

Gujarat Industries Power Company Limited



At. : Nani Naroli, Ta: Mangrol
Dist.: Surat -394110

Six Monthly Report of Vastan Lignite Mine

ENVIRONMENTAL MONITORING & ANALYSIS REPORT

For the period of April 2025 to September - 2025

Prepared By

ECOSYSTEM RESOURCE MANAGEMENT PVT. LTD.



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PREFACE

Consciousness at national level in the industrial sector is increasing day by day with the focus on environment and sustainable development. A good environment management policy requires a constant effort to analyses and monitors various operations and processes, to generate and transmit this information to the inspecting authority.

As per the Air & Water Consent Orders issued by **Gujarat Pollution Control Board** (GPCB) Gandhinagar & also as per the Environment Clearance certificate issued by Ministry of Environment, Forest and Climate Change (MoEF & CC), Govt. of India, New Delhi, it is mandatory to collect the samples of Air/Gaseous emissions and effluent, to analyses the samples from a recognized laboratory and submit the analysis reports to GPCB & MoEF.

Gujarat Industries Power Company Limited (GIPCL) - Surat Lignite Power Plant is situated at Village – Nani Naroli, Tal. Mangrol, Dist. Surat. This company engaged in the generation of Electricity. The Industry has awarded the contract for bimonthly monitoring and analysis to M/s. Ecosystem Resource Management Pvt. Ltd. Surat.

Ecosystem Resource Management Pvt. Ltd. is one of the leading companies in the field of Environmental Consultancy Service Providers in India. ERM has a well-equipped and developed **NABL Accredited and MoEF & CC** recognized laboratory to carry out the analysis in air, stack emission, fugitive emission, water & waste water, noise, soil, and solid waste etc.

Scope of work for Vastan Limestone Mine

I. Ambient Air Monitoring

Sr. No.	No. of stations & Location	Duration	Frequency	Parameters	Method of Analysis
1.	12 Nos. within the Core & Buffer Zone.	24 hours	Bi-Monthly	PM ₁₀	IS 5182 Part 23 2006/Reaffirmed 2017
				PM _{2.5}	SOP No.WI/5.4/02-B/03, Issue No.1 Date:01/01/2010
				SO ₂	IS 5182 Part II 2001/Reaffirmed 2017
				NO _x	IS 5182(Part VI):2006/Reaffirmed 2017
				CO	IS 5182(Part 10):1999/Reaffirmed 2014

II. Dust Fall Measurement

Sr. No.	No. of station and locations	Duration	Frequency	Parameters	Method of analysis
1.	9 Nos. within the Core & Buffer Zone.	One Month	Bi-Monthly	Dust fall	As per IS-5182

III. Noise Monitoring:

Sr. No.	Noise of stations and locations	Duration	Frequency	Parameters	Method of analysis
1.	11 Nos. at various location within the plant premises	24 hours	Bi-Monthly	Day & night Noise level	As per IS 9989 using the Noise level meter.

Weather Monitoring Data

Sr. No.	No. of stations and locations	Duration	Frequency	Parameters	Method of analysis
1.	1 No. at Site.	24 hours	Bi-Monthly	Dry Bulb & Wet Bulb Temp., Atmospheric Pressure, Relative Humidity, Wind Speed, Wind Direction, Rain Fall and its Min. Max. & Avg. Value	As per IS 8829 on hourly basis for 24 hrs by using mechanical Instrument.

Water Quality Monitoring

Sr. No.	No. of stations and locations	Duration	Frequency	Parameters	Method of analysis
1.	6 Nos. of Bore well & 6 Nos. of Surface Water sample located both in Core & Buffer Zone	1	Bi-Monthly	Physical parameters, Chemical Parameters, Heavy metals	As per the standard methods for the examination of water and waste water APHA 21 st Edition 20GH and various Indian standards IS 3025.

**Comparative Ambient Air
Monitoring & Dust fall
Report & Graphical
Presentation**

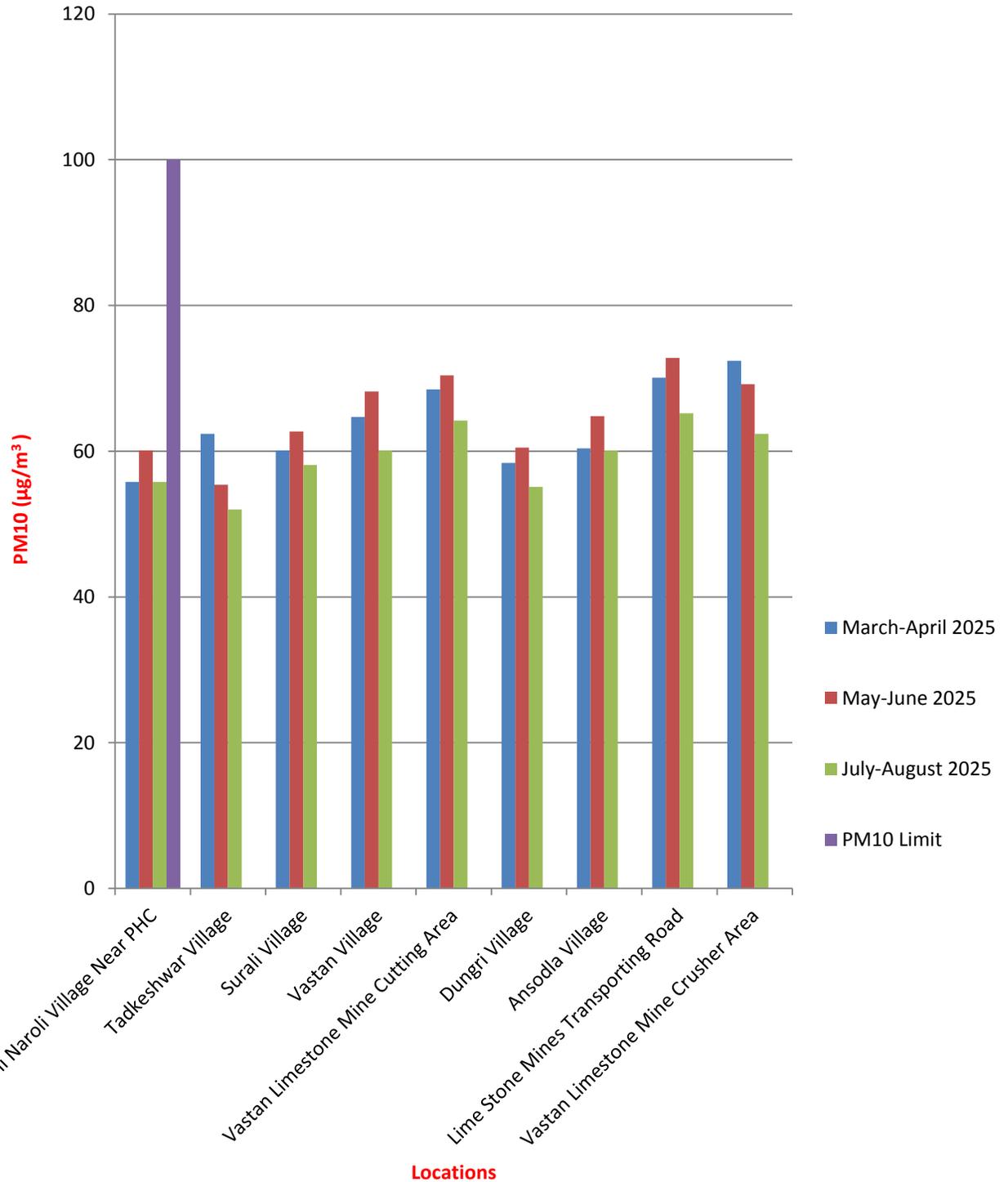
Six Monthly Variations in Ambient Air Quality

Parameter: PM₁₀ (Respirable Particulate Matter)

Period: April – 2025 to September – 2025

Sr. No.	Location	Results ($\mu\text{g}/\text{m}^3$)		
		Bi-Monthly March to April - 2025	Bi-Monthly May to June - 2025	Bi-Monthly July to August - 2025
1	Nani Naroli Village Near PHC	55.8	60.1	55.8
2	Tadkeshwar Village	62.4	55.4	52.0
3	Surali Village	60.1	62.7	58.1
4	Vastan Village	64.7	68.2	60.1
5	Vastan Limestone Mine Cutting Area	68.5	70.4	64.2
6	Dungri Village	58.4	60.5	55.1
7	Ansodla Village	60.4	64.8	60.1
8	Lime Stone Mines Transporting Road	70.1	72.8	65.2
9	Vastan Limestone Mine Crusher Area	72.4	69.2	62.4
	Limit	100 ($\mu\text{g}/\text{m}^3$)		

Graphical Presentation for the PM₁₀ Parameter at Various Locations



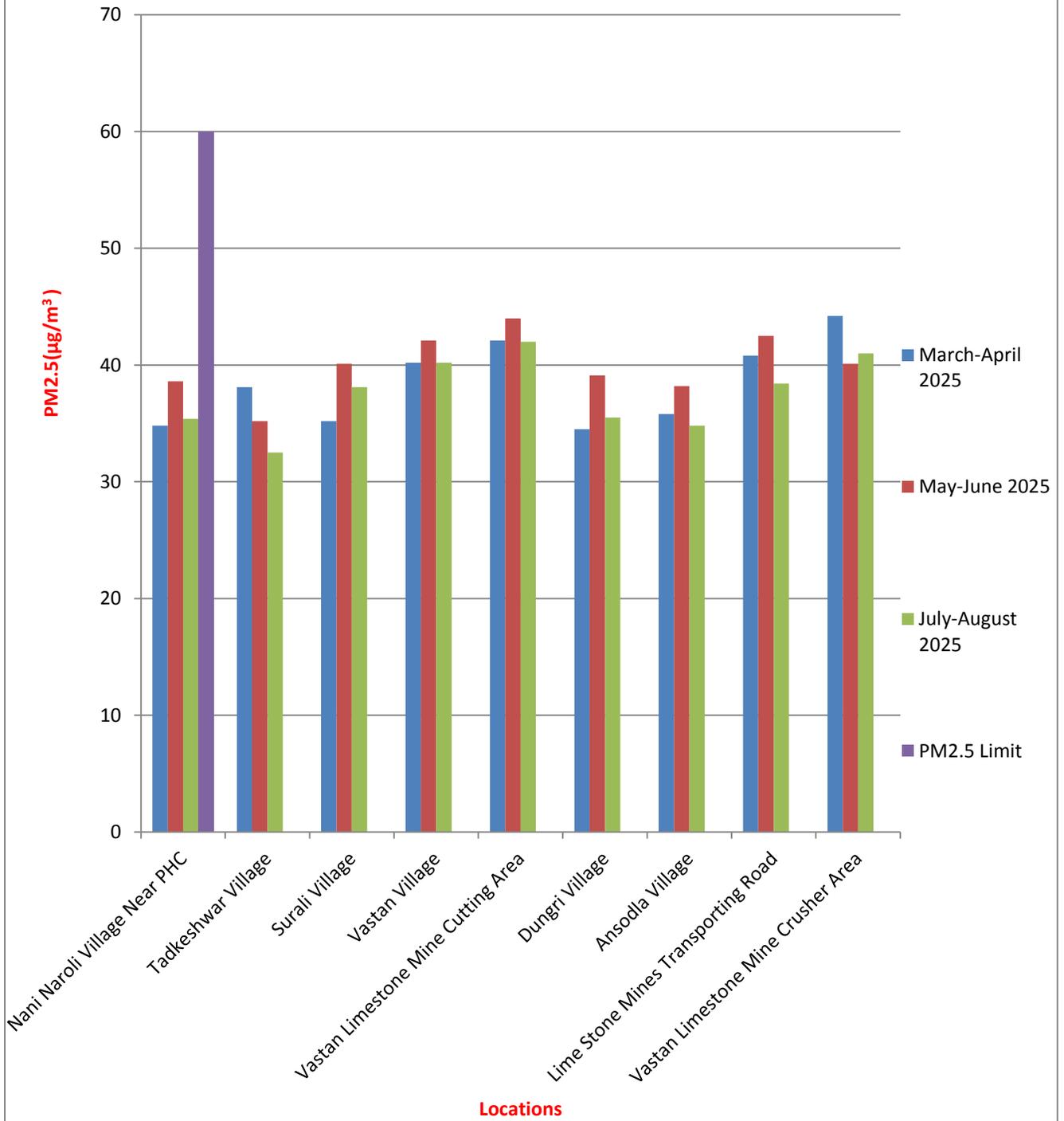
Six Monthly Variations in Ambient Air Quality

Parameter: PM_{2.5} (Respirable Particulate Matter)

Period: April – 2025 to September – 2025

Sr. No.	Location	Results ($\mu\text{g}/\text{m}^3$)		
		Bi-Monthly March to April- 2025	Bi-Monthly May to June - 2025	Bi-Monthly July to August - 2025
1	Nani Naroli Village Near PHC	34.8	38.6	35.4
2	Tadkeshwar Village	38.1	35.2	32.5
3	Surali Village	35.2	40.1	38.1
4	Vastan Village	40.2	42.1	40.2
5	Vastan Limestone Mine Cutting Area	42.1	44.0	42.0
6	Dungri Village	34.5	39.1	35.5
7	Ansodla Village	35.8	38.2	34.8
8	Lime Stone Mines Transporting Road	40.8	42.5	38.4
9	Vastan Limestone Mine Crusher Area	44.2	40.1	41.0
	Limit	60 ($\mu\text{g}/\text{m}^3$)		

