

Your application has been **Submitted** with following details

Proposal No	IA/OR/IND/59484/2016
Compliance ID	19733971
Compliance Number(For Tracking)	EC/M/COMPLIANCE/19733971/2023
Reporting Year	2023
Reporting Period	01 Dec(01 Apr - 30 Sep)
Submission Date	26-10-2023
IRO Name	ARTATRANA MISHRA
IRO Email	jhk109@ifs.nic.in
State	ODISHA
IRO Office Address	Integrated Regional Offices, Bhubaneswar
Note:- SMS and E-Mail has been sent to ARTATRANA MISHRA, ODISHA with Notification to Project Proponent.	

DDSP/MOEFCC/001/2023-132
October 26, 2023.

To,
**The Addl. Principal Chief Conservator of Forests (C),
Ministry of Environment, Forest & Climate Change,
Integrated Regional Office (EZ),
A/3, Chandrasekharpur,
Bhubaneswar – 751 023.**

Sub: Submission of Six-Monthly Compliance Report of the Environmental Clearance of Dalmia Cement (Bharat) Limited (Dalmia DSP Unit), At/PO - Rajgangpur, Dist-Sundargarh, Odisha for the period April-2023 to September-2023.

Ref: Environmental Clearance vide File No. J-11011/232/2016- 1A II (I) dated 16.02.2018.

Dear Sir,

With reference to above captioned subject matter, we are submitting herewith the six-monthly compliance report of the conditions laid down in above Environmental clearance for the period April-2023 to September-2023.

Thanking you,

Yours sincerely,

For **Dalmia Cement Bharat Limited,**



(Ashok Kumar Mishra)
General Manager - Environment

Encl: As above.

CC: 1. The Director, Impact Assessment Division, MoEF&CC, New Delhi.
2. The Member Secretary, CPCB, New Delhi.
3. The Member Secretary, OSPCCB, Bhubaneswar, Odisha.

Half Yearly Compliance Report(Preview)

Proposal Details

Proposal No

IA/OR/IND/59484/2016

Category

Industrial Projects - 2

Proposal Name

Proposed Cement Plant (Dalmia DSP Unit) - Clinker 3.0 MTPA, Cement 2.25 MTPA, WHRS (15 MW) and DG Set (1000 KVA) by Dalmia Cement Bharat Limited at Village & Tehsil - Rajgangpur, District - Sundargarh, Odisha.

Plot / Survey/ Khasra No.**Village(s)****Sub-District(s)****State**

ODISHA

District

SUNDARGARH

MoEF File No

J-11011/232/2016-IA.II (I)

**Name of the Entity/
Corporate Office**

Dalmia Cement (Bharat) Limited

Entity's PAN

NA

Entity Name as per PAN

NA

Entity details mentioned above is correct ?

Agree

Covering Letter

Covering Letter[Click to View](#)

Compliance Reporting Details

Reporting Year

2023

Reporting Period

01 Dec(01 Apr - 30 Sep)

Remark(if any)

Details of Production and Project Area

Date of Commencement of Project/Activity

2019-11-22

	Project Area as per EC Granted	Actual Project Area in Possession
Private	0	0
Revenue Land	0	0
Forest	0	0
Others	0	0
Total	0	0

PRODUCTION CAPACITY

Sr.No.	Name of the Product	Units	As per EC Granted	As per CTO Granted	CTO ID	Valid Up To	Production during last financial year
1	Clinker	Tons per Annum (TPA)	3000000	3000000	5319	31-03-2025	2589498
2	WHRB	MW	15	15	5319	31-03-2025	75319

Conditions**Specific Conditions**

Sr.No.	Condition Heading	Condition Details	Status of Compliance, Remarks/Reason and Supporting Documents	
1	Corporate Environmental Responsibility	1. An amount of Rs 46.00 Crores proposed towards Enterprise Social Commitment (ESC) shall be utilized as capital expenditure in project mode. The project shall be completed in concurrence with the implementation of the expansion	PPs Submission	ESC Commitment is being utilized as capital expenditure towards education, health, sanitation, infrastructure development, livelihood and skill development etc. Being Complied Attachment: NA

		and estimated on the basis of Scheduled Rates.		
2	GREENBELT	Green belt shall be developed in 12.95 Ha equal to 33% of the plant area with a native tree species in accordance with CPCB guidelines. The greenbelt shall inter alia cover the entire periphery of the plant. The plantation shall be completed within one year from the date of issue of EC. In addition to this 1500 additional plants shall be planted within the premises.	PPs Submission	Green cover has been developed with native species including Bamboo saplings. Around 11702 saplings have been planted in this year till Sept 2023. Gap filling is being done wherever required and efforts are being taken to increase the survival rate beyond 90%. Being Complied Attachment: NA
3	WASTE MANAGEMENT	4. Kitchen waste shall be composted or converted to biogas for further use.	PPs Submission	Mechanical bio-digester has been installed for converting kitchen waste into manure for further utilization in green belt and horticulture. Complied Attachment: NA
4	ENERGY PRESERVATION MEASURES	5. The project proponent shall adopt the slip power recovery system for energy conservation.	PPs Submission	Slip power recovery system has been installed wherever applicable. Complied Attachment: NA
5	MISCELLANEOUS	Detailed study of the fauna in the study area shall be carried out within one year. If Schedule-I species are found, then conservation	PPs Submission	No Schedule I species have been found within the project area as confirmed by the State Forest Department. Complied Attachment: NA

		plan for Schedule-I species be prepared and implemented in consultation with state forest department. The PP shall provide necessary financial resources for implementation of the plan.		
6	WATER QUALITY MONITORING AND PRESERVATION	No ground water shall be used for plant & township	PPs Submission	Ground water is neither used for plant or township. Complied Attachment: NA
7	MISCELLANEOUS	3. The Capital cost Rs. 95.00 Crores and annual recurring cost Rs. 5.00 Crores towards the environmental protection measures shall be earmarked separately. The funds so provided shall not be diverted for any other purpose.	PPs Submission	The capital cost of 95 Cr earmarked for environmental protection measures has already been spent and has not been diverted for any other purpose. Complied Attachment: NA

General Conditions

Sr.No.	Condition Heading	Condition Details	Status of Compliance,Remarks/Reason and Supporting Documents	
1	AIR QUALITY MONITORING AND PRESERVATION	a. Install 24x7 continuous emission monitoring system at all the stacks to monitor stack emission with respect to parameters prescribed in G.S.R. No. 612 (E)	PPs Submission	Continuous Emission Monitoring System (CEMS) have been installed in all main stacks of our plant and are connected to the Board server. Complied Attachment: NA

		dated 25th August, 2014 and subsequent amendment dated 10th May, 2016 from time to time; S.O. 3305 (E) dated 7th December 2015 for thermal power plants as amended from time to time and connected to CPCB online;		
2	AIR QUALITY MONITORING AND PRESERVATION	b. Monitor fugitive emissions in the plant premises;	PPs Submission	Fugitive emissions are being monitored within plant premises regularly. Complied Attachment: NA
3	AIR QUALITY MONITORING AND PRESERVATION	c. Carryout Continuous Ambient Air Quality monitoring as per National Ambient Air Quality Standards issued by the Ministry vide G.S.R.No. 826(E) dated 16th November 2009 (as amended from time to time) within and outside the plant area at least at four locations covering upwind and downwind directions at an angle of 120 degree each; and	PPs Submission	Continuous Ambient Air Quality Monitoring (CAAQM) System have been installed at four locations covering upwind and downwind directions. Online data is being transmitted to Board server. Complied Attachment: NA
4	AIR QUALITY MONITORING AND PRESERVATION	d. Submit monitoring report to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.	PPs Submission	Six monthly compliance report along with monitoring results are submitted to MOEF&CC, CPCB and SPCB periodically. Complied Attachment: NA

5	WATER QUALITY MONITORING AND PRESERVATION	b) submit monitoring report to Regional Office of MoEF&CC, Zonal office of CPCB and Regional Office of SPCB along with six-monthly monitoring report.	PPs Submission	Six monthly compliance report along with monitoring results are submitted to statutory bodies periodically. Complied Attachment: NA
6	AIR QUALITY MONITORING AND PRESERVATION	a) Provide appropriate Air Pollution Control (APC) system for all the dust generating points including fugitive dust from all vulnerable sources;	PPs Submission	Air Pollution Control (APC) Devices have been installed at major dust generating points and are operating efficiently. Complied Attachment: NA
7	AIR QUALITY MONITORING AND PRESERVATION	b) Design suitable capacity of bag filters to handle gas/air shall be 150% of the normal flow from process/ from suction hoods to achieve particulate emission to less than 30 mg/N m ³ .	PPs Submission	Adequately sized bag filters have been installed to control the PM emissions below 30 mg/Nm ³ . Complied Attachment: NA
8	AIR QUALITY MONITORING AND PRESERVATION	c) Provide leakage detection and mechanized bag cleaning facilities for better maintenance of bags:	PPs Submission	Major Bag Houses are provided with leakage detection and mechanized bag cleaning facilities for better maintenance. Complied Attachment: NA
9	AIR QUALITY MONITORING AND PRESERVATION	d) Provide pollution control system in the cement plant as per the CREP Guidelines of CPCB;	PPs Submission	CREP guidelines of CPCB w.r.t Cement Plant is being adhered to. Complied Attachment: NA
10	AIR QUALITY MONITORING AND PRESERVATION	e) Provide sufficient number of mobile or stationery vacuum cleaners to clean plant roads, shop	PPs Submission	3 nos. of small and 1 no. of big mechanized road sweepers have been provided to clean plant roads, shop floors, roofs etc

		floors, roofs regularly;		along with vacuum cleaners at shop floor. Complied Attachment: NA
11	AIR QUALITY MONITORING AND PRESERVATION	f) Recycle and reuse lime fines, coal fines and such other fines collected in the pollution control devices and vacuum cleaning devices in the process after agglomeration;	PPs Submission	Lime and coal fines collected in the pollution control devices are recycled and reused to the maximum extent possible. Complied Attachment: NA
12	AIR QUALITY MONITORING AND PRESERVATION	g) Use leak proof trucks/dumpers for carrying coal and other raw materials and shall cover them with tarpaulin. Use closed bulkers for carrying fly ash;	PPs Submission	Tarpaulin covered trucks are used for carrying coal and other raw materials. Closed bulkers are used for fly ash. Complied Attachment: NA
13	AIR QUALITY MONITORING AND PRESERVATION	h) Provide wind shelter fence and chemical spraying on the raw material stock piles:	PPs Submission	Wind Shelter fence near raw material stock piles have been provided at certain critical locations. Complied Attachment: NA
14	AIR QUALITY MONITORING AND PRESERVATION	i) Provide Low NOx burners to control NOx emissions. Regular calibration of the instruments must be ensured. If needed, NOx will be controlled by using SCR/NSCR technologies:	PPs Submission	Low NOx burners have been installed to control NOx emissions within the prescribed standard. Complied Attachment: NA
15	AIR QUALITY MONITORING AND PRESERVATION	j) Have separate truck parking area and monitor vehicular emissions at regular interval.	PPs Submission	A separate truck parking area has been earmarked and vehicular emissions are monitored on regular basis. Complied Attachment: NA

16	WATER QUALITY MONITORING AND PRESERVATION	a) Adhere to zero liquid discharge?;	PPs Submission	Cement Manufacturing is a dry process and Zero liquid discharge is being adhered to except monsoon/surface run off. Complied Attachment: NA
17	WATER QUALITY MONITORING AND PRESERVATION	b) Provide Sewage Treatment Plant for domestic wastewater	PPs Submission	Domestic wastewater is treated in STP. Complied Attachment: NA
18	WATER QUALITY MONITORING AND PRESERVATION	c) Provide garland drains and collection pits for each stock pile to arrest the run-off in the event of heavy rains and to check the water pollution due to surface run off.	PPs Submission	Garland drains with collection pits are provided at stock pile area to check water pollution due to surface run off. Complied Attachment: NA
19	WATER QUALITY MONITORING AND PRESERVATION	a) Practice rainwater harvesting to maximum possible extent;	PPs Submission	Rainwater is harvested in concrete roof buildings. Complied Attachment: NA
20	WATER QUALITY MONITORING AND PRESERVATION	b) Provide water meters at the inlet to all unit processes in the cement plants:	PPs Submission	Water meters are in place at the inlet to all unit processes in the cement plant. Complied Attachment: NA
21	WATER QUALITY MONITORING AND PRESERVATION	c) Make efforts to minimize water consumption in the steel plant complex by segregation of used water, practicing cascade use and by recycling treated water.	PPs Submission	Efforts are being made to limit the power consumption as per the stipulated norms. Complied Attachment: NA
22	ENERGY PRESERVATION	6 (a) provide Waste heat	PPs Submission	Waste Heat Recovery System has been installed

	MEASURES	recovery system for kiln and cooler;		for Kiln and cooler units. Complied Attachment: NA
23	ENERGY PRESERVATION MEASURES	6 (b) make efforts to achieve power consumption less than 65 units/tonne for Portland Pozzolona Cement (PPC) and 85 units/tonne for Ordinary Portland Cement (OPC) production and thermal energy consumption of 670 Kcal/Kg of clinker;	PPs Submission	Efforts are being made to limit the power consumption as per the stipulated norms. Complied Attachment: NA
24	ENERGY PRESERVATION MEASURES	6 (c) provide solar power generation on roof tops of buildings, for solar light system for all common areas, street lights. parking around project area and maintain the same regularly;	PPs Submission	Solar power system has been installed. Complied Attachment: NA
25	ENERGY PRESERVATION MEASURES	6 (d) provide the project proponent for LED lights in their offices and residential areas:	PPs Submission	LED lights are used in offices as well as residential areas. Complied Attachment: NA
26	ENERGY PRESERVATION MEASURES	6 (e) maximize utilization of fly ash, slag and sweetener in cement blend as per BIS standards;	PPs Submission	Maximum utilization of fly ash as well as slag is done in the cement blend. Complied Attachment: NA
27	ENERGY PRESERVATION MEASURES	6 (f) maximize utilization of alternate fuels and Co-processing to achieve best practice norms.	PPs Submission	Co-processing with maximum utilization of alternate fuels is done in the cement plant. Complied Attachment: NA

28	Human Health Environment	7. Efforts shall be made to reduce impact of the transport of the raw materials and end products on the surrounding environment including agricultural land by the use of covered conveyor belts/railways as a mode of transport.	PPs Submission	Raw material from the mines to the cement plant is transported through closed circuit belt conveyor (CCBC). Complied Attachment: NA
29	WASTE MANAGEMENT	8. Used refractories shall be recycled as far as possible.	PPs Submission	Used refractories are recycled as much as possible. Complied Attachment: NA
30	GREENBELT	9. The PP shall prepare GHG emissions inventory for the plant and shall submit the program for reduction of the same including carbon sequestration including plantation.	PPs Submission	GHG emissions inventory for the plant has been prepared and strategies for carbon sequestration is under progress. Plantation is done on a regular basis. Being Complied Attachment: NA
31	Risk Mitigation and Disaster Management	10. Emergency preparedness plan based on the Hazard identification and Risk Assessment (HIRA) and Disaster Management Plan shall be implemented.	PPs Submission	Emergency Preparedness Plan based on HIRA and DMP is implemented at site along with mock drills. Complied Attachment: NA
32	Human Health Environment	11. The PP shall Carry-out heat stress analysis for the workmen who work in high temperature work zone and provide	PPs Submission	PPEs have been made mandatory and heat stress analysis is being carried out for workmen working in high temperature zone.

