.0 ng/m<sup>3</sup>, C<sub>6</sub>H<sub>6</sub><4.0 µg/m<sup>3</sup>, BaP<0.5 ng/m<sup>3</sup>, Pb<0.02 µg/m<sup>3</sup>, CO<0.1 mg/m<sup>3</sup>

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



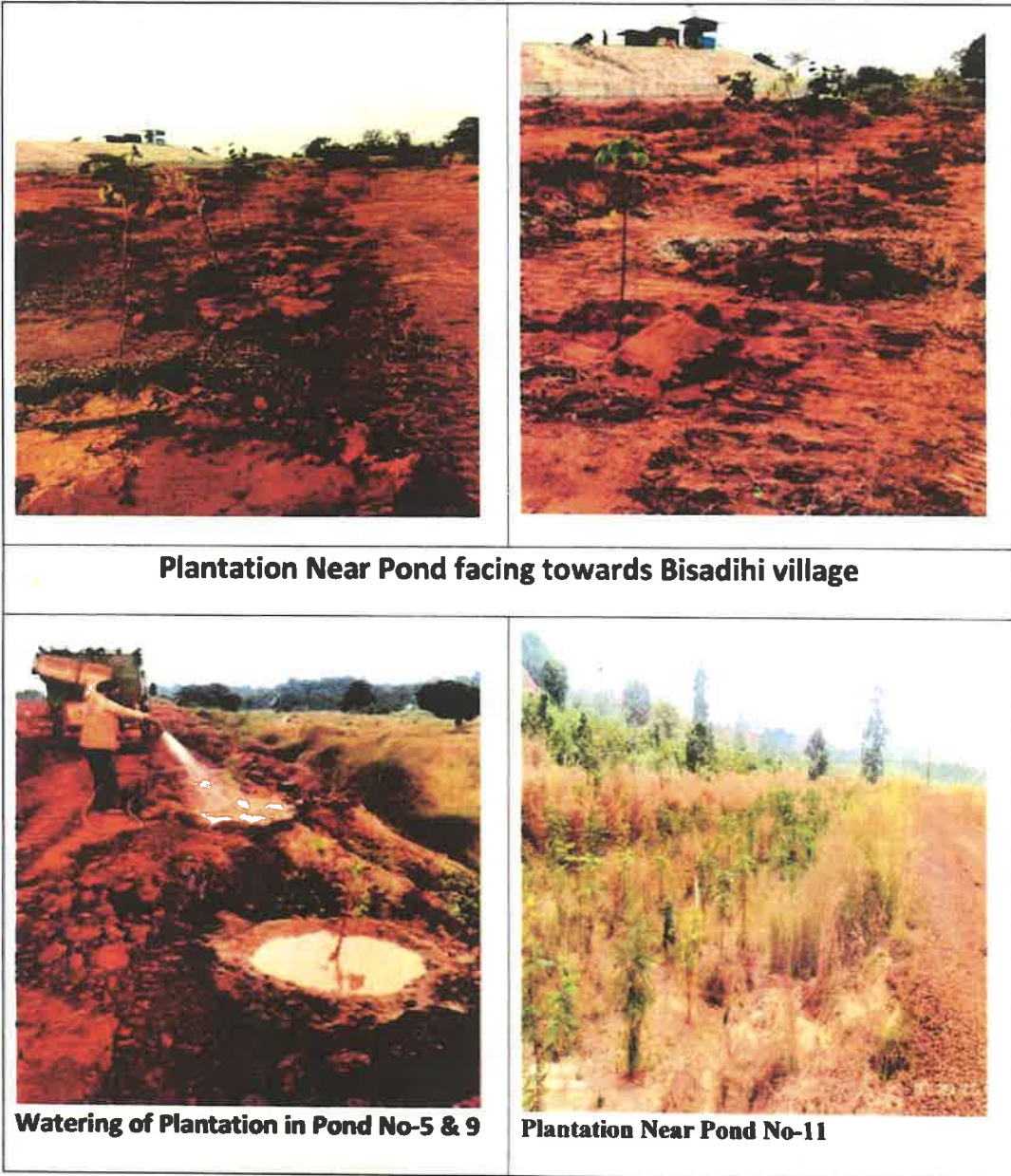
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**Annexure-3**

**Photographs of the plantation taken in Tailing Pond Area.**





**Bhushan Power & Steel Limited**

(A JSW Group Company)

Village : Thekoloi, Post : Lapanga, Teh. : Rengali

Dist. : Sambalpur - 768 212, Odisha, INDIA

T +91(0)663 6636000

Website : [www.jsw.in](http://www.jsw.in), CIN : U27100DL1999PLC108350

JSWBPSL/ENV/24-25/059

22<sup>nd</sup> October 2024.

To,  
The Member Secretary,  
State Pollution Control Board, Odisha  
Paribesh Bhawan, A/118, Nilakantha Nagar,  
Unit-VIII, Bhubaneswar-751012.

Subject- Compliance to the Show cause notice u/s.21 & 31A of the Air (PCP) act, 1981 and 23 & 33A of Water (PCP) Act , 1974 Amendments there under.

Reference-Your Letter No-16756/IND-I-CON-4650, Dated.21.10.2024.

Dear Sir,

Inviting your kind attention to the subject cited above, we would like to submit point wise compliance status of the show cause notice issued as below.

Sl. No	Recommendation	Compliance Status
a	The embankment of tailing pond facing the Pond of village Bisadihi was not stone pitched, and no work has been commenced for stone pitching till date	The embankment of the tailing pond facing towards the Bisadihi village is fixed with non metallic steel slag of approx thickness 8 inches to strengthen the bund. There is no single case of bund erosion was observed during whole rainy season of this year. .The photograph ( <b>annexure-1</b> ) of the slag fixing is attached for your kind reference. During rainy season, the stone pitching work on open bund cannot be commenced. However as advised we will commence the operation of the stone pitching work on priority, which will be completed before February - 2025.
b	You have not submitted periodic monitoring report of ground water, pond and dug well and tube well of the alleged village as well as ambient air quality monitoring at the dump site and the report shall be submitted to the Board.	We have engaged NABL,MOEF&CC accredited Laboratory for monitoring of ground water, pond and dug well and tube well of the alleged village as well as ambient air quality monitoring at the dump site. We have already submitted the report to the board dated 21 <sup>st</sup> August-2024 vide letter no JSWBPSL/ENV/24-25/042.Copy

Regd.Office : 4<sup>th</sup> Floor, A-2, NTH Complex, Shaheed Jeet Singh Marg, USO Road, Qutab Institutional Area, New Delhi - 110067, T +91(0)11 30451000, 48178600, INDIA

Kolkata : (O) J K Millennium Centre, 6<sup>th</sup> Floor, 46-D, Jawahar Lal Nehru Road, Kolkata - 71, T +91(0)33 40512299, INDIA

(W) NH-2, Delhi Road, Vill. Bangihati, Post Mallickpara, Dis: Hooghly - 712203, T +91(0)33 35013000, INDIA

Chandigarh : 3, Industrial Area, Phase-I, Chandigarh - 160002, T +91(0)172 3911700, INDIA

~~65~~

		of the report is attached as ( <b>annexure-2</b> ). The monitoring report of next two months are also attached as ( <b>annexure-3</b> ) for your kind consideration.
c	You have not yet carried out plantation activity besides the tailing pond towards the Bisadihi village.	During the rainy season we have planted 500 new saplings in tailing pond area. The photographs of new plantation done is enclosed as ( <b>annexure-4</b> ). Further, we have taken steps to plant 500 more trees by Nov-2024.
d	You have not yet Engage a third party to study the environmental impact of the iron ore tailing pond around a 10 KM radius of the tailing Pond in consultation with the state pollution Control Board.	As per board's advice, we have already engaged third party (The chemistry department of Veer Surendra Sai University of Technology (VSSUT)) to study the environmental impact of the iron ore tailing pond around a 10 KM radius of the tailing Pond. The LOI copy and its acceptance by the university is attached for your kind reference ( <b>annexure-5</b> ). They have visited the site for preliminary study. The site visit photographs of technical team of the university is also attached for your kind reference ( <b>annexure-6</b> ).

We are continuously working to improve the environmental condition and sustainable development. We are committed to comply with all the recommendations stipulated and we would request the Board to extend all possible assistance so that we can comply all directives.

Thanking You,

Yours's faithfully,

For Bhushan Power & Steel Limited

for *Seerat*  
Anil Kumar Singh AKULSENAPATI  
President & WTD (HOD-Env.)

Copy to: The Regional Officer, Odisha State Pollution Control Board, Sambalpur

~~66~~

**Annexure-1**

**STRENGTHENING OF TAILING POND EMBANKMENT BY STEEL SLAG**





~~67~~ **Annexure-2**

**Bhushan Power & Steel Limited**  
(A JSW Group Company)  
Village : Thekoloi, Post : Lapanga, Teh. : Rengali  
Dist. : Sambalpur - 768 212, Odisha, INDIA  
T +91(0)663 6636000  
Website : [www.jsw.in](http://www.jsw.in), CIN : U27100DL1999PLC108350

**JSWBPSL/ENV/24-25/042**  
**21<sup>st</sup> August 2024.**

To,  
The Member Secretary,  
State Pollution Control Board, Odisha  
Paribesh Bhawan, A/118, Nilakantha Nagar,  
Unit-VIII, Bhubaneswar-751012.

**Subject- Compliance to the Direction under section 31(A) of Air (PCP) act, 1981 and 33A of Water (PCP) Act ,1974 Amendment there under.**

Reference-Your Letter No-13297/IND-I-CON-4650, dated.21.08.2024

Dear Sir,

Inviting your kind attention to the subject cited above, we would like to submit point wise compliance status of the direction issued to take corrective measures as per the recommendation of Joint enquiry committee.

Sl.No	Recommendation	Compliance Status
a	Construct stone pitching around the tailing pond facing towards the pond of village Bisadihi to protect any spillage towards the village pond	The embankment of the tailing pond facing towards the village Bisadihi is regularly inspected and maintained. As recommended, the stone pitching work will be started after the rainy season around the tailing pond facing towards Bisadihi village to protect any spillage towards the village pond.
b	Engage an accredited organization for carrying periodical monitoring of ground water, pond and dug well and tube well of the alleged village as well as ambient air quality monitoring at the dump site and the report shall be submitted to the Board.	We have already engaged NABL& MOEF accredited Laboratory for monitoring of ground water, pond and dug well and tube well of the alleged village as well as ambient air quality periodic monitoring at the dump site. The latest monitoring reports are attached in Annexure-1.
c	Carryout plantation activity besides the tailing pond towards the Bisadihi village.	We have started plantation besides the pond. Recently 500 new trees planted. More sapling will be planted towards the Bisadihi village.
	Engage a third party to study the	We will engage third party to study the

Regd. Office : 4<sup>th</sup> Floor, A-2, NTH Complex, Shaheed Jeet Singh Marg, USO Road, Qutab Institutional Area, New Delhi - 110067, T +91(0)11 30451000, 48178600, INDIA  
Kolkata : (O) J.K Millennium Centre, 6<sup>th</sup> Floor, 46-D, Jawahar Lal Nehru Road, Kolkata - 71, T +91(0)33 40512299, INDIA  
(W) NH-2, Delhi Road, Vill. Bangihati, Post Malickpara, Dist Hooghly - 712203, T +91(0)33 35013000, INDIA  
Chandigarh : 3 Industrial Area, Phase-I, Chandigarh - 160002, T +91(0)172 3911700, INDIA

1



**Bhushan**  
POWER & STEEL

	environmental impact of the iron ore tailing pond around a 10 KM radius of the tailing Pond in consultation with the state pollution Control Board.	environmental impact of the iron ore tailing pond around a 10 KM radius of the tailing Pond in consultation with the State pollution Control Board.
--	---	---

We are continuously working to improve the environmental condition and sustainable development. We are committed to comply with all the recommendations stipulated in the direction.

Thanking You,

Yours faithfully,

For Bhushan Power & Steel Limited

  
Anil Kumar Singh  
President & WTD

Copy to: The Regional Officer, Odisha State Pollution Control Board, Sambalpur

69

Annexure-1

## Test Report

Issued To:

BHUSHAN POWER & STEEL LIMITED  
THELKOLOI,  
TEH-RENGALI  
SAMBALPUR-768232  
ODISHA,IND  
Ph: Mob:9437150569

Registration/Report Number: VLL/VLS/24/06493/005

Issue Date: 2024-07-15

Your Ref: and Date: 2024-07-04

Lab Ref No.: 1764811

LIMS Report No.: 556893-A



Page 1 of 3

Kind Attn: Mr. Nitin Datta

Customer Provided Details :			
Sample Name:	Ground Water- Tailing Pond Tube Well No-1		
Batch Number:	NA	AR/Sample Code:	NA
Mfg. Date:	NA	Exp. Date:	NA
Test Required:	Colour, Odour, Taste, Turbidity, pH, Dissolved Solid, Residual free chlorine, Total Hardness, Calcium, Magnesium, Alkalinity, Chloride, Fluoride, Sulphate, Nitrate, Chromium, Phenolic Compounds, Iron, Cyanide, Copper, Manganese, Mercury, Cadmium, Selenium, Arsenic, Lead, Zinc, Aluminium, Boron, Anionic Detergents, Mineral Oil		
Other Details if Any:	NA		
Lab Provided Details :			
Sample Received Date:	2024-07-04	Sample Registration Date:	2024-07-05
Analysis Starting Date:	2024-07-05	Analysis Completion Date:	2024-07-09
Quantity Received:	1 Ltr Bottle X 2No's		
Sampling Details:	Sampling Date:2024.06.30		
Other Details if Any:	NA		

ULR-TC541824000026358F

Chemical

Water

## TEST RESULTS

S. No.	Test Parameters	UOM	Method	Results
1	pH at 25°C		APHA 24th Ed 4500 H+	6.70
2	Color	PC/Co units	APHA 24th 2120-C	<1.0
3	Residual Free Chlorine as RFC	mg/l	IS 3025 (Part-26)	<0.05
4	Arsenic as As	mg/l	APHA 3125_24th_EDITION	<0.001
5	Mercury as Hg	mg/l	APHA 3125_24th_EDITION	<0.0002
6	Lead as Pb	mg/l	APHA 3125_24th_EDITION	<0.005

Scan the QR  
code to check  
the report  
authenticity

Dr. Subbareddy Mallampati  
Manager - Environment

Note : This report is subject to the terms and conditions mentioned at the end of the report.