Graphical Presentation for the PM2.5 Parameter at Various Locations



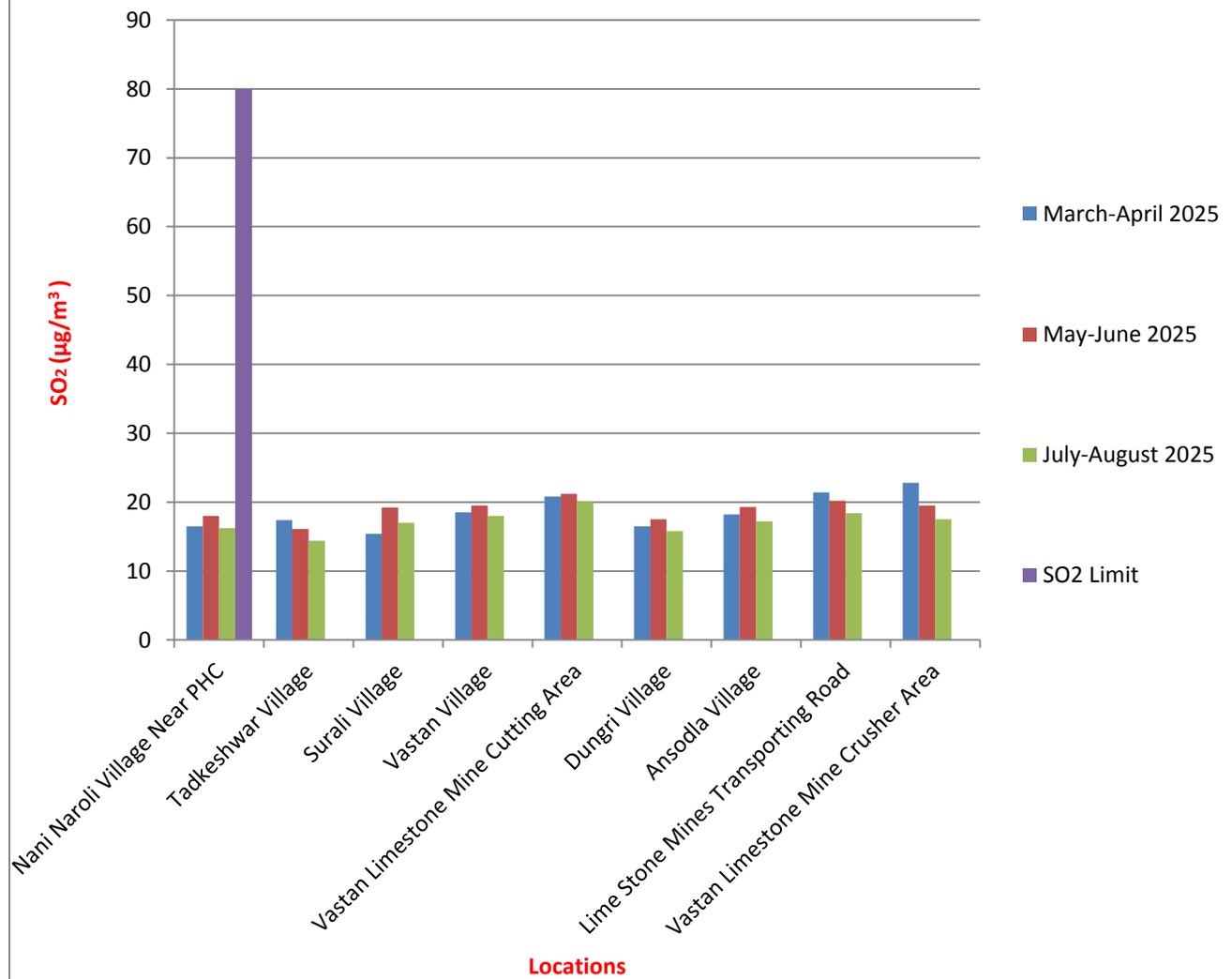
Six Monthly Variations in Ambient Air Quality

Parameter: SO₂ (Sulphur Dioxide)

Period: April – 2025 to September – 2025

Sr. No.	Location	Reults (µg/m ³)		
		Bi-Monthly March to April- 2025	Bi-Monthly May to June - 2025	Bi-Monthly July to August - 2025
1	Nani Naroli Village Near PHC	16.5	18.0	16.2
2	Tadkeshwar Village	17.4	16.1	14.4
3	Surali Village	15.4	19.2	17.0
4	Vastan Village	18.5	19.5	18.0
5	Vastan Limestone Mine Cutting Area	20.8	21.2	20.1
6	Dungri Village	16.5	17.5	15.8
7	Ansodla Village	18.2	19.3	17.2
8	Lime Stone Mines Transporting Road	21.4	20.2	18.4
9	Vastan Limestone Mine Crusher Area	22.8	19.5	17.5
	Limit	80 (µg/m ³)		

Graphical Presentation for the SO₂ Parameter at Various Locations



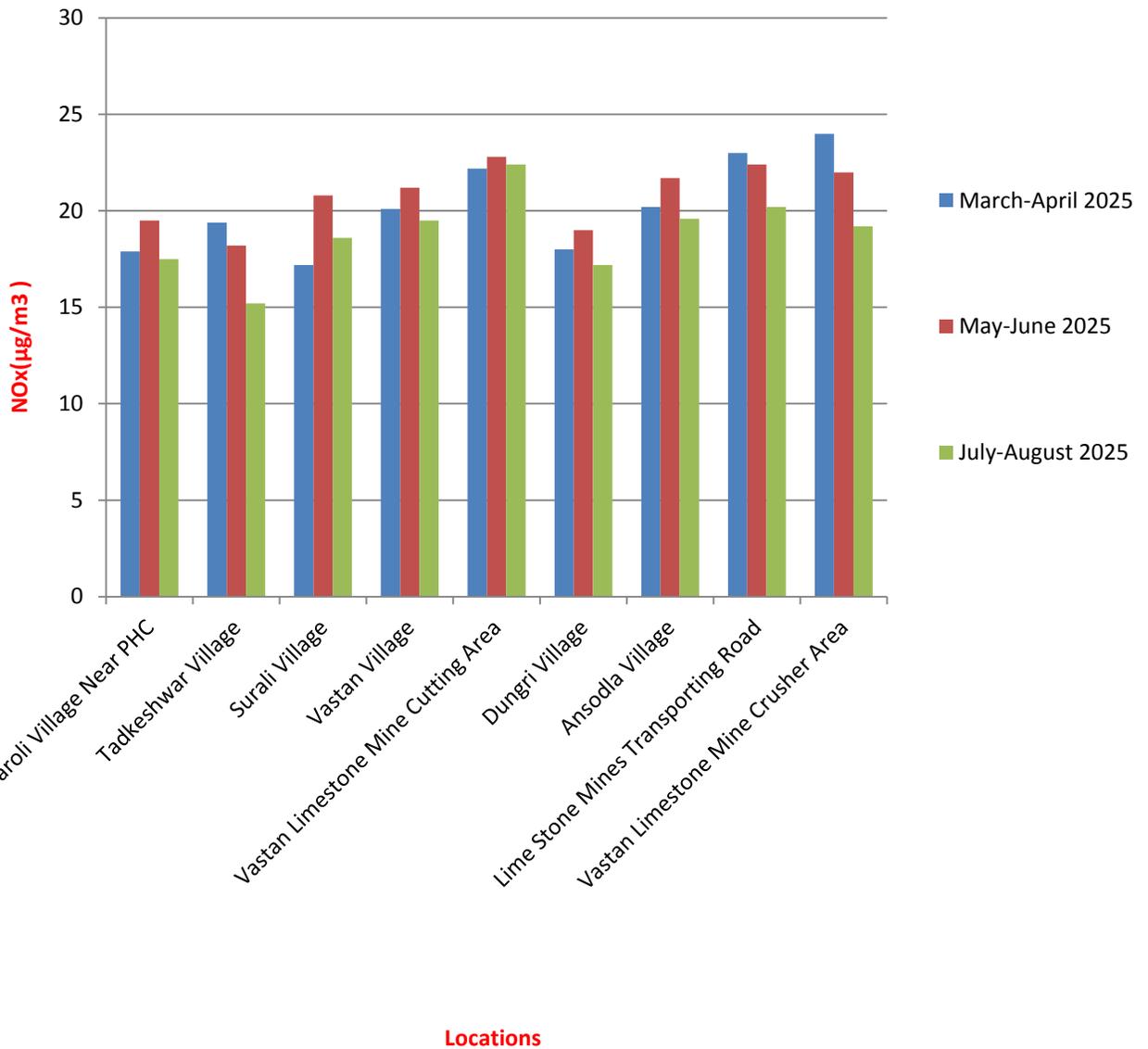
Six Monthly Variations in Ambient Air Quality

Parameter: NO_x (Nitrogen dioxide)

Period: April – 2025 to September – 2025

Sr. No.	Location	Results (µg/m ³)		
		Bi-Monthly March to April-2025	Bi-Monthly May to June – 2025	Bi-Monthly July to August - 2025
1	Nani Naroli Village Near PHC	17.9	19.5	17.5
2	Tadkeshwar Village	19.4	18.2	15.2
3	Surali Village	17.2	20.8	18.6
4	Vastan Village	20.1	21.2	19.5
5	Vastan Limestone Mine Cutting Area	22.2	22.8	22.4
6	Dungri Village	18.0	19.0	17.2
7	Ansodla Village	20.2	21.7	19.6
8	Lime Stone Mines Transporting Road	23.0	22.4	20.2
9	Vastan Limestone Mine Crusher Area	24.0	22.0	19.2
	Limit	80 (µg/m ³)		

Graphical Presentation for the NOx Parameter at Various Locations



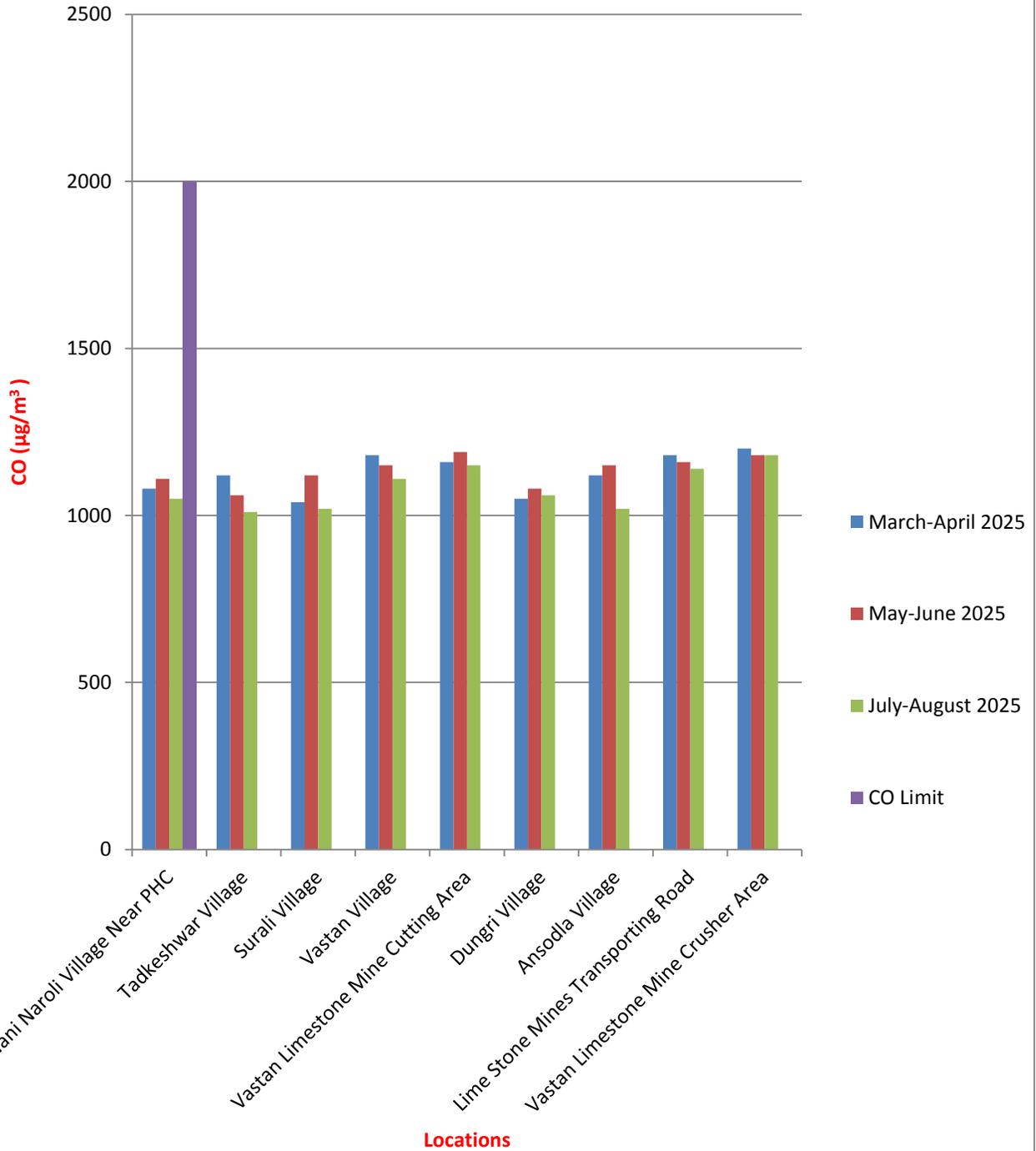
Six Monthly Variations in Ambient Air Quality

Parameter: CO (Carbon Monoxide)

Period: April – 2025 to September – 2025

Sr. No.	Location	Results ($\mu\text{g}/\text{m}^3$)		
		Bi-Monthly March to April-2025	Bi-Monthly May to June – 2025	Bi-Monthly July to August - 2025
1	Nani Naroli Village Near PHC	1080	1110	1050
2	Tadkeshwar Village	1120	1060	1010
3	Surali Village	1040	1120	1020
4	Vastan Village	1180	1150	1110
5	Vastan Limestone Mine Cutting Area	1160	1190	1150
6	Dungri Village	1050	1080	1060
7	Ansodla Village	1120	1150	1020
8	Lime Stone Mines Transporting Road	1180	1160	1140
9	Vastan Limestone Mine Crusher Area	1200	1180	1180
	Limit	2000 ($\mu\text{g}/\text{m}^3$)		

Graphical Presentation for the CO Parameter at Various Locations



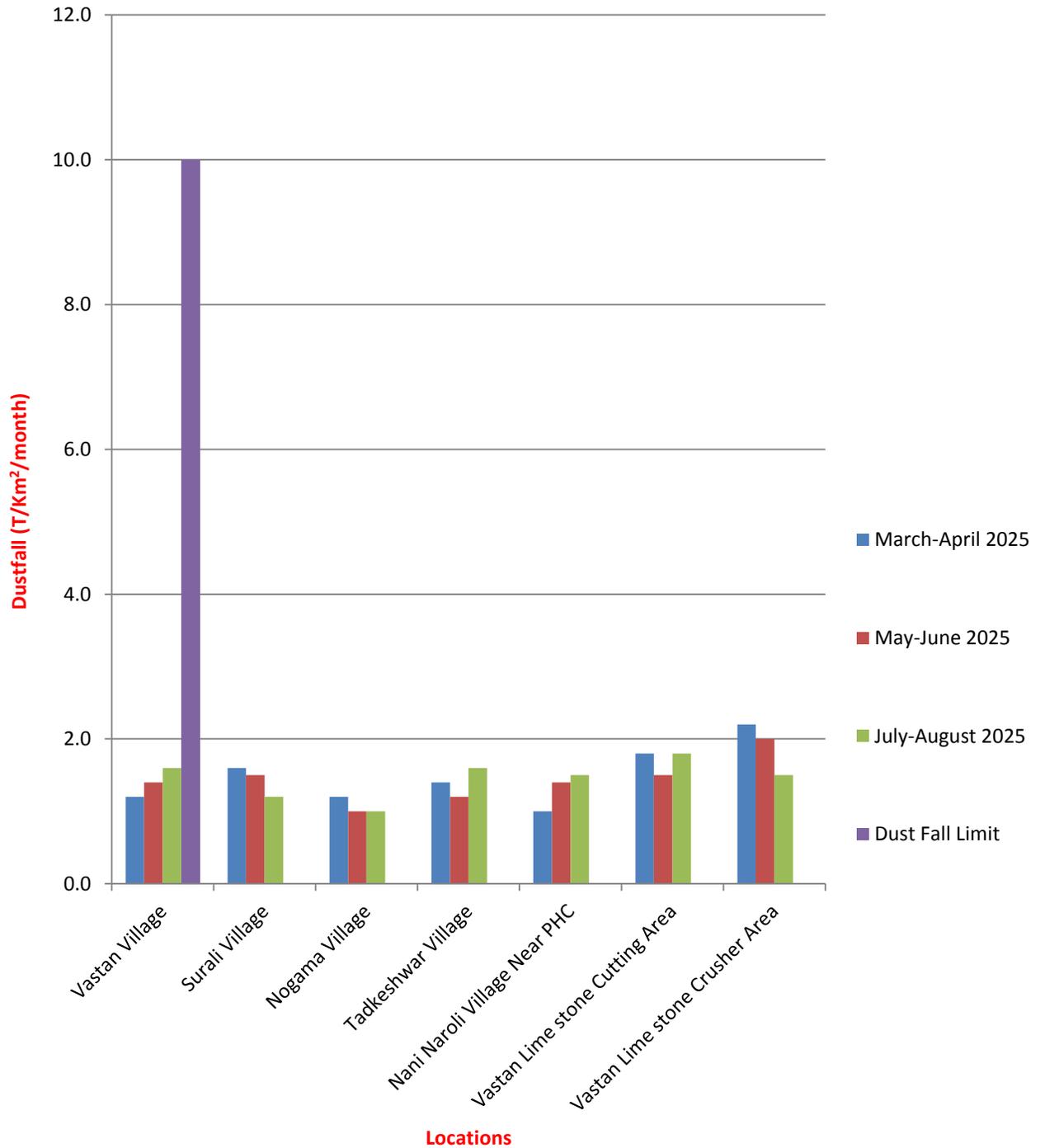
Six Monthly Variations in Ambient Air Quality

