

# Gujarat Industries Power Company Limited

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

**Six Monthly Report of Valia and Mangrol Lignite Mines**

## **ENVIRONMENTAL MONITORING & ANALYSIS REPORT**

For the period of July to December-2021

**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 Valia & Mangrol lignite Mine

### I. Ambient Air Monitoring

Sr. No.	No. of stations & Location	Duration	Frequency	Parameters	Method of Analysis
1.	8 Nos within the radius of 10 km from the Core Zone and buffer zone.	24 hours	Bi-Monthly	PM <sub>10</sub>	IS 5182 Part 23 2006/Reaffirmed 2017
				PM <sub>2.5</sub>	SOP No.WI/5.4/02-B/03,Issue No.1Date:01/01/2010
				SO <sub>2</sub>	IS 5182 Part II 2001/Reaffirmed 2017
				NO <sub>2</sub>	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 radius of 10 km from the Core Zone and 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.	8 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 office of the Mine	24 hours	Bi-Monthly	Dry & Wet Bulb Temp. Relative Humidity wind speed & direction max & min. Temperature	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.	10 Nos. of Bore well & 2 No. of Sump Water sample 2 No. of Pond water	1	Bi-Monthly	Physical parameters, Chemical Parameters, Heavy metals	As per the standard methods for the examination of water and waste water APHA 23 <sup>rd</sup> Edition 2017 and various Indian standards IS 3025.

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

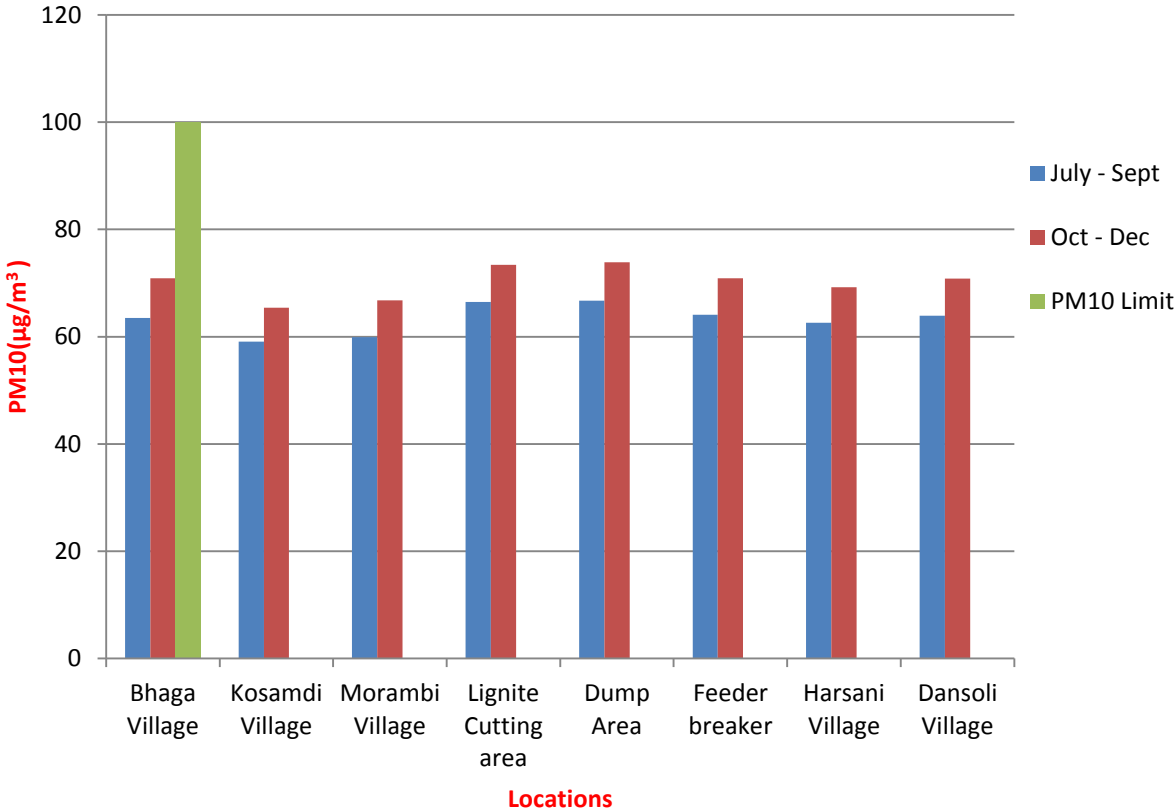
## Six Monthly Variation in Ambient Air Quality Data

