A REPORT FROM

The State Hygienic Laboratory

MEDICAL LABORATORIES BUILDING

THE UNIVERSITY OF IOWA

IOWA CITY, IOWA 52240

AIR QUALITY SURVEY
CLINTON, IOWA

June 12-23, 1972

~~#73-12~~

Report on the
Air Quality in Clinton during
a twelve-day period in June

By

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Submitted to the Iowa Air Pollution Control Commission by the
State Hygienic Laboratory
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CLINTON AIR QUALITY STANDARD

On 12 June 1972, the mobile air pollution control laboratory, operated by personnel of the State Hygienic Laboratory, was taken to Clinton for a short-term, ambient air quality survey. The survey was conducted during a twelve-day period from 12 June through 23 June 1972. The sites were chosen to be as representative as possible of the general surrounding area, without unduly maximizing or minimizing the effect of any point source of pollution within that area.

The four sampling sites were those selected and utilized during the previous survey in Clinton during February 1969. The first site at Fire Station #4 represents a residential area. The City Hall is representative of the commercial area. The Water Pollution Control Plant and the site at 24th Place & Liberty are both located in an industrial area.

Data from hi-volume sampling for suspended particulates during the total survey period show that suspended particulate levels slightly exceeded the established Environmental Protection Agency primary standard. The geometric mean of 90.5 $\mu g/m^3$ of the nine samples obtained during this survey is about 20% greater than the annual geometric mean of 75 $\mu g/m^3$ primary standard. However, the highest values obtained for an individual 24-hour sample were only about two-thirds of the primary standard of 260 $\mu g/m^3$ for a single sample.

Coefficient of haze (COH) data correlated with the hi-vol results for suspended particulates with the highest values being found at the Fire Station and at 24th Place & Liberty. The highest single two-hour COH value of 0.36 was obtained at 24th & Liberty on Monday, 19 June, after considerable haze had been present in the area with southeast winds. Following this, the wind shifted to the northeast, placing the mobile laboratory upwind from industrial sources. The geometric mean of 0.077 for the total survey is well below the St Louis soiling index of 0.4 COH, which is used as a comparison since there are no Federal or Iowa standards for coefficient of haze. The averages show a marked reduction from those of the previous Clinton survey.

Sulfur dioxide (SO_2) was detected at three of the locations, the exception being City Hall. The highest peak value of 0.1 ppm was recorded at Fire Station #4 while the wind was from the south, indicating emissions from the industries located at the southern edge of the city.

Carbon monoxide (CO) data averaged lower than that which had been found during previous surveys. The City Hall site in the commercial area,

which might be expected to produce elevated CO levels due to higher traffic density, produced lower average results than were obtained at the Fire Station and the Water Pollution Control Plant. The moderate winds experienced at the City Hall location may have served to ventilate the area. At no time during the survey did the CO levels approach the Federal EPA standard of 9 ppm for an eight-hour average.

In general, under the existing weather conditions, air quality parameters at each sampling site appear to be satisfactorily below the established standards for all pollutants except suspended particulates.

This report is not to be considered a comprehensive treatment of the overall air quality in Clinton, but rather as an evaluation of specific parameters under prevailing conditions that existed during the survey period.

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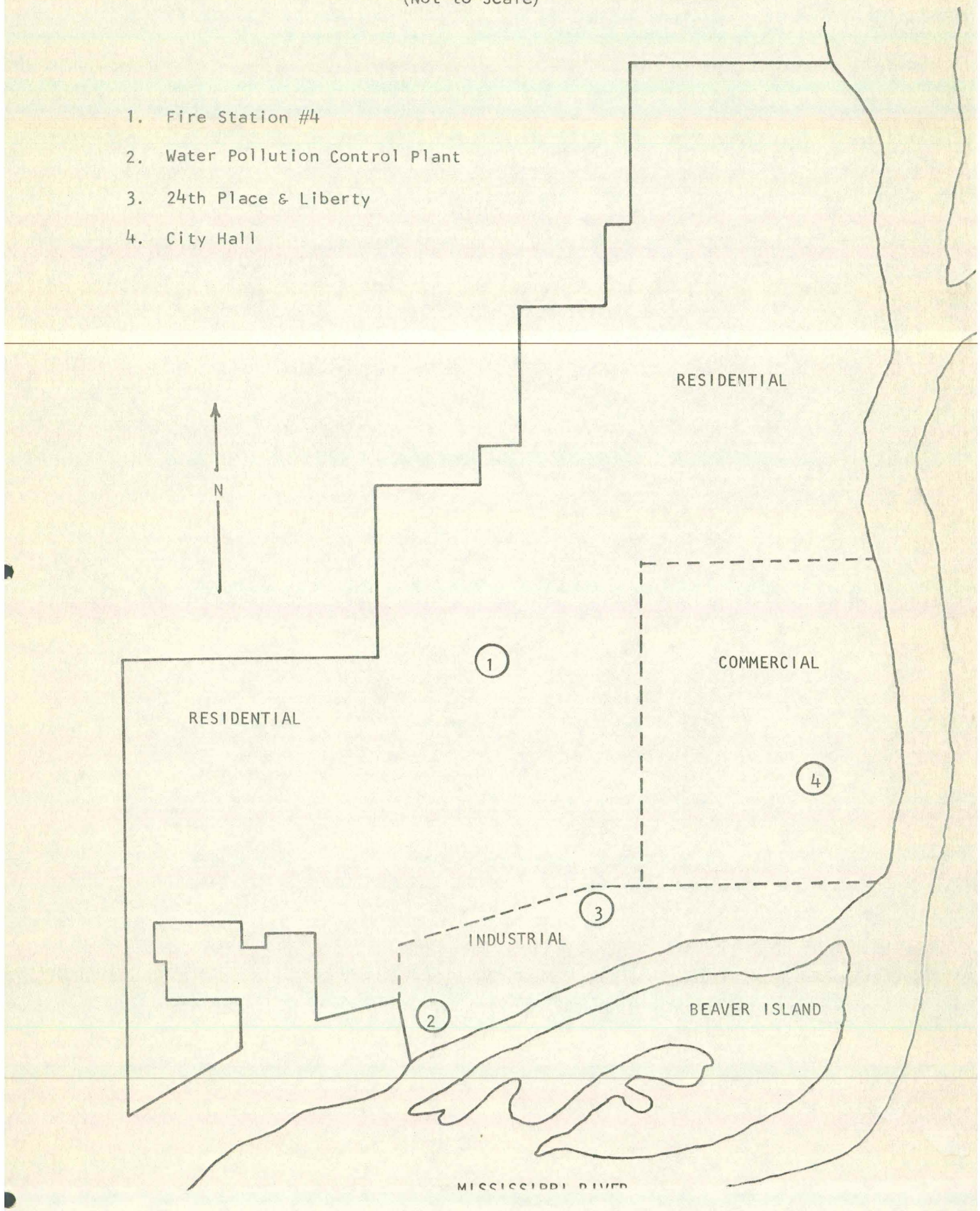
17 August 1972

