

Gujarat Industries Power Company Limited



At. : Nani Naroli, Ta: Mangrol
Dist.: Surat -394112

Six Monthly Report of Vastan Lignite Mine

ENVIRONMENTAL MONITORING & ANALYSIS REPORT

For the period of July 2020 to December-2020

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 - NaniNaroli, Tai. Mangrol, Dist. Surat. This company engaged in the generation of Electricity. The Industry has awarded the contract for monthly 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 ambientair, stack emission, fugitive emission, water & waste water, noise, soil, and solid waste etc.

Scope of work for Vastan Lignite Mine

I. Ambient Air Monitoring

Sr. No.	No. of stations & Location	Duration	Frequency	Parameters	Method of Analysis
1.	8 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.	8 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.	10 Nos. at various location within the plant premises	24 hours	Bi-Monthly	Day & night Noise level	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.	7 Nos. of Bore well & 2 No. of Surface Water sample located both in Core & Buffer Zone	1	Bi-Monthly	Physical parameters, Chemical Parameters, Heavy metals	standard methods for the examination of water and waste water APHA 23 rd Edition 2017 and various Indian standards IS 3025.

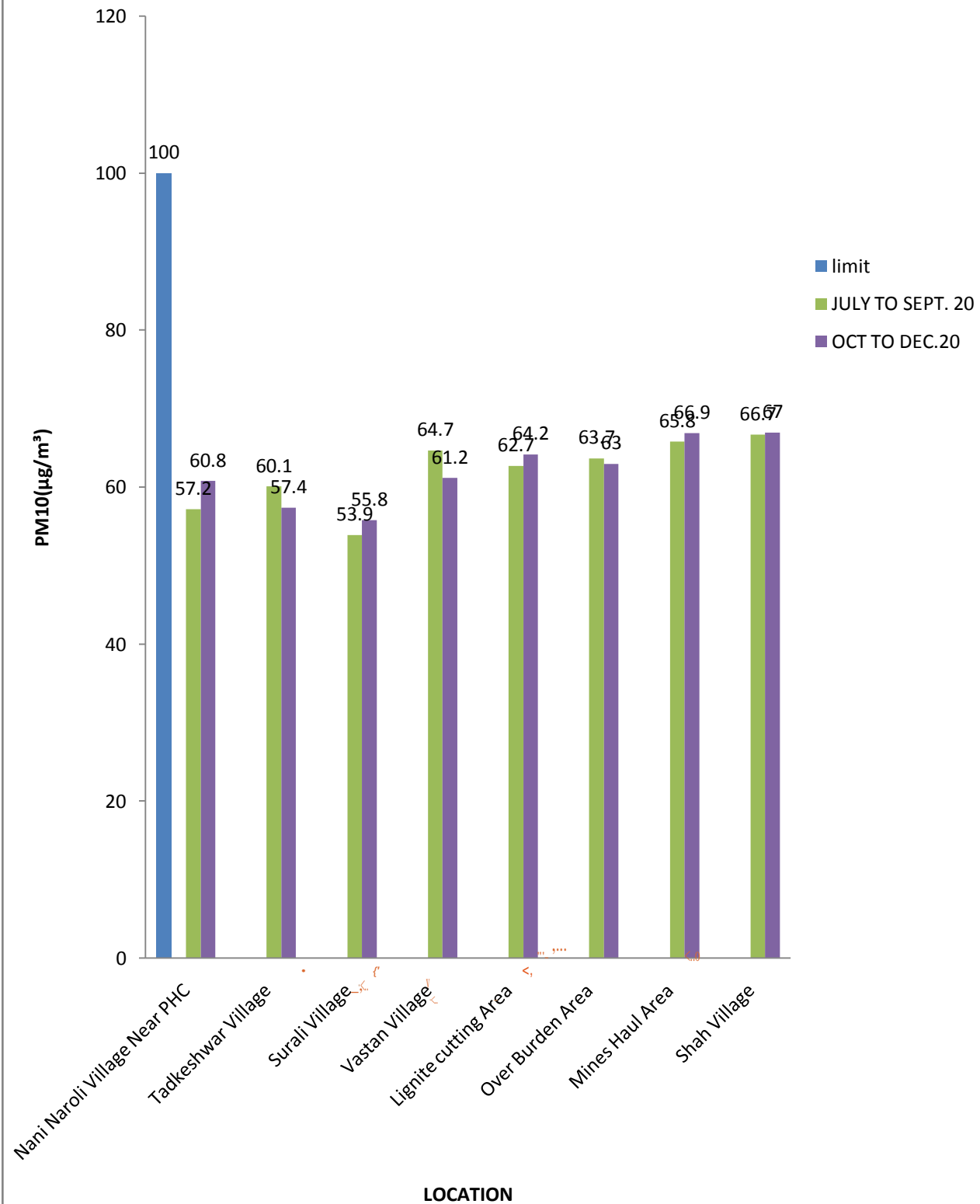
Six Monthly Variation in Ambient Air Quality Monitoring Data

Parameter: PM10 (Suspended Particulate Matter)

Period: JULY - 2020 to DECEMBER - 2020

Sr. No.	Location	PM ₁₀	
		JULY TO SEPT. 20	OCT TO DEC.20
1	NaniNaroli Village Near PHC	63.5	65.4
2	Tadkeshwar Village	58.7	61.3
3	Surali Village	56.2	58.2
4	Vastan Village	60.1	62.2
5	Lignite cutting Area	62.7	64.2
6	Over Burden Area	63.7	63.0
7	Mines Haul Area	65.8	66.9
8	Shah Village	66.7	67.0
	Limit	100($\mu\text{g}/\text{m}^3$)	

Graphical presentation for the variation of PM10 in Ambient Air



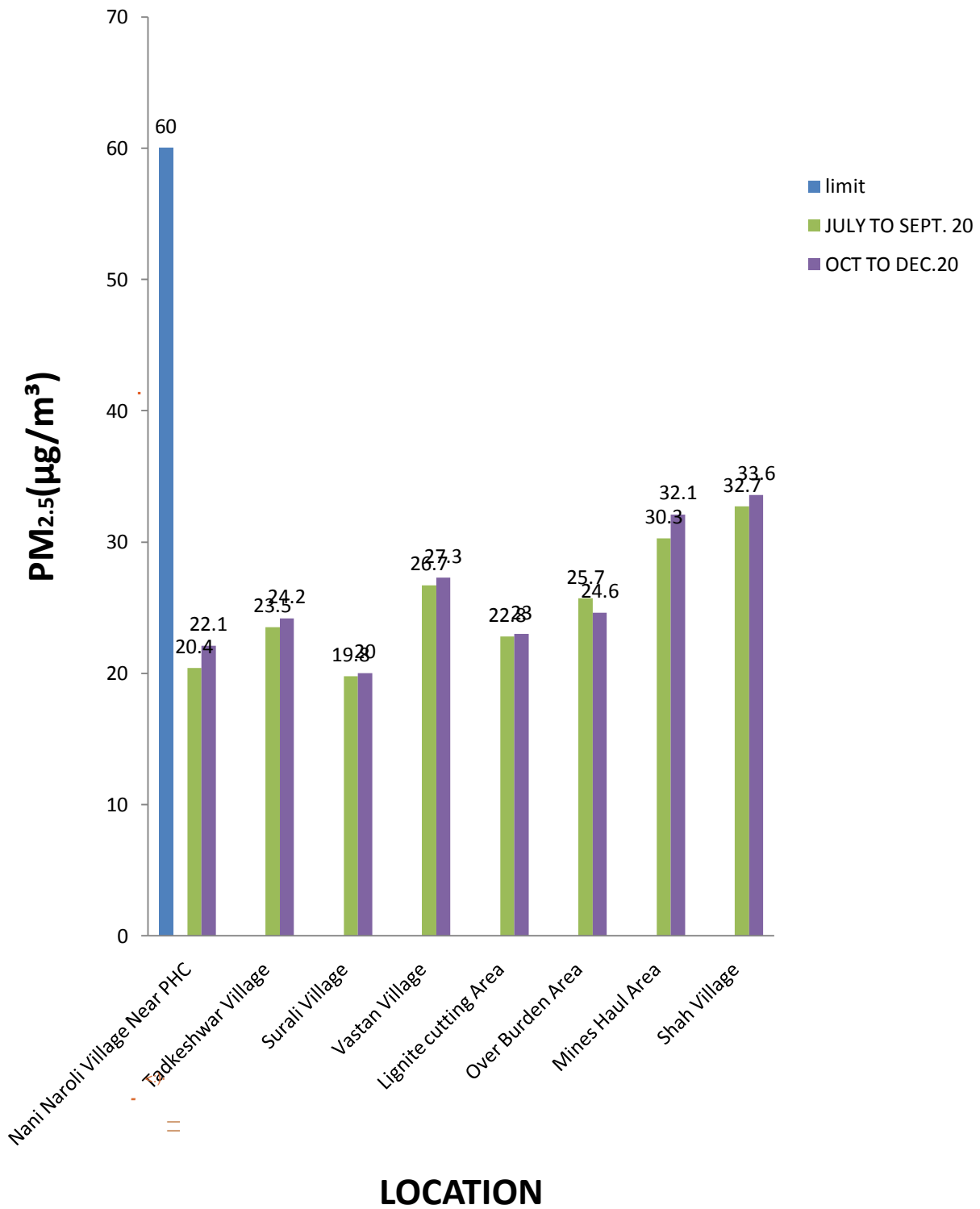
Six Monthly Variation in Ambient Air Quality Monitoring Data

Parameter: PM 2.5

Period: JULY - 2020 to DECEMBER - 2020

Sr. No.	Location	PM 2.5	
		JULY TO SEPT. 20	OCT TO DEC.20
1	NaniNaroli Village Near PHC	20.4	22.1
2	Tadkeshwar Village	23.5	24.2
3	Surali Village	19.8	20.0
4	Vastan Village	26.7	27.3
5	Lignite cutting Area	22.8	23.0
6	Over Burden Area	25.7	24.6
7	Mines Haul Area	30.3	32.1
8	Shah Village	32.7	33.6
	limit	60($\mu\text{g}/\text{m}^3$)	