Parameter: PM<sub>10</sub> (Respirable Particulate Matter)

Period: July – 2021 to December – 2021

Sr. No.	Location	Results ( $\mu\text{g}/\text{m}^3$ )	
		Quarterly July to Sept -2021	Quarterly Oct to Dec - 2021
1	Bhaga Village	63.5	70.9
2	Kosamdi Village	59.1	65.4
3	Morambi Village	59.9	66.8
4	Lignite Cutting area	66.5	73.4
5	Dump Area	66.7	73.9
6	Feeder breaker	64.1	70.9
7	Harsani Village	62.6	69.2
8	Dansoli Village	63.9	70.8
	Limit	100( $\mu\text{g}/\text{m}^3$ )	

## Graphical Presentation for the Parameter PM10 at Various Locations



## Six Monthly Variation in Ambient Air Quality Data

Parameter: PM<sub>2.5</sub> (Respirable Particulate Matter)

Period: July – 2021 to December – 2021

Sr. No.	Location	Results ( $\mu\text{g}/\text{m}^3$ )	
		Quarterly July to Sept -2021	Quarterly Oct to Dec - 2021
1	Bhaga Village	25.9	27.1
2	Kosamdi Village	27.8	29.6
3	Morambi Village	24.7	26.4
4	Lignite Cutting area	28.3	30.2
5	Dump Area	31.1	33.1
6	Feeder breaker	29.9	31.7
7	Harsani Village	28.8	30.6
8	Dansoli Village	29.6	31.4
	Limit	60( $\mu\text{g}/\text{m}^3$ )	





## Six Monthly Variation in Ambient Air Quality Data

Parameter: SO<sub>2</sub> (Sulphur Dioxide)

Period: July – 2021 to December – 2021

Sr. No.	Location	Results (µg/m <sup>3</sup> )	
		Quarterly July to Sept -2021	Quarterly Oct to Dec - 2021
1	Bhaga Village	17.0	17.6
2	Kosamdi Village	15.6	16.3
3	Morambi Village	14.5	15.2
4	Lignite Cutting area	15.3	15.8
5	Dump Area	16.4	17.1
6	Feeder breaker	19.0	19.6
7	Harsani Village	16.9	18.2
8	Dansoli Village	17.5	18.8
	Limit	80 (µg/m <sup>3</sup> )	