CLINTON
(Not to Scale)



NATIONAL PRIMARY AND SECONDARY AMBIENT AIR QUALITY STANDARDS

Sulfur Oxides (primary)

a. 80 $\mu g/m^3$ (0.03 ppm) - annual arithmetic mean

b. 365 $\mu g/m^3$ (0.14 ppm) - maximum 24-hour concentration not to be exceeded more than once per year

Sulfur Oxides (secondary)

a. 60 $\mu g/m^3$ (0.02 ppm) - annual arithmetic mean

b. 260 $\mu g/m^3$ (0.1 ppm) - maximum 24-hour concentration not to be exceeded more than once per year.

c. 1,300 $\mu g/m^3$ (0.5 ppm) - maximum 3-hour concentration not to be exceeded more than once per year.

Particulate Matter (primary)

a. 75 $\mu g/m^3$ - annual geometric mean

b. 260 $\mu g/m^3$ - maximum 24-hour concentration not to be exceeded more than once per year.

Particulate Matter (secondary)

a. 60 $\mu g/m^3$ - annual geometric mean

b. 150 $\mu g/m^3$ - maximum 24-hour concentration not to be exceeded more than once per year.

Carbon Monoxide (primary and secondary)

a. 10 mg/m^3 (9 ppm) - maximum 8-hour concentration not to be exceeded more than once per year.

b. 40 mg/m^3 (35 ppm) - maximum 1-hour concentration not to be exceeded more than once per year.

Primary Standard - level of air quality necessary, with an adequate margin of safety, to protect the public health.

Secondary Standard - levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

SUSPENDED PARTICULATES
24-Hour Samples

DATE	LOCATION	SUSPENDED PARTICULATE ($\mu g/m^3$)
6/12/72	Fire Station #4	170
6/13/72		119
6/14/72		52.7
6/15/72	Water Pollution Control Plant	78.7
6/16/72		69.2
6/19/72	25th & Liberty	176
6/20/72		58.8
6/21/72	City Hall	78
6/22/72		87.1

AVERAGE	98.8
GEOMETRIC MEAN	90.5

Particulate Matter (primary)

a. 75 $\mu g/m^3$ - annual geometric mean

b. 260 $\mu g/m^3$ - maximum 24-hour concentration not to be exceeded more than once per year.

Particulate Matter (secondary)

a. 60 $\mu g/m^3$ - annual geometric mean

b. 150 $\mu g/m^3$ - maximum 24-hour concentration not to be exceeded more than once per year.

COEFFICIENT OF HAZE
CLINTON

COH Values - 2 Hour Samples

DATE	LOCATION	TIME		COH
6/12/72	Fire Station #4	1400-1600		0.12
		-1800		0.12
		-2000		0.12
		-2200		0.12
		-2400		0.08
			AVG	0.11
6/13/72	Fire Station #4	0001-0200		0.12
		-0400		0.04
		-0600		0.08
		-0800		0.04
		-1000		0.16
		-1200		0.12
		-1400		0.04
		-1600		0.08
		-1800		0.12
		-2000		0.16
		-2200		0.08
		-2400		0.12
			AVG	0.09
6/14/72	Fire Station #4	0001-0200		0.16
		-0400		0.08
		-0600		0.04
		-0800		0.16
		-1000		0.08
		-1200		0.16
		-1400		0.12
		-1600		0.04
		-1800		0.04
		-2000		0.04
		-2200		0.08
		-2400		0.04
			AVG	0.08
6/15/72	Fire Station #4	0001-0200		0.12
		-0400		0.08
		-0600		0.08
		-0800		0.04
		-1000		0.00
		-1200		0.00
		-1400		0.05