Parameter: Dust Fall

Period: April – 2025 to September – 2025

Sr. No.	Location	Results (T/Km ² /month)		
		Bi-Monthly March to April-2025	Bi-Monthly May to June-2025	Bi-Monthly July to August-2025
1	Vastan Village	1.2	1.4	1.6
2	Surali Village	1.6	1.5	1.2
3	Nogama Village	1.2	1.0	1.0
4	Tadkeshwar Village	1.4	1.2	1.6
5	Nani Naroli Village Near PHC	1.0	1.4	1.5
6	Vastan Lime stone Cutting Area	1.8	1.5	1.8
7	Vastan Lime stone Crusher Area	2.2	2.0	1.5
	Limit	10 (T/Km ² /month)		

Graphical Presentation for the Dustfall Parameter at Various Locations



**Comparative Micro
Meteorological Data and
Wind rose & Wind
Frequency Distribution**

Six Monthly Variations in Micrometeorological data

Period: April – 2025 to September – 2025

Dry Bulb Temperature (°C)			
Time in Hrs.	Bi-Monthly March to April - 2025	Bi-Monthly May to June - 2025	Bi-Monthly July to August - 2025
10.00	30	28	27
11.00	32	30	28
12.00	34	30	30
13.00	35	31	30
14.00	36	30	29
15.00	35	28	28
16.00	34	26	25
17.00	33	28	26
18.00	32	26	28
19.00	30	25	25
20.00	29	24	24
21.00	28	22	21
22.00	29	29	22
23.00	27	27	20
00.00	26	26	19
01.00	25	25	22
02.00	24	24	23
03.00	25	25	25
04.00	24	24	24
05.00	23	23	23
06.00	26	24	24
07.00	28	26	25
08.00	29	26	26
09.00	30	27	27
Maximum	36.0	31.0	30.0
Minimum	23.0	22.0	19.0
Average	29.3	26.4	25.0

Six Monthly Variations in Micrometeorological data

Period: April – 2025 to September – 2025

Wet Bulb Temperature (°C)			
Time in Hrs.	Bi-Monthly March to April - 2025	Bi-Monthly May to June - 2025	Bi-Monthly July to August - 2025
10.00	25	23	22
11.00	27	25	23
12.00	29	25	25
13.00	30	26	25
14.00	31	25	24
15.00	30	23	23
16.00	29	21	20
17.00	28	23	21
18.00	27	21	23
19.00	25	20	20
20.00	24	19	19
21.00	23	17	16
22.00	24	24	17
23.00	22	22	15
00.00	21	21	14
01.00	20	20	17
02.00	19	19	18
03.00	20	20	20
04.00	19	19	19
05.00	18	18	18
06.00	21	19	19
07.00	23	21	20
08.00	24	21	21
09.00	25	22	22
Maximum	31.0	26.0	25.0
Minimum	18.0	17.0	14.0
Average	24.3	21.4	20.0

Six Monthly Variations in Micrometeorological data

Period: April – 2025 to September – 2025

Relative Humidity %			
Time in Hrs.	Bi-Monthly March to April - 2025	Bi-Monthly May to June - 2025	Bi-Monthly July to August - 2025
10.00	38	65	68
11.00	35	66	72
12.00	30	69	69
13.00	28	70	70
14.00	25	70	70
15.00	22	72	72
16.00	24	74	74
17.00	25	78	78
18.00	28	78	78
19.00	30	80	79
20.00	40	81	80
21.00	45	85	82
22.00	48	78	78
23.00	52	78	78
00.00	55	80	80
01.00	58	82	82
02.00	62	82	82
03.00	60	85	85
04.00	58	85	82
05.00	55	84	80
06.00	54	84	78
07.00	55	80	75
08.00	50	82	72
09.00	48	80	70
Maximum	62.0	85.0	85.0
Minimum	22.0	65.0	68
Average	42.7	77.8	76.4

Six Monthly Variations in Micrometeorological data

Period: April – 2025 to September – 2025

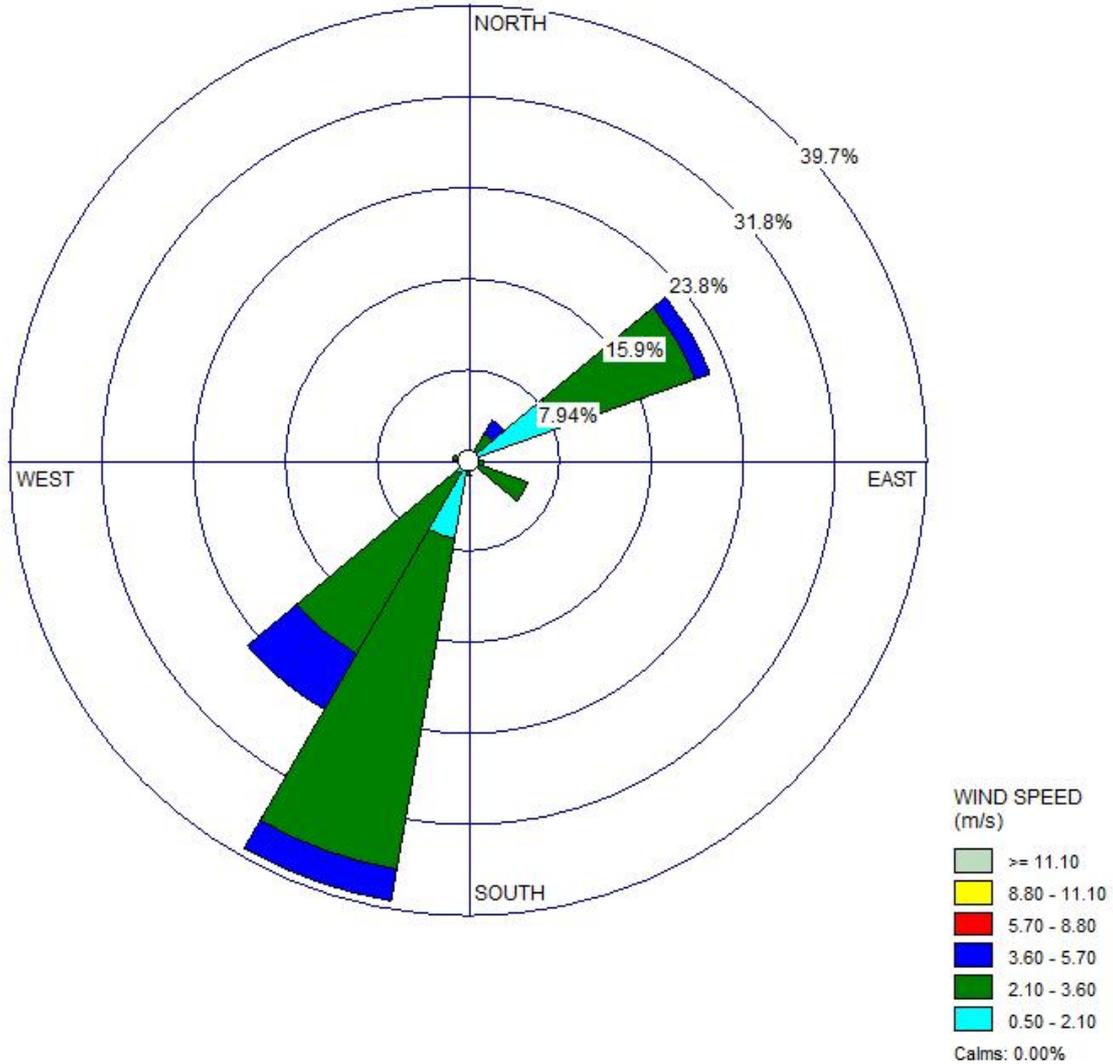
Wind Speed (km/hour)			
Time in Hrs.	Bi-Monthly March to April - 2025	Bi-Monthly May to June - 2025	Bi-Monthly July to August - 2025
10.00	9.0	10.0	12.0
11.00	8.0	12.0	11.0
12.00	9.0	8.0	9.0
13.00	10.0	6.0	6.0
14.00	12.0	7.0	7.0
15.00	14.0	8.0	8.0
16.00	15.0	10.0	10.0
17.00	12.0	12.0	12.0
18.00	11.0	14.0	14.0
19.00	10.0	16.0	15.0
20.00	9.0	8.0	9.0
21.00	8.0	9.0	10.0
22.00	9.0	6.0	8.0
23.00	10.0	8.0	7.0
00.00	12.0	10.0	9.0
01.00	14.0	12.0	10.0
02.00	13.0	9.0	9.0
03.00	12.0	10.0	10.0
04.00	10.0	8.0	8.0
05.00	11.0	8.0	8.0
06.00	12.0	6.0	6.0
07.00	10.0	7.0	7.0
08.00	9.0	6.0	6.0
09.00	8.0	9.0	10.0
Maximum	15.0	16.0	15.0
Minimum	8.0	6.0	6.0
Average	10.7	9.1	9.2

WIND ROSE PLOT:

**M/s. Gujarat Industries Power Company Limited
Vastan Limstone Mines**

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS:

DATA PERIOD:

Start Date: 17-Apr-25 - 10:00
End Date: 19-Aug-25 - 09:00

COMPANY NAME:

Gujarat Industries Power Company Limited

MODELER:

Ecosystem Resource Management Pvt Ltd.

CALM WINDS:

0.00%

TOTAL COUNT:

72 hrs.

AVG. WIND SPEED:

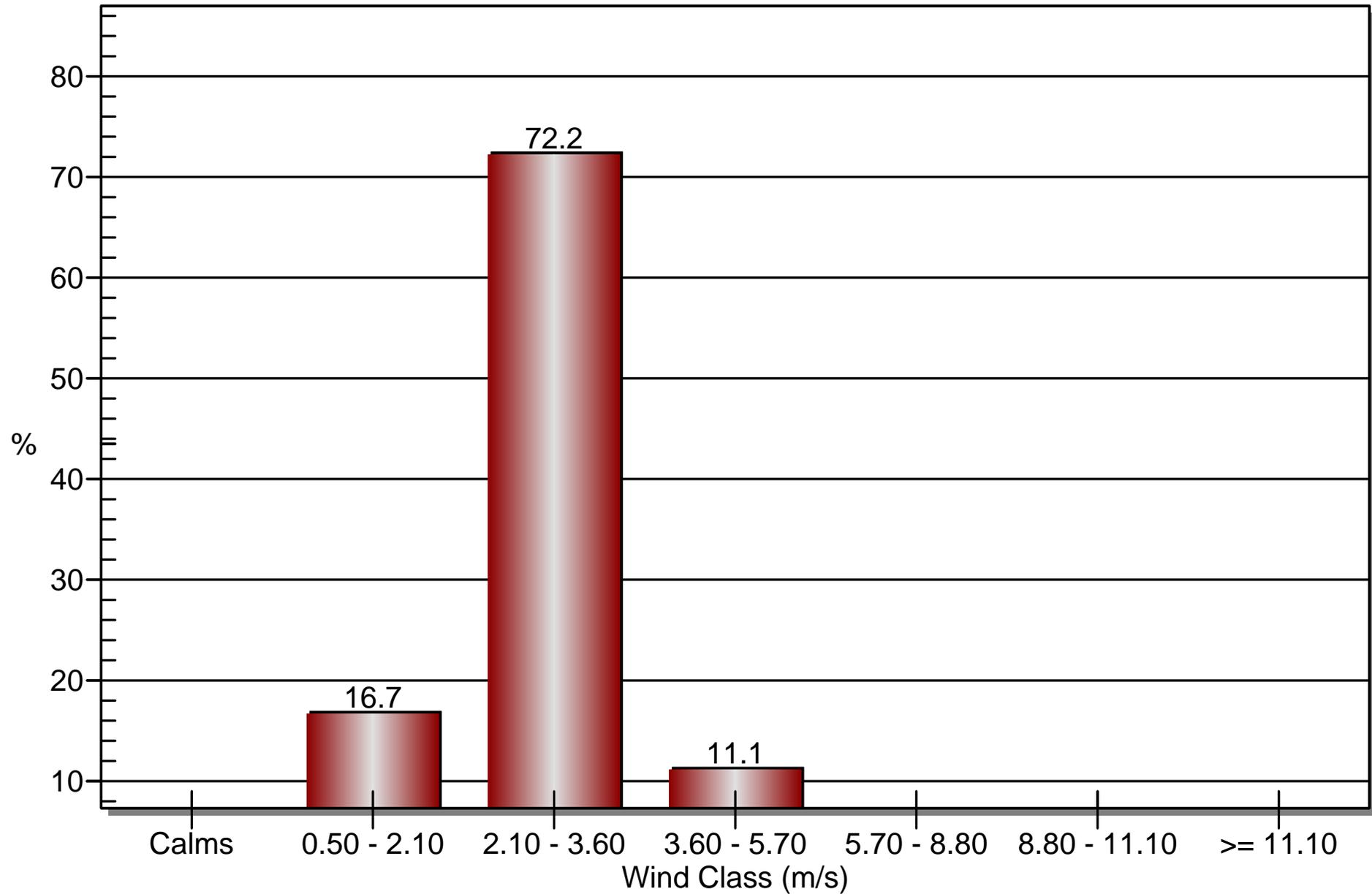
2.68 m/s

DATE:

04-Oct-25

PROJECT NO.:

Wind Class Frequency Distribution



**Comparative Noise
Monitoring Report &
Graphical Presentation**

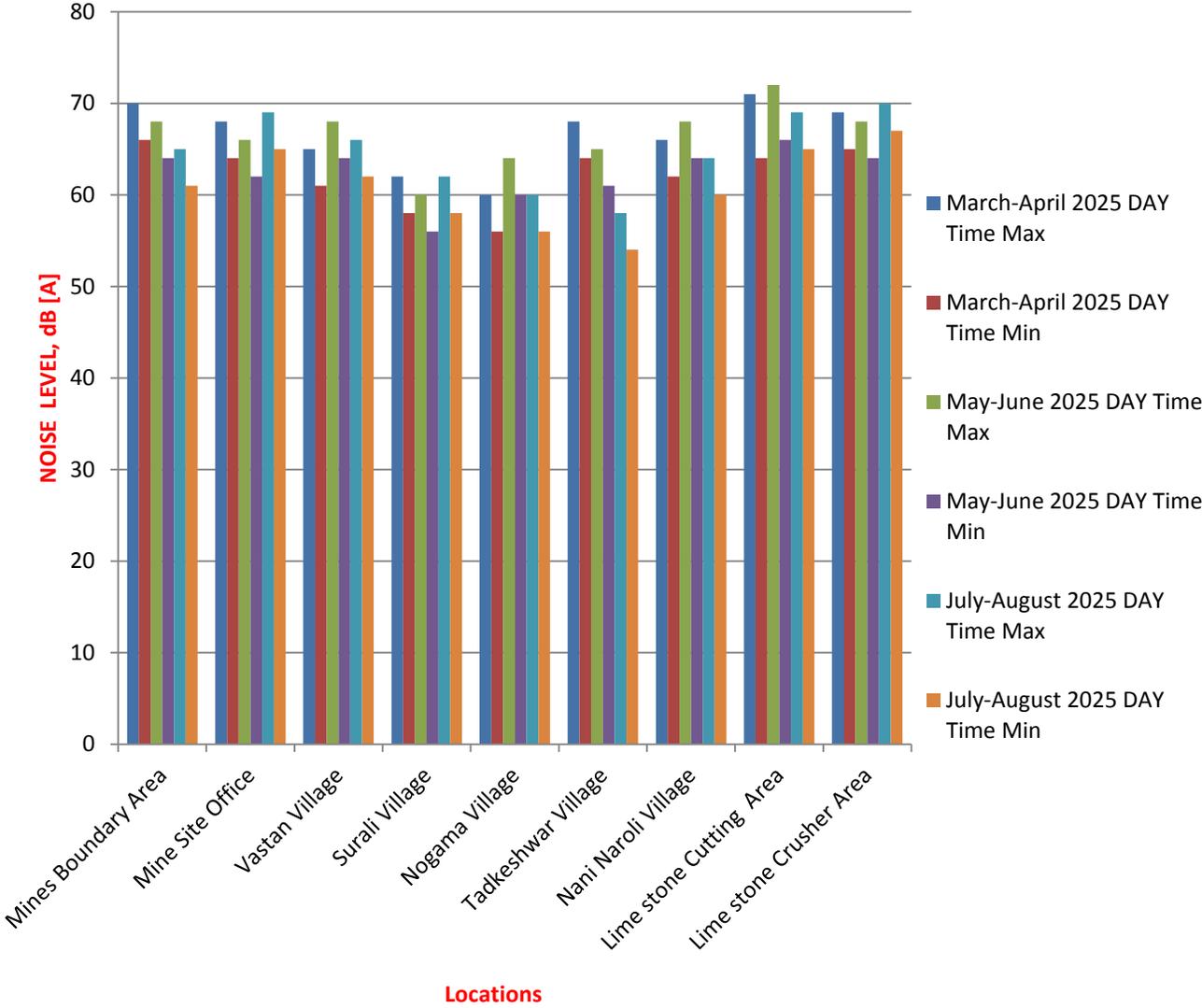
Six Monthly Variations in Noise Level

Parameter: Noise

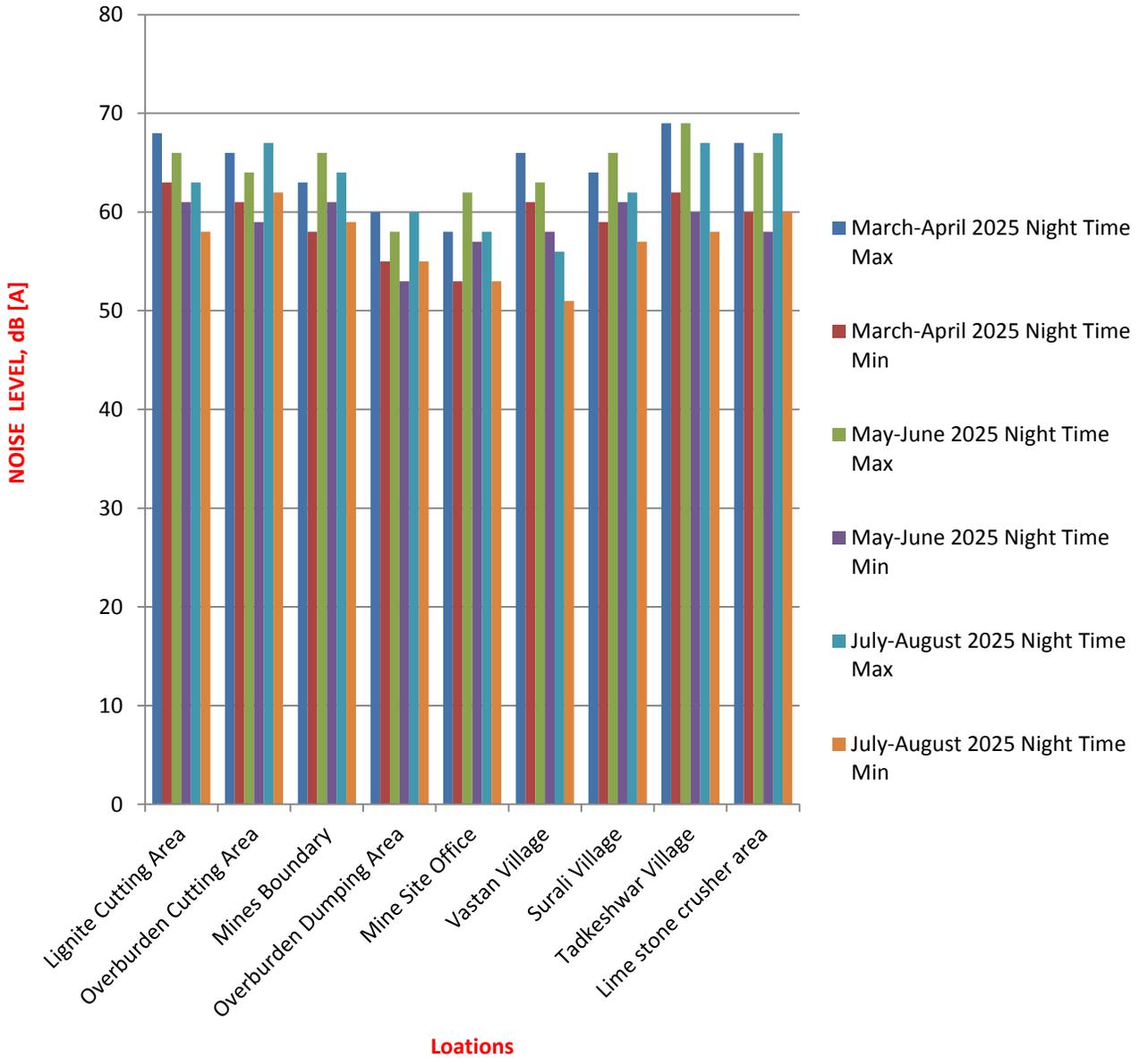
Period: April – 2025 to September – 2025

SR. NO.	LOCATION	NOISE LEVEL, dB [A]											
		Bi-Monthly March to April - 2025				Bi-Monthly May to June - 2025				Bi-Monthly July to August - 2025			
		Day Time		Night Time		Day Time		Day Time		Night Time		Day Time	
		Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min
1	Mines Boundary Area	70	66	68	63	68	64	66	61	65	61	63	58
2	Mine Site Office	68	64	66	61	66	62	64	59	69	65	67	62
3	Vastan Village	65	61	63	58	68	64	66	61	66	62	64	59
4	Surali Village	62	58	60	55	60	56	58	53	62	58	60	55
5	Nogama Village	60	56	58	53	64	60	62	57	60	56	58	53
6	Tadkeshwar Village	68	64	66	61	65	61	63	58	58	54	56	51
7	Nani Naroli Village	66	62	64	59	68	64	66	61	64	60	62	57
8	Lime stone Cutting Area	71	64	69	62	72	66	69	60	69	65	67	58
9	Lime stone Crusher Area	69	65	67	60	68	64	66	58	70	67	68	60
	GPCB limit	75 (dB)		70(dB)		75 (dB)		70(dB)		75 (dB)		70(dB)	

Graphical Presentation for the Parameter Noise Level at Various Locations During Day Time



Graphical Presentation for the Parameter Noise Level at Various Locations During Night Time



**Comparative Water Analysis
Test Report & Graphical
Presentation**

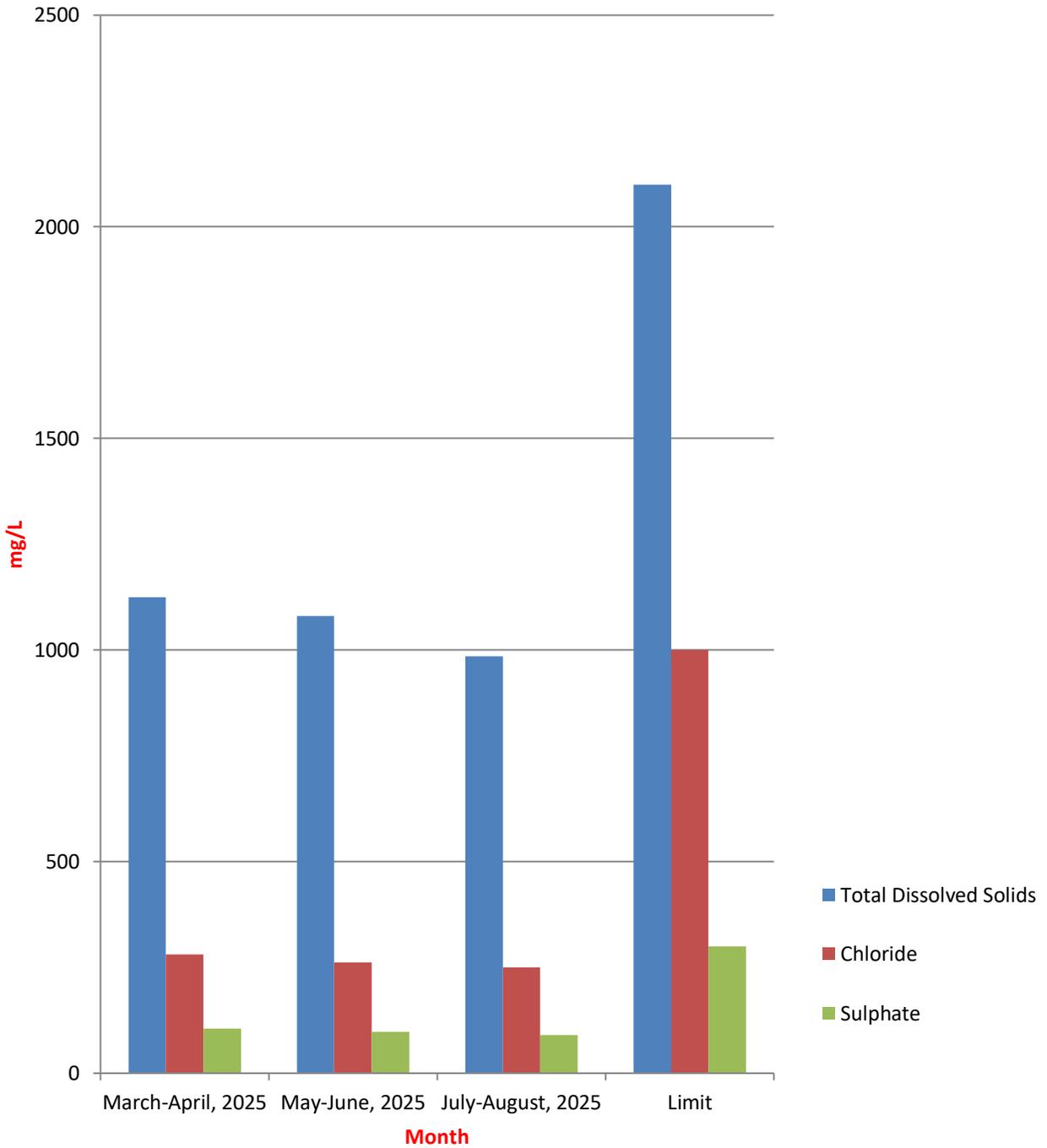
Six Monthly Variations in Bore water

Sampling point: Bore well (Hand Pump in Surali Village)

Period: April – 2025 to September – 2025

Sr. No.	Parameter	Unit	Bi-Monthly March - April 2025	Bi-Monthly May - June 2025	Bi-Monthly July - August 2025	MoEF Limit
1	Temperature	°C	31	28	30	Shall not exceed 5°c above the receiving water temp.
2	pH@ 25°C	pH unit	7.35	7.48	7.40	5.5-9.0
3	Colour	pt. Co. Scale	< 5	< 5	< 5	--
4	Total Suspended Solids (TSS) @105 °C	mg/L	10.2	11.5	9.5	100
5	Total Dissolved Solids (TDS) @180° C	mg/L	1125	1080	985	2100
6	Total volatile Solids	mg/L	1.4	1.2	1.5	--
7	COD	mg/L	< 4	< 4	< 4	250
8	BOD (5 days at 20° C)	mg/L	< 2	< 2	< 2	30
9	Oil & Grease	mg/L	< 1	< 1	< 1	10
10	Chloride	mg/L	280	262	250	1000
11	Sulphate	mg/L	105	98	90	300
12	Fluoride	mg/L	0.4	0.6	0.4	2.0
13	Phosphate as PO ₄ ⁻⁻⁻	mg/L	0.2	0.5	0.4	--
14	Total Residual Chlorine	mg/L	< 0.10	< 0.10	< 0.10	1.0
15	Free Available Chlorine	mg/L	< 0.10	< 0.10	< 0.10	--
16	Phenolic Compound	mg/L	< 0.02	< 0.02	< 0.02	1.0
17	Lead	mg/L	< 0.50	< 0.50	< 0.50	0.1
18	Copper	mg/L	< 0.03	< 0.03	< 0.03	3.0
19	Hexavalent Chromium	mg/L	< 0.03	< 0.03	< 0.03	0.1
20	Total Chromium	mg/L	< 0.10	< 0.10	< 0.10	2.0
21	Zinc	mg/L	0.62	0.74	0.65	5.0
22	Iron	mg/L	0.68	0.62	0.58	3.0
23	Calcium	mg/L	62	58	60	--
24	Magnesium	mg/L	28	24	26	--
25	Percentage Sodium	%	30	28	30	--
26	Total Coliform(MPN)	Present/ Absent	Absent	Absent	Absent	--
27	Bioassay Test	% Survival of fish after 96 hrs in 100% effluent	100	100	100	90%Survival of fish after 96 Hours in 100% of effluent