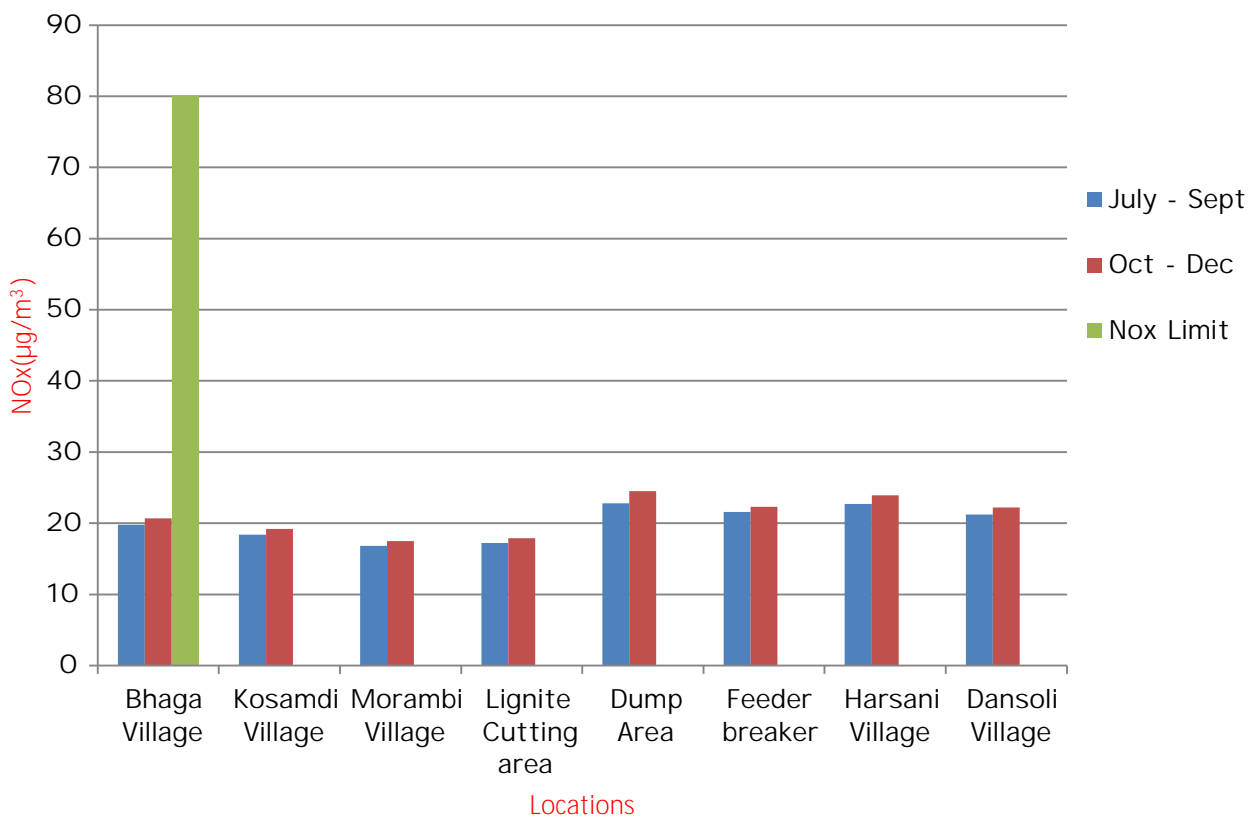
## Six Monthly Variation in Ambient Air Quality Data

Parameter: NO<sub>x</sub> (Oxides of Nitrogen)

Period: July – 2021 to December – 2021

Sr. No.	Location	Results (µg/m <sup>3</sup> )	
		Quarterly July to Sept -2021	Quarterly Oct to Dec - 2021
1	Bhaga Village	19.8	20.7
2	Kosamdi Village	18.4	19.2
3	Morambi Village	16.8	17.5
4	Lignite Cutting area	17.2	17.9
5	Dump Area	22.8	24.5
6	Feeder breaker	21.6	22.3
7	Harsani Village	22.7	23.9
8	Dansoli Village	21.2	22.2
	Limit	80(µg/m <sup>3</sup> )	

## Graphical Presentation for the Parameter NOx at Various Locations



## Six Monthly Variation in Ambient Air Quality Data

Parameter: CO (Carbon Monoxide)

Period: July – 2021 to December – 2021

Sr. No.	Location	Results ( $\mu\text{g}/\text{m}^3$ )	
		Quarterly July to Sept -2021	Quarterly Oct to Dec - 2021
1	Bhaga Village	987	1118
2	Kosamdi Village	969	988
3	Morambi Village	1036	1061
4	Lignite Cutting area	1078	1097
5	Dump Area	1011	1074
6	Feeder breaker	1038	1083
7	Harsani Village	976	996
8	Dansoli Village	935	962
	Limit	2000( $\mu\text{g}/\text{m}^3$ )	

## Graphical Presentation for the Parameter CO at Various Locations

