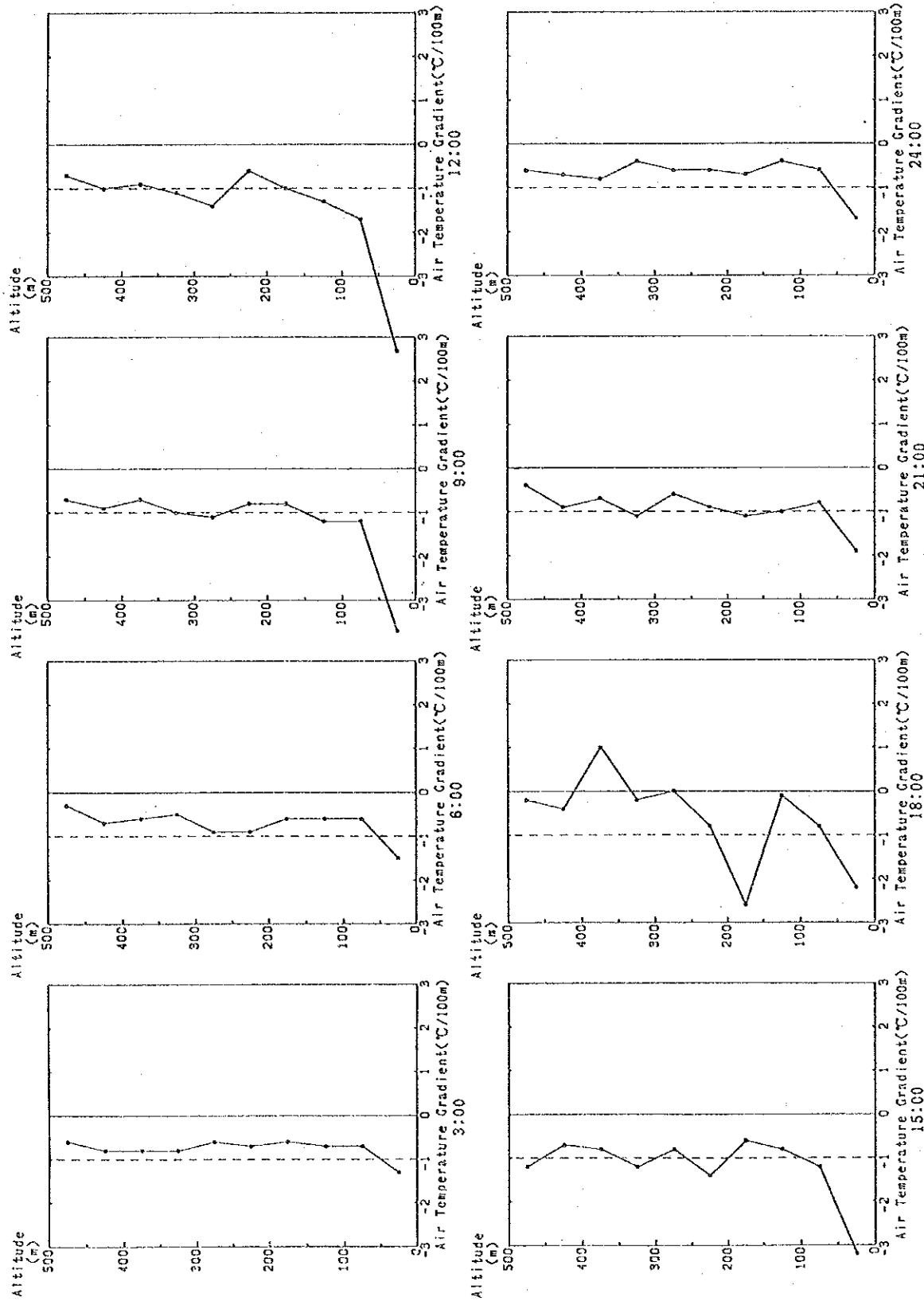
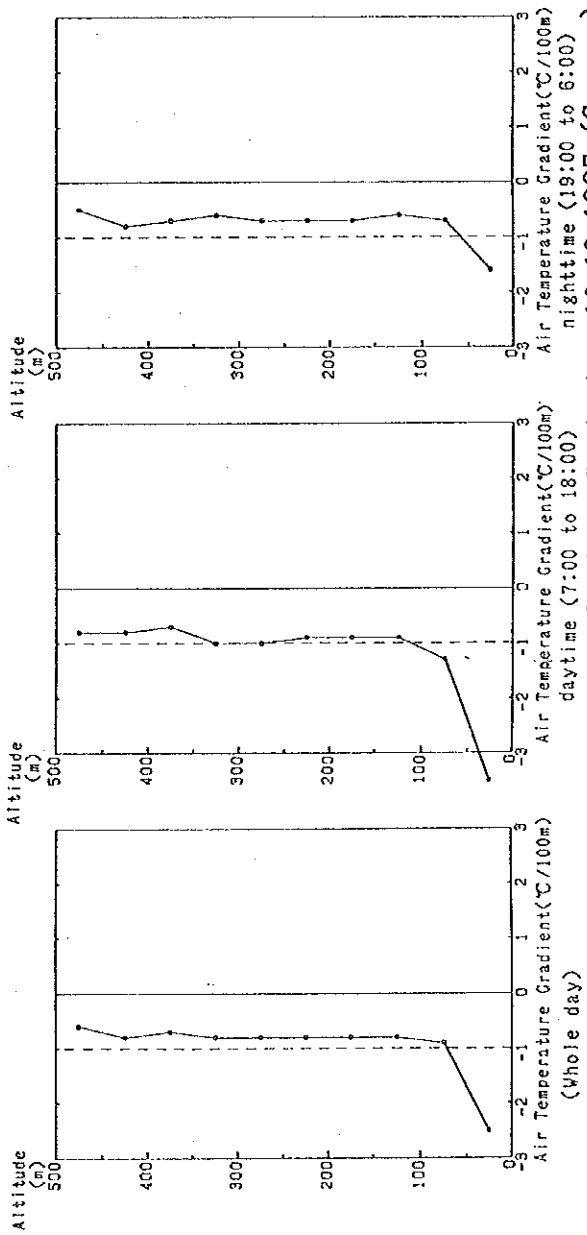


### 1.3.6 Vertical Profiles of Average Air Temperature Gradient

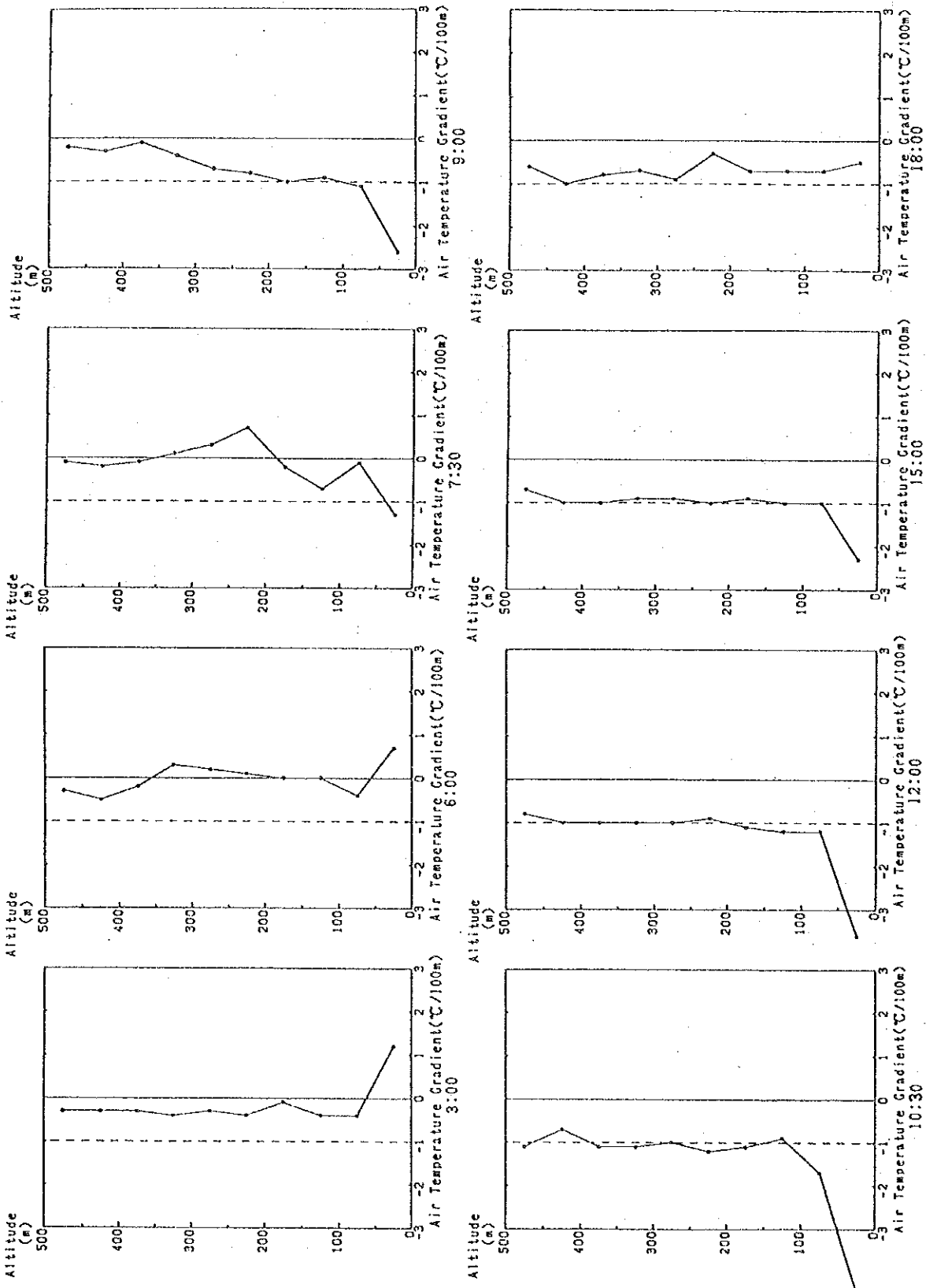
Vertical profiles of average air temperature observed by the captive sonde are shown in the following Figures.



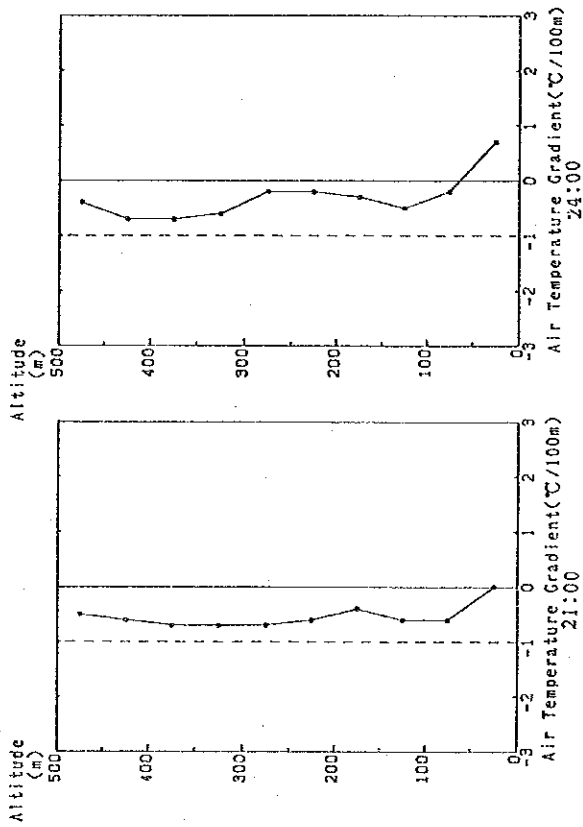
Vertical Profiles of Average Air Temperature Gradient Period; September, 10-19, 1987 (Summer)



Vertical Profiles of Average Air Temperature Gradient  
 Period; September, 10-19, 1987 (Summer)

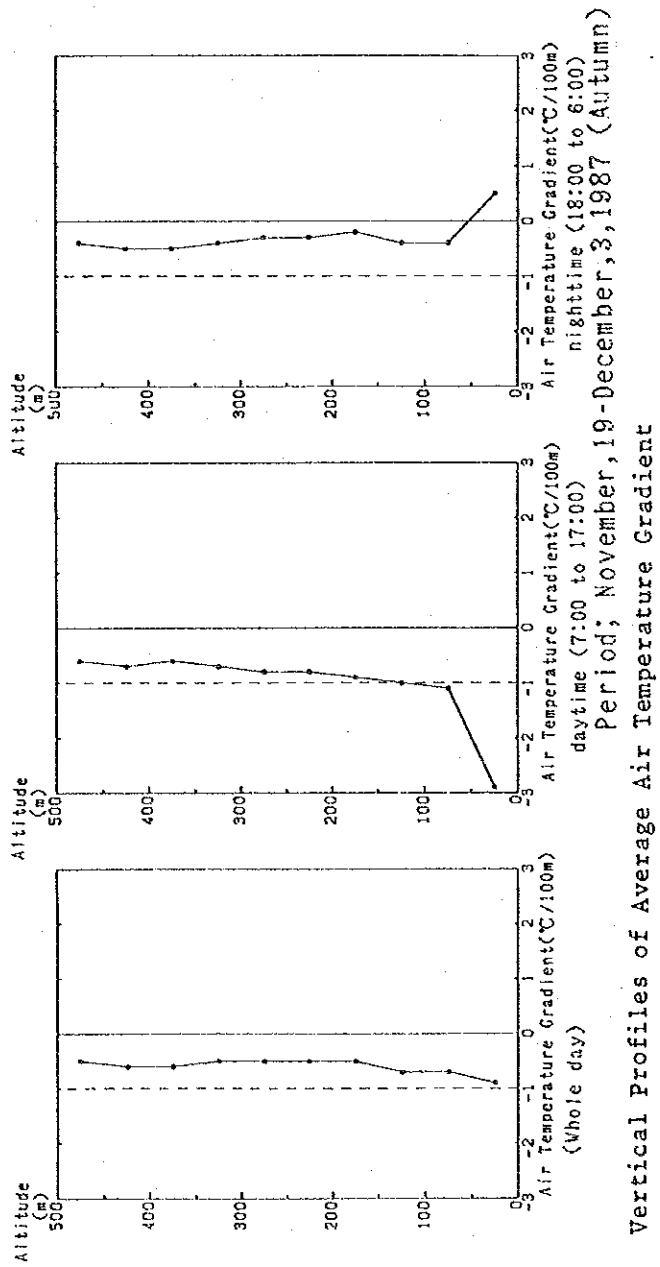


Vertical Profiles of Average Air Temperature Gradient Period; November, 19-December, 3, 1987 (Autumn)

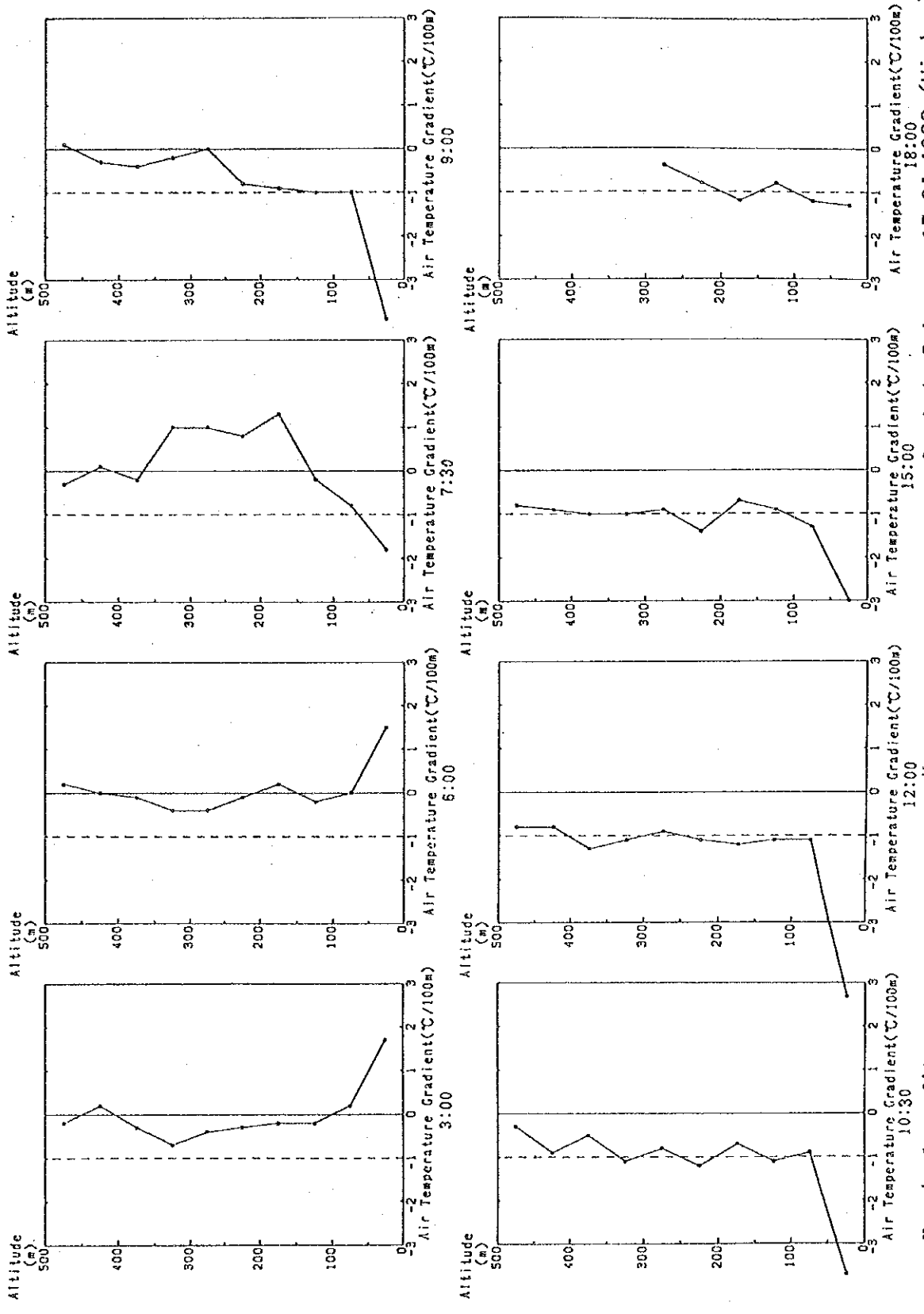


Period; November, 19-December, 3, 1987 (Autumn)