		Personal Protection Equipment (PPE) as per the norms of Factory Act.		Complied Attachment: NA
33	Statutory compliance	12. The PP shall adhere to the corporate environmental policy and system of the reporting of any infringements/ non-compliance of EC conditions at least once in a year to the Board of Directors and the copy of the board resolution shall be submitted to the MoEF&CC as a part of six-monthly report.	PPs Submission	Environment Policy is in place and non-compliances are reviewed at Board of Directors level. Complied Attachment: NA
34	Corporate Environmental Responsibility	13. All the recommendations made in the Charter on Corporate Responsibility for Environment Protection (CREP) for the cement plants shall be implemented.	PPs Submission	All recommendations made in the CREP Charter are being adhered to. Complied Attachment: NA
35	Statutory compliance	14. A dedicated environmental cell with qualified personnel shall be established. The head of the environment cell shall report directly to the head of the organization.	PPs Submission	An Environmental Cell with qualified personnel is in place with Head of Cell directly reporting to the Unit Head. Complied Attachment: NA
36	Human Health Environment	15. Provision shall be made for the housing of construction labour within the site with all necessary infrastructure and	PPs Submission	Necessary basic infrastructure was provided to workers and labour during the construction phase. Complied Attachment: NA

		facilities such as fuel for cooking. mobile toilets, mobile STP, Safe drinking water. medical health care. creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.		
37	Statutory compliance	16. The project authorities must strictly adhere to the stipulations made by the State Pollution Control Board and the State Government.	PPs Submission	Noted and stipulations by SPCB and State Govt. are being adhered to from time to time. Complied Attachment: NA
38	Statutory compliance	17. No further expansion or modifications in the plant shall be carried out without prior approval of the Ministry of Environment, Forests and Climate Change (MoEF&CC).	PPs Submission	Noted. No expansion/modification has been carried out without prior approval of Ministry. Complied Attachment: NA
39	WASTE MANAGEMENT	18. The waste oil, grease and other hazardous shall be disposed of as per the Hazardous & Other waste (Management & Transboundary Movement) Rules, 2016.	PPs Submission	Waste Oil, Grease and other Hazardous wastes are being handled and disposed off as per HOWM Rules 2016 and amendments thereof. Complied Attachment: NA
40	Risk Mitigation and Disaster Management	19. The storage of NH3 and other hazardous chemicals at the site shall be as per the provisions of Manufacture, Storage and Import of	PPs Submission	Noted. NH3 and other Hazardous Chemicals are being stored properly in designated and earmarked areas. Complied Attachment: NA

		Hazardous Chemical Rules, 1989 as amended from time to time.		
41	Noise Monitoring & Prevention	20. The ambient noise levels should conform to the standards prescribed under EPA Rules. 1989 viz. 75 dB(A) during day time and 70 dB(A) during night time.	PPs Submission	The ambient noise levels monitored conforms to the prescribed standard. Complied Attachment: NA
42	Human Health Environment	21. Occupational health surveillance of the workers shall be done on a regular basis and records maintained as per the Factories Act.	PPs Submission	The health surveillance of the workers is done periodically and records are maintained for the same as per Factories Act. Complied Attachment: NA
43	MISCELLANEOUS	22. The project proponent shall also comply with all the environmental protection measures and safeguards recommended in the EIA/EMP report.	PPs Submission	All environment protection measures and safeguards as mentioned in EIA/EMP report are being adhered to. Complied Attachment: NA
44	Human Health Environment	23. Ventilation system shall be designed for adequate air changes as per ACGIH document for all tunnels, motor houses, cement bagging plants.	PPs Submission	Ventilation system has been designed for adequate air changes in all tunnels, motor houses, cement bagging plants. Complied Attachment: NA
45	WASTE MANAGEMENT	24. Sufficient number of colour coded waste collection bins shall be constructed at shop floors in each hop to systematically	PPs Submission	Wastes other than process wastes collected from shop floors are segregated and stored in color coded bins as a good housekeeping practice. Complied Attachment: NA

		segregate and store waste materials generated at the shop floors (other than Process waste) in designated colored bins for value addition by promoting reuse of such wastes and for good housekeeping.		
46	Statutory compliance	25 (a) send a copy of environmental clearance letter to the heads of Local Bodies, Panchayat, Municipal bodies and relevant offices of the Government:	PPs Submission	Copies of the Environmental Clearance were submitted to heads of local bodies and relevant Govt. Offices. Complied Attachment: NA
47	Statutory compliance	25 (b) put on the clearance letter on the web site of the company for access to the Public.	PPs Submission	Environmental Clearance Letter has been uploaded and made available on company website. Complied Attachment: NA
48	Statutory compliance	25 (c) inform the public through advertisement within seven days from the date of issue of the clearance letter. at least in two local newspapers that are widely circulated in the region of which one shall be in the vernacular language that the project has been accorded environmental clearance by the Ministry and copies of the clearance letter are available with the SPCB and may	PPs Submission	The grant of Environmental Clearance to the project was advertised in two local newspaper i.e. Odisha Today and Manthan dated 22.02.2018. Complied Attachment: NA

		also be seen at Website of the Ministry of Environment, Forests and Climate Change (MoEF&CC) at http://envfor.nic.in .		
49	Statutory compliance	25 (d) upload the status of compliance of the stipulated environment clearance conditions. including results of monitored data on their website and update the same periodically	PPs Submission	Status on compliance of EC conditions along with results of monitored data is uploaded periodically. Complied Attachment: NA
50	Statutory compliance	25 (e) monitor the criteria pollutants Level namely PM10, SO2, NOx (ambient levels as well as stack emissions) or critical sectoral parameters indicated for the projects and display the same at a convenient location for disclosure to the public and put on the website of the company;	PPs Submission	Stack emissions as well as ambient air quality for sectoral parameters are monitored and results displayed in public as well as uploaded on company website. Complied Attachment: NA
51	Statutory compliance	25 (f) submit six monthly reports on the status of the compliance of the stipulated environmental conditions including results of monitored data (both in hard copies as well as by e-mail) to the Regional Office of MoEF&CC, the respective Zonal	PPs Submission	Six monthly compliance reports including results of monitored data are submitted to the statutory bodies. Complied Attachment: NA

		Office of CPCB and the SPCB:		
52	Statutory compliance	25 (g) submit the environmental statement for each financial year in Form-V to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently and put on the website of the company;	PPs Submission	Environmental Statement in Form V has been submitted to OSPCB on 23.09.2023. The same is uploaded periodically on company website Complied Attachment: NA
53	Statutory compliance	25 (h) inform the Regional Office as well as the Ministry, the date of financial closure and final approval of the project by the concerned authorities and the date of commencing the land development work.	PPs Submission	Project executed in October, 2018. We have obtained consent to establish (CTE) & consent to operate (CTO) from State Pollution Control Board, Odisha for the commencement of operation since December 2019. Complied Attachment: NA
54	MISCELLANEOUS	26. The Ministry may revoke or suspend the clearance, if implementation of any of the above conditions is not satisfactory.	PPs Submission	Noted Complied Attachment: NA
55	MISCELLANEOUS	27. The Ministry reserves the right to stipulate additional conditions if found necessary. The Company in a time bound manner shall implement these conditions.	PPs Submission	Noted and will be complied if any. Complied Attachment: NA
56	PUBLIC HEARING	28. The project proponent shall abide by all the	PPs Submission	All commitments and recommendations made in the EIA/EMP report are

		commitments and recommendations made in the EIA/EMP report and that during their presentation to the EAC. The commitment made by the project proponent to the issue raised during Public Hearing shall be implemented by the proponent.		being implemented. Being Complied Attachment: NA
57	MISCELLANEOUS	29. The above conditions shall be enforced. inter-alia under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981. the Environment (Protection) Act, 1986, Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and the Public Liability Insurance Act, 1991 along with their amendments and rules.	PPs Submission	Noted. Complied Attachment: NA
58	MISCELLANEOUS	30. Any appeal against this EC shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act. 2010.	PPs Submission	Noted. Complied Attachment: NA

59	WATER QUALITY MONITORING AND PRESERVATION	2 (a) Install 24x7 continuous effluents monitoring system at all the discharge points to monitor treated effluents with respect to parameters prescribed in G.S.R. No. 612 (E) dated 25th August, 2014 and subsequent amendment dated 9th May, 2016 and 10th May 2016 as amended from time to time; S.O.3305 (E) dated 7th December 2015 for thermal power plants as amended from time to time as amended from time to time;	PPs Submission	Cement manufacturing being a dry process, no such effluent is generated and there are no discharge points in the plant. Complied Attachment: NA
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Document Upload

Last Site Visit Report (if available)

NA

Last Site Visit Report Date (if available)

Additional Attachment (if any)

[Click to View](#)

Additional Remarks (if any)

The detailed environment monitoring report for the period of April 2023 to September 2023 is attached.

- I '[Dalmia Cement \(Bharat\) Limited](#)' hereby give undertaking that the specific / general condition is entered by me is correct.

ENVIRONMENTAL MONITORING REPORT

BASED ON DATA GENERATED

FROM

APRIL – SEPTEMBER 2023

FOR

DALMIA CEMENT BHARAT LIMITED

At/Po: RAJGANGPUR – 770017, District: SUNDARGARH, ODISHA



Prepared By:

Cleenviron Private Limited

D-124, KOELNAGAR, ROURKELA, ODISHA

Tele fax: 0661 – 2475746

Email: cleenviron@gmail.com

Table No: 1

AMBIENT AIR QUALITY DATA
 From 01.04.2023 to 30.09.2023
Station: A-1 (Konark Vihar Area)

Months	PM2.5 µg/m ³	PM10 µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³
April	33	78	23	33	< 0.1
	40	83	13	24	< 0.1
May	25	87	07	21	< 0.1
	24	70	09	26	< 0.1
	30	87	06	19	< 0.1
	21	65	08	23	< 0.1
	22	63	05	20	< 0.1
	38	85	06	21	< 0.1
	20	66	07	26	< 0.1
	24	73	05	23	< 0.1
	38	87	04	16	< 0.1
June	26	82	07	22	< 0.1
	33	91	12	29	< 0.1
	30	86	10	21	< 0.1
	31	88	11	20	< 0.1
	26	80	08	27	< 0.1
	24	87	10	35	< 0.1
	19	60	09	19	< 0.1
	11	31	05	15	< 0.1
July	14	48	08	21	< 0.1
	25	74	10	22	< 0.1
	13	31	06	14	< 0.1
	15	45	< 3	08	< 0.1
	19	55	03	12	< 0.1
	21	61	05	12	< 0.1
	14	41	07	17	< 0.1
	15	43	11	32	< 0.1
	14	36	06	13	
August	18	52	04	21	< 0.1
	14	38	05	20	< 0.1
	23	64	05	16	< 0.1
	22	65	03	17	< 0.1
	13	41	03	13	< 0.1
	12	41	08	22	< 0.1
	15	47	05	20	< 0.1
	23	64	05	21	< 0.1
	21	65	06	13	< 0.1
September	25	73	08	25	< 0.1
	27	75	04	20	< 0.1
	21	60	05	18	< 0.1
	26	74	06	20	< 0.1
	13	37	07	26	< 0.1
	22	64	05	17	< 0.1

Months	PM2.5 µg/m ³	PM10 µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³
	10	29	< 3	09	< 0.1
	20	63	06	25	< 0.1

Table No: 2

AMBIENT AIR QUALITY DATA
From 01.04.2023 to 30.09.2023
Station: A-2 (General Store Area, Line – 1)

Months	PM2.5 µg/m ³	PM10 µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³
April	33	73	24	31	< 0.1
	36	85	16	32	< 0.1
May	27	74	05	16	< 0.1
	30	73	06	18	< 0.1
	36	93	04	15	< 0.1
	25	71	10	22	< 0.1
	39	94	03	12	< 0.1
	23	74	09	22	< 0.1
	28	80	05	16	< 0.1
	29	87	06	20	< 0.1
June	36	89	05	12	< 0.1
	25	73	05	20	< 0.1
	32	94	13	29	< 0.1
	26	84	04	15	< 0.1
	30	86	10	30	< 0.1
	33	90	08	31	< 0.1
	27	92	14	29	< 0.1
	24	81	10	34	< 0.1
July	16	46	03	15	< 0.1
	25	73	05	20	< 0.1
	32	94	13	29	< 0.1
	26	84	04	15	< 0.1
	30	86	10	30	< 0.1
	33	90	08	31	< 0.1
	27	92	14	29	< 0.1
	24	81	10	34	< 0.1
August	16	46	03	15	< 0.1
	25	73	05	20	< 0.1
	10	24	05	18	< 0.1
	23	62	04	20	< 0.1
	22	60	09	17	< 0.1
	21	65	08	28	< 0.1
	25	78	05	20	< 0.1
	23	68	09	24	< 0.1
September	22	60	08	26	< 0.1
	20	57	05	16	< 0.1
	24	73	06	18	< 0.1
	26	75	05	21	< 0.1