Graphical presentation for the variation of PM_{2.5} in Ambient Air



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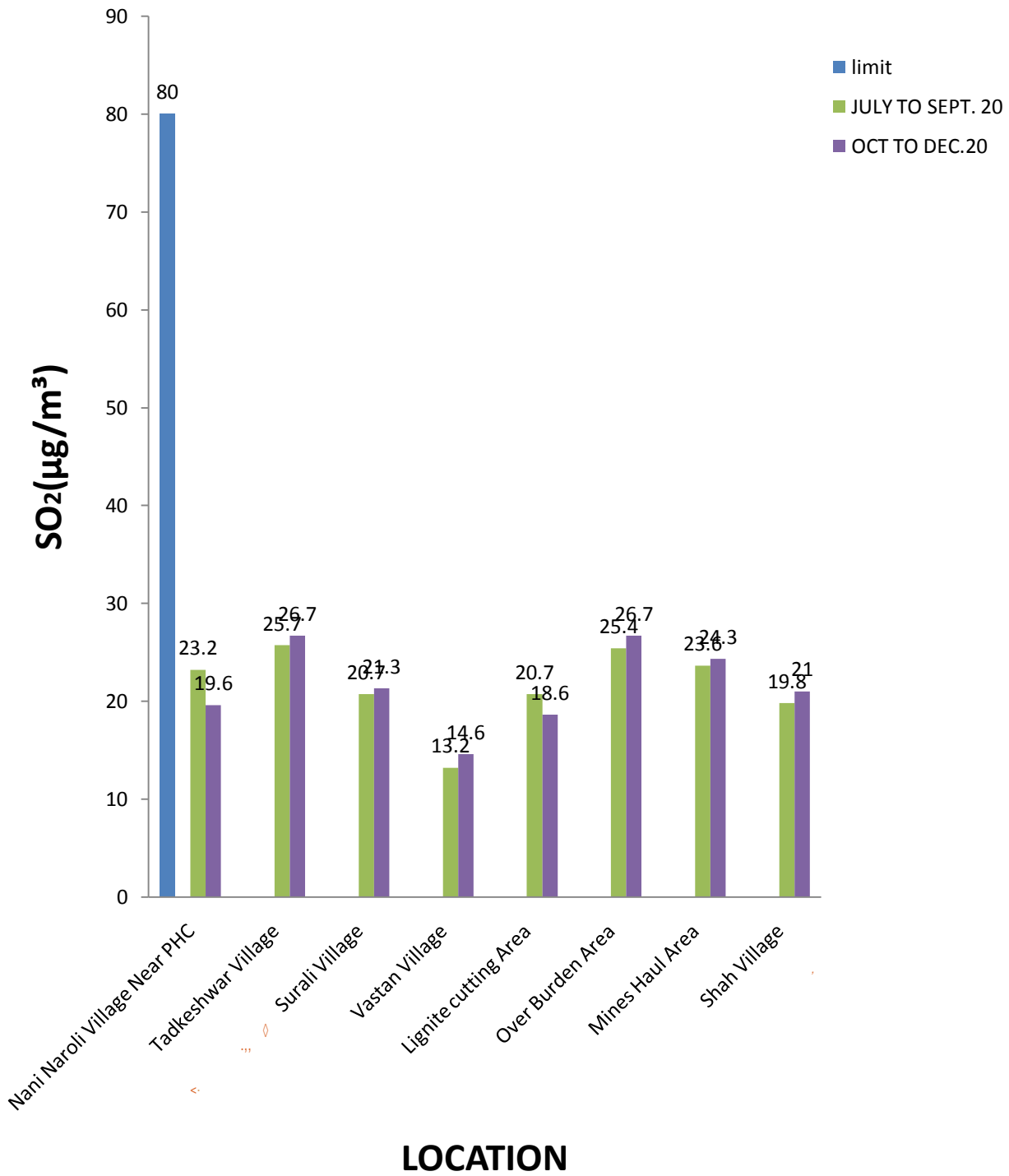
Six Monthly Variation in Ambient Air Quality Monitoring Data

Parameter: SO₂ (Sulphur Dioxide)

Period: JULY - 2020 to DECEMBER - 2020

Sr. No.	Location	SO ₂	
		JULY TO SEPT. 20	OCT TO DEC.20
1	NaniNaroli Village Near PHC	23.2	19.6
2	Tadkeshwar Village	25.7	26.7
3	Surali Village	20.7	21.3
4	Vastan Village	13.2	14.6
5	Lignite cutting Area	20.7	18.6
6	Over Burden Area	25.4	26.7
7	Mines Haul Area	23.6	24.3
8	Shah Village	19.8	21.0
	limit	80($\mu\text{g}/\text{m}^3$)	

Graphical presentation for the variation of SO₂ in Ambient Air



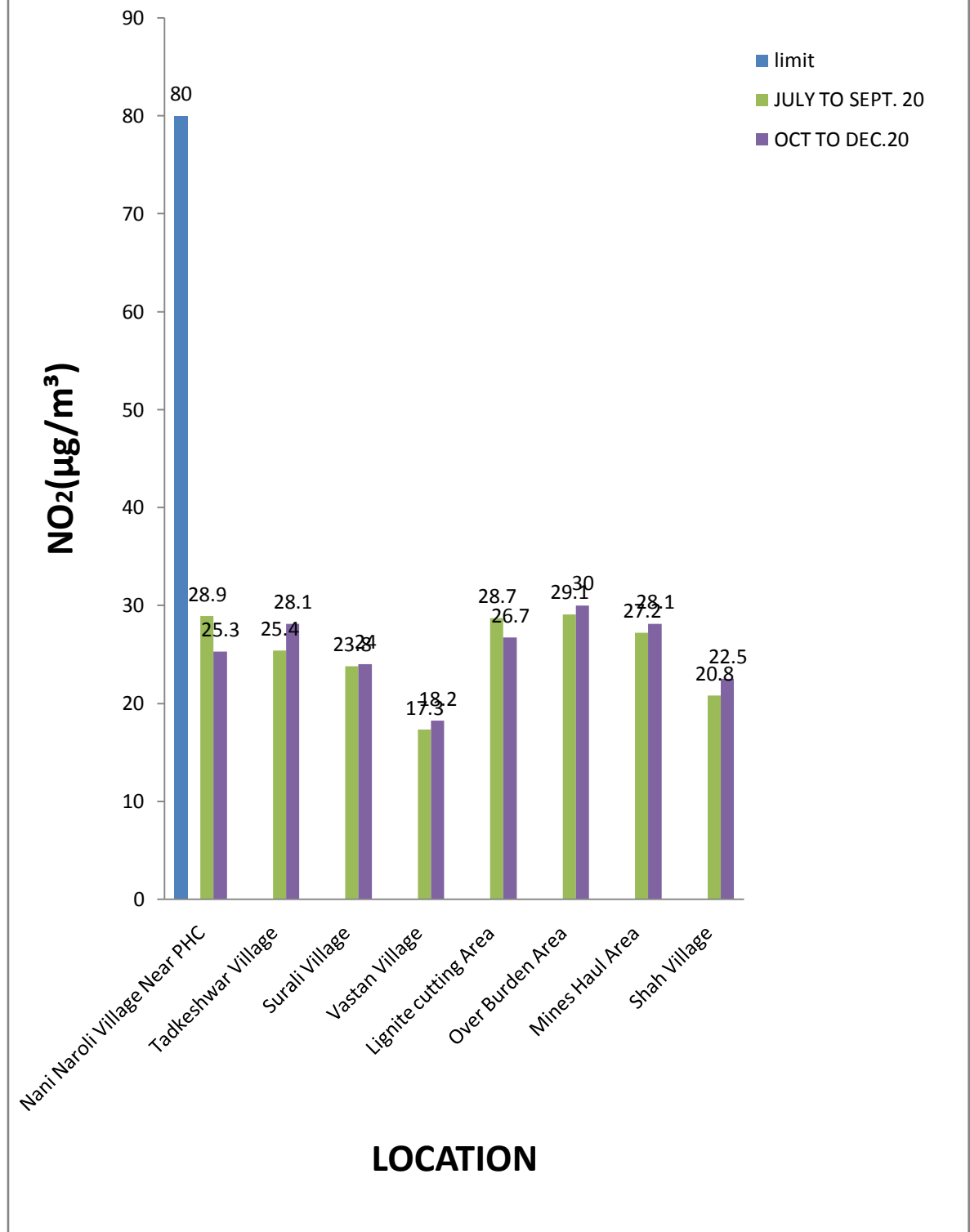
Six Monthly Variation in Ambient Air Quality Monitoring Data

Parameter: NO_x (Nitrogen Oxides)

Period: JULY - 2020 to DECEMBER 2020

Sr. No.	Location	NO _x	
		JULY TO SEPT. 20	OCT TO DEC.20
1	NaniNaroli Village Near PHC	28.9	25.3
2	Tadkeshwar Village	25.4	28.1
3	Surali Village	23.8	24.0
4	Vastan Village	17.3	18.2
5	Lignite cutting Area	28.7	26.7
6	Over Burden Area	29.1	30.0
7	Mines Haul Area	27.2	28.1
8	Shah Village	20.8	22.5
	limit	80($\mu\text{g}/\text{m}^3$)	

Graphical presentation for the variation of NO₂ in Ambient Air



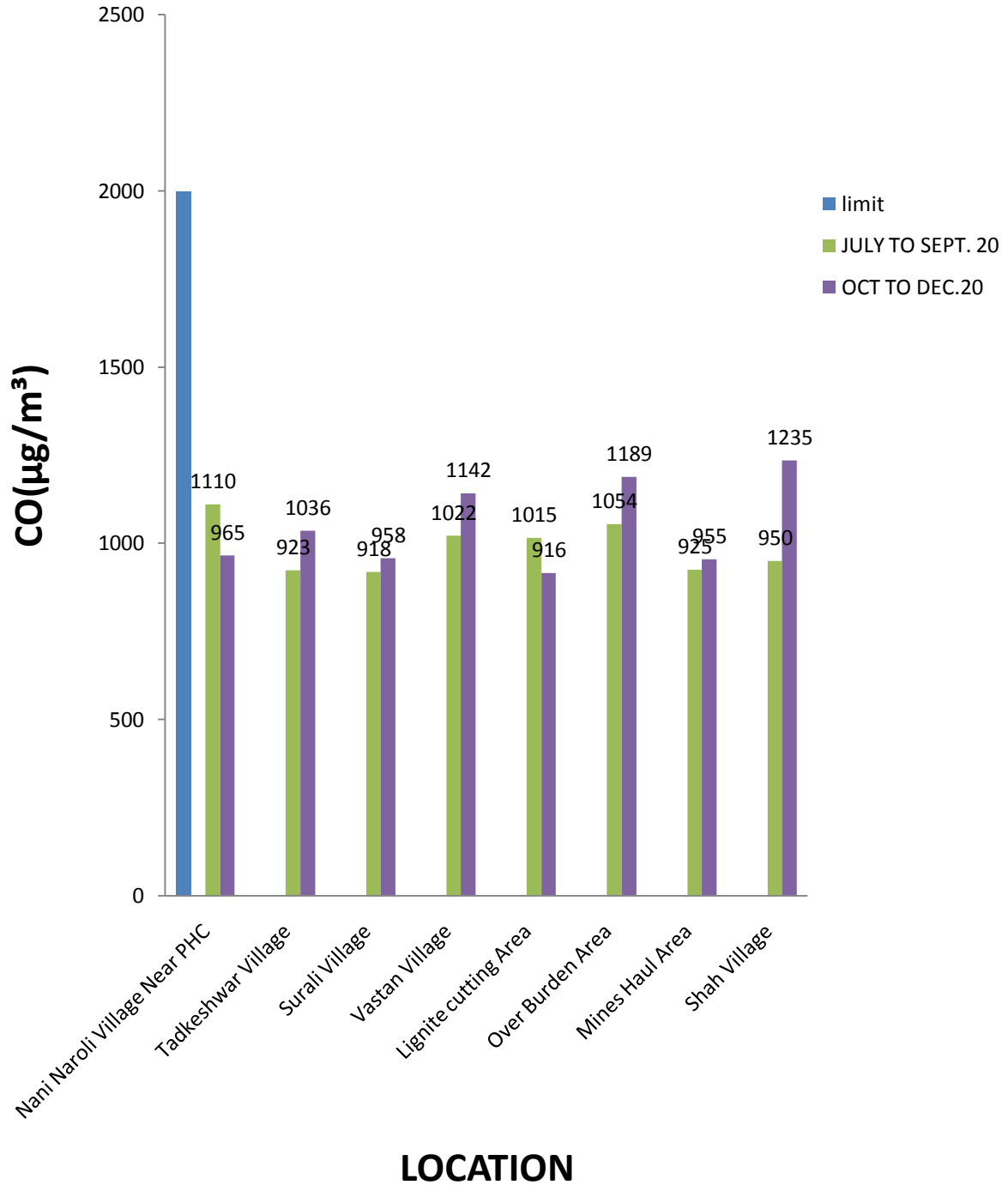
Six Monthly Variation in Ambient Air Quality Monitoring Data

