U/C

vedanta
transforming for good

VL/MoEF/006/2023-008
May 31, 2023

The Director
I.A. Division
Ministry of Environment, Forests & Climate Change
Indira Paryavaran Bhawan
Jor Bagh Road
New Delhi – 110 003

Sub.: **Submission of Half Yearly Compliance Report and Environment Quality data of 2400 MW Thermal Power Plant of Vedanta Limited, Jharsuguda for the period from October 2022 to March 2023**

Ref.: **1. Environment Clearance letter No. J-13011/3/2007-IA.II (T) dated 07-12-2007**

Dear Sir,

This has reference to the above subject and cited reference. As per the provision of Environment Clearance and EIA notification 2006, we are herewith submitting the half yearly compliance status for the conditions of Environment Clearance in **Annexure-1,** for our 2400 MW Thermal Power Plant of Vedanta Limited, Jharsuguda. The environment quality data including stack emission, ambient air quality, noise, water (surface, ground and industrial effluent) and soil analysis in and around the plant premises is also submitted in **Annexure 2** for your records.

Thanking you,

Yours faithfully,
For Vedanta Limited

Dr. Amit Kumar Tyagi
Head- Environment

Encl.: Annexure 1& 2
Copies to:

1. The Additional Director, Ministry of Environment, Forests & Climate Change, Regional Office, Odisha, Bhubaneswar
2. The Member Secretary, Central Pollution Control Board, New Delhi
3. The Member Secretary, State Pollution Control Board, Odisha, Bhubaneswar

GOVT. OF INDIA
MoEF & CC Integrated R.O.
Bhubaneswar-751023
01 JUN 2023
RECEIVED

VEDANTA LIMITED, JHARSUGUDA
Vill : Bhurkamunda, P. O. : Kalimandir, Dist. : Jharsuguda (Odisha) : 768202
T +91-664 566 6000 F +91-664 566 6267 www.vedantalimited.com

REGISTERED OFFICE: Vedanta Limited, 1st Floor, 'C' wing, Unit 103, Corporate Avenue, Atul Projects. Chakala. Andheri (East), Mumbai 400093, Maharashtra, India.
CIN: L13209MH1965PLC291394

O/C

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1. The Additional Director, Ministry of Environment, Forests & Climate Change, Regional Office, Odisha, Bhubaneswar
2. The Member Secretary, Central Pollution Control Board, New Delhi
3. The Member Secretary, State Pollution Control Board, Odisha, Bhubaneswar

Received
31/5/23

31 MAY 2023
S.P.C.B. BOARD
BHUBANESWAR

VEDANTA LIMITED, JHARSUGUDA
Vill : Bhurkamunda, P. O. : Kalimandir, Dist. : Jharsuguda (Odisha) : 768202
T +91-664 566 6000 F +91-664 566 6267 www.vedantalimited.com

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CIN: L13209MH1965PLC291394

EC Conditions Six Monthly Compliance Report

(by Project Proponent)

Proposal No : J-13011/03/2007-IA.II (T)

1. Name of the Entity / Corporate Office :

File No. :	J-13011/03/2007-IA.II (T)	Proposal Name :	2400 MW Coal based Power Project at Brundamal, Jharsuguda, Orissa by M/s Sterlite Energy Ltd - Environment Clearance regarding
Date Of EC. :	07 Dec 2007	EC Letter :	
Name of the Entity / Corporate Office :	VEDANTA LIMITED	Email Address :	aeerdwsd.krkl@gmail.com
Address :	rural water supply and sanitisation department sub-division karkala	Mobile No :	9482669576

2. Proponent Details :

Proponent Name :	Anjan	Designation :	COO - Power
Telephone No :	6645-666794	Mobile No :	+91 9937535890
Fax No :	6645-	Email Address :	envvljsgtpp@vedanta.co.in
Website :		Pin Code :	768202
State :	Orissa	District :	Jharsuguda
Village/Town :			

3. Compliance Letter/Report (Proponent):

Compliance Period :	2023 / 01 Jun (01 Oct - 31 March)	Compliance Submission Date :	31 May 2023 10:08:33:557
Remarks :			
Site Visit Report :	N/A	Site Visit Date :	N/A
ATR Report :	N/A	ATR Date :	N/A
Additional Attachment (If Any) :	N/A	Additional Remarks (If Any) :	

4. Summary Status of Compliance :

Total Condition :	58		
Complied :	57	Being Complied :	1
Not Complied :	0	Partially Complied :	0
Agreed to Comply :	0		

5. Details of Production and Project Area :

Date of Commencement of Project/Activity :	12 Jun 2010	Project Area as Per EC Granted (In Case of Mine Lease):	0
Actual Project Area(In Case of Mine Lease):	0		

PRODUCTION CAPACITY :

S.No	Name of the Product	Units	As per EC granted	Production during last financial year
1	Thermal Power Plant	MW	2400	13384080 MWH
2	Thermal Power Plant	MW	2400	12823590

6. Specific Conditions (Proponent) :

S.No	Condition	Self Declaration	Remarks / Reason	Supporting Documents	Observation of IRO
1	Closed Circuit Cooling system with cooling towers shall be provided.	Complied	Closed Circuit Cooling system with cooling towers (NDCT) have been provided and an optimum level of COC being maintained. For each unit, one number of cooling tower of 150 meter ht. has been provided.	N/A	
2	For controlling fugitive dust, regular sprinkling of water in the coal handling area and other vulnerable areas of the plant shall be ensured.	Complied	Necessary dust extraction and dust suppression system has been provided in truck tippler, track hopper, belt conveyor along with rain guns and mist cannon in coal yard for controlling fugitive dust.	N/A	
3	The total land requirement shall not exceed 839.50 acres for all the activities/ facilities of the power project.	Complied	The facilities of the power project have been set up within 839.50 acres.	N/A	
4	Regular monitoring of ground water quality including heavy metals shall be undertaken around ash dyke and the project area to ascertain the change, if any, in the water quality due to leaching of contaminants from ash disposal area.	Complied	Apart from the piezometric bore wells around ash ponds, the ground water monitoring has been undertaken in the surrounding villages like Purna, Siriapalli, Badmal, Bhurkamunda and Katikela.	N/A	
5	Regular monitoring of the ambient air quality shall be	Complied	AAQ stations have been fixed		

	carried out in and around the power plant and records maintained. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Quarterly reports sha		in consultation with OSPCB in and around the power plant complex. Quarterly reports are being regularly submitted to the Regional Office.		
6	High efficiency Electrostatic Precipitators (ESPs) with efficiency not less than 99.98% shall be installed so as to ensure that particulate emissions do not exceed 50 mg/Nm3.	Complied	Electrostatic Precipitators (ESPs) with 99.98% efficiency followed with bag filters have been installed and the particulate emissions is within 50 mg/Nm3.	N/A	
7	Water requirement shall not exceed 5235 m3/hr. No ground water shall be extracted for the project at any stage.	Complied	Water requirement is within 5235 m3/hr and no ground water is being used for the project.	N/A	
8	Space provision shall be made for Flue Gas De-sulphurisation (FGD) unit of requisite efficiency of removal of SO2, if required at a later stage.	Complied	Space has been earmarked for Flue Gas De-sulphurisation (FGD) unit of requisite efficiency for removal of SO2.	N/A	
9	Waste water generated shall be recycled and reused in the plant premises. There shall be no discharge of waste water out side the plant boundary except during monsoon. Treated effluents conforming to the prescribed standards shall be discharged during t	Complied	The treated effluents after conforming to standards is recycled and reused within the plant.	N/A	
10	A separate environment monitoring cell with suitable qualified staff should be set up for implementation of the stipulated environmental safeguards.	Complied	A separate Environment Management Cell with qualified personnel has been set up to monitor compliance of the conditions stipulated.	N/A	
11	Two bi-flue stack of 275 m height each with exit velocity of not less than 25 m/s shall be provided with continuous online monitoring system.	Complied	Two bi-flue stacks of 275 m height each with exit velocity of not less than 25 m/s have been provided with continuous online monitoring system.	N/A	
12	Half yearly report on the status of implementation of the conditions and environmental safeguards should be submitted to this	Complied	Half yearly report on the status of implementation of the conditions	N/A	

	Ministry, the Regional Office, CPCB and SPCB.		is periodically being submitted to the Ministry, the Regional Office, CPCB and SPCB.		
13	Ash and sulphur contents in the coal to be used in the project shall not exceed 41.6% and 0.5% respectively.	Complied	Ash and Sulphur content is within the limit as per notification.	N/A	
14	First aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	Complied	First aid and sanitation facilities have been provided to all the drivers and contract workers in the construction phase.	N/A	
15	Rain water harvesting should be adopted. Central Groundwater Authority / Board shall be consulted for finalization of appropriate rain water harvesting technology within a period of	Complied	Roof top Rain water harvesting facility has been installed at our site to utilize the collected rain water in our water system.	N/A	
16	The ash pond shall be lined with impervious lining to avoid any leaching into groundwater. The ash dyke shall be so designed and strengthened to ensure guard against breaching. Adequate safety measures shall also be taken so that pond ash does not becom	Complied	The ash pond has been lined with impervious clay/ HDPE lining to avoid any leaching into ground water. High concentration slurry disposal system has been implemented.	N/A	
17	The project authorities should adhere to the provisions stipulated in the fly ash notification of September, 1999 and as amended in August, 2003 in regard to fly ash utilization.	Complied	Fly Ash is being collected pneumatically in silos for further utilization in cement & brick manufacturing as per Fly Ash Notification Dec 2021.Balance ash is being sent to ash ponds by HCSD system.	N/A	
18	The District Collector / Revenue Divisional Commissioner shall be informed regarding R&R and all other benefits to be provided by the project proponent and their effective implementation shall have to be overseen by the District Authorities.	Complied	The R & R package as finalized by RPDAC based on Govt. R & R policy 2006 is being implemented fully under the supervision of District Administration.	N/A	
19	Regional Office of the Ministry of Environment & Forests located at Bhubaneswar will monitor the implementation of the stipulated conditions. A complete set of documents including Environmental	Complied	Half yearly report on the status of implementation of the conditions is periodically being submitted to the Ministry's	N/A	