Months	PM2.5 µg/m ³	PM10 µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³
	16	45	08	26	< 0.1
	23	64	08	27	< 0.1
	25	70	05	20	< 0.1
	21	60	07	10	< 0.1
	24	69	03	12	< 0.1
	15	48	04	19	< 0.1
	23	76	08	27	< 0.1

Table No: 3

AMBIENT AIR QUALITY DATA
From 01.04.2023 to 30.09.2023
Station: A-3 (Material Gate, DSP Unit)

Months	PM2.5 µg/m ³	PM10 µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³
April	34	76	17	25	< 0.1
	35	84	17	23	< 0.1
May	32	91	03	10	< 0.1
	35	91	04	13	< 0.1
	28	80	04	12	< 0.1
	34	95	08	25	< 0.1
	31	85	06	20	< 0.1
	37	96	09	20	< 0.1
	24	76	08	26	< 0.1
	28	83	09	12	< 0.1
	33	92	10	19	< 0.1
June	38	97	05	19	< 0.1
	26	84	08	26	< 0.1
	27	87	07	23	< 0.1
	29	90	07	10	< 0.1
	34	83	08	30	< 0.1
	26	80	08	17	< 0.1
	27	79	07	23	< 0.1
	06	17	06	21	< 0.1
July	21	67	09	28	< 0.1
	27	77	04	14	< 0.1
	26	75	07	36	< 0.1
	28	78	05	12	< 0.1
	23	74	09	21	< 0.1
	26	78	07	23	< 0.1
	27	77	11	35	< 0.1
	23	69	07	17	< 0.1
	21	58	08	18	< 0.1
August	11	30	07	26	< 0.1
	22	69	03	15	< 0.1
	28	78	12	16	< 0.1
	21	62	04	15	< 0.1
	29	80	04	15	< 0.1

Months	PM2.5 µg/m ³	PM10 µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³
	28	79	13	42	< 0.1
	24	78	10	34	< 0.1
	21	67	04	21	< 0.1
	26	75	07	26	< 0.1
September	26	79	07	21	< 0.1
	27	80	09	33	< 0.1
	23	74	09	27	< 0.1
	22	63	05	21	< 0.1
	26	70	09	20	< 0.1
	25	69	06	21	< 0.1
	28	74	05	18	< 0.1
	27	78	04	16	< 0.1

Table No: 4

AMBIENT AIR QUALITY DATA
From 01.04.2023 to 30.09.2023
Station: A-4 (Near Refractory Main Gate)

Months	PM2.5 µg/m ³	PM10 µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³
April	26	79	15	23	< 0.1
	40	86	11	21	< 0.1
May	36	94	05	18	< 0.1
	29	84	05	15	< 0.1
	37	89	07	22	< 0.1
	33	86	09	20	< 0.1
	26	87	05	18	< 0.1
	29	84	04	12	< 0.1
	38	88	13	43	< 0.1
	30	82	08	17	< 0.1
39	95	04	13	< 0.1	
June	36	92	08	31	< 0.1
	35	88	12	31	< 0.1
	31	82	12	23	< 0.1
	35	84	09	22	< 0.1
	35	86	20	42	< 0.1
	29	81	05	19	< 0.1
	26	89	07	26	< 0.1
	24	59	07	26	< 0.1
July	25	70	04	13	< 0.1
	28	79	07	25	< 0.1
	29	80	08	30	< 0.1
	27	78	07	16	< 0.1
	29	71	08	11	< 0.1
	23	71	09	28	< 0.1
	26	74	09	32	< 0.1
	28	77	04	13	< 0.1
23	71	15	31	< 0.1	

Months	PM2.5 µg/m ³	PM10 µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³
August	21	59	10	30	< 0.1
	24	67	06	21	< 0.1
	24	70	06	19	< 0.1
	24	67	07	23	< 0.1
	27	77	03	10	< 0.1
	23	72	06	16	< 0.1
	27	82	10	15	< 0.1
	23	71	08	11	< 0.1
	29	78	05	14	< 0.1
September	24	70	04	16	< 0.1
	25	72	08	25	< 0.1
	28	79	05	19	< 0.1
	24	69	03	12	< 0.1
	23	66	07	23	< 0.1
	26	70	04	14	< 0.1
	12	33	05	19	< 0.1
	21	63	04	14	< 0.1

Table No: 5

AMBIENT AIR QUALITY DATA
From 01.04.2023 to 30.09.2023
Station: A-5 (Pay Loader Garage Area, Line – 1)

Months	PM2.5 µg/m ³	PM10 µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³
April	34	87	11	17	< 0.1
	40	73	15	25	< 0.1
May	35	95	04	13	< 0.1
	32	82	06	18	< 0.1
	33	82	05	16	< 0.1
	32	86	04	15	< 0.1
	32	81	03	15	< 0.1
	27	81	09	22	< 0.1
	30	88	07	18	< 0.1
	27	82	04	15	< 0.1
	39	90	06	21	< 0.1
	June	26	78	07	23
27		76	11	23	< 0.1
33		92	09	29	< 0.1
23		63	05	19	< 0.1
27		87	09	29	< 0.1
28		82	06	20	< 0.1
27		81	07	28	< 0.1
12		35	08	13	< 0.1
July	25	77	08	22	< 0.1
	14	40	06	21	< 0.1
	22	70	08	34	< 0.1
	31	75	04	10	< 0.1

Months	PM2.5 µg/m ³	PM10 µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³
	22	63	07	13	< 0.1
	23	72	04	15	< 0.1
	18	51	08	26	< 0.1
	23	60	09	29	< 0.1
	22	62	10	32	< 0.1
August	12	31	03	13	< 0.1
	25	72	07	21	< 0.1
	27	77	11	19	< 0.1
	24	76	05	18	< 0.1
	16	51	11	19	< 0.1
	24	67	04	15	< 0.1
	23	69	04	15	< 0.1
	24	67	05	22	< 0.1
September	26	70	06	20	< 0.1
	24	71	04	19	< 0.1
	26	77	07	21	< 0.1
	21	64	05	19	< 0.1
	20	59	07	25	< 0.1
	25	70	05	15	< 0.1
	22	65	05	15	< 0.1
	20	56	04	24	< 0.1
22	72	07	20	< 0.1	

Table No: 6

AMBIENT AIR QUALITY DATA
From 01.04.2023 to 30.09.2023
Station: A-6 (Workshop Area, Line – 2)

Months	PM2.5 µg/m ³	PM10 µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³
April	38	85	13	20	< 0.1
	36	74	14	21	< 0.1
May	28	80	05	08	< 0.1
	26	83	08	23	< 0.1
	31	89	03	09	< 0.1
	23	68	07	22	< 0.1
	27	77	07	22	< 0.1
	36	92	08	20	< 0.1
	39	94	10	33	< 0.1
	25	89	08	29	< 0.1
	29	83	12	38	< 0.1
June	33	85	08	25	< 0.1
	25	76	14	42	< 0.1
	36	90	05	11	< 0.1
	25	89	05	17	< 0.1
	36	89	09	29	< 0.1
	25	83	07	12	< 0.1
	24	71	06	29	< 0.1

Months	PM2.5 µg/m ³	PM10 µg/m ³	SO ₂ µg/m ³	NO ₂ µg/m ³	CO mg/m ³
	08	25	09	12	< 0.1
July	25	76	04	14	< 0.1
	18	50	07	16	< 0.1
	17	47	08	23	< 0.1
	16	47	06	22	< 0.1
	13	35	04	16	< 0.1
	11	32	06	22	< 0.1
	10	34	07	25	< 0.1
	12	23	10	24	< 0.1
August	16	43	05	11	< 0.1
	21	66	08	27	< 0.1
	19	58	< 3	12	< 0.1
	19	53	03	14	< 0.1
	23	70	07	15	< 0.1
	25	71	09	30	< 0.1
	18	56	07	23	< 0.1
	23	70	05	24	< 0.1
September	18	48	05	16	< 0.1
	20	62	04	20	< 0.1
	28	80	03	12	< 0.1
	21	63	05	19	< 0.1
	17	55	07	25	< 0.1
	22	63	07	22	< 0.1
	24	69	04	14	< 0.1
	23	66	04	21	< 0.1
	16	45	06	21	< 0.1
	24	68	04	18	< 0.1

Table No 7:

STACK EMISSION MONITORING RESULTS

Months	Location of sampling	PM mg/Nm ³	SO ₂ mg/Nm ³	NO ₂ mg/Nm ³	Hg mg/Nm ³
April	Coal Mill – 1 Bag Filter	09	-	-	-
	Cooler ESP – 1	20	-	-	-
	CVRM – 1 Bag Filter	6.4	-	-	-
	CVRM – 2 Bag Filter	12	-	-	-
	CVRM – 3 Bag Filter	08	-	-	-
	Clinker Cooler Attached To ESP (DSP Unit)	12	-	-	-
	Coal Mill Attached To Bag Filter (DSP Unit)	08	-	-	-
	Kiln & VRM ESP – 1	11	4	628	-
	Kiln & Raw Mill RABH (DSP Unit)	13	6	438	-
	Boiler 1 & 2 ESP Stack	41	146.7	187.3	< 0.02
May	Coal Mill – 1 Bag Filter	10	-	-	-
	Cooler ESP – 1	06	-	-	-
	CVRM – 1 Bag Filter	05	-	-	-
	CVRM – 2 Bag Filter	09	-	-	-
	CVRM – 3 Bag Filter	15	-	-	-
	Coal Mill – 2 Bag Filter	17	-	-	-

Months	Location of sampling	PM mg/Nm ³	SO ₂ mg/Nm ³	NO ₂ mg/Nm ³	Hg mg/Nm ³
	Cooler ESP – 2	14	-	-	-
	Clinker Cooler Attached To ESP (DSP Unit)	15	-	-	-
	Coal Mill Attached To Bag Filter (DSP Unit)	07	-	-	-
	Kiln & VRM ESP – 1	05	18.49	517.95	-
	Kiln & VRM – 2 RABH	11	16.84	227.6	-
	Kiln & Raw Mill RABH (DSP Unit)	12	66.75	251.8	-
	Boiler 1 & 2 ESP Stack	25	432.32	288.1	< 0.02
June	Coal Mill – 1 Bag Filter	18	-	-	-
	Cooler ESP – 1	21	-	-	-
	CVRM – 1 Bag Filter	12	-	-	-
	CVRM – 2 Bag Filter	11	-	-	-
	CVRM – 3 Bag Filter	13	-	-	-
	Coal Mill – 2 Bag Filter	14	-	-	-
	Cooler ESP – 2	21	-	-	-
	Clinker Cooler Attached To ESP (DSP Unit)	13	-	-	-
	Coal Mill Attached To Bag Filter (DSP Unit)	06	-	-	-
	Kiln & VRM ESP – 1	6	21.62	533.0	-
	Kiln & VRM – 2 RABH	6	28.09	202.6	-
	Kiln & Raw Mill RABH (DSP Unit)	10	61.45	189.81	-
	Boiler 1 & 2 ESP Stack	12	463.74	253.00	< 0.02
July	Coal Mill – 1 Bag Filter	08	-	-	-
	Cooler ESP – 1	23	-	-	-
	CVRM – 1 Bag Filter	08	-	-	-
	CVRM – 2 Bag Filter	05	-	-	-
	CVRM – 3 Bag Filter	06	-	-	-
	Coal Mill – 2 Bag Filter	19	-	-	-
	Cooler ESP – 2	07	-	-	-
	Clinker Cooler Attached To ESP (DSP Unit)	09	-	-	-
	Coal Mill Attached To Bag Filter (DSP Unit)	06	-	-	-
	Kiln & VRM ESP – 1	07	20.80	437.3	-
	Kiln & VRM – 2 RABH	08	31.27	249.4	-
	Kiln & Raw Mill RABH (DSP Unit)	09	70.43	216.3	-
	Boiler 1 & 2 ESP Stack	27	388.21	242.6	< 0.02
August	CVRM – 1 Bag Filter	09	-	-	-
	CVRM – 2 Bag Filter	06	-	-	-
	CVRM – 3 Bag Filter	22	-	-	-
	Coal Mill – 2 Bag Filter	15	-	-	-
	Cooler ESP – 2	12	-	-	-
	Clinker Cooler Attached To ESP (DSP Unit)	10	-	-	-
	Coal Mill Attached To Bag Filter (DSP Unit)	06	-	-	-
	Kiln & VRM – 2 RABH	07	28.88	190.01	-
	Kiln & Raw Mill RABH (DSP Unit)	07	56.55	200.2	-
	Boiler 1 & 2 ESP Stack	19	446.94	281.00	< 0.02
September	Coal Mill – 1 Bag Filter	25	-	-	-
	Cooler ESP – 1	19	-	-	-
	CVRM – 1 Bag Filter	19	-	-	-
	CVRM – 2 Bag Filter	13	-	-	-
	CVRM – 3 Bag Filter	14	-	-	-
	Coal Mill – 2 Bag Filter	27	-	-	-

Months	Location of sampling	PM mg/Nm ³	SO ₂ mg/Nm ³	NO ₂ mg/Nm ³	Hg mg/Nm ³
	Cooler ESP – 2	21	-	-	-
	Kiln & VRM ESP – 1	06	13.0	223.15	-
	Kiln & VRM – 2 RABH	10	30.39	181.68	-
	Boiler 1 & 2 ESP Stack	11	423.87	275.92	< 0.02