Parameter: CO (Carbon monoxide)

Period: JULY - 2020 to DECEMBER 2020

Sr. No.	Location	CO	
		JULY TO SEPT. 20	OCT TO DEC.20
1	NaniNaroli Village Near PHC	1110	965
2	Tadkeshwar Village	923	1036
3	Surali Village	918	958
4	Vastan Village	1022	1142
5	Lignite cutting Area	1015	916
6	Over Burden Area	1054	1189
7	Mines Haul Area	925	955
8	Shah Village	950	1235
	limit	2000($\mu\text{g}/\text{m}^3$)	

Graphical presentation for the variation of CO in Ambient Air



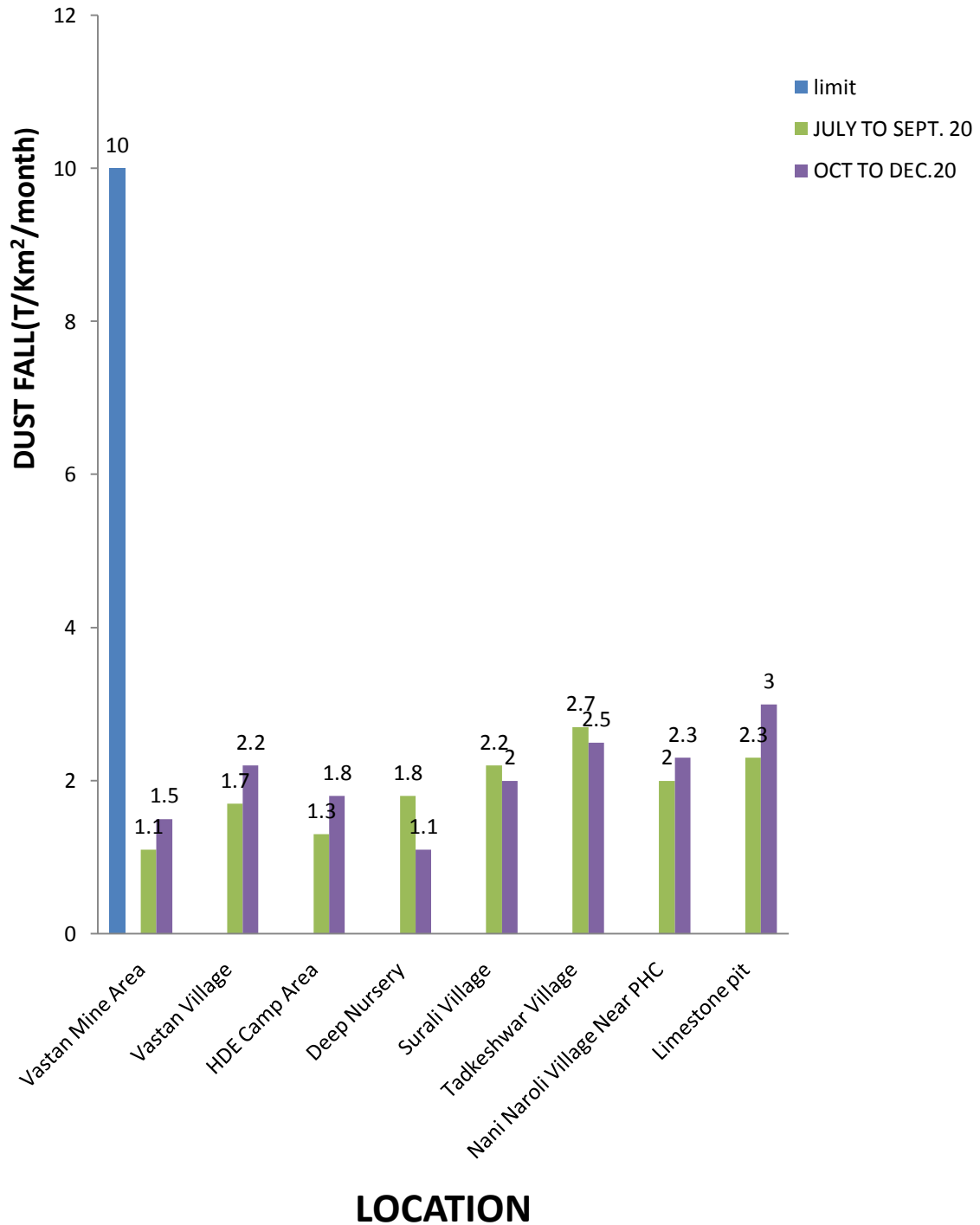
Six Monthly Variation in Dust fall Monitoring Data

Parameter: Dust fall

Period: JULY - 2020 to DECEMBER 2020

Sr. No.	Location	Dust fall	
		JULY TO SEPT. 20	OCT TO DEC.20
1	Vastan Mine Area	1.1	1.5
2	Vastan Village	1.7	2.2
3	HDE Camp Area	1.3	1.8
4	Deep Nursery	1.8	1.1
5	Surali Village	2.2	2.0
6	Tadkeshwar Village	2.7	2.5
7	NaniNaroli Village Near PHC	2.0	2.3
8	Lime stone pit	2.3	3.0
	limit	10(T/Km ² /month)	

Graphical presentation for the variation of Dust Fall in Ambient Air

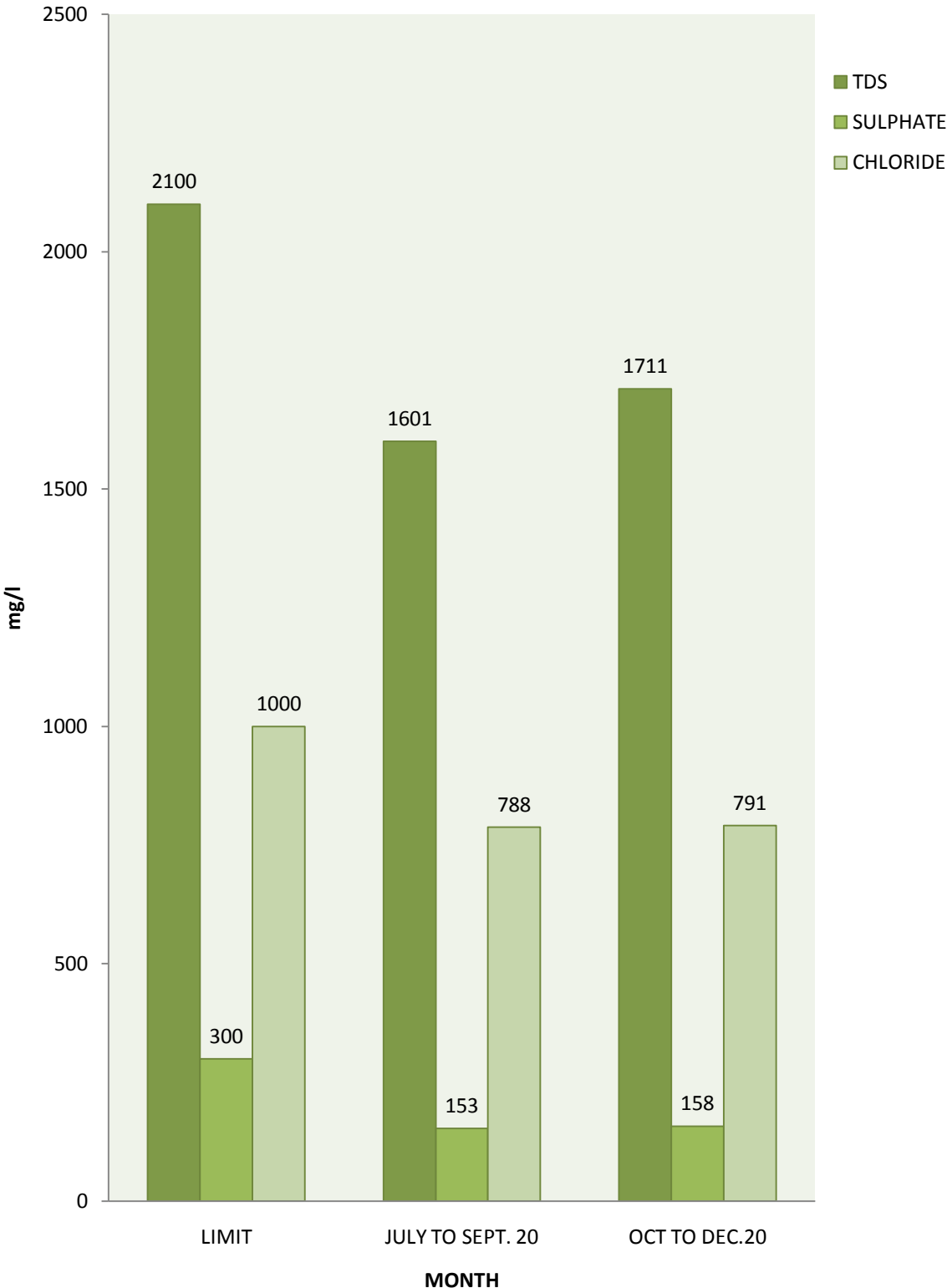


Six Monthly Variation in Bore water Data

Period: JULY - 2020 to DECEMBER 2020

Sr. No.	Parameter	Unit	Sampling point : Bore water- Ansodla Village	
			JULY TO SEPT. 20	OCT TO DEC.20
1	Temperature	°C	27	26
2	pH @ 25°C	pH Unit	7.30	7.44
3	Color	Hazen	<5	<5
4	Total Suspended Solids (TSS) at 105 °C	mg/L	1.7	1.1
5	Total Dissolved Solids (TDS) at 180 °C	mg/L	1601	1711
6	Total volatile Solids	mg/L	1.4	1.2
7	COD	mg/L	< 10	< 10
8	BOD (5days at 20°C)	mg/L	< 4	< 4
9	Oil & Grease	mg/L	<1	<1
10	Chloride	mg/L	788	791
11	Sulphate	mg/L	153	158
12	Fluoride	mg/L	0.27	0.3
13	Phosphate as PO ₄ ⁻⁻⁻	mg/L	0.7	0.9
14	Total residual Chlorine	mg/L	<0.1	<0.1
15	Free Available Chlorine	mg/L	<0.10	<0.10
16	Phenolic Compound	mg/L	<0.10	<0.10
17	Lead	mg/L	<0.02	<0.02
18	Copper	mg/L	<0.50	<0.50
19	Hexavalent Chromium	mg/L	<0.03	<0.03
20	Total Chromium	mg/L	<0.03	<0.03
21	Zinc	mg/L	<0.10	<0.10
22	Iron	mg/L	<0.05	0.5
23	Calcium	mg/L	211	218
24	Magnesium	mg/L	82	84
25	Percentage Sodium	%	32.9	33.0
26	Total Coliform(MPN)	Present/ Absent	Absent	Absent
27	Bioassay test	%survival of fish survival in 96 hrs. in 100% effluent	100	100

