
Chapter - 3

DESCRIPTION OF THE ENVIRONMENT

3.0 Introduction

The present environmental scenario has been described in this chapter in respect of meteorology, micro-meteorology, ambient air quality, water and effluent quality, noise level measurement, soil quality, socio-economic scenario, flora & fauna, hydrogeology and land use/cover pattern.

3.1 Micrometeorological Status

The study was carried out by M/s ENVIROCON, Digboi, Assam during the period January 2009 to March 2009. The transport and diffusion of the pollutants in the atmosphere are governed by meteorological factors. The meteorological data is very useful for proper interpretation of the baseline information and it provides an input for prediction models of air quality

3.1.1 Methodology

Micrometeorological and microclimatic parameters were recorded by installing one meteorology station in Sindhi Gaon to represent the prevailing micrometeorological aspects of the study area of Lekhapani OCP. During the study period, rainfall data for 24 hours and hourly reading of wind velocity, wind direction, temperature, relative humidity, cloud cover and were recorded and reported.

3.1.2 METEOROLOGICAL DATA

Site specific continuously monitored meteorological data for one full Season (Winter Season, January 2009 to March, 2009) have been summarized in the following table.

Site Specific Meteorological Data for Winter Season (January 2009 to March 2009)

Location: Sindhi Gaon

Item	Parameters	Particulars
Rainfall in mm.	Minimum	0.50
	Maximum	19.20
Temperature range in °C (monthly mean of daily Temperature)	Minimum	13.10
	Maximum	29.08
Relative humidity range (monthly mean of daily RH)	Minimum	51.26
	Maximum	64.00
Wind speed range in km/hr. (monthly mean of daily wind speed)	Minimum	1.0
	Maximum	14.0

Month wise details are as below

Month	Wind Speed (km/h)		Temperature (°C)	
	Min	Max	Highest	Lowest
January, 2009	1	6	26.7	9.2
February, 2009	1	8	31.5	11.1
March, 2009	3	14	34.0	12.5

Onsite Meteorological Observations: January '2009

Date	Temperature (°C)		Humidity (%)	Rainfall (mm)	Cloud Cover	Wind Speed (Km/h)	Wind Direction (from)
	Max	Min					
01.01.2009	24.5	12.4	59	Nil	CI	3	NE
02.01.2009	25.3	12.1	55	Nil	CI	1	NNE
03.01.2009	23.4	10.2	53	Nil	CI	2	NNE
04.01.2009	22.1	09.2	61	Nil	PC	2	NE
05.01.2009	21.3	10.5	68	2.0	C	CALM	NE
06.01.2009	20.2	14.3	64	Nil	CI	3	E
07.01.2009	23.4	11.4	54	Nil	CI	4	NE
08.01.2009	23.1	10.5	58	Nil	CI	1	NNE
09.01.2009	24.0	10.2	55	Nil	CI	1	NE
10.01.2009	23.2	11.0	91	Nil	CI	2	NNE
11.01.2009	23.5	10.6	83	Nil	CI	1	NNE
12.01.2009	23.3	10.3	58	Nil	CI	CALM	NNE
13.01.2009	24.5	12.5	55	Nil	CI	2	ENE
14.01.2009	25.0	13.2	50	Nil	CI	2	E
15.01.2009	25.3	12.4	59	Nil	CI	4	NE
16.01.2009	26.1	12.0	53	Nil	CI	2	NNE
17.01.2009	25.3	11.3	53	Nil	CI	3	NE
18.01.2009	26.1	12.4	54	Nil	CI	1	ESE
19.01.2009	25.4	12.2	63	Nil	PC	3	NNE
20.01.2009	25.6	15.1	52	Nil	CI	CALM	NE
21.01.2009	26.7	17.4	54	Nil	CI	2	NE
22.01.2009	26.0	14.2	55	Nil	CI	CALM	NE
23.01.2009	25.3	15.4	68	Nil	CI	CALM	NNE
24.01.2009	25.5	15.1	61	Nil	C	1	E
25.01.2009	25.3	17.0	87	3.8	C	3	NE
26.01.2009	24.1	16.5	95	0.5	C	6	NNE
27.01.2009	20.6	17.3	90	4.3	C	4	NNE
28.01.2009	20.0	17.2	86	Nil	PC	2	NE
29.01.2009	24.2	14.3	63	Nil	CI	3	NNE
30.01.2009	25.3	13.6	68	Nil	CI	1	NE
31.01.2009	25.2	14.4	59	Nil	CI	CALM	NE