DATE	LOCATION	TIME		COH
6/15/72	Water Pollution Control Plant	1400-1600		0.12
		-1800		0.04
		-2000		0.04
		-2200		0.16
		-2400		0.08
			AVG	0.08
6/16/72	Water Pollution Control Plant	0001-0200		0.04
		-0400		0.12
		-0600		0.20
		-0800		0.12
		-1000		0.08
		-1200		0.04
		-1400		0.08
		-1600		0.08
		-1800		0.08
		-2000		0.00
		-2200		0.04
		-2400		0.04
			AVG	0.07
6/17/72	Water Pollution Control Plant	0001-0200		0.04
		-0400		0.08
		-0600		0.08
		-0800		0.12
		-1000		0.04
		-1200		0.08
		-1400		0.08
		-1600		0.04
		-1800		0.04
		-2000		0.12
		-2200		0.16
		-2400		0.08
			AVG	0.08
6/18/72	Water Pollution Control Plant	0001-0200		0.04
		-0400		0.12
		-0600		0.16
		-0800		0.16
		-1000		0.20
		-1200		0.08
		-1400		0.04
		-1600		0.04

DATE	LOCATION	TIME		COH
6/18/72	Water Pollution Control Plant	1600-1800		0.04
		-2000		0.04
		-2200		0.20
		-2400		0.04
			AVG	0.09
6/19/72	Water Pollution Control Plant	0001-0200		0.08
		-0400		0.08
		-0600		0.12
		-0800		0.16
		-1000		0.16
		-1200		0.16
			AVG	0.12
6/19/72	24th & Liberty	1300-1400		0.36
		-1600		0.32
		-1800		0.08
		-2000		0.04
		-2200		0.00
		-2400		0.04
			AVG	0.14
6/20/72	24th & Liberty	0001-0200		0.08
		-0400		0.08
		-0600		0.08
		-0800		0.04
		-1000		0.08
		-1200		0.04
		-1400		0.04
		-1600		0.04
		-1800		0.04
		-2000		0.04
		-2200		0.04
		-2400		0.04
			AVG	0.05
6/21/72	24th & Liberty	0001-0200		0.04
		-0400		0.04
		-0600		0.08
		-0800		0.04
		-1000		0.04
		-1200		0.04
		-13 15		0.08
			AVG	0.05

DATE	LOCATION	TIME		COH
6/21/72	City Hall	1415-1600		0.08
		-1800		0.04
		-2000		0.04
		-2200		0.08
		-2400		0.04
			AVG	0.05
6/22/72	City Hall	0001-0200		0.08
		-0400		0.04
		-0600		0.04
		-0800		0.08
		-1000		0.08
		-1200		0.04
		-1400		0.08
		-1600		0.04
		-1800		0.00
		-2000		0.04
		-2200		0.08
		-2400		0.28
			AVG	0.07
6/23/72	City Hall	0001-0200		0.16
		-0400		0.08
		-0600		0.08
		-0800		0.04
		-1000		0.08
		-1200		0.04
		-1315		0.16
			AVG	0.09

Average COH for Survey 0.081
Geometric Mean for Survey 0.077

Soiling Index

St Louis 0.4 COH/1000 lineal feet, annual geometric mean

CARBON MONOXIDE
CLINTON

(Values in Parts per Million)

DATE	LOCATION	TIME	PEAK	AVERAGE MAXIMUM CONCENTRATION 1 Hour	8 Hours
6/12/72	Fire Station #4	1400-1500	10	5	--
		-1600	10	4	--
		-1700	11	3	--
		-1800	4	2	--
		-1900	4	3	--
		-2000	6	5	--
		-2100	7	6	--
		-2200	7	6	4.2
		-2300	8	5	4.2
		-2400	7	5	4.4
6/13/72	Fire Station #4	0001-0100	6	5	4.6
		-0200	5	4	4.9
		-0300	4	4	5.0
		-0400	4	4	4.9
		-0500	4	4	4.6
		-0600	4	4	4.4
		-0700	9	4	4.2
		-0800	7	5	4.2
		-0900	16	5	4.2
		-1000	11	5	4.4
		-1100	31	5	4.5
		-1200	5	5	4.6
		-1300	8	5	4.8
		-1400	11	5	4.9
		-1500	6	5	5.0
		-1600	5	5	5.0
		-1700	6	5	5.0
		-1800	5	5	5.0
		-1900	6	5	5.0
		-2000	7	6	5.1
		-2100	6	6	5.2
		-2200	6	5	5.2
		-2300	6	6	5.4
		-2400	6	6	5.5