Graphical presentation for the variation of TDS,SO4 & Cl in bore water Ansodla village

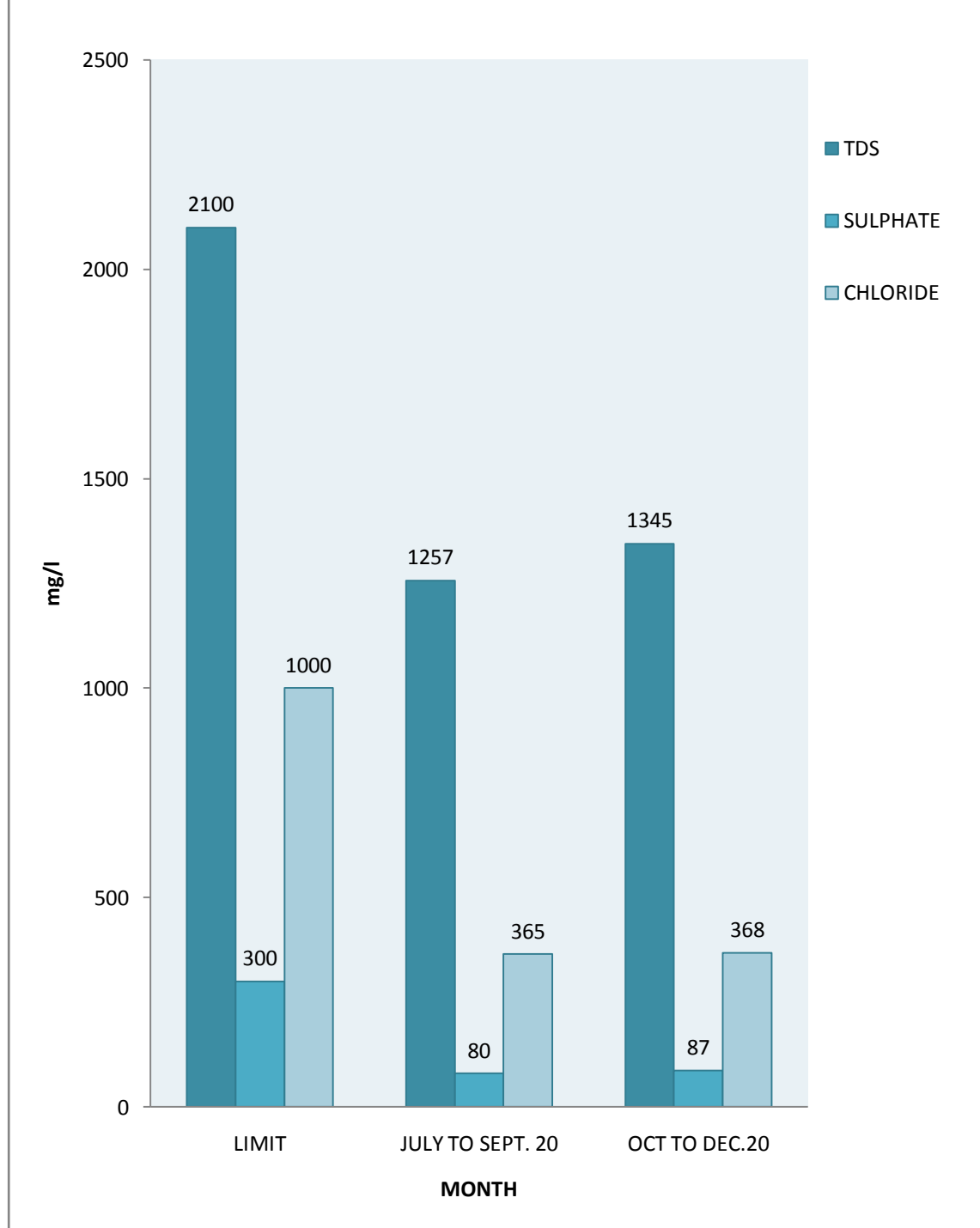


Six Monthly Variation in Bore water Data

Period: JULY - 2020 to DECEMBER 2020

			Sampling point : Bore water- Hand pump in surali Village	
Sr. No.	Parameter	Unit	JULY TO SEPT. 20	OCT TO DEC.20
1	Temperature	°C	29	28
2	pH @ 25°C	pH Unit	7.47	7.45
3	Color	Hazen	<5	<5
4	Total Suspended Solids (TSS) at 105 °C	mg/L	3.0	2.8
5	Total Dissolved Solids (TDS) at 180 °C	mg/L	1257	1345
6	Total volatile Solids	mg/L	2.0	1.8
7	COD	mg/L	< 10	< 10
8	BOD (5days at 20°C)	mg/L	< 4	< 4
9	Oil & Grease	mg/L	<1	<1
10	Chloride	mg/L	365	368
11	Sulphate	mg/L	80	87
12	Fluoride	mg/L	0.5	0.7
13	Phosphate as PO ₄ ⁻	mg/L	0.8	1.0
14	Total residual Chlorine	mg/L	<0.10	<0.10
15	Free Available Chlorine	mg/L	<0.10	<0.10
16	Phenolic Compound	mg/L	<0.02	<0.02
17	Lead	mg/L	<0.50	<0.50
18	Copper	mg/L	<0.03	<0.03
19	Hexavalent Chromium	mg/L	<0.03	<0.03
20	Total Chromium	mg/L	<0.10	<0.10
21	Zinc	mg/L	<0.05	0.8
22	Iron	mg/L	565	572
23	Calcium	mg/L	88	89
24	Magnesium	mg/L	80	82
25	Percentage Sodium	%	30.3	31.0
26	Total Coliform(MPN)	Present/ Absent	Absent	Absent
27	Bioassay test	%survival of fish survival in 96 hrs. in 100% effluent	100	100

Graphical presentation for the variation of TDS & TSS in bore water Hand pump in Surali village

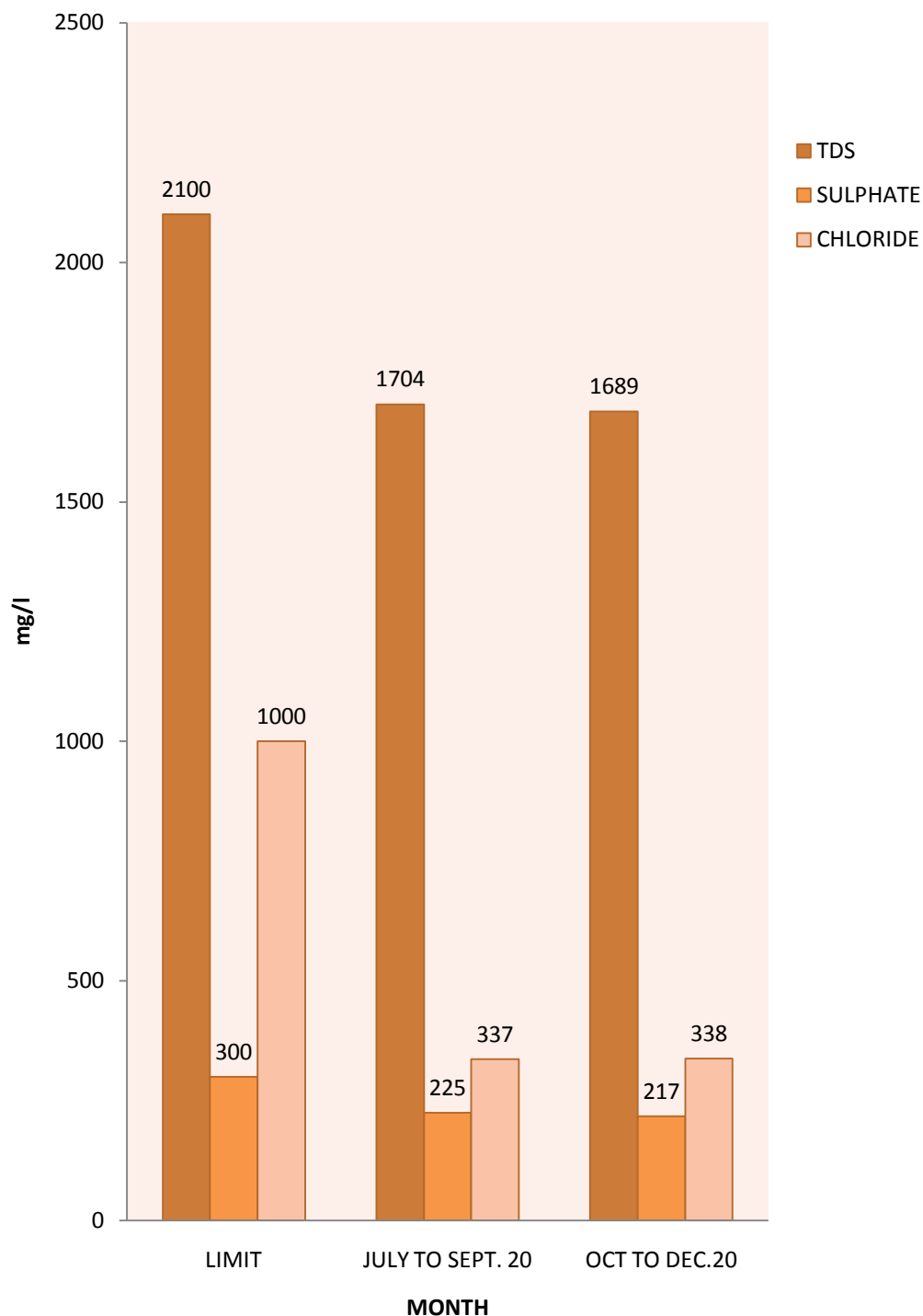


Six Monthly Variation in Bore water Data

Period: JULY - 2020 to DECEMBER 2020

Sr. No.	Parameter	Unit	Sampling point : Bore water- Mosali char rasta	
			JULY TO SEPT. 20	OCT TO DEC.20
1	Temperature	°C	27	28
2	pH @ 25°C	pH Unit	7.4	7.7
3	Color	Hazen	<5	<5
4	Total Suspended Solids (TSS) at 105 °C	mg/L	1.0	1.2
5	Total Dissolved Solids (TDS) at 180 °C	mg/L	1704	1689
6	Total volatile Solids	mg/L	1.2	1.0
7	COD	mg/L	< 10	< 10
8	BOD (5days at 20°C)	mg/L	< 4	< 4
9	Oil & Grease	mg/L	<1	<1
10	Chloride	mg/L	337	338
11	Sulphate	mg/L	225	217
12	Fluoride	mg/L	0.7	0.8
13	Phosphate as PO ₄ ⁻⁻⁻	mg/L	1.1	1.2
14	Total residual Chlorine	mg/L	<0.10	<0.10
15	Free Available Chlorine	mg/L	<0.10	<0.10
16	Phenolic Compound	mg/L	<0.10	<0.10
17	Lead	mg/L	<0.02	<0.02
18	Copper	mg/L	<0.50	<0.50
19	Hexavalent Chromium	mg/L	<0.03	<0.03
20	Total Chromium	mg/L	<0.03	<0.03
21	Zinc	mg/L	<0.10	<0.10
22	Iron	mg/L	<0.05	0.6
23	Calcium	mg/L	65.9	64.0
24	Magnesium	mg/L	41.0	40.0
25	Percentage Sodium	%	29.5	28.1
26	Total Coliform(MPN)	Present/ Absent	Absent	Absent
27	Bioassay test	%survival of fish survival in 96 hrs. in 100% effluent	100	100