Graphical Presentation for the variation of TDS, Chloride, Sulphate in Bore well (Hand Pump in Surali Village)



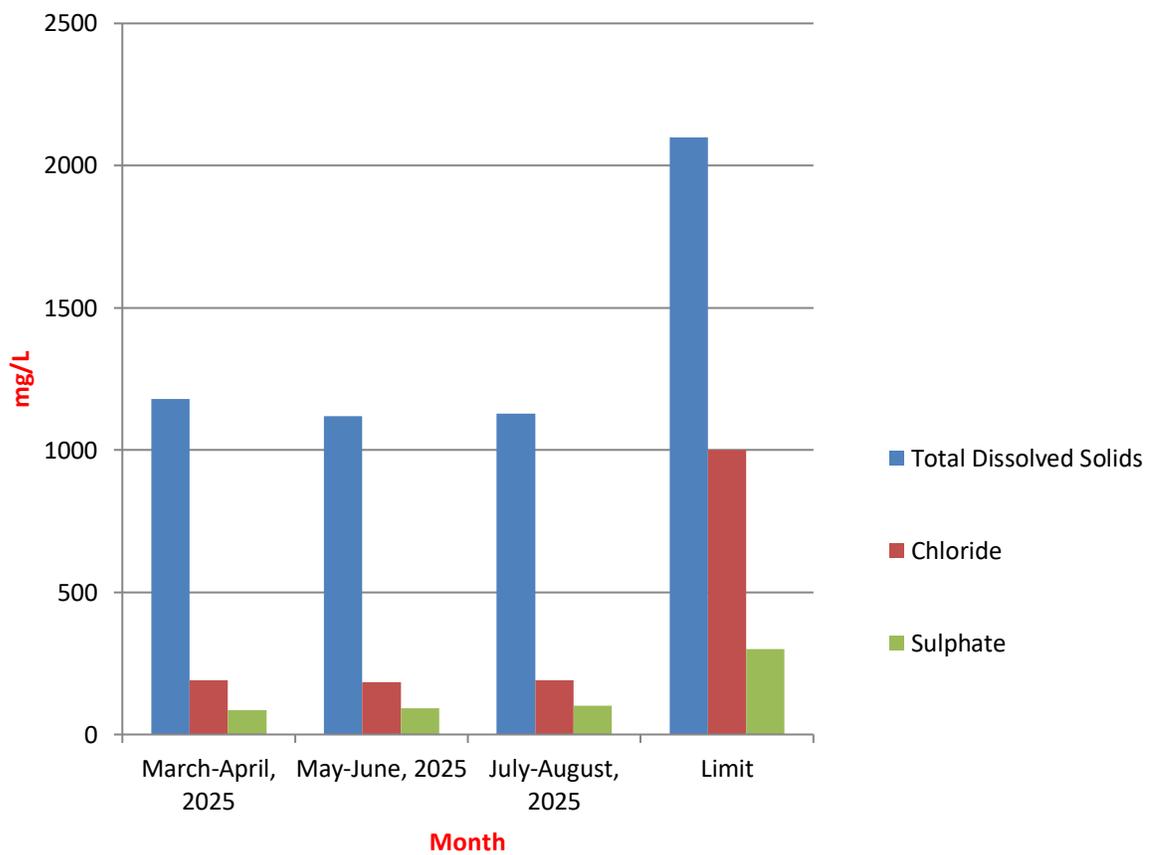
Six Monthly Variations in Bore water

Sampling point: Bore well (Vastan Village)

Period: April – 2025 to September – 2025

Sr. No.	Parameter	Unit	Bi-Monthly March - April 2025	Bi-Monthly May - June 2025	Bi-Monthly July - August 2025	MoEF Limit
1	Temperature	°C	30	28	27	Shall not exceed 5°C above the receiving water temp
2	pH@ 25°C	pH unit	7.48	7.52	7.52	5.5-9.0
3	Colour	pt. Co. Scale	< 5	< 5	< 5	--
4	Total Suspended Solids (TSS) @105 °C	mg/L	9.5	10.5	9.5	100
5	Total Dissolved Solids (TDS) @180 °C	mg/L	1180	1120	1128	2100
6	Total volatile Solids	mg/L	1.4	1.2	1.4	--
7	COD	mg/L	< 4	< 4	< 4	250
8	BOD (5 days at 20 °C)	mg/L	< 2	< 2	< 2	30
9	Oil & Grease	mg/L	< 1	< 1	< 1	10
10	Chloride	mg/L	190	185	190	1000
11	Sulphate	mg/L	85	92	102	300
12	Fluoride	mg/L	0.4	0.5	0.6	2.0
13	Phosphate as PO ₄ ³⁻	mg/L	0.4	0.4	0.5	--
14	Total Residual Chlorine	mg/L	< 0.10	< 0.10	< 0.10	1.0
15	Free Available Chlorine	mg/L	< 0.10	< 0.10	< 0.10	--
16	Phenolic Compound	mg/L	< 0.10	< 0.10	< 0.10	1.0
17	Lead	mg/L	< 0.02	< 0.02	< 0.02	0.1
18	Copper	mg/L	< 0.50	< 0.50	< 0.50	3.0
19	Hexavalent Chromium	mg/L	< 0.03	< 0.03	< 0.03	0.1
20	Total Chromium	mg/L	< 0.03	< 0.03	< 0.03	2.0
21	Zinc	mg/L	< 0.10	< 0.10	< 0.10	5.0
22	Iron	mg/L	0.55	0.62	0.68	3.0
23	Calcium	mg/L	78	74	78	--
24	Magnesium	mg/L	36	34	36	--
25	Percentage Sodium	%	30	28	26	--
26	Total Coliform(MPN)	Present/ Absent	Absent	Absent	Absent	--
27	Bioassay Test	% Survival of fish after 96 hrs in 100% effluent	100	100	100	90%Survival of fish after 96 Hours in 100% of effluent

Graphical Presentation for the variation of TDS, Chloride, Sulphate in Bore well (Vastan Village)



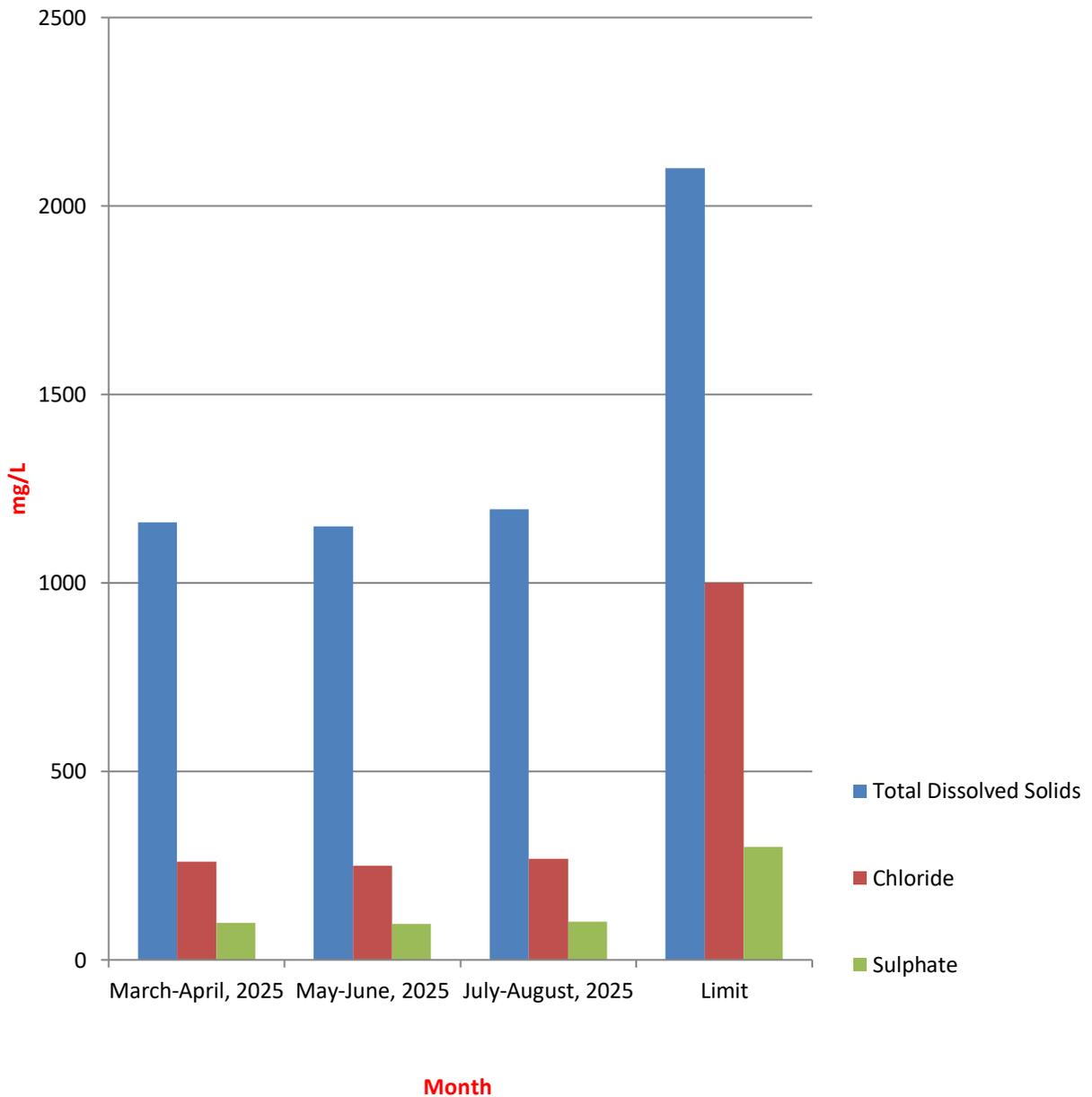
Six Monthly Variations in Bore water

Sampling point: Bore well (Hand Pump in Dungri Village)

Period: April – 2025 to September – 2025

Sr. No.	Parameter	Unit	Bi-Monthly March - April 2025	Bi-Monthly May - June 2025	Bi-Monthly July - August 2025	MoEF Limit
1	Temperature	°C	28	27	30	Shall not exceed 5°c above the receiving water temp
2	pH@ 25°C	pH unit	7.35	7.42	7.55	5.5-9.0
3	Colour	pt. Co. Scale	<5	<5	<5	--
4	Total Suspended Solids (TSS) @105°C	mg/L	9.0	9.5	8.5	100
5	Total Dissolved Solids (TDS) @180° C	mg/L	1160	1150	1195	2100
6	Total volatile Solids	mg/L	1.5	1.4	1.5	--
7	COD	mg/L	< 4	< 4	< 4	250
8	BOD (5 days at 20° C)	mg/L	< 2	< 2	< 2	30
9	Oil & Grease	mg/L	<1	<1	<1	10
10	Chloride	mg/L	260	250	268	1000
11	Sulphate	mg/L	98	95	102	300
12	Fluoride	mg/L	0.4	0.5	0.4	2.0
13	Phosphate as PO ₄ ⁻⁻	mg/L	0.2	0.5	0.4	--
14	Total Residual Chlorine	mg/L	<0.1	<0.1	<0.1	1.0
15	Free Available Chlorine	mg/L	<0.1	<0.1	<0.1	--
16	Phenolic Compound	mg/L	<0.01	<0.01	<0.01	1.0
17	Lead	mg/L	<0.02	<0.02	<0.02	0.1
18	Copper	mg/L	<0.01	<0.01	<0.01	3.0
19	Hexavalent Chromium	mg/L	<0.03	<0.03	<0.03	0.1
20	Total Chromium	mg/L	<0.03	<0.03	<0.03	2.0
21	Zinc	mg/L	<0.1	<0.1	<0.1	5.0
22	Iron	mg/L	0.75	0.78	0.70	3.0
23	Calcium	mg/L	88	82	75	--
24	Magnesium	mg/L	34	32	30	--
25	Percentage Sodium	%	28	30	32	--
26	Total Coliform(MPN)	Present/ Absent	Absent	Absent	Absent	--
27	Bioassay Test	% Survival of fish after 96 hrs in 100% effluent	100	100	100	90%Survival of fish after 96 Hours in 100% of effluent

Graphical Presentation for the variation of TDS, Chloride, Sulphate in Bore well (Hand Pump in Dungri Village)



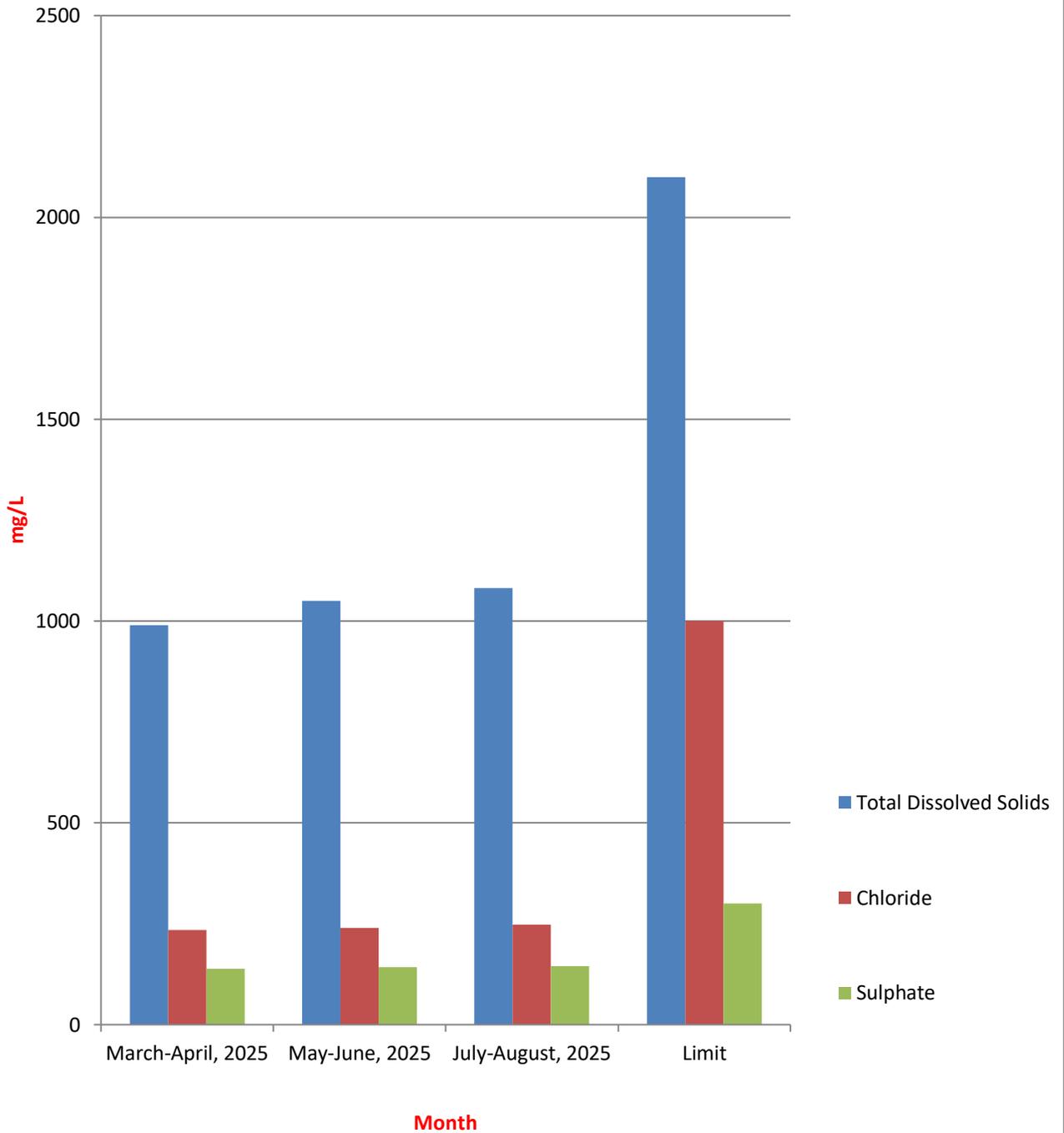
Six Monthly Variations in water

Sampling point: (Natural pond in Vastan village)