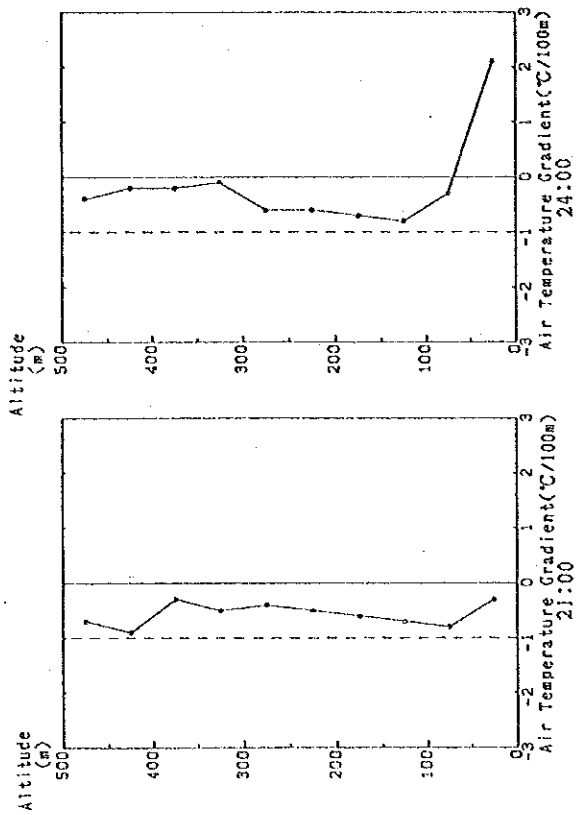
Vertical Profiles of Average Air Temperature Gradient



Vertical Profiles of Average Air Temperature Gradient



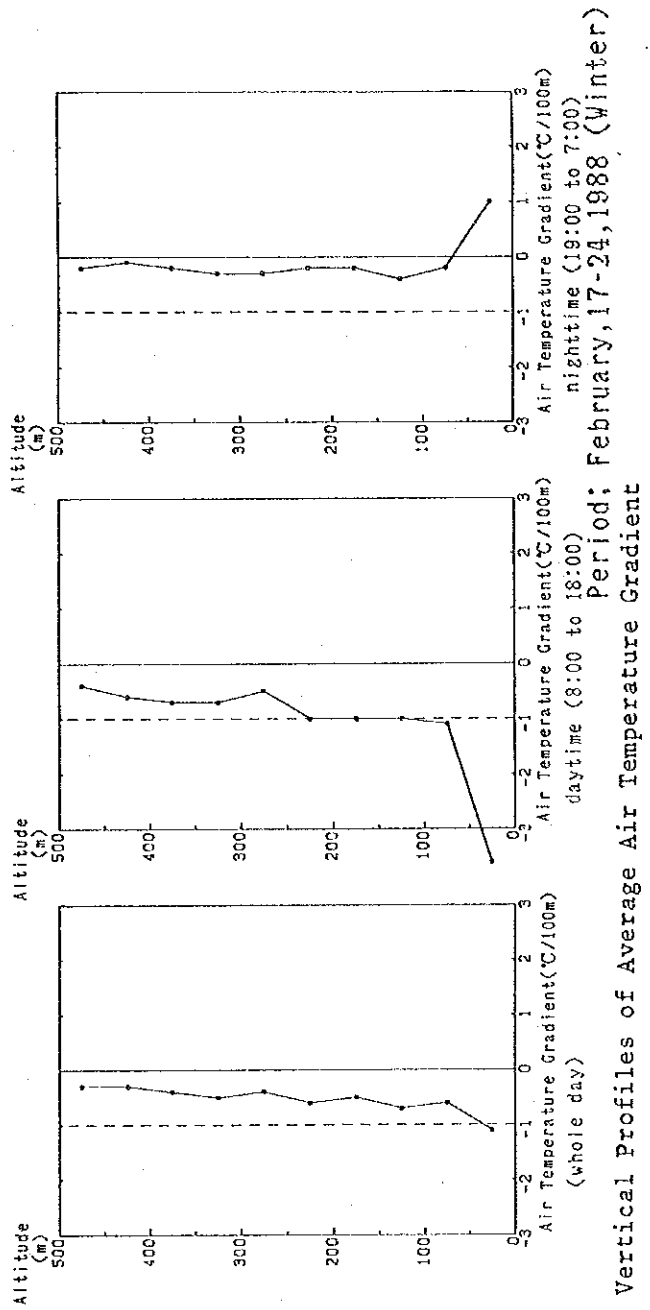
Vertical Profiles of Average Air Temperature Gradient  
 Period: February, 17-24, 1988 (Winter)

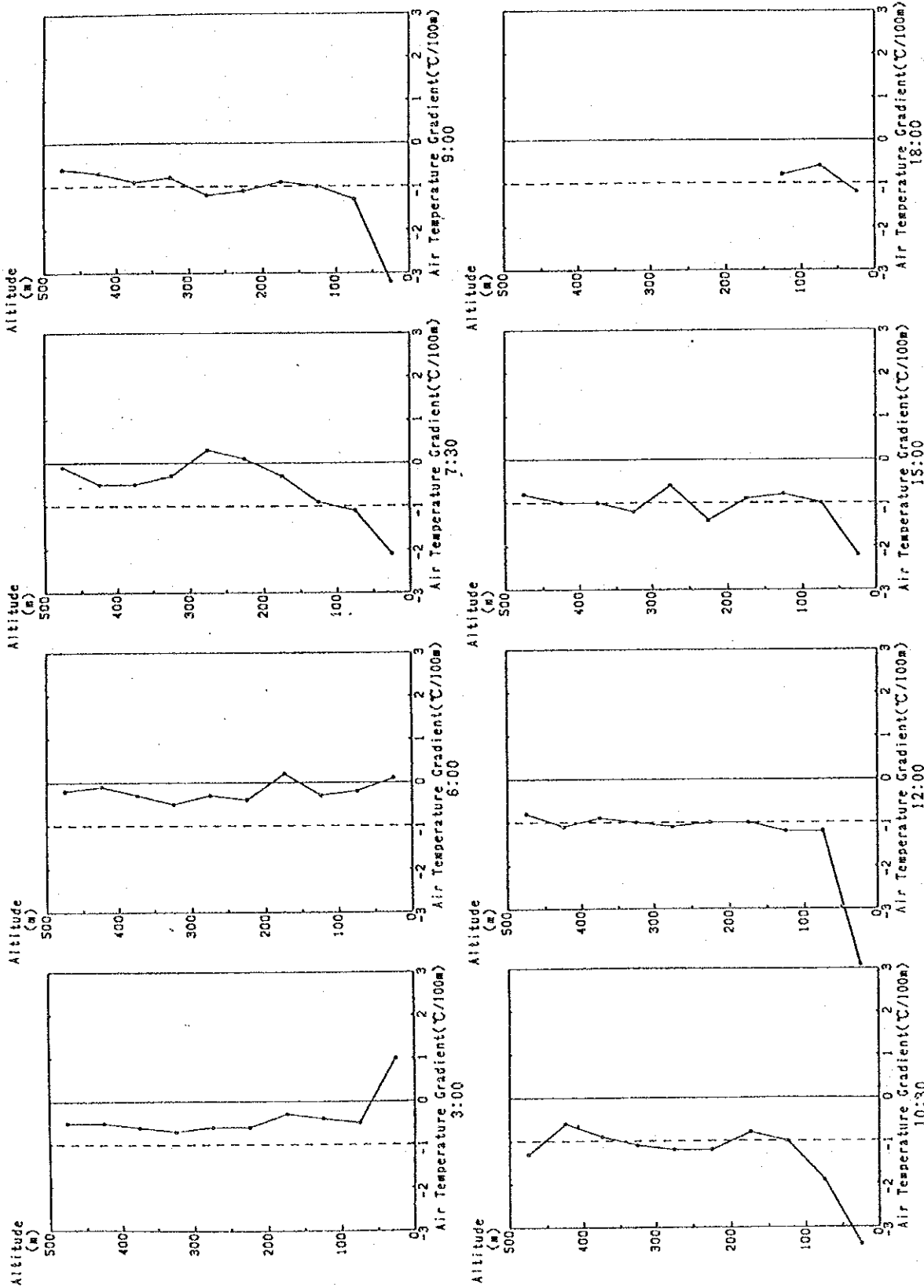


Period; February, 17-24, 1988 (Winter)

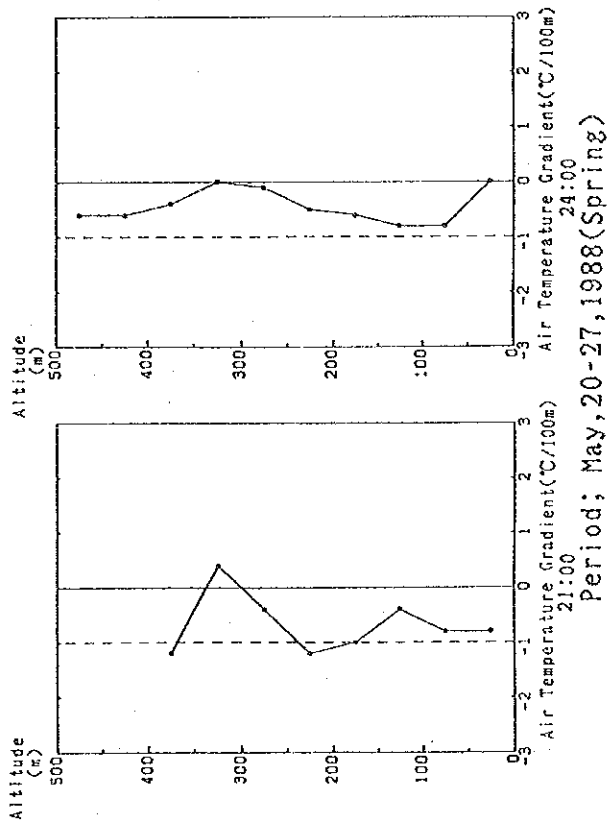
Vertical Profiles of Average Air Temperature Gradient

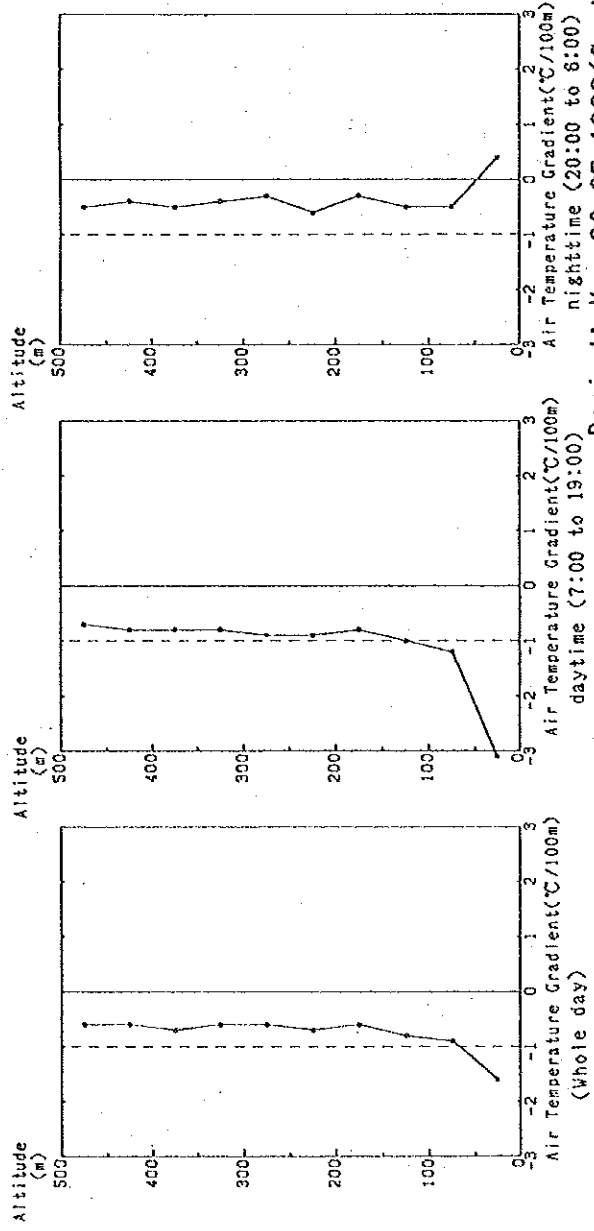




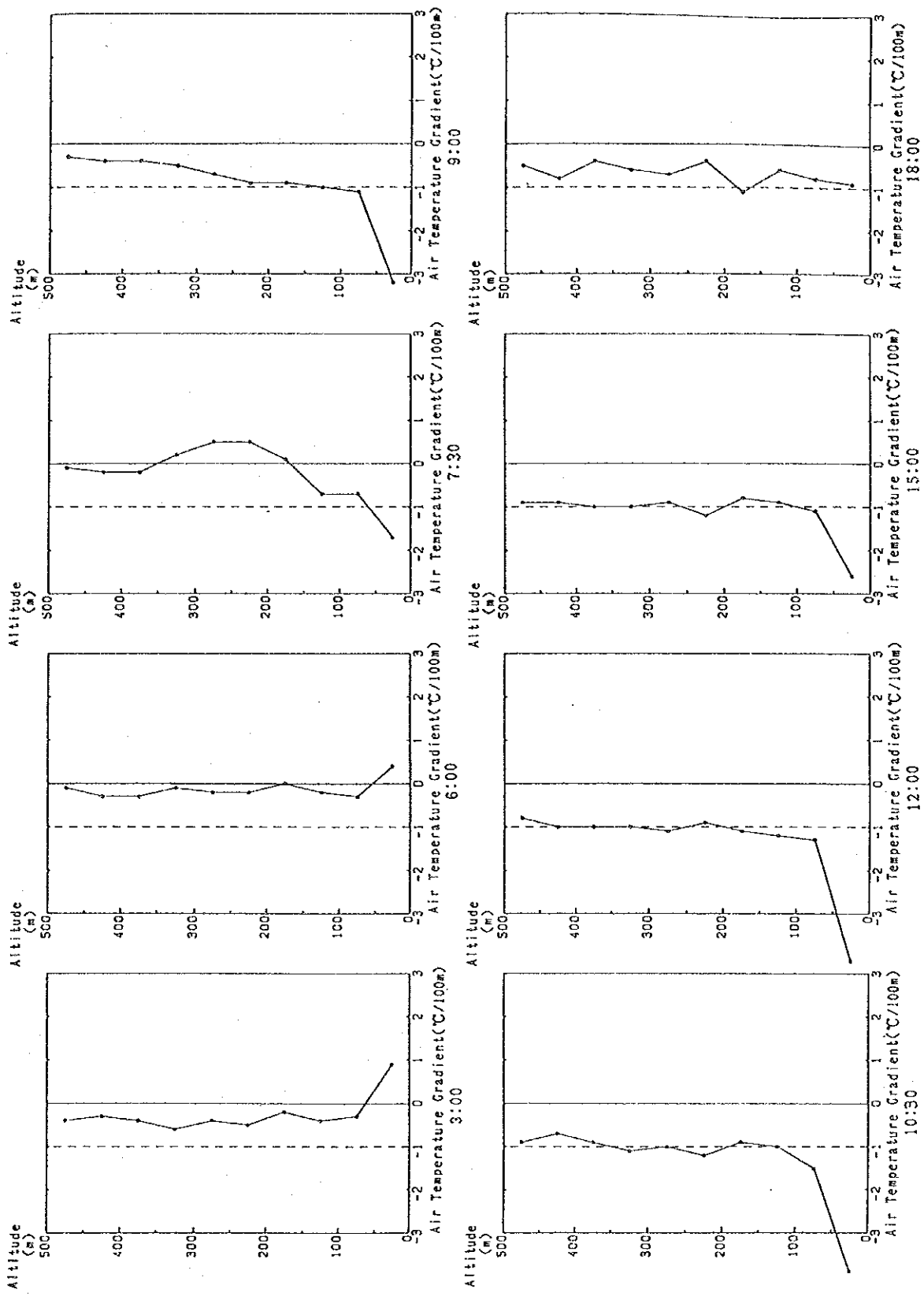


Vertical Profiles of Average Air Temperature Gradient Period; May, 20-27, 1988(Spring)