	Impact Assessment Report, Environment Management Plan and t		Regional Office and SPCB.		
20	The project proponent should advertise in at least two local newspapers widely circulated in the region around the project, one of which should be in the vernacular language of the locality concerned within seven days of issue of this letter, informing th	Complied	Necessary advertisement with information as advised by the Ministry has been released in two local newspapers one in vernacular and one in English.	N/A	
21	Full cooperation should be extended to the Scientists/Officers from the Ministry and its Regional Office at Bhubaneswar/ the CPCB / the SPCB during monitoring of the project.	Complied	We shall extend full co-operation to the scientists/ officers from the Ministry/ Regional Office/ CPCB and OSPCB who would be monitoring the compliance of Environmental status.	N/A	
22	Separate funds should be allocated for implementation of environmental protection measures along with item-wise break-up. These cost should be included as part of the project cost. The funds earmarked for the environment protection measures should not be	Complied	Separate fund has been allocated for implementation of the Environmental Protection measures and will not be diverted for any other purposes.	N/A	
23	All the measures suggested by the Wildlife Department, Govt. of Orissa (Chief Wildlife Warden) for this project as contained in their letter no. IWL(c)-FC-370/07/6532 dated 16.10.2007 and any other measure as may be considered necessary for the conservati	Complied	The mitigative measures as per revised site specific wildlife conservation plan as approved by CWLW, Odisha vide letter no. 4488/7WL-FD WLC -32/2021 dtd 30.04.2021 is under implementation.	N/A	
24	Project proponent shall commission a study to be undertaken by Wildlife Institute of India, Dehradun to determine the quantum and scale of mitigation measures to offset the impact, if any, on the safety of the elephants and security of their migration are	Complied	Study has been undertaken by Centre for Ecological Sciences, Indian Institute of Science, Bangalore and report submitted with no recommendation of establishment of elephant corridor near project site	N/A	
25	A greenbelt shall be developed all along the plant and ash pond boundary covering a total area of 322 acres.	Being Complied	Green belt has been developed as per prescribed norms. Mortality rate has been considered and plantation is in progress.	N/A	

26	Closed Circuit Cooling system with cooling towers shall be provided.	Complied	Closed Circuit Cooling system with cooling towers (NDCT) have been provided and an optimum level of COC being maintained. For each unit, one number of cooling tower of 150 meter ht has been provided.	N/A	
27	Project proponent shall commission a study to be undertaken by Wildlife Institute of India, Dehradun to determine the quantum and scale of mitigation measures to offset the impact, if any, on the safety of the elephants and security of their migration are	Complied	Study has been undertaken by Centre for Ecological Sciences, Indian Institute of Science Bangalore and report submitted with no recommendation of establishment of elephant corridor near project site.	N/A	
28	Waste water generated shall be recycled and reused in the plant premises. There shall be no discharge of waste water out side the plant boundary except during monsoon. Treated effluents conforming to the prescribed standards shall be discharged during t	Complied	The treated effluents after conforming to standards is recycled and reused within the plant.	N/A	
29	The ash pond shall be lined with impervious lining to avoid any leaching into groundwater. The ash dyke shall be so designed and strengthened to ensure guard against breaching. Adequate safety measures shall also be taken so that pond ash does not becom	Complied	The ash pond has been lined with impervious HDPE lining to avoid any leaching in to ground water. High concentration slurry disposal system has been implemented.	N/A	
30	First aid and sanitation arrangements shall be made for the drivers and other contract workers during construction phase.	Complied	First aid and sanitation facilities have been provided to all the drivers and contract workers in the construction phase.	N/A	
31	Space provision shall be made for Flue Gas De-sulphurisation (FGD) unit of requisite efficiency of removal of SO2, if required at a later stage.	Complied	Space has been earmarked for Flue Gas De-sulphurisation (FGD) unit of requisite efficiency for removal of SO2.	N/A	
32	All the measures suggested by the Wildlife Department, Govt. of Orissa (Chief Wildlife Warden) for this project as contained in their	Complied	The mitigative measures as per revised site specific wildlife conservation	N/A	

	letter no. IWL(c)-FC-370/07/6532 dated 16.10.2007 and any other measure as may be considered necessary for the conservati		plan as approved by CWLW, Odisha vide letter no. 4488/7WL-FDWLC-32/2021 dtd. 30.04.2021 is under implementation.		
33	The project authorities should adhere to the provisions stipulated in the fly ash notification of September, 1999 and as amended in August, 2003 in regard to fly ash utilization.	Complied	Fly ash is being collected pneumatically in silos for further utilization in cement and brick manufacturing as per Fly Ash Notification. Balance ash is being sent to ash ponds by HCSD system.	N/A	
34	Ash and sulphur contents in the coal to be used in the project shall not exceed 41.6% and 0.5% respectively.	Complied	Ash and sulphur content is well within the limit as per notification.	N/A	
35	Regular monitoring of ground water quality including heavy metals shall be undertaken around ash dyke and the project area to ascertain the change, if any, in the water quality due to leaching of contaminants from ash disposal area.	Complied	Apart from the piezometric bore wells around ash ponds, the ground water monitoring has been undertaken in the surrounding villages like Purna, Siriapalli, Badmal, Bhurkamunda and Katikela.		
36	Rain water harvesting should be adopted. Central Groundwater Authority / Board shall be consulted for finalization of appropriate rain water harvesting technology within a period of	Complied	Roof Top Rainwater harvesting facility has been installed at our site to utilize the collected rain water in our water system.	N/A	
37	Regular monitoring of the ambient air quality shall be carried out in and around the power plant and records maintained. The location of the monitoring stations and frequency of monitoring shall be decided in consultation with SPCB. Quarterly reports sha	Complied	AAQ stations have been fixed in consultation with OSPCB in and around the power plant complex. Quarterly reports are being regularly submitted to the Regional Office.		
38	The District Collector / Revenue Divisional Commissioner shall be informed regarding R&R and all other benefits to be provided by the project proponent and their effective implementation shall have to be overseen by the District Authorities.	Complied	The R & R package as finalized by RPDAC based on Govt. R & R Policy 2006 is being implemented fully under the supervision of	N/A	

			District Administration.		
39	Water requirement shall not exceed 5235 m3/hr. No ground water shall be extracted for the project at any stage.	Complied	Water requirement is within 5235 m3/hr and no ground water is being used for the project.	N/A	
40	The total land requirement shall not exceed 839.50 acres for all the activities/ facilities of the power project.	Complied	The facilities of the power project have been set up within 839.50 acres.	N/A	
41	For controlling fugitive dust, regular sprinkling of water in the coal handling area and other vulnerable areas of the plant shall be ensured.	Complied	Necessary dust extraction and dust suppression system has been provided in truck tippler, track hopper, belt conveyor along with rain guns and mist cannon in coal yard for controlling fugitive dust.	N/A	
42	A greenbelt shall be developed all along the plant and ash pond boundary covering a total area of 322 acres.	Complied	Green belt has been developed as per prescribed norms. Mortality rate has been considered and plantation is in progress.	N/A	
43	High efficiency Electrostatic Precipitators (ESPs) with efficiency not less than 99.98% shall be installed so as to ensure that particulate emissions do not exceed 50 mg/Nm3.	Complied	Electrostatic Precipitators (ESPs) with 99.98% efficiency followed with bag filters have been installed and the particulate emissions is within 50 mg/Nm3.	N/A	
44	Two bi-flue stack of 275 m height each with exit velocity of not less than 25 m/s shall be provided with continuous online monitoring system.	Complied	Two bi-flue stacks of 275 m height each with exit velocity of not less than 25 m/s have been provided with continuous online monitoring system.	N/A	
45	A separate environment monitoring cell with suitable qualified staff should be set up for implementation of the stipulated environmental safeguards.	Complied	A separate Environment Management Cell with qualified personnel has been set up to monitor compliance of the conditions stipulated.	N/A	
46	Full cooperation should be extended to the Scientists/Officers from the	Complied	We shall extend full co-operation to the scientists/	N/A	