Table No 8:

GROUND WATER QUALITY RESULT FOR THE MONTH OF MAY 2023

SI No	Parameter	Results Obtained					Unit	Permissible Limit in absence of Alternate Source as per IS 10500: 2012
		Tube Well Village Liploi	Tube Well Village Surudihi	Tube Well IT Colony	Tube Well Wesco Colony	Tube Well Village Banthupada		
1	Turbidity	2.1	1.2	10.1	12.2	11.3	NTU	5.0
2	pH Value	6.71	6.60	6.70	6.78	6.74	-	6.5 – 8.5
3	Total Hardness (as CaCO ₃)	633.86	345.74	300.46	415.72	370.44	mg/l	600
4	Iron (as Fe)	0.42	< 0.01	1.40	0.65	0.40	mg/l	0.3
5	Chlorides (as Cl)	275.91	92.97	39.99	70.98	154.98	mg/l	1000
6	Total Dissolved Solids	1091	541	474	639	712	mg/l	2000
7	Electrical Conductivity	1712	835	734	984	1149	µS/cm	-
8	Calcium (as Ca)	242.50	94.03	94.03	117.13	117.13	mg/l	200
9	Magnesium (as Mg)	7.00	27.0	16.0	30.0	19.06	mg/l	100
10	Copper (as Cu)	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	mg/l	1.5
11	Manganese (as Mn)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	mg/l	0.3
12	Sulfate (as SO ₄)	131.56	84.67	64.41	167.11	71.03	mg/l	400
13	Total Nitrate (as NO ₃)	62.15	55.05	1.40	8.55	6.35	mg/l	45
14	Total Alkalinity (as CaCO ₃)	328	224	256	244	288	mg/l	600
15	Acidity	30	28	28	18	22	mg/l	-
16	Sulphide (as H ₂ S)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	mg/l	0.05
17	Sodium (as Na)	40.14	23.81	31.76	32.65	42.11	mg/l	-
18	Potassium (as K)	2.96	3.08	2.24	2.84	12.42	mg/l	-
19	Fluoride (as F)	0.5	0.5	0.4	0.4	0.5	mg/l	1.5
20	Cadmium (as Cd)	ND	ND	ND	ND	ND	mg/l	0.003
21	Lead (as Pb)	ND	ND	ND	ND	ND	mg/l	0.01
22	Arsenic (as As)	ND	ND	ND	ND	ND	mg/l	0.05
23	Mercury (as Hg)	ND	ND	ND	ND	ND	mg/l	0.001
24	Selenium (as Se)	ND	ND	ND	ND	ND	mg/l	0.01
25	Nickel (as Ni)	ND	ND	ND	ND	ND	mg/l	0.02
26	Zinc (as Zn)	ND	ND	ND	ND	ND	mg/l	15.0
27	Total Chromium (as Cr)	ND	ND	ND	ND	ND	mg/l	0.05
29	Colour	< 5	< 5	< 5	< 5	< 5	Hazen	15
30	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	-	Agreeable
31	Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	-	Agreeable
32	Temperature	29.6	29.8	29.9	29.5	29.6	°C	-
33	Residual Free Chlorine	0.24	0.22	0.21	0.26	0.24	mg/l	1.0 (min)
34	Total Bacterial Count	Absent	Absent	Absent	Absent	Absent	Nos/100ml	Absent
35	E coli	Absent	Absent	Absent	Absent	Absent	Nos/100ml	Absent

Table No 9:

GROUND WATER QUALITY RESULT FOR THE MONTH OF JUNE 2023

SI No	Parameter	Results Obtained					Unit	Permissible Limit in absence of Alternate Source as per IS 10500: 2012
		Tube Well Village Liploi	Tube Well Village Surudihi	Tube Well IT Colony	Tube Well OCL Daily Market Gate	Tube Well Village Ranibandha		
1	Turbidity	1.7	2.5	5.3	2.0	0.1	NTU	5.0
2	pH Value	6.82	6.65	6.72	6.88	6.10	-	6.5 – 8.5
3	Total Hardness (as CaCO ₃)	579.36	342.72	301.92	350.88	146.88	mg/l	600

SI No	Parameter	Results Obtained					Unit	Permissible Limit in absence of Alternate Source as per IS 10500: 2012
		Tube Well Village Liploi	Tube Well Village Surudihi	Tube Well IT Colony	Tube Well OCL Daily Market Gate	Tube Well Village Ranibandha		
4	Iron (as Fe)	0.09	0.18	0.26	0.16	0.04	mg/l	0.3
5	Chlorides (as Cl)	282.91	51.98	39.98	45.99	37.99	mg/l	1000
6	Total Dissolved Solids	1025	549	444	512	239	mg/l	2000
7	Electrical Conductivity	1617	831	740	827	399	µS/cm	-
8	Calcium (as Ca)	142.27	76.86	85.03	80.13	44.15	mg/l	200
9	Magnesium (as Mg)	54.53	36.08	21.84	36.71	8.92	mg/l	100
10	Copper (as Cu)	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	mg/l	1.5
11	Manganese (as Mn)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	mg/l	0.3
12	Sulfate (as SO ₄)	136.80	77.91	63.56	102.40	13.34	mg/l	400
13	Total Nitrate (as NO ₃)	60.4	46.85	2.29	15.07	5.61	mg/l	45
14	Total Alkalinity (as CaCO ₃)	300	224	188	200	100	mg/l	600
15	Acidity	50	32	38	38	30	mg/l	-
16	Sulphide (as H ₂ S)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	mg/l	0.05
17	Sodium (as Na)	45.03	23.70	33.15	25.11	12.42	mg/l	-
18	Potassium (as K)	2.92	2.93	2.26	1.35	1.17	mg/l	-
19	Fluoride (as F)	0.5	0.5	0.4	0.9	0.6	mg/l	1.5
20	Cadmium (as Cd)	ND	ND	ND	ND	ND	mg/l	0.003
21	Lead (as Pb)	ND	ND	ND	ND	ND	mg/l	0.01
22	Arsenic (as As)	ND	ND	ND	ND	ND	mg/l	0.05
23	Mercury (as Hg)	ND	ND	ND	ND	ND	mg/l	0.001
24	Selenium (as Se)	ND	ND	ND	ND	ND	mg/l	0.01
25	Nickel (as Ni)	ND	ND	ND	ND	ND	mg/l	0.02
26	Zinc (as Zn)	ND	ND	ND	ND	ND	mg/l	15.0
27	Total Chromium (as Cr)	ND	ND	ND	ND	ND	mg/l	0.05
29	Colour	< 5	< 5	< 5	< 5	< 5	Hazen	15
30	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	-	Agreeable
31	Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	-	Agreeable
32	Temperature	29.5	29.6	29.4	29.5	29.6	°C	-
33	Residual Free Chlorine	0.25	0.20	0.22	0.26	0.24	mg/l	1.0 (min)
34	Total Bacterial Count	Absent	Absent	Absent	Absent	Absent	Nos/100ml	Absent
35	E coli	Absent	Absent	Absent	Absent	Absent	Nos/100ml	Absent

Table No 10:

GROUND WATER QUALITY RESULT FOR THE MONTH OF JULY 2023

SI No	Parameter	Results Obtained					Unit	Permissible Limit in absence of Alternate Source as per IS 10500: 2012
		Tube Well Village Liploi	Tube Well Village Surudihi	Tube Well IT Colony	Tube Well OCL Daily Market Gate	Tube Well Village Ranibandha		
1	Turbidity	1.6	2.4	4.1	1.9	0.10	NTU	5.0
2	pH Value	6.44	6.51	6.77	7.12	6.89	-	6.5 – 8.5
3	Total Hardness (as CaCO ₃)	485.52	473.28	359.04	12.24	338.64	mg/l	600
4	Iron (as Fe)	0.10	0.16	0.29	0.06	0.25	mg/l	0.3
5	Chlorides (as Cl)	201.94	124.17	49.98	74.68	52.94	mg/l	1000
6	Total Dissolved Solids	909	780	460	164	424	mg/l	2000
7	Electrical Conductivity	1428	1277	811	273	690	µS/cm	-
8	Calcium (as Ca)	140.63	88.30	76.85	3.27	83.40	mg/l	200
9	Magnesium (as Mg)	32.72	61.47	40.65	1.0	31.73	mg/l	100
10	Copper (as Cu)	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	mg/l	1.5
11	Manganese (as Mn)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	mg/l	0.3
12	Sulfate (as SO ₄)	161.96	115.25	66.80	3.87	38.06	mg/l	400
13	Total Nitrate (as NO ₃)	55.4	40.13	3.09	< 2.20	4.64	mg/l	45
14	Total Alkalinity (as CaCO ₃)	280	288	248	12	212	mg/l	600
15	Acidity	50	40	26	06	18	mg/l	-
16	Sulphide (as H ₂ S)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	mg/l	0.05
17	Sodium (as Na)	33.08	50.03	24.63	39.88	9.30	mg/l	-
18	Potassium (as K)	2.24	2.78	1.28	7.44	3.85	mg/l	-
19	Fluoride (as F)	0.50	0.60	0.40	0.60	0.50	mg/l	1.5

SI No	Parameter	Results Obtained					Unit	Permissible Limit in absence of Alternate Source as per IS 10500: 2012
		Tube Well Village Liploi	Tube Well Village Surudihi	Tube Well IT Colony	Tube Well OCL Daily Market Gate	Tube Well Village Ranibandha		
20	Cadmium (as Cd)	ND	ND	ND	ND	ND	mg/l	0.003
21	Lead (as Pb)	ND	ND	ND	ND	ND	mg/l	0.01
22	Arsenic (as As)	ND	ND	ND	ND	ND	mg/l	0.05
23	Mercury (as Hg)	ND	ND	ND	ND	ND	mg/l	0.001
24	Selenium (as Se)	ND	ND	ND	ND	ND	mg/l	0.01
25	Nickel (as Ni)	ND	ND	ND	ND	ND	mg/l	0.02
26	Zinc (as Zn)	ND	ND	ND	ND	ND	mg/l	15.0
27	Total Chromium (as Cr)	ND	ND	ND	ND	ND	mg/l	0.05
29	Colour	< 5	< 5	< 5	< 5	< 5	Hazen	15
30	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	-	Agreeable
31	Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	-	Agreeable
32	Temperature	29.7	30.2	29.1	29.4	28.7	°C	-
33	Residual Free Chlorine	0.12	0.16	0.19	0.08	0.11	mg/l	1.0 (min)
34	Total Bacterial Count	Absent	Absent	Absent	Absent	Absent	Nos/100ml	Absent
35	E coli	Absent	Absent	Absent	Absent	Absent	Nos/100ml	Absent

Table No 11:
GROUND WATER QUALITY RESULT FOR THE MONTH OF AUGUST 2023

SI No	Parameter	Results Obtained					Unit	Permissible Limit in absence of Alternate Source as per IS 10500: 2012
		Tube Well Village Liploi	Tube Well Village Surudihi	Tube Well IT Colony	Tube Well OCL Daily Market Gate	Tube Well Village Ranibandha		
1	Turbidity	3.8	4.6	4.0	4.9	3.1	NTU	5.0
2	pH Value	6.66	6.57	6.69	6.69	6.57	-	6.5 – 8.5
3	Total Hardness (as CaCO ₃)	495.81	170.69	349.50	357.63	308.86	mg/l	600
4	Iron (as Fe)	0.27	0.07	0.24	0.17	0.07	mg/l	0.3
5	Chlorides (as Cl)	136.98	18.72	47.30	56.17	52.23	mg/l	1000
6	Total Dissolved Solids	875	255	498	521	448	mg/l	2000
7	Electrical Conductivity	1426	402	794	828	732	µS/cm	-
8	Calcium (as Ca)	116.91	53.75	89.58	104.25	87.96	mg/l	200
9	Magnesium (as Mg)	48.39	8.88	30.61	23.70	21.72	mg/l	100
10	Copper (as Cu)	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	mg/l	1.5
11	Manganese (as Mn)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	mg/l	0.3
12	Sulfate (as SO ₄)	108.13	30.18	60.10	69.51	35.51	mg/l	400
13	Total Nitrate (as NO ₃)	32.05	3.93	2.25	6.96	30.10	mg/l	45
14	Total Alkalinity (as CaCO ₃)	372	128	252	248	200	mg/l	600
15	Acidity	48	44	48	38	44	mg/l	-
16	Sulphide (as H ₂ S)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	mg/l	0.05
17	Sodium (as Na)	57.35	19.70	30.86	28.24	27.70	mg/l	-
18	Potassium (as K)	1.99	1.40	3.74	2.80	2.26	mg/l	-
19	Fluoride (as F)	0.70	0.80	0.50	0.80	0.60	mg/l	1.5
20	Cadmium (as Cd)	ND	ND	ND	ND	ND	mg/l	0.003
21	Lead (as Pb)	ND	ND	ND	ND	ND	mg/l	0.01
22	Arsenic (as As)	ND	ND	ND	ND	ND	mg/l	0.05
23	Mercury (as Hg)	ND	ND	ND	ND	ND	mg/l	0.001
24	Selenium (as Se)	ND	ND	ND	ND	ND	mg/l	0.01
25	Nickel (as Ni)	ND	ND	ND	ND	ND	mg/l	0.02
26	Zinc (as Zn)	ND	ND	ND	ND	ND	mg/l	15.0
27	Total Chromium (as Cr)	ND	ND	ND	ND	ND	mg/l	0.05
29	Colour	< 5	< 5	< 5	< 5	< 5	Hazen	15
30	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	-	Agreeable
31	Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	-	Agreeable
32	Temperature	28.2	29.4	29.3	29.3	29.4	°C	-
33	Residual Free Chlorine	0.21	0.22	0.21	0.26	0.12	mg/l	1.0 (min)
34	Total Bacterial Count	Absent	Absent	Absent	Absent	Absent	Nos/100ml	Absent
35	E coli	Absent	Absent	Absent	Absent	Absent	Nos/100ml	Absent