C: Cloudy

CI: Clear

PC: Partial Cloudy

Onsite Meteorological Observations: February '2009

Date	Temperature (°C)		Humidity (%)	Rainfall (mm)	Cloud Cover	Wind Speed (Km/h)	Wind Direction (from)
	Max	Min					
01.02.2009	25.0	15.2	65	Nil	CI	2	NE
02.02.2009	25.6	12.1	48	Nil	CI	4	NE
03.02.2009	26.5	13.6	51	Nil	CI	2	NNE
04.02.2009	27.2	13.3	51	Nil	CI	1	NE
05.02.2009	28.1	13.1	52	Nil	CI	2	ENE
06.02.2009	28.3	12.5	51	Nil	CI	4	NE
07.02.2009	28.5	14.0	50	Nil	CI	5	NE
08.02.2009	30.1	14.2	59	Nil	CI	2	NNE
09.02.2009	29.3	14.4	50	Nil	CI	2	NNE
10.02.2009	30.2	15.3	50	Nil	CI	3	NE
11.02.2009	30.0	15.1	47	Nil	CI	6	ENE
12.02.2009	26.4	16.0	55	5.0	C	4	E
13.02.2009	26.2	15.6	54	Nil	PC	8	NE
14.02.2009	27.5	15.5	49	Nil	CI	2	NE
15.02.2009	28.1	15.3	50	Nil	CI	1	NE
16.02.2009	29.3	15.5	51	Nil	CI	CALM	NE
17.02.2009	31.5	17.3	51	Nil	CI	4	NNE
18.02.2009	23.4	11.1	77	Nil	CI	2	NE
19.02.2009	25.8	13.7	79	Nil	CI	5	NE
20.02.2009	26.4	15.4	74	Nil	CI	3	NNE
21.02.2009	25.6	14.6	71	Nil	CI	1	NNE
22.02.2009	27.3	16.5	74	Nil	CI	CALM	E
23.02.2009	28.2	16.4	79	Nil	PC	3	ENE
24.02.2009	28.5	15.5	78	11.4	CI	7	NNE
25.02.2009	28.3	16.2	83	15.0	C	4	NE
26.02.2009	26.4	14.4	89	10.0	C	2	NE
27.02.2009	26.4	15.4	83	1.7	PC	5	NNE
28.02.2009	27.6	16.1	81	1.7	C	3	NE

C: Cloudy

CI: Clear

PC: Partial Cloudy

Onsite Meteorological Observations: March '2009

Date	Temperature (°C)		Humidity (%)	Rainfall (mm)	Cloud Cover	Wind Speed (Km/h)	Wind Direction (from)
	Max	Min					
01.03.2009	26.0	15.0	50.0	Nil	C	4	NE
02.03.2009	28.5	12.5	42.0	Nil	C	7	NE
03.03.2009	28.0	16.0	41.0	Nil	PC	3	NE
04.03.2009	29.0	17.0	44.0	3.8	CI	CALM	NE
05.03.2009	26.0	17.0	59.0	8.8	CI	5	NNE
06.03.2009	22.0	17.5	81.0	Nil	CI	8	NE
07.03.2009	25.0	17.5	68.0	Nil	CI	6	NE
08.03.2009	24.0	17.0	91.0	Nil	CI	5	NNE
09.03.2009	29.5	16.5	57.0	Nil	CI	4	NE
10.03.2009	28.0	18.0	46.0	Nil	PC	9	NE
11.03.2009	31.5	17.0	44.0	Nil	C	3	NE
12.03.2009	31.0	19.0	45.0	Nil	C	7	NNE
13.03.2009	33.0	15.5	48.0	Nil	CI	5	NE
14.03.2009	32.0	14.0	44.0	Nil	PC	10	NE
15.03.2009	32.0	17.0	42.0	Nil	C	4	ENE
16.03.2009	28.0	16.5	44.0	Nil	PC	6	NE
17.03.2009	29.5	17.0	45.0	Nil	CI	9	NE
18.03.2009	30.0	17.0	45.0	Nil	CI	12	NNE
19.03.2009	30.0	17.0	42.0	Nil	CI	8	NNE
20.03.2009	29.5	18.0	45.0	Nil	CI	6	NE
21.03.2009	28.0	17.0	51.0	Nil	CI	11	NE
22.03.2009	29.0	17.5	45.0	Nil	CI	7	NE
23.03.2009	33.0	18.0	44.0	Nil	CI	4	ESE
24.03.2009	34.0	18.0	42.0	Nil	CI	5	NE
25.03.2009	34.0	19.0	42.0	Nil	C	3	NE
26.03.2009	33.0	19.0	44.0	1.7	CI	6	NE
27.03.2009	32.0	17.5	45.0	Nil	CI	9	NNE
28.03.2009	32.0	18.0	48.0	0.5	CI	14	NNE
29.03.2009	28.0	18.5	41.0	1.7	CI	6	NE
30.03.2009	21.0	19.0	91.0	12.5	CI	5	NE
31.03.2009	25.0	17.0	73.0	19.2	CI	7	NE

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