	Ministry and its Regional Office at Bhubaneswar/ the CPCB / the SPCB during monitoring of the project.		officers from the Ministry/ Regional Office/ CPCB and OSPCB who would be monitoring the compliance of Environmental status.		
47	Separate funds should be allocated for implementation of environmental protection measures along with item-wise break-up. These cost should be included as part of the project cost. The funds earmarked for the environment protection measures should not be	Complied	Separate fund has been allocated for implementation of the Environmental Protection measures and will not be diverted for any other purposes.	N/A	
48	Half yearly report on the status of implementation of the conditions and environmental safeguards should be submitted to this Ministry, the Regional Office, CPCB and SPCB.	Complied	Half yearly report on the status of implementation of the conditions is periodically being submitted to the Ministry, the Regional Office, CPCB and SPCB.	N/A	
49	The project proponent should advertise in at least two local newspapers widely circulated in the region around the project, one of which should be in the vernacular language of the locality concerned within seven days of issue of this letter, informing th	Complied	Necessary advertisement with information as advised by the ministry has been released in two local newspapers one in vernacular and one in English.	N/A	
50	Regional Office of the Ministry of Environment & Forests located at Bhubaneswar will monitor the implementation of the stipulated conditions. A complete set of documents including Environmental Impact Assessment Report, Environment Management Plan and t	Complied	Half yearly report on the status of implementation of the conditions is periodically being submitted to the Ministry's Regional Office and SPCB.	N/A	

7. General Conditions (Proponent) :

S.No	Condition	Self Declaration	Remarks / Reason	Supporting Documents	Observation of IRO
1	In case of any deviation or alteration in the project proposed from those submitted to this Ministry for clearance, a fresh reference should be made to the Ministry to assess the adequacy of the condition(s) imposed and to incorporate additional environme	Complied	No deviation, alteration, expansion or modernization in the project will be undertaken without prior approval of the Ministry.	N/A	
2	The Ministry reserves the right to revoke the clearance if conditions stipulated are	Complied	Agreed	N/A	

	not implemented to the satisfaction of the Ministry.				
3	The environmental clearance accorded shall be valid for a period of 5 years to the start of production operations by the power plant.	Complied	Agreed.	N/A	
4	The above stipulations would be enforced among others under the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and rules there under, Hazardous Wastes	Complied	Agreed	N/A	
5	The above stipulations would be enforced among others under the Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986 and rules there under, Hazardous Wastes	Complied	Noted.	N/A	
6	In case of any deviation or alteration in the project proposed from those submitted to this Ministry for clearance, a fresh reference should be made to the Ministry to assess the adequacy of the condition(s) imposed and to incorporate additional environme	Complied	Noted	N/A	
7	The Ministry reserves the right to revoke the clearance if conditions stipulated are not implemented to the satisfaction of the Ministry.	Complied	Noted.	N/A	
8	The environmental clearance accorded shall be valid for a period of 5 years to the start of production operations by the power plant.	Complied	Noted.	N/A	

☑ ***I ' VEDANTA LIMITED ' hereby give undertaking that the specific / general condition is entered by me is correct.***

E-Sign
VEDANTA LIMITED
Date : 31 May 2023 10:08:33:557

**Note : N/A - Not Available

PRINT

VEDANTA LIMITED, JHARSUGUDA
THERMAL POWER PLANT (2400 MW)

Half Yearly Environment Quality Report
(October 2022 – March 2023)

1. Stack Emission:

i. Particulate Matter (mg/Nm^3)

Stack Description	Oct'22	Nov'22	Dec'22	Jan'23	Feb'23	Mar'23
SEL - Unit 1	39.20	38.10	34.40	39.40	40.10	42.50
SEL - Unit 2	33.40	44.00	48.00	49.30	47.00	44.40
SEL - Unit 3	40.10	48.00	47.10	41.00	42.10	47.30
SEL - Unit 4	39.00	44.30	44.30	41.20	SD	41.20

ii. SO2 (mg/Nm^3)

Stack Description	Oct'22	Nov'22	Dec'22	Jan'23	Feb'23	Mar'23
SEL - Unit 1	1169	1257	1328	1426	1473.0	1392.0
SEL - Unit 2	1187	1183	1245	1288	1377.0	1412.0
SEL - Unit 3	1223	1216	1254	1314	1425.0	1448.0
SEL - Unit 4	1124	1346	1295	1422	SD	1431.0

iii. NOx (mg/Nm^3)

Stack Description	Oct'22	Nov'22	Dec'22	Jan'23	Feb'23	Mar'23
SEL - Unit 1	318	353	362	375	382	388.0
SEL - Unit 2	381	341	353	369	374	393.0
SEL - Unit 3	347	325	344	366	379	391.0
SEL - Unit 4	337	392	387	385	SD	397.0

iv. Mercury (mg/Nm^3)

Stack Description	Oct'22	Nov'22	Dec'22	Jan'23	Feb'23	Mar'23
SEL - Unit 1	0.0073	0.0070	0.0072	0.0075	0.0073	0.0075
SEL - Unit 2	0.0070	0.0073	0.0074	0.0077	0.0078	0.0076
SEL - Unit 3	0.0071	0.0071	0.0073	0.0071	0.0073	0.0075
SEL - Unit 4	0.0070	0.0070	0.0069	0.0074	SD	0.0073

Note: The Environment Monitoring is done by third party M/s. Visiontek Consultancy Services Pvt. Ltd. The required data is put in format from their report

2. Ambient Air Quality:

i. PM 10 size <10 (µg/m^3)

Sl. No.	Sampling Location	Oct'22	Nov'22	Dec'22	Jan'23	Feb'23	Mar'23
Limit (24 Hours Weighed Average)		**100**					
1	Near Vedanta Township	56.30	51.20	51.60	60.60	59.51	58.20
2	Near Gate No-1	61.50	62.10	65.00	67.80	67.28	65.80
3	Near WTP Clarifier	59.40	60.90	60.50	63.70	63.35	60.20
4	Administrative Office Top	53.00	54.20	54.00	57.90	57.56	57.40
5	In front of Cooling Tower- III	61.40	61.60	60.40	61.80	60.81	58.10
6	Near IPP Office	61.20	63.30	63.60	61.30	64.91	64.40
7	Near CHP ETP building	62.20	64.50	66.10	68.20	68.30	64.20

ii. PM 2.5 size < 2.5 µg/m^3

Sl. No.	Sampling Location	Oct'22	Nov'22	Dec'22	Jan'23	Feb'23	Mar'23
Limit (24 Hours Weighed Average)		**80**					
1	Near Vedanta Township	26.50	27.90	30.20	34.20	32.98	31.00
2	Near Gate No-1	32.90	32.90	33.80	39.40	39.39	35.40
3	Near WTP Clarifier	30.50	34.70	33.70	34.90	34.49	34.30
4	Administrative Office Top	29.50	30.80	31.80	31.80	31.78	30.20
5	In front of Cooling Tower- III	32.70	33.20	33.80	34.90	33.99	32.90
6	Near IPP Office	32.60	34.50	34.30	34.60	34.64	34.50
7	Near CHP ETP building	33.50	35.30	36.20	37.80	38.11	37.60

iii. SO_2 (µg/m^3)s

Sl. No.	Sampling Location	Oct'22	Nov'22	Dec'22	Jan'23	Feb'23	Mar'23
Limit (24 Hours Weighed Average)		**80**					
1	Near Vedanta Township	14.40	14.60	15.20	15.80	15.65	15.70
2	Near Gate No-1	14.90	14.90	15.20	15.60	15.79	16.80
3	Near WTP Clarifier	13.60	13.70	14.50	15.80	15.35	14.80
4	Administrative Office Top	13.80	14.40	14.90	15.40	15.81	15.70
5	In front of Cooling Tower- III	14.50	14.50	15.20	16.40	15.93	15.60
6	Near IPP Office	15.90	15.80	15.90	26.10	16.65	17.00
7	Near CHP ETP building	16.20	16.40	17.00	18.60	18.60	17.80

Note: The Environment Monitoring is done by third party M/s. Visiontek Consultancy Services Pvt. Ltd. The required data is put in format from their report

Ambient Air Quality: Continued.....

iv. NOx (µg/m^3)

Sl. No.	Sampling Location	Oct'22	Nov'22	Dec'22	Jan'23	Feb'23	Mar'23
Limit (24 Hours Weighed Average)		80					
1	Near Vedanta Township	23.90	24.10	24.60	25.60	25.15	24.60
2	Near Gate No-1	24.60	24.60	25.20	26.00	25.16	24.20
3	Near WTP Clarifier	22.00	22.10	22.30	23.50	23.28	22.40
4	Administrative Office Top	22.40	23.20	24.60	25.90	25.41	25.50
5	In front of Cooling Tower- III	22.80	23.20	25.50	26.20	25.43	23.50
6	Near IPP Office	24.60	24.80	24.40	34.10	25.49	24.90
7	Near CHP ETP building	24.30	24.10	25.40	26.40	26.34	25.80

v. CO (mg/m^3)

Sl. No.	Sampling Location	Oct'22	Nov'22	Dec'22	Jan'23	Feb'23	Mar'23
Limit (24 Hours Weighed Average)		2.0					
1	Near Vedanta Township	0.30	0.35	0.36	0.43	0.42	0.43
2	Near Gate No-1	0.61	0.56	0.56	0.53	0.52	0.56
3	Near WTP Clarifier	0.5	0.54	0.56	0.55	0.56	0.57
4	Administrative Office Top	0.36	0.35	0.36	0.42	0.42	0.38
5	In front of Cooling Tower- III	0.51	0.55	0.54	0.55	0.54	0.52
6	Near IPP Office	0.6	0.57	0.55	0.59	0.57	0.56
7	Near CHP ETP building	0.59	0.60	0.58	0.61	0.61	0.58

iv. Pb (µg/m^3)