Period: April – 2025 to September – 2025

Sr. No.	Parameter	Unit	Bi-Monthly March - April 2025	Bi-Monthly May - June 2025	Bi-Monthly July - August 2025	MoEF Limit
1	Temperature	°C	29	30	28	Shall not exceed 5°c above the receiving water temp
2	pH@ 25°C	pH unit	7.38	7.50	7.58	5.5-9.0
3	Colour	pt. Co. Scale	< 5	< 5	< 5	--
4	Total Suspended Solids (TSS) @105 °C	mg/L	8.5	11.2	10.2	100
5	Total Dissolved Solids (TDS) @180° C	mg/L	990	1050	1082	2100
6	Total volatile Solids	mg/L	<1	<1	<1	--
7	COD	mg/L	<4	<4	<4	250
8	BOD (5 days at 20° C)	mg/L	<2	<2	<2	30
9	Oil & Grease	mg/L	< 0.1	< 0.1	< 0.1	10
10	Chloride	mg/L	235	240	248	1000
11	Sulphate	mg/L	138	142	145	300
12	Fluoride	mg/L	0.5	0.4	0.4	2.0
13	Phosphate as PO ₄ ⁻⁻⁻	mg/L	0.6	0.4	0.5	--
14	Total Residual Chlorine	mg/L	< 0.1	< 0.1	< 0.1	1.0
15	Free Available Chlorine	mg/L	< 0.10	< 0.10	< 0.10	--
16	Phenolic Compound	mg/L	< 0.10	< 0.10	< 0.10	1.0
17	Lead	mg/L	< 0.05	< 0.05	< 0.05	0.1
18	Copper	mg/L	< 0.05	< 0.05	< 0.05	3.0
19	Hexavalent Chromium	mg/L	< 0.03	< 0.03	< 0.03	0.1
20	Total Chromium	mg/L	< 0.03	< 0.03	< 0.03	2.0
21	Zinc	mg/L	< 0.1	< 0.1	< 0.1	5.0
22	Iron	mg/L	<0.1	<0.1	<0.1	3.0
23	Calcium	mg/L	70	68	64	--
24	Magnesium	mg/L	20	24	28	--
25	Percentage Sodium	%	25	28	30	--
26	Total Coliform(MPN)	Present/ Absent	Absent	Absent	Absent	--
27	Bioassay Test	% Survival of fish after 96 hrs in 100% effluent	100	100	100	90%Survival of fish after 96 Hours in 100% of effluent

Graphical Presentation for the variation of TDS, Chloride, Sulphate Natural pond in Vastan village



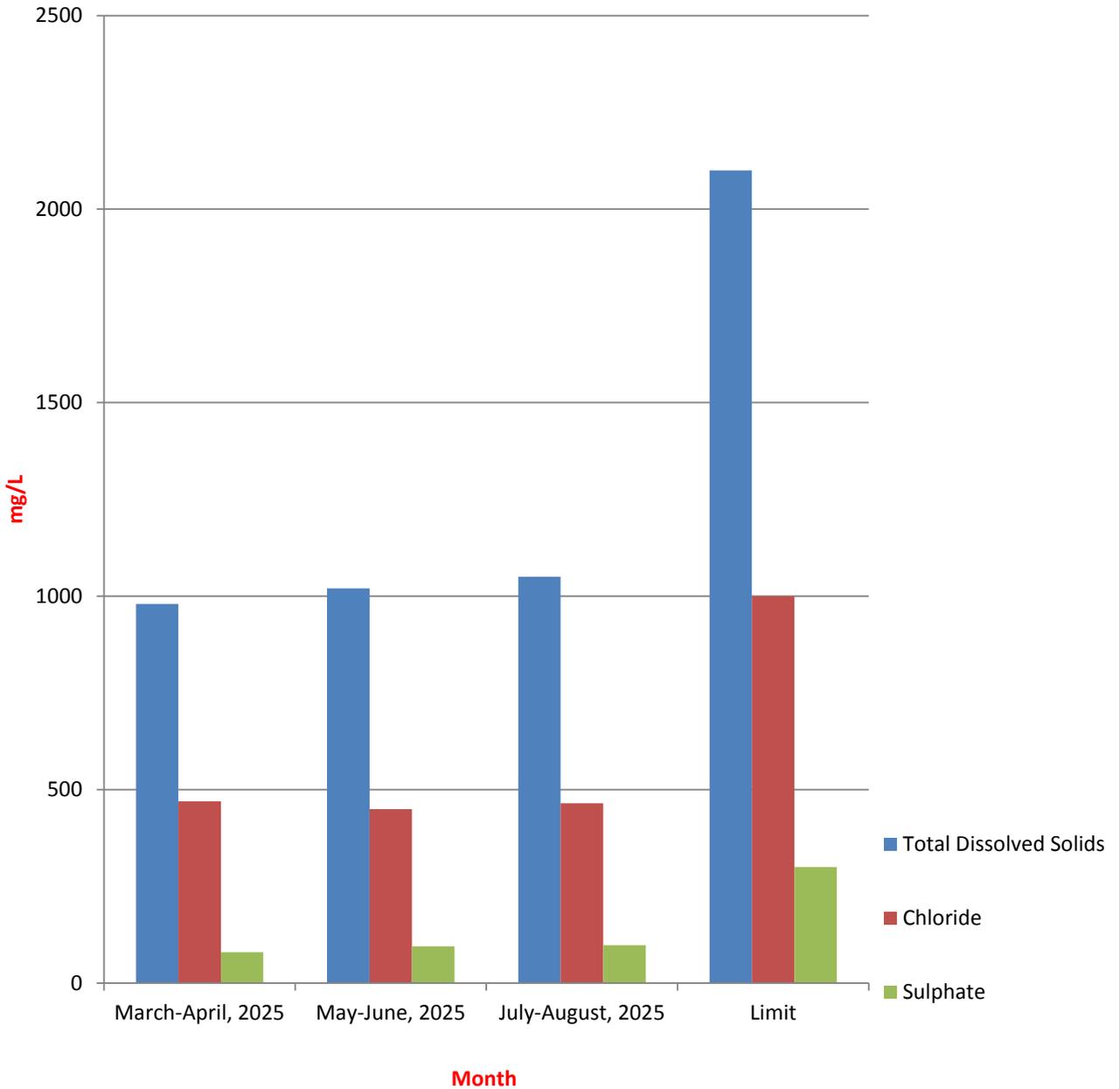
Six Monthly Variations in Bore water

Sampling point: Limestone Pit No.3

Period: April – 2025 to September – 2025

Sr. No.	Parameter	Unit	Bi-Monthly March - April 2025	Bi-Monthly May - June 2025	Bi-Monthly July - August 2025	MoEF Limit
1	Temperature	°C	28	30	28	Shall not exceed 5°c above the receiving water temp
2	pH@ 25°C	pH unit	7.38	7.45	7.52	5.5-9.0
3	Colour	pt. Co. Scale	< 5	< 5	< 5	--
4	Total Suspended Solids (TSS) @105 °C	mg/L	14.2	15.5	16.2	100
5	Total Dissolved Solids (TDS) @180° C	mg/L	980	1020	1050	2100
6	Total volatile Solids	mg/L	1.4	1.5	1.8	--
7	COD	mg/L	48	50	55	250
8	BOD (5 days at 20° C)	mg/L	22	20	22	30
9	Oil & Grease	mg/L	< 1	< 1	< 1	10
10	Chloride	mg/L	470	450	465	1000
11	Sulphate	mg/L	80	95	98	300
12	Fluoride	mg/L	0.8	0.9	0.8	2.0
13	Phosphate as PO ₄ ³⁻	mg/L	0.4	0.5	0.5	--
14	Total Residual Chlorine	mg/L	< 0.1	< 0.1	< 0.1	1.0
15	Free Available Chlorine	mg/L	< 0.10	< 0.10	< 0.10	--
16	Phenolic Compound	mg/L	< 0.10	< 0.10	< 0.10	1.0
17	Lead	mg/L	<0.1	<0.1	<0.1	0.1
18	Copper	mg/L	0.58	0.65	0.68	3.0
19	Hexavalent Chromium	mg/L	< 0.03	< 0.03	< 0.03	0.1
20	Total Chromium	mg/L	< 0.03	< 0.03	< 0.03	2.0
21	Zinc	mg/L	0.65	0.70	0.72	5.0
22	Iron	mg/L	0.82	0.80	0.84	3.0
23	Calcium	mg/L	84	88	90	--
24	Magnesium	mg/L	30	26	28	--
25	Percentage Sodium	%	28	28	30	--
26	Total Coliform(MPN)	Present/ Absent	Absent	Absent	Absent	--
27	Bioassay Test	% Survival of fish after 96 hrs in 100% effluent	90	90	90	90%Survival of fish after 96 Hours in 100% of effluent

Graphical Presentation for the variation of TDS, Chloride, Sulphate Limestone pit no - 3



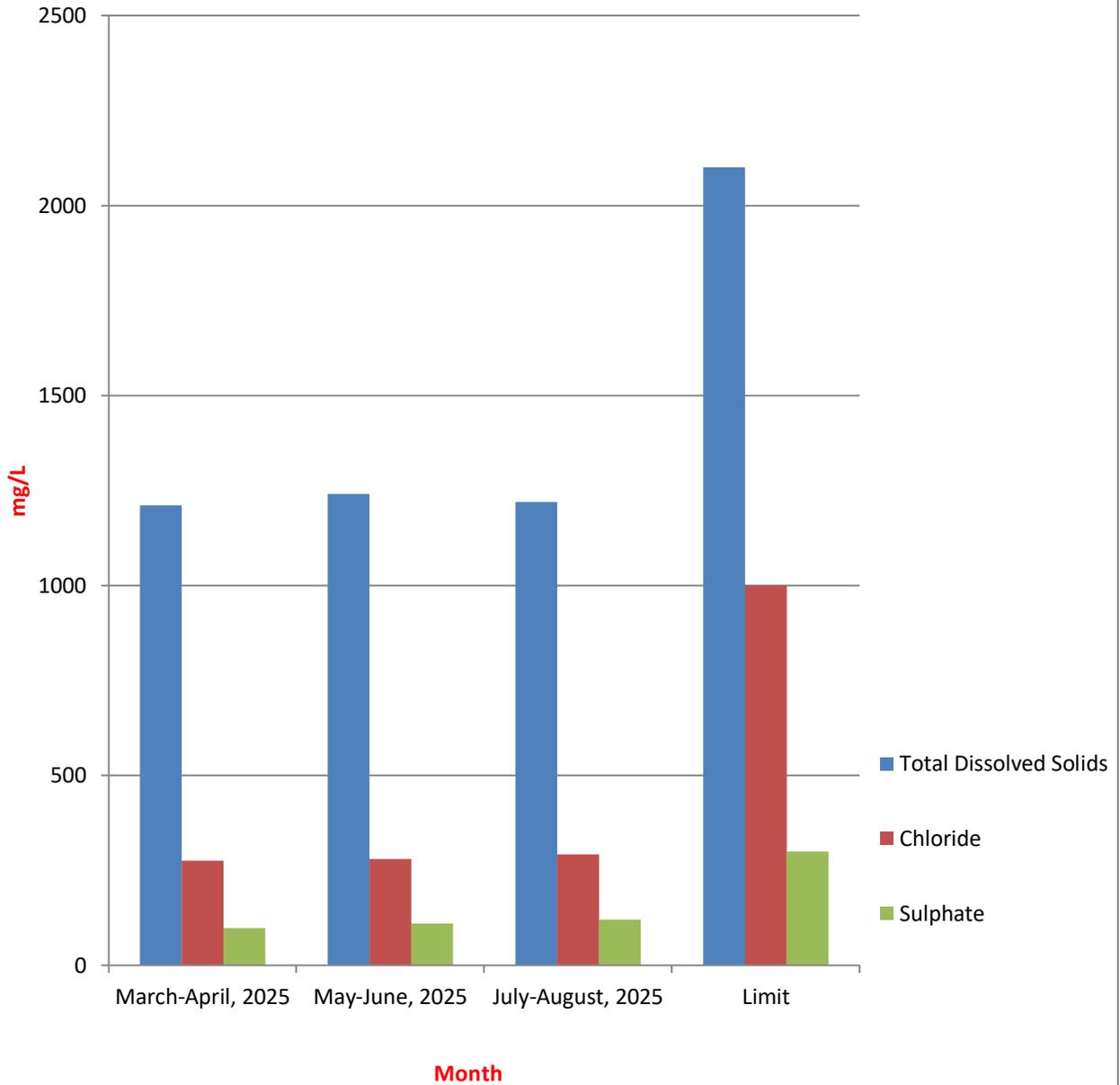
Six Monthly Variations in surface water

Sampling point: Bore water (Near Tadkeshwar Village)