Vimta Labs Ltd., Life Sciences Campus, Plot No. 5, MN Park (Formerly Alexandria Knowledge Park),  
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NABL Scope

## Test Report

**Issued To:**

BHUSHAN POWER & STEEL LIMITED  
THELKOLOI,  
TEH-RENGALI  
SAMBALPUR-768232  
ODISHA,IND  
Ph: Mob:9437150589

Registration/Report Number: VLL/VLS/24/06493/005

Issue Date: 2024-07-15

Your Ref. and Date: 2024-07-04

Lab Ref No.: 1764811

LIMS Report No.: 556893-A

Page 2 of 3

Kind Attn: Mr. Aloke Datta  
ULR-TC541824000026358F  
Chemical  
Water

**TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
7	Cadmium as Cd	mg/l	APHA 3125_24th_EDITION	<0.0005
8	Copper as Cu	mg/l	APHA 3125_24th_EDITION	<0.01
9	Total Chromium as Cr	mg/l	APHA 3125_24th_EDITION	<0.005
10	Selenium as Se	mg/l	APHA 3125_24th_EDITION	<0.001
11	Boron as B	mg/l	APHA 3125_24th_EDITION	0.01
12	Phenolic Compounds as C6H5OH	mg/l	APHA 24th 5530D	<0.001
13	Manganese as Mn	mg/l	APHA 3125_24th_EDITION	0.01
14	Total Dissolved Solids at 180°C	mg/l	APHA 24th Edition 2540 C	135
15	Turbidity	NTU	APHA 24th Edition 2130 B	<0.1
16	Nitrate Nitrogen as NO3-	mg/l	APHA 24th 4500 NO3 B	5.12
17	Sulphates as SO4	mg/l	APHA 24th Ed 4500 SO4E	16.5
18	Cyanide as CN-	mg/l	APHA 24th 4500 CN E	<0.02
19	Calcium as Ca	mg/l	APHA 24th Ed 3500 Ca B	22.04
20	Magnesium as Mg	mg/l	APHA 24th Ed 3500 Mg B	7.29
21	Total Alkalinity as CaCO3	mg/l	APHA 24th Ed 2320 B	55
22	Total Hardness as CaCO3	mg/l	APHA23RD2340B	85
23	Zinc as Zn	mg/l	APHA 3125_24th_EDITION	0.02
24	Iron as Fe	mg/l	APHA 3125_24th_EDITION	0.01
25	Chloride as Cl	mg/l	APHA 24th Ed 4500 Cl B	20
26	Fluoride as F	mg/l	APHA 24th Ed 4500 F-D	0.52
27	Odour	—	IS 3025 (Part 5)	Agreeable
28	Anionic Surfactants as MBAS	mg/l	APHA 24th Edition 5540 C	<0.02
29	Mineral Oil	mg/l	IS 3025 (Part 39): 1991	<0.01
30	Taste	—	IS:3025 PART 7 & 8:1984	Agreeable

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Dr. Subbareddy Mallampati  
Manager - Environment

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~~FX~~



# Test Report

Issued To:  
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**THELKOLOI,**  
**TEH-RENGALI**  
**SAMBALPUR-768232**  
**ODISHA,IND**  
**Ph: Mob:9437150569**

**Registration/Report Number: VLL/VLS/24/06493/005**  
**Issue Date: 2024-07-15**  
**Your Ref: 2024-07-04**  
**Lab Ref No.: 1764811**  
**LIMS Report No.: 556893-A**



Page 3 of 3

**Kind Attn:Mr. Alok Datta**  
**ULR-TC341824000026358F**  
**Chemical**  
**Water**

### TEST RESULTS

S. No.	Test Parameters	UOM	Method	Results
31	Aluminium as Al	mg/l	APHA 3125_24th EDITION	<0.001

Results relate only to the sample tested.  
Remarks:

- END OF THE TEST REPORT -



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Name and Designation of Authorized Signatory



**Dr. Subbareddy Mallampati**  
**Manager - Environment**

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# Test Report

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**TEH-RENGALI**  
**SAMBALPUR-768232**  
**ODISHA,IND**  
**Ph: Mob:9437150569**

**Registration/Report Number: VLL/VLS/24/06493/006**  
**Issue Date: 2024-07-15**  
**Your Ref: 2024-07-04**  
**and Date: 2024-07-04**  
**Lab Ref No.: 1764812**  
**LIMS Report No.: 556894-A**



Kind Attn: Mr. Aloks Datta

Customer Provided Details :			
Sample Name:	Ground Water- Tailing Pond Tube Well No-2		
Batch Number:	NA	AR/Sample Code:	NA
Mfg. Date:	NA	Exp. Date:	NA
Test Required:	Colour, Odour, Taste, Turbidity, pH, Dissolved Solid, Residual free chlorine, Total Hardness, Calcium, Magnesium, Alkalinity, Chloride, Fluoride, Sulphate, Nitrate, Chromium, Phenolic Compounds, Iron, Cyanide, Copper, Manganese, Mercury, Cadmium, Selenium, Arsenic, Lead, Zinc, Aluminium, Boron, Anionic Detergents, Mineral Oil		
Other Details if Any:	NA		
Lab Provided Details :			
Sample Received Date:	2024-07-04	Sample Registration Date:	2024-07-05
Analysis Starting Date:	2024-07-05	Analysis Completion Date:	2024-07-09
Quantity Received:	1 Ltr Bottle X 2No's		
Sampling Details:	Sampling Date:2024.06.30		
Other Details if Any:	NA		

ULR-TC541824000026359F

**Chemical Water**

### TEST RESULTS

S. No.	Test Parameters	UOM	Method	Results
1	pH at 25°C		APHA 24th Ed 4500 H+	7.13
2	Color	Pt/Co units	APHA 24th 2120-C	<1.0
3	Residual Free Chlorine as RFC	mg/l	IS 3025 (Part-28)	<0.05
4	Arsenic as As	mg/l	APHA 3125_24th_EDITION	<0.001
5	Mercury as Hg	mg/l	APHA 3125_24th_EDITION	<0.0002
6	Lead as Pb	mg/l	APHA 3125_24th_EDITION	<0.005

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Signature and Registration of Authorized Signatory  
**Dr. Subbareddy Mallampati**  
**Manager - Environment**

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## Test Report

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THELKOLOI,  
TEH-RENGALI  
SAMBALPUR-768232  
ODISHA,IND  
Ph: Mob:9437150569

Registration/Report Number: VLL/VLS/24/06493/006  
Issue Date: 2024-07-15  
Your Ref:  
and Date: 2024-07-04  
Lab Ref No.: 1764812  
LIMS Report No: 556894-A

Page 2 of 3

Kind Attn: Mr. Aloke Datta  
ULR-TCS41824000026359F  
Chemical  
Water

### TEST RESULTS

S. No.	Test Parameters	UOM	Method	Results
7	Cadmium as Cd	mg/l	APHA 3125_24th_EDITION	<0.0005
8	Copper as Cu	mg/l	APHA 3125_24th_EDITION	<0.01
9	Total Chromium as Cr	mg/l	APHA 3125_24th_EDITION	<0.005
10	Selenium as Se	mg/l	APHA 3125_24th_EDITION	<0.001
11	Boron as B	mg/l	APHA 24th Ed 3120 B	0.04
12	Phenolic Compounds as C6H5OH	mg/l	APHA 24th 5530D	<0.001
13	Manganese as Mn	mg/l	APHA 3125_24th_EDITION	0.03
14	Total Dissolved Solids at 180°C	mg/l	APHA 24th Edition 2540 C	254
15	Turbidity	mg/l	APHA 24th Edition 2130 B	<0.1
16	Nitrate Nitrogen as NO3-	NTU	APHA 24th 4500 NO3 B	9.52
17	Sulphates as SO4	mg/l	APHA 24th Ed 4500 SO4E	31.2
18	Cyanide as CN-	mg/l	APHA 24th 4500 CN E	<0.02
19	Calcium as Ca	mg/l	APHA 24th Ed 3500 Ca B	32.06
20	Magnesium as Mg	mg/l	APHA 24th Ed 3500 Mg B	14.59
21	Total Alkalinity as CaCO3	mg/l	APHA 24th Ed 2320 B	100
22	Total Hardness as CaCO3	mg/l	APHA23RD2340B	140
23	Zinc as Zn	mg/l	APHA 3125_24th_EDITION	0.03
24	Iron as Fe	mg/l	APHA 3125_24th_EDITION	0.02
25	Chloride as Cl	mg/l	APHA 24th Ed 4500 Cl B	45
26	Fluoride as F	mg/l	APHA 24th Ed 4500 F-D	0.68
27	Odour	—	IS 3025 (Part 5)	Agreeable
28	Anionic Surfactants as MBAS	mg/l	APHA 24th Edition 5540 C	<0.02
29	Mineral Oil	mg/l	IS 3025 (Part 39): 1991	<0.01
30	Taste	—	IS:3025 PART 7 & 8:1984	Agreeable

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Name and Designation of Authorized Signatory

Dr. Subbareddy Mallampati  
Manager - Environment

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## Test Report

**Issued To:**

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THELKOLOI,  
TEH-RENGALI  
SAMBALPUR-768232  
ODISHA,IND  
Ph: Mob:9437150569

Registration/Report Number: VLL/LS/24/06493/006

Issue Date: 2024-07-15

Your Ref. and Date: 2024-07-04

Lab Ref No.: 1764812

LIMS Report No.: 556894-A



Page 3 of 3

Kind Attn: Mr. Alok Datta  
ULR-TC541824000026359F  
Chemical  
Water

**TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
31	Aluminium as Al	mg/l	APHA 3125_24th EDITION	<0.001

Results relate only to the sample tested.  
Remarks:

- END OF THE TEST REPORT -



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authenticity

Signature of Authorized Signatory

Dr. Subbareddy Mallampati  
Manager - Environment

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 T: +91 40 2726 4141 / 6740 4040 URL: www.vimta.com For Queries: crm@vimta.com Complaints: quality@vimta.com



## Test Report

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TEH-RENGALI  
SAMBALPUR-768232  
ODISHA, IND  
Ph: Mob:9437150569

Registration/Report Number: VLL/VLS/24/06493/007  
Issue Date: 2024-07-16  
Your Ref:  
and Date: 2024-07-04  
Lab Ref No.: 1764813  
LIMS Report No.: 557198-A



Page 1 of 3

Kind Attn: Mr. Aloka Datta

Customer Provided Details			
Sample Name:	Ground Water-Tailing Pond Old Tube Well		
Batch Number:	NA	AR/Sample Code:	NA
Mfg. Date:	NA	Exp. Date:	NA
Test Required:	Colour, Odour, Taste, Turbidity, pH, Dissolved Solid, Residual free chlorine, Total Hardness, Calcium, Magnesium, Alkalinity, Chloride, Fluoride, Sulphate, Nitrate, Chromium, Phenolic Compounds, Iron, Cyanide, Copper, Manganese, Mercury, Cadmium, Selenium, Arsenic, Lead, Zinc, Aluminium, Boron, Anionic Detergents, Mineral Oil		
Other Details if Any:	NA		
Lab Provided Details			
Sample Received Date:	2024-07-04	Sample Registration Date:	2024-07-05
Analysis Starting Date:	2024-07-05	Analysis Completion Date:	2024-07-09
Quantity Received:	1 Ltr Bottle X 2No's		
Sampling Details:	Sampling Date: 2024.06.30		
Other Details if Any:	NA		

ULR-TC541824000026360F

Chemical  
Water

### TEST RESULTS

S. No.	Test Parameters	UOM	Method	Results
1	pH at 25°C		APHA 24th Ed 4500 H+	6.96
2	Color	Pt/Co units	APHA 24th 2120-C	<1.0
3	Residual Free Chlorine as RFC	mg/l	IS 3025 (Part-26)	<0.05
4	Arsenic as As	mg/l	APHA 3125 24th EDITION	<0.001
5	Mercury as Hg	mg/l	APHA 3125 24th EDITION	<0.0002
6	Lead as Pb	mg/l	APHA 3125 24th EDITION	<0.005

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Dr. Subbareddy Mallampati  
Manager - Environment

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## Test Report

### Issued To:

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THELKOLOI,  
TEH-RENGALI  
SAMBALPUR-768232  
ODISHA,IND  
Ph: Mob:9437150569

Registration/Report Number: VLL/VLS/24/06493/007

Issue Date: 2024-07-16

Your Ref: and Date: 2024-07-04

Lab Ref No.: 1764813

LIMS Report No: 557198-A



Page 2 of 3

Kind Attn: Mr. Alok Datta  
ULR-TC541824000026360F  
Chemical  
Water

### TEST RESULTS

S. No.	Test Parameters	UOM	Method	Results
7	Cadmium as Cd	mg/l	APHA 3125_24th_EDITION	<0.0005
8	Copper as Cu	mg/l	APHA 3125_24th_EDITION	<0.01
9	Total Chromium as Cr	mg/l	APHA 3125_24th_EDITION	<0.005
10	Selenium as Se	mg/l	APHA 3125_24th_EDITION	<0.001
11	Boron as B	mg/l	APHA 24th Ed 3120 B	0.05
12	Phenolic Compounds as C <sub>6</sub> H <sub>5</sub> OH	mg/l	APHA 24th 5530D	<0.001
13	Manganese as Mn	mg/l	APHA 3125_24th_EDITION	0.03
14	Total Dissolved Solids at 180°C	mg/l	APHA 24th Edition 2540 C	490
15	Turbidity	mg/l	APHA 24th Edition 2130 B	<0.1
16	Nitrate Nitrogen as NO <sub>3</sub> -	NTU	APHA 24th 4500 NO <sub>3</sub> B	9.4
17	Sulphates as SO <sub>4</sub>	mg/l	APHA 24th Ed 4500 SO <sub>4</sub> E	42.1
18	Cyanide as CN-	mg/l	APHA 24th 4500 CN E	<0.02
19	Calcium as Ca	mg/l	APHA 24th Ed 3500 Ca B	44.08
20	Magnesium as Mg	mg/l	APHA 24th Ed 3500 Mg B	19.10
21	Total Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24th Ed 2320 B	130
22	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA23RD2340B	190
23	Zinc as Zn	mg/l	APHA 3125_24th_EDITION	0.07
24	Iron as Fe	mg/l	APHA 3125_24th_EDITION	0.04
25	Chloride as Cl	mg/l	APHA 24th Ed 4500 Cl B	140
26	Fluoride as F	mg/l	APHA 24th Ed 4500 F-D	0.69
27	Odour	—	IS 3025 (Part 5)	Agreeable
28	Anionic Surfactants as MBAS	mg/l	APHA 24th Edition 5540 C	<0.02
29	Mineral Oil	mg/l	IS 3025 (Part 39): 1991	<0.01
30	Taste	—	IS:3025 PART 7 & 8:1984	Agreeable



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Name and Designation of Authorized Signatory

Dr. Subbareddy Mallampati  
Manager - Environment

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# Test Report

**Issued To:**

**BHUSHAN POWER & STEEL LIMITED  
THELKOLOI,  
TEH-RENGALI  
SAMBALPUR-768232  
ODISHA,IND  
Ph: Mob:9437150569**

**Registration/Report Number: VLL/VLS/24/06493/007  
Issue Date: 2024-07-16  
Your Ref. and Date: 2024-07-04  
Lab Ref No.: 1764813  
LIMS Report No.: 557198-A**



Page 3 of 3

**Kind Attn:Mr. Alok Datta  
ULR-TC54182400026360F  
Chemical  
Water**

**TEST RESULT**

S. No.	Test Parameters	UOM	Method	Results
31	Aluminium (mg/l)	mg/l	APHA 3125 24th EDITION	<0.001

Results relate only to the sample tested.