Sl. No.	Sampling Location	Oct'22	Nov'22	Dec'22	Jan'23	Feb'23	Mar'23
Limit (24 Hours Weighed Average)		1.0					
1	Near Vedanta Township	BDL	BDL	BDL	BDL	BDL	BDL
2	Near Gate No-1	0.18	0.19	0.17	0.18	0.17	0.14
3	Near WTP Clarifier	0.19	0.18	0.17	0.19	0.18	0.16
4	Administrative Office Top	BDL	BDL	BDL	BDL	BDL	BDL
5	In front of Cooling Tower- III	0.15	0.16	0.18	0.19	0.18	0.15
6	Near IPP Office	0.18	0.19	0.18	0.19	0.15	0.18
7	Near CHP ETP building	0.17	0.18	0.19	0.17	0.18	0.19

Note: The Environment Monitoring is done by third party M/s. Visiontek Consultancy Services Pvt. Ltd. The required data is put in format from their report

Ambient Air Quality: Continued.....

vii. As (ng/m^3)

Sl. No.	Sampling Location	Oct'22	Nov'22	Dec'22	Jan'23	Feb'23	Mar'23
Limit (24 Hours Weighed Average)		06					
1	Near Vedanta Township	BDL	BDL	BDL	BDL	BDL	BDL
2	Near Gate No-1	BDL	BDL	BDL	BDL	BDL	BDL
3	Near WTP Clarifier	BDL	BDL	BDL	BDL	BDL	BDL
4	Administrative Office Top	BDL	BDL	BDL	BDL	BDL	BDL
5	In front of Cooling Tower- III	BDL	BDL	BDL	BDL	BDL	BDL
6	Near IPP Office	BDL	BDL	BDL	BDL	BDL	BDL
7	Near CHP ETP building	BDL	BDL	BDL	BDL	BDL	BDL

viii. Ni (ng/m^3)

Sl. No.	Sampling Location	Oct'22	Nov'22	Dec'22	Jan'23	Feb'23	Mar'23
Limit (24 Hours Weighed Average)		20					
1	Near Vedanta Township	BDL	BDL	BDL	BDL	BDL	BDL
2	Near Gate No-1	0.21	0.22	0.21	0.23	0.22	0.21
3	Near WTP Clarifier	0.19	0.19	0.16	0.15	0.16	0.19
4	Administrative Office Top	0.17	0.16	0.18	0.16	0.17	0.20
5	In front of Cooling Tower- III	0.18	0.19	0.18	0.17	0.16	0.14
6	Near IPP Office	0.16	0.16	0.15	0.23	0.15	0.18
7	Near CHP ETP building	0.15	0.16	0.18	0.15	0.16	0.13

ix. BaP (ng/m^3)

Sl. No.	Sampling Location	Oct'22	Nov'22	Dec'22	Jan'23	Feb'23	Mar'23
Limit (24 Hours Weighed Average)		01					
1	Near Vedanta Township	0.16	0.170	0.150	0.18	0.19	0.14
2	Near Gate No-1	0.14	0.150	0.17	0.16	0.15	0.16
3	Near WTP Clarifier	0.12	0.13	0.16	0.18	0.16	0.18
4	Administrative Office Top	BDL	BDL	BDL	BDL	BDL	BDL
5	In front of Cooling Tower- III	0.15	0.16	0.18	0.19	0.14	0.19
6	Near IPP Office	0.15	0.16	0.15	0.19	0.17	0.19
7	Near CHP ETP building	BDL	BDL	BDL	BDL	BDL	BDL

Note: The Environment Monitoring is done by third party M/s. Visiontek Consultancy Services Pvt. Ltd. The required data is put in format from their report

Ambient Air Quality: Continued.....

x. Benzene (µg/m^3)

Sl. No.	Sampling Location	Oct'22	Nov'22	Dec'22	Jan'23	Feb'23	Mar'23
Limit (24 Hours Weighed Average)		05					
1	Near Vedanta Township	BDL	BDL	BDL	BDL	BDL	BDL
2	Near Gate No-1	0.16	0.17	0.19	0.18	0.19	0.23
3	Near WTP Clarifier	0.13	0.14	0.18	0.16	0.15	0.17
4	Administrative Office Top	0.16	0.17	0.16	0.15	0.16	0.15
5	In front of Cooling Tower- III	0.16	0.16	0.16	0.18	0.19	0.16
6	Near IPP Office	0.14	0.15	0.13	0.2	0.17	0.20
7	Near CHP ETP building	0.15	0.16	0.18	0.14	0.15	0.18

xi. NH_3 (µg/m_3)

Sl. No.	Sampling Location	Oct'22	Nov'22	Dec'22	Jan'23	Feb'23	Mar'23
Limit (24 Hours Weighed Average)		**400**					
1	Near Vedanta Township	21.9	22.6	22.9	22.5	23.7	22.8
2	Near Gate No-1	26.1	27.5	27.1	27.7	28.6	27.9
3	Near WTP Clarifier	24.7	25.3	25.8	26.3	25.5	24.3
4	Administrative Office Top	25.9	26.3	26.1	27.2	29.1	28.7
5	In front of Cooling Tower- III	24.2	25.2	25.7	24.9	26.8	25.5
6	Near IPP Office	25.6	26.2	26.5	32.1	27.3	26.6
7	Near CHP ETP building	23.2	24.1	24.4	25.3	24.6	25.4

xii. Ozone (µg/m^3)

Sl. No.	Sampling Location	Oct'22	Nov'22	Dec'22	Jan'23	Feb'23	Mar'23
Limit (8 Hours Weighed Average)		100					
1	Near Vedanta Township	6.80	6.90	7.20	7.10	8.40	8.10
2	Near Gate No-1	7.20	7.30	7.10	7.20	7.60	7.90
3	Near WTP Clarifier	7.30	7.50	7.70	7.80	8.80	8.50
4	Administrative Office Top	8.60	8.30	8.40	8.60	7.80	7.60
5	In front of Cooling Tower- III	6.10	6.20	6.60	6.80	7.10	7.80
6	Near IPP Office	8.20	8.30	8.20	8.40	9.20	9.00
7	Near CHP ETP building	7.10	7.40	7.80	7.70	6.30	6.70

Note: The Environment Monitoring is done by third party M/s. Visiontek Consultancy Services Pvt. Ltd. The required data is put in format from their report

3. Noise:

i. **Day Time** (6.00 a.m. to 10.00 p.m.)

Sl. No.	Sampling Location	Day time (6.00 a.m. to 10.00 p.m.)					
		Noise level in dB (A)					
		Oct'22	Nov'22	Dec'22	Jan'23	Feb'23	Mar'23
1	Cooling tower pump house	65.50	64.90	61.80	62.10	63.40	64.80
2	Raw water pump house	49.40	48.30	57.50	46.30	47.00	51.40
3	Near Banjari gate	69.40	70.20	69.30	68.50	67.90	68.50
4	Near Main gate	61.40	62.40	59.70	58.30	59.40	59.20
5	Vedanta township	49.20	48.30	49.40	48.40	47.30	46.20
6	Geho pump house	69.70	68.60	69.10	70.40	69.40	70.00
7	Coal Yard Track Hopper	58.50	57.40	55.40	56.10	57.90	58.50
8	Coal Handling plant	59.70	64.00	61.80	62.70	63.50	64.20
9	I.D fan- Near Boiler, Unit-II	65.20	68.90	69.40	70.50	71.30	72.40
10	Chimney area Near Boiler, Unit-II	58.30	66.70	59.30	58.20	59.20	58.10
11	Boiler Feed Pump area Unit-II	67.50	70.10	70.60	71.30	71.90	72.40
12	Turbine Area Unit-II	71.20	71.60	71.10	72.10	72.30	73.60
13	Mill Area Unit-II	69.80	68.90	69.20	70.80	70.50	74.10
14	Compressor House Unit-II	71.10	71.20	70.70	71.40	72.20	70.80

Note: The Environment Monitoring is done by third party M/s. Visiontek Consultancy Services Pvt. Ltd. The required data is put in format from their report

Noise: Continued.....

ii. **Night Time** (10.00 p.m. to 6.00 a. m.)