Graphical presentation for the variation of TDS,SO4 & Cl in bore water Mosali char rasta

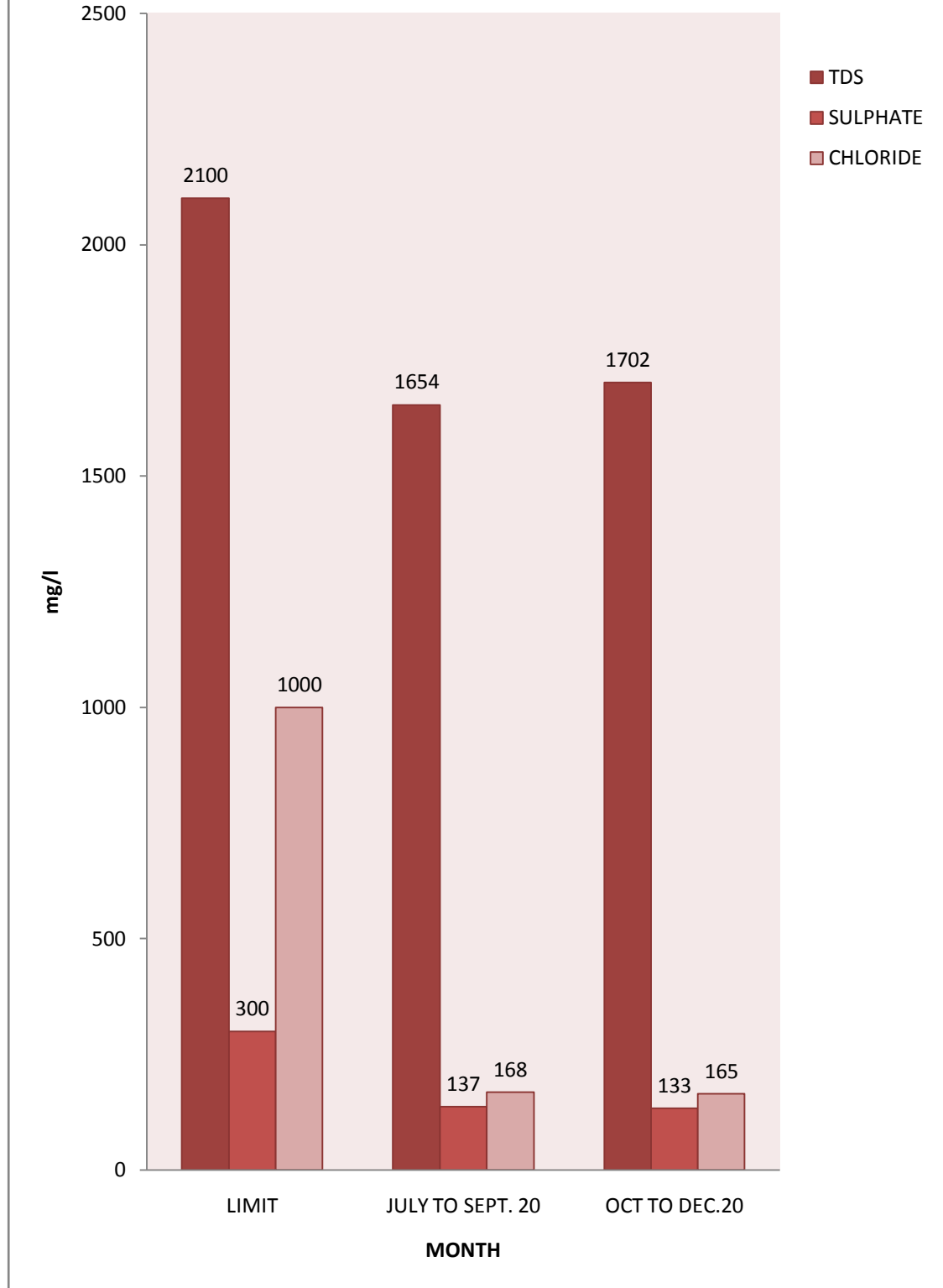


Six Monthly Variation in Bore water Data

Period: JULY - 2020 to DECEMBER 2020

Sr. No.	Parameter	Unit	Sampling point : Bore water- Tadkeshwar Village	
			JULY TO SEPT. 20	OCT TO DEC.20
1	Temperature	°C	27	28
2	pH @ 25°C	pH Unit	7.55	7.4
3	Color	Hazen	<5	<5
4	Total Suspended Solids (TSS) at 105 °C	mg/L	2.8	2.2
5	Total Dissolved Solids (TDS) at 180 °C	mg/L	1654	1702
6	Total volatile Solids	mg/L	2.0	1.8
7	COD	mg/L	< 10	< 10
8	BOD (5days at 20°C)	mg/L	< 4	< 4
9	Oil & Grease	mg/L	<1	<1
10	Chloride	mg/L	168	165
11	Sulphate	mg/L	137	133
12	Fluoride	mg/L	0.7	0.8
13	Phosphate as PO ₄ ⁻⁻⁻	mg/L	0.7	1.0
14	Total residual Chlorine	mg/L	<0.1	<0.1
15	Free Available Chlorine	mg/L	<0.10	<0.10
16	Phenolic Compound	mg/L	<0.10	<0.10
17	Lead	mg/L	<0.02	<0.02
18	Copper	mg/L	<0.50	<0.50
19	Hexavalent Chromium	mg/L	<0.03	<0.03
20	Total Chromium	mg/L	<0.03	<0.03
21	Zinc	mg/L	<0.10	<0.10
22	Iron	mg/L	<0.05	0.3
23	Calcium	mg/L	79	82
24	Magnesium	mg/L	48	50
25	Percentage Sodium	%	32.1	33.0
26	Total Coliform(MPN)	Present/ Absent	Absent	Absent
27	Bioassay test	%survival of fish survival in 96 hrs. in 100% effluent	100	100

Graphical presentation for the variation of TDS,SO4 & Cl in bore water Near Tadkeshwar village