DATE	LOCATION	TIME	PEAK	AVERAGE MAXIMUM CONCENTRATION 1 Hour	8 Hours
6/14/72	Fire Station #4	0001-0100	7	6	5.6
		-0200	6	6	5.8
		-0300	6	6	5.9
		-0400	6	6	5.9
		-0500	6	6	5.9
		-0600	6	6	6.0
		-0700	6	6	6.0
		-0800	6	6	6.0
		-0900	16	6	6.0
		-1000	6	6	6.0
		-1100	13	7	6.1
		-1200	10	6	6.1
		-1300	9	6	6.1
		-1400	25	6	6.1
		-1500	7	6	6.1
		-1600	7	6	6.1
		-1700	17	6	6.1
		-1800	6	6	6.1
		-1900	7	6	6.0
		-2000	6	6	6.0
		-2100	8	6	6.0
		-2200	7	6	6.0
		-2300	7	5	5.9
		-2400	6	5	5.8
6/15/72	Fire Station #4	0001-0100	5	5	5.6
		-0200	4	4	5.4
		-0300	4	4	5.1
		-0400	4	4	4.9
		-0500	6	4	4.6
		-0600	4	4	4.4
		-0700	4	4	4.2
		-0800	5	4	4.1
		-0900	4	4	4.0
		-1000	5	4	4.0
		-1100	5	4	4.0
		-1200	5	4	4.0
		-1300	6	4	4.0
6/15/72	Water Pollution Control Plant	1500-1600	5	3	--
		-1700	4	2	--

DATE	LOCATION	TIME	PEAK	AVERAGE MAXIMUM CONCENTRATION 1 Hour	8 Hours
6/15/72	Water Pollution Control Plant	1700-1800	2	2	--
		-1900	2	2	--
		-2000	6	3	--
		-2100	3	3	--
		-2200	10	3	--
		-2300	4	2	2.5
		-2400	5	2	2.4
6/16/72	Water Pollution Control Plant	0001-0100	3	2	2.4
		-0200	2	1	2.2
		-0300	2	1	2.1
		-0400	2	1	1.9
		-0500	2	2	1.8
		-0600		Instrument Malfunction	
		-0700		"	"
		-0800		"	"
		-0900		"	"
		-1000	8	3	--
		-1100	6	3	--
		-1200	5	3	--
		-1300	4	3	--
		-1400	4	2	--
		-1500	4	2	--
		-1600	4	3	--
		-1700	3	3	2.8
		-1800	3	3	2.8
		-1900	3	3	2.8
		-2000	3	3	2.8
		-2100	3	3	2.8
		-2200	3	3	2.9
		-2300	4	3	3.0
		-2400	3	3	3.0
6/17/72	Water Pollution Control Plant	0001-0100	5	3	3.0
		-0200	5	3	3.0
		-0300	7	3	3.0
		-0400	4	3	3.0
		-0500	13	3	3.0
		-0600	4	3	3.0
		-0700	3	3	3.0
		-0800	4	3	3.0
		-0900	4	2	2.9

DATE	LOCATION	TIME	PEAK	AVERAGE MAXIMUM CONCENTRATION 1 Hour	8 Hours
6/17/72	Water Pollution Control Plant	0900-1000	5	3	2.9
		-1100	3	3	2.9
		-1200	4	4	3.0
		-1300	4	3	3.0
		-1400	4	3	3.0
		-1500	5	3	3.0
		-1600	3	3	3.1
		-1700	3	2	3.0
		-1800	4	2	2.9
		-1900	3	2	2.8
		-2000	2	1	2.4
		-2100	1	1	2.1
		-2200	2	2	2.0
		-2300	2	2	1.9
		-2400	8	2	1.8
6/18/72	Water Pollution Control Plant	0001-0100	3	1	1.6
		-0200	2	2	1.6
		-0300	2	2	1.6
		-0400	3	2	1.8
		-0500	3	3	2.0
		-0600	7	3	2.1
		-0700	3	3	2.2
		-0800	5	3	2.4
		-0900	4	3	2.6
		-1000	4	3	2.8
		-1100	5	3	2.9
		-1200	6	4	3.1
		-1300	5	3	3.1
		-1400	5	3	3.1
		-1500	5	4	3.2
		-1600	5	3	3.2
		-1700	4	3	3.2
		-1800	5	3	3.2
		-1900	3	3	3.2
		-2000	4	3	3.1
		-2100	3	3	3.1
		-2200	15	3	3.1
		-2300	5	3	3.0
		-2400	5	3	3.0

DATE	LOCATION	TIME	PEAK	AVERAGE MAXIMUM CONCENTRATION 1 Hour	8 Hours
6/19/72	Water Pollution Control Plant	0001-0100	6	3	3.0
		-0200	9	3	3.0
		-0300	5	3	3.0
		-0400	7	3	3.0
		-0500	5	3	3.0
		-0600	7	3	3.0
		-0700	4	3	3.0
		-0800	5	3	3.0
		-0900	6	3	3.0
		-1000	5	4	3.1
		-1100	7	4	3.2
		-1200	10	4	3.4
6/19/72	25th Place & Liberty	1400-1500	18	3	--
		-1600	18	3	--
		-1700	3	3	--
		-1800	11	3	--
		-1900	3	3	--
		-2000	4	3	--
		-2100	4	3	--
		-2200	3	3	3.0
		-2300	3	3	3.0
		-2400	3	2	2.9
6/20/72	25th Place & Liberty	0001-0100	3	2	2.8
		-0200	2	2	2.6
		-0300	2	2	2.5
		-0400	2	2	2.4
		-0500	2	2	2.2
		-0600	2	2	2.1
		-0700	4	3	2.1
		-0800	3	2	2.1
		-0900	3	2	2.1
		-1000	78	3	2.2
		-1100	24	3	2.4
		-1200	19	3	2.5
		-1300	3	2	2.5
		-1400	19	2	2.5
		-1500	3	2	2.4
		-1600	4	3	2.5
		-1700	3	3	2.6
		-1800	22	3	2.6
		-1900	3	2	2.5
		-2000	2	2	2.4
		-2100	3	2	2.4
		-2200	2	2	2.4
		-2300	3	2	2.4
		-2400	2	2	2.2