Remarks: This report is superseded to report with Reg. No. VLL/VLS/23/06493.007 with copy bearing Lims Report NO. 556896-A

- END OF THE TEST REPORT -



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Signature and Designation of Authorized Signatory

**Dr.Subbareddy Mallampati  
Manager - Environment**

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# Test Report

Issued To:

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TEH-RENGALI  
SAMBALPUR-768232  
ODISHA,IND  
Ph: Mob:9437150569**

Registration/Report Number: VLL/VLS/24/06493/017  
Issue Date: 2024-07-15  
Your Ref and Date: 2024-07-04  
Lab Ref No.: 1764823  
LIMS Report No.: 556907-A



Page 1 of 3

Kind Attn: Mr. Alok Datta

Customer Provided Details :			
Sample Name:	Ground Water-Bsidihi Village Tubewell N-21007'06" E-84004'12"		
Batch Number:	NA	AR/Sample Code:	NA
Mfg. Date:	NA	Exp. Date:	NA
Test Required:	Colour, Odour, Taste, Turbidity, pH, Dissolved Solid, Residual free chlorine, Total Hardness, Calcium, Magnesium, Alkalinity, Chloride, Fluoride, Sulphate, Nitrate, Chromium, Phenolic Compounds, Iron, Cyanide, Copper, Manganese, Mercury, Cadmium, Selenium, Arsenic, Lead, Zinc, Aluminium, Boron, Anionic Detergents, Mineral Oil.		
Other Details if Any:	NA		
Lab Provided Details :			
Sample Received Date:	2024-07-04	Sample Registration Date:	2024-07-05
Analysis Starting Date:	2024-07-05	Analysis Completion Date:	2024-07-09
Quantity Received:	1 Ltr Bottle X 2No's		
Sampling Details:	Sampling Date: 2024.06.30		
Other Details if Any:	NA		

ULR-TCS41624000026372F

**Chemical  
Water**

### TEST RESULTS

S. No.	Test Parameters	UOM	Method	Results
1	pH at 25°C	-	APHA 24th Ed 4500 H+	7.22
2	Color	PCo Units	APHA 24th 2120-C	<1.0
3	Residual Free Chlorine as R <sub>2</sub> C	mg/l	IS 3025 (Part-26)	<0.05
4	Arsenic as As	mg/l	APHA 3125_24th_EDITION	<0.001
5	Mercury as Hg	mg/l	APHA 3125_24th_EDITION	<0.0002
6	Lead as Pb	mg/l	APHA 3125_24th_EDITION	<0.005

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Signature and Designation of Authorized Signatory

Dr. Subbareddy Malampati  
Manager - Environment

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## Test Report

### Issued To:

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TEH-RENGALI  
SAMBALPUR-768232  
ODISHA,IND  
Ph: Mob:9437150569

Registration/Report Number: VLL/VLS/24/06493/017

Issue Date: 2024-07-15

Your Ref: 2024-07-04

and Date: 2024-07-04

Lab Ref No.: 1764823

LIMS Report No.: 556907-A



Page 2 of 3

Kind Attn: Mr. Alok Datta  
ULR-TC541824000026372F  
Chemical  
Water

### TEST RESULTS

S. No.	Test Parameters	UOM	Method	Results
7	Cadmium as Cd	mg/l	APHA 3125_24th_EDITION	<0.0005
8	Copper as Cu	mg/l	APHA 3125_24th_EDITION	<0.01
9	Total Chromium as Cr	mg/l	APHA 3125_24th_EDITION	<0.005
10	Selenium as Se	mg/l	APHA 3125_24th_EDITION	<0.001
11	Boron as B	mg/l	APHA 24th Ed 3120 B	0.08
12	Phenolic Compounds as C6H5OH	mg/l	APHA 24th 5530D	<0.001
13	Manganese as Mn	mg/l	APHA 3125_24th_EDITION	0.05
14	Total Dissolved Solids at 180°C	mg/l	APHA 24th Edition 2540 C	613
15	Turbidity	NTU	APHA 24th Edition 2130 B	<0.1
16	Nitrate Nitrogen as NO3-	mg/l	APHA 24th 4500 NO3 B	12.2
17	Sulphates as SO4	mg/l	APHA 24th Ed 4500 SO4E	72.5
18	Cyanide as CN-	mg/l	APHA 24th 4500 CN E	<0.02
19	Calcium as Ca	mg/l	APHA 24th Ed 3500 Ca B	56.02
20	Magnesium as Mg	mg/l	APHA 24th Ed 3500 Mg B	23.1
21	Total Alkalinity as CaCO3	mg/l	APHA 24th Ed 2320 B	170
22	Total Hardness as CaCO3	mg/l	APHA23RD2340B	235
23	Zinc as Zn	mg/l	APHA 3125_24th_EDITION	0.09
24	Iron as Fe	mg/l	APHA 3125_24th_EDITION	0.08
25	Chloride as Cl	mg/l	APHA 24th Ed 4500 Cl B	160
26	Fluoride as F	mg/l	APHA 24th Ed 4500 F-D	0.64
27	Odour	—	IS 3025 (Part 5)	Agreeable
28	Anionic Surfactants as MBAS	mg/l	APHA 24th Edition 5540 C	<0.02
29	Mineral Oil	mg/l	IS 3025 (Part 39): 1991	<0.01
30	Taste	—	IS:3025 PART 7 & 8:1984	Agreeable

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authenticity

Manager - Environment of Analytical Laboratory

Dr. Subbareddy Mallampati  
Manager - Environment

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ODISHA,IND  
Ph: Mob:8437150569

Registration/Report Number: VLL/VLS/24/06493/017  
Issue Date: 2024-07-15  
Your Ref: and Date: 2024-07-04  
Lab Ref No.: 1764823  
LIMS Report No.: 556807-A



Page 3 of 3

Kind Attn: Mr. Alok Datta  
ULR-TC541824000026372F  
Chemical  
Water

### TEST RESULTS

S. No.	Test Parameters	UOM	Method	Results
31	Aluminium as Al	mg/l	APHA 3125_24IF EDITION	<0.001

Results relate only to the sample tested.

Remarks:

- END OF THE TEST REPORT -



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Signature and Designation of Authorized Signatory

Dr. Subbareddy Mallampati  
Manager - Environment

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**Registration/Report Number:** VLL/VLS/24/06493/018  
**Issue Date:** 2024-07-15  
**Your Ref. and Date:** 2024-07-04  
**Lab Ref No.:** 1764824  
**LIMS Report No.:** 556908-A



Page 1 of 2

Kind/Attn: Mr. Aloka Datta

Customer Provided Details :			
Sample Name:	Surface Water-Bisidhi Village Talab-1 N-21007'06" E-84003'09"		
Batch Number:	NA	AR/Sample Code:	NA
Mfg. Date:	NA	Exp. Date:	NA
Test Required:	Colour, Turbidity, pH, Electrical Conductivity, Chemical Dissolved Oxygen (COD), BOD (3 days at 27°C), Total Hardness, Iron as Fe, Chloride, Fluoride, Total Dissolved Solids, Calcium, Magnesium, Copper, Manganese, Sulphates, Nitrate, Phenolic Compounds, Mercury, Cadmium, Selenium, Arsenic, Cyanide, Lead, Zinc & Anionic Surfactants:		
Other Details if Any:	NA		
Lab Provided Details :			
Sample Received Date:	2024-07-04	Sample Registration Date:	2024-07-05
Analysis Starting Date:	2024-07-05	Analysis Completion Date:	2024-07-10
Quantity Received:	1 Ltr Bottle X 2No's		
Sampling Details:	Sampling Date: 2024.06.30		
Other Details if Any:	NA		

ULR-TCS-11824000028373F

**Chemical Water**

**TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
1	pH at 25°C		APHA 24th Ed 4500 H+	7.74
2	Electrical Conductivity at 25°C	µS/cm	APHA 24rd Ed 2510 B	460
3	Color	Pt/Co units	APHA 24th 2120-C	<1.0
4	Arsenic as As	mg/l	APHA 3125_24th_EDITION	<0.001
5	Mercury as Hg	mg/l	APHA 3125_24th_EDITION	<0.0002
6	Lead as Pb	mg/l	APHA 3125_24th_EDITION	<0.005

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Name and Designation of Authorized Signatory

Dr. Subbireddy Mallampati  
 Manager - Environment

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## Test Report

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**Registration/Report Number:** VLL/VLS/24/06493/018

**Issue Date:** 2024-07-15

**Your Ref. and Date:** 2024-07-04

**Lab Ref No.:** 1764824

**LIMS Report No.:** 556908-A


Page 2 of 2

Kind Attn: Mr. Aloka Datta  
ULR-TC54182400026373F  
**Chemical  
Water**

**TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
7	Cadmium as Cd	mg/l	APHA 3125_24th_EDITION	<0.005
8	Copper as Cu	mg/l	APHA 3125_24th_EDITION	<0.01
9	Selenium as Se	mg/l	APHA 3125_24th_EDITION	<0.001
10	Phenolic Compounds as C6H5OH	mg/l	APHA 24th 5530D	<0.001
11	Manganese as Mn	mg/l	APHA 3125_24th_EDITION	0.01
12	Total Dissolved Solids at 180°C	mg/l	APHA 24th Edition 2540 C	284
13	Turbidity	NTU	APHA 24th Edition 2130 B	<0.1
14	Nitrate Nitrogen as NO3-	mg/l	APHA 24th 4500 NO3 B	26.8
15	Sulphates as SO4	mg/l	APHA 24th Ed 4500 SO4E	9.56
16	Cyanide as CN-	mg/l	APHA 24th 4500 CN E	<0.02
17	Calcium as Ca	mg/l	APHA 24th Ed 3500 Ca B	18.04
18	Magnesium as Mg	mg/l	APHA 24th Ed 3500 Mg B	9.72
19	Total Hardness as CaCO3	mg/l	APHA23RD2340B	85
20	Biochemical Oxygen Demand 3days at 27°C	mg/l	IS 3025 Part 44 :2023	<3
21	Chemical Oxygen Demand at 150 °C	mg/l	APHA 23rd Ed 5220 B	<5
22	Zinc as Zn	mg/l	APHA 3125_24th_EDITION	0.05
23	Iron as Fe	mg/l	APHA 3125_24th_EDITION	0.02
24	Chloride as Cl	mg/l	APHA 24th Ed 4500 Cl B	45
25	Fluoride as F	mg/l	APHA 4500 FD-(SPADNS) 23rd Edition	0.22
26	Anionic Surfactants as MBAS	mg/l	APHA 24th Edition 5540 C	<0.02

Results relate only to the sample tested.

Remarks:

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Name and Designation of Authorized Signatory

Dr. Subbarajdy Mallampati  
Manager - Environment

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# Test Report

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 TEH-RENGALI  
 SAMBALPUR-768232  
 ODISHA,IND  
 Ph: Mob:9437150569

**Registration/Report Number:** VLL/VLS/24/06493/019  
**Issue Date:** 2024-07-15  
**Your Ref. and Date:** 2024-07-04  
**Lab Ref No.:** 1764825  
**LIMS Report No.:** 556908-A



Page 1 of 2

Kind Attn: Mr. Alok Datta

Customer Provided Details :			
Sample Name:	Surface Water-Bisidhi Village Talab-2 N-21007'06" E-84004'01"		
Batch Number:	NA	AR/Sample Code:	NA
Mfg. Date:	NA	Exp. Date:	NA
Test Required:	Colour, Turbidity, pH, Electrical Conductivity, Chemical Dissolved Oxygen (COD), BOD (3 days at 27°C), Total Hardness, Iron as Fe, Chloride, Fluoride, Total Dissolved Solids, Calcium, Magnesium, Copper, Manganese, Sulphates, Nitrate, Phenolic Compounds, Mercury, Cadmium, Selenium, Arsenic, Cyanide, Lead, Zinc & Anionic Surfactants.		
Other Details if Any:	NA		
Lab Provided Details :			
Sample Received Date:	2024-07-04	Sample Registration Date:	2024-07-05
Analysis Starting Date:	2024-07-05	Analysis Completion Date:	2024-07-10
Quantity Received:	1 Ltr Bottle X 2No's		
Sampling Details:	Sampling Date:2024.06.30		
Other Details if Any:	NA		

ULR-TC541824000026374F

Chemical Water

### TEST RESULTS

S. No.	Test Parameters	UOM	Method	Results
1	pH at 25°C		APHA 24th Ed 4509 H	7.74
2	Electrical Conductivity at 25°C	µS/cm	APHA 24rd Ed 2510 B	975
3	Color	Pt/Co units	APHA 24th 2120-C	<1.0
4	Arsenic as As	mg/l	APHA 3125_24th_EDITION	<0.001
5	Mercury as Hg	mg/l	APHA 3125_24th_EDITION	<0.0002
6	Lead as Pb	mg/l	APHA 3125_24th_EDITION	<0.005

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Dr. Subbareddy Mallampati  
 Manager - Environment

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Registration/Report Number: **VLL/VLS/24/06493/019**

Issue Date: **2024-07-15**

Your Ref. and Date: **2024-07-04**

Lab Ref No.: **1764825**

LIMS Report No.: **556909-A**



Page 2 of 2

Kind Attn: Mr. Alok Datta  
 ULR-TC541824000026374F  
**Chemical**  
**Water**

### TEST RESULTS

S. No.	Test Parameters	UOM	Method	Results
7	Cadmium as Cd	mg/l	APHA 3125_24th_EDITION	<0.0005
8	Copper as Cu	mg/l	APHA 3125_24th_EDITION	<0.01
9	Selenium as Se	mg/l	APHA 3125_24th_EDITION	<0.001
10	Phenolic Compounds as C6H5OH	mg/l	APHA 24th 5530D	<0.001
11	Manganese as Mn	mg/l	APHA 3125_24th_EDITION	0.06
12	Total Dissolved Solids at 180°C	mg/l	APHA 24th Edition 2540 C	618
13	Turbidity	NTU	APHA 24th Edition 2130 B	<0.1
14	Nitrate Nitrogen as NO3-	mg/l	APHA 24th 4500 NO3 B	31.5
15	Sulphates as SO4	mg/l	APHA 24th Ed 4500 SO4E	52.16
16	Cyanide as CN-	mg/l	APHA 24th 4500 CN E	<0.02
17	Calcium as Ca	mg/l	APHA 24th Ed 3500 Ca B	32.06
18	Magnesium as Mg	mg/l	APHA 24th Ed 3500 Mg B	24.32
19	Total Hardness as CaCO3	mg/l	APHA23RD2340B	180
20	Biochemical Oxygen Demand 3days at 27°C	mg/l	IS 3025 Part 44 :2023	<3
21	Chemical Oxygen Demand at 150 °C	mg/l	APHA 23rd Ed 5220 B	<5
22	Zinc as Zn	mg/l	APHA 3125_24th_EDITION	0.11
23	Iron as Fe	mg/l	APHA 3125_24th_EDITION	0.08
24	Chloride as Cl	mg/l	APHA 24th Ed 4500 Cl B	210
25	Fluoride as F	mg/l	APHA 4500 FD-(SPADNS) 23rd Edition	0.19
26	Anionic Surfactants as MBAS	mg/l	APHA 24th Edition 5540 C	<0.02

Results relate only to the sample tested.