Sl. No.	Sampling Location	Night time (10.00 p.m. to 6.00 a.m.)					
		Noise level in dB (A)					
		Oct'22	Nov'22	Dec'22	Jan'23	Feb'23	Mar'23
1	Cooling tower pump house	61.10	62.10	57.70	60.00	61.40	60.90
2	Raw water pump house	44.00	44.00	43.80	42.70	43.50	46.30
3	Near Banjari gate	64.30	60.70	65.50	64.50	65.70	64.50
4	Near Main gate	55.40	57.10	56.30	55.20	56.20	55.10
5	Vedanta township	47.10	46.60	45.20	44.70	43.00	42.40
6	Geho pump house	66.00	66.70	67.90	68.50	68.10	67.70
7	Coal Yard Track Hopper	56.60	55.60	53.80	52.30	54.70	53.50
8	Coal Handling plant	57.90	58.30	57.70	56.90	59.50	57.80
9	I.D fan- Near Boiler, Unit-II	64.10	66.30	67.90	68.40	69.70	68.30
10	Chimney area Near Boiler, Unit-II	56.20	53.40	54.00	54.00	57.60	56.20
11	Boiler Feed Pump area Unit-II	60.90	66.20	65.30	66.10	68.40	69.30
12	Turbine Area Unit-II	68.90	67.30	68.20	68.70	68.70	69.60
13	Mill Area Unit-II	65.70	66.20	65.70	65.10	67.40	68.90
14	Compressor House Unit-II	65.80	67.40	67.80	66.90	68.30	69.50

Note: The Environment Monitoring is done by third party M/s. Visiontek Consultancy Services Pvt. Ltd. The required data is put in format from their report

4. Water:

a) Effluent Treatment Plant (ETP) Outlet:

Parameters	Unit	Limit	Oct'22	Nov'22	Dec'22	Jan'23	Feb'23	Mar'23
pH	-	6.5-9.0	7.67	7.66	7.57	7.51	7.48	7.44
Total Suspended Solids	mg/l	100	39	31	42	45	46	48
Dissolved Solids	mg/l	2100	271	277	275			
BOD (3 days at 27°C)	mg/l	30	7.9	8.4	8.2	10	8.4	8.8
COD	mg/l	250	31	33	31	40	36	42
Oil and Grease	mg/l	10	2.2	2.6	2.8			
Iron	mg/l	3	0.18	0.19	0.23			
Copper	mg/l	3	BDL	BDL	BDL			

b) Sewage Treatment Plant (STP) Outlet:

Parameters	Unit	Limit	Oct'22	Nov'22	Dec'22	Jan'23	Feb'23	Mar'23
pH	mg/l	6.5-9.0	7.81	7.78	7.63	7.69	7.64	7.61
Total Suspended Solids	mg/l	100	44	34.00	38.00	47.00	45.00	48.00
BOD	mg/l	30	6.8	7.9	12.4	10	8.2	9.2
COD	mg/l	250	31	28.0	32			
Fecal Coliform	MPN/100 ml		79	70	79	70	79	94

Note: The Environment Monitoring is done by third party M/s. Visiontek Consultancy Services Pvt. Ltd. The required data is put in format from their report

c) Surface Water:

Sampling location: SW1- Banjari Village Pond

Sl. No.	Parameter	Unit	Standard	SW1					
				Oct'22	Nov'22	Dec'22	Jan'23	Feb'23	Mar'23
1	Colour	Hazen	300	10	15	10	15	15	10
2	pH	--	6.5-8.5	7.28	7.26	7.3	7.36	7.34	7.27
3	DO	mg/l	4 (min)	6.2	6.1	6	5.9	5.6	6.0
4	Chloride	mg/l	600	35	30	35	42.5	42.7	38
5	Total Dissolved Solids	mg/l	1500	278	269	268	271	263	293
6	Suspended Solids	mg/l	-	85	84	86	88	85	97
7	Oil & Grease	mg/l	0.1	ND	ND	ND	ND	ND	ND
8	BOD (3) days at 27^0C	mg/l	3	2.2	2.3	2.2	2.1	2.4	2
9	Arsenic as As	mg/l	0.2	BDL	BDL	BDL	BDL	BDL	BDL
10	Lead as Pb	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL
11	Cadmium as Cd	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
12	Hexavalent Chromium as Cr^{+6}	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
13	Copper as Cu	mg/l	1.5	BDL	BDL	BDL	BDL	BDL	BDL
14	Zinc as Zn	mg/l	15	BDL	BDL	BDL	BDL	BDL	BDL
15	Selenium as Se	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
16	Cyanide as CN	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
17	Fluoride as F	mg/l	1.5	0.2	0.21	0.24	0.26	0.25	0.32
18	Sulphates (SO_4)	mg/l	400	11.8	12.3	12.5	13.2	12.5	11.7
19	Phenolic Compounds as C_6H_5OH	mg/l	0.005	BDL	BDL	BDL	BDL	BDL	BDL
20	Iron as Fe	mg/l	50	0.28	0.26	0.28	0.27	0.23	0.32
21	Nitrate as NO_3	mg/l	50	2.35	2.32	2.19	2.27	2.12	2.16
22	Anionic Detergents	mg/l	1	ND	ND	ND	ND	ND	ND
23	Total Coliform	MPN/ 100ml	5000	240	220	240	220	240	350

Note: The Environment Monitoring is done by third party M/s. Visiontek Consultancy Services Pvt. Ltd. The required data is put in format from their report

Surface Water: Continued.....

Sampling location: SW2- Bhurkamunda Village Pond

Sl. No.	Parameter	Unit	Standard	SW2					
				Oct'22	Nov'22	Dec'22	Jan'23	Feb'23	Mar'23
1	Colour	Hazen	300	20	20	15	15	15	15
2	pH	--	6.5-8.5	7.3	7.33	7.34	7.33	7.37	7.31
3	DO	mg/l	4 (min)	6.6	6.4	6.2	6	6.2	6.4
4	Chloride	mg/l	600	42.5	40	45	40	40.3	41.5
5	Total Dissolved Solids	mg/l	1500	255	251	254	255	250	271
6	Suspended Solids	mg/l	-	76	73	72	71	74	81
7	Oils& Grease	mg/l	0.1	ND	ND	ND	ND	ND	ND
8	BOD(3) days at 27 ^{0}C	mg/l	3	2.4	2.5	2.4	2.4	2.6	2.2
9	Arsenic as As	mg/l	0.2	BDL	BDL	BDL	BDL	BDL	BDL
10	Lead as Pb	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL
11	Cadmium as Cd	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
12	Hexavalent Chromium as Cr^{+6}	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
13	Copper as Cu	mg/l	1.5	BDL	BDL	BDL	BDL	BDL	BDL
14	Zinc as Zn	mg/l	15	BDL	BDL	BDL	BDL	BDL	BDL
15	Selenium as Se	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
16	Cyanide as CN	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
17	Fluoride as F	mg/l	1.5	0.18	0.16	0.18	0.2	0.23	0.36
18	Sulphates (SO_4)	mg/l	400	11.2	11.6	11.2	11.8	11.8	11.1
19	Phenolic Compounds as C_6H_5OH	mg/l	0.005	BDL	BDL	BDL	BDL	BDL	BDL
20	Iron as Fe	mg/l	50	0.3	0.31	0.32	0.34	0.34	0.4
21	Nitrate as NO_3	mg/l	50	1.42	1.45	1.36	1.41	1.36	1.45
22	Anionic Detergents	mg/l	1	ND	ND	ND	ND	ND	ND
23	Total Coliform	MPN/ 100ml	5000	170	150	170	130	170	280

Note: The Environment Monitoring is done by third party M/s. Visiontek Consultancy Services Pvt. Ltd. The required data is put in format from their report

Surface Water: Continued.....

Sampling location: SW3- Banjari Nallah Upstream

Sl. No.	Parameter	Unit	Standard	SW3					
				Oct'22	Nov'22	Dec'22	Jan'23	Feb'23	Mar'23
1	Colour	Hazen	300	10	15	10	5	5	10
2	pH	--	6.5-8.5	7.32	7.26	7.22	7.28	7.32	6.98
3	DO	mg/l	4 (min)	6.5	6.2	6.1	6	6.3	6.6
4	Chloride	mg/l	600	50	45	40	37.5	37.7	35
5	Total Dissolved Solids	mg/l	1500	268	268	257	255	258	261
6	Suspended Solids	mg/l	-	81	83	86	89	82	96
7	Oils& Grease	mg/l	0.1	ND	ND	ND	ND	ND	ND
8	BOD(3) days at 27 ^0C	mg/l	3	2.4	2.2	2.4	2.3	2.3	2.2
9	Arsenic as As	mg/l	0.2	BDL	BDL	BDL	BDL	BDL	BDL
10	Lead as Pb	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL
11	Cadmium as Cd	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
12	Hexavalent Chromium as Cr^{+6}	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
13	Copper as Cu	mg/l	1.5	0.041	0.04	0.042	0.044	0.043	0.048
14	Zinc as Zn	mg/l	15	0.17	0.18	0.16	0.15	0.19	0.2
15	Selenium as Se	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
16	Cyanide as CN	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
17	Fluoride as F	mg/l	1.5	0.19	0.15	0.18	0.20	0.26	0.30
18	Sulphates (SO_4)	mg/l	400	14.2	14.7	15.2	15.9	15.5	13.7
19	Phenolic Compounds as C_6H_5OH	mg/l	0.005	BDL	BDL	BDL	BDL	BDL	BDL
20	Iron as Fe	mg/l	50	0.43	0.46	0.44	0.41	0.38	0.46
21	Nitrate as NO_3	mg/l	50	1.69	1.72	1.69	1.78	1.6	2.27
22	Anionic Detergents	mg/l	1	ND	ND	ND	ND	ND	ND
23	Total Coliform	MPN/ 100ml	5000	280	220	210	170	190	210

Note: The Environment Monitoring is done by third party M/s. Visiontek Consultancy Services Pvt. Ltd. The required data is put in format from their report

Surface Water: Continued.....