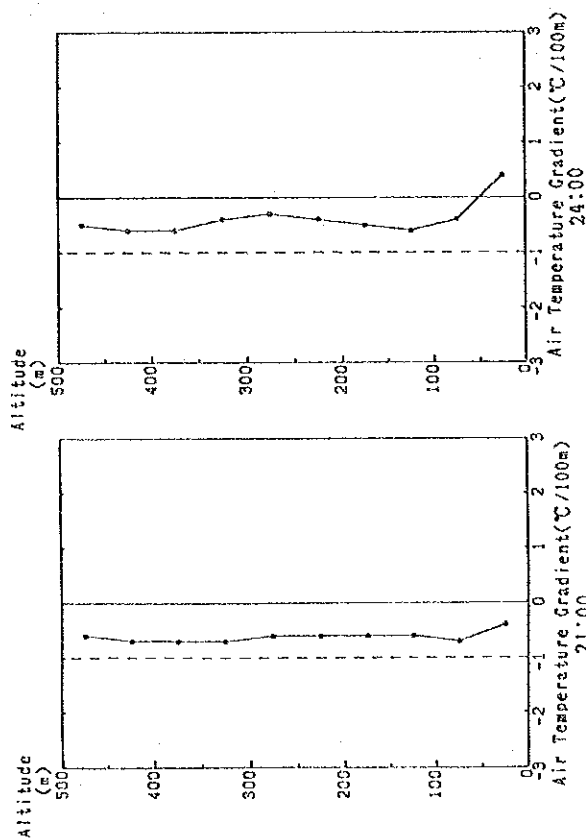




Vertical Profiles of Average Air Temperature Gradient  
Period; May, 20-27, 1988(Spring)

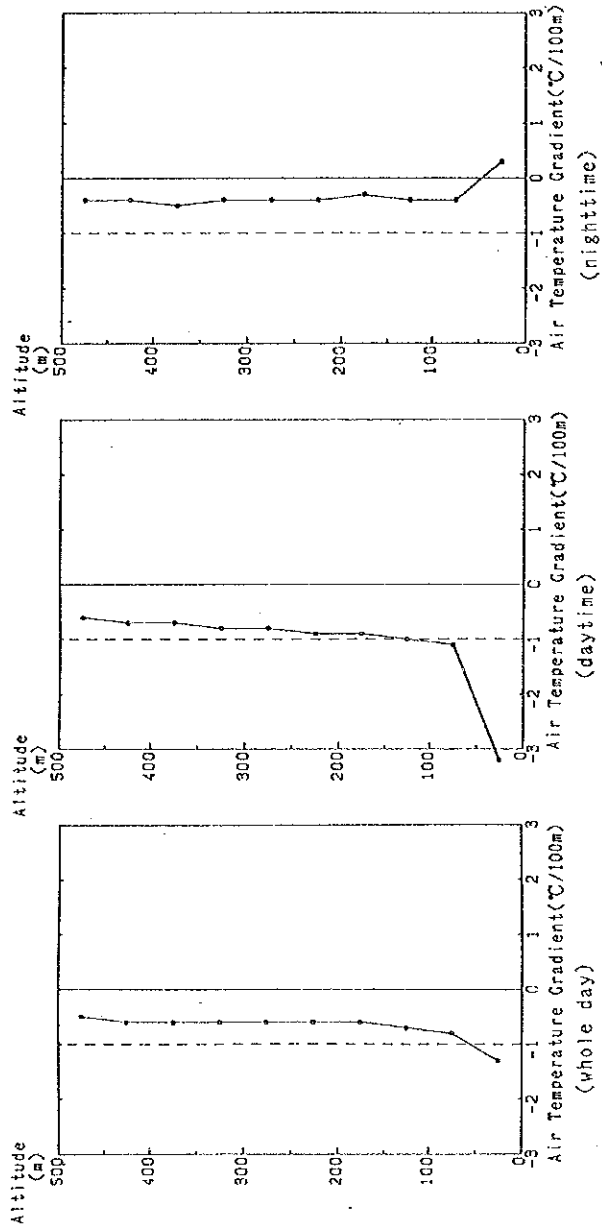


Vertical Profiles of Average Air Temperature Gradient Period; September, 1987-May, 1988 (Annual)



Period; September, 1987-May, 1988 (Annual)

Vertical Profiles of Average Air Temperature Gradient

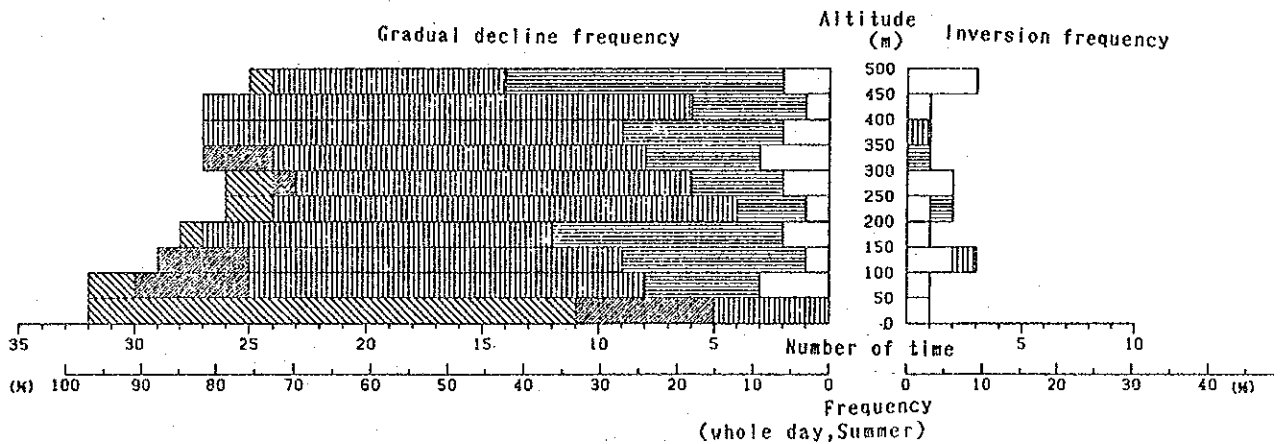
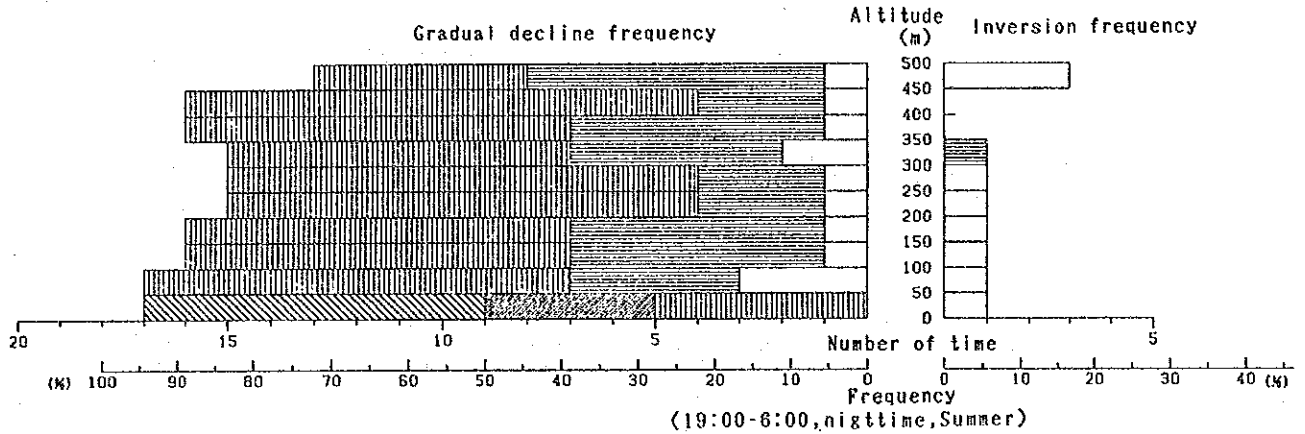
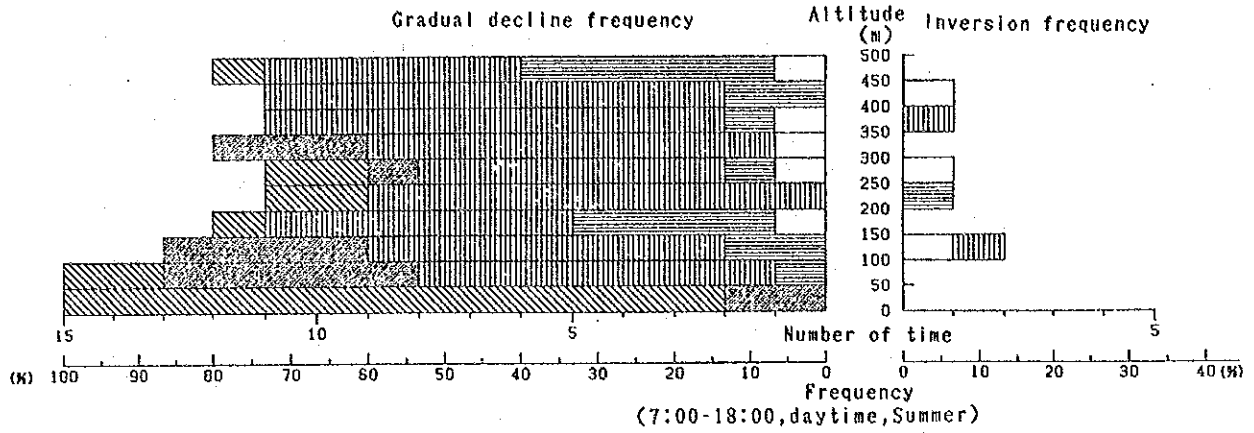


Vertical Profiles of Average Air Temperature Gradient  
Period; September, 1987-May, 1988 (Annual)

### 1.3.7 Frequency in Magnitude of Air Temperature Gradient

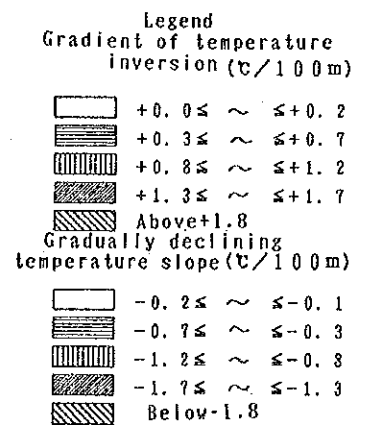
Frequencies in magnitude of air temperature gradient observed by the captive sonde are shown in the following Figures.

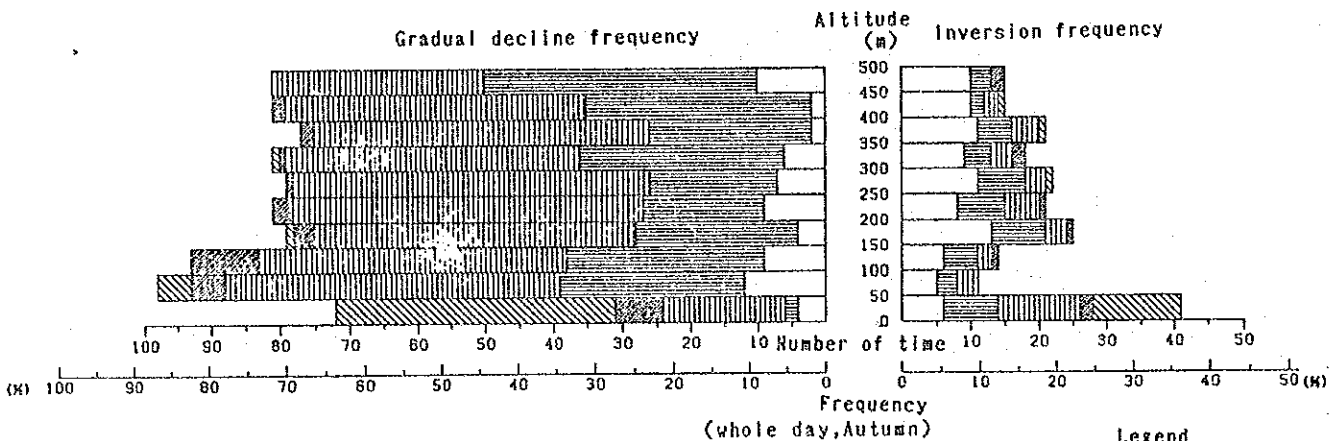
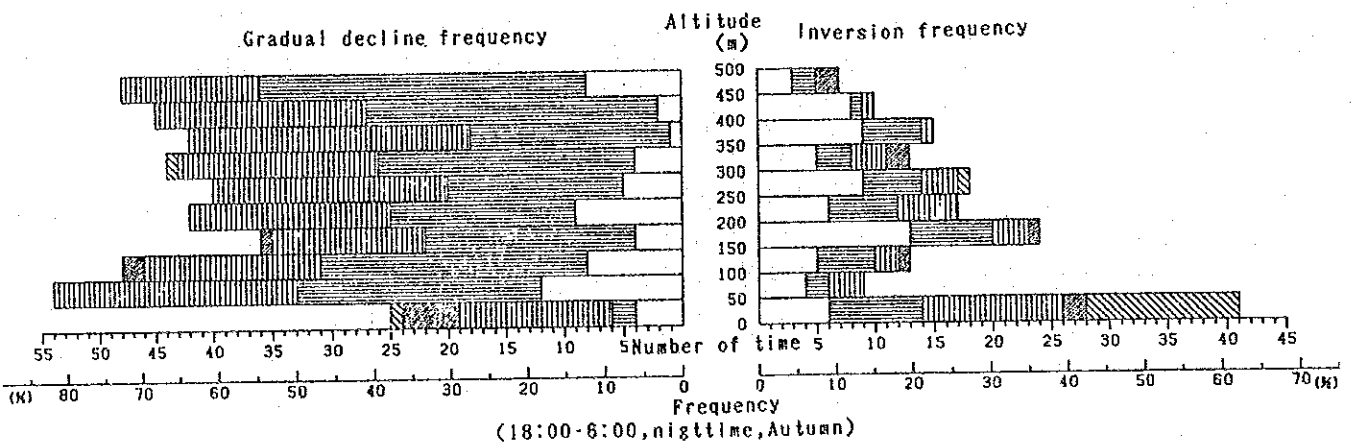
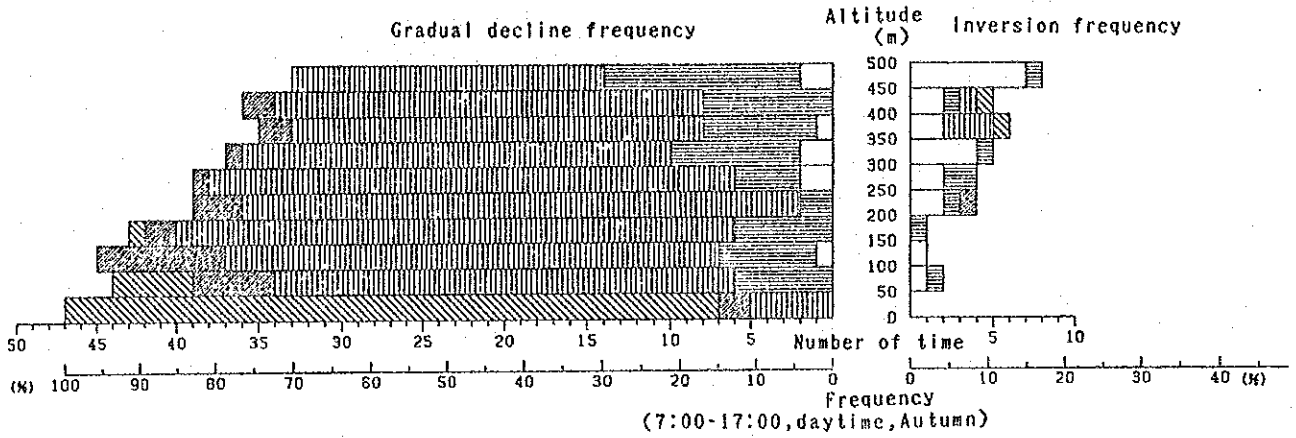




Period; September, 10-19, 1987 (Summer)

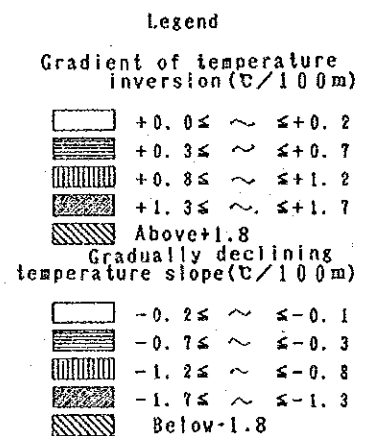
Frequency in Magnitude of Air Temperature Gradient