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Manager - Environment

**Dr. Subbarreddy Mallampati**  
 Manager - Environment

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# Test Report

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**TEH-RENGALI**  
**SAMBALPUR-768232**  
**ODISHA,IND**  
**Ph: Mob:9437150569**

**Registration/Report Number:** VLL/VLS/24/02332/023  
**Issue Date:** 2024-05-11  
**Your Ref and Date:** 2024-05-06  
**Lab Ref No.:** 1708535  
**LIMS Report No.:** 538789-A  
**\*VLL/VLS/24/02332/023\***

Page 1 of 2

Customer Provided Details :			
Sample Name:	AAQM -Talling Pond		
Manufacturer:	NA		
Batch Number:	NA	A.R. Number/Sample Codes:	NA
Mfg. Date:	NA	Exp. Date:	NA
Test Required:	PM(10),PM(2.5),Pb,Ni,As,BaP,SO2,NOx,NH3,O3,CO,C6H6		
Other Details if Any:	NA		
Lab Provided Details :			
Sample Received Date:	2024-05-06	Sample Registration Date:	2024-05-06
Analysis Starting Date:	2024-05-06	Analysis Completion Date:	2024-05-09
Quantity Received:	2 Filter papers X 2 Nos+ Abs Sol 30ml X 4 Nos+ Co tube X 01 No		
Sampling Details:	Sampling Date & Time: 2024-04-25;10:45 AM to 2024-04-26;10:45 AM		
Other Details if Any:	NA		

**Chemical**  
**Atmospheric Pollution**

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**DEBUSAREDDY RALLAMPATI**  
 Manager - Environment

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ODISHA,IND  
Ph: Mob:9437150569

**Registration/Report Number: VLL/VLS/24/02332/023**

**Issue Date: 2024-05-11**

**Your Ref. and Date: 2024-05-06**

**Lab Ref No.: 1708535**

**LIMS Report No.: 536799-A**

**\*VLL/VLS/24/02332/023\***

Page 2 of 2

Kind Attn: Mr. Alope Datta

### TEST RESULTS

S. No.	Test Parameters	UOM	Method	Requirements	Results
1	Particulate Matter (PM10)	µg/m <sup>3</sup>	IS 5182 (PART-23) RA 2017	100	92.3
2	Particulate Matter (PM2.5)	µg/m <sup>3</sup>	IS 5182 (Part-24) 2019	60	44.9
3	Sulphurdioxide as SO <sub>2</sub>	µg/m <sup>3</sup>	IS 5182 (Part-2) RA 2017	80	30.7
4	Oxides of Nitrogen as NO <sub>2</sub>	µg/m <sup>3</sup>	IS 5182 (Part-6) RA 2017	80	36.4
5	Ozone as O <sub>3</sub>	µg/m <sup>3</sup>	IS 5182 (Part-9) RA 2019	100	12.4
6	Ammonia as NH <sub>3</sub>	µg/m <sup>3</sup>	APHA 4C	400	19.4
7	Carbonmonoxide as CO	mg/m <sup>3</sup>	IS5182PART10 RA 2019	2.0	0.82
8	Lead as Pb	µg/m <sup>3</sup>	USEPA IO 3.4	1.0	<0.1
9	Nickel as Ni	ng/m <sup>3</sup>	USEPA IO 3.4	20	12.2
10	Arsenic as As	ng/m <sup>3</sup>	USEPA IO 3.4	6.0	<1.0
11	Benzene as C <sub>6</sub> H <sub>6</sub>	µg/m <sup>3</sup>	IS5182 (PART-11) RA 2017	5.0	BDL
12	Benzo(a)Pyrene	ng/m <sup>3</sup>	IS 5182 (Part-12) RA 2019	1.0	BDL

Results relate only to the sample tested.

Remarks: Requirements as per National Ambient Air Quality Standards:2009, Instrument used GC MS/MS & GC MS Head Space (Limit of qualification-0.00001 ppb).

- END OF THE TEST REPORT -

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Signature and Designation of Authorized Signatory

**Dr. SUBBAREDDY MALLAMPATI**  
Manager - Environment

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6. VIMTA expressly rejects any & all claims of any nature whatsoever, wheresoever arising from or relating to the performance of the requested analysis as per mutual agreement. This disclaimer and waiver shall also apply to any claim of implied warranty of merchantability and fitness for either a general or particular use, strict liability, product liability or any negligence not involving the actual analysis performed by VIMTA LABS LTD., as well as any claim for indirect, incidental or consequential damages, lost profits or revenues, regardless of the asserted basis of recovery. The total liability, scientifically and legally proven, if any, of VIMTA LABS LTD. in any case, shall not exceed the invoiced amount for the services provided and paid for.
7. The test report in full or part shall not be used by any customer, or be authorized by a customer, for promotional or publicity purposes in any way that NABL may consider to be misleading.
8. A satisfactory test report in no way implies that the product so tested or equipment calibrated is approved by NABL.



TC-5418

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Ph: Mob:9437150569

Registration/Report Number: **VLL/VLS/24/08011/001**

Issue Date: 2024-09-03

Your Ref: and Date: 2024-08-16

Lab Ref No.: 1720724

LIMS Report No.: -A

**\*VLL/VLS/24/08011/001\***

Page 1 of 2

Kind Attn:Mr. Alope Datta

Customer Provided Details :			
Sample Name:	AAQM at Tailing Pond		
Manufacturer:	NA		
Batch Number:	NA	A.R. Number/Sample Code:	NA
Mfg. Date:	NA	Exp. Date:	NA
Test Required:	PM(10),PM(2.5),Pb,Ni,As,BaP,SO2,NOx,NH3,O3,CO,C6H6		
Other Details if Any:	NA		
Lab Provided Details :			
Sample Received Date:	2024-08-16	Sample Registration Date:	2024-08-16
Analysis Starting Date:	2024-08-16	Analysis Completion Date:	2024-08-23
Quantity Received:	2 Filter Papers X 2No's+Absorbing Soln 30 ml X 4No's + CO Tube X 1No		
Sampling Details:	Sampling Date & Time: 08.08.2024;10:30 am to 09.08.2024:10:30am.		
Other Details if Any:	NA		

**Chemical**  
**Atmospheric Pollution**

Name and Designation of Authorized Signatory

Dr. SUBBAREDDY MALLAMPATI  
Manager-Environment

**Issued To:**

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ODISHA,IND  
Ph: Mob:9437150569

**Registration/Report Number: VLL/VLS/24/08011/001**

Issue Date: 2024-09-03

Your Ref: 2024-08-16

and Date: 1720724

Lab Ref No.:

LIMS Report No.: -A

**\*VLL/VLS/24/08011/001\***

Page 2 of 2

Kind Attn:Mr. Aloke Datta

**TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Requirements	Results
1	Particulate Matter (PM10)	µg/m <sup>3</sup>	IS 5182 (PART-23) RA 2017	100	92.4
2	Particulate Matter (PM2.5)	µg/m <sup>3</sup>	IS 5182 (Part-24) 2019	60	44.3
3	Sulphurdioxide as SO2	µg/m <sup>3</sup>	IS 5182 (Part-2) RA 2017	80	28.2
4	Oxides of Nitrogen as NO2	µg/m <sup>3</sup>	IS 5182 (Part-6) RA 2017	80	25.7
5	Ozone as O3	µg/m <sup>3</sup>	IS 5182 (Part-9) RA 2019	100	11.8
6	Ammonia as NH3	µg/m <sup>3</sup>	APHA 401	400	15.6
7	Carbonmonoxide as CO	mg/m <sup>3</sup>	IS 5182 (Part-10) RA 2019	2.0	0.46
8	Lead as Pb	µg/m <sup>3</sup>	USEPA IO 3.4	1.0	<0.1
9	Nickel as Ni	ng/m <sup>3</sup>	USEPA IO 3.4	20.0	17.4
10	Arsenic as As	ng/m <sup>3</sup>	USEPA IO 3.4	6.0	<1.0
11	Benzene as C6H6	µg/m <sup>3</sup>	IS 5182 (Part-11) RA 2017	5.0	<2.0
12	Benzo(a)pyrene	ng/m <sup>3</sup>	IS 5182 (Part-12) RA 2019	1.0	<0.5

**Results relate only to the sample tested.****Remarks:** Requirements as per National Ambient Air Quality Standards:2009, Instrument used GC MS/MS & GC MS Head Space**- END OF THE TEST REPORT -****Name and Designation of Authorized Signatory**

Dr. SUBBAREDDY MALLAMPATI  
Manager-Environment

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**Registration/Report Number: VLL/VLS/24/08011/002**

Issue Date: 2024-09-03  
Your Ref: 2024-08-16  
and Date: 1720724  
Lab Re<sup>n</sup> No.: -A  
LIMS Report No.:

**\*VLL/VLS/24/08011/002\***

Page 1 of 3

Kind Attn: Mr. Aloke Datta

Customer Provided Details :			
<b>Sample Name:</b>	Ground Water-Tailing Pond Tube Well No-1		
Batch Number:	NA	AR/Sample Code:	NA
Mfg. Date:	NA	Exp. Date:	NA
Test Required:	Colour, Odour, Taste, Turbidity, pH, Dissolved Solid, Residual free chlorine, Total Hardness, Calcium, Magnesium, Alkalinity, Chloride, Fluoride, Sulphate, Nitrate, Chromium, Phenolic Compounds, Iron, Cyanide, Copper, Manganese, Mercury, Cadmium, Selenium, Arsenic, Lead, Zinc, Aluminium, Boron, Anionic Detergen.s, Mineral Oil.		
Other Details if Any:	NA		
Lab Provided Details :			
Sample Received Date:	2024-08-16	Sample Registration Date:	2024-08-16
Analysis Starting Date:	2024-08-16	Analysis Completion Date:	2024-08-23
Quantity Received:	1 Ltr Bottle X 2No's		
Sampling Details:	Sampling Date:09.08.2024		
Other Details if Any:	NA		

**Chemical Water****TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
1	Colour	Hazen	APHA 24th 2120-C	<1.0
2	Odour	--	IS 3025 (Part 5)	Agreeable
3	pH Value at 25°C	--	APHA 24th Ed 4500 H+	7.6
4	Taste	--	IS 3025 (Part 7) & IS 3025 (Part 8)	Agreeable
5	Turbidity	NTU	APHA 24th Edition 2130 B	<0.1
6	Total Dissolved Solids at 180°C	mg/l	APHA 24th Edition 2540 C	144

Name and Designation of Authorized Signatory

Dr. SUBBAREDDY MALLAMPATI  
Manager-Environment

**Note : This report is subject to the terms and conditions mentioned at the end of the report.**

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Issue Date: 2024-09-03

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Lab Ref No.: 1720724

LIMS Report No.: -A

**\*VLL/VLS/24/08011/002\***

Page 2 of 3

Kind Attn: Mr. Alope Datta

**Chemical**  
**Water**

**TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
7	Calcium as Ca	mg/l	APHA 24th Ed 3500 Ca B	15.7
8	Chloride as Cl	mg/l	APHA 24th Ed 4500 Cl B	23.8
9	Magnesium as Mg	mg/l	APHA 24th Ed 3500 Mg B	6.6
10	Total Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24th Ed 2320 B	81.5
11	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA23RD2340B	66.6
12	Aluminium as Al	mg/l	APHA 3125_24th_EDITION	<0.001
13	Boron as B	mg/l	APHA 3125_24th_EDITION	0.030
14	Copper as Cu	mg/l	APHA 3125_24th_EDITION	<0.005
15	Iron as Fe	mg/l	APHA 3125_24th_EDITION	0.214
16	Manganese as Mn	mg/l	APHA 3125_24th_EDITION	0.020
17	Selenium as Se	mg/l	APHA 3125_24th_EDITION	<0.001
18	Zinc as Zn	mg/l	APHA 3125_24th_EDITION	0.011
19	Cadmium as Cd	mg/l	APHA 3125_24th_EDITION	<0.0005
20	Lead as Pb	mg/l	APHA 3125_24th_EDITION	<0.0050
21	Mercury as Hg	mg/l	APHA 3125_24th_EDITION	<0.0002
22	Arsenic as As	mg/l	APHA 3125_24th_EDITION	<0.001
23	Chromium as Cr	mg/l	APHA 3125_24th_EDITION	<0.005
24	Cyanide as CN-	mg/l	APHA 24th 4500 CN E	<0.02
25	Anionic Surface Active Agents	mg/l	APHA 24th Edition 5540 C	<0.02
26	Fluoride as F	mg/l	APHA 4500 FD-(SPADNS) 23rd Edition	<0.10
27	Free Residual Chlorine	mg/l	IS 3025 (Part-26)	<0.05
28	Nitrate as NO <sub>3</sub>	mg/l	APHA 4500-NO3B- 23rd Edition	1.16
29	Phenolics as C <sub>6</sub> H <sub>5</sub> OH	mg/l	APHA 24th 5530D	<0.001
30	Sulphate as SO <sub>4</sub>	mg/l	APHA 24th Ed 4500 SO <sub>4</sub> E	8.50

Name and Designation of Authorized Signatory

  
Dr. SUBBAREDDY MALLAMPATI  
Manager-Environment

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**Registration/Report Number: VLL/VLS/24/08011/002**

Issue Date: 2024-09-03  
Your Ref: and Date: 2024-08-16  
Lab Ref No.: 1720724  
LIMS Report No.: -A

**\*VLL/VLS/24/08011/002\***

Page 3 of 3

Kind Attn: Mr. Aloke Datta

**Chemical  
Water**

**TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
31	Mineral Oil	mg/l	IS: 3025 PART 39 : 2021	<0.01

Results relate only to the sample tested.

Remarks:

- END OF THE TEST REPORT -

Name and Designation of Authorized Signatory

Dr. SUBBAREDDY MALLAMPATI  
Manager-Environment

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**Registration/Report Number: VLL/VLS/24/08011/003**

Issue Date: 2024-09-03  
Your Ref: 2024-08-16  
and Date: 1720724  
Lab Ref No.: -A  
LIMS Report No.:

**\*VLL/VLS/24/08011/003\***

Page 1 of 3

Kind Attn: Mr. Aloke Datta

Customer Provided Details :			
<b>Sample Name:</b>	Ground Water-Tailing Pond Tube Well No-2		
Batch Number:	NA	AR/Sample Code:	NA
Mfg. Date:	NA	Exp. Date:	NA
Test Required:	Colour, Odour, Taste, Turbidity, pH, Dissolved Solid, Residual free chlorine, Total Hardness, Calcium, Magnesium, Alkalinity, Chloride, Fluoride, Sulphate, Nitrate, Chromium, Phenolic Compounds, Iron, Cyanide, Copper, Manganese, Mercury, Cadmium, Selenium, Arsenic, Lead, Zinc, Aluminium, Boron, Anionic Detergents, Mineral Oil.		
Other Details if Any:	NA		
Lab Provided Details :			
Sample Received Date:	2024-08-16	Sample Registration Date:	2024-08-16
Analysis Starting Date:	2024-08-16	Analysis Completion Date:	2024-08-23
Quantity Received:	1 Ltr Bottle X 2No's		
Sampling Details:	Sampling Date:09.08.2024		
Other Details if Any:	NA		

**Chemical  
Water****TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
1	Colour	Hazen	APHA 24th 2120-C	<1.0
2	Odour	--	IS 3025 (Part 5)	Agreeable
3	pH Value at 25°C	--	APHA 24th Ed 4500 H+	7.8
4	Taste	--	IS 3025 (Part 7) & IS 3025 (Part 8)	Agreeable
5	Turbidity	NTU	APHA 24th Edition 2130 B	<0.1
6	Total Dissolved Solids at 180°C	mg/l	APHA 24th Edition 2540 C	244

Name and Designation of Authorized Signatory

Dr. SUBBAREDDY MALLAMPATI  
Manager-Environment

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Registration/Report Number: VLL/VLS/24/08011/003

Issue Date: 2024-09-03  
Your Ref: 2024-08-16  
and Date: 1720724  
Lab Ref No.: -A  
LIMS Report No.:

**\*VLL/VLS/24/08011/003\***

Page 3 of 3

Kind Attn:Mr. Aloke Datta

Chemical  
Water

## TEST RESULTS

S. No.	Test Parameters	UOM	Method	Results
31	Mineral Oil	mg/l	IS: 3025 PART 39 : 2021	<0.01

Results relate only to the sample tested.