Period: April – 2025 to September – 2025

Sr. No.	Parameter	Unit	Bi-Monthly March - April 2025	Bi-Monthly May - June 2025	Bi-Monthly July - August 2025	MoEF Limit
1	Temperature	°C	30	28	27	Shall not exceed 5°c above the receiving water temp
2	pH@ 25°C	pH unit	7.52	7.55	7.52	5.5-9.0
3	Colour	pt. Co. Scale	< 5	< 5	< 5	--
4	Total Suspended Solids (TSS) @105 °C	mg/L	8.2	8.5	10.8	100
5	Total Dissolved Solids (TDS) @180° C	mg/L	1210	1240	1220	2100
6	Total volatile Solids	mg/L	2.2	2.0	1.8	--
7	COD	mg/L	<4	<4	<4	250
8	BOD (5 days at 20° C)	mg/L	<2	<2	<2	30
9	Oil & Grease	mg/L	< 1	< 1	< 1	10
10	Chloride	mg/L	275	280	292	1000
11	Sulphate	mg/L	98	110	120	300
12	Fluoride	mg/L	0.4	0.5	0.4	2.0
13	Phosphate as PO ₄ ⁻⁻⁻	mg/L	0.4	0.4	0.4	--
14	Total Residual Chlorine	mg/L	< 0.1	< 0.1	< 0.1	1.0
15	Free Available Chlorine	mg/L	< 0.10	< 0.10	< 0.10	--
16	Phenolic Compound	mg/L	< 0.10	< 0.10	< 0.10	1.0
17	Lead	mg/L	< 0.02	< 0.02	< 0.02	0.1
18	Copper	mg/L	< 0.50	< 0.50	< 0.50	3.0
19	Hexavalent Chromium	mg/L	< 0.03	< 0.03	< 0.03	0.1
20	Total Chromium	mg/L	< 0.03	< 0.03	< 0.03	2.0
21	Zinc	mg/L	< 0.10	< 0.10	< 0.10	5.0
22	Iron	mg/L	0.72	0.70	0.65	3.0
23	Calcium	mg/L	92	90	88	--
24	Magnesium	mg/L	38	36	34	--
25	Percentage Sodium	%	28	30	28	--
26	Total Coliform(MPN)	Present/ Absent	Absent	Absent	Absent	--
27	Bioassay Test	% Survival of fish after 96 hrs in 100% effluent	100	100	100	90%Survival of fish after 96 Hours in 100% of effluent

Graphical Presentation for the variation of TDS, Chloride, Sulphate Bore water (Near Tadkeshwar Village)



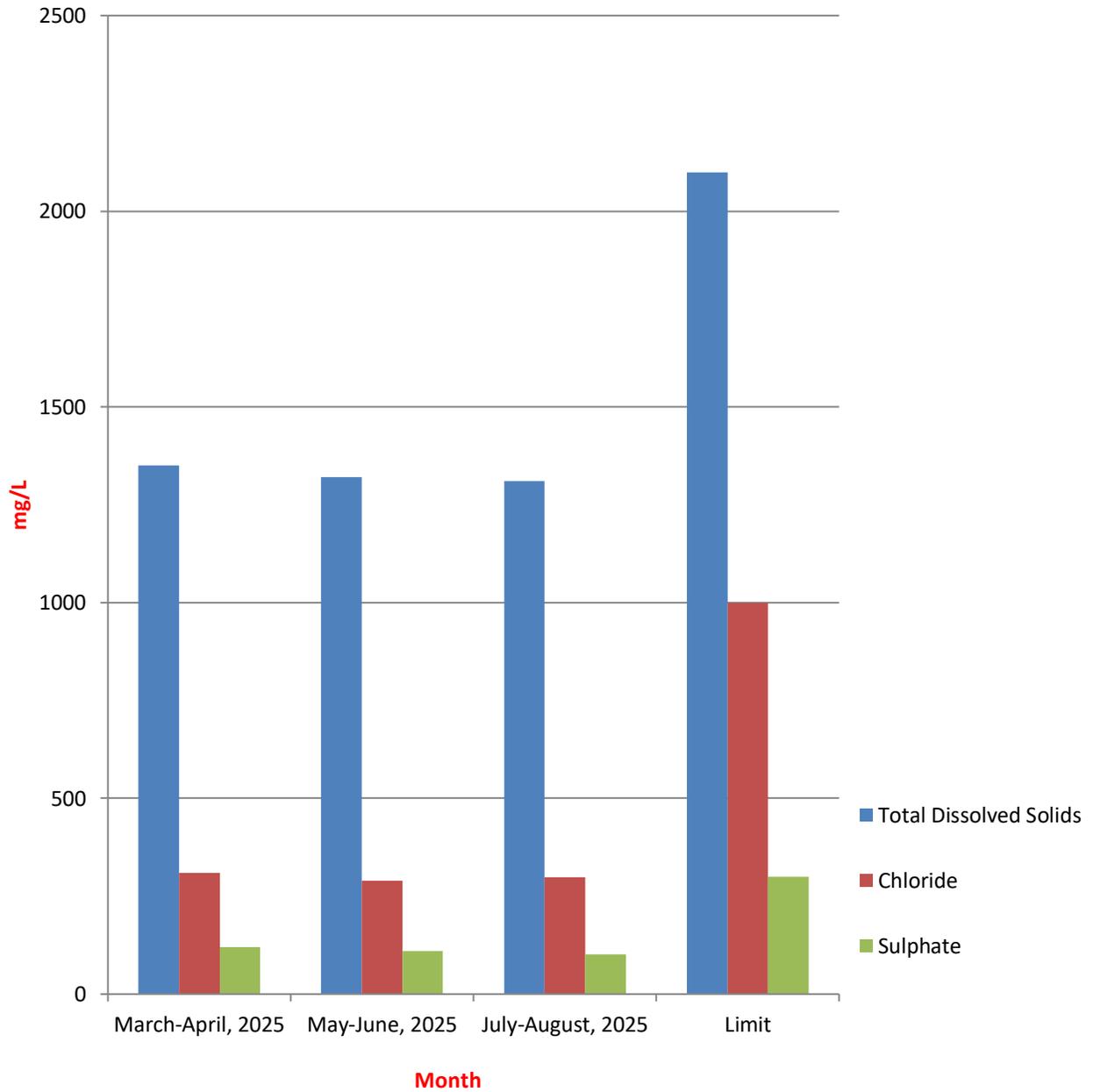
Six Monthly Variations in surface water

Sampling point: Bore Well water (Nani Naroli Village)

Period: April – 2025 to September – 2025

Sr. No.	Parameter	Unit	Bi-Monthly March - April 2025	Bi-Monthly May - June 2025	Bi-Monthly July - August 2025	MoEF Limit
1	Temperature	°C	31	28	30	Shall not exceed 5°c above the receiving water temp
2	pH@ 25°C	pH unit	7.55	7.50	7.48	5.5-9.0
3	Colour	pt. Co. Scale	<5	<5	<5	--
4	Total Suspended Solids (TSS) @105 °C	mg/L	10	9.2	10.5	100
5	Total Dissolved Solids (TDS) @180° C	mg/L	1350	1320	1310	2100
6	Total volatile Solids	mg/L	1.4	1.5	1.5	--
7	COD	mg/L	<4	<4	<4	250
8	BOD (5 days at 20° C)	mg/L	<2	<2	<2	30
9	Oil & Grease	mg/L	<1	<1	<1	10
10	Chloride	mg/L	310	290	298	1000
11	Sulphate	mg/L	120	110	102	300
12	Fluoride	mg/L	0.6	0.5	0.4	2.0
13	Phosphate as PO ₄ ⁻⁻⁻	mg/L	0.4	0.4	0.5	--
14	Total Residual Chlorine	mg/L	<0.1	<0.1	<0.1	1.0
15	Free Available Chlorine	mg/L	<0.1	<0.1	<0.1	--
16	Phenolic Compound	mg/L	<0.01	<0.01	<0.01	1.0
17	Lead	mg/L	<0.02	<0.02	<0.02	0.1
18	Copper	mg/L	<0.01	<0.01	<0.01	3.0
19	Hexavalent Chromium	mg/L	<0.03	<0.03	<0.03	0.1
20	Total Chromium	mg/L	<0.03	<0.03	<0.03	2.0
21	Zinc	mg/L	<0.1	<0.1	<0.1	5.0
22	Iron	mg/L	0.80	0.75	0.66	3.0
23	Calcium	mg/L	130	110	120	--
24	Magnesium	mg/L	36	38	40	--
25	Percentage Sodium	%	32	30	32	--
26	Total Coliform(MPN)	Present/ Absent	Absent	Absent	Absent	--
27	Bioassay Test	% Survival of fish after 96 hrs in 100% effluent	100	100	100	90%Survival of fish after 96 Hours in 100% of effluent

Graphical Presentation for the variation of TDS, Chloride, Sulphate Bore water (Nani Naroli Village)



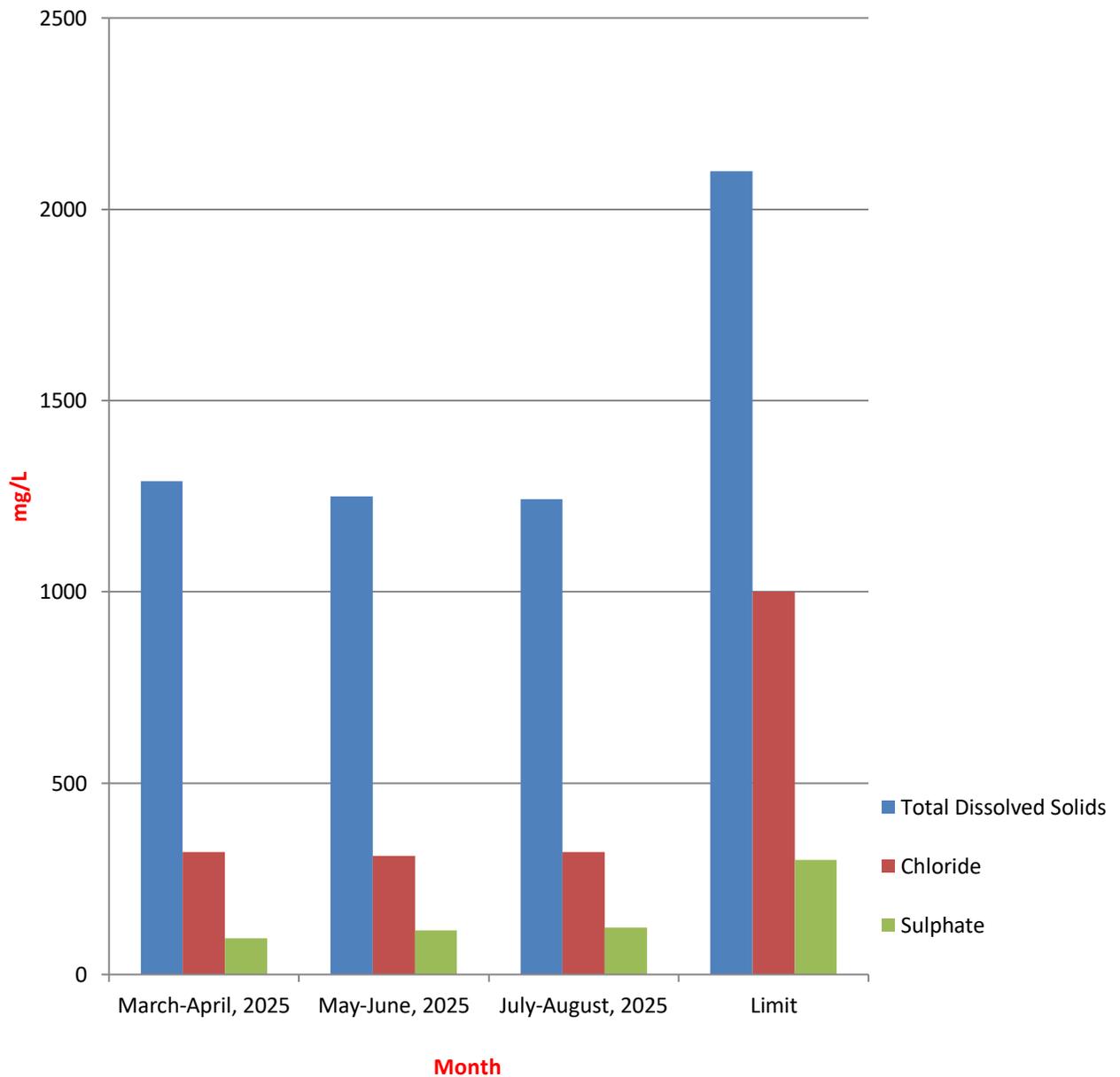
Six Monthly Variations in Bore water

Sampling point: Natural Pond Nani Naroli Village

Period: April – 2025 to September – 2025

Sr. No.	Parameter	Unit	Bi-Monthly March - April 2025	Bi-Monthly May - June 2025	Bi-Monthly July - August 2025	MoEF Limit
1	Temperature	°C	28	30	28	Shall not exceed 5°c above the receiving water temp
2	pH@ 25°C	pH unit	7.44	7.50	7.55	5.5-9.0
3	Colour	pt. Co. Scale	<5	<5	<5	--
4	Total Suspended Solids (TSS) @105 °C	mg/L	9.5	9.5	9.5	100
5	Total Dissolved Solids (TDS) @180° C	mg/L	1290	1250	1242	2100
6	Total volatile Solids	mg/L	1.8	1.5	2.0	--
7	COD	mg/L	<4	<4	<4	250
8	BOD (5 days at 20° C)	mg/L	<2	<2	<2	30
9	Oil & Grease	mg/L	<1	<1	<1	10
10	Chloride	mg/L	320	310	320	1000
11	Sulphate	mg/L	95	115	122	300
12	Fluoride	mg/L	0.5	0.5	0.8	2.0
13	Phosphate as PO ₄ ⁻⁻⁻	mg/L	0.5	0.4	0.5	--
14	Total Residual Chlorine	mg/L	<0.1	<0.1	<0.1	1.0
15	Free Available Chlorine	mg/L	<0.1	<0.1	<0.1	--
16	Phenolic Compound	mg/L	<0.01	<0.01	<0.01	1.0
17	Lead	mg/L	<0.02	<0.02	<0.02	0.1
18	Copper	mg/L	<0.01	<0.01	<0.01	3.0
19	Hexavalent Chromium	mg/L	<0.03	<0.03	<0.03	0.1
20	Total Chromium	mg/L	<0.03	<0.03	<0.03	2.0
21	Zinc	mg/L	<0.1	<0.1	<0.1	5.0
22	Iron	mg/L	0.62	0.68	0.78	3.0
23	Calcium	mg/L	136	13	120	--
24	Magnesium	mg/L	38	35	36	--
25	Percentage Sodium	%	30	28	28	--
26	Total Coliform(MPN)	Present/ Absent	Absent	Absent	Absent	--
27	Bioassay Test	% Survival of fish after 96 hrs in 100% effluent	100	100	100	90%Survival of fish after 96 Hours in 100% of effluent

Graphical Presentation for the variation of TDS, Chloride, Sulphate Natural Pond (Nani Naroli Village)