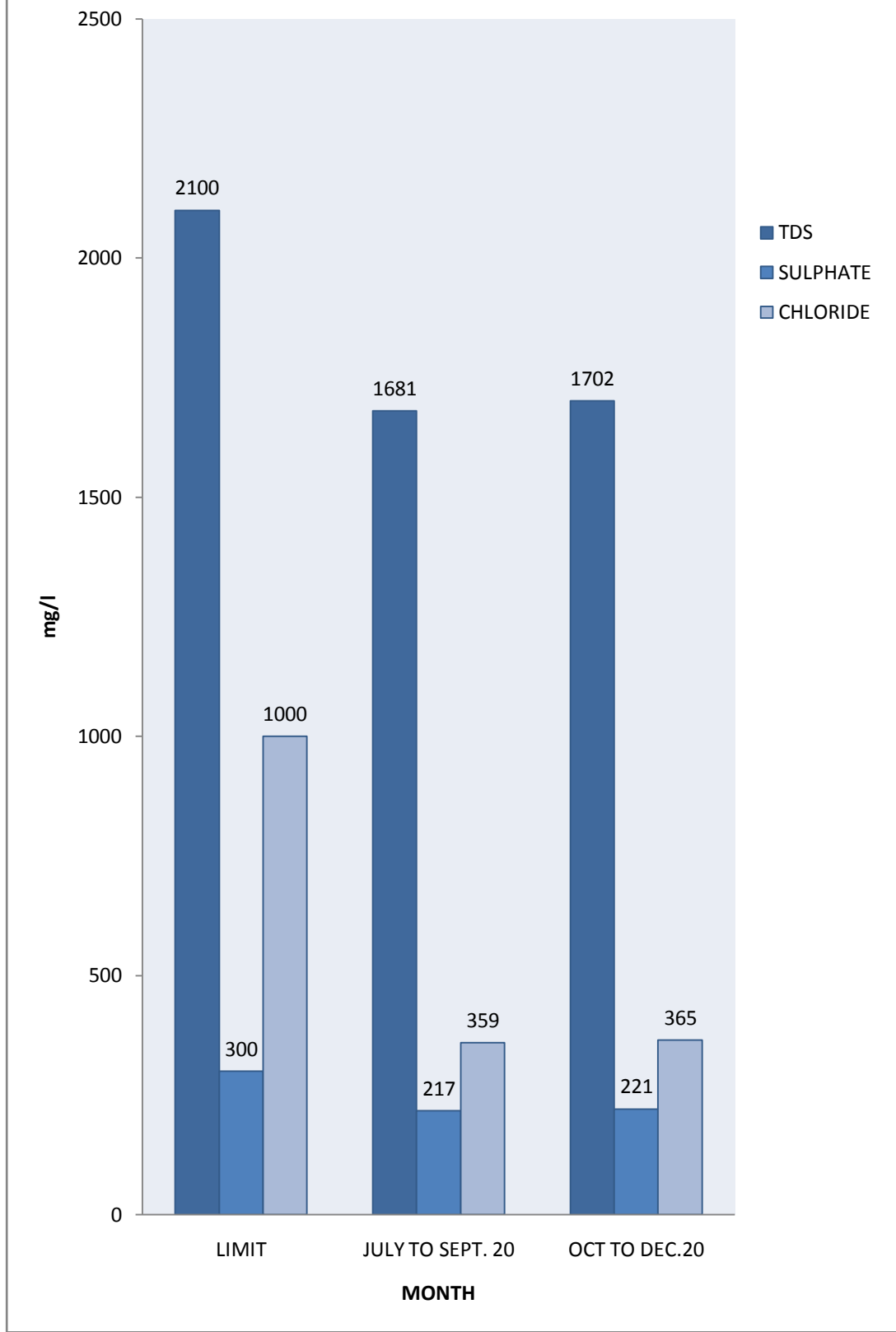


Six Monthly Variation in Bore water Data

Period: JULY - 2020 to DECEMBER 2020

Sr. No.	Parameter	Unit	Sampling point : Bore water- Vastan Village	
			JULY TO SEPT. 20	OCT TO DEC.20
1	Temperature	°C	27	28
2	pH @ 25°C	pH Unit	7.45	7.3
3	Color	Hazen	<5	<5
4	Total Suspended Solids (TSS) at 105 °C	mg/L	2.0	1.7
5	Total Dissolved Solids (TDS) at 180 °C	mg/L	1681	1702
6	Total volatile Solids	mg/L	1.0	0.8
7	COD	mg/L	< 10	< 10
8	BOD (5days at 20°C)	mg/L	< 4	< 4
9	Oil & Grease	mg/L	<1	<1
10	Chloride	mg/L	359	365
11	Sulphate	mg/L	217	221
12	Fluoride	mg/L	0.9	0.7
13	Phosphate as PO ₄ ⁻⁻⁻	mg/L	1.3	1.1
14	Total residual Chlorine	mg/L	<0.10	<0.10
15	Free Available Chlorine	mg/L	<0.10	<0.10
16	Phenolic Compound	mg/L	<0.10	<0.10
17	Lead	mg/L	<0.02	<0.02
18	Copper	mg/L	<0.50	<0.50
19	Hexavalent Chromium	mg/L	<0.03	<0.03
20	Total Chromium	mg/L	<0.03	<0.03
21	Zinc	mg/L	<0.10	<0.10
22	Iron	mg/L	<0.05	0.4
23	Calcium	mg/L	95	101
24	Magnesium	mg/L	54	56
25	Percentage Sodium	%	25.3	26.3
26	Total Coliform(MPN)	Present/ Absent	Absent	Absent
27	Bioassay test	%survival of fish survival in 96 hrs. in 100% effluent	100	100

Graphical presentation for the variation of TDS,SO4 & Cl in bore water Vastan village

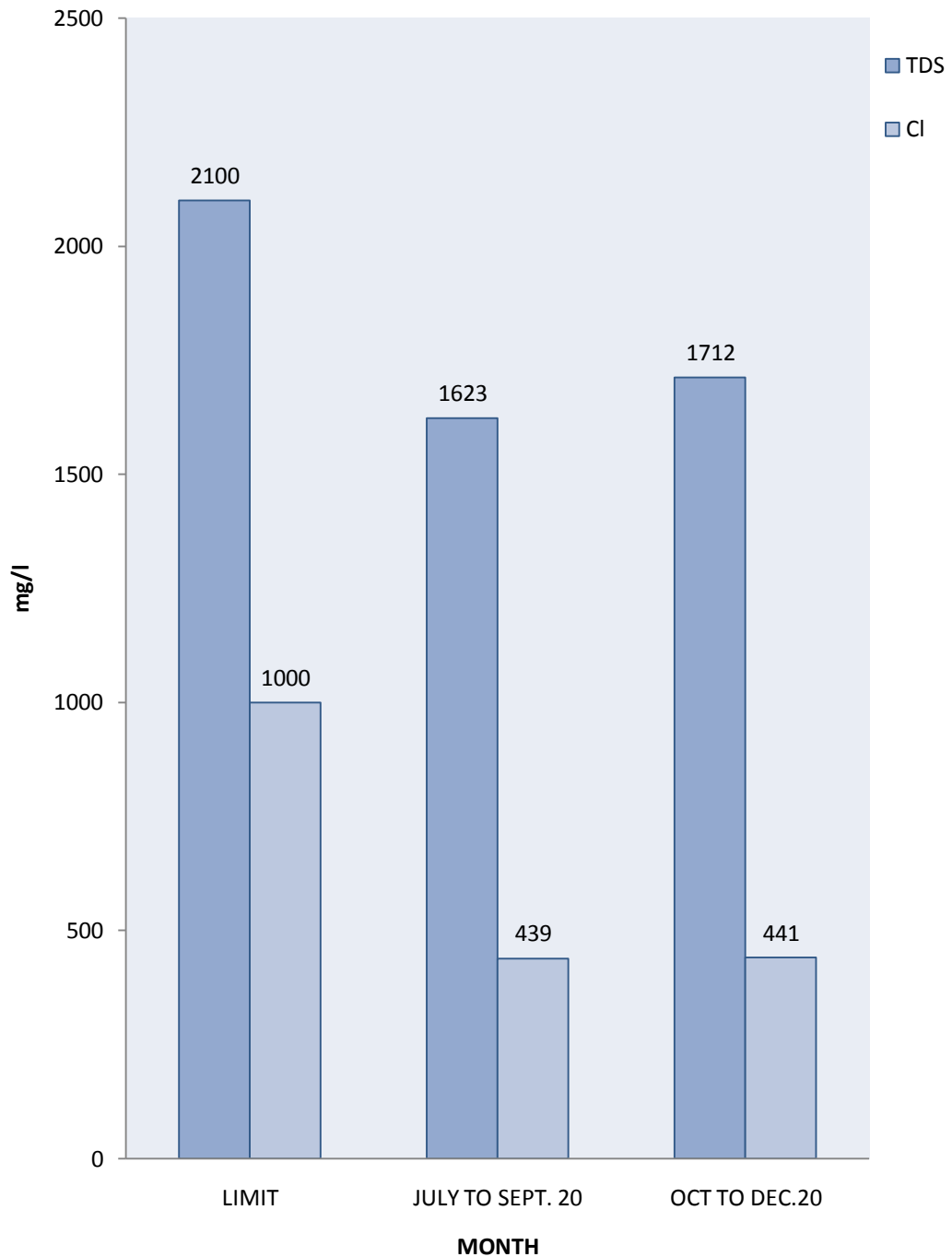


Six Monthly Variation in Bore water Data

Period: JULY - 2020 to DECEMBER 2020

Sr. No.	Parameter	Unit	Sampling point : Bore water- Hand pump in dugri Village	
			JULY TO SEPT. 20	OCT TO DEC.20
1	Temperature	°C	28	27
2	pH @ 25°C	pH Unit	7.33	7.45
3	Color	Hazen	<5	<5
4	Total Suspended Solids (TSS) at 105 °C	mg/L	2.0	1.7
5	Total Dissolved Solids (TDS) at 180 °C	mg/L	1623	1712
6	Total volatile Solids	mg/L	1.0	0.8
7	COD	mg/L	< 10	< 10
8	BOD (5days at 20°C)	mg/L	< 4	< 4
9	Oil & Grease	mg/L	<1	<1
10	Chloride	mg/L	439	441
11	Sulphate	mg/L	188	191
12	Fluoride	mg/L	0.6	0.8
13	Phosphate as PO ₄ ⁻⁻⁻	mg/L	0.9	1.0
14	Total residual Chlorine	mg/L	<0.1	<0.1
15	Free Available Chlorine	mg/L	<0.1	<0.1
16	Phenolic Compound	mg/L	<0.01	<0.01
17	Lead	mg/L	<0.02	<0.02
18	Copper	mg/L	<0.01	<0.01
19	Hexavalent Chromium	mg/L	<0.03	<0.03
20	Total Chromium	mg/L	<0.03	<0.03
21	Zinc	mg/L	<0.1	<0.1
22	Iron	mg/L	<0.05	0.6
23	Calcium	mg/L	105	108
24	Magnesium	mg/L	35	36
25	Percentage Sodium	%	29.2	30.1
26	Total Coliform(MPN)	Present/ Absent	Absent	Absent
27	Bioassay test	%survival of fish survival in 96 hrs. in 100% effluent	100	100

Graphical presentation for the variation of TDS & Cl in bore water Hand pump in dungri village