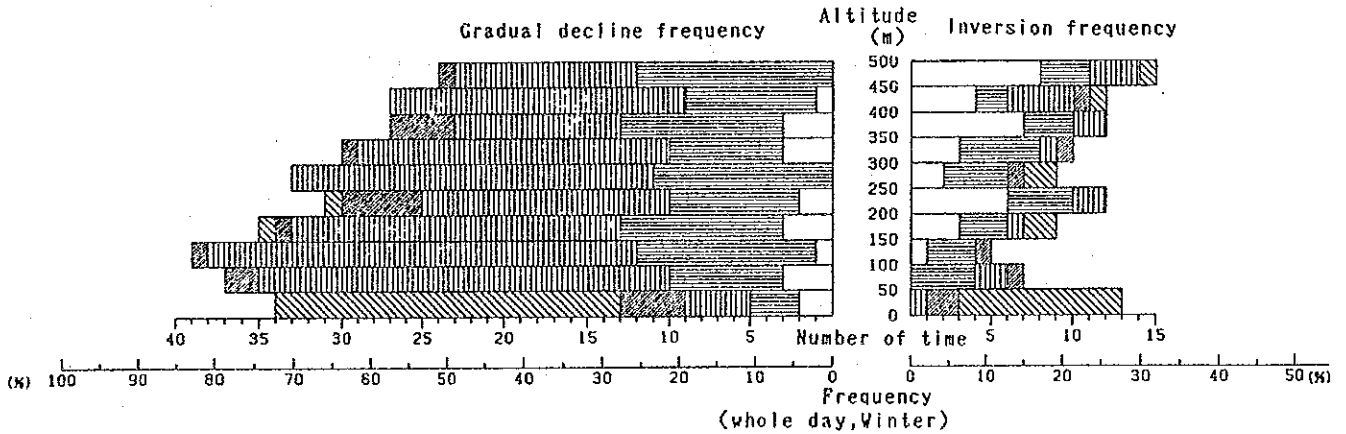
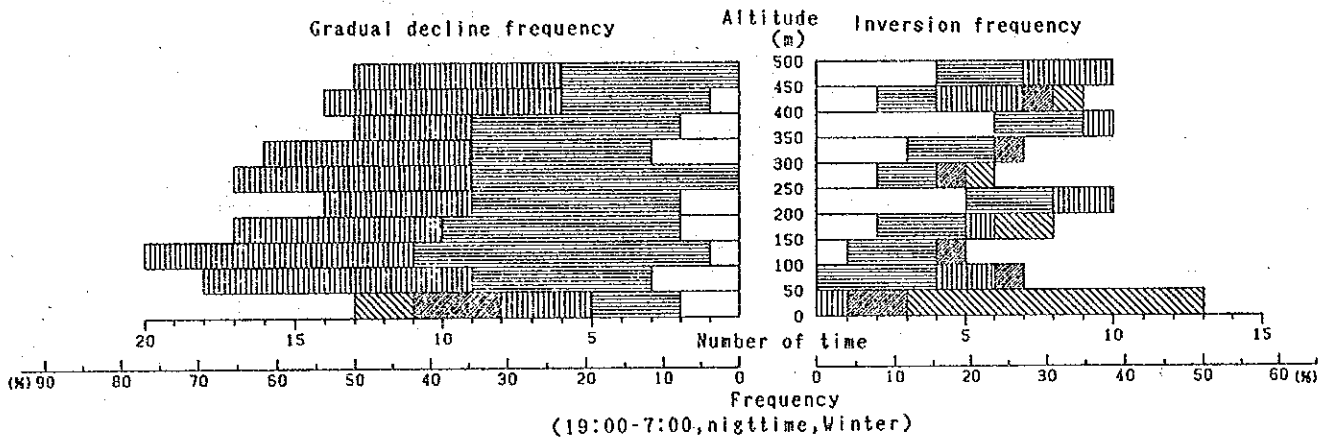
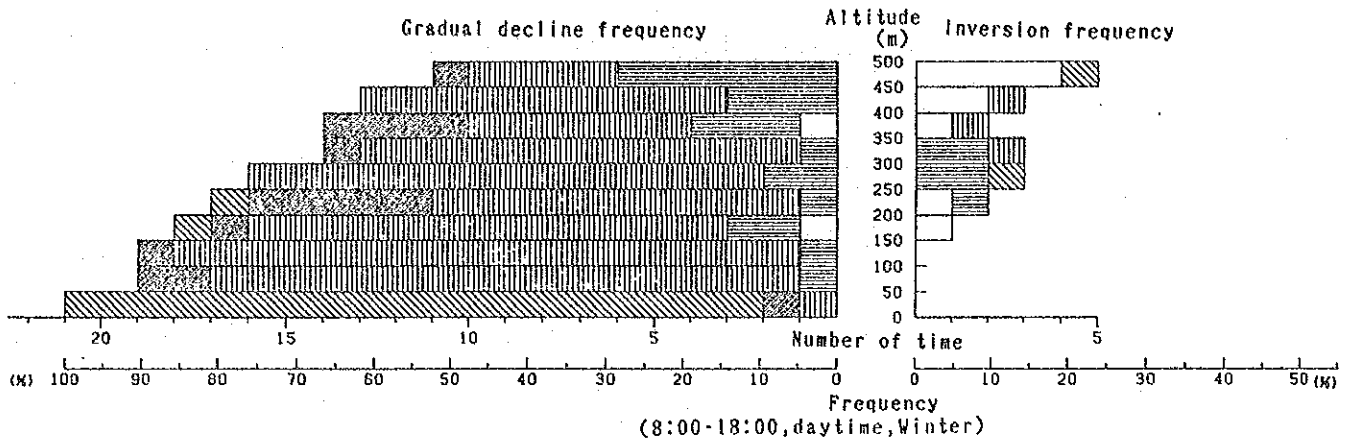




Period; November, 19-December, 3, 1987 (Autumn)

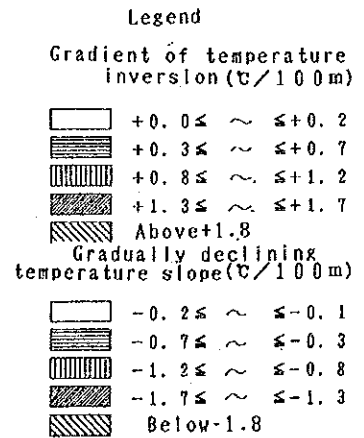
Frequency in Magnitude of Air Temperature Gradient

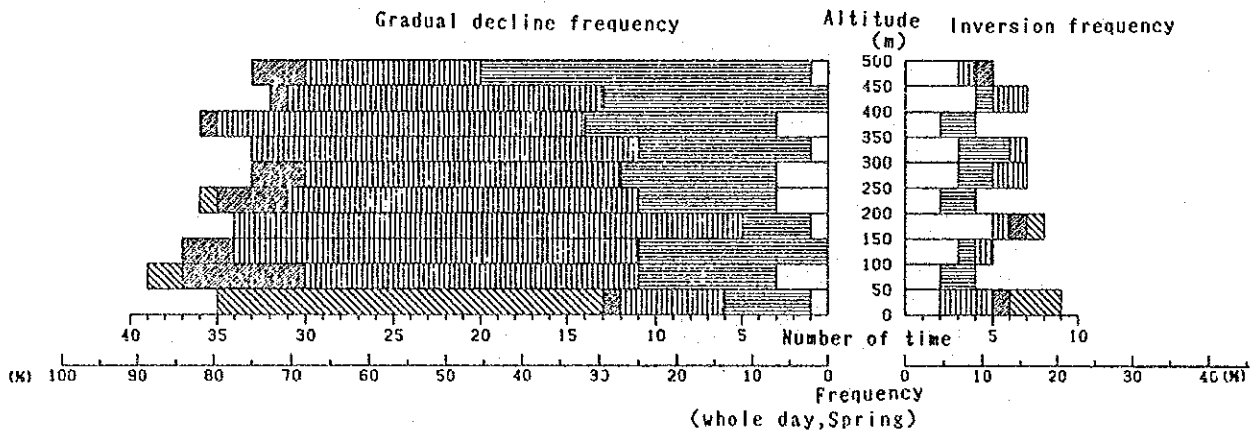
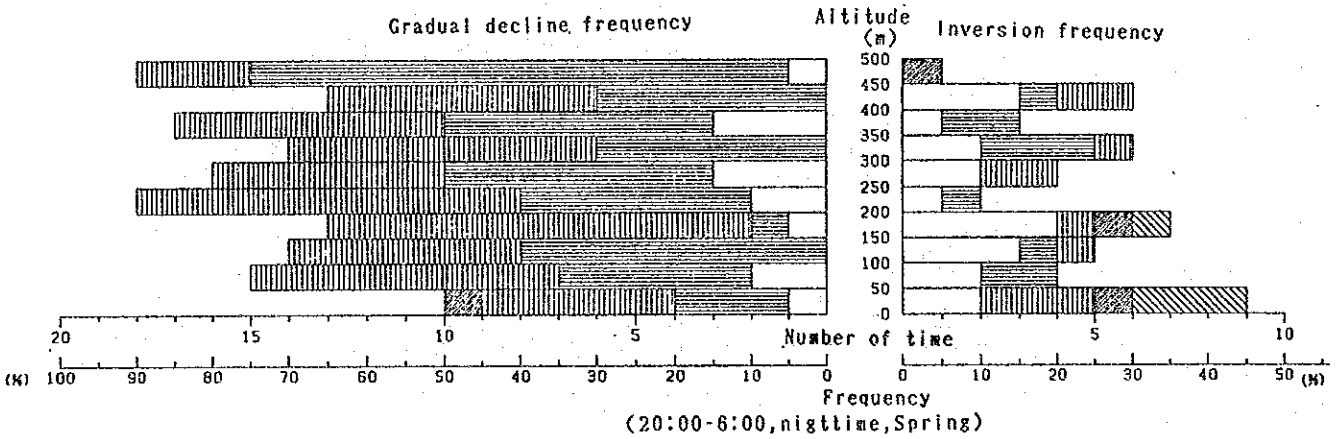
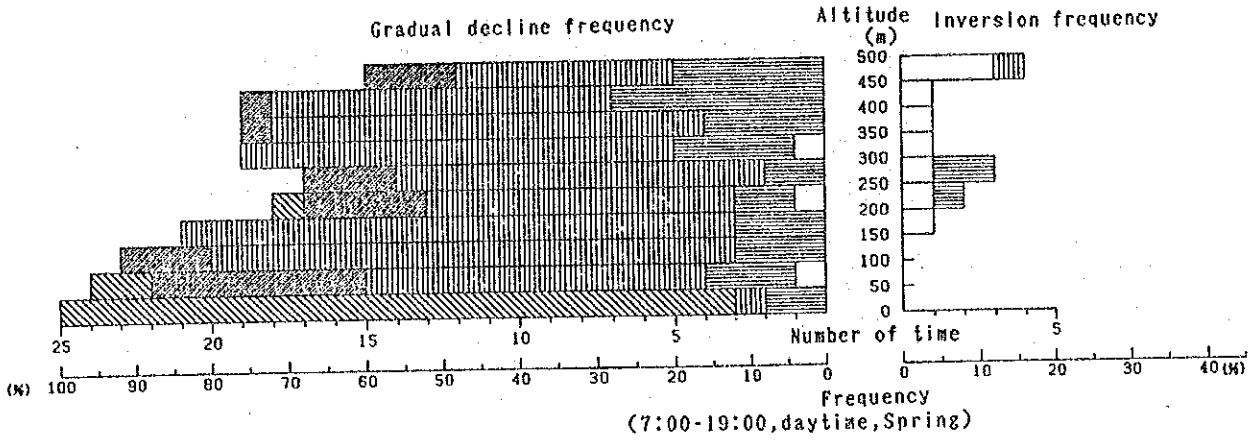




Period; February, 17-24, 1988 (Winter)

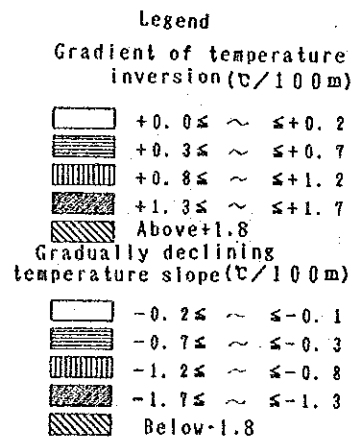
Frequency in Magnitude of Air Temperature Gradient





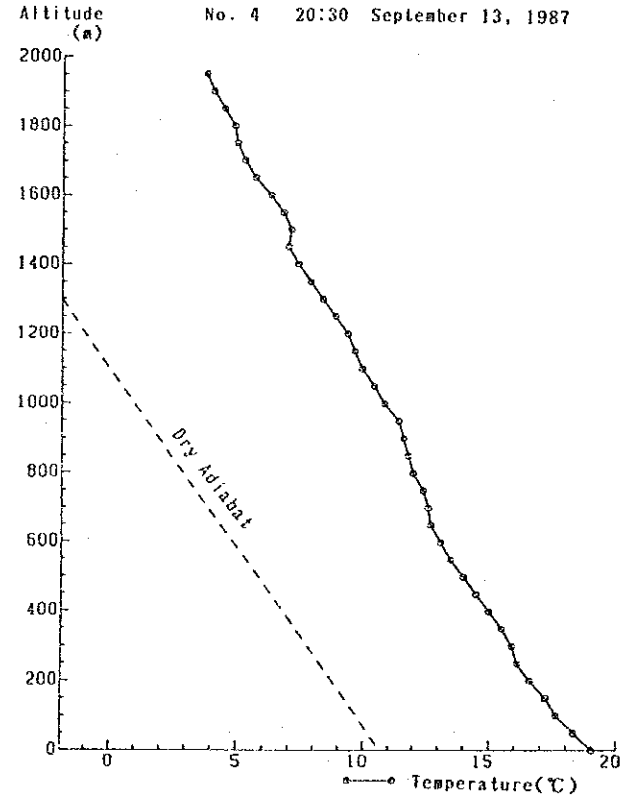
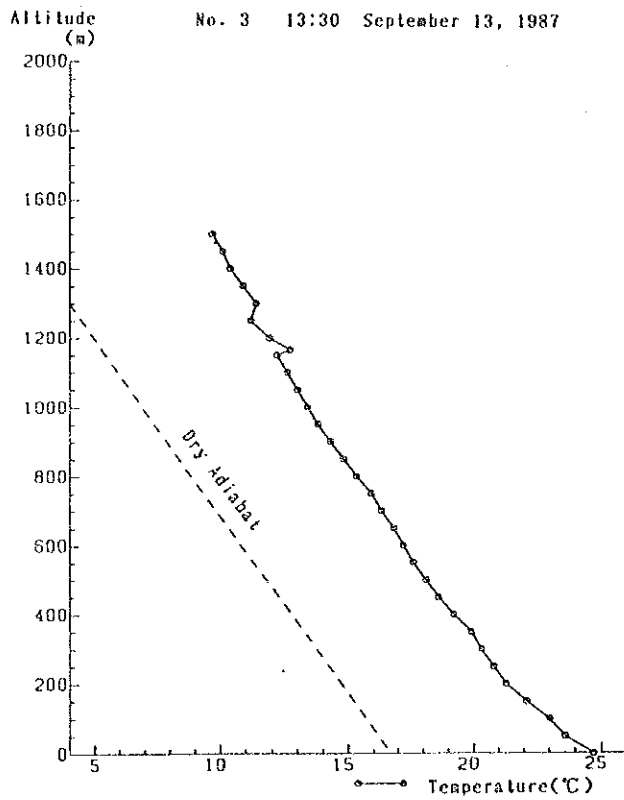
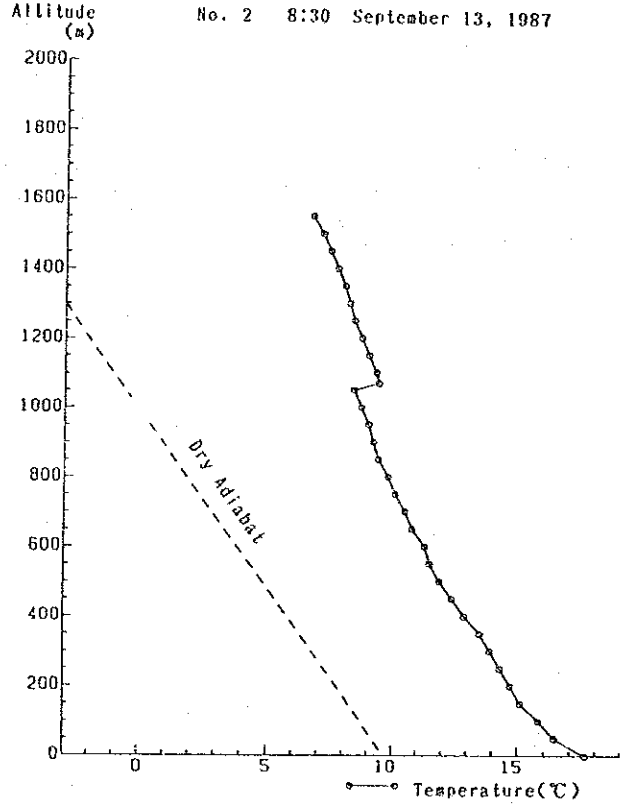
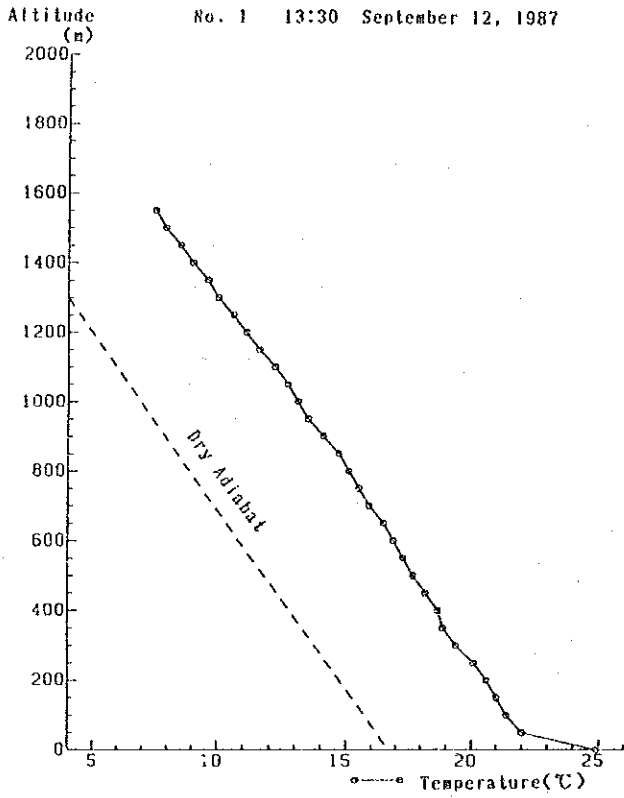
Period; May, 20-27, 1988(Spring)