DATE	LOCATION	TIME	PEAK	AVERAGE MAXIMUM CONCENTRATION 1 Hour	8 Hours
6/21/72	25th Place & Liberty	0001-0100	2	2	2.1
		-0200	2	1	1.9
		-0300	2	1	1.8
		-0400	2	1	1.6
		-0500	2	1	1.5
		-0600	2	1	1.4
		-0700	2	1	1.2
		-0800	2	1	1.1
		-0900	2	1	1.0
		-1000	6	2	1.1
		-1100	20	2	1.2
		-1200	7	2	1.4
		-1300	15	2	1.5
6/21/72	City Hall	1400-1500	16	4	--
		-1600	8	4	--
		-1700	16	5	--
		-1800	4	3	--
		-1900	3	2	--
		-2000	3	2	--
		-2100	4	3	--
		-2200	3	2	3.1
		-2300	2	2	2.9
		-2400	2	1	2.5
6/22/72	City Hall	0001-0100	2	1	2.0
		-0200	1	1	1.8
		-0300	1	1	1.6
		-0400	1	1	1.5
		-0500	1	1	1.2
		-0600	2	1	1.1
		-0700	2	2	1.1
		-0800	4	3	1.4
		-0900	7	4	1.8
		-1000	9	4	2.1
		-1100	9	4	2.5
		-1200	8	3	2.8
		-1300	7	3	3.0
		-1400	12	3	3.2
		-1500	4	3	3.4
		-1600	4	3	3.4
		-1700	13	4	3.4
		-1800	4	3	3.2
		-1900	4	3	3.1
		-2000	4	3	3.1
		-2100	3	2	3.0
		-2200	3	3	3.0
		-2300	3	2	2.9
		-2400	4	2	2.8

DATE	LOCATION	TIME	PEAK	AVERAGE MAXIMUM CONCENTRATION 1 Hour	8 Hours
6/23/72	City Hall	0001-0100	4	3	2.6
		-0200	4	3	2.6
		-0300	2	2	2.5
		-0400	2	1	2.2
		-0500	1	1	2.1
		-0600	1	1	1.9
		-0700	1	1	1.8
		-0800	3	2	1.8
		-0900	4	3	1.8
		-1000	16	4	1.9
		-1100	16	3	2.0
		-1200	6	3	2.2
		-1300	13	3	2.5

Carbon Monoxide (primary and secondary)

a. 10 mg/m^3 (9 ppm) - maximum 8-hour concentration not to be exceeded more than once per year.

b. 40 mg/m^3 (35 ppm) - maximum 1-hour concentration not to be exceeded more than once per year.

SULFUR DIOXIDE
CLINTON

(Values in Parts per Million)

DATE	LOCATION	TIME	PEAK	AVERAGE MAXIMUM CONCENTRATION 3 Hours	24 Hours
6/12/72	Fire Station #4	1500-1800	0.10	0.046	---
		-2100	0.04	0.005	---
		-2400	Nil	Nil	---
6/13/72	Fire Station #4	0001-0300	Nil	Nil	---
		-0600	Nil	Nil	---
		-0900	Nil	Nil	---
		-1200	0.06	0.023	---
		-1500	0.05	0.008	0.010
		-1800	0.06	0.017	0.007
		-2100	0.02	0.005	0.007
		-2400	Nil	Nil	0.007
6/14/72	Fire Station #4	0001-0300	Nil	Nil	0.007
		-0600	Nil	Nil	0.007
		-0900	Nil	Nil	0.007
		-1200	Nil	Nil	0.004
		-1500	Nil	Nil	0.003
		-1800	Nil	Nil	0.001
		-2100	Nil	Nil	Nil
		-2400	Nil	Nil	Nil
6/15/72	Water Pollution Control Plant	1500-1800	Nil	Nil	---
		-2100	Nil	Nil	---
		-2400	Nil	Nil	---
6/16/72	Water Pollution Control Plant	0001-0300	Nil		---
		-0600	0.03	0.010	---
		-0900	Nil	Nil	---
		-1200	0.03	0.004	---
		-1500	Nil	Nil	0.002
		-1800	0.02	0.002	0.002
		-2100	0.02	0.004	0.002
		-2400	Nil	Nil	0.002
6/17/72	Water Pollution Control Plant	0001-0300	Nil	Nil	0.002
		-0600	Nil	Nil	0.001
		-0900	0.06	0.020	0.004
		-1200	Nil	Nil	0.003
		-1500	Nil	Nil	0.003
		-1800	Nil	Nil	0.003
		-2100	Nil	Nil	0.002
		-2400	Nil	Nil	0.002

DATE	LOCATION	TIME	PEAK	AVERAGE MAXIMUM CONCENTRATION 3 Hours	24 Hours
6/18/72	Water Pollution Control Plant	0001-0300	Nil	Nil	0.002
		-0600	Nil	Nil	0.002
		0600-2400	Nil	Nil	---
6/19/72	Water Pollution Control Plant	0001-1200	Nil	Nil	---
6/19/72	24th & Liberty	1500-1800	Nil		
		-2100	Nil		
		-2400	0.02	0.004	---
6/20/72	24th & Liberty	0001-2400	Nil	Nil	---
6/21/72	24th & Liberty	0001-1200	Nil	Nil	---

Sulfur Oxides (primary)

a. 80 $\mu g/m^3$ (0.03 ppm) - annual arithmetic mean

b. 365 $\mu g/m^3$ (0.14 ppm) - maximum 24-hour concentration not to be exceeded more than once per year.