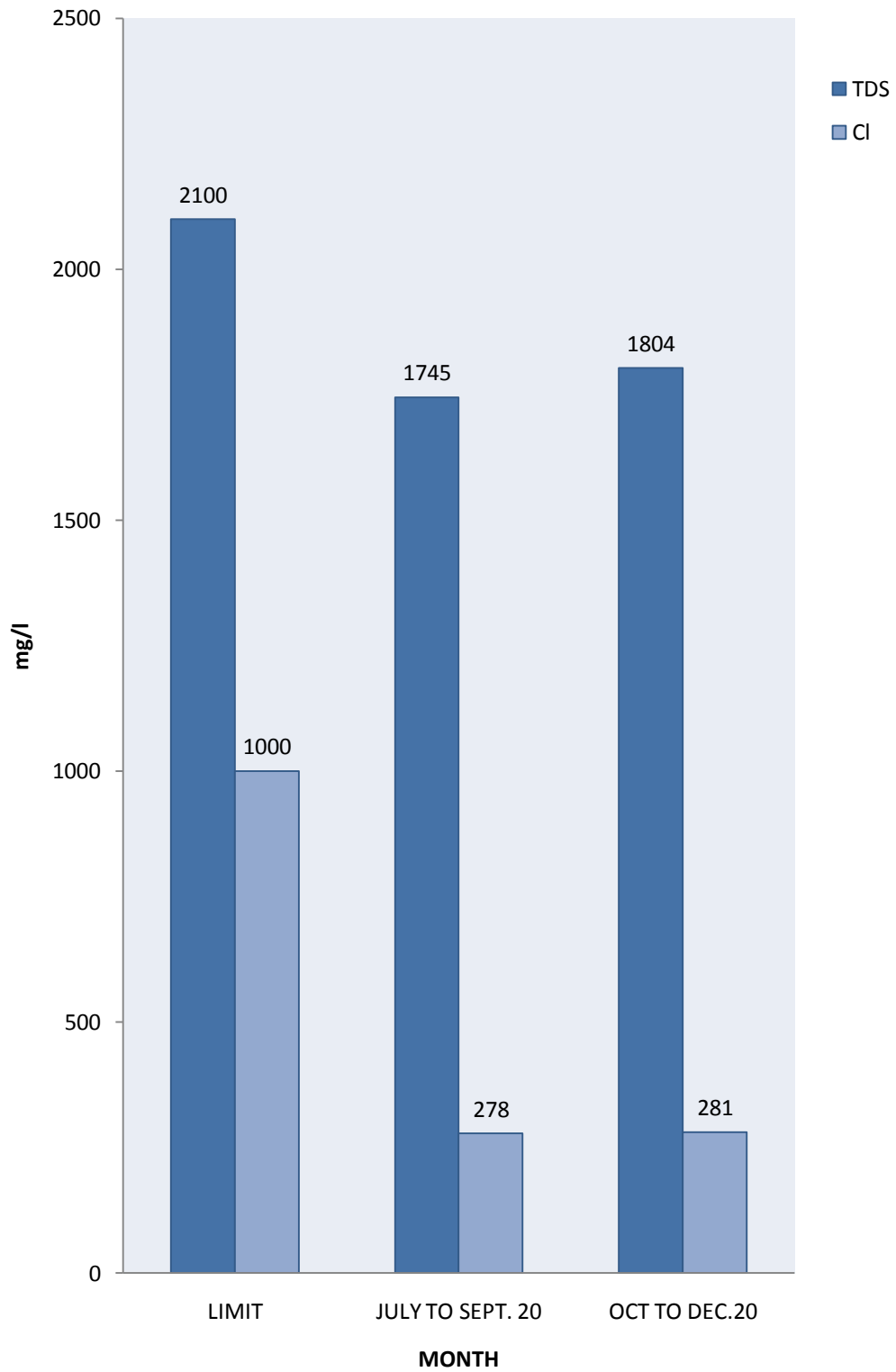


Six Monthly Variation in Bore water Data

Period: JULY - 2020 to DECEMBER 2020

			Sampling point : Bore water- Nani naroli Village	
Sr. No.	Parameter	Unit	JULY TO SEPT. 20	OCT TO DEC.20
1	Temperature	°C	29	28
2	pH @ 25°C	pH Unit	7.35	7.42
3	Color	Hazen	<5	<5
4	Total Suspended Solids (TSS) at 105 °C	mg/L	1.5	1.2
5	Total Dissolved Solids (TDS) at 180 °C	mg/L	1745	1804
6	Total volatile Solids	mg/L	1.0	1.0
7	COD	mg/L	<10	<10
8	BOD (5days at 20°C)	mg/L	<4	<4
9	Oil & Grease	mg/L	<1	<1
10	Chloride	mg/L	278	281
11	Sulphate	mg/L	45	50
12	Fluoride	mg/L	0.8	0.7
13	Phosphate as PO ₄ ⁻⁻⁻	mg/L	1.0	1.2
14	Total residual Chlorine	mg/L	<0.1	<0.1
15	Free Available Chlorine	mg/L	<0.1	<0.1
16	Phenolic Compound	mg/L	<0.01	<0.01
17	Lead	mg/L	<0.02	<0.02
18	Copper	mg/L	<0.01	<0.01
19	Hexavalent Chromium	mg/L	<0.03	<0.03
20	Total Chromium	mg/L	<0.03	<0.03
21	Zinc	mg/L	<0.1	<0.1
22	Iron	mg/L	<0.05	0.2
23	Calcium	mg/L	77	82
24	Magnesium	mg/L	29	30
25	Percentage Sodium	%	25.8	26.4
26	Total Coliform(MPN)	Present/ Absent	Absent	Absent
27	Bioassay test	%survival of fish survival in 96 hrs. in 100% effluent	100	100

Graphical presentation for the variation of TDS & Cl in bore water Nani naroli village

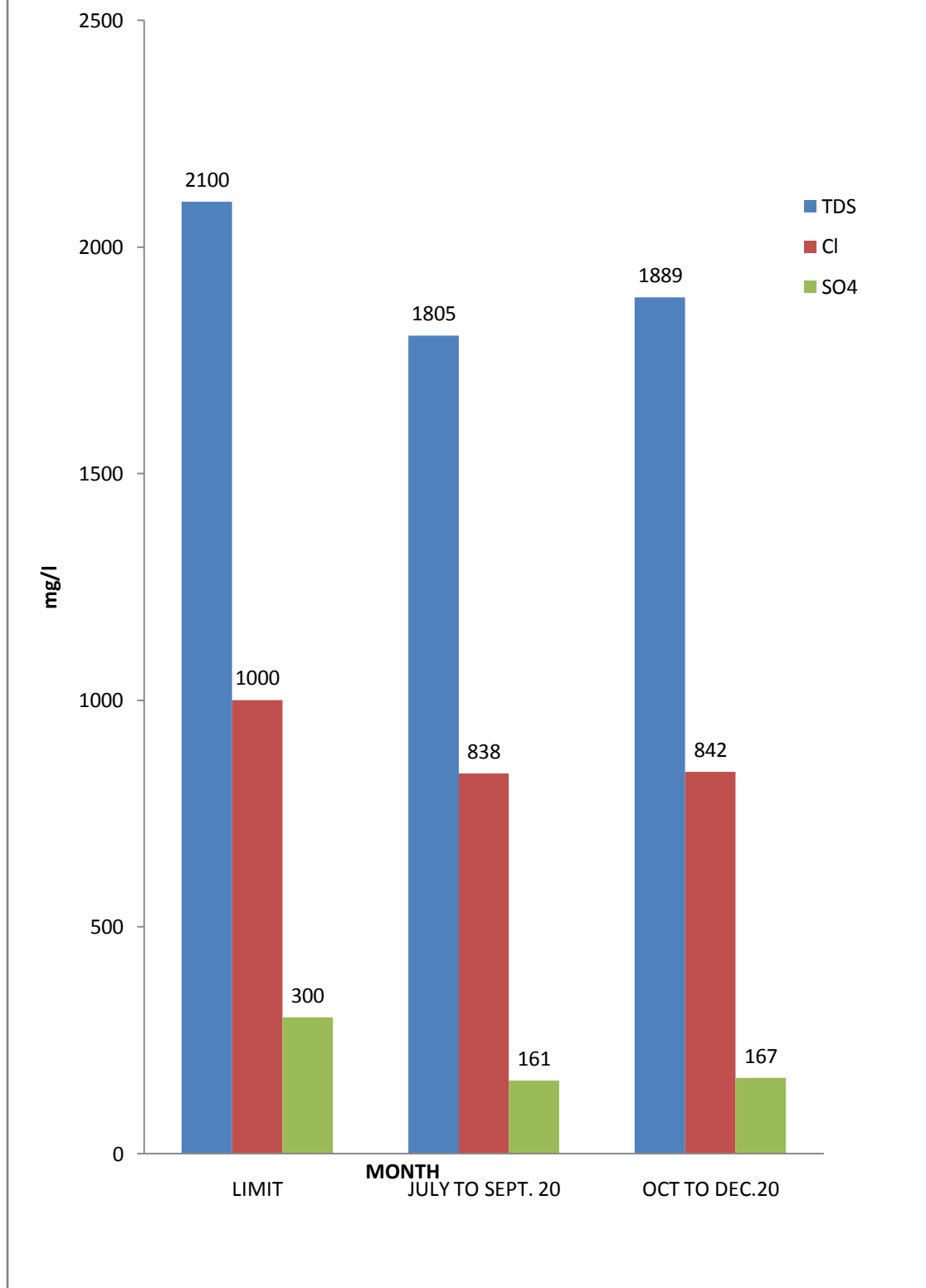


Six Monthly Variation in water Data

Period: JULY - 2020 to DECEMBER 2020

Sr. No.	Parameter	Unit	Sampling point : Lime stone pit	
			JULY TO SEPT. 20	OCT TO DEC.20
1	Temperature	°C	27	28
2	pH @ 25°C	pH Unit	7.46	7.2
3	Color	Hazen	< 5	< 5
4	Total Suspended Solids (TSS) at 105 °C	mg/L	12	12
5	Total Dissolved Solids (TDS) at 180 °C	mg/L	1805	1889
6	Total volatile Solids	mg/L	3.2	2.1
7	COD	mg/L	44	40
8	BOD (5days at 20°C)	mg/L	9	7
9	Oil & Grease	mg/L	< 1	< 1
10	Chloride	mg/L	838	842
11	Sulphate	mg/L	161	167
12	Fluoride	mg/L	1.4	1.0
13	Phosphate as PO ₄ ⁻⁻⁻	mg/L	1.2	1.4
14	Total residual Chlorine	mg/L	< 0.1	< 0.1
15	Free Available Chlorine	mg/L	< 0.10	< 0.10
16	Phenolic Compound	mg/L	< 0.10	< 0.10
17	Lead	mg/L	<0.1	<0.1
18	Copper	mg/L	0.51	0.42
19	Hexavalent Chromium	mg/L	< 0.03	< 0.03
20	Total Chromium	mg/L	< 0.03	< 0.03
21	Zinc	mg/L	0.18	0.12
22	Iron	mg/L	1.2	1.0
23	Calcium	mg/L	168	171
24	Magnesium	mg/L	86	89
25	Percentage Sodium	%	40.2	41.0
26	Total Coliform(MPN)	Present/ Absent	Absent	Absent
27	Bioassay test	%survival of fish survival in 96 hrs. in 100% effluent	90	90