Remarks:

- END OF THE TEST REPORT -

Name and Designation of Authorized Signatory

Dr. SUBBAREDDY MALLAMPATI  
Manager-Environment

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Registration/Report Number: VLL/VLS/24/08011/003

Issue Date: 2024-09-03  
Your Ref: 2024-08-16  
and Date: 1720724  
Lab Ref No.: -A  
LIMS Report No.:

**\*VLL/VLS/24/08011/003\***

Page 2 of 3

Kind Attn:Mr. Alope Datta

**Chemical  
Water**

**TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
7	Calcium as Ca	mg/l	APHA 24th Ed 3500 Ca B	34.5
8	Chloride as Cl	mg/l	APHA 24th Ed 4500 Cl B	35.6
9	Magnesium as Mg	mg/l	APHA 24th Ed 3500 Mg B	9.4
10	Total Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24th Ed 2320 B	136
11	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA23RD2340B	125
12	Aluminium as Al	mg/l	APHA 3125_24th_EDITION	<0.001
13	Boron as B	mg/l	APHA 3125_24th_EDITION	0.036
14	Copper as Cu	mg/l	APHA 3125_24th_EDITION	<0.005
15	Iron as Fe	mg/l	APHA 3125_24th_EDITION	0.314
16	Manganese as Mn	mg/l	APHA 3125_24th_EDITION	0.027
17	Selenium as Se	mg/l	APHA 3125_24th_EDITION	<0.001
18	Zinc as Zn	mg/l	APHA 3125_24th_EDITION	0.014
19	Cadmium as Cd	mg/l	APHA 3125_24th_EDITION	<0.0005
20	Lead as Pb	mg/l	APHA 3125_24th_EDITION	<0.0050
21	Mercury as Hg	mg/l	APHA 3125_24th_EDITION	<0.0002
22	Arsenic as As	mg/l	APHA 3125_24th_EDITION	<0.001
23	Chromium as Cr	mg/l	APHA 3125_24th_EDITION	<0.005
24	Cyanide as CN-	mg/l	APHA 24th 4500 CN E	<0.02
25	Anionic Surface Active Agents	mg/l	APHA 24th Edition 5540 C	<0.02
26	Fluoride as F	mg/l	APHA 4500 FD-(SPADNS) 23rd Edition	<0.10
27	Free Residual Chlorine	mg/l	IS 3025 (Part-26)	<0.05
28	Nitrate as NO <sub>3</sub>	mg/l	APHA 4500-NO3B- 23rd Edition	1.21
29	Phenolics as C <sub>6</sub> H <sub>5</sub> OH	mg/l	APHA 24th 5530D	<0.001
30	Sulphate as SO <sub>4</sub>	mg/l	APHA 24th Ed 4500 SO4E	3.40

Name and Designation of Authorized Signatory

  
Dr. SUBBAREDDY MALLAMPATI  
Manager-Environment

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Ph: Mob:9437150569

Registration/Report Number: **VLL/VLS/24/08011/004**

Issue Date: 2024-09-03  
Your Ref: 2024-08-16  
and Date: 1720724  
Lab Ref No.: -A  
LIMS Report No.:

**\*VLL/VLS/24/08011/004\***

Page 1 of 3

Kind Attn: Mr. Alope Datta

Customer Provided Details :			
Sample Name:	Ground Water-Tailing Pond Old Bore well		
Batch Number:	NA	AR/Sample Code:	NA
Mfg. Date:	NA	Exp. Date:	NA
Test Required:	Colour, Odour, Taste, Turbidity, pH, Dissolved Solid, Residual free chlorine, Total Hardness, Calcium, Magnesium, Alkalinity, Chloride, Fluoride, Sulphate, Nitrate, Chromium, Phenolic Compounds, Iron, Cyanide, Copper, Manganese, Mercury, Cadmium, Selenium, Arsenic, Lead, Zinc, Aluminium, Boron, Anionic Detergents, Mineral Oil.		
Other Details if Any:	NA		
Lab Provided Details :			
Sample Received Date:	2024-08-16	Sample Registration Date:	2024-08-16
Analysis Starting Date:	2024-08-16	Analysis Completion Date:	2024-08-23
Quantity Received:	1 Ltr Bottle X 2No's		
Sampling Details:	Sampling Date:09.08.2024		
Other Details if Any:	NA		

**Chemical  
Water**

**TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
1	Colour	Hazen	APHA 24th 2120-C	<1.0
2	Odour	--	IS 3025 (Part 5)	Agreeable
3	pH Value at 25°C	--	APHA 24th Ed 4500 H+	7.2
4	Taste	--	IS 3025 (Part 7) & IS 3025 (Part 8)	Agreeable
5	Turbidity	NTU	APHA 24th Edition 2130 B	<0.1
6	Total Dissolved Solids at 180°C	mg/l	APHA 24th Edition 2540 C	242

Name and Designation of Authorized Signatory

  
Dr. SUBBAREDDY MALLAMPATI  
Manager-Environment

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LIMS Report No.:

**\*VLL/VLS/24/08011/004\***

Page 2 of 3

Kind Attn:Mr. Alope Datta

**Chemical  
Water**

**TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
7	Calcium as Ca	mg/l	APHA 24th Ed 3500 Ca B	29.8
8	Chloride as Cl	mg/l	APHA 24th Ed 4500 Cl B	29.7
9	Magnesium as Mg	mg/l	APHA 24th Ed 3500 Mg B	11.3
10	Total Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24th Ed 2320 B	144
11	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA23RD2340B	122
12	Aluminium as Al	mg/l	APHA 3125_24th_EDITION	<0.001
13	Boron as B	mg/l	APHA 3125_24th_EDITION	0.022
14	Copper as Cu	mg/l	APHA 3125_24th_EDITION	<0.005
15	Iron as Fe	mg/l	APHA 3125_24th_EDITION	0.084
16	Manganese as Mn	mg/l	APHA 3125_24th_EDITION	0.037
17	Selenium as Se	mg/l	APHA 3125_24th_EDITION	<0.001
18	Zinc as Zn	mg/l	APHA 3125_24th_EDITION	0.019
19	Cadmium as Cd	mg/l	APHA 3125_24th_EDITION	<0.0005
20	Lead as Pb	mg/l	APHA 3125_24th_EDITION	<0.0050
21	Mercury as Hg	mg/l	APHA 3125_24th_EDITION	<0.0002
22	Arsenic as As	mg/l	APHA 3125_24th_EDITION	<0.001
23	Chromium as Cr	mg/l	APHA 3125_24th_EDITION	<0.005
24	Cyanide as CN-	mg/l	APHA 24th 4500 CN E	<0.02
25	Anionic Surface Active Agents	mg/l	APHA 24th Edition 5540 C	<0.02
26	Fluoride as F	mg/l	APHA 4500 FD-(SPADNS) 23rd Edition	<0.10
27	Free Residual Chlorine	mg/l	IS 3025 (Part-26)	<0.05
28	Nitrate as NO <sub>3</sub>	mg/l	APHA 4500-NO3B- 23rd Edition	2.11
29	Phenolics as C <sub>6</sub> H <sub>5</sub> OH	mg/l	APHA 24th 5530D	<0.001
30	Sulphate as SO <sub>4</sub>	mg/l	APHA 24th Ed 4500 SO <sub>4</sub> E	13.7

Name and Designation of Authorized Signatory

Dr. SUBBAREDDY MALLAMPATI  
Manager-Environment

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Registration/Report Number: VLL/VLS/24/08011/004

Issue Date: 2024-09-03  
Your Ref: 2024-08-16  
and Date: 1720724  
Lab Ref No.: -A  
LIMS Report No.:

**\*VLL/VLS/24/08011/004\***

Page 3 of 3

Kind Attn: Mr. Aloke Datta

**Chemical  
Water**

**TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
31	Mineral Oil	mg/l	IS: 3025 PART 39 : 2021	<0.01

Results relate only to the sample tested.

Remarks:

- END OF THE TEST REPORT -

Name and Designation of Authorized Signatory

Dr. SUBBAREDDY MALLAMPATI  
Manager-Environment

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THELKOLOI,  
TEH-RENGALI  
SAMBALPUR-768232  
ODISHA,IND  
Ph: Mob:9437150569

Registration/Report Number: **VLL/VLS/24/08011/005**

Issue Date: 2024-09-03  
Your Ref: 2024-08-16  
and Date: 1720724  
Lab Ref No.: -A

LIMS Report No.:

**\*VLL/VLS/24/08011/005\***

Page 1 of 3

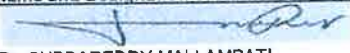
Kind Attn:Mr. Alope Datta

Customer Provided Details :			
Sample Name:	Ground Water-Bisidihi Village Tube Well, N-21007'06" E-84004'12"		
Batch Number:	NA	AR/Sample Code:	NA
Mfg. Date:	NA	Exp. Date:	NA
Test Required:	Colour, Odour, Taste, Turbidity, pH, Dissolved Solid, Residual free chlorine, Total Hardness, Calcium, Magnesium, Alkalinity, Chloride, Fluoride, Sulphate, Nitrate, Chromium, Phenolic Compounds, Iron, Cyanide, Copper, Manganese, Mercury, Cadmium, Selenium, Arsenic, Lead, Zinc, Aluminium, Boron, Anionic Detergents, Mineral Oil.		
Other Details if Any:	NA		
Lab Provided Details :			
Sample Received Date:	2024-08-16	Sample Registration Date:	2024-08-16
Analysis Starting Date:	2024-08-16	Analysis Completion Date:	2024-08-23
Quantity Received:	1 Ltr Bottle X 2No's		
Sampling Details:	Sampling Date:09.08.2024		
Other Details if Any:	NA		

**Chemical  
Water****TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
1	Colour	Hazen	APHA 24th 2120-C	<1.0
2	Odour	--	IS 3025 (Part 5)	Agreeable
3	pH Value at 25°C	--	APHA 24th Ed 4500 H+	7.4
4	Taste	--	IS 3025 (Part 7) & IS 3025 (Part 8)	Agreeable
5	Turbidity	NTU	APHA 24th Edition 2130 B	<0.1
6	Total Dissolved Solids at 180°C	mg/l	APHA 24th Edition 2540 C	204

Name and Designation of Authorized Signatory

  
Dr. SUBBAREDDY MALLAMPATI  
Manager-Environment

**Note : This report is subject to the terms and conditions mentioned at the end of the report.**

Vimta Labs Ltd., Life Sciences Campus, Plot No. 5, MN Park (Formerly Alexandria Knowledge Park),  
Genome Valley, Shamirpet, Medchal - Malkajiri - 500 101, Hyderabad, Telangana, India. Phone : +91-40-6740 4040

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Issue Date: 2024-09-03  
Your Ref: and Date: 2024-08-16  
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**\*VLL/VLS/24/08011/005\***

Page 2 of 3

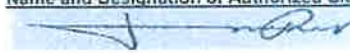
Kind Attn:Mr. Aloke Datta

**Chemical**  
**Water**

**TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
7	Calcium as Ca	mg/l	APHA 24th Ed 3500 Ca B	23.5
8	Chloride as Cl	mg/l	APHA 24th Ed 4500 Cl B	31.8
9	Magnesium as Mg	mg/l	APHA 24th Ed 3500 Mg B	12.2
10	Total Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24th Ed 2320 B	108
11	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA23RD2340B	108
12	Aluminium as Al	mg/l	APHA 3125_24th_EDITION	<0.001
13	Boron as B	mg/l	APHA 3125_24th_EDITION	0.018
14	Copper as Cu	mg/l	APHA 3125_24th_EDITION	<0.005
15	Iron as Fe	mg/l	APHA 3125_24th_EDITION	0.542
16	Manganese as Mn	mg/l	APHA 3125_24th_EDITION	0.024
17	Selenium as Se	mg/l	APHA 3125_24th_EDITION	<0.001
18	Zinc as Zn	mg/l	APHA 3125_24th_EDITION	0.026
19	Cadmium as Cd	mg/l	APHA 3125_24th_EDITION	<0.0005
20	Lead as Pb	mg/l	APHA 3125_24th_EDITION	<0.0050
21	Mercury as Hg	mg/l	APHA 3125_24th_EDITION	<0.0002
22	Arsenic as As	mg/l	APHA 3125_24th_EDITION	<0.001
23	Chromium as Cr	mg/l	APHA 3125_24th_EDITION	<0.005
24	Cyanide as CN-	mg/l	APHA 24th 4500 CN E	<0.02
25	Anionic Surface Active Agents	mg/l	APHA 24th Edition 5540 C	<0.02
26	Fluoride as F	mg/l	APHA 4500 FD-(SPADNS) 23rd Edition	<0.10
27	Free Residual Chlorine	mg/l	IS 3025 (Part-26)	<0.05
28	Nitrate as NO <sub>3</sub>	mg/l	APHA 4500-NO3B- 23rd Edition	2.46
29	Phenolics as C <sub>6</sub> H <sub>5</sub> OH	mg/l	APHA 24th 5530D	<0.001
30	Sulphate as SO <sub>4</sub>	mg/l	APHA 24th Ed 4500 SO4E	9.7

Name and Designation of Authorized Signatory

  
Dr. SUBBAREDDY MALLAMPATI  
Manager-Environment

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BHUSHAN POWER & STEEL LIMITED  
THELKOLOI,  
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SAMBALPUR-768232  
ODISHA,IND  
Ph: Mob:9437150569

Registration/Report Number: VLL/VLS/24/08011/005

Issue Date: 2024-09-03  
Your Ref: 2024-08-16  
and Date: 1720724  
Lab Ref No.: -A  
LIMS Report No.:

\*VLL/VLS/24/08011/005\*

Page 3 of 3

Kind Attn:Mr. Aloke Datta

**Chemical**  
**Water**

**TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
31	Mineral Oil	mg/l	IS: 3025 PART 39 : 2021	<0.01

Results relate only to the sample tested.

Remarks:

- END OF THE TEST REPORT -

Name and Designation of Authorized Signatory

Dr. SUBBAREDDY MALLAMPATI  
Manager-Environment

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**Registration/Report Number: VLL/VLS/24/08011/006**

Issue Date: 2024-09-03  
Your Ref: 2024-08-16  
and Date: 1720724  
Lab Ref No.: -A  
LIMS Report No.:

**\*VLL/VLS/24/08011/006\***

Page 1 of 2

Kind Attn:Mr. Alope Datta

Customer Provided Details :			
Sample Name:	Surface Water-Bisidihi Village Talab-1		
Batch Number:	NA	AR/Sample Code:	NA
Mfg. Date:	NA	Exp. Date:	NA
Test Required:	Colour, Turbidity, pH, Electric Conductivity, COD, BOD, Dissolved Solid, Total Hardness, Calcium, Magnesium, Chloride, Fluoride, Sulphate, Nitrate, Phenolic Compounds, Iron, Cyanide, Copper, Manganese, Mercury, Cadmium, Selenium, Arsenic, Lead,Zinc, Aluminium, Anionic Detergents,		
Other Details if Any:	NA		
Lab Provided Details :			
Sample Received Date:	2024-08-16	Sample Registration Date:	2024-08-16
Analysis Starting Date:	2024-08-16	Analysis Completion Date:	2024-08-23
Quantity Received:	1 Ltr Bottle X 2No's		
Sampling Details:	Sampling Date:09.08.2024		
Other Details if Any:	NA		

**Chemical****Water****TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
1	Colour	Hazen	APHA 24th 2120-C	<1.0
2	Electrical Conductivity at 25 °C	µS/cm	APHA 24th 2510-B	368
3	pH Value at 25°C	--	APHA 24th Ed 4500 H+	7.2
4	Turbidity	NTU	APHA 24th Edition 2130 B	8.1
5	Total Dissolved Solids at 180°C	mg/l	APHA 24th Edition 2540 C	217

Name and Designation of Authorized Signatory

  
Dr. SUBBAREDDY MALLAMPATI  
Manager-Environment

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Registration/Report Number: VLL/VLS/24/08011/006

Issue Date: 2024-09-03  
Your Ref: 2024-08-16  
and Date: 1720724  
Lab Ref No.: -A  
LIMS Report No.:

**\*VLL/VLS/24/08011/006\***

Page 2 of 2

Kind Attn:Mr. Aloke Datta

**Chemical  
Water**

**TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
6	Calcium as Ca	mg/l	APHA 24th Ed 3500 Ca B	30.4
7	Chloride as Cl	mg/l	APHA 24th Ed 4500 Cl B	81.4
8	Magnesium as Mg	mg/l	APHA 24th Ed 3500 Mg B	10.0
9	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed 2340 C	118
10	Copper as Cu	mg/l	APHA 3125_24th_EDITION	<0.005
11	Iron as Fe	mg/l	APHA 3125_24th_EDITION	0.267
12	Manganese as Mn	mg/l	APHA 3125_24th_EDITION	0.014
13	Selenium as Se	mg/l	APHA 3125_24th_EDITION	<0.001
14	Zinc as Zn	mg/l	APHA 3125_24th_EDITION	0.011
15	Cadmium as Cd	mg/l	APHA 3125_24th_EDITION	<0.0005
16	Lead as Pb	mg/l	APHA 3125_24th_EDITION	<0.0050
17	Mercury as Hg	mg/l	APHA 3125_24th_EDITION	<0.0002
18	Arsenic as As	mg/l	APHA 3125_24th_EDITION	<0.001
19	Nitrate Nitrogen as NO <sub>3</sub> -	mg/l	APHA 24th Edition 4500 E	5.4
20	Cyanide as CN-	mg/l	APHA 24th 4500 CN E	<0.02
21	Anionic Surface Active Agents	mg/l	APHA 24th Edition 5540 C	<0.02
22	Fluoride as F	mg/l	APHA 4500 FD-(SPADNS) 23rd Edition	<0.10
23	Bio Chemical Oxygen Demand 3 days 27°C	mg/l	IS 3025 (Part-26)	<2.0
24	Chemical Oxygen Demand at 150°C	mg/l	APHA 24th Edition 5220 B	8.8
25	Phenolics as C <sub>6</sub> H <sub>5</sub> OH	mg/l	APHA 24th 5530D	<0.001
26	Sulphate as SO <sub>4</sub>	mg/l	APHA 24th Ed 4500 SO <sub>4</sub> E	9.8

Name and Designation of Authorized Signatory

  
Dr. SUBBAREDDY MALLAMPATI  
Manager-Environment

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TEH-RENGALI  
SAMBALPUR-768232  
ODISHA,IND  
Ph: Mob:9437150569

Registration/Report Number: VLL/VLS/24/08011/007

Issue Date: 2024-09-03

Your Ref: 2024-08-16

and Date: 1720724

Lab Ref No.: -A

LIMS Report No.:

\*VLL/VLS/24/08011/007\*

Page 1 of 2

Kind Attn: Mr. Aloke Datta

**Customer Provided Details :**

<b>Sample Name:</b>	Surface Water-Bisidihi Village Talab-2		
<b>Batch Number:</b>	NA	<b>AR/Sample Code:</b>	NA
<b>Mfg. Date:</b>	NA	<b>Exp. Date:</b>	NA
<b>Test Required:</b>	Colour, Turbidity, pH, Electric Conductivity, COD, BOD, Dissolved Solid, Total Hardness, Calcium, Magnesium, Chloride, Fluoride Sulphate, Nitrate, Phenolic Compounds, Iron, Cyanide, Copper, Manganese, Mercury, Cadmium, Selenium, Arsenic, Lead, Zinc, Aluminium, Anionic Detergents,		
<b>Other Details if Any:</b>	NA		
<b>Lab Provided Details :</b>			
<b>Sample Received Date:</b>	2024-08-16	<b>Sample Registration Date:</b>	2024-08-16
<b>Analysis Starting Date:</b>	2024-08-16	<b>Analysis Completion Date:</b>	2024-08-23
<b>Quantity Received:</b>	1 Ltr Bottle X 2No's		
<b>Sampling Details:</b>	Sampling Date:09.08.2024		
<b>Other Details if Any:</b>	NA		

**Chemical  
Water****TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
1	Colour	Hazen	APHA 24th 2120-C	<1.0
2	Electrical Conductivity at 25 °C	µS/cm	APHA 24th 2510-B	361
3	pH Value at 25°C	--	APHA 24th Ed 4500 H+	7.4
4	Turbidity	NTU	APHA 24th Edition 2130 B	5.8
5	Total Dissolved Solids at 180°C	mg/l	APHA 24th Edition 2540 C	227

Name and Designation of Authorized Signatory

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Manager-Environment

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ODISHA,IND  
Ph: Mob:9437150569

Registration/Report Number: VLL/VLS/24/08011/007

Issue Date: 2024-09-03  
Your Ref:  
and Date: 2024-08-16  
Lab Ref No.: 1720724  
LIMS Report No.: -A

\*VLL/VLS/24/08011/007\*

Page 2 of 2

Kind Attn:Mr. Aloke Datta

**Chemical**  
**Water**

**TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
6	Calcium as Ca	mg/l	APHA 24th Ed 3500 Ca B	31.9
7	Chloride as Cl	mg/l	APHA 24th Ed 4500 Cl B	77.6
8	Magnesium as Mg	mg/l	APHA 24th Ed 3500 Mg B	11.9
9	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed 2340 C	129
10	Copper as Cu	mg/l	APHA 3125_24th_EDITION	<0.005
11	Iron as Fe	mg/l	APHA 3125_24th_EDITION	0.258
12	Manganese as Mn	mg/l	APHA 3125_24th_EDITION	0.010
13	Selenium as Se	mg/l	APHA 3125_24th_EDITION	<0.001
14	Zinc as Zn	mg/l	APHA 3125_24th_EDITION	0.009
15	Cadmium as Cd	mg/l	APHA 3125_24th_EDITION	<0.0005
16	Lead as Pb	mg/l	APHA 3125_24th_EDITION	<0.0050
17	Mercury as Hg	mg/l	APHA 3125_24th_EDITION	<0.0002
18	Arsenic as As	mg/l	APHA 3125_24th_EDITION	<0.001
19	Nitrate Nitrogen as NO <sub>3</sub> -	mg/l	APHA 24th Edition 4500 E	6.2
20	Cyanide as CN-	mg/l	APHA 24th 4500 CN E	<0.02
21	Anionic Surface Active Agents	mg/l	APHA 24th Edition 5540 C	<0.02
22	Fluoride as F	mg/l	APHA 4500 FD-(SPADNS) 23rd Edition	<0.10
23	Bio Chemical Oxygen Demand 3 days 27°C	mg/l	IS 3025 (Part-26)	<2.0
24	Chemical Oxygen Demand at 150°C	mg/l	APHA 24th Edition 5220 B	8.2
25	Phenolics as C <sub>6</sub> H <sub>5</sub> OH	mg/l	APHA 24th 5530D	<0.001
26	Sulphate as SO <sub>4</sub>	mg/l	APHA 24th Ed 4500 SO <sub>4</sub> E	10.1

Name and Designation of Authorized Signatory

Dr. SUBBAREDDY MALLAMPATI  
Manager-Environment

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TC-5418

Issued To:

BHUSHAN POWER & STEEL LIMITED  
THELKOLOI,  
TEH-RENGALI  
SAMBALPUR-768232  
ODISHA,IND  
Ph: Mob:9437150569

Registration/Report Number: **VLL/VLS/24/09061/001**

Issue Date: 2024-10-02

You Ref: 2024-09-17  
and Date:

Lab Ref No.: 1720724

LIMS Report No.: -A

**\*VLL/VLS/24/09061/001\***

Page 1 of 2

Kind Attn:Mr. Alope Datta

Customer Provided Details :			
Sample Name:	AAQM at Tailing Pond		
Manufacturer:	NA		
Batch Number:	NA	A.R. Number/Sample Code:	NA
Mfg. Date:	NA	Exp. Date:	NA
Test Required:	PM(10),PM(2.5),Pb,Ni,As,BaP,SO2,NOx,NH3,O3,CO,C6H6		
Other Details if Any:	NA		
Lab Provided Details :			
Sample Received Date:	2024-09-17	Sample Registration Date:	2024-09-17
Analysis Starting Date:	2024-09-17	Analysis Completion Date:	2024-09-25
Quantity Received:	2 Filter Papers X 2No's+Absorbing Soln 30 ml X 4No's + CO Tube X 1No		
Sampling Details:	Sampling Date & Time: 09.09.2024;10:30 am to 10.09.2024:10:30am.		
Other Details if Any:	NA		

**Chemical**  
**Atmospheric Pollution**

Name and Designation of Authorized Signatory

Dr. SUBBAREDDY MALLAMPATI  
Manager-Environment

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TC-5418

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Ph: Mob:9437150569

**Registration/Report Number: VLL/VLS/24/09061/001**

Issue Date: 2024-10-02

Your Ref:  
and Date: 2024-09-17

Lab Ref No.: 1720724

LIMS Report No.: -A

**\*VLL/VLS/24/09061/001\***

Page 2 of 2

Kind Attn:Mr. Alope Datta

TEST RESULTS

S. No.	Test Parameters	UOM	Method	Requirements	Results
1	Particulate Matter (PM10)	µg/m <sup>3</sup>	IS 5182 (PART-23) RA 2017	100	87.6
2	Particulate Matter (PM2.5)	µg/m <sup>3</sup>	IS 5182 (Part-24) 2019	60	42.5
3	Sulphurdioxide as SO <sub>2</sub>	µg/m <sup>3</sup>	IS 5182 (Part-2) RA 2017	80	26.3
4	Oxides of Nitrogen as NO <sub>2</sub>	µg/m <sup>3</sup>	IS 5182 (Part-6) RA 2017	80	28.1
5	Ozone as O <sub>3</sub>	µg/m <sup>3</sup>	IS 5182 (Part-9) RA 2019	100	13.4
6	Ammonia as NH <sub>3</sub>	µg/m <sup>3</sup>	APHA 401	400	17.7
7	Carbonmonoxide as CO	mg/m <sup>3</sup>	IS 5182 (Part-10) RA 2019	2.0	0.44
8	Lead as Pb	µg/m <sup>3</sup>	USEPA IO 3.4	1.0	<0.1
9	Nickel as Ni	ng/m <sup>3</sup>	USEPA IO 3.4	20.0	13.4
10	Arsenic as As	ng/m <sup>3</sup>	USEPA IO 3.4	6.0	<1.0
11	Benzene as C <sub>6</sub> H <sub>6</sub>	µg/m <sup>3</sup>	IS 5182 (Part-11) RA 2017	5.0	<2.0
12	Benzo(a)pyrene	ng/m <sup>3</sup>	IS 5182 (Part-12) RA 2019	1.0	<0.5

**Results relate only to the sample tested.****Remarks:** Requirements as per National Ambient Air Quality Standards:2009, Instrument used GC MS/MS & GC MS Head Space**- END OF THE TEST REPORT -**Name and Designation of Authorized Signatory

Dr. SUBBAREDDY MALLAMPATI  
Manager-Environment

**Issued To:**

BHUSHAN POWER & STEEL LIMITED  
THELKOLOI,  
TEH-RENGALI  
SAMBALPUR-768232  
ODISHA,IND  
Ph: Mob:9437150569

**Registration/Report Number: VLL/VLS/24/09061/002**

Issue Date: 2024-10-02  
Your Ref: 2024-09-17  
and Date: 1720724  
Lab Ref No.: -A  
LIMS Report No.:

**\*VLL/VLS/24/09061/002\***

Page 1 of 3

Kind Attn:Mr. Alope Datta

Customer Provided Details :			
Sample Name:	Ground Water-Tailing Pond Tube Well No-1		
Batch Number:	NA	AR/Sample Code:	NA
Mfg. Date:	NA	Exp. Date:	NA
Test Required:	Colour, Odour, Taste, Turbidity, pH, Dissolved Solid, Residual free chlorine, Total Hardness, Calcium, Magnesium, Alkalinity, Chloride, Fluoride, Sulphate, Nitrate, Chromium, Phenolic Compounds, Iron, Cyanide, Copper, Manganese, Mercury, Cadmium, Selenium, Arsenic, Lead, Zinc, Aluminium, Boron, Anionic Detergents, Mineral Oil.		
Other Details if Any:	NA		
Lab Provided Details :			
Sample Received Date:	2024-09-17	Sample Registration Date:	2024-09-17
Analysis Starting Date:	2024-09-17	Analysis Completion Date:	2024-09-25
Quantity Received:	1 Ltr Bottle X 2No's		
Sampling Details:	Sampling Date:09.09.2024		
Other Details if Any:	NA		

**Chemical Water****TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
1	Colour	Hazen	APHA 24th 2120-C	<1.0
2	Odour	--	IS 3025 (Part 5)	Agreeable
3	pH Value at 25°C	--	APHA 24th Ed 4500 H+	7.6
4	Taste	--	IS 3025 (Part 7) & IS 3025 (Part 8)	Agreeable
5	Turbidity	NTU	APHA 24th Edition 2130 B	<0.1
6	Total Dissolved Solids at 180°C	mg/l	APHA 24th Edition 2540 C	140

Name and Designation of Authorized Signatory

Dr. SUBBAREDDY MALLAMPATI  
Manager-Environment

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ODISHA,IND  
Ph: Mob:9437150569

Registration/Report Number: **VLL/VLS/24/09061/002**

Issue Date: 2024-10-02  
Your Ref:  
and Date: 2024-09-17  
Lab Ref No.: 1720724

LIMS Report No.: -A

**\*VLL/VLS/24/09061/002\***

Page 2 of 3

Kind Attn:Mr. Alope Datta

**Chemical  
Water**

**TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
7	Calcium as Ca	mg/l	APHA 24th Ed 3500 Ca B	17.2
8	Chloride as Cl	mg/l	APHA 24th Ed 4500 Cl B	21.8
9	Magnesium as Mg	mg/l	APHA 24th Ed 3500 Mg B	6.6
10	Total Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24th Ed 2320 B	66.0
11	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA23RD2340B	70.6
12	Aluminium as Al	mg/l	APHA 3125_24th_EDITION	<0.001
13	Boron as B	mg/l	APHA 3125_24th_EDITION	0.029
14	Copper as Cu	mg/l	APHA 3125_24th_EDITION	<0.005
15	Iron as Fe	mg/l	APHA 3125_24th_EDITION	0.238
16	Manganese as Mn	mg/l	APHA 3125_24th_EDITION	0.029
17	Selenium as Se	mg/l	APHA 3125_24th_EDITION	<0.001
18	Zinc as Zn	mg/l	APHA 3125_24th_EDITION	0.017
19	Cadmium as Cd	mg/l	APHA 3125_24th_EDITION	<0.0005
20	Lead as Pb	mg/l	APHA 3125_24th_EDITION	<0.0050
21	Mercury as Hg	mg/l	APHA 3125_24th_EDITION	<0.0002
22	Arsenic as As	mg/l	APHA 3125_24th_EDITION	<0.001
23	Chromium as Cr	mg/l	APHA 3125_24th_EDITION	<0.005
24	Cyanide as CN-	mg/l	APHA 24th 4500 CN E	<0.02
25	Anionic Surface Active Agents	mg/l	APHA 24th Edition 5540 C	<0.02
26	Fluoride as F	mg/l	APHA 4500 FD-(SPADNS) 23rd Edition	<0.10
27	Free Residual Chlorine	mg/l	IS 3025 (Part-26)	<0.05
28	Nitrate as NO <sub>3</sub>	mg/l	APHA 4500-NO3B- 23rd Edition	1.98
29	Phenolics as C <sub>6</sub> H <sub>5</sub> OH	mg/l	APHA 24th 5530D	<0.001
30	Sulphate as SO <sub>4</sub>	mg/l	APHA 24th Ed 4500 SO <sub>4</sub> E	16.4

Name and Designation of Authorized Signatory

Dr. SUBBAREDDY MALLAMPATI  
Manager-Environment

**Note : This report is subject to the terms and conditions mentioned at the end of the report.**

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**Issued To:**

BHUSHAN POWER & STEEL LIMITED  
THELKOLOI,  
TEH-RENGALI  
SAMBALPUR-768232  
ODISHA,IND  
Ph: Mob:9437150569

**Registration/Report Number: VLL/VLS/24/09061/002**

Issue Date: 2024-10-02  
Your Ref: and Date: 2024-09-17  
Lab Ref No.: 1720724  
LIMS Report No.: -A

**\*VLL/VLS/24/09061/002\***

Page 3 of 3

Kind Attn:Mr. Aloke Datta

**Chemical**  
**Water**

**TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
31	Mineral Oil	mg/l	IS: 3025 PART 39 : 2021	<0.01

Results relate only to the sample tested.