Sampling location: SW4- Banjari Nallah Downstream

Sl. No.	Parameter	Unit	Standard	SW4					
				Oct'22	Nov'22	Dec'22	Jan'23	Feb'23	Mar'23
1	Colour	Hazen	300	15	20	15	10	10	15
2	pH	--	6.5-8.5	7.41	7.37	7.35	7.34	7.36	7.12
3	DO	mg/l	4 (min)	6.1	6	6.2	6.1	6.4	6.7
4	Chloride	mg/l	600	52.5	50	55	50	50.3	40
5	Total Dissolved Solids	mg/l	1500	276	272	278	272	270	278
6	Suspended Solids	mg/l	-	74	75	72	74	70	82
7	Oils& Grease	mg/l	0.1	ND	ND	ND	ND	ND	ND
8	BOD(3) days at 27 ^{0}C	mg/l	3	2.6	2.4	2.3	2.1	2.4	2
9	Arsenic as As	mg/l	0.2	BDL	BDL	BDL	BDL	BDL	BDL
10	Lead as Pb	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL
11	Cadmium as Cd	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
12	Hexavalent Chromium as Cr^{+6}	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
13	Copper as Cu	mg/l	1.5	0.043	0.044	0.045	0.047	0.048	0.042
14	Zinc as Zn	mg/l	15	0.21	0.23	0.24	0.21	0.17	0.25
15	Selenium as Se	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
16	Cyanide as CN	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
17	Fluoride as F	mg/l	1.5	0.24	0.2	0.22	0.25	0.23	0.34
18	Sulphates (SO_4)	mg/l	400	14.5	14.1	14.4	14.7	14.5	14.2
19	Phenolic Compounds as C_6H_5OH	mg/l	0.005	BDL	BDL	BDL	BDL	BDL	BDL
20	Iron as Fe	mg/l	50	0.46	0.48	0.47	0.45	0.4	0.44
21	Nitrate as NO_3	mg/l	50	2.41	2.37	2.32	2.41	2.06	1.34
22	Anionic Detergents	mg/l	1	ND	ND	ND	ND	ND	ND
23	Total Coliform	MPN/ 100ml	5000	350	280	240	210	220	280

Note: The Environment Monitoring is done by third party M/s. Visiontek Consultancy Services Pvt. Ltd. The required data is put in format from their report

Surface Water: Continued.....

Sampling location: SW5- Kharkhari Nallah Upstream

Sl. No.	Parameter	Unit	Standard	SW5					
				Oct'22	Nov'22	Dec'22	Jan'23	Feb'23	Mar'23
1	Colour	Hazen	300	15	10	15	10	10	15
2	pH	--	6.5-8.5	7.38	7.33	7.28	7.32	7.28	7.11
3	DO	mg/l	4 (min)	6.6	6.2	6.1	6	6.5	6.8
4	Chloride	mg/l	600	35.5	30	35	37.5	37.8	42
5	Total Dissolved Solids	mg/l	1500	283	281	278	283	284	286
6	Suspended Solids	mg/l	-	86	85	89	91	89	94
7	Oils& Grease	mg/l	0.1	ND	ND	ND	ND	ND	ND
8	BOD(3) days at 27^0C	mg/l	3	2.2	2.4	2.5	2.4	2.7	2.3
9	Arsenic as As	mg/l	0.2	BDL	BDL	BDL	BDL	BDL	BDL
10	Lead as Pb	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL
11	Cadmium as Cd	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
12	Hexavalent Chromium as Cr^{+6}	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
13	Copper as Cu	mg/l	1.5	0.042	0.044	0.041	0.043	0.044	0.047
14	Zinc as Zn	mg/l	15	0.18	0.17	0.19	0.21	0.2	0.25
15	Selenium as Se	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
16	Cyanide as CN	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
17	Fluoride as F	mg/l	1.5	0.25	0.26	0.23	0.21	0.28	0.29
18	Sulphates (SO_4)	mg/l	400	13.1	13.7	14.2	13.8	13.6	14.2
19	Phenolic Compounds as C_6H_5OH	mg/l	0.005	BDL	BDL	BDL	BDL	BDL	BDL
20	Iron as Fe	mg/l	50	0.34	0.36	0.34	0.36	0.35	0.41
21	Nitrate as NO_3	mg/l	50	1.35	1.33	1.38	1.41	1.25	2.19
22	Anionic Detergents	mg/l	1	ND	ND	ND	ND	ND	ND
23	Total Coliform	MPN/ 100ml	5000	220	210	240	200	230	240

Note: The Environment Monitoring is done by third party M/s. Visiontek Consultancy Services Pvt. Ltd. The required data is put in format from their report

Surface Water: Continued.....

Sampling location: SW6- Kharkhari Nallah Downstream

Sl. No	Parameter	Unit	Standard	SW6					
				Oct'22	Nov'22	Dec'22	Jan'23	Feb'23	Mar'23
1	Colour	Hazen	300	20	15	20	15	15	20
2	pH	--	6.5-8.5	7.42	7.39	7.35	7.36	7.33	7.26
3	DO	mg/l	4 (min)	6.2	6	6.2	6.1	6.3	6.5
4	Chloride	mg/l	600	40	42.5	47.5	45	45.4	43.5
5	Total Dissolved Solids	mg/l	1500	316	319	315	319	306	295
6	Suspended Solids	mg/l	-	92	90	92	94	91	98
7	Oils& Grease	mg/l	0.1	ND	ND	ND	ND	ND	ND
8	BOD(3) days at 27 ^{0}C	mg/l	3	2.6	2.8	2.7	2.6	2.5	2.1
9	Arsenic as As	mg/l	0.2	BDL	BDL	BDL	BDL	BDL	BDL
10	Lead as Pb	mg/l	0.1	BDL	BDL	BDL	BDL	BDL	BDL
11	Cadmium as Cd	mg/l	0.01	BDL	BDL	BDL	BDL	BDL	BDL
12	Hexavalent Chromium as Cr^{+6}	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
13	Copper as Cu	mg/l	1.5	0.051	0.052	0.053	0.055	0.052	0.05
14	Zinc as Zn	mg/l	15	0.24	0.25	0.24	0.25	0.24	0.28
15	Selenium as Se	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
16	Cyanide as CN	mg/l	0.05	BDL	BDL	BDL	BDL	BDL	BDL
17	Fluoride as F	mg/l	1.5	0.3	0.3	0.29	0.27	0.32	0.32
18	Sulphates (SO_4)	mg/l	400	15.5	15.4	15.5	15.2	15.4	15.7
19	Phenolic Compounds as C_6H_5OH	mg/l	0.005	BDL	BDL	BDL	BDL	BDL	BDL
20	Iron as Fe	mg/l	50	0.4	0.41	0.42	0.41	0.38	0.45
21	Nitrate as NO_3	mg/l	50	2.29	2.18	2.2	2.17	1.86	1.16
22	Anionic Detergents	mg/l	1	ND	ND	ND	ND	ND	ND
23	Total Coliform	MPN/ 100ml	5000	280	240	280	240	280	350

Note: The Environment Monitoring is done by third party M/s. Visiontek Consultancy Services Pvt. Ltd. The required data is put in format from their report

d) **Ground Water:**

Sampling Locations:
GW1-Hand pump of North side of Ash pond, near Siriapali
GW2-Hand pump of East side of Ash pond, near Purna school

Sl. No	Parameter	Standards	Unit	GW1		GW2	
				Oct-22	Jan-23	Oct-22	Jan-23
1	Colour	5	Hazen	<5.0	<5.0	<5.0	<5.0
2	Odour	U/O	-	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	Agreeable	-	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	5	NTU	<1.0	<1.0	<1.0	<1.0
5	pH Value	6.5-8.5	-	7.41	7.44	7.32	7.28
6	Total Hardness (as $CaCO_3$)	300	mg/l	72	76	84	81
7	Iron (as Fe)	0.3	mg/l	0.24	0.26	0.22	0.23
8	Chloride (as Cl)	250	mg/l	25.5	30	30	22.5
9	Residual, free Chlorine	0.2	mg/l	ND	ND	ND	ND
10	Dissolved Solids	500	mg/l	211	217	183	189
11	Calcium (as Ca)	75	mg/l	31.2	32.2	23.4	22.7
12	Copper (as Cu)	0.05	mg/l	BDL	BDL	BDL	BDL
13	Manganese (as Mn)	0.1	mg/l	BDL	BDL	BDL	BDL
14	Sulphate (as SO_4)	200	mg/l	13.5	13.8	10.2	10.7
15	Nitrate (as NO_3)	45	mg/l	2.21	2.24	1.47	1.49
16	Fluoride (as F)	1	mg/l	0.27	0.28	0.24	0.22
17	Phenolic Compounds (as C_6H_5OH)	0.001	mg/l	BDL	BDL	BDL	BDL
18	Mercury (as Hg)	0.001	mg/l	BDL	BDL	BDL	BDL
19	Cadmium (as Cd)	0.01	mg/l	BDL	BDL	BDL	BDL
20	Selenium (as Se)	0.01	mg/l	BDL	BDL	BDL	BDL
21	Arsenic (as As)	0.05	mg/l	BDL	BDL	BDL	BDL
22	Cyanide (as CN)	0.05	mg/l	BDL	BDL	BDL	BDL
23	Lead (as Pb)	0.05	mg/l	BDL	BDL	BDL	BDL
24	Zinc (as Zn)	5	mg/l	0.24	0.26	0.25	0.28
25	Chromium (as $Cr+^6$)	0.05	mg/l	BDL	BDL	BDL	BDL
26	Mineral Oil	0.01	mg/l	ND	ND	ND	ND
27	Alkalinity	200	mg/l	85	80	75	70
28	Aluminium as Al	0.03	mg/l	BDL	BDL	BDL	BDL
29	Boron	1	mg/l	0.052	0.055	0.048	0.047

Note: The Environment Monitoring is done by third party M/s. Visiontek Consultancy Services Pvt. Ltd. The required data is put in format from their report

Ground Water: Continued.....