Table No 12:

GROUND WATER QUALITY RESULT FOR THE MONTH OF SEPTEMBER 2023

SI No	Parameter	Results Obtained					Unit	Permissible Limit in absence of Alternate Source as per IS 10500: 2012
		Tube Well Village Liploi	Tube Well Village Surudihi	Tube Well IT Colony	Tube Well OCL Daily Market Gate	Tube Well Village Ranibandha		
1	Turbidity	3.6	4.8	4.2	0.8	2.4	NTU	5.0
2	pH Value	6.75	6.62	6.59	6.74	6.50	-	6.5 – 8.5
3	Total Hardness (as CaCO ₃)	584	176	312	336	136	mg/l	600
4	Iron (as Fe)	0.29	0.10	0.26	0.20	0.08	mg/l	0.3
5	Chlorides (as Cl)	84.75	15.77	43.36	54.20	35.48	mg/l	1000
6	Total Dissolved Solids	796	228	470	520	226	mg/l	2000
7	Electrical Conductivity	1286	372	757	816	371	µS/cm	-
8	Calcium (as Ca)	121.84	59.32	57.72	94.59	44.89	mg/l	200
9	Magnesium (as Mg)	68.04	6.80	40.82	24.30	5.83	mg/l	100
10	Copper (as Cu)	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	mg/l	1.5
11	Manganese (as Mn)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	mg/l	0.3
12	Sulfate (as SO ₄)	120.71	22.64	75.09	93.14	23.67	mg/l	400
13	Total Nitrate (as NO ₃)	29.05	3.13	3.46	5.92	< 2.20	mg/l	45
14	Total Alkalinity (as CaCO ₃)	352	124	232	228	96	mg/l	600
15	Acidity	56	26	40	46	38	mg/l	-
16	Sulphide (as H ₂ S)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	mg/l	0.05
17	Sodium (as Na)	26.32	7.69	32.60	25.97	10.46	mg/l	-
18	Potassium (as K)	0.70	1.74	2.54	0.92	0.89	mg/l	-
19	Fluoride (as F)	0.90	0.90	1.0	0.90	0.50	mg/l	1.5
20	Cadmium (as Cd)	ND	ND	ND	ND	ND	mg/l	0.003
21	Lead (as Pb)	ND	ND	ND	ND	ND	mg/l	0.01
22	Arsenic (as As)	ND	ND	ND	ND	ND	mg/l	0.05
23	Mercury (as Hg)	ND	ND	ND	ND	ND	mg/l	0.001
24	Selenium (as Se)	ND	ND	ND	ND	ND	mg/l	0.01
25	Nickel (as Ni)	ND	ND	ND	ND	ND	mg/l	0.02
26	Zinc (as Zn)	ND	ND	ND	ND	ND	mg/l	15.0
27	Total Chromium (as Cr)	ND	ND	ND	ND	ND	mg/l	0.05
29	Colour	< 5	< 5	< 5	< 5	< 5	Hazen	15
30	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	-	Agreeable
31	Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	-	Agreeable
32	Temperature	20.5	30.4	30.5	30.5	30.5	°C	-
33	Residual Free Chlorine	0.24	0.22	0.16	0.24	0.11	mg/l	1.0 (min)
34	Total Bacterial Count	Absent	Absent	Absent	Absent	Absent	Nos/100ml	Absent
35	E coli	Absent	Absent	Absent	Absent	Absent	Nos/100ml	Absent

Table No 13:

DRINKING WATER QUALITY RESULT FOR THE MONTH OF MAY 2023

SI No	Parameter	Results Obtained						Unit	Permissible Limit in absence of Alternate Source as per IS 10500: 2012
		Drinking Water General store Canteen	Drinking Water CPP	Drinking Water Line – 2 Canteen	Drinking Water Near Konark Vihar	Drinking Water Point Near Guest House	Drinking Water Near DSP Unit Cooler		
1	Turbidity	0.1	0.1	0.1	0.1	0.1	0.1	NTU	5.0
2	pH Value	7.84	7.80	7.48	7.85	7.79	7.86	-	6.5 – 8.5
3	Total Hardness (as CaCO ₃)	214.03	209.92	214.03	205.8	205.8	189.34	mg/l	600
4	Iron (as Fe)	0.1	0.09	0.10	0.02	0.03	0.08	mg/l	0.3
5	Chlorides (as Cl)	29.99	27.99	26.99	25.99	26.99	22.99	mg/l	1000
6	Total Dissolved Solids	301	290	288	310	300	281	mg/l	2000
7	Electrical Conductivity	471	478	469	489	474	432	µS/cm	-
8	Calcium (as Ca)	57.74	49.49	57.74	49.49	52.79	41.24	mg/l	200
9	Magnesium (as Mg)	17.0	21.0	17.0	20.0	18.0	21.0	mg/l	100
10	Copper (as Cu)	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	mg/l	1.5
11	Manganese (as Mn)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	mg/l	0.3
12	Sulfate (as SO ₄)	9.58	10.30	7.79	11.11	8.19	9.56	mg/l	400

Sl No	Parameter	Results Obtained						Unit	Permissible Limit in absence of Alternate Source as per IS 10500: 2012
		Drinking Water General store Canteen	Drinking Water CPP	Drinking Water Line – 2 Canteen	Drinking Water Near Konark Vihar	Drinking Water Point Near Guest House	Drinking Water Near DSP Unit Cooler		
13	Total Nitrate (as NO ₃)	< 2.20	< 2.20	< 2.20	2.31	2.03	0.08	mg/l	45
14	Total Alkalinity (as CaCO ₃)	188	184	180	200	188	180	mg/l	600
15	Acidity	< 1.0	< 1.0	< 1.0	06	08	< 1.0	mg/l	-
16	Sulphide (as H ₂ S)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	mg/l	0.05
17	Sodium (as Na)	16.93	17.33	15.69	17.63	17.72	15.86	mg/l	-
18	Potassium (as K)	4.79	4.53	4.61	10.56	10.61	4.15	mg/l	-
19	Fluoride (as F)	4.0	1.0	1.0	0.5	0.7	0.7	mg/l	1.5
20	Cadmium (as Cd)	ND	ND	ND	ND	ND	ND	mg/l	0.003
21	Lead (as Pb)	ND	ND	ND	ND	ND	ND	mg/l	0.01
22	Arsenic (as As)	ND	ND	ND	ND	ND	ND	mg/l	0.05
23	Mercury (as Hg)	ND	ND	ND	ND	ND	ND	mg/l	0.001
24	Selenium (as Se)	ND	ND	ND	ND	ND	ND	mg/l	0.01
25	Nickel (as Ni)	ND	ND	ND	ND	ND	ND	mg/l	0.02
26	Zinc (as Zn)	ND	ND	ND	ND	ND	ND	mg/l	15.0
27	Total Chromium (as Cr)	ND	ND	ND	ND	ND	ND	mg/l	0.05
29	Colour	< 5	< 5	< 5	< 5	< 5	< 5	Hazen	15
30	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	-	Agreeable
31	Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	-	Agreeable
32	Temperature	31.5	29.4	29.6	29.6	29.3	29.2	°C	-
33	Residual Free Chlorine	0.10	0.09	0.09	0.24	0.10	0.09	mg/l	1.0 (min)
34	Total Bacterial Count	Absent	Absent	Absent	Absent	Absent	Absent	Nos/100ml	Absent
35	E coli	Absent	Absent	Absent	Absent	Absent	Absent	Nos/100ml	Absent

Table No 14:

DRINKING WATER QUALITY RESULT FOR THE MONTH OF JUNE 2023

Sl No	Parameter	Results Obtained						Unit	Permissible Limit in absence of Alternate Source as per IS 10500: 2012
		Drinking Water Near Main Gate Canteen (Line – 1)	Drinking Water Near CPP Canteen (Line – 2)	KHD Worker Canteen (Line-1)	Drinking Water Near Main Gate (Line – 2)	Drinking Water Near Worker's Canteen	Drinking Water Near Coal Mill		
1	Turbidity	0.1	0.1	0.1	0.3	0.4	0.4	NTU	5.0
2	pH Value	7.76	7.73	7.71	7.66	7.69	7.89	-	6.5 – 8.5
3	Total Hardness (as CaCO ₃)	208.08	228.48	224.4	220.32	212.16	208.08	mg/l	600
4	Iron (as Fe)	0.08	0.10	0.03	0.10	0.13	0.32	mg/l	0.3
5	Chlorides (as Cl)	29.99	31.99	32.99	33.99	28.99	29.99	mg/l	1000
6	Total Dissolved Solids	313	314	320	318	336	324	mg/l	2000
7	Electrical Conductivity	521	524	533	530	529	531	µS/cm	-
8	Calcium (as Ca)	40.88	47.42	49.06	35.98	50.69	49.06	mg/l	200
9	Magnesium (as Mg)	25.78	26.77	24.79	31.73	20.82	20.82	mg/l	100
10	Copper (as Cu)	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	mg/l	1.5
11	Manganese (as Mn)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	mg/l	0.3
12	Sulfate (as SO ₄)	9.14	11.11	13.45	13.86	14.38	12.68	mg/l	400
13	Total Nitrate (as NO ₃)	< 2.20	< 2.20	< 2.20	< 2.20	20.02	4.15	mg/l	45
14	Total Alkalinity (as CaCO ₃)	160	164	168	164	172	172	mg/l	600
15	Acidity	02	02	02	< 1.0	08	6.0	mg/l	-
16	Sulphide (as H ₂ S)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	mg/l	0.05
17	Sodium (as Na)	18.58	21.22	21.08	21.03	22.33	22.54	mg/l	-
18	Potassium (as K)	4.77	4.91	4.87	4.82	4.64	4.77	mg/l	-
19	Fluoride (as F)	0.9	0.9	01	1.0	0.5	0.5	mg/l	1.5
20	Cadmium (as Cd)	ND	ND	ND	ND	ND	ND	mg/l	0.003
21	Lead (as Pb)	ND	ND	ND	ND	ND	ND	mg/l	0.01
22	Arsenic (as As)	ND	ND	ND	ND	ND	ND	mg/l	0.05
23	Mercury (as Hg)	ND	ND	ND	ND	ND	ND	mg/l	0.001
24	Selenium (as Se)	ND	ND	ND	ND	ND	ND	mg/l	0.01
25	Nickel (as Ni)	ND	ND	ND	ND	ND	ND	mg/l	0.02
26	Zinc (as Zn)	ND	ND	ND	ND	ND	ND	mg/l	15.0
27	Total Chromium (as Cr)	ND	ND	ND	ND	ND	ND	mg/l	0.05
29	Colour	< 5	< 5	< 5	< 5	< 5	< 5	Hazen	15

SI No	Parameter	Results Obtained						Unit	Permissible Limit in absence of Alternate Source as per IS 10500: 2012
		Drinking Water Near Main Gate Canteen (Line – 1)	Drinking Water Near CPP Canteen (Line – 2)	KHD Worker Canteen (Line-1)	Drinking Water Near Main Gate (Line – 2)	Drinking Water Near Worker's Canteen	Drinking Water Near Coal Mill		
30	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	-	Agreeable
31	Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	-	Agreeable
32	Temperature	26.3	29.4	29.6	29.7	29.4	29.2	°C	-
33	Residual Free Chlorine	0.10	0.09	0.09	0.08	0.10	0.09	mg/l	1.0 (min)
34	Total Bacterial Count	Absent	Absent	Absent	Absent	Absent	Absent	Nos/100ml	Absent
35	E coli	Absent	Absent	Absent	Absent	Absent	Absent	Nos/100ml	Absent

Table No 15:

DRINKING WATER QUALITY RESULT FOR THE MONTH OF JULY 2023

SI No	Parameter	Results Obtained						Unit	Permissible Limit in absence of Alternate Source as per IS 10500: 2012
		Drinking Water Near CCR Building (Line – 1)	Drinking Water Near Konark Vihar	Drinking Water Near CPP Office (Line – 2)	Drinking Water Near VRM (Line – 2)	Drinking Water Near New Weigh Bridge	Drinking Water Near General Store		
1	Turbidity	0.10	0.10	0.10	0.10	0.90	0.10	NTU	5.0
2	pH Value	6.95	7.28	7.27	7.59	7.33	7.41	-	6.5 – 8.5
3	Total Hardness (as CaCO ₃)	134.64	24.48	126.48	257.04	175.44	171.36	mg/l	600
4	Iron (as Fe)	0.06	< 0.01	0.25	0.22	0.22	0.22	mg/l	0.3
5	Chlorides (as Cl)	21.99	5.99	17.99	10.99	27.99	24.99	mg/l	1000
6	Total Dissolved Solids	193	39	196	322	252	255	mg/l	2000
7	Electrical Conductivity	320	63.9	324	531	418	418	µS/cm	-
8	Calcium (as Ca)	35.96	4.91	32.71	58.86	42.52	37.61	mg/l	200
9	Magnesium (as Mg)	10.90	2.97	10.91	26.76	16.85	18.84	mg/l	100
10	Copper (as Cu)	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	mg/l	1.5
11	Manganese (as Mn)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	mg/l	0.3
12	Sulfate (as SO ₄)	33.85	2.67	34.57	93.89	35.50	35.17	mg/l	400
13	Total Nitrate (as NO ₃)	7.74	3.71	< 2.20	2.46	3.11	< 2.20	mg/l	45
14	Total Alkalinity (as CaCO ₃)	64	16	88	120	100	124	mg/l	600
15	Acidity	06	02	06	08	08	08	mg/l	-
16	Sulphide (as H ₂ S)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	mg/l	0.05
17	Sodium (as Na)	9.69	2.12	11.06	5.61	14.91	15.18	mg/l	-
18	Potassium (as K)	3.69	0.64	3.76	2.38	8.99	5.08	mg/l	-
19	Fluoride (as F)	0.90	0.31	0.20	0.70	0.40	0.50	mg/l	1.5
20	Cadmium (as Cd)	ND	ND	ND	ND	ND	ND	mg/l	0.003
21	Lead (as Pb)	ND	ND	ND	ND	ND	ND	mg/l	0.01
22	Arsenic (as As)	ND	ND	ND	ND	ND	ND	mg/l	0.05
23	Mercury (as Hg)	ND	ND	ND	ND	ND	ND	mg/l	0.001
24	Selenium (as Se)	ND	ND	ND	ND	ND	ND	mg/l	0.01
25	Nickel (as Ni)	ND	ND	ND	ND	ND	ND	mg/l	0.02
26	Zinc (as Zn)	ND	ND	ND	ND	ND	ND	mg/l	15.0
27	Total Chromium (as Cr)	ND	ND	ND	ND	ND	ND	mg/l	0.05
29	Colour	< 5	< 5	< 5	< 5	< 5	< 5	Hazen	15
30	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	-	Agreeable
31	Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	-	Agreeable
32	Temperature	30.5	30.6	29.6	30.8	30.1	30.5	°C	-
33	Residual Free Chlorine	0.09	0.10	0.07	0.08	0.11	0.08	mg/l	1.0 (min)
34	Total Bacterial Count	Absent	Absent	Absent	Absent	Absent	Absent	Nos/100ml	Absent
35	E coli	Absent	Absent	Absent	Absent	Absent	Absent	Nos/100ml	Absent