Remarks:

- END OF THE TEST REPORT -

Name and Designation of Authorized Signatory

Dr. SUBBAREDDY MALLAMPATI  
Manager-Environment

**Note : This report is subject to the terms and conditions mentioned at the end of the report.**

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SAMBALPUR-768232  
ODISHA,IND  
Ph: Mob:9437150569

Registration/Report Number: **VLL/VLS/24/09061/003**

Issue Date: 2024-10-02  
Your Ref: 2024-09-17  
and Date: 1720724  
Lab Ref No.: -A  
LIMS Report No.:

**\*VLL/VLS/24/09061/003\***

Page 1 of 3

Kind Attn:Mr. Aloke Datta

Customer Provided Details :			
Sample Name:	Ground Water-Tailing Pond Tube Well No-2		
Batch Number:	NA	AR/Sample Code:	NA
Mfg. Date:	NA	Exp. Date:	NA
Test Required:	Colour, Odour, Taste, Turbidity, pH, Dissolved Solid, Residual free chlorine, Total Hardness, Calcium, Magnesium, Alkalinity, Chloride, Fluoride, Sulphate, Nitrate, Chromium, Phenolic Compounds, Iron, Cyanide, Copper, Manganese, Mercury, Cadmium, Selenium, Arsenic, Lead, Zinc, Aluminium, Boron, Anionic Detergents, Mineral Oil.		
Other Details if Any:	NA		
Lab Provided Details :			
Sample Received Date:	2024-09-17	Sample Registration Date:	2024-09-17
Analysis Starting Date:	2024-09-17	Analysis Completion Date:	2024-09-25
Quantity Received:	1 Ltr Bottle X 2No's		
Sampling Details:	Sampling Date:09.09.2024		
Other Details if Any:	NA		

**Chemical  
Water**

**TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
1	Colour	Hazen	APHA 24th 2120-C	<1.0
2	Odour	--	IS 3025 (Part 5)	Agreeable
3	pH Value at 25°C	--	APHA 24th Ed 4500 H+	7.6
4	Taste	--	IS 3025 (Part 7) & IS 3025 (Part 8)	Agreeable
5	Turbidity	NTU	APHA 24th Edition 2130 B	<0.1
6	Total Dissolved Solids at 180°C	mg/l	APHA 24th Edition 2540 C	256

Name and Designation of Authorized Signatory

  
Dr. SUBBAREDDY MALLAMPATI  
Manager-Environment

**Note : This report is subject to the terms and conditions mentioned at the end of the report.**

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SAMBALPUR-768232  
ODISHA,IND  
Ph: Mob:9437150569

Registration/Report Number: **VLL/VLS/24/09061/003**

Issue Date: 2024-10-02  
Your Ref: 2024-09-17  
and Date: 1720724  
Lab Ref No.: -A  
LIMS Report No.:

**\*VLL/VLS/24/09061/003\***

Page 2 of 3

Kind Attn:Mr. Aloke Datta

**Chemical  
Water**

**TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
7	Calcium as Ca	mg/l	APHA 24th Ed 3500 Ca B	37.6
8	Chloride as Cl	mg/l	APHA 24th Ed 4500 Cl B	45.5
9	Magnesium as Mg	mg/l	APHA 24th Ed 3500 Mg B	12.2
10	Total Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24th Ed 2320 B	147
11	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA23RD2340B	145
12	Aluminium as Al	mg/l	APHA 3125_24th_EDITION	<0.001
13	Boron as B	mg/l	APHA 3125_24th_EDITION	0.016
14	Copper as Cu	mg/l	APHA 3125_24th_EDITION	<0.005
15	Iron as Fe	mg/l	APHA 3125_24th_EDITION	0.446
16	Manganese as Mn	mg/l	APHA 3125_24th_EDITION	0.037
17	Selenium as Se	mg/l	APHA 3125_24th_EDITION	<0.001
18	Zinc as Zn	mg/l	APHA 3125_24th_EDITION	0.028
19	Cadmium as Cd	mg/l	APHA 3125_24th_EDITION	<0.0005
20	Lead as Pb	mg/l	APHA 3125_24th_EDITION	<0.0050
21	Mercury as Hg	mg/l	APHA 3125_24th_EDITION	<0.0002
22	Arsenic as As	mg/l	APHA 3125_24th_EDITION	<0.001
23	Chromium as Cr	mg/l	APHA 3125_24th_EDITION	<0.005
24	Cyanide as CN-	mg/l	APHA 24th 4500 CN E	<0.02
25	Anionic Surface Active Agents	mg/l	APHA 24th Edition 5540 C	<0.02
26	Fluoride as F	mg/l	APHA 4500 FD-(SPADNS) 23rd Edition	<0.10
27	Free Residual Chlorine	mg/l	IS 3025 (Part-26)	<0.05
28	Nitrate as NO <sub>3</sub>	mg/l	APHA 4500-NO3B- 23rd Edition	2.33
29	Phenolics as C <sub>6</sub> H <sub>5</sub> OH	mg/l	APHA 24th 5530D	<0.001
30	Sulphate as SO <sub>4</sub>	mg/l	APHA 24th Ed 4500 SO4E	18.8

Name and Designation of Authorized Signatory

Dr. SUBBAREDDY MALLAMPATI  
Manager-Environment

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SAMBALPUR-768232  
ODISHA, IND  
Ph: Mob:9437150569

Registration/Report Number: VLL/VLS/24/09061/003

Issue Date: 2024-10-02  
Your Ref: 2024-09-17  
and Date: 1720724  
Lab Ref No.: -A  
LIMS Report No.:

\*VLL/VLS/24/09061/003\*

Page 3 of 3

Kind Attn: Mr. Aloke Datta

**Chemical**  
**Water**

**TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
31	Mineral Oil	mg/l	IS: 3025 PART 39 : 2021	<0.01

Results relate only to the sample tested.

Remarks:

- END OF THE TEST REPORT -

Name and Designation of Authorized Signatory

Dr. SUBBAREDDY MALLAMPATI  
Manager-Environment

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Ph: Mob:9437150569

Registration/Report Number: **VLL/VLS/24/09061/004**

Issue Date: 2024-10-02

Your Ref: 2024-09-17  
and Date:

Lab Ref No.: 1720724

LIMS Report No.: -A

**\*VLL/VLS/24/09061/004\***

Page 1 of 3

Kind Attn: Mr. Aloke Datta

Customer Provided Details :			
Sample Name:	Ground Water-Tailing Pond Old Bore Well		
Batch Number:	NA	AR/Sample Code:	NA
Mfg. Date:	NA	Exp. Date:	NA
Test Required:	Colour, Odour, Taste, Turbidity, pH, Dissolved Solid, Residual free chlorine, Total Hardness, Calcium, Magnesium, Alkalinity, Chloride, Fluoride, Sulphate, Nitrate, Chromium, Phenolic Compounds, Iron, Cyanide, Copper, Manganese, Mercury, Cadmium, Selenium, Arsenic, Lead, Zinc, Aluminium, Boron, Anionic Detergents, Mineral Oil.		
Other Details if Any:	NA		
Lab Provided Details :			
Sample Received Date:	2024-09-17	Sample Registration Date:	2024-09-17
Analysis Starting Date:	2024-09-17	Analysis Completion Date:	2024-09-25
Quantity Received:	1 Ltr Bottle X 2No's		
Sampling Details:	Sampling Date:09.09.2024		
Other Details if Any:	NA		

**Chemical  
Water****TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
1	Colour	Hazen	APHA 24th 2120-C	<1.0
2	Odour	--	IS 3025 (Part 5)	Agreeable
3	pH Value at 25°C	--	APHA 24th Ed 4500 H+	7.6
4	Taste	--	IS 3025 (Part 7) & IS 3025 (Part 8)	Agreeable
5	Turbidity	NTU	APHA 24th Edition 2130 B	<0.1
6	Total Dissolved Solids at 180°C	mg/l	APHA 24th Edition 2540 C	292

Name and Designation of Authorized Signatory

  
 Dr. SUBBAREDDY MALLAMPATI  
 Manager-Environment
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ODISHA,IND  
Ph: Mob:9437150569

Registration/Report Number: VLL/VLS/24/09061/004

Issue Date: 2024-10-02  
Your Ref: 2024-09-17  
and Date: 1720724  
Lab Ref No.: -A  
LIMS Report No.:

**\*VLL/VLS/24/09061/004\***

Page 2 of 3

Kind Attn:Mr. Aloke Datta

**Chemical  
Water****TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
7	Calcium as Ca	mg/l	APHA 24th Ed 3500 Ca B	36.1
8	Chloride as Cl	mg/l	APHA 24th Ed 4500 Cl B	47.5
9	Magnesium as Mg	mg/l	APHA 24th Ed 3500 Mg B	14.1
10	Total Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24th Ed 2320 B	151
11	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA23RD2340B	149
12	Aluminium as Al	mg/l	APHA 3125_24th_EDITION	<0.001
13	Boron as B	mg/l	APHA 3125_24th_EDITION	0.022
14	Copper as Cu	mg/l	APHA 3125_24th_EDITION	<0.005
15	Iron as Fe	mg/l	APHA 3125_24th_EDITION	0.107
16	Manganese as Mn	mg/l	APHA 3125_24th_EDITION	0.038
17	Selenium as Se	mg/l	APHA 3125_24th_EDITION	<0.001
18	Zinc as Zn	mg/l	APHA 3125_24th_EDITION	0.029
19	Cadmium as Cd	mg/l	APHA 3125_24th_EDITION	<0.0005
20	Lead as Pb	mg/l	APHA 3125_24th_EDITION	<0.0050
21	Mercury as Hg	mg/l	APHA 3125_24th_EDITION	<0.0002
22	Arsenic as As	mg/l	APHA 3125_24th_EDITION	<0.001
23	Chromium as Cr	mg/l	APHA 3125_24th_EDITION	<0.005
24	Cyanide as CN-	mg/l	APHA 24th 4500 CN E	<0.02
25	Anionic Surface Active Agents	mg/l	APHA 24th Edition 5540 C	<0.02
26	Fluoride as F	mg/l	APHA 4500 FD-(SPADNS) 23rd Edition	<0.10
27	Free Residual Chlorine	mg/l	IS 3025 (Part-26)	<0.05
28	Nitrate as NO <sub>3</sub>	mg/l	APHA 4500-NO3B- 23rd Edition	2.87
29	Phenolics as C <sub>6</sub> H <sub>5</sub> OH	mg/l	APHA 24th 5530D	<0.001
30	Sulphate as SO <sub>4</sub>	mg/l	APHA 24th Ed 4500 SO <sub>4</sub> E	21.4

Name and Designation of Authorized Signatory

  
Dr. SUBBAREDDY MALLAMPATI  
Manager-Environment

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THELKOLOI,  
TEH-RENGALI  
SAMBALPUR-768232  
ODISHA,IND  
Ph: Mob:9437150569

Registration/Report Number: **VLL/VLS/24/09061/004**

Issue Date: 2024-10-02  
Your Ref: 2024-09-17  
and Date: 1720724  
Lab Ref No.: -A  
LIMS Report No.:

**\*VLL/VLS/24/09061/004\***

Page 3 of 3

Kind Attn:Mr. Aloke Datta

**Chemical  
Water**

**TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
31	Mineral Oil	mg/l	IS: 3025 PART 39 : 2021	<0.01

Results relate only to the sample tested.

Remarks:

- END OF THE TEST REPORT -

Name and Designation of Authorized Signatory

Dr. SUBBAREDDY MALLAMPATI  
Manager-Environment

**Note : This report is subject to the terms and conditions mentioned at the end of the report.**

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Ph: Mob:9437150569

**Registration/Report Number: VLL/VLS/24/09061/005**

Issue Date: 2024-10-02  
Your Ref: and Date: 2024-09-17  
Lab Ref No.: 1720724  
LIMS Report No.: -A

**\*VLL/VLS/24/09061/005\***

Page 1 of 3

Kind Attn:Mr. Alope Datta

Customer Provided Details :			
Sample Name:	Ground Water-Bisidihi Village Tube Well N 21007'06" E-84004'12"		
Batch Number:	NA	AR/Sample Code:	NA
Mfg. Date:	NA	Exp. Date:	NA
Test Required:	Colour, Odour, Taste, Turbidity, pH, Dissolved Solid, Residual free chlorine, Total Hardness, Calcium, Magnesium, Alkalinity, Chloride, Fluoride, Sulphate, Nitrate, Chromium, Phenolic Compounds, Iron, Cyanide, Copper, Manganese, Mercury, Cadmium, Selenium, Arsenic, Lead, Zinc, Aluminium, Boron, Anionic Detergents, Mineral Oil.		
Other Details if Any:	NA		
Lab Provided Details :			
Sample Received Date:	2024-09-17	Sample Registration Date:	2024-09-17
Analysis Starting Date:	2024-09-17	Analysis Completion Date:	2024-09-25
Quantity Received:	1 Ltr Bottle X 2No's		
Sampling Details:	Sampling Date:09.09.2024		
Other Details if Any:	NA		

**Chemical  
Water**

**TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
1	Colour	Hazen	APHA 24th 2120-C	<1.0
2	Odour	--	IS 3025 (Part 5)	Agreeable
3	pH Value at 25°C	--	APHA 24th Ed 4500 H+	7.4
4	Taste	--	IS 3025 (Part 7) & IS 3025 (Part 8)	Agreeable
5	Turbidity	NTU	APHA 24th Edition 2130 B	<0.1
6	Total Dissolved Solids at 180°C	mg/l	APHA 24th Edition 2540 C	192

Name and Designation of Authorized Signatory

  
Dr. SUBBAREDDY MALLAMPATI  
Manager-Environment

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ODISHA,IND  
Ph: Mob:9437150569

Registration/Report Number: **VLL/VLS/24/09061/005**

Issue Date: 2024-10-02

Your Ref: 2024-09-17  
and Date:

Lab Ref No.: 1720724

LIMS Report No.: -A

**\*VLL/VLS/24/09061/005\***

Page 2 of 3

Kind Attn:Mr. Aloke Datta

**Chemical  
Water****TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
7	Calcium as Ca	mg/l	APHA 24th Ed 3500 Ca B	31.4
8	Chloride as Cl	mg/l	APHA 24th Ed 4500 Cl B	33.6
9	Magnesium as Mg	mg/l	APHA 24th Ed 3500 Mg B	11.3
10	Total Alkalinity as CaCO <sub>3</sub>	mg/l	APHA 24th Ed 2320 B	97
11	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA23RD2340B	125
12	Aluminium as Al	mg/l	APHA 3125_24th_EDITION	<0.001
13	Boron as B	mg/l	APHA 3125_24th_EDITION	0.028
14	Copper as Cu	mg/l	APHA 3125_24th_EDITION	<0.005
15	Iron as Fe	mg/l	APHA 3125_24th_EDITION	0.117
16	Manganese as Mn	mg/l	APHA 3125_24th_EDITION	0.042
17	Selenium as Se	mg/l	APHA 3125_24th_EDITION	<0.001
18	Zinc as Zn	mg/l	APHA 3125_24th_EDITION	0.031
19	Cadmium as Cd	mg/l	APHA 3125_24th_EDITION	<0.0005
20	Lead as Pb	mg/l	APHA 3125_24th_EDITION	<0.0050
21	Mercury as Hg	mg/l	APHA 3125_24th_EDITION	<0.0002
22	Arsenic as As	mg/l	APHA 3125_24th_EDITION	<0.001
23	Chromium as Cr	mg/l	APHA 3125_24th_EDITION	<0.005
24	Cyanide as CN-	mg/l	APHA 24th 4500 CN E	<0.02
25	Anionic Surface Active Agents	mg/l	APHA 24th Edition 5540 C	<0.02
26	Fluoride as F	mg/l	APHA 4500 FD-(SPADNS) 23rd Edition	<0.10
27	Free Residual Chlorine	mg/l	IS 3025 (Part-26)	<0.05
28	Nitrate as NO <sub>3</sub>	mg/l	APHA 4500-NO3B- 23rd Edition	3.41
29	Phenolics as C <sub>6</sub> H <sub>5</sub> OH	mg/l	APHA 24th 5530D	<0.001
30	Sulphate as SO <sub>4</sub>	mg/l	APHA 24th Ed 4500 SO <sub>4</sub> E	13.7

Name and Designation of Authorized Signatory

  
 Dr. SUBBAREDDY MALLAMPATI  
 Manager-Environment
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SAMBALPUR-768232  
ODISHA,IND  
Ph: Mob:9437150569

Registration/Report Number: VLL/VLS/24/09061/005

Issue Date: 2024-10-02  
Your Ref: 2024-09-17  
and Date: 1720724  
Lab Ref No.: -A  
LIMS Report No.:

\*VLL/VLS/24/09061/005\*

Page 3 of 3

Kind Attn:Mr. Aloke Datta

**Chemical**  
**Water**

**TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
31	Mineral Oil	mg/l	IS: 3025 PART 39 : 2021	<0.01

Results relate only to the sample tested.