Frequency in Magnitude of Air Temperature Gradient

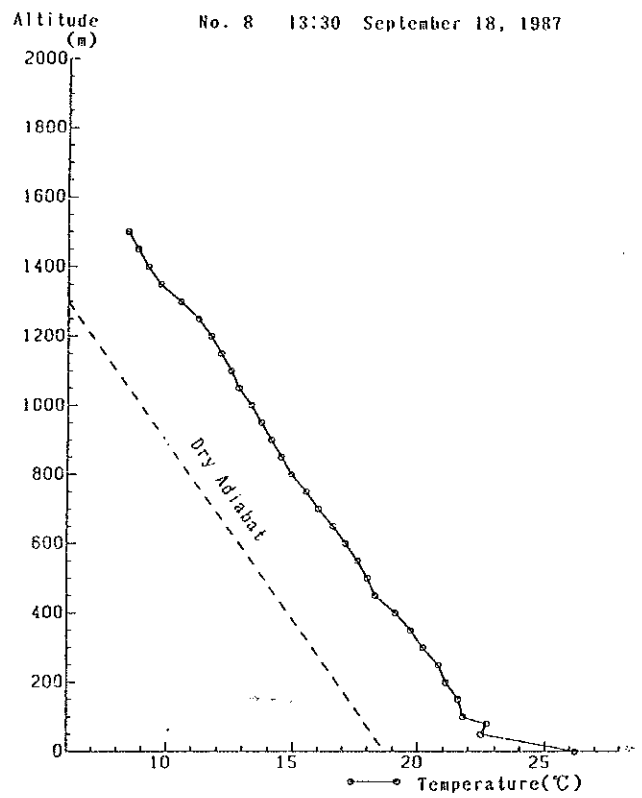
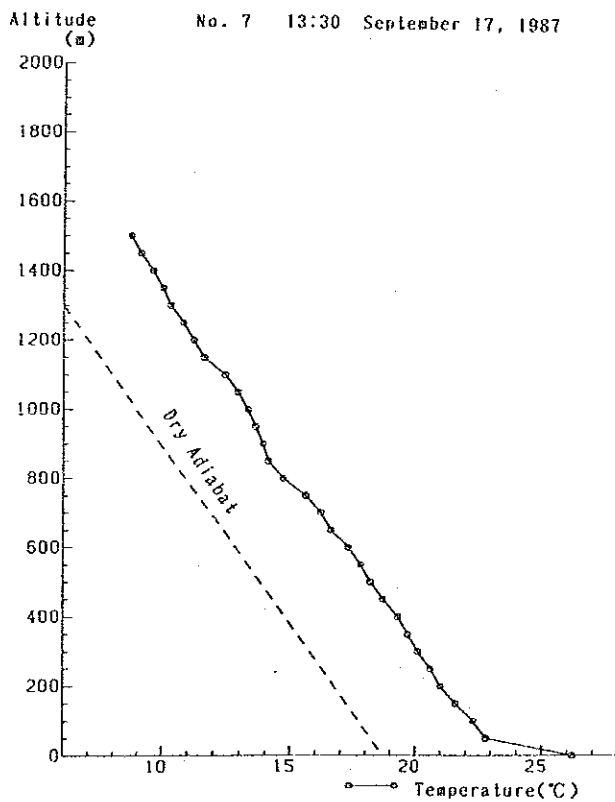
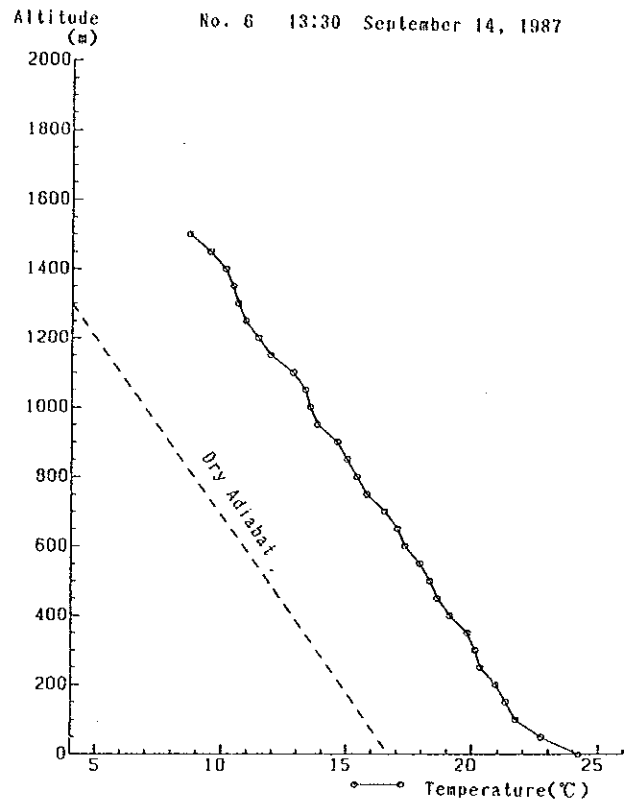
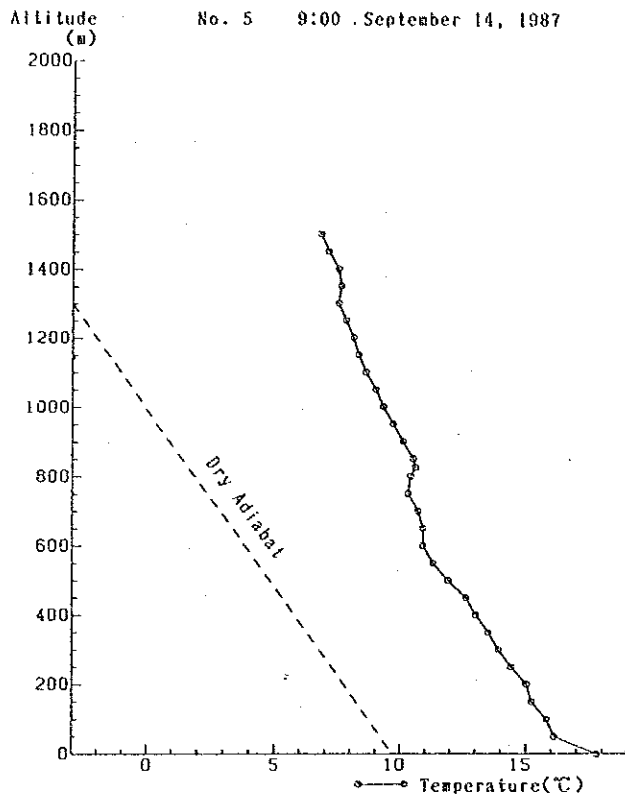


### 1.3.8 Vertical Profiles of Air Temperature in Upper Atmosphere

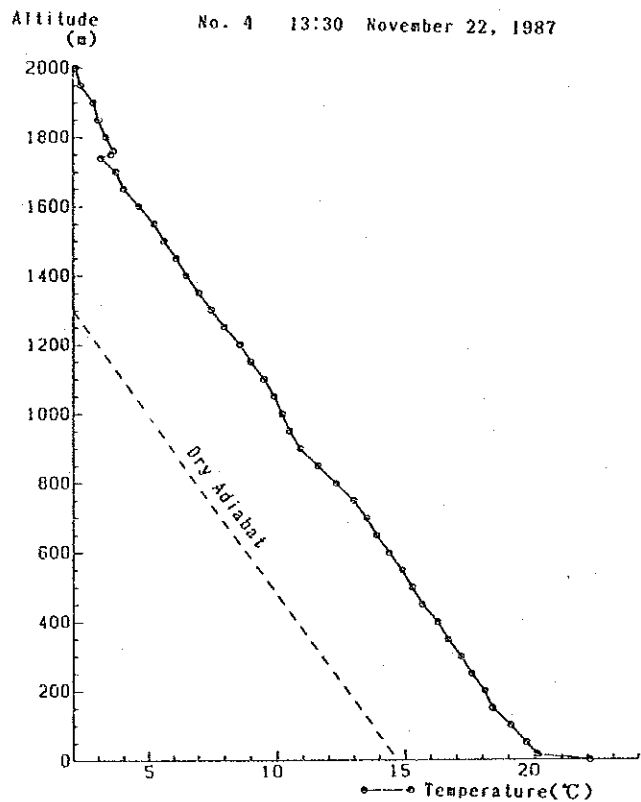
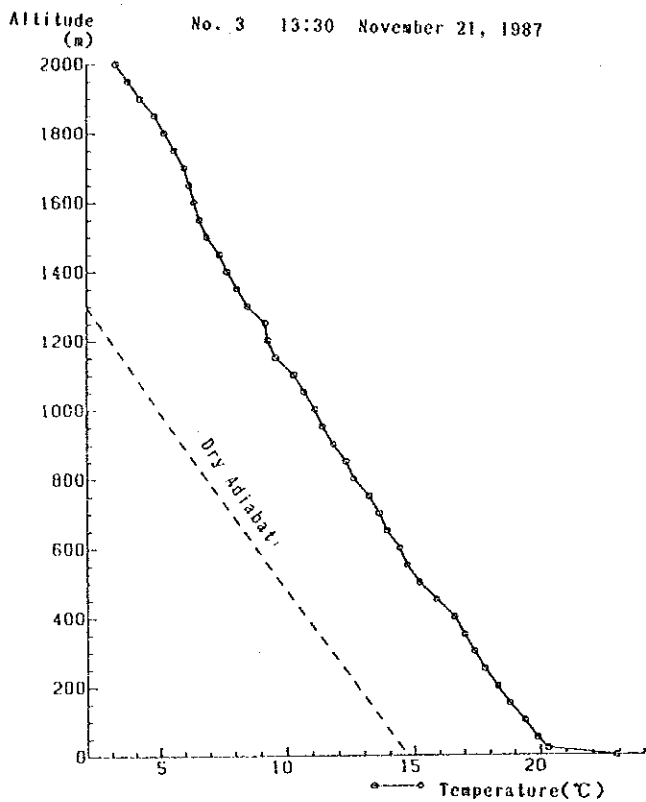
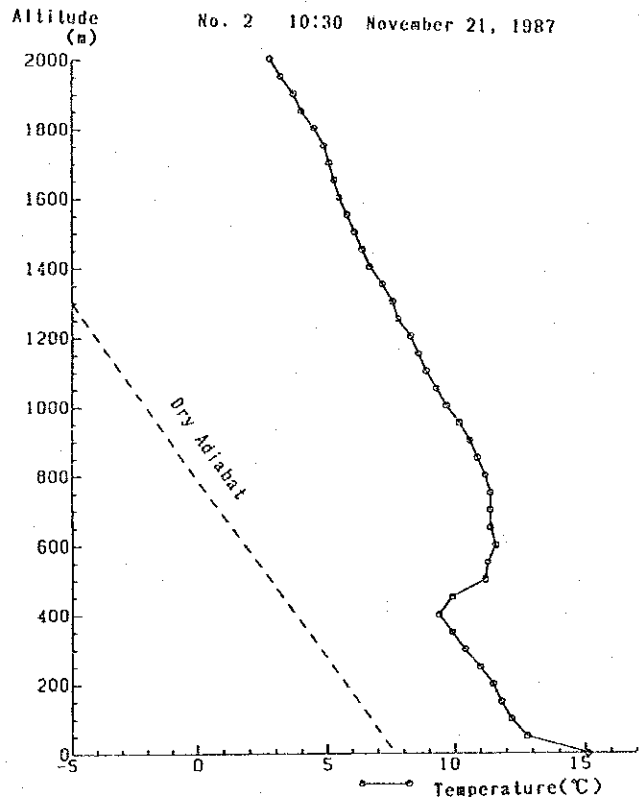
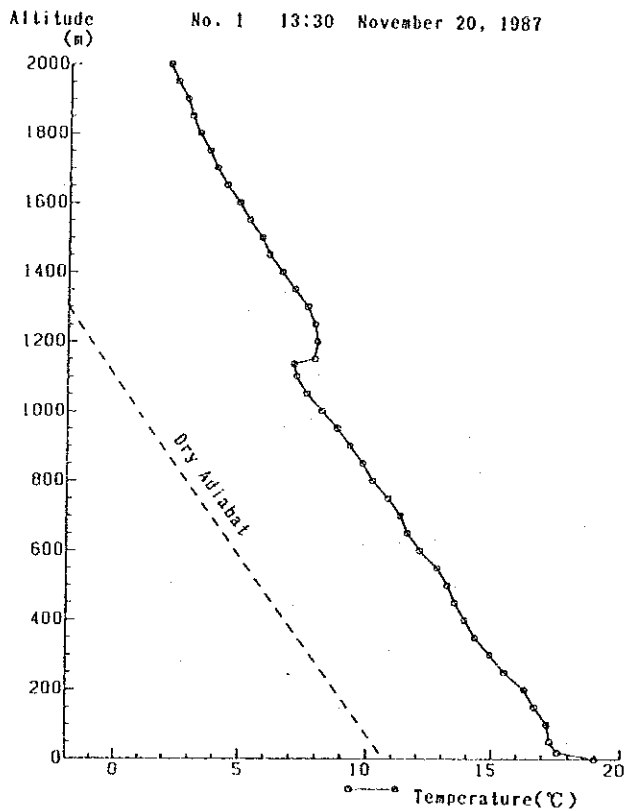
Vertical profiles of air temperature in upper atmosphere observed by the low-level sondes are shown in the following Figures.



Vertical Profiles of Air Temperature in Upper Atmosphere

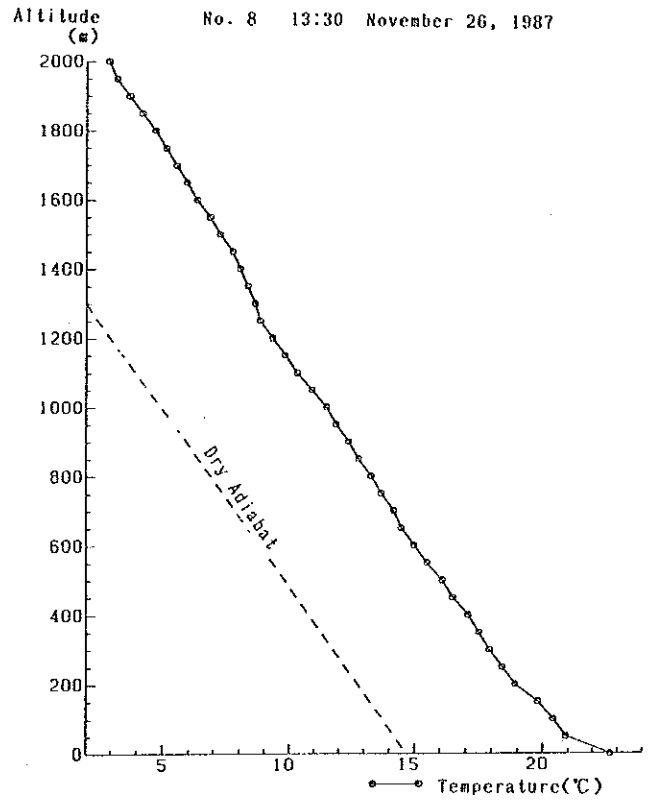
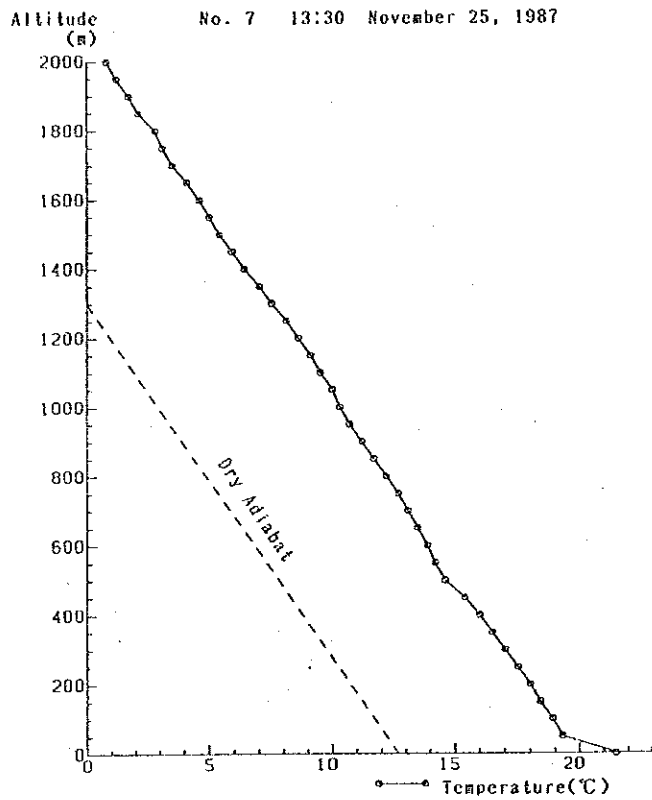
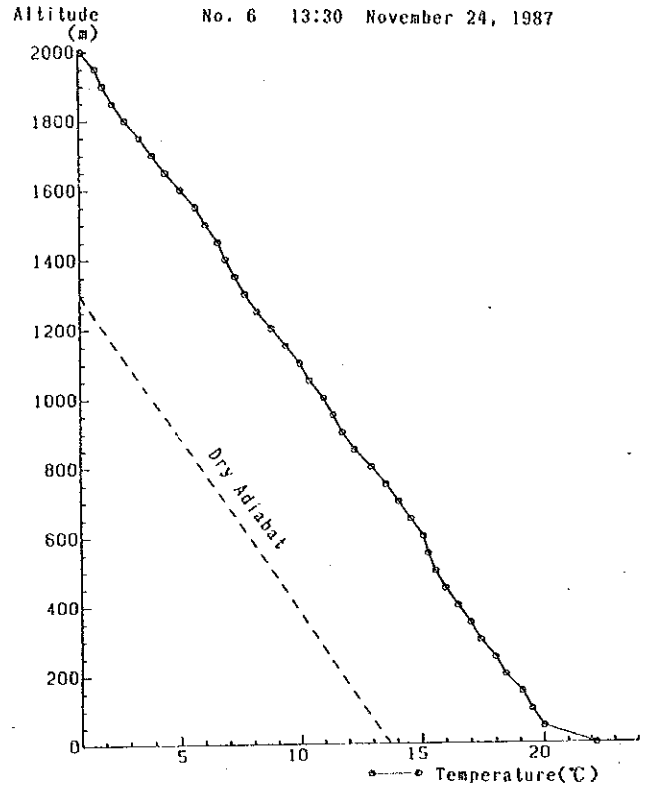
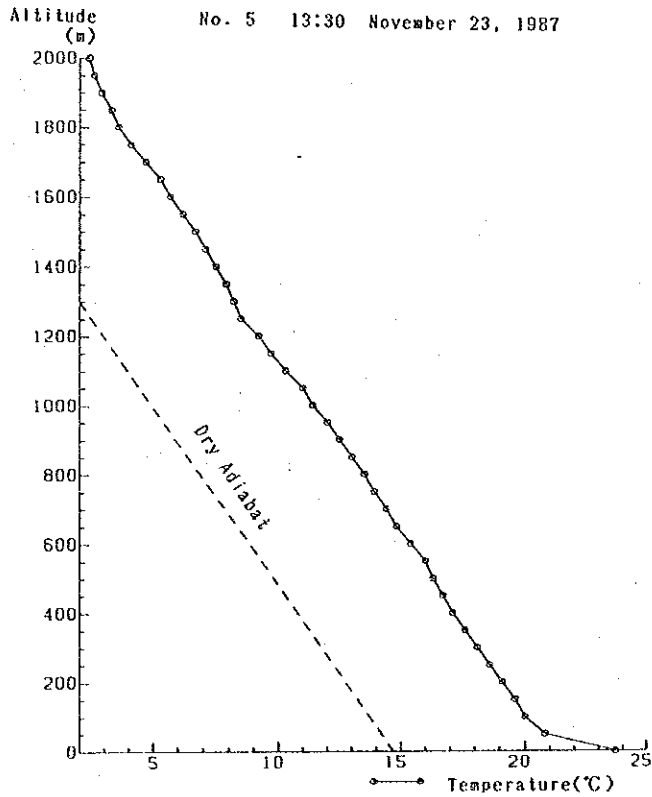