Sulfur Oxides (secondary)

a. 60 $\mu g/m^3$ (0.02 ppm) - annual arithmetic mean

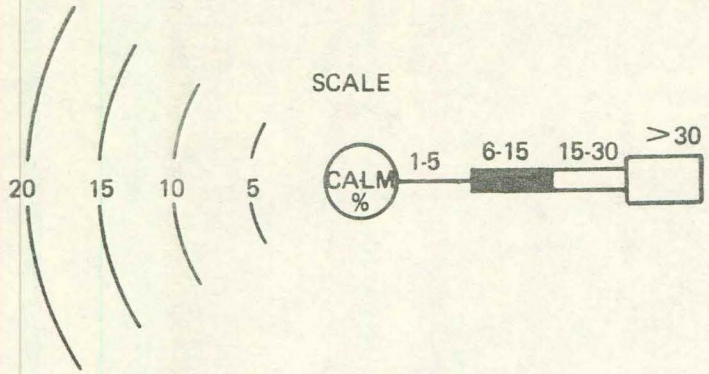
b. 260 $\mu g/m^3$ (0.1 ppm) - maximum 24-hour concentration not to be exceeded more than once per year.

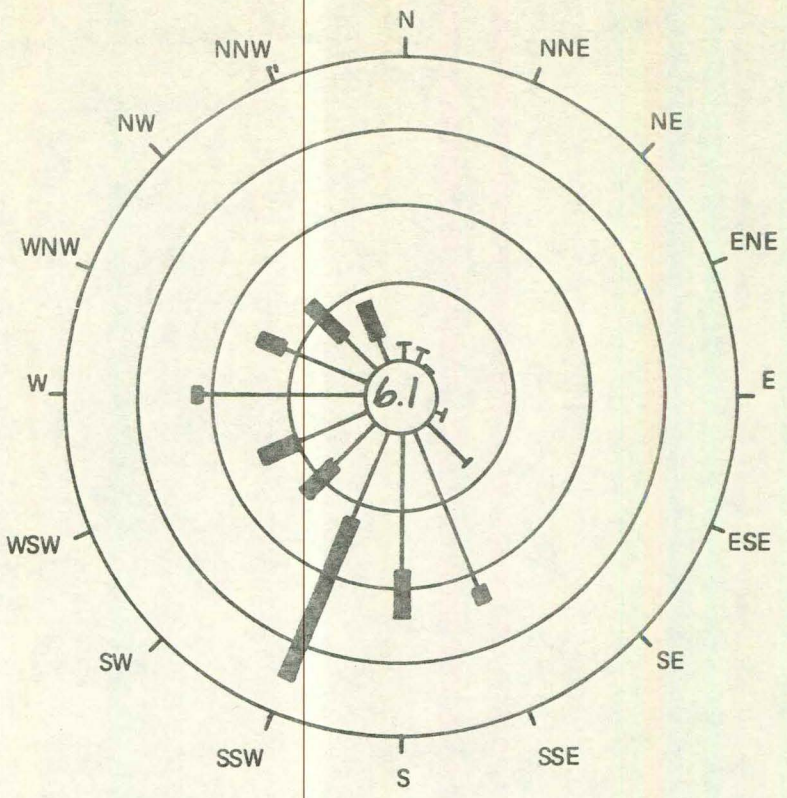
c. 1,300 $\mu g/m^3$ (0.5 ppm) - maximum 3-hour concentration not to be exceeded more than once per year.