Table No 16:

DRINKING WATER QUALITY RESULT FOR THE MONTH OF AUGUST 2023

Sl No	Parameter	Results Obtained						Unit	Permissible Limit in absence of Alternate Source as per IS 10500: 2012
		General Store Canteen Drinking Water (L-1)	Drinking Water Near Main Gate Canteen (L-1)	CPP Drinking Water Point (L-2)	Canteen Drinking Water Point (L-2)	Guest House Drinking Water	Drinking Water Near Cooler		
1	Turbidity	1.0	1.1	2.5	1.0	3.9	2.1	NTU	5.0
2	pH Value	7.53	7.45	7.23	7.32	7.54	7.43	-	6.5 – 8.5
3	Total Hardness (as CaCO ₃)	154.43	146.30	182.88	150.36	142.24	146.30	mg/l	600
4	Iron (as Fe)	0.29	0.18	0.21	0.28	0.23	0.22	mg/l	0.3
5	Chlorides (as Cl)	19.71	17.74	25.62	17.74	17.74	15.77	mg/l	1000
6	Total Dissolved Solids	216	202	246	208	208	208	mg/l	2000
7	Electrical Conductivity	352	320	380	333	342	319	µS/cm	-
8	Calcium (as Ca)	43.98	40.72	45.61	37.46	42.35	37.46	mg/l	200
9	Magnesium (as Mg)	10.86	10.56	16.78	13.82	8.88	12.84	mg/l	100
10	Copper (as Cu)	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	mg/l	1.5
11	Manganese (as Mn)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	mg/l	0.3
12	Sulfate (as SO ₄)	38.28	29.27	51.21	30.94	2.17	30.55	mg/l	400
13	Total Nitrate (as NO ₃)	3.98	5.26	4.66	3.19	5.70	< 2.20	mg/l	45
14	Total Alkalinity (as CaCO ₃)	88	92	88	100	120	112	mg/l	600
15	Acidity	06	10	08	04	10	12	mg/l	-
16	Sulphide (as H ₂ S)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	mg/l	0.05
17	Sodium (as Na)	7.19	7.38	8.03	7.46	17.56	7.52	mg/l	-
18	Potassium (as K)	2.36	2.26	2.39	2.29	7.32	2.27	mg/l	-
19	Fluoride (as F)	01	1.0	0.90	0.90	0.50	0.60	mg/l	1.5
20	Cadmium (as Cd)	ND	ND	ND	ND	ND	ND	mg/l	0.003
21	Lead (as Pb)	ND	ND	ND	ND	ND	ND	mg/l	0.01
22	Arsenic (as As)	ND	ND	ND	ND	ND	ND	mg/l	0.05
23	Mercury (as Hg)	ND	ND	ND	ND	ND	ND	mg/l	0.001
24	Selenium (as Se)	ND	ND	ND	ND	ND	ND	mg/l	0.01
25	Nickel (as Ni)	ND	ND	ND	ND	ND	ND	mg/l	0.02
26	Zinc (as Zn)	ND	ND	ND	ND	ND	ND	mg/l	15.0
27	Total Chromium (as Cr)	ND	ND	ND	ND	ND	ND	mg/l	0.05
29	Colour	< 5	< 5	< 5	< 5	< 5	< 5	Hazen	15
30	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	-	Agreeable
31	Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	-	Agreeable
32	Temperature	27.7	29.6	28.1	28.5	29.5	29.5	°C	-
33	Residual Free Chlorine	0.12	0.09	0.13	0.10	0.09	0.14	mg/l	1.0 (min)
34	Total Bacterial Count	Absent	Absent	Absent	Absent	Absent	Absent	Nos/100ml	Absent
35	E coli	Absent	Absent	Absent	Absent	Absent	Absent	Nos/100ml	Absent

Table No 17:

DRINKING WATER QUALITY RESULT FOR THE MONTH OF SEPTEMBER 2023

Sl No	Parameter	Results Obtained						Unit	Permissible Limit in absence of Alternate Source as per IS 10500: 2012
		General Store Canteen Drinking Water (L-1)	Drinking Water Near CPP Canteen (L-2)	Drinking Water Near KHD Worker Canteen (L-2)	Drinking Water Near Main Gate (Line-2)	Drinking Water Near Worker's Canteen	Drinking Water Near New Weigh Bridge		
1	Turbidity	0.5	1.0	1.1	1.0	0.90	0.90	NTU	5.0
2	pH Value	7.69	7.78	7.76	7.78	7.76	7.78	-	6.5 – 8.5
3	Total Hardness (as CaCO ₃)	140	144	144	144	132	148	mg/l	600
4	Iron (as Fe)	0.30	0.20	0.29	0.20	0.20	0.30	mg/l	0.3
5	Chlorides (as Cl)	18.72	17.74	19.71	17.74	16.75	16.75	mg/l	1000
6	Total Dissolved Solids	190	190	188	190	185	204	mg/l	2000
7	Electrical Conductivity	313	312	308	312	307	314	µS/cm	-
8	Calcium (as Ca)	40.08	40.08	28.86	40.08	33.66	32.06	mg/l	200
9	Magnesium (as Mg)	9.72	10.69	17.49	10.69	11.66	16.52	mg/l	100
10	Copper (as Cu)	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	mg/l	1.5
11	Manganese (as Mn)	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	mg/l	0.3
12	Sulfate (as SO ₄)	17.10	19.72	17.17	19.72	17.76	20.76	mg/l	400

Sl No	Parameter	Results Obtained						Unit	Permissible Limit in absence of Alternate Source as per IS 10500: 2012
		General Store Canteen Drinking Water (L-1)	Drinking Water Near CPP Canteen (L-2)	Drinking Water Near KHD Worker Canteen (L-2)	Drinking Water Near Main Gate (Line-2)	Drinking Water Near Worker's Canteen	Drinking Water Near New Weigh Bridge		
13	Total Nitrate (as NO ₃)	3.98	2.24	3.19	2.24	2.56	3.15	mg/l	45
14	Total Alkalinity (as CaCO ₃)	100	100	100	100	108	104	mg/l	600
15	Acidity	06	16	08	16	06	08	mg/l	-
16	Sulphide (as H ₂ S)	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	mg/l	0.05
17	Sodium (as Na)	8.00	7.90	8.12	7.90	8.03	8.06	mg/l	-
18	Potassium (as K)	1.61	1.69	1.67	1.69	1.66	1.69	mg/l	-
19	Fluoride (as F)	1.0	1.0	0.90	1.0	0.50	0.50	mg/l	1.5
20	Cadmium (as Cd)	ND	ND	ND	ND	ND	ND	mg/l	0.003
21	Lead (as Pb)	ND	ND	ND	ND	ND	ND	mg/l	0.01
22	Arsenic (as As)	ND	ND	ND	ND	ND	ND	mg/l	0.05
23	Mercury (as Hg)	ND	ND	ND	ND	ND	ND	mg/l	0.001
24	Selenium (as Se)	ND	ND	ND	ND	ND	ND	mg/l	0.01
25	Nickel (as Ni)	ND	ND	ND	ND	ND	ND	mg/l	0.02
26	Zinc (as Zn)	ND	ND	ND	ND	ND	ND	mg/l	15.0
27	Total Chromium (as Cr)	ND	ND	ND	ND	ND	ND	mg/l	0.05
29	Colour	< 5	< 5	< 5	< 5	< 5	< 5	Hazen	15
30	Odour	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	-	Agreeable
31	Taste	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	Agreeable	-	Agreeable
32	Temperature	30.5	30.6	30.5	30.5	30.6	30.6	°C	-
33	Residual Free Chlorine	0.14	0.13	0.10	0.11	0.18	0.14	mg/l	1.0 (min)
34	Total Bacterial Count	Absent	Absent	Absent	Absent	Absent	Absent	Nos/100ml	Absent
35	E coli	Absent	Absent	Absent	Absent	Absent	Absent	Nos/100ml	Absent

Table No 18:

SURFACE WATER QUALITY RESULT FOR THE MONTH OF MAY 2023

Sl No	Parameter	Results Obtained				Unit	Surface Water Quality Standard as per IS: 2296 (Class C)
		Fakro Pada Nala	Liploi Nadi	Poda Nadi	Amaghat Nadi		
1	pH Value	7.38	7.36	7.29	7.61	-	6.5 – 8.5
2	Electrical Conductivity	626	840	1080	522	µS/cm	-
3	Total Dissolved Solids	375	504	648	313	mg/l	1500
4	Total Hardness (as CaCO ₃)	193.45	242.84	218.15	275.77	mg/l	-
5	Chlorides (as Cl)	49.98	130.96	92.97	27.99	mg/l	600
6	Sulfate (as SO ₄)	15.46	48.32	58.32	16.13	mg/l	400
7	Total Nitrate (as NO ₃)	< 2.20	< 2.20	< 2.20	< 2.20	mg/l	50
8	Fluoride (as F)	1.0	1.0	1.0	0.90	mg/l	1.5
9	Calcium (as Ca)	41.24	57.74	51.14	39.00	mg/l	-
10	Magnesium (as Mg)	22.00	24.00	30.00	16.13	mg/l	-
11	Copper (as Cu)	< 0.10	< 0.10	< 0.10	< 0.10	mg/l	1.5
12	Iron (as Fe)	< 0.01	0.10	< 0.01	< 0.01	mg/l	50
13	Manganese (as Mn)	< 0.05	< 0.05	< 0.05	< 0.05	mg/l	-
14	Zinc (as Zn)	< 0.02	< 0.02	< 0.02	< 0.02	mg/l	15
15	Total Arsenic (as As)	< 0.002	< 0.002	< 0.002	< 0.002	mg/l	0.2
16	Mercury (as Hg)	< 0.01	< 0.01	< 0.01	< 0.01	mg/l	-
17	Lead (as Pb)	< 0.10	< 0.10	< 0.10	< 0.10	mg/l	0.1
18	Cadmium (as Cd)	< 0.05	< 0.05	< 0.05	< 0.05	mg/l	0.01
19	Hex. Chromium (as Cr ⁺⁶)	< 0.01	< 0.01	< 0.01	< 0.01	mg/l	0.05
20	Selenium (as Se)	< 0.01	< 0.01	< 0.01	< 0.01	mg/l	0.05
21	Colour	< 5	< 5	< 5	< 5	Hazen	300
22	Odour	Agreeable	Agreeable	Agreeable	Agreeable	-	-
23	Taste	Agreeable	Agreeable	Agreeable	Agreeable	-	-
24	Dissolved Oxygen (Min.)	6.2	6.4	6.2	6.4	mg/l	4
25	BOD 5 days at 20°C	01	01	01	01	mg/l	3
26	Oil & Grease	< 0.10	< 0.10	< 0.10	< 0.10	mg/l	0.1
27	Free Carbon Dioxide (as CO ₂)	15.84	12.32	40.48	5.28	mg/l	-

SI	Parameter	Results Obtained				Unit	Surface Water Quality
29	Free Ammonia (as NH ₃)	< 0.012	< 0.012	< 0.012	< 0.012	mg/l	-
30	Cyanide (as CN)	< 0.002	< 0.002	< 0.002	< 0.002	mg/l	0.05
31	Phenolic Compounds (as C ₆ H ₅ OH)	< 0.002	< 0.002	< 0.002	< 0.002	mg/l	0.005
32	Anionic Detergents (as MBAS)	< 0.05	< 0.05	< 0.05	< 0.05	mg/l	1.0

Table No 19:

SURFACE WATER QUALITY RESULT FOR THE MONTH OF JUNE 2023

SI No	Parameter	Results Obtained				Unit	Surface Water Quality Standard as per IS: 2296 (Class C)
		Liploi Nadi Upstream (Shirdi Sai Temple)	Liploi Nadi Downstream (Poda Nadi)	Amaghat Nadi	Liploi Nadi (Municipality Dump Yard)		
1	pH Value	7.99	7.50	7.88	7.13	-	6.5 – 8.5
2	Electrical Conductivity	885	1066	578	1196	µS/cm	-
3	Total Dissolved Solids	531	640	347	718	mg/l	1500
4	Total Hardness (as CaCO ₃)	244.8	326.4	236.64	412.08	mg/l	-
5	Chlorides (as Cl)	110.97	89.97	32.99	131.96	mg/l	600
6	Sulfate (as SO ₄)	45.62	64.28	12.73	56.93	mg/l	400
7	Total Nitrate (as NO ₃)	< 2.20	3.49	4.37	< 2.20	mg/l	50
8	Fluoride (as F)	1.0	0.9	0.9	1.0	mg/l	1.5
9	Calcium (as Ca)	37.61	107.93	62.14	91.57	mg/l	-
10	Magnesium (as Mg)	36.68	13.88	19.83	44.61	mg/l	-
11	Copper (as Cu)	< 0.10	< 0.10	< 0.10	< 0.10	mg/l	1.5
12	Iron (as Fe)	< 0.01	< 0.01	< 0.01	0.84	mg/l	50
13	Manganese (as Mn)	< 0.05	< 0.05	< 0.05	< 0.05	mg/l	-
14	Zinc (as Zn)	< 0.02	< 0.02	< 0.02	< 0.02	mg/l	15
15	Total Arsenic (as As)	< 0.02	< 0.02	< 0.02	< 0.02	mg/l	0.2
16	Mercury (as Hg)	< 0.01	< 0.01	< 0.01	< 0.01	mg/l	-
17	Lead (as Pb)	< 0.10	< 0.10	< 0.10	< 0.10	mg/l	0.1
18	Cadmium (as Cd)	< 0.05	< 0.05	< 0.05	< 0.05	mg/l	0.01
19	Hex. Chromium (as Cr ⁶⁺)	< 0.01	< 0.01	< 0.01	< 0.01	mg/l	0.05
20	Selenium (as Se)	< 0.01	< 0.01	< 0.01	< 0.01	mg/l	0.05
21	Colour	< 5	< 5	< 5	< 5	Hazen	300
22	Odour	Agreeable	Agreeable	Agreeable	Agreeable	-	-
23	Taste	Agreeable	Agreeable	Agreeable	Agreeable	-	-
24	Dissolved Oxygen (Min.)	6.2	6.1	6.1	6.4	mg/l	4
25	BOD 5 days at 20°C	01	02	01	02	mg/l	3
26	Oil & Grease	< 0.10	< 0.10	< 0.10	< 0.10	mg/l	0.1
27	Free Carbon Dioxide (as CO ₂)	< 0.1	17.6	< 0.1	8.8	mg/l	-
29	Free Ammonia (as NH ₃)	< 0.012	< 0.012	< 0.012	< 0.012	mg/l	-
30	Cyanide (as CN)	< 0.002	< 0.002	< 0.002	< 0.002	mg/l	0.05
31	Phenolic Compounds (as C ₆ H ₅ OH)	< 0.002	< 0.002	< 0.002	< 0.002	mg/l	0.005
32	Anionic Detergents (as MBAS)	< 0.05	< 0.05	< 0.05	< 0.05	mg/l	1.0

Table No 20:

SURFACE WATER QUALITY RESULT FOR THE MONTH OF JULY 2023

SI No	Parameter	Results Obtained				Unit	Surface Water Quality Standard as per IS: 2296 (Class C)
		Liploi Nadi Upstream (Shirdi Sai Temple)	Liploi Nadi (Municipality Dump Yard)	Amaghat Nadi	Liploi Nadi Downstream (Poda Nadi)		
1	pH Value	7.05	7.23	7.22	7.19	-	6.5 – 8.5
2	Electrical Conductivity	187.2	177.6	267	267	µS/cm	-
3	Total Dissolved Solids	112	107	160	160	mg/l	1500
4	Total Hardness (as CaCO ₃)	77.52	73.44	122.4	102	mg/l	-
5	Chlorides (as Cl)	9.86	9.86	11.83	16.75	mg/l	600

6	Sulfate (as SO ₄)	29.48	34.88	27.47	34.42	mg/l	400
7	Total Nitrate (as NO ₃)	< 2.20	< 2.20	< 2.20	< 2.20	mg/l	50
8	Fluoride (as F)	1.0	0.80	1.0	0.90	mg/l	1.5
9	Calcium (as Ca)	21.26	22.89	32.71	26.16	mg/l	-
10	Magnesium (as Mg)	5.95	3.96	9.91	8.92	mg/l	-
11	Copper (as Cu)	< 0.10	< 0.10	< 0.10	< 0.10	mg/l	1.5
12	Iron (as Fe)	1.89	1.08	1.07	1.94	mg/l	50
13	Manganese (as Mn)	< 0.05	< 0.05	< 0.05	< 0.05	mg/l	-
14	Zinc (as Zn)	< 0.02	< 0.02	< 0.02	< 0.02	mg/l	15
15	Total Arsenic (as As)	< 0.002	< 0.002	< 0.002	< 0.002	mg/l	0.2
16	Mercury (as Hg)	< 0.01	< 0.01	< 0.01	< 0.01	mg/l	-
17	Lead (as Pb)	< 0.10	< 0.10	< 0.10	< 0.10	mg/l	0.1
18	Cadmium (as Cd)	< 0.05	< 0.05	< 0.05	< 0.05	mg/l	0.01
19	Hex. Chromium (as Cr ⁺⁶)	< 0.01	< 0.01	< 0.01	< 0.01	mg/l	0.05
20	Selenium (as Se)	< 0.01	< 0.01	< 0.01	< 0.01	mg/l	0.05
21	Colour	< 5	< 5	< 5	< 5	Hazen	300
22	Odour	Agreeable	Agreeable	Agreeable	Agreeable	-	-
23	Taste	Agreeable	Agreeable	Agreeable	Agreeable	-	-
24	Dissolved Oxygen (Min.)	6.2	6.1	6.3	6.3	mg/l	4
25	BOD 5 days at 20°C	01	01	01	01	mg/l	3
26	Oil & Grease	< 0.10	< 0.10	< 0.10	< 0.10	mg/l	0.1
27	Free Carbon Dioxide (as CO ₂)	7.04	5.28	5.28	7.04	mg/l	-
29	Free Ammonia (as NH ₃)	< 0.012	< 0.012	< 0.012	< 0.012	mg/l	-
30	Cyanide (as CN)	< 0.002	< 0.002	< 0.002	< 0.002	mg/l	0.05
31	Phenolic Compounds (as C ₆ H ₅ OH)	< 0.002	< 0.002	< 0.002	< 0.002	mg/l	0.005
32	Anionic Detergents (as MBAS)	< 0.05	< 0.05	< 0.05	< 0.05	mg/l	1.0

Table No 21:

SURFACE WATER QUALITY RESULT FOR THE MONTH OF AUGUST 2023

Sl No	Parameter	Results Obtained				Unit	Surface Water Quality Standard as per IS: 2296 (Class C)
		Liploi Nadi Upstream (Shirdi Sai Temple)	Liploi Nadi (Municipality Dump Yard)	Amaghat Nadi	Liploi Nadi Downstream (Poda Nadi)		
1	pH Value	7.45	7.44	7.58	7.36	-	6.5 – 8.5
2	Electrical Conductivity	333	384	327	520	µS/cm	-
3	Total Dissolved Solids	199	230	196	306	mg/l	1500
4	Total Hardness (as CaCO ₃)	130.05	158.49	146.38	211.33	mg/l	-
5	Chlorides (as Cl)	9.86	20.69	12.81	36.46	mg/l	600
6	Sulfate (as SO ₄)	25.26	27.59	16.97	50.58	mg/l	400
7	Total Nitrate (as NO ₃)	2.76	3.01	3.13	3.01	mg/l	50
8	Fluoride (as F)	01	01	01	0.9	mg/l	1.5
9	Calcium (as Ca)	37.46	47.24	39.09	52.12	mg/l	-
10	Magnesium (as Mg)	8.88	9.87	11.85	19.75	mg/l	-
11	Copper (as Cu)	< 0.10	< 0.10	< 0.10	< 0.10	mg/l	1.5
12	Iron (as Fe)	0.43	0.56	0.10	0.25	mg/l	50
13	Manganese (as Mn)	< 0.05	< 0.05	< 0.05	< 0.05	mg/l	-
14	Zinc (as Zn)	< 0.02	< 0.02	< 0.02	< 0.02	mg/l	15
15	Total Arsenic (as As)	< 0.002	< 0.002	< 0.002	< 0.002	mg/l	0.2
16	Mercury (as Hg)	< 0.01	< 0.01	< 0.01	< 0.01	mg/l	-
17	Lead (as Pb)	< 0.10	< 0.10	< 0.10	< 0.10	mg/l	0.1
18	Cadmium (as Cd)	< 0.05	< 0.05	< 0.05	< 0.05	mg/l	0.01
19	Hex. Chromium (as Cr ⁺⁶)	< 0.01	< 0.01	< 0.01	< 0.01	mg/l	0.05
20	Selenium (as Se)	< 0.01	< 0.01	< 0.01	< 0.01	mg/l	0.05
21	Colour	< 5	< 5	< 5	< 5	Hazen	300
22	Odour	Agreeable	Agreeable	Agreeable	Agreeable	-	-
23	Taste	Agreeable	Agreeable	Agreeable	Agreeable	-	-
24	Dissolved Oxygen (Min.)	6.2	6.1	6.2	6.3	mg/l	4
25	BOD 5 days at 20°C	02	01	01	02	mg/l	3
26	Oil & Grease	< 0.10	< 0.10	< 0.10	< 0.10	mg/l	0.1
27	Free Carbon Dioxide (as CO ₂)	10.56	10.56	10.56	12.32	mg/l	-
29	Free Ammonia (as NH ₃)	< 0.012	< 0.012	< 0.012	< 0.012	mg/l	-
30	Cyanide (as CN)	< 0.002	< 0.002	< 0.002	< 0.002	mg/l	0.05

SI	Parameter	Results Obtained				Unit	Surface Water Quality Standard
31	Phenolic Compounds (as C ₆ H ₅ OH)	< 0.002	< 0.002	< 0.002	< 0.002	mg/l	0.005
32	Anionic Detergents (as MBAS)	< 0.05	< 0.05	< 0.05	< 0.05	mg/l	1.0

Table No 22:

SURFACE WATER QUALITY RESULT FOR THE MONTH OF SEPTEMBER 2023

SI No	Parameter	Results Obtained				Unit	Surface Water Quality Standard as per IS: 2296 (Class C)
		Liploi Nadi Upstream (Shirdi Sai Temple)	Liploi Nadi (Municipality Dump Yard)	Amaghat Nadi	Liploi Nadi Downstream (Poda Nadi)		
1	pH Value	7.63	7.62	7.74	7.59	-	6.5 – 8.5
2	Electrical Conductivity	306	312	321	413	µS/cm	-
3	Total Dissolved Solids	184	187	193	248	mg/l	1500
4	Total Hardness (as CaCO ₃)	124	124	148	164	mg/l	-
5	Chlorides (as Cl)	10.84	12.81	12.81	21.68	mg/l	600
6	Sulfate (as SO ₄)	25.19	26.15	24.40	37.44	mg/l	400
7	Total Nitrate (as NO ₃)	< 2.20	3.31	2.76	< 2.20	mg/l	50
8	Fluoride (as F)	0.30	1.0	0.90	1.0	mg/l	1.5
9	Calcium (as Ca)	27.25	35.27	38.48	41.68	mg/l	-
10	Magnesium (as Mg)	13.61	8.75	12.64	14.58	mg/l	-
11	Copper (as Cu)	< 0.10	< 0.10	< 0.10	< 0.10	mg/l	1.5
12	Iron (as Fe)	0.31	0.46	0.12	0.59	mg/l	50
13	Manganese (as Mn)	< 0.05	< 0.05	< 0.05	< 0.05	mg/l	-
14	Zinc (as Zn)	< 0.02	< 0.02	< 0.02	< 0.02	mg/l	15
15	Total Arsenic (as As)	< 0.002	< 0.002	< 0.002	< 0.002	mg/l	0.2
16	Mercury (as Hg)	< 0.01	< 0.01	< 0.01	< 0.01	mg/l	-
17	Lead (as Pb)	< 0.10	< 0.10	< 0.10	< 0.10	mg/l	0.1
18	Cadmium (as Cd)	< 0.05	< 0.05	< 0.05	< 0.05	mg/l	0.01
19	Hex. Chromium (as Cr ⁺⁶)	< 0.01	< 0.01	< 0.01	< 0.01	mg/l	0.05
20	Selenium (as Se)	< 0.01	< 0.01	< 0.01	< 0.01	mg/l	0.05
21	Colour	< 5	< 5	< 5	< 5	Hazen	300
22	Odour	Agreeable	Agreeable	Agreeable	Agreeable	-	-
23	Taste	Agreeable	Agreeable	Agreeable	Agreeable	-	-
24	Dissolved Oxygen (Min.)	6.3	6.1	6.3	6.4	mg/l	4
25	BOD 5 days at 20°C	01	03	02	02	mg/l	3
26	Oil & Grease	< 0.10	< 0.10	< 0.10	< 0.10	mg/l	0.1
27	Free Carbon Dioxide (as CO ₂)	7.04	8.8	5.28	10.56	mg/l	-
28	Free Ammonia (as NH ₃)	< 0.012	< 0.012	< 0.012	< 0.012	mg/l	-
29	Cyanide (as CN)	< 0.002	< 0.002	< 0.002	< 0.002	mg/l	0.05
30	Phenolic Compounds (as C ₆ H ₅ OH)	< 0.002	< 0.002	< 0.002	< 0.002	mg/l	0.005
31	Anionic Detergents (as MBAS)	< 0.05	< 0.05	< 0.05	< 0.05	mg/l	1.0
32	Total Coliforms	100	1000	100	1000	Nos/100ml	5000

Table No 23:

EFFLUENT WATER QUALITY RESULT OF ETP INLET & OUTLET

SI No	Parameters	Results Obtained					Unit
		MAY	JUNE	JULY	AUGUST	SEPTEMBER	
1	pH Value	7.45	7.51	7.51	7.29	7.29	-
2.	Total Suspended Solids	23.6	23.2	20.2	10.2	10.7	mg/l
3.	Oil & Grease	2.2	2.4	2.2	2.2	2.5	mg/l
4.	BOD 5days at 20°C	45	50	60	36	60	mg/l
5.	COD	138.26	139.46	186.20	100.08	201.46	mg/l