Vertical Profiles of Air Temperature in Upper Atmosphere

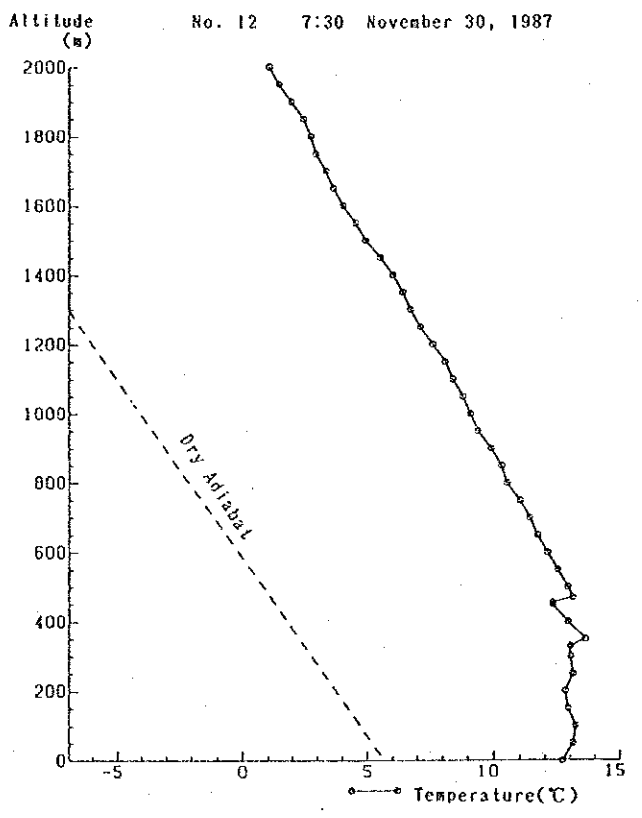
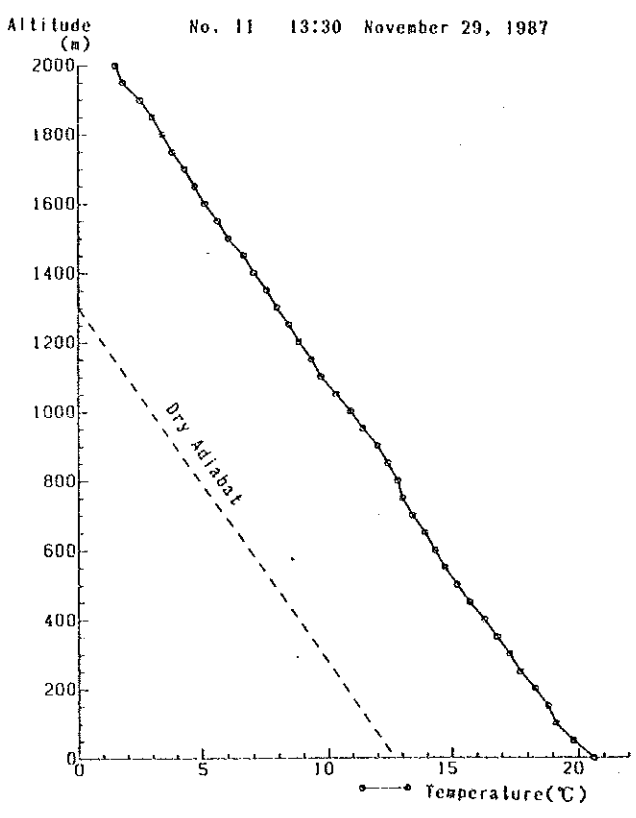
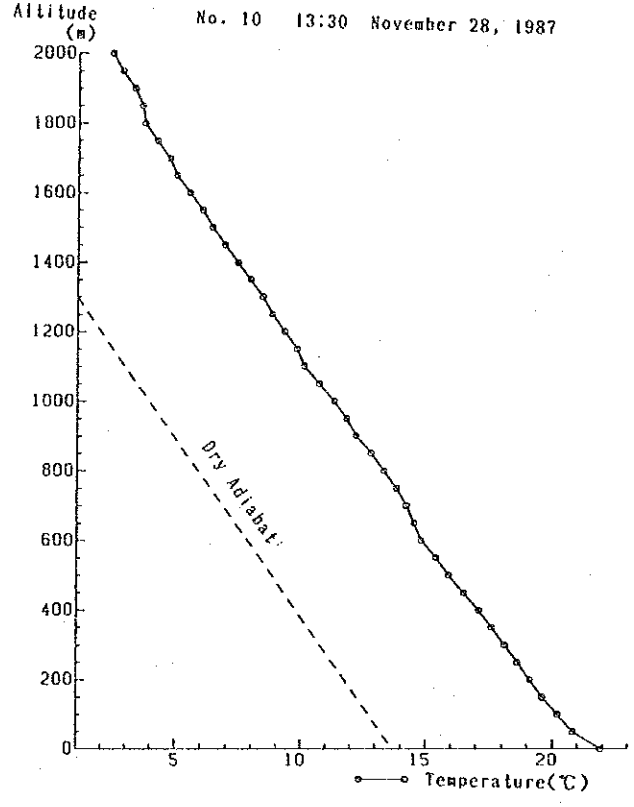
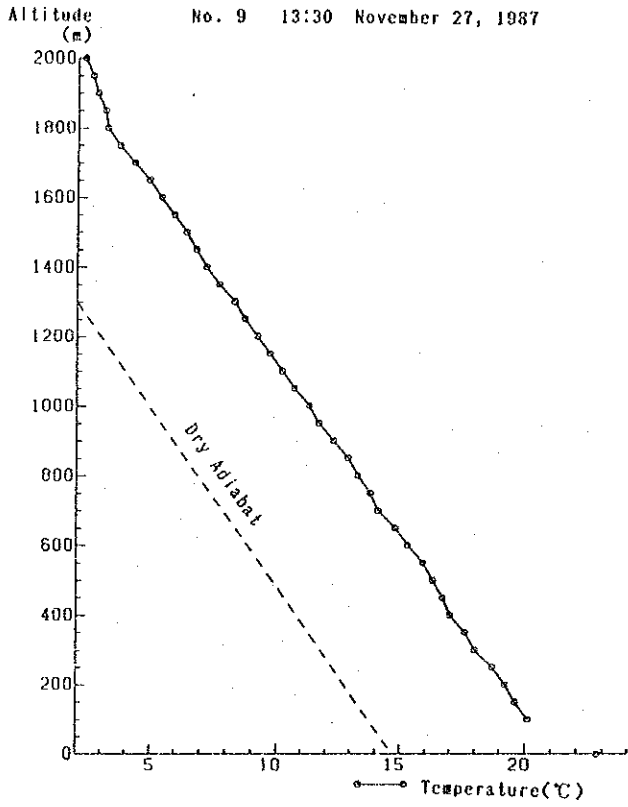


Vertical Profiles of Air Temperature in Upper Atmosphere

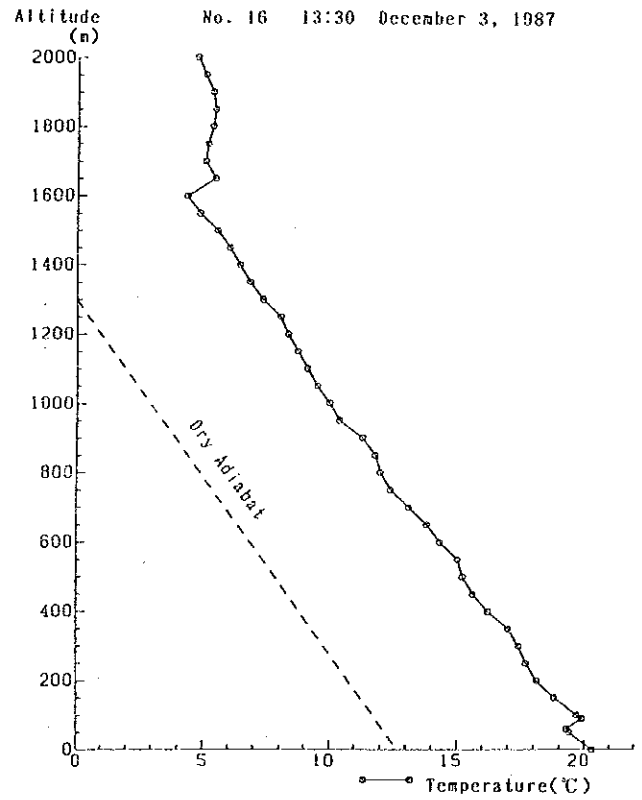
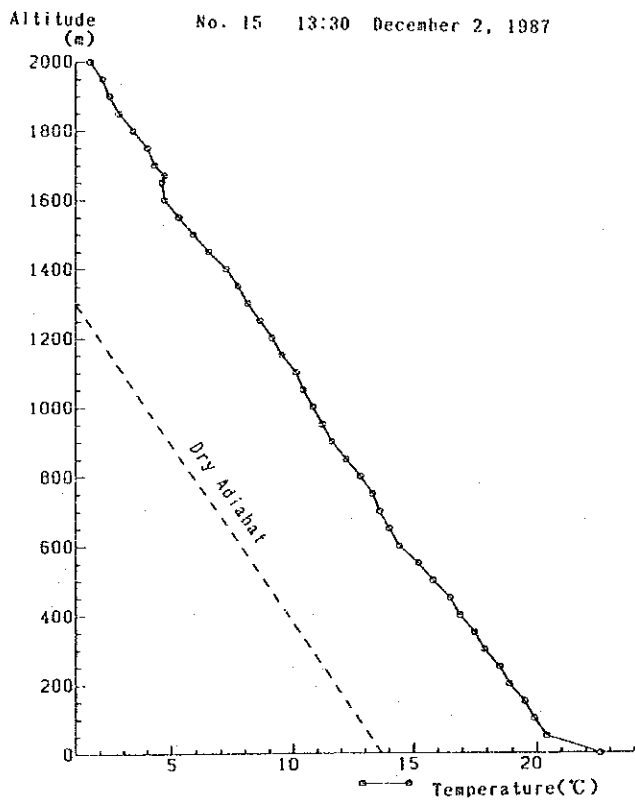
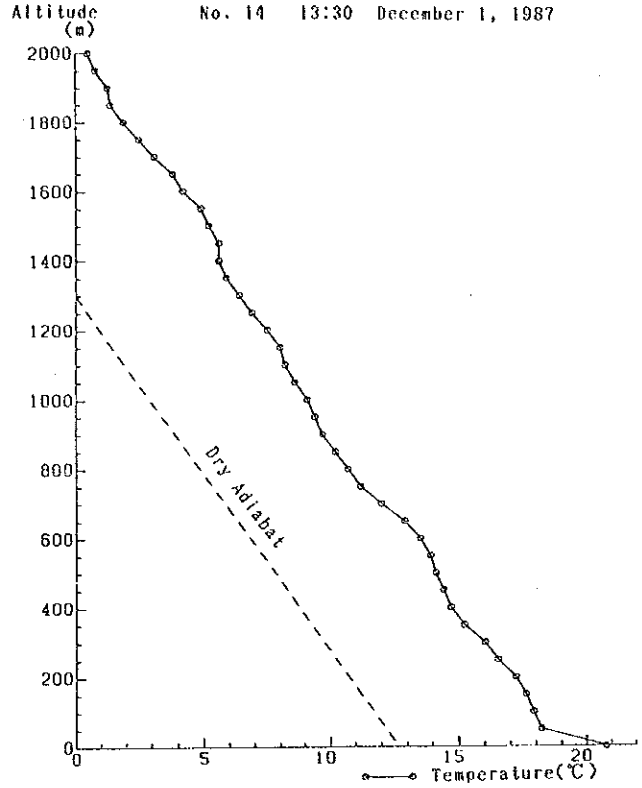
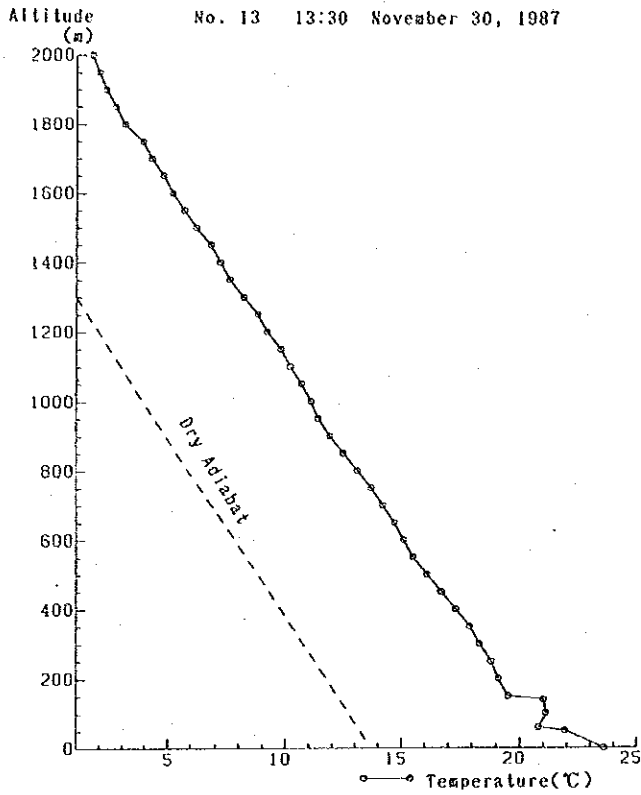