DATE 12-15 June 1972

CITY Clinton

LOCATION Fire Station #4



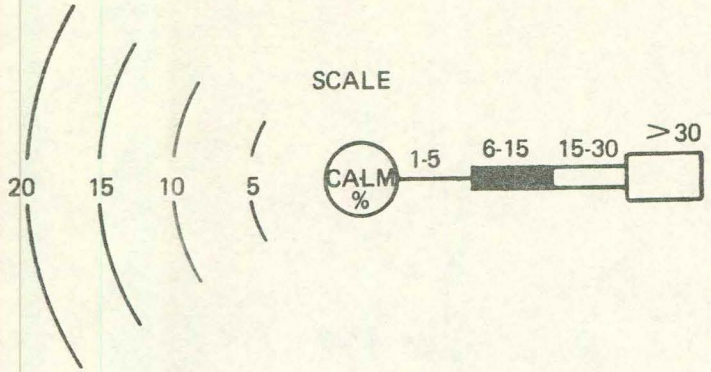


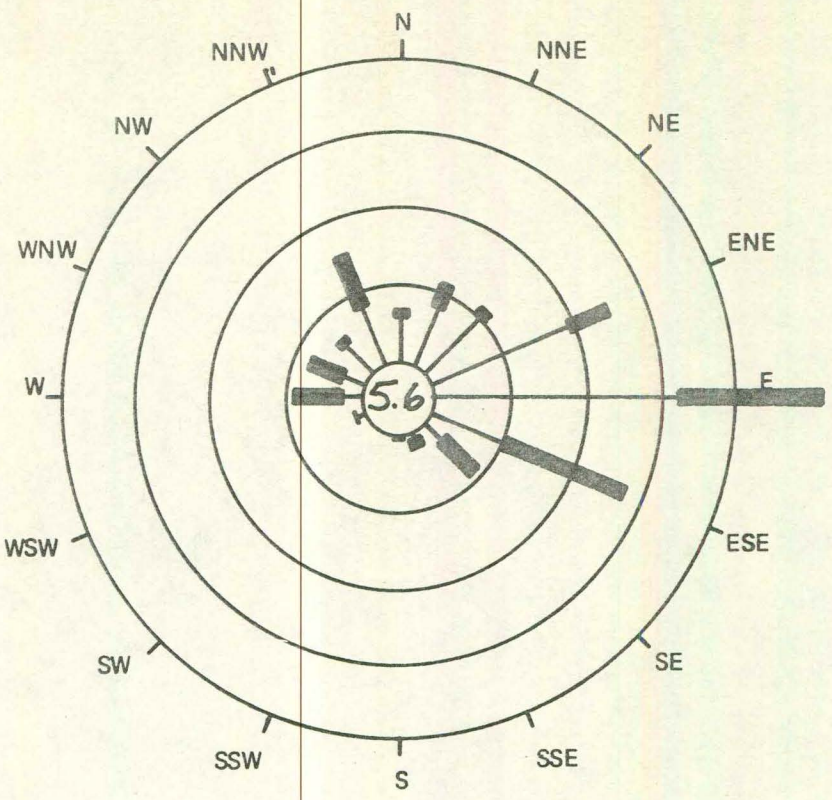
SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1-5.9	1.0	1.0	0.3			0.6	3.8	11.0	8.9	6.2	3.8	4.9	10.6	6.0	3.1	1.7	63.6
6-14.9	0.3						0.3	1.0	3.1	11.3	3.1	2.8	0.6	1.7	3.1	2.4	30.3
15-29.9																	
>30																	
TOTAL	1.3	1.0	0.3			0.6	4.1	12.0	12.0	17.5	6.9	7.7	11.2	7.7	6.2	4.1	93.9
															MISSING		0.0
															CALM		6.1
															TOTAL		100.0

DATE 15-19 June 1972

CITY Clinton

LOCATION Water Pollution Control Plant





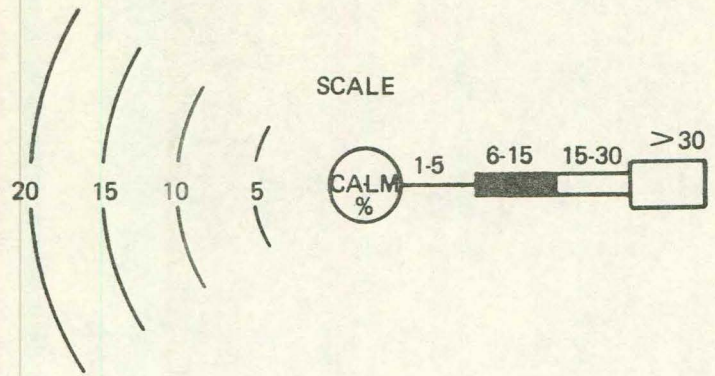
SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1-5.9	3.1	3.9	5.0	9.5	16.2	5.0	1.5	0.3				0.5	1.3	1.5	2.3	3.9	54.7
6-14.9	1.0	1.8	0.7	3.1	9.5	8.7	3.1	0.7	0.3			0.3	3.1	2.3	0.5	3.7	39.7
15-29.9																	
>30																	
TOTAL	4.1	5.7	5.7	12.6	25.7	13.7	4.6	1.0	0.3			0.8	4.4	3.8	2.8	7.6	94.4