Sampling location:
GW3: Hand Pump of West side of Ash pond, Bhagipali village,
GW4: Bhurkamunda Village

Sl. No	Parameter	Standards	Unit	GW3		GW4	
				Oct-22	Jan-23	Oct-22	Jan-23
1	Colour	5	Hazen	<5.0	<5.0	<5.0	<5.0
2	Odour	U/O	-	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	Agreeable	-	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	5	NTU	<1.0	<1.0	<1.0	<1.0
5	pH Value	6.5-8.5	-	7.46	7.43	7.22	7.29
6	Total Hardness (as $CaCO_3$)	300	mg/l	72	70	60	66
7	Iron (as Fe)	0.3	mg/l	0.21	0.2	0.26	0.28
8	Chloride (as Cl)	250	mg/l	25	27.5	30	35
9	Residual, free Chlorine	0.2	mg/l	ND	ND	ND	ND
10	Dissolved Solids	500	mg/l	189	194	179	183
11	Calcium (as Ca)	75	mg/l	26.9	25.8	24.9	23.7
12	Copper (as Cu)	0.05	mg/l	BDL	BDL	BDL	BDL
13	Manganese (as Mn)	0.1	mg/l	BDL	BDL	BDL	BDL
14	Sulphate (as SO_4)	200	mg/l	11.1	11.2	9.5	9.8
15	Nitrate (as NO_3)	45	mg/l	2.31	2.34	1.52	1.56
16	Fluoride (as F)	1	mg/l	0.3	0.31	0.22	0.18
17	Phenolic Compounds (as C_6H_5OH)	0.001	mg/l	BDL	BDL	BDL	BDL
18	Mercury (as Hg)	0.001	mg/l	BDL	BDL	BDL	BDL
19	Cadmium (as Cd)	0.01	mg/l	BDL	BDL	BDL	BDL
20	Selenium (as Se)	0.01	mg/l	BDL	BDL	BDL	BDL
21	Arsenic (as As)	0.05	mg/l	BDL	BDL	BDL	BDL
22	Cyanide (as CN)	0.05	mg/l	BDL	BDL	BDL	BDL
23	Lead (as Pb)	0.05	mg/l	BDL	BDL	BDL	BDL
24	Zinc (as Zn)	5	mg/l	0.22	0.2	0.24	0.27
25	Chromium (as $Cr+^6$)	0.05	mg/l	BDL	BDL	BDL	BDL
26	Mineral Oil	0.01	mg/l	ND	ND	ND	ND
27	Alkalinity	200	mg/l	90	85	70	65
28	Aluminium as Al	0.03	mg/l	BDL	BDL	BDL	BDL
29	Boron	1	mg/l	0.065	0.062	0.065	0.052

Note: The Environment Monitoring is done by third party M/s. Visiontek Consultancy Services Pvt. Ltd. The required data is put in format from their report

Ground Water: Continued.....

Sampling location:
GW5: Hand Pump of South side of Ash pond, Katikela Village,
GW6: Badmal Village

Sl. No	Parameter	Standards	Unit	GW5		GW6	
				Oct-22	Jan-23	Oct-22	Jan-23
1	Colour	5	Hazen	<5.0	<5.0	<5.0	<5.0
2	Odour	U/O	-	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	Agreeable	-	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	5	NTU	<1.0	<1.0	<1.0	<1.0
5	pH Value	6.5-8.5	-	6.93	6.85	7.36	7.31
6	Total Hardness (as $CaCO_3$)	300	mg/l	70	62	70	74
7	Iron (as Fe)	0.3	mg/l	0.28	0.33	0.28	0.3
8	Chloride (as Cl)	250	mg/l	22.5	30	22.5	25
9	Residual, free Chlorine	0.2	mg/l	ND	ND	ND	ND
10	Dissolved Solids	500	mg/l	211	228	211	215
11	Calcium (as Ca)	75	mg/l	24.2	31.2	24.2	25.6
12	Copper (as Cu)	0.05	mg/l	BDL	BDL	BDL	BDL
13	Manganese (as Mn)	0.1	mg/l	BDL	BDL	BDL	BDL
14	Sulphate (as SO_4)	200	mg/l	12.4	11.9	10.5	10.2
15	Nitrate (as NO_3)	45	mg/l	1.39	1.42	1.66	1.7
16	Fluoride (as F)	1	mg/l	0.27	0.24	0.22	0.28
17	Phenolic Compounds (as C_6H_5OH)	0.001	mg/l	BDL	BDL	BDL	BDL
18	Mercury (as Hg)	0.001	mg/l	BDL	BDL	BDL	BDL
19	Cadmium (as Cd)	0.01	mg/l	BDL	BDL	BDL	BDL
20	Selenium (as Se)	0.01	mg/l	BDL	BDL	BDL	BDL
21	Arsenic (as As)	0.05	mg/l	BDL	BDL	BDL	BDL
22	Cyanide (as CN)	0.05	mg/l	BDL	BDL	BDL	BDL
23	Lead (as Pb)	0.05	mg/l	BDL	BDL	BDL	BDL
24	Zinc (as Zn)	5	mg/l	0.25	0.22	0.22	0.28
25	Chromium (as $Cr+^6$)	0.05	mg/l	BDL	BDL	BDL	BDL
26	Mineral Oil	0.01	mg/l	ND	ND	ND	ND
27	Alkalinity	200	mg/l	55	50	75	75
28	Aluminium as Al	0.03	mg/l	BDL	BDL	BDL	BDL
29	Boron	1	mg/l	0.053	0.055	0.06	0.063

Note: The Environment Monitoring is done by third party M/s. Visiontek Consultancy Services Pvt. Ltd. The required data is put in format from their report

Ground Water: Continue.....

Sampling locations: GW7: Neoheight, GW8: Banjari Village

Sl. No	Parameter	Standards	Unit	GW7		GW8	
				Oct-22	Jan-23	Oct-22	Jan-23
1	Colour	5	Hazen	<5.0	<5.0	<5.0	<5.0
2	Odour	U/O	-	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	Agreeable	-	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	5	NTU	<1.0	<1.0	<1.0	<1.0
5	pH Value	6.5-8.5	-	7.39	7.33	7.26	7.28
6	Total Hardness (as $CaCO_3$)	300	mg/l	84	80	76	72
7	Iron (as Fe)	0.3	mg/l	0.31	0.34	0.24	0.26
8	Chloride (as Cl)	250	mg/l	30	35	25	27
9	Residual, free Chlorine	0.2	mg/l	ND	ND	ND	ND
10	Dissolved Solids	500	mg/l	237	241	221	226
11	Calcium (as Ca)	75	mg/l	34.8	35.3	30.6	31.2
12	Copper (as Cu)	0.05	mg/l	BDL	BDL	BDL	BDL
13	Manganese (as Mn)	0.1	mg/l	BDL	BDL	BDL	BDL
14	Sulphate (as SO_4)	200	mg/l	15.1	14.7	11.3	12.2
15	Nitrate (as NO_3)	45	mg/l	2.1	2.3	1.94	1.7
16	Fluoride (as F)	1	mg/l	0.26	0.36	0.24	0.27
17	Phenolic Compounds (as C_6H_5OH)	0.001	mg/l	BDL	BDL	BDL	BDL
18	Mercury (as Hg)	0.001	mg/l	BDL	BDL	BDL	BDL
19	Cadmium (as Cd)	0.01	mg/l	BDL	BDL	BDL	BDL
20	Selenium (as Se)	0.01	mg/l	BDL	BDL	BDL	BDL
21	Arsenic (as As)	0.05	mg/l	BDL	BDL	BDL	BDL
22	Cyanide (as CN)	0.05	mg/l	BDL	BDL	BDL	BDL
23	Lead (as Pb)	0.05	mg/l	BDL	BDL	BDL	BDL
24	Zinc (as Zn)	5	mg/l	0.24	0.28	0.26	0.3
25	Chromium (as Cr^{+6})	0.05	mg/l	BDL	BDL	BDL	BDL
26	Mineral Oil	0.01	mg/l	ND	ND	ND	ND
27	Alkalinity	200	mg/l	70	75	65	60
28	Aluminium as Al	0.03	mg/l	BDL	BDL	BDL	BDL
29	Boron	1	mg/l	0.061	0.062	0.057	0.055

Note: The Environment Monitoring is done by third party M/s. Visiontek Consultancy Services Pvt. Ltd. The required data is put in format from their report

Ground Water: Continued.....