Graphical presentation for the variation of TDS & Cl in lime stone pit

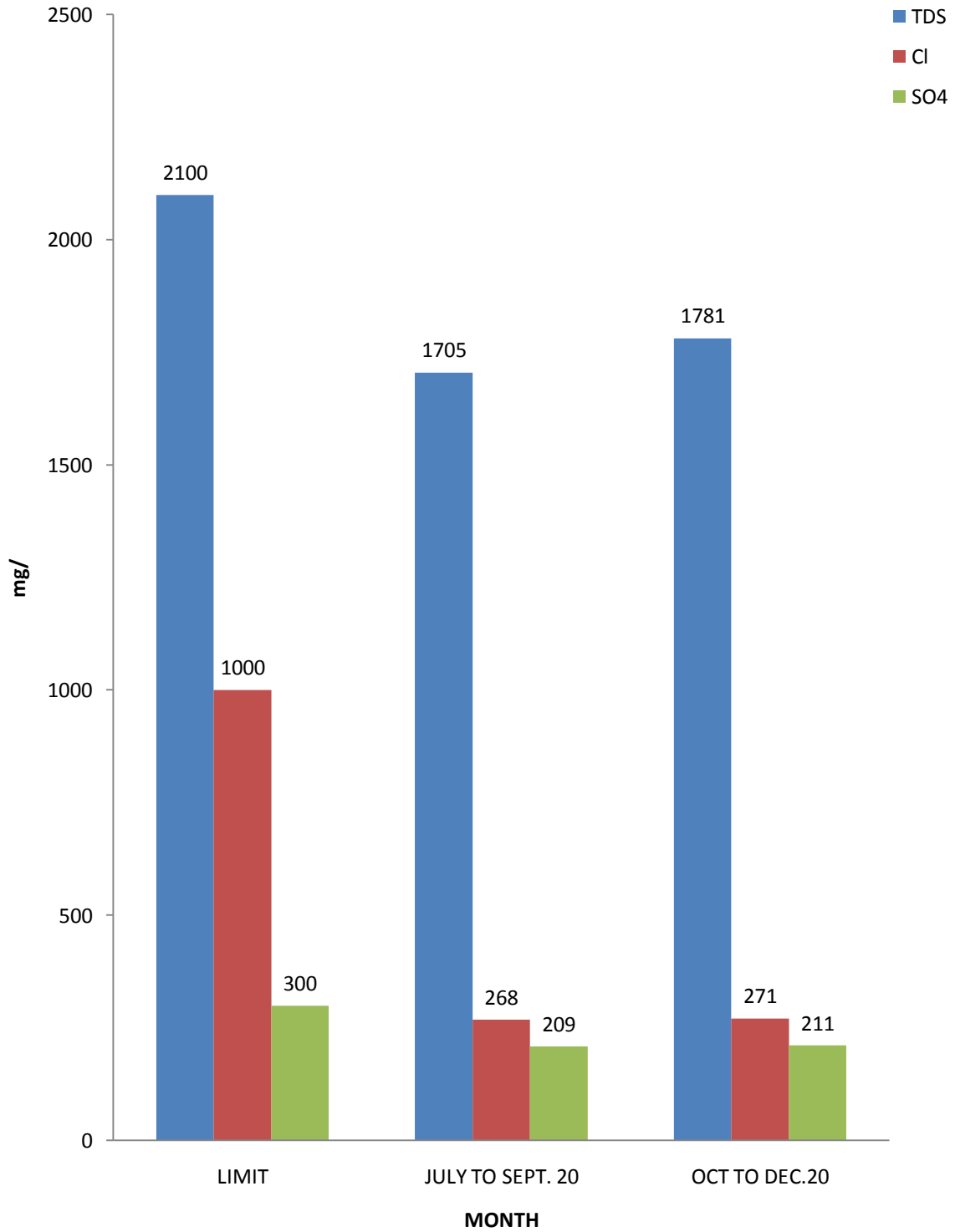


Six Monthly Variation in water Data

Period: JULY - 2020 to DECEMBER 2020

Sr. No.	Parameter	Unit	Sampling point : Pond water of vastan village	
			JULY TO SEPT. 20	OCT TO DEC.20
1	Temperature	°C	29	28
2	pH @ 25°C	pH Unit	7.61	7.55
3	Color	Hazen	< 5	< 5
4	Total Suspended Solids (TSS) at 105 °C	mg/L	19	14
5	Total Dissolved Solids (TDS) at 180 °C	mg/L	1705	1781
6	Total volatile Solids	mg/L	<1	<1
7	COD	mg/L	<10	<10
8	BOD (5days at 20°C)	mg/L	<4	<4
9	Oil & Grease	mg/L	< 1	< 1
10	Chloride	mg/L	268	271
11	Sulphate	mg/L	209	211
12	Fluoride	mg/L	0.9	1.0
13	Phosphate as PO ₄ ⁻⁻⁻	mg/L	1.4	1.8
14	Total residual Chlorine	mg/L	< 0.1	< 0.1
15	Free Available Chlorine	mg/L	< 0.10	< 0.10
16	Phenolic Compound	mg/L	< 0.10	< 0.10
17	Lead	mg/L	<0.02	<0.02
18	Copper	mg/L	<0.50	<0.50
19	Hexavalent Chromium	mg/L	< 0.03	< 0.03
20	Total Chromium	mg/L	< 0.03	< 0.03
21	Zinc	mg/L	<0.10	<0.10
22	Iron	mg/L	<0.05	0.2
23	Calcium	mg/L	111	117
24	Magnesium	mg/L	42	43
25	Percentage Sodium	%	28.1	29.0
26	Total Coliform(MPN)	Present/ Absent	Absent	Absent
27	Bioassay test	%survival of fish survival in 96 hrs. in 100% effluent	90	90

Graphical presentation for the variation of TDS & Cl in Pond water VASTAN village



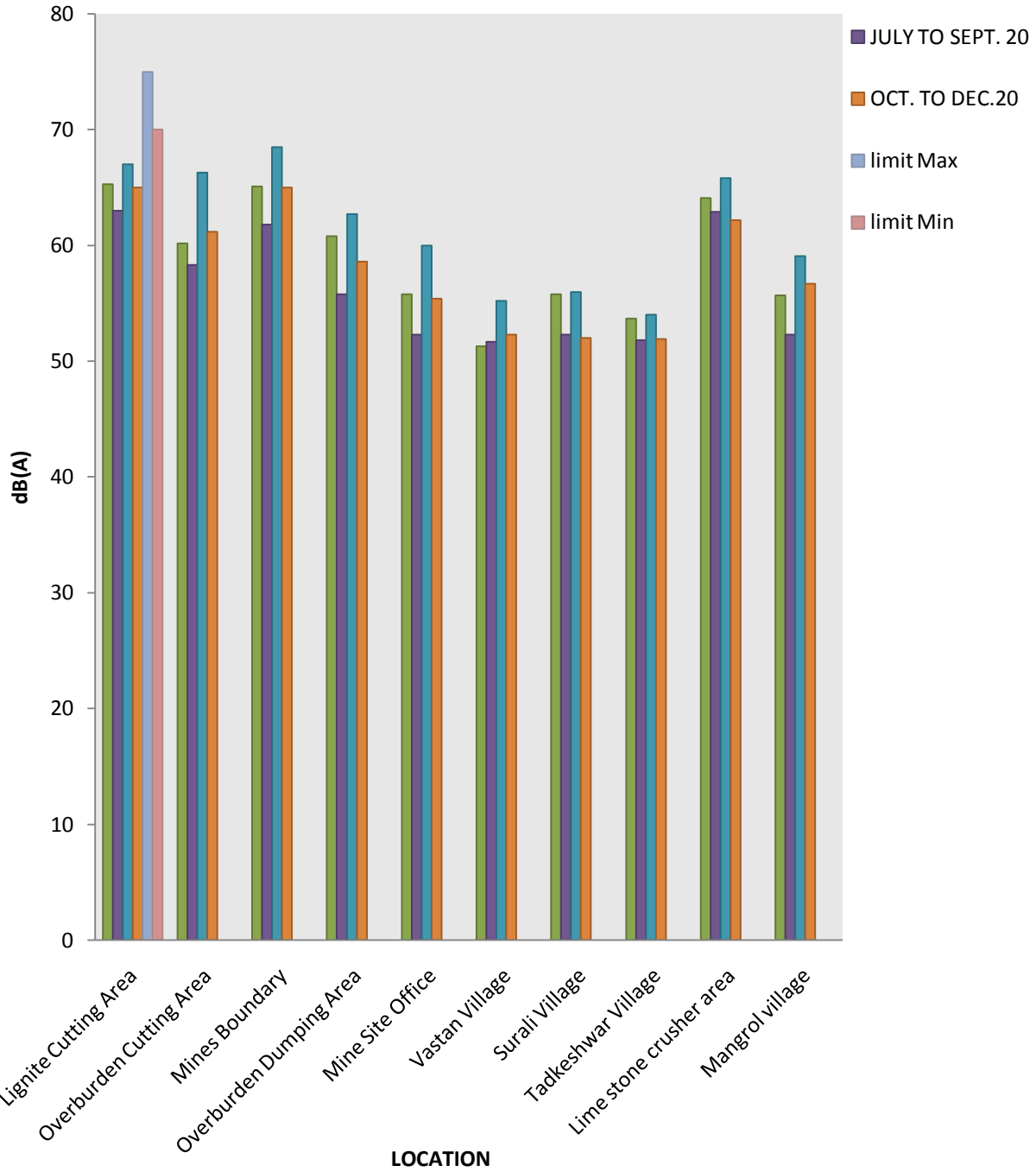
Six Monthly Variation in Noise Level Data

Parameter: Noise

Period: JULY - 2020 to DECEMBER 2020

SR. NO.	LOCATION	NOISE LEVEL, dB [A]							
		JULY TO SEPT. 20				OCT TO DEC.20			
		DAY Time		Night Time		DAY Time		Night Time	
		Max	Min	Max	Min	Max	Min	Max	Min
1	Lignite Cutting Area	65.3	63.0	66.2	64.2	67.0	65.0	66.8	64.9
2	Overburden Cutting Area	60.2	58.3	59.3	58.7	66.3	61.2	61.8	59.3
3	Mines Boundary	65.1	61.8	63.7	61.8	68.5	65.0	64.0	62.1
4	Overburden Dumping Area	60.8	55.8	59.2	58.3	62.7	58.6	60.0	59.0
5	Mine Site Office	55.8	52.3	53.7	51.2	60.0	55.4	58.5	56.3
6	Vastan Village	51.3	51.7	47.9	48.2	55.2	52.3	47.8	45.2
7	Surali Village	55.8	52.3	52.8	50.7	56.0	52.0	52.9	49.5
8	Tadkeshwar Village	53.7	51.8	51.3	49.7	54.0	51.9	53.1	49.7
9	Lime stone crusher area	64.1	62.9	62.8	60.8	65.8	62.2	66.0	63.4
10	Mangrol village	55.7	52.3	52.9	50.6	59.1	56.7	54.6	52.0
	GPCB limit	75 (dB)		70(dB)		75 (dB)		70(dB)	

Graphical presentation for the variation of in Noise level



Six Monthly Variation in Micrometeorological Data

Period: JULY - 2020 to DECEMBER 2020

Time in Hrs.	Relative Humidity %	
	JULY TO SEPT. 20	OCT TO DEC.20
10	70.2	33.5
11	65.2	35.7
12	71.5	30.0
13	66.8	28.5
14	70.2	29.3
15	75.0	31.0
16	71.4	28.6
17	73.5	29.0
18	72.4	30.6
19	70.3	27.6
20	74.7	31.0
21	73.5	27.0
22	72.4	28.5
23	70.3	29.3
0	74.7	31.0
1	77.5	28.6
2	75.4	29.0
3	74.9	30.6
4	72.6	27.6
5	73.0	32.0
6	70.1	31.4
7	68.2	30.0
8	67.3	29.8
9	65.0	27.6
Maximum	77.5	35.7
Minimum	65.0	27.0
Average	71.5	30.0

Six Monthly Variation in Micrometeorological Data

Period: JULY - 2020 to DECEMBER 2020

Time	Wind Speed Km/Hr	
	JULY TO SEPT. 20	OCT TO DEC.20
10	20	18
11	23	11
12	17	18
13	15	15
14	14	16
15	24	17
16	18	14
17	23	18
18	25	12
19	15	10
20	13	13
21	12	12
22	11	11
23	18	13
0	11	10
1	18	9
2	15	10
3	16	11
4	17	8
5	14	9
6	18	12
7	16	10
8	11	12
9	14	13
Maximum	25	18.0
Minimum	11	8.0
Average	17.0	12.6

Six Monthly Variation in Micrometeorological Data

Period: JULY - 2020 to DECEMBER 2020

Time	Temperature °C	
	JULY TO SEPT. 20	OCT TO DEC.20
10	30.3	27.2
11	30.8	30.0
12	30.1	31.9
13	30.6	30.4
14	30.3	28.2
15	30.0	29.6
16	30.4	31.0
17	30.2	30.2
18	31.0	31.0
19	32.6	32.6
20	31.7	31.7
21	30.5	31.0
22	30.9	29.5
23	32.4	28.5
0	31.4	29.3
1	30.5	28.7
2	31.8	29.0
3	30.8	27.8
4	30.7	30.7
5	28.1	28.1
6	29.5	28.1
7	29.8	29.0
8	31.7	31.0
9	32.0	32.0
Maximum	32.6	32.6
Minimum	28.1	27.2
Average	30.7	29.9