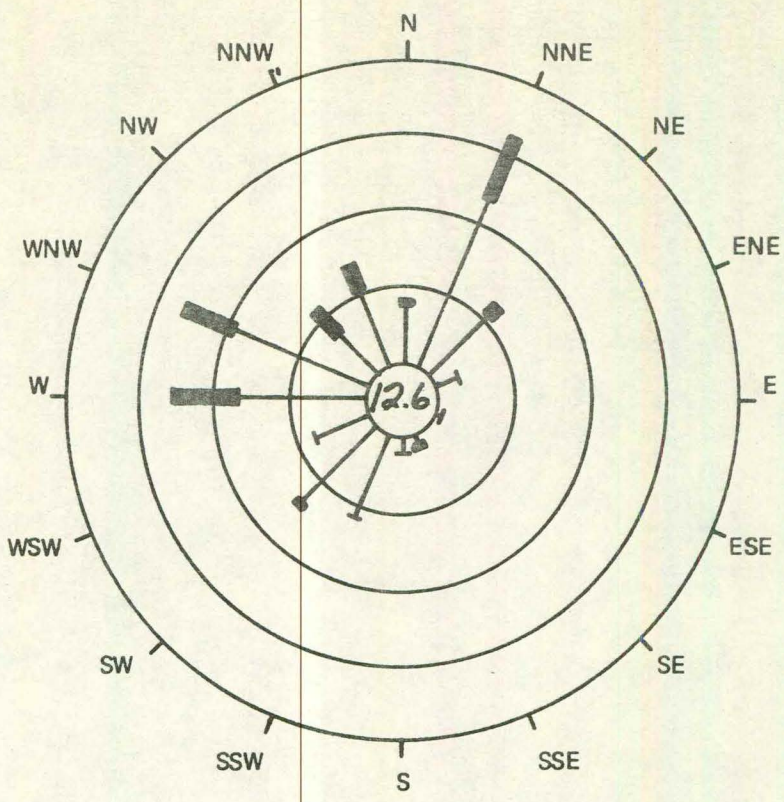
MISSING	0.0
CALM	5.6
TOTAL	100.0

DATE 19-21 June 1972

CITY Clinton

LOCATION 24th Place & Liberty



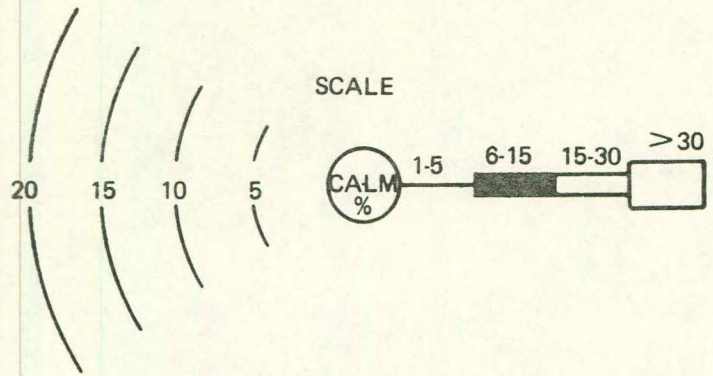


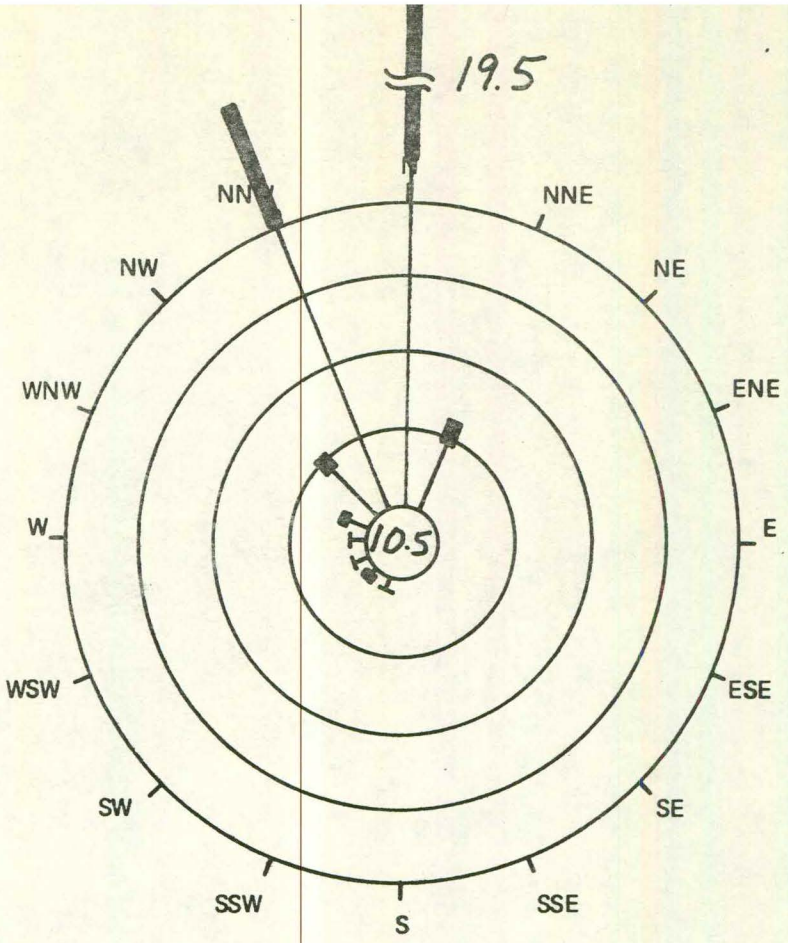
SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1-5.9	3.7	11.6	5.2	1.5		0.5		0.5	1.0	5.7	6.7	3.7	8.4	9.5	3.7	5.2	67.8
6-14.9	0.5	4.7	1.0					0.5			0.5		4.2	3.7	2.0	2.0	19.6
15-29.9																	
>30																	
TOTAL	4.2	16.3	6.2	1.5		0.5		1.0	1.0	5.7	7.2	3.7	12.6	13.2	5.7	7.2	87.4
															MISSING		0.0
															CALM		12.6
															TOTAL		100.0

DATE 21-23 June 1972

CITY Clinton

LOCATION City Hall





SPEED (MPH)	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSW	SW	WSW	W	WNW	NW	NNW	TOTAL
1-5.9	23.2	4.7								1.0	0.5	1.0	1.0	1.5	4.2	20.1	57.7
6-14.9	19.5	1.5									0.5			0.5	1.0	8.4	31.8
15-29.9																	
>30																	
TOTAL	42.7	6.2								1.0	1.0	1.0	1.0	2.0	5.2	28.5	89.5

MISSING	0.0
CALM	10.5
TOTAL	100.0