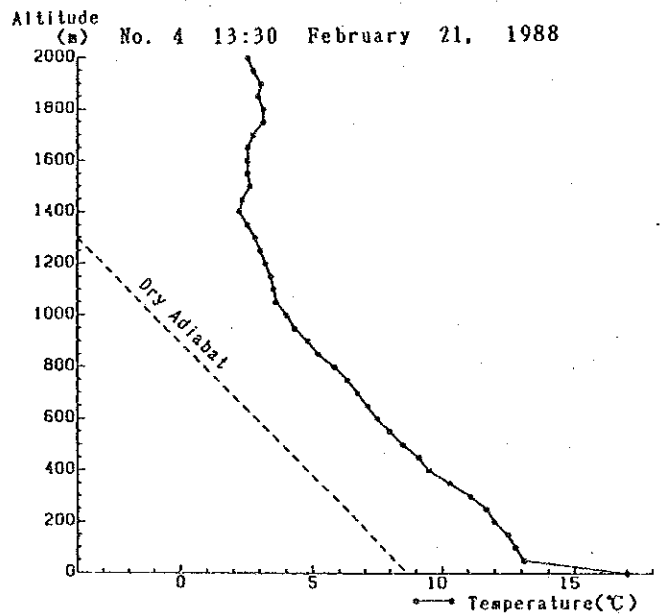
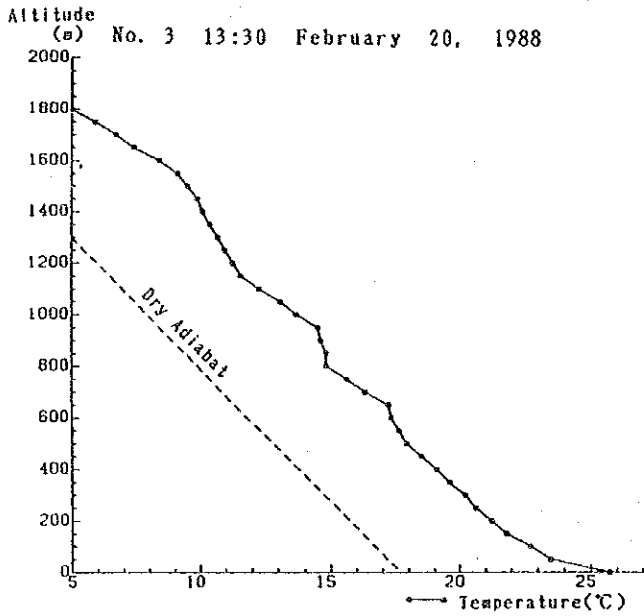
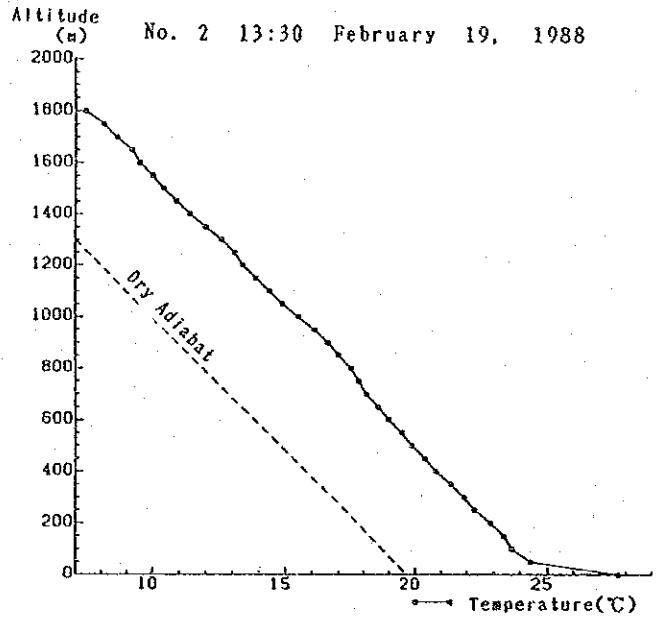
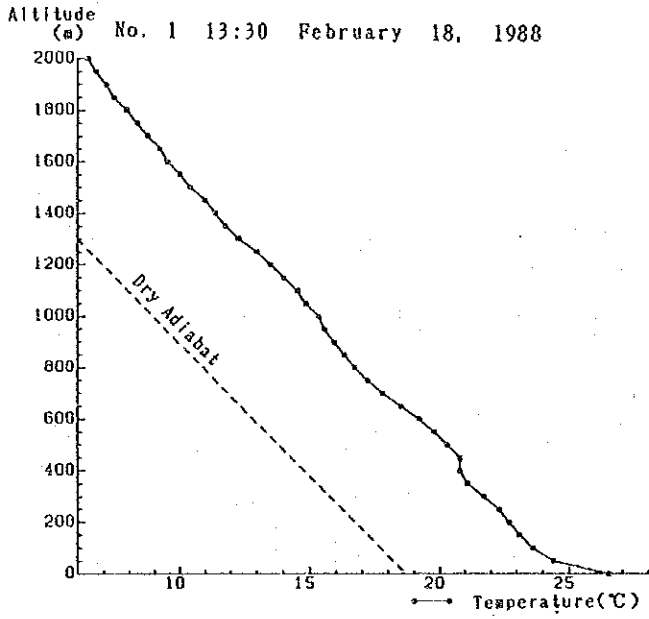
Vertical Profiles of Air Temperature in Upper Atmosphere



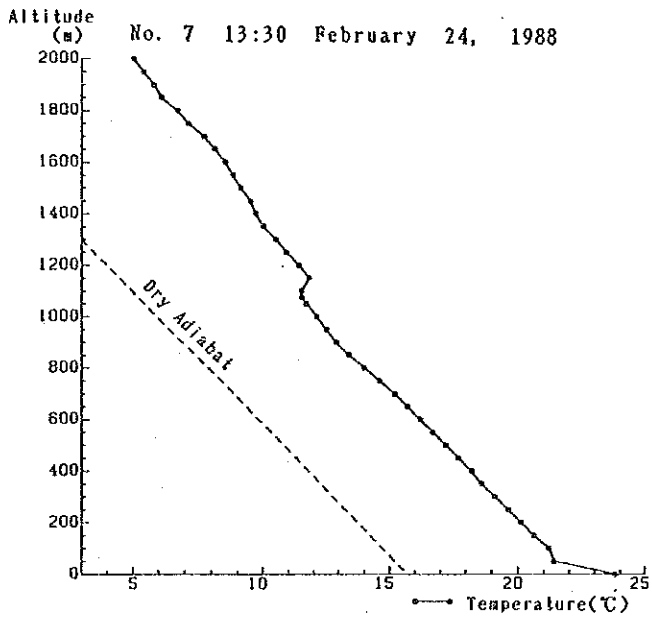
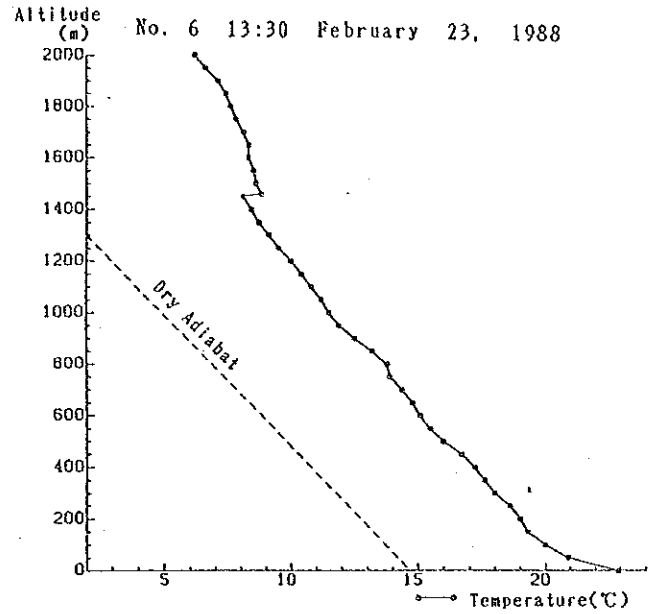
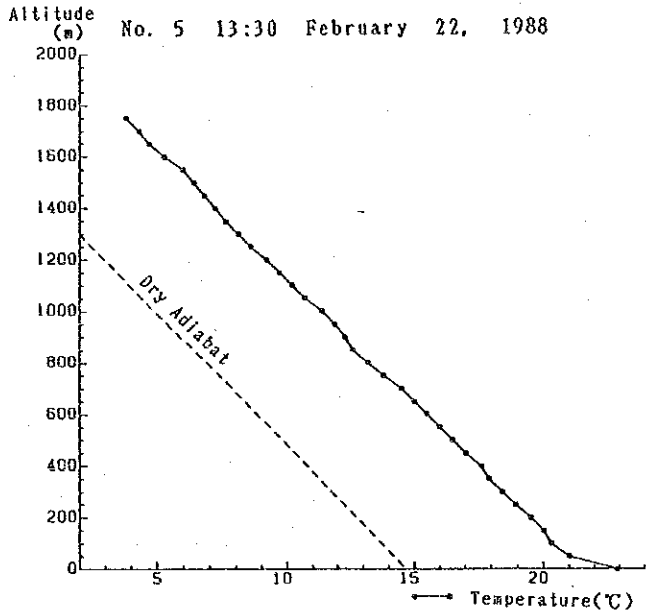
Vertical Profiles of Air Temperature in Upper Atmosphere



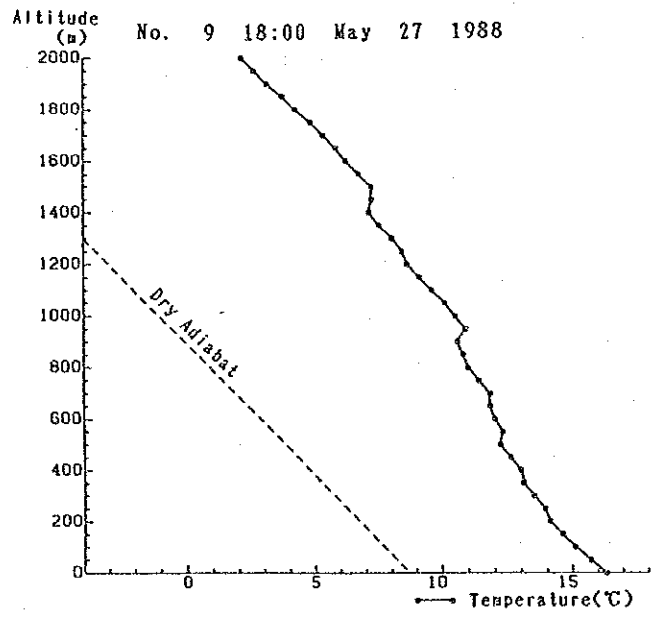
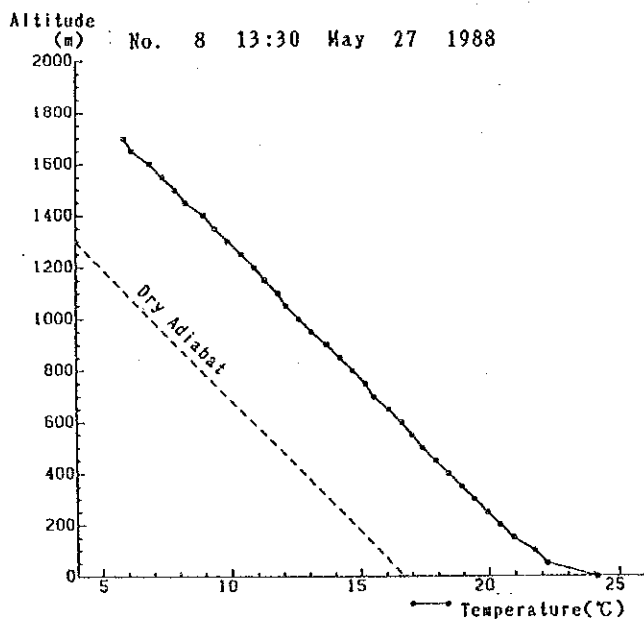
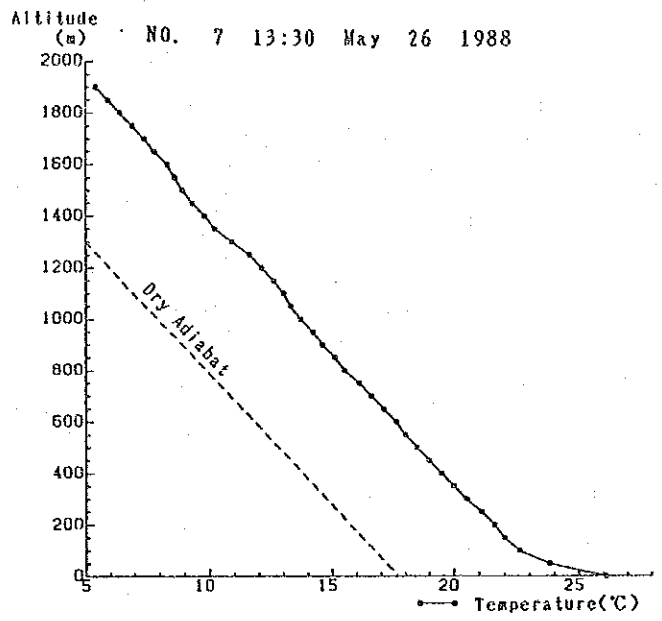
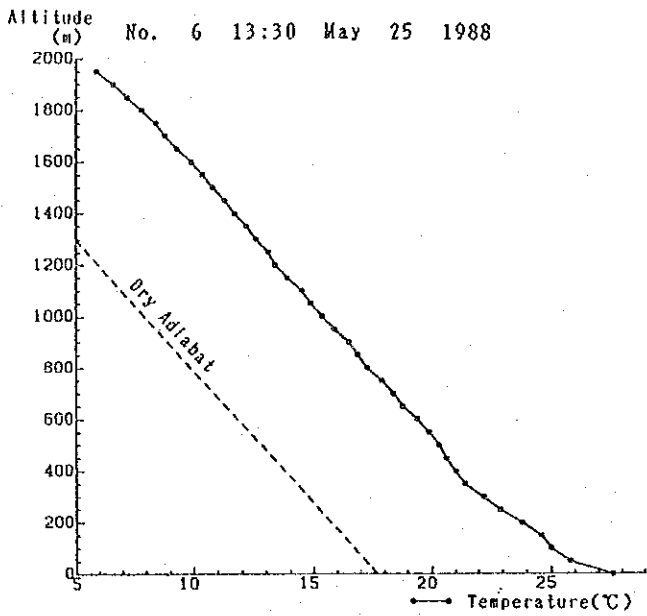
Vertical Profiles of Air Temperature in Upper Atmosphere



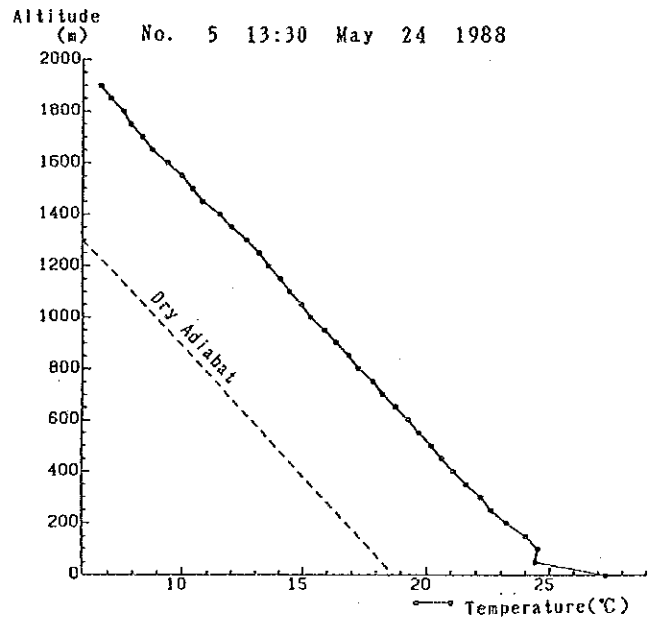
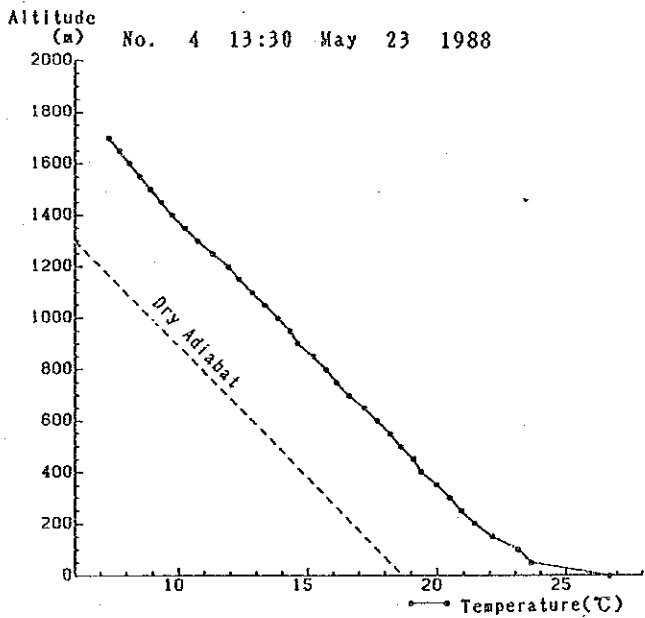
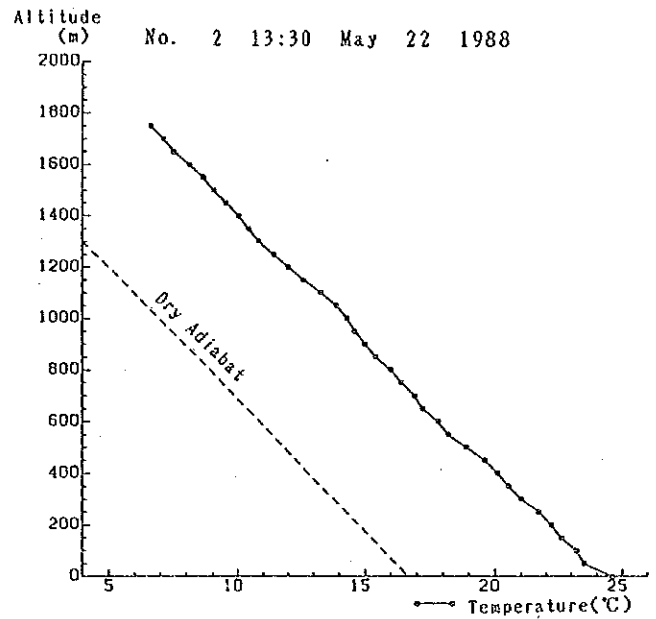
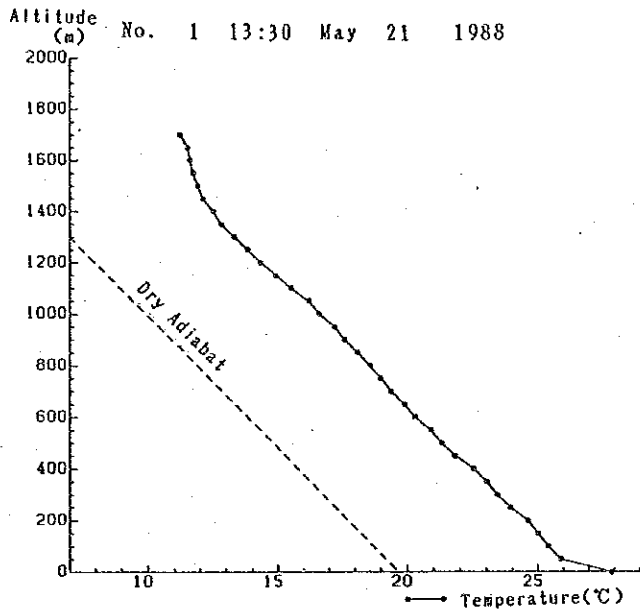
Vertical Profiles of Air Temperature in Upper Atmosphere