Remarks:

- END OF THE TEST REPORT -

Name and Designation of Authorized Signatory

Dr. SUBBAREDDY MALLAMPATI  
Manager-Environment

**Note : This report is subject to the terms and conditions mentioned at the end of the report.**

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ODISHA,IND  
Ph: Mob:9437150569

Registration/Report Number: VLL/VLS/24/09061/006

Issue Date: 2024-10-02

Your Ref:

anc Date: 2024-09-17

Lab Ref No.: 1720724

LIMS Report No.: -A

\*VLL/VLS/24/09061/006\*

Page 1 of 2

Kind Attn: Mr. Alope Datta

**Customer Provided Details :**

<b>Sample Name:</b>	Surface Water-Bisidihi Village Talab-1		
<b>Batch Number:</b>	NA	<b>AR/Sample Code:</b>	NA
<b>Mfg. Date:</b>	NA	<b>Exp. Date:</b>	NA
<b>Test Required:</b>	Colour, Turbidity, pH, Electric Conductivity, COD, BOD, Dissolved Solid, Total Hardness, Calcium, Magnesium, Chloride, Fluoride, Sulphate, Nitrate, Phenolic Compounds, Iron, Cyanide, Copper, Manganese, Mercury, Cadmium, Selenium, Arsenic, Lead, Zinc, Aluminium, Anionic Detergents,		
<b>Other Details if Any:</b>	NA		
<b>Lab Provided Details :</b>			
<b>Sample Received Date:</b>	2024-09-17	<b>Sample Registration Date:</b>	2024-09-17
<b>Analysis Starting Date:</b>	2024-09-17	<b>Analysis Completion Date:</b>	2024-09-25
<b>Quantity Received:</b>	1 Ltr Bottle X 2No's		
<b>Sampling Details:</b>	Sampling Date: 09.09.2024		
<b>Other Details if Any:</b>	NA		

**Chemical****Water****TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
1	Colour	Hazen	APHA 24th 2120-C	<1.0
2	Electrical Conductivity at 25 °C	µS/cm	APHA 24th 2510-B	229
3	pH Value at 25°C	--	APHA 24th Ed 4500 H+	7.1
4	Turbidity	NTU	APHA 24th Edition 2130 B	18.7
5	Total Dissolved Solids at 180°C	mg/l	APHA 24th Edition 2540 C	146

Name and Designation of Authorized Signatory

Dr. SUBBAREDDY MALLAMPATI  
Manager-Environment

**Note : This report is subject to the terms and conditions mentioned at the end of the report.**

Vimta Labs Ltd., Life Sciences Campus, Plct No. 5, MN Park (Formerly Alexandria Knowledge Park),

Genome Valley, Shamirpet, Medchal - Malkajgiri - 500 101, Hyderabad, Telangana, India. Phone : +91-40-6740 4040



TC-5418

Issued To:

BHUSHAN POWER & STEEL LIMITED  
THELKOLOI,  
TEH-RENGALI  
SAMBALPUR-768232  
ODISHA,IND  
Ph: Mob:9437150569

Registration/Report Number: VLL/VLS/24/09061/006

Issue Date: 2024-10-02

Your Ref:  
and Date: 2024-09-17

Lab Ref No.: 1720724

LIMS Report No.: -A

**\*VLL/VLS/24/09061/006\***

Page 2 of 2

Kind Attn:Mr. Aloke Datta

**Chemical****Water****TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
6	Calcium as Ca	mg/l	APHA 24th Ed 3500 Ca B	17.2
7	Chloride as Cl	mg/l	APHA 24th Ed 4500 Cl B	29.7
8	Magnesium as Mg	mg/l	APHA 24th Ed 3500 Mg B	7.5
9	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed 2340 C	74.5
10	Copper as Cu	mg/l	APHA 3125_24th_EDITION	<0.005
11	Iron as Fe	mg/l	APHA 3125_24th_EDITION	0.218
12	Manganese as Mn	mg/l	APHA 3125_24th_EDITION	0.010
13	Selenium as Se	mg/l	APHA 3125_24th_EDITION	<0.001
14	Zinc as Zn	mg/l	APHA 3125_24th_EDITION	0.017
15	Cadmium as Cd	mg/l	APHA 3125_24th_EDITION	<0.0005
16	Lead as Pb	mg/l	APHA 3125_24th_EDITION	<0.0050
17	Mercury as Hg	mg/l	APHA 3125_24th_EDITION	<0.0002
18	Arsenic as As	mg/l	APHA 3125_24th_EDITION	<0.001
19	Nitrate Nitrogen as NO <sub>3</sub> -	mg/l	APHA 24th Edition 4500 E	6.2
20	Cyanide as CN-	mg/l	APHA 24th 4500 CN E	<0.02
21	Anionic Surface Active Agents	mg/l	APHA 24th Edition 5540 C	<0.02
22	Fluoride as F	mg/l	APHA 4500 FD-(SPADNS) 23rd Edition	<0.10
23	Bio Chemical Oxygen Demand 3 days 27°C	mg/l	IS 3025 (Part-26)	<2.0
24	Chemical Oxygen Demand at 150°C	mg/l	APHA 24th Edition 5220 B	7.8
25	Phenolics as C <sub>6</sub> H <sub>5</sub> OH	mg/l	APHA 24th 5530D	<0.001
26	Sulphate as SO <sub>4</sub>	mg/l	APHA 24th Ed 4500 SO <sub>4</sub> E	7.6

Name and Designation of Authorized Signatory

  
 Dr. SUBBAREDDY MALLAMPATI  
 Manager-Environment
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SAMBALPUR-768232  
ODISHA,IND  
Ph: Mob:9437150569

Registration/Report Number: VLL/VLS/24/09061/007

Issue Date: 2024-10-02  
Your Ref: and Date: 2024-09-17  
Lab Ref No.: 1720724  
LIMS Report No.: -A

\*VLL/VLS/24/09061/007\*

Page 1 of 2

Kind Attn:Mr. Aloke Datta

Customer Provided Details :			
Sample Name:	Surface Water-Bisidhi Village Talab-2		
Batch Number:	NA	AR/Sample Code:	NA
Mfg. Date:	NA	Exp. Date:	NA
Test Required:	Colour, Turbidity, pH, Electric Conductivity, COD, BOD, Dissolved Solid, Total Hardness, Calcium, Magnesium, Chloride, Fluoride, Sulphate, Nitrate, Phenolic Compounds, Iron, Cyanide, Copper, Manganese, Mercury, Cadmium, Selenium, Arsenic, Lead, Zinc, Aluminium, Anionic Detergents,		
Other Details if Any:	NA		
Lab Provided Details :			
Sample Received Date:	2024-09-17	Sample Registration Date:	2024-09-17
Analysis Starting Date:	2024-09-17	Analysis Completion Date:	2024-09-25
Quantity Received:	1 Ltr Bottle X 2No's		
Sampling Details:	Sampling Date:09.09.2024		
Other Details if Any:	NA		

**Chemical  
Water****TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
1	Colour	Hazen	APHA 24th 2120-C	<1.0
2	Electrical Conductivity at 25 °C	µS/cm	APHA 24th 2510-B	181
3	pH Value at 25°C	--	APHA 24th Ed 4500 H+	7.3
4	Turbidity	NTU	APHA 24th Edition 2130 B	20.6
5	Total Dissolved Solids at 180°C	mg/l	APHA 24th Edition 2540 C	115

Name and Designation of Authorized Signatory

  
Dr. SUBBAREDDY MALLAMPATI  
Manager-Environment

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**\*VLL/VLS/24/09061/007\***

Page 2 of 2

Kind Attn:Mr. Alope Datta

**Chemical  
Water****TEST RESULTS**

S. No.	Test Parameters	UOM	Method	Results
6	Calcium as Ca	mg/l	APHA 24th Ed 3500 Ca B	17.2
7	Chloride as Cl	mg/l	APHA 24th Ed 4500 Cl B	23.8
8	Magnesium as Mg	mg/l	APHA 24th Ed 3500 Mg B	5.6
9	Total Hardness as CaCO <sub>3</sub>	mg/l	APHA 24 <sup>th</sup> Ed 2340 C	66.6
10	Copper as Cu	mg/l	APHA 3125_24th_EDITION	<0.005
11	Iron as Fe	mg/l	APHA 3125_24th_EDITION	0.238
12	Manganese as Mn	mg/l	APHA 3125_24th_EDITION	0.014
13	Selenium as Se	mg/l	APHA 3125_24th_EDITION	<0.001
14	Zinc as Zn	mg/l	APHA 3125_24th_EDITION	0.013
15	Cadmium as Cd	mg/l	APHA 3125_24th_EDIT ON	<0.0005
16	Lead as Pb	mg/l	APHA 3125_24th_EDIT-ON	<0.0050
17	Mercury as Hg	mg/l	APHA 3125_24th_EDIT ON	<0.0002
18	Arsenic as As	mg/l	APHA 3125_24th_EDIT:ON	<0.001
19	Nitrate Nitrogen as NO <sub>3</sub> -	mg/l	APHA 24th Edition 4500 E	6.9
20	Cyanide as CN-	mg/l	APHA 24th 4500 CN E	<0.02
21	Anionic Surface Active Agents	mg/l	APHA 24th Edition 5540 C	<0.02
22	Fluoride as F	mg/l	APHA 4500 FD-(SPADNS) 23rd Edition	<0.10
23	Bio Chemical Oxygen Demand 3 days 27°C	mg/l	IS 3025 (Part-26)	<2.0
24	Chemical Oxygen Demand at 150°C	mg/l	APHA 24th Edition 5220 B	8.2
25	Phenolics as C <sub>6</sub> H <sub>5</sub> OH	mg/l	APHA 24th 5530D	<0.001
26	Sulphate as SO <sub>4</sub>	mg/l	APHA 24th Ed 4500 SC4E	5.5

Name and Designation of Authorized Signatory

Dr. SUBBAREDDY MALLAMPATI  
Manager-Environment

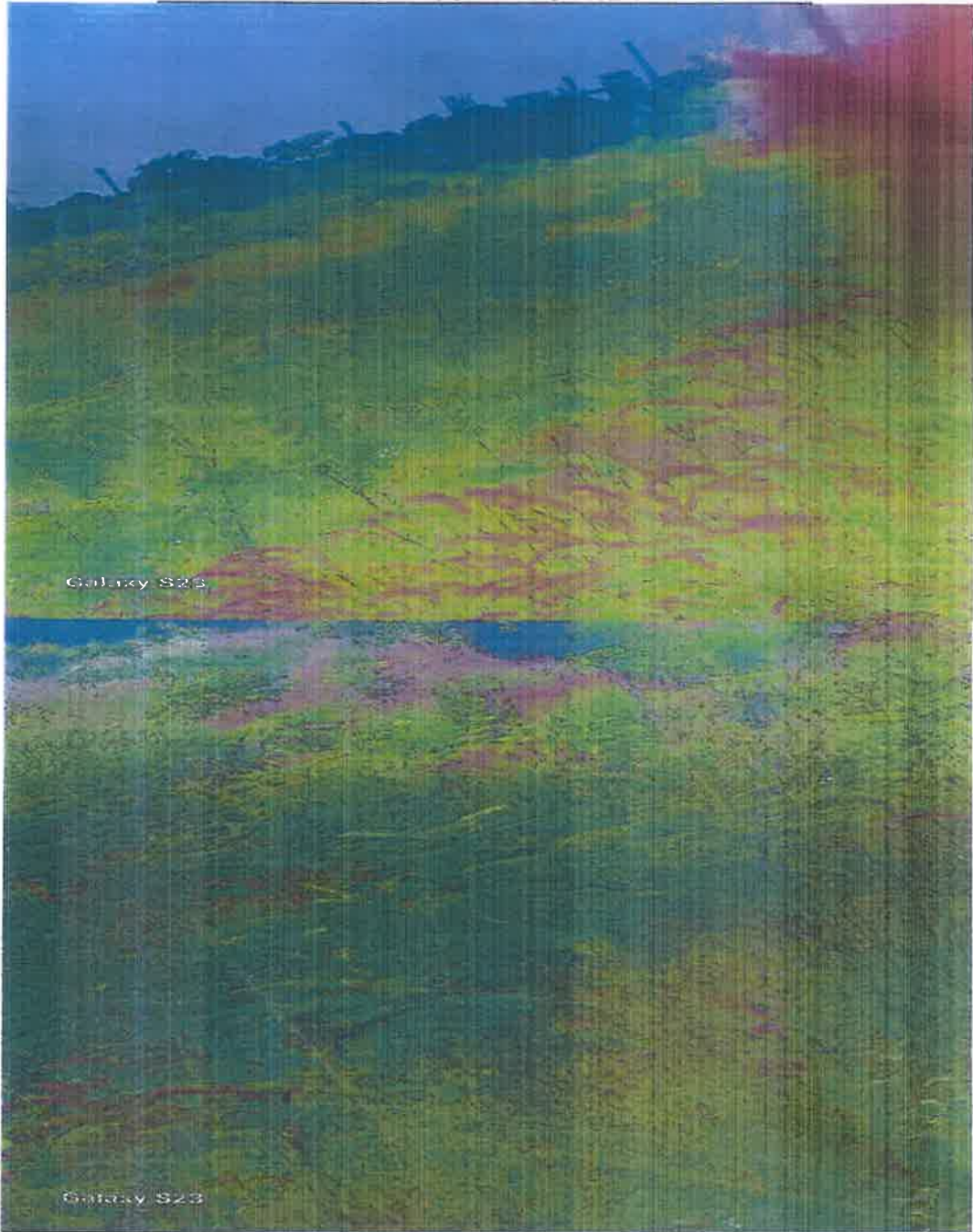
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**Annexure-4**

**NEW PLANTATION ADJACENT TO THE TAILING POND**





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**Annexure-6**

**SITE VISIT BY VSSUT TECHNICAL TEAM**