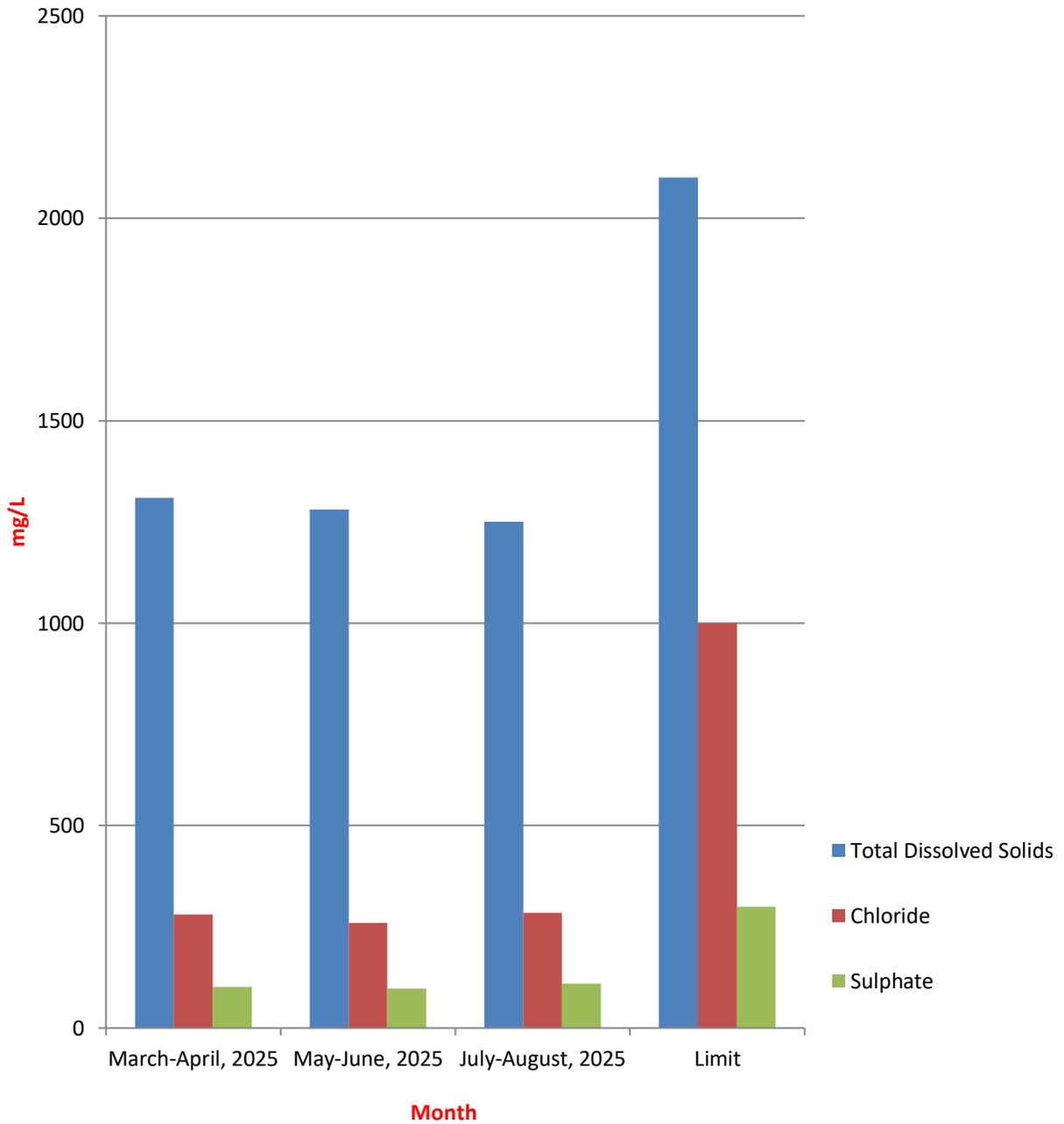
Six Monthly Variations in Bore water

Sampling point: Natural Pond Tadkeshwar Village

Period: April – 2025 to September – 2025

Sr. No.	Parameter	Unit	Bi-Monthly March - April 2025	Bi-Monthly May - June 2025	Bi-Monthly July - August 2025	MoEF Limit
1	Temperature	°C	28	30	28	Shall not exceed 5°c above the receiving water temp
2	pH@ 25°C	pH unit	7.50	7.48	7.45	5.5-9.0
3	Colour	pt. Co. Scale	< 5	< 5	< 5	--
4	Total Suspended Solids (TSS) @105 °C	mg/L	9.5	10.5	9.2	100
5	Total Dissolved Solids (TDS) @180° C	mg/L	1310	1280	1250	2100
6	Total volatile Solids	mg/L	1.5	1.4	1.5	--
7	COD	mg/L	<4	<4	<4	250
8	BOD (5 days at 20° C)	mg/L	<2	<2	<2	30
9	Oil & Grease	mg/L	< 1	< 1	< 1	10
10	Chloride	mg/L	280	260	285	1000
11	Sulphate	mg/L	102	98	110	300
12	Fluoride	mg/L	1.0	0.5	0.4	2.0
13	Phosphate as PO ₄ ³⁻	mg/L	0.6	0.4	0.5	--
14	Total Residual Chlorine	mg/L	< 0.1	< 0.1	< 0.1	1.0
15	Free Available Chlorine	mg/L	< 0.10	< 0.10	< 0.10	--
16	Phenolic Compound	mg/L	< 0.10	< 0.10	< 0.10	1.0
17	Lead	mg/L	< 0.02	< 0.02	< 0.02	0.1
18	Copper	mg/L	< 0.50	< 0.50	< 0.50	3.0
19	Hexavalent Chromium	mg/L	< 0.03	< 0.03	< 0.03	0.1
20	Total Chromium	mg/L	< 0.03	< 0.03	< 0.03	2.0
21	Zinc	mg/L	< 0.10	< 0.10	< 0.10	5.0
22	Iron	mg/L	0.85	0.80	0.72	3.0
23	Calcium	mg/L	90	88	84	--
24	Magnesium	mg/L	36	35	36	--
25	Percentage Sodium	%	30	28	30	--
26	Total Coliform(MPN)	Present/ Absent	Absent	Absent	Absent	--
27	Bioassay Test	% Survival of fish after 96 hrs in 100% effluent	100	100	100	90%Survival of fish after 96 Hours in 100% of effluent

Graphical Presentation for the variation of TDS, Chloride, Sulphate Natural Pond (Near Tadkeshwar Village)



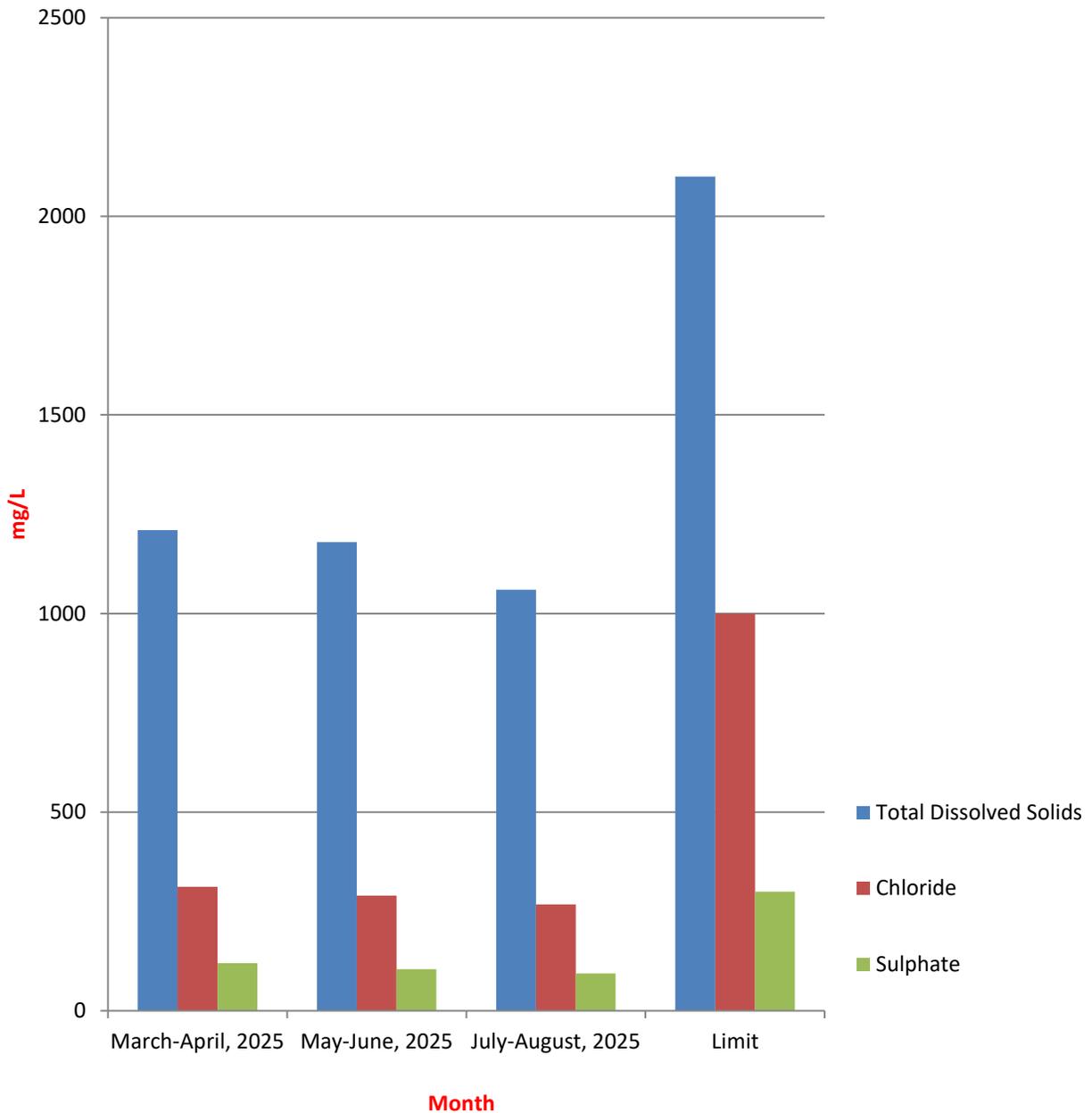
Six Monthly Variations in Bore water

Sampling point: Bore well at Ansodla Village

Period: April – 2025 to September – 2025

Sr. No.	Parameter	Unit	Bi-Monthly March - April 2025	Bi-Monthly May - June 2025	Bi-Monthly July - August 2025	MoEF Limit
1	Temperature	°C	30	28	30	Shall not exceed 5°c above the receiving water temp
2	pH@ 25°C	pH unit	7.40	7.44	7.35	5.5-9.0
3	Colour	pt. Co. Scale	< 5	< 5	< 5	--
4	Total Suspended Solids (TSS) @105 °C	mg/L	9.2	10.4	9.8	100
5	Total Dissolved Solids (TDS) @180° C	mg/L	1210	1180	1060	2100
6	Total volatile Solids	mg/L	1.8	1.5	1.4	--
7	COD	mg/L	<4	<4	<4	250
8	BOD (5 days at 20° C)	mg/L	<2	<2	<2	30
9	Oil & Grease	mg/L	< 1	< 1	< 1	10
10	Chloride	mg/L	312	290	268	1000
11	Sulphate	mg/L	120	105	94	300
12	Fluoride	mg/L	0.8	0.6	0.5	2.0
13	Phosphate as PO ₄ ³⁻	mg/L	0.4	0.4	0.4	--
14	Total Residual Chlorine	mg/L	< 0.1	< 0.1	< 0.1	1.0
15	Free Available Chlorine	mg/L	< 0.10	< 0.10	< 0.10	--
16	Phenolic Compound	mg/L	< 0.10	< 0.10	< 0.10	1.0
17	Lead	mg/L	< 0.02	< 0.02	< 0.02	0.1
18	Copper	mg/L	< 0.50	< 0.50	< 0.50	3.0
19	Hexavalent Chromium	mg/L	< 0.03	< 0.03	< 0.03	0.1
20	Total Chromium	mg/L	< 0.03	< 0.03	< 0.03	2.0
21	Zinc	mg/L	< 0.10	< 0.10	< 0.10	5.0
22	Iron	mg/L	0.58	0.68	0.64	3.0
23	Calcium	mg/L	110	105	94	--
24	Magnesium	mg/L	32	30	28	--
25	Percentage Sodium	%	30	32	30	--
26	Total Coliform(MPN)	Present/ Absent	Absent	Absent	Absent	--
27	Bioassay Test	% Survival of fish after 96 hrs in 100% effluent	100	100	100	90%Survival of fish after 96 Hours in 100% of effluent

Graphical Presentation for the variation of TDS, Chloride, Sulphate in Bore water (Ansodla Village)



Six Monthly Variations in Bore water

Sampling point: Natural Pond Surali Village

Period: April – 2025 to September – 2025

Sr. No.	Parameter	Unit	Bi-Monthly March - April 2025	Bi-Monthly May - June 2025	Bi-Monthly July - August 2025	MoEF Limit
1	Temperature	°C	27	30	27	Shall not exceed 5°C above the receiving water temp.
2	pH@ 25°C	pH unit	7.28	7.39	7.35	5.5-9.0
3	Colour	pt. Co. Scale	< 5	< 5	< 5	--
4	Total Suspended Solids (TSS) @105 °C	mg/L	9.5	11.5	10.4	100
5	Total Dissolved Solids (TDS) @180° C	mg/L	980	1010	960	2100
6	Total volatile Solids	mg/L	1.2	1.4	1.2	--
7	COD	mg/L	< 4	< 4	< 4	250
8	BOD (5 days at 20° C)	mg/L	< 2	< 2	< 2	30
9	Oil & Grease	mg/L	< 1	< 1	< 1	10
10	Chloride	mg/L	244	250	240	1000
11	Sulphate	mg/L	65	85	78	300
12	Fluoride	mg/L	0.5	0.4	0.5	2.0
13	Phosphate as PO ₄ ³⁻	mg/L	0.4	0.4	0.4	--
14	Total Residual Chlorine	mg/L	< 0.10	< 0.10	< 0.10	1.0
15	Free Available Chlorine	mg/L	< 0.10	< 0.10	< 0.10	--
16	Phenolic Compound	mg/L	< 0.02	< 0.02	< 0.02	1.0
17	Lead	mg/L	< 0.50	< 0.50	< 0.50	0.1
18	Copper	mg/L	< 0.03	< 0.03	< 0.03	3.0
19	Hexavalent Chromium	mg/L	< 0.03	< 0.03	< 0.03	0.1
20	Total Chromium	mg/L	< 0.10	< 0.10	< 0.10	2.0
21	Zinc	mg/L	0.70	0.82	0.75	5.0
22	Iron	mg/L	0.62	0.68	0.55	3.0
23	Calcium	mg/L	70	72	68	--
24	Magnesium	mg/L	32	28	24	--
25	Percentage Sodium	%	28	30	28	--
26	Total Coliform(MPN)	Present/ Absent	Absent	Absent	Absent	--
27	Bioassay Test	% Survival of fish after 96 hrs in 100% effluent	100	100	100	90%Survival of fish after 96 Hours in 100% of effluent

Graphical Presentation for the variation of TDS, Chloride, Sulphate in Natural Pond (Surali Village)