Sampling location: GW9: Sarbahal

Sl. No	Parameter	Standards	Unit	GW9	
				Oct-22	Jan-23
1	Colour	5	Hazen	<5.0	<5.0
2	Odour	U/O	-	Agreeable	Agreeable
3	Taste	Agreeable	-	Agreeable	Agreeable
4	Turbidity	5	NTU	<1.0	<1.0
5	pH Value	6.5-8.5	-	7.2	7.25
6	Total Hardness (as $CaCO_3$)	300	mg/l	82	88
7	Iron (as Fe)	0.3	mg/l	0.25	0.24
8	Chloride (as Cl)	250	mg/l	27.5	32.5
9	Residual, free Chlorine	0.2	mg/l	ND	ND
10	Dissolved Solids	500	mg/l	225	230
11	Calcium (as Ca)	75	mg/l	32.2	33.4
12	Copper (as Cu)	0.05	mg/l	BDL	BDL
13	Manganese (as Mn)	0.1	mg/l	BDL	BDL
14	Sulphate (as SO_4)	200	mg/l	11.9	11.1
15	Nitrate (as NO_3)	45	mg/l	1.62	1.5
16	Fluoride (as F)	1	mg/l	0.21	0.25
17	Phenolic Compounds (as C_6H_5OH)	0.001	mg/l	BDL	BDL
18	Mercury (as Hg)	0.001	mg/l	BDL	BDL
19	Cadmium (as Cd)	0.01	mg/l	BDL	BDL
20	Selenium (as Se)	0.01	mg/l	BDL	BDL
21	Arsenic (as As)	0.05	mg/l	BDL	BDL
22	Cyanide (as CN)	0.05	mg/l	BDL	BDL
23	Lead (as Pb)	0.05	mg/l	BDL	BDL
24	Zinc (as Zn)	5	mg/l	0.3	0.32
25	Chromium (as $Cr+^{6}$)	0.05	mg/l	BDL	BDL
26	Mineral Oil	0.01	mg/l	ND	ND
27	Alkalinity	200	mg/l	75	70
28	Aluminium as Al	0.03	mg/l	BDL	BDL
29	Boron	1	mg/l	0.062	0.066

Note: The Environment Monitoring is done by third party M/s. Visiontek Consultancy Services Pvt. Ltd. The required data is put in format from their report

e) **Ground Water around Ash Pond:**

Sampling Locations:
GW1- Bore well (East), GW2- Bore well (West)

Sl. No	Parameter	Standards	Unit	GW1		GW2	
				Oct-22	Jan-23	Oct-22	Jan-23
1	Colour	5	Hazen	<5	<5	<5	<5
2	Odour	U/O	-	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	Agreeable	-	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	5	NTU	<1.0	<1.0	<1.0	<1.0
5	pH Value	6.5-8.5	-	7.16	7.28	7.29	7.3
6	Total Hardness (as $CaCO_3$)	300	mg/l	70	81	74	75
7	Iron (as Fe)	0.3	mg/l	0.26	0.38	0.25	0.27
8	Chloride (as Cl)	250	mg/l	30	40	25	42.5
9	Residual, free Chlorine	0.2	mg/l	ND	ND	ND	ND
10	Dissolved Solids	500	mg/l	271	282	289	269
11	Calcium (as Ca)	75	mg/l	26.8	32.9	32.4	27.7
12	Copper (as Cu)	0.05	mg/l	BDL	BDL	BDL	BDL
13	Manganese (as Mn)	0.1	mg/l	0.055	0.058	0.061	0.055
14	Sulphate (as SO_4)	200	mg/l	14.1	14.9	15.2	15.3
15	Nitrate (as NO_3)	45	mg/l	1.68	1.25	1.41	1.3
16	Fluoride (as F)	1	mg/l	0.21	0.26	0.32	0.25
17	Phenolic Compounds (as C_6H_5OH)	0.001	mg/l	BDL	BDL	BDL	BDL
18	Mercury (as Hg)	0.001	mg/l	BDL	BDL	BDL	BDL
19	Cadmium (as Cd)	0.01	mg/l	BDL	BDL	BDL	BDL
20	Selenium (as Se)	0.01	mg/l	BDL	BDL	BDL	BDL
21	Arsenic (as As)	0.05	mg/l	BDL	BDL	BDL	BDL
22	Cyanide (as CN)	0.05	mg/l	BDL	BDL	BDL	BDL
23	Lead (as Pb)	0.05	mg/l	BDL	BDL	BDL	BDL
24	Zinc (as Zn)	5	mg/l	0.15	0.16	0.22	0.15
25	Chromium (as Cr^{+6})	0.05	mg/l	BDL	BDL	BDL	BDL
26	Mineral Oil	0.01	mg/l	BDL	BDL	BDL	BDL
27	Alkalinity	200	mg/l	75	80	90	75
28	Aluminium as Al	0.03	mg/l	BDL	BDL	BDL	BDL
29	Boron	1	mg/l	0.044	0.048	0.056	0.045

Note: The Environment Monitoring is done by third party M/s. Visiontek Consultancy Services Pvt. Ltd. The required data is put in format from their report

Ground Water around Ash Pond: Continued.....

Sampling location:
GW3- Bore well (North), GW4- Bore well (South)

Sl. No	Parameter	Standards	Unit	GW3		GW4	
				Oct-22	Jan-23	Oct-22	Jan-23
1	Colour	5	Hazen	<5	<5	<5	<5
2	Odour	U/O	-	Agreeable	Agreeable	Agreeable	Agreeable
3	Taste	Agreeable	-	Agreeable	Agreeable	Agreeable	Agreeable
4	Turbidity	5	NTU	<1.0	<1.0	<1.0	<1.0
5	pH Value	6.5-8.5	-	6.97	7.34	7.2	7.32
6	Total Hardness (as $CaCO_3$)	300	mg/l	80	70	76	75
7	Iron (as Fe)	0.3	mg/l	0.34	0.33	0.24	0.36
8	Chloride (as Cl)	250	mg/l	27.5	40	25	45
9	Residual, free Chlorine	0.2	mg/l	ND	ND	ND	ND
10	Dissolved Solids	500	mg/l	277	289	293	292
11	Calcium (as Ca)	75	mg/l	30.6	33.1	31.3	33.6
12	Copper (as Cu)	0.05	mg/l	BDL	BDL	BDL	BDL
13	Manganese (as Mn)	0.1	mg/l	0.057	0.062	0.055	0.065
14	Sulphate (as SO_4)	200	mg/l	11.9	12.7	10.7	13.8
15	Nitrate (as NO_3)	45	mg/l	1.35	1.35	2.33	1.37
16	Fluoride (as F)	1	mg/l	0.28	0.28	0.23	0.29
17	Phenolic Compounds (as C_6H_5OH)	0.001	mg/l	BDL	BDL	BDL	BDL
18	Mercury (as Hg)	0.001	mg/l	BDL	ND	BDL	ND
19	Cadmium (as Cd)	0.01	mg/l	BDL	BDL	BDL	BDL
20	Selenium (as Se)	0.01	mg/l	BDL	BDL	BDL	BDL
21	Arsenic (as As)	0.05	mg/l	BDL	BDL	BDL	BDL
22	Cyanide (as CN)	0.05	mg/l	BDL	BDL	BDL	BDL
23	Lead (as Pb)	0.05	mg/l	BDL	BDL	BDL	BDL
24	Zinc (as Zn)	5	mg/l	0.28	0.24	0.23	0.22
25	Chromium (as Cr^{+6})	0.05	mg/l	BDL	BDL	BDL	BDL
26	Mineral Oil	0.01	mg/l	BDL	BDL	BDL	BDL
27	Alkalinity	200	mg/l	70	85	65	80
28	Aluminium as Al	0.03	mg/l	BDL	BDL	BDL	BDL
29	Boron	1	mg/l	0.055	0.043	0.038	0.044

Note: The Environment Monitoring is done by third party M/s. Visiontek Consultancy Services Pvt. Ltd. The required data is put in format from their report

5. Soil Quality:

Sampling Location:

S1- Raw Water Pump House
S2- West of ash pond, Bhagipali
S3- Bhurkamunda village
S4- East side of ash pond, Purna

Sl. No.	Parameter	S1		S2		S3		S4	
		Oct-22	Jan-23	Oct-22	Jan-23	Oct-22	Jan-23	Oct-22	Jan-23
1	Colour	Brown	Brown	Brown	Brown	Reddish	Reddish	Brown	Brown
2	Type of Soil	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral	Neutral
3	pH	6.89	6.86	7.28	7.26	7.2	7.22	6.87	6.91
4	Texture	Sandy Loamy	Sandy Loamy	Sandy Loamy	Sandy Loamy	Sandy Loamy	Sandy Loamy	Sandy Loamy	Sandy Loamy
5	Infiltration Rate (cm/hr)	5.6	5.5	6.1	6.2	6.4	6.3	6.2	6.1
6	Bulk Density (gm/cc)	1.12	1.15	1.25	1.23	1.32	1.3	1.24	1.25
7	Porosity %	8.8	8.9	9.7	9.6	12.2	11.9	9.6	9.8
8	Moisture content %	3.7	3.7	4.1	4.1	4.5	4.5	3.9	3.9
9	Fluoride %	0.007	0.0057	0.009	0.0062	0.008	0.0057	0.007	0.0049
10	Silica as SiO_2%	26.9	27.2	24.8	24.4	28.1	28.3	30.9	31.2
11	Chloride %	0.086	0.087	0.082	0.085	0.091	0.093	0.092	0.09
12	Sulphate %	0.11	0.12	0.13	0.15	0.15	0.11	0.14	0.13
13	Potassium as K%	0.009	0.008	0.015	0.017	0.012	0.013	0.015	0.016
14	Magnesium as Mg%	0.13	0.13	0.145	0.144	0.14	0.16	0.12	0.13
15	Calcium as Ca%	0.45	0.44	0.51	0.52	0.41	0.43	0.36	0.35
16	Manganese as Mn%	0.18	0.19	0.15	0.14	0.21	0.22	0.17	0.18
17	Iron as Fe%	0.46	0.45	0.35	0.37	0.43	0.42	0.39	0.38
18	Available Organic Carbon %	0.70	0.71	0.52	0.50	0.48	0.49	0.54	0.55
19	Available Nitrogen%	0.033	0.032	0.025	0.024	0.04	0.041	0.022	0.021

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