Vertical Profiles of Air Temperature in Upper Atmosphere



Vertical Profiles of Air Temperature in Upper Atmosphere



Vertical Profiles of Air Temperature in Upper Atmosphere





**PART 2    AMBIENT AIR QUALITY MESUREMENT**



## 2.1 Items and Methods of Measurement

### 2.1.1 Specifications of Measuring Instruments

#### (1) Measurement of Nitrogen Oxides at a Fixed Station

Measuring instrument: Automatic nitrogen analyzer

Model : 265

Measurable range: 0-200, 0-500, 0-2000 ppb Automatic switching

Measuring cycle : one minute

Quantity of air : 250 ml/min

#### (2) Measurement by Monitoring Cars

Table 2.1.1 shows

Table 2.1.1 Specifications of Measuring Instruments

Measuring instrument	Measurable range	Measuring cycle	Sample air quantity	Recording
Automatic SO <sub>2</sub> analyzer (Model-365)	0 - 1000 ppb	1-minute cycle	400ml/min	Recorder (continuous value), printer, FD (1hr value)
Automatic NO <sub>x</sub> analyzer (Model-285)	0 - 2000 ppb	1-minute cycle	250 l/min	Recorder (continuous value), printer, FD (1hr value)
Automatic CO analyzer (ZRC)	0 - 20 ppm 20 - 100 ppm	1-minute cycle	500 ml/min	Recorder (continuous value), printer, FD (1hr value)
$\beta$ -ray automatic SPM analyzer (Model 180)	0 - 5000 $\mu\text{g}/\text{m}^3$	Pulse count	18 l/min	Recorder (continuous value), printer, FD (1hr value)
Automatic NMHC analyzer (Model-712)	0 -20 ppm C	6-minute cycle	1 l/min	Recorder (continuous value), printer, FD (1hr value)
Automatic ozone analyzer (Model-840)	0 - 1000 ppb	1-minute cycle	1.5 l/min	Recorder (continuous value), printer, FD (1hr value)
Anemometer (WDS-102)	Wind direction: N-S 540 degree system Wind speed: 0.4 to 20 m/s	Continuous	---	Recorder (continuous value), printer, FD (1hr value)

(3) Measurement of TSP and Metallic Elements

1) TSP Concentration by Particle Size

Measuring instrument: Andersen high-volume air sampler

Model : Dylec AH-600

Method of size classification: Inertial force

Aerodynamic size distribution range:

1st stage:  $>7.0 \mu\text{m}$ , 2nd stage:  $3.3 - 7.0 \mu\text{m}$

3rd stage:  $2.0-3.3 \mu\text{m}$ , 4th stage:  $1.1-2.0 \mu\text{m}$

Back-up stage:  $<1.1 \mu\text{m}$

Suction flow rate:  $566 \ell / \text{min}$  (Equipped with a flow control device)

2) Metallic Element Concentration by Particle Size

Measuring instrument: Atomic absorption spectro-photometer

Model : Shimadzu AA-670

Range of wave length: 190-900nm

Photometric method : High-speed 2 frequency modulation system with automatic gain control system

(4) Simplified Measurement of Nitrogen Oxides

1) Sampler

Measuring instrument: Gas pack

Measuring method : Diffusion samplers

2) Analyzer

Measuring instrument: Spectro photometer

Model : Spectronic 20-A

Wavelength range : 340-950nm

2.1.2 Measuring Points

(1) Nitrogen Oxides at a Fixed Station

Table 2.1.2 shows the name of the station and its address.

Table 2.1.2 Measuring Station for Nitrogen Oxides

POINT	ADDRESS
OFICINA CENTRAL DE DDF (4F)	OFICINA CENTRAL DE LA DIRECCION GENERAL DE REORDENACION URBANA Y PROTECCION ECOLOGICA DEL D. D. F. PINO SUAREZ NO 15, COL. CENTRO, DEL CUAUTEMOC.

(2) Measurement by Monitoring Cars

Tables 2.1.3 and 2.1.4 show the names and addresses of measuring points.

(3) Measurement of TSP and Metallic Elements

Table 2.1.5 shows the names and addresses of measuring points.

Table 2.1.5 Measuring Stations for TSP and Metals

No.	POINT	ADDRESS
1	OFICINA CENTRAL DE DDF (4F)	OFICINA CENTRAL DE LA DIRECCION GENERAL DE REORDENACION URBANA Y PROTECCION ECOLOGICA DEL D. D. F. PINO SUAREZ NO 15, COL. CENTRO, DEL CUAUHTEMOC.
2	TACUBA (SEDUE No.4 Station)	ESTACION TACUBA DE LA RED MONITOREO ATMOSFERICO (RAMA) DE SEDUE. LAGO CARDIEL NO 81, COL. ARGENTINA ANTIGUA, DEL. MIGUEL HIDALGO.
3	SAN AGUSTIN (SEDUE No.9 Station)	ESTACION SAN AGUSTIN DE LA RAMA DE SEDUE, AV. SANTA RITA ENTRE CALLE 94 Y 96 NUEVO PASEO, SN AGUSTIN, MUNICIPIO ECATEPEC DE MORELOS, EDO. DE MEXICO.
4	PEDREGAL (SEDUE No.14 Station)	ESTACION PEDREGAL DE LA RAMA DE SEDUE, CALLE CANADA NO 83 COL. JARDINES DEL PEDREGAL, DEL. ALVARO OBREGON.
5	ESTRELLA (SEDUE No.15 Station)	ESTACION CERRO DE LA ESTRELLA DE LA RAMA DE SEDUE, CALZADA SN LORENZO NO 312 COL. SN JUAN XALPA, DEL. IZTAPALAPA.

(4) Simplified Measurement

Table 2.1.6 shows the names of road junctions where measurements of nitrogen oxides were conducted.

Table 2.1.3 Observation Points for Monitoring Car (I)

PUNTOS SELECCIONADOS PARA EL MUESTREO ATMOSFERICO  
CON UNIDADES MOVILES

Point	Name	Division	Address
NUMERO:1	ROSARIO (UNIDAD MEDICO FAMILIAR NO. 33 DEL IMSS (UFM-33))	AVENIDA	AV. PARQUE VIA ESQ. RENACIMIENTO, COL. UNIDAD ROSARIO, DEL. AZCAPOTZALCO.
NUMERO:2	INDIOS VERDES (SUBESTACION ELECTRICA ACUEDUCTO DE GUADALUPE)	AVENIDA	AV. INSURGENTES NET. S/N, COL. RESIDENCIAL ZACATENCO, DEL. GUSTAVO A MADERO.
NUMERO:3	MIGUEL HIDALGO (HOSPITAL DE LA MUJER DE LA SSA)	AVENIDA	PROLONGACION DIAZ MIRON NO. 374, COL. STO. TOMAS, DEL. MIGUEL HIDALGO.
NUMERO:4	CUEMANCO (CENTRO DE VERIFICACION Y DIAGNOSTICO NO. 13)	AREA	3er. ESTACIONAMIENTO DE LA PISTA OLIMPICA DE REMO VIRGILIO URIBE, COL. CUEMANCO, DEL. XOCHIMILCO.
NUMERO:5	CUAUHTEMOC (ESTACIONA- MIENTO METRO CUAUHTEMOC)	AVENIDA	AV. CHAPULTEPEC NO. 104, COL. ROMA, DEL. CUAUHTEMOC.
NUMERO:6	ESTUDIOS CHURUBUSCO AZTECA	AVENIDA	CALLE ATLETAS NO. 2 COL. COUNTRY CLUB, DEL. COYOACAN.
NUMERO:7	ZARAGOZA (CENTRO DE VERIFICACION Y DIAGNOSTICO NO. 7)	AVENIDA	CALZADA IGNACIO ZARAGOZA ESQ. LEON LOYOLA, COL. TEPALCATES, DEL. IZTAPALAPA.
NUMERO:9	IZTAPALAPA (EXPLANADA DELEGACION IZTAPALAPA)	AVENIDA	AV. ERMITA IZTAPALAPA CASI ESQ. MORELOS, COL. SAN MIGUEL, DEL. IZTAPALAPA.
NUMERO:10	CENTRO NO. 2 (CENTRO DE VERIFICACION Y DIAGNOSTICO NO. 2)	AVENIDA	COMONFORT NO. 83, ESQ. PASO DE LA REFORMA NET, COL. PERALVILLO DEL. CUAUHTEMOC.

Table 2.1.4 Observation Points for Monitoring Car (II)

PUNTOS SELECCIONADOS PARA EL MUESTREO ATMOSFERICO  
CON UNIDADES MOVILES

Point	Name	Division	Address
NUMERO:11	ECATEPEC (UNIDAD MEDICO FAMILIAR NO. 68 DEL IMSS)	AREA	AV. VIA MORELOS ESQ. RAYON, COL. CUAUHEMOC, MUNICIPIO ECATEPEC DE MORELOS, ESTADO DE MEXICO.
NUMERO:12	D. M. NACIONAL (UNIDAD MEDICO FAMILIAR NO. 23 DEL IMSS)	AREA	AV. EDUARDO MOLINA ESQ. SN JUAN DE ARAGON, COL. D. M. NACIONAL, DEL. GUSTAVO A MADERO.
NUMERO:13	A. OBREGON (SEGUNDO ESTACIO NAMIENTO DE LA DELEGACION ALVARO OBREGON)	AREA	CALLE 10, ESQ. CANARIOS, COL CRISTO REY, DELEGACION, ALVARO OBREGON.
NUMERO:14	AZCAPOTZALCO (EXPLANADA DELEGACIONAL AZCAPOTZALCO)	AREA	AV. 22 DE FEBRERO ESQ. CASTILLO, COL. SAN SIMON, DEL. AZCAPOTZALCO.
NUMERO:15	NAUCALPAN (UNIDAD DEPORTIVA CUAUHEMOC DEL IMSS)	AREA	BOULEVARD MANUEL AVILA CAMACHO ESQ. JARDIN, COL. SAN BARTOLO NAUCALPAN, DE JUAREZ, ESTADO DE MEXICO.
NUMERO:16	D. G. N. (DIRECCION GENERAL DE NORMAS)	AREA	PUENTE DE TECAMACACHALCO NO. 6, COL. GRALMANUEL AVILA CAMACHO MUNICIPIO NAUCALPAN DE JUAREZ, ESTADO DE MEXICO.
NUMERO:17	CENTRO MEDICO NACIONAL (UNIDAD DE CONGRESOS DEL CENTRO MEDICO NACIONAL)	AREA	AV. CUAUHEMOC NO. 330, COL. DOCTORES, DEL. CUAUHEMOC.
NUMERO:18	FUJIYAMA (ASOCIACION MEXICANA JAPONESA, A. C.)	AREA	CALLE FUJIYAMA NO. 144, COL. LAS AGUILAS, DEL. ALVARO OBREGON.
NUMERO:19	AGRICOLA ORIENTAL (DEPORTIVO LEANDRO VALLE)	AVENIDA	AV. ROJO GOMEZ ESQ. SUR 12, COL. AGRICOLA ORIENTAL, DEL. IZTACALCO.
NUMERO:20	CENTRO NO. 5 (CENTRO DE VERIFICACION Y DIAGNOSTICO- NO. 5)	AREA	AV. DE LOS 100 METROS ESQ. NORTE 19, COL. MAGDALENA DE LAS SALINAS, DEL. G. A. MADERO.

Table 2.1.6 Road Junctions for Simplified Measurement

No	JUNCTION
1	AV. INSURGENTES Y AV. SN. COSME.
2	RIO CHURUBUSCO (CIRCUITO INTERIOR) Y MAGDALENA MIXHUCA (EJE 2 OTE).
3	GLORIETA METRO INSURGENTES. (AV. CHAPULTEPEC Y AV. INSURGENTES).
4	AV. REVOLUCION (CIRCUITO INTERIOR), Y AV. SN ANTONIO (EJE 5 SUR)
5	AV. UNIVERSIDAD Y RIO MIXCOAC (CIRCUITO INTERIOR).
6	CALZADA DE LA VIGA Y RIO CHURUBUSCO (CIRCUITO INTERIOR).
7	PASEO DE LA REFORMA Y MELCHOR OCAMPO (CIRCUITO INTERIOR).
8	EJE CENTRAL Y PASEO DE LA REFORMA CENTRO.
9	FRAY SERVANDO TERESA DE MIER Y EJE CENTRAL.
10	AV. UNIVERSIDAD, CUAUHEMOC Y DIVISION DEL NORTE
11	RIO CONSULADE (C. I.) Y CALZADA DE LOS MISTERIOS.
12	OCEANIA Y TRANSVAL

### 2.1.3 Flow Chart of Analysis

Figures 2.1.2 and 2.1.1 show flow charts, respectively, for the analysis of metallic elements in TSP and for the analysis of nitrogen oxides by the simplified measurement.



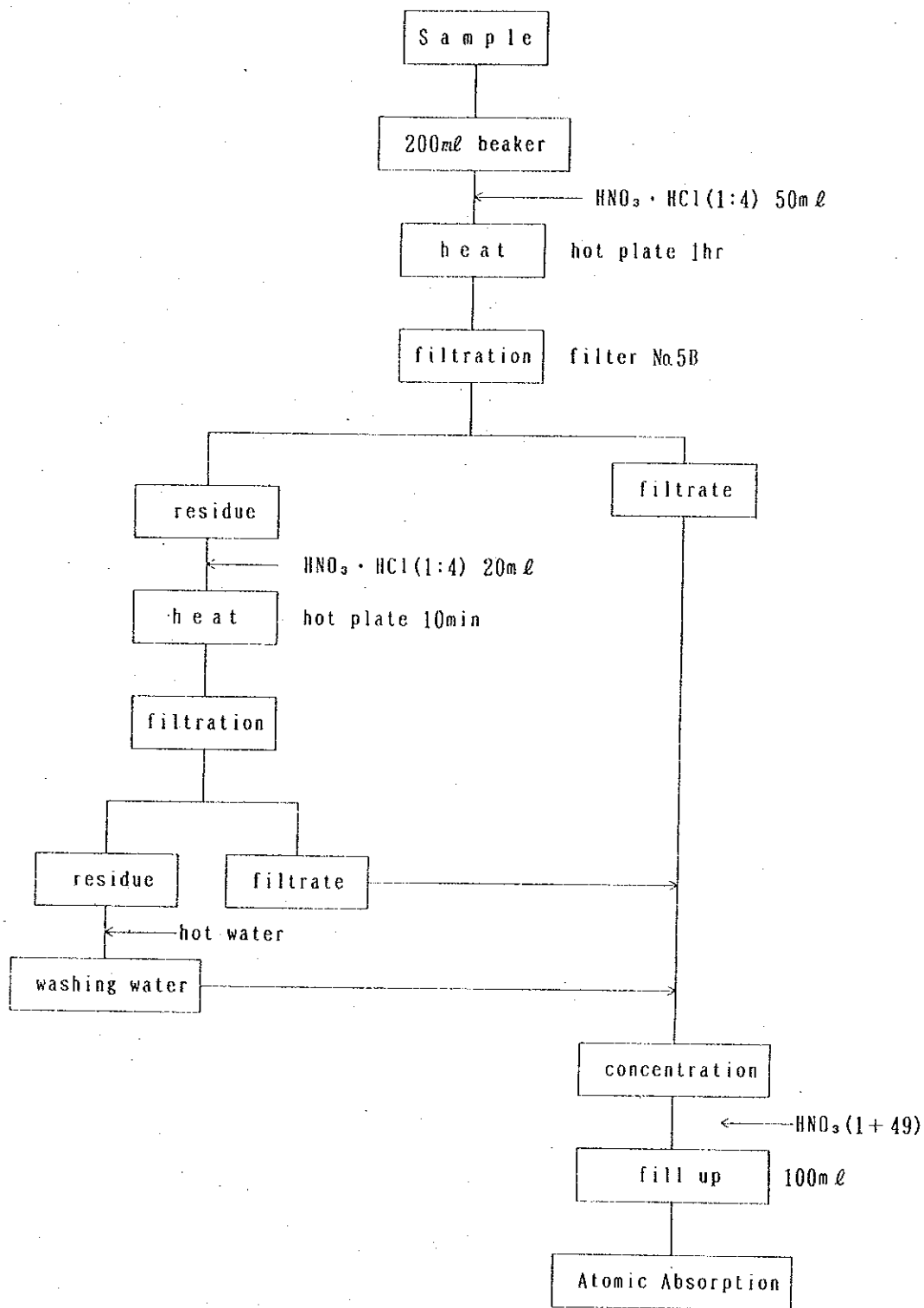


Figure 2.1.1 Method for Determination of Metals in Filter Paper