SI No	Parameters	Results Obtained					Permissible Limit as per CTO Conditions	Unit
		MAY	JUNE	JULY	AUGUST	SEPTEMBER		
1	pH Value	7.37	7.41	7.0	7.27	7.23	5.5 – 9.0	-
2.	Total Suspended Solids	2.6	11	8.2	7.4	7.0	100	mg/l
3.	Oil & Grease	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	10	mg/l
4.	BOD 5days at 20°C	09	12	15	20	30	-	mg/l
5.	COD	32.106	28.114	48.160	58.476	92.421	-	mg/l

Table No 24 :

EFFLUENT WATER QUALITY RESULT OF STP OUTLET

SI No	Parameters	Results Obtained					Permissible Limit as per CTO Conditions	Unit
		MAY	JUNE	JULY	AUGUST	SEPTEMBER		
1	pH Value	7.44	7.34	7.27	7.10	7.61	5.5 – 9.0	-
2.	Total Suspended Solids	07	8.4	< 2.5	11.2	< 2.5	100	mg/l
3.	BOD 5days at 20°C	22	11	05	10	06	10	mg/l
4.	Fecal Coliform	10 ²	10	10 ²	10 ²	10 ²	-	mg/l
5.	COD	61.6	36.781	17.120	29.925	22.108	-	mg/l

Table No 25:

EFFLUENT WATER QUALITY RESULT OF STP OUTLET DSP UNIT 2023

SI No	Parameters	Results Obtained					Permissible Limit as per CTO Conditions	Unit
		MAY	JUNE	JULY	AUGUST	SEPTEMBER		
1	pH Value	7.51	7.46	7.29	7.66	7.64	5.5 – 9.0	-
2.	Total Suspended Solids	23.6	34.5	89.5	34.9	15.4	100	mg/l
3.	BOD 5days at 20°C	28	20	20	17	16	10	mg/l
4.	Fecal Coliform	10 ³	10 ²	10 ³	10 ²	10 ²	-	mg/l
5.	COD	75.8	64.62	58.12	52.46	49.612	-	mg/l

Table No 26:

SOIL QUALITY RESULT FOR THE MONTH OF MAY 2023

Sl. No.	Parameter	Unit	Line 1 AFR Area	Line 2 Water Harvesting Pond Area	AFR Area DSP Unit	Pond DSP Unit
1.	Colour	-	Greyish Brown	Dark Brown	Greyish	Dark Greyish
2.	Type of Soil	-	Fine Grained Soil	Fine Grained Soil	Fine Grained Soil	Fine Grained Soil
3.	Texture	-	Sandy Clay Loam	Silty Clay Loam	Silty Loam	Silty Clay
4.	Bulk Density	gm/cm ³	1.8	1.3	1.33	1.45
5.	pH (1:2 Suspension)	-	8.11	8.16	7.82	7.87
6.	Iron	mg/kg	8.27	4.49	2.94	5.53
7.	Calcium	mg/kg	152	284	196	312
8.	Available Potassium (as K ₂ O)	Kg/ha	215.04	372.96	289.44	324.96
9.	Organic Carbon	%	0.25	0.72	0.49	0.71

Sl. No.	Parameter	Unit	Line 1 AFR Area	Line 2 Water Harvesting Pond Area	AFR Area DSP Unit	Pond DSP Unit
10.	Available Nitrogen (as N)	Kg/ha	100.352	200.7	225.79	188.16
11.	Manganese	mg/kg	11.69	3.69	4.47	6.28
12.	Infiltration Rate	cm/hr	6.71	6.86	7.32	6.36
13.	Porosity	mg/m ³	0.3239	0.2546	0.4577	0.2185
14.	Moisture Content	%	16.34	17.45	17.89	16.82
16.	Chloride	mg/kg	0.12	0.27	0.19	0.22
17.	Sulphate	mg/kg	0.5	0.43	0.8	1.0

Table No 27:

SOIL QUALITY RESULT FOR THE MONTH OF JUNE 2023

Sl. No.	Parameter	Unit	Line 1 AFR Area	Line 2 STP Area	Konark Vihar	Near New Weigh Bridge
1.	Colour	-	Grayish Brown	Dark Brown	Dark Brown	Grayish
2.	Type of Soil	-	Fine Grained Soil	Fine Grained Soil	Fine Grained Soil	Fine Grained Soil
3.	Texture	-	Sandy Clay Loam	Silty Clay Loam	Silty Clay Loam	Silty Loam
4.	Bulk Density	gm/cm ³	1.8	1.3	1.3	1.20
5.	pH (1:2 Suspension)	-	8.22	7.94	8.31	8.15
6.	Iron	mg/kg	8.27	4.49	4.49	2.67
7.	Calcium	mg/kg	152	284	284	201
8.	Available Potassium (as K ₂ O)	Kg/ha	286.08	492.4	370.08	153.04
9.	Organic Carbon	%	< 0.50	1.16	< 0.28	< 0.5
10.	Available Nitrogen (as N)	Kg/ha	125.44	238.34	125.44	112.9
11.	Manganese	mg/kg	11.22	4.08	4.21	5.01
12.	Infiltration Rate	cm/hr	7.74	7.89	7.89	8.12
13.	Porosity	mg/m ³	0.3546	0.2984	0.2766	0.5117
14.	Moisture Content	%	19.34	21.45	22.45	22.89
16.	Chloride	mg/kg	0.10	0.29	0.21	0.15
17.	Sulphate	mg/kg	0.41	0.53	0.50	0.7

Table No 28:

SOIL QUALITY RESULT FOR THE MONTH OF JULY 2023

Sl. No.	Parameter	Unit	Line 1 AFR Area	Line 2 STP Area	Konark Vihar	Near New Weigh Bridge
1.	Colour	-	Greyish Brown	Dark Brown	Dark Brown	Grayish
2.	Type of Soil	-	Fine Grained Soil	Fine Grained Soil	Fine Grained Soil	Fine Grained Soil
3.	Texture	-	Sandy Clay Loam	Silty Clay Loam	Silty Clay Loam	Greyish
4.	Bulk Density	gm/cm ³	1.3	1.2	1.3	Fine Grained Soil
5.	pH (1:2 Suspension)	-	8.35	8.14	8.01	Silty Loam
6.	Iron	mg/kg	4.8	5.21	6.05	1.2
7.	Calcium	mg/kg	174	179	193	7.99
8.	Available Potassium (as K ₂ O)	Kg/ha	182.52	1052.64	230.52	5.08
9.	Organic Carbon	%	< 0.50	0.9	< 0.50	168
10.	Available Nitrogen (as N)	Kg/ha	50.18	263.42	12.54	126
11.	Manganese	mg/kg	9.61	9.23	9.76	< 0.5
12.	Infiltration Rate	cm/hr	6.54	4.26	4.77	12.54
13.	Porosity	mg/m ³	0.1857	0.1922	0.2004	6.02
14.	Moisture Content	%	21.26	22.57	22.84	5.61

Sl. No.	Parameter	Unit	Line 1 AFR Area	Line 2 STP Area	Konark Vihar	Near New Weigh Bridge
16.	Chloride	mg/kg	0.11	0.08	0.18	0.1185
17.	Sulphate	mg/kg	0.6	0.5	0.5	23.45

Table No 29:

SOIL QUALITY RESULT FOR THE MONTH OF AUGUST 2023

Sl. No.	Parameter	Unit	Line 1 AFR Area	Line 2 STP Area	Konark Vihar	Near New Weigh Bridge
1.	Colour	-	Greyish Brown	Dark Brown	Dark Brown	Greyish
2.	Type of Soil	-	Fine Grained Soil	Fine Grained Soil	Fine Grained Soil	Fine Grained Soil
3.	Texture	-	Sandy Clay Loam	Silty Clay Loam	Silty Clay Loam	Silty Loam
4.	Bulk Density	gm/cm ³	1.4	1.4	1.3	1.45
5.	pH (1:2 Suspension)	-	8.57	8.43	8.39	9.10
6.	Iron	mg/kg	4.8	5.21	6.05	5.48
7.	Calcium	mg/kg	168	177	194	188
8.	Available Potassium (as K ₂ O)	Kg/ha	310.76	234.84	198.08	336.48
9.	Organic Carbon	%	0.81	1.34	2.08	0.82
10.	Available Nitrogen (as N)	Kg/ha	87.81	150.52	338.68	37.63
11.	Manganese	mg/kg	8.18	10.04	8.68	8.12
12.	Infiltration Rate	cm/hr	7.74	5.96	3.87	5.61
13.	Porosity	mg/m ³	0.20	0.18	0.21	0.19
14.	Moisture Content	%	25.4	23.8	27.65	23
16.	Chloride	mg/kg	0.15	0.18	0.16	0.26
17.	Sulphate	mg/kg	0.45	0.24	0.35	0.5

Table No 30:

SOIL QUALITY RESULT FOR THE MONTH OF SEPTEMBER 2023

Sl. No.	Parameter	Unit	Inside Store Yard (Line – 1)	Kiskindhaban Area	AFR Area (Line – 2)	AFR Area
1.	Colour	-	Greyish Brown	Dark Brown	Dark Brown	Greyish
2.	Type of Soil	-	Fine Grained Soil	Fine Grained Soil	Fine Grained Soil	Fine Grained Soil
3.	Texture	-	Sandy Clay Loam	Silty Clay Loam	Silty Clay Loam	Silty Loam
4.	Bulk Density	gm/cm ³	1.3	1.2	1.3	1.2
5.	pH (1:2 Suspension)	-	7.65	7.63	8.00	7.93
6.	Iron	mg/kg	4.8	5.21	6.05	5.08
7.	Calcium	mg/kg	174	179	193	168
8.	Available Potassium (as K ₂ O)	Kg/ha	354	350.4	318	223.2
9.	Organic Carbon	%	3.27	1.90	1.10	< 0.5
10.	Available Nitrogen (as N)	Kg/ha	112.89	213.24	112.89	125.44
11.	Manganese	mg/kg	9.61	9.23	9.76	6.02
12.	Infiltration Rate	cm/hr	6.54	4.26	4.77	5.61
13.	Porosity	mg/m ³	0.1857	0.1922	0.2004	0.1185
14.	Moisture Content	%	21.26	22.57	22.84	23.45
16.	Chloride	mg/kg	0.11	0.08	0.18	0.16
17.	Sulphate	mg/kg	0.6	0.5	0.5	0.60

Table No: 31:

NOISE LEVEL MONITORING DATA
From 01.04.2023 to 30.09.2023

Month	Location	Leq dB(A) Day Time	Leq dB(A) Night Time	Lmax dB(A)	Lmin dB(A)
April	CCR BUILDING (Line – 2)	66.5	63.8	68.3	62.7
	Work Shop (Line – 2)	60.8	61.2	65.9	59.6
	CPP Area (Line – 2)	64.9	62.3	67.2	61.1
	General Store (Line – 1)	60.6	61.2	68.3	58.8
	Loco Gate 132 KV (Line – 1)	62.3	60.4	66.4	58.7
	Konark Vihar	55.6	52.9	61.2	42.3
	General Store (DSP Unit)	68.8	64.5	70.8	61.2
	Project Gate (DSP Unit)	63.1	56.7	66.4	52.4
May	CCR BUILDING (Line – 2)	73.2	67.9	76.2	66.0
	Work Shop (Line – 2)	62.2	56.5	66.8	54.7
	CPP Area (Line – 2)	69.1	67.9	72.8	66.9
	General Store (Line – 1)	61.9	58.0	65.7	56.9
	Loco Gate 132 KV (Line – 1)	63.6	58.0	67.2	56.4
	Konark Vihar	48.8	41.0	53.2	38.7
	General Store (DSP Unit)	62.1	56.1	67.1	54.8
	Project Gate (DSP Unit)	53.4	46.8	57.8	45.2
June	Main gate Near Canteen (Line – 1)	61.8	59.1	70.6	54.0
	Payloader Garage (Line – 1)	65.8	66.6	74.2	57.8
	Engineering Hostel (Line – 2)	65.4	65.4	73.7	57.8
	General Store (Line – 1)	65.8	64.8	72.2	60.1
	Loco Gate 132 KV (Line – 1)	66.7	65.1	70.9	62.3
	Konark Vihar	54.8	44.5	57.8	42.3
	STP Area (DSP Unit)	70.9	66.7	74.1	67.9
	Near AFR Storage Area (DSP Unit)	66.8	68.6	75.0	59.0
July	General Store Area (Line – 1)	64.9	64.8	69.9	61.4
	Refractory Main Gate Area	72.1	66.0	74.3	58.4
	Konark Vihar Area	53.3	41.0	60.8	40.5
	CCR Building Area (Line – 2)	67.3	59.2	69.8	54.7
	Work Shop Area (Line – 2)	67.2	67.7	74.2	56.9
	Guest House Area	64.7	60.0	68.6	55.6
	Project Gate Area (DSP Unit)	60.8	60.3	70.9	52.9
	General Store Area (DSP Unit)	71.5	67.3	73.5	65.2
August	Main gate Near Canteen (Line – 1)	65.1	59.1	73.6	49.1
	Payloader Garage (Line – 1)	68.1	60.7	73.8	58.2
	Guest House Area	62.9	57.9	66.8	53.9
	Konark Vihar Area	50.2	39.8	55.6	38.2
	CPP Line – 2 Area	65.0	61.8	70.6	59.9
	Engineering Hostel Area (Line – 2)	64.4	65.8	73.0	53.1
	STP Area (DSP Unit)	69.2	67.4	73.7	64.8
	AFR Storage Area (DSP Unit)	68.0	64.3	72.8	59.2
September	Work Shop (Line – 2)	62.2	61.5	69.9	60.3
	CPP Area (Line – 2)	60.4	59.1	74.9	53.5
	Guest House Area	57.7	54.0	78.7	47.3
	Konark Vihar Area	49.5	59.3	68.5	33.4
	General Store Area (Line – 1)	60.8	58.9	75.0	56.1
	Refractory Main Gate Area	65.0	63.8	79.3	59.6
	General Store (DSP Unit)	61.1	58.8	81.6	36.7
	Project Gate (DSP Unit)	52.3	53.6	80.4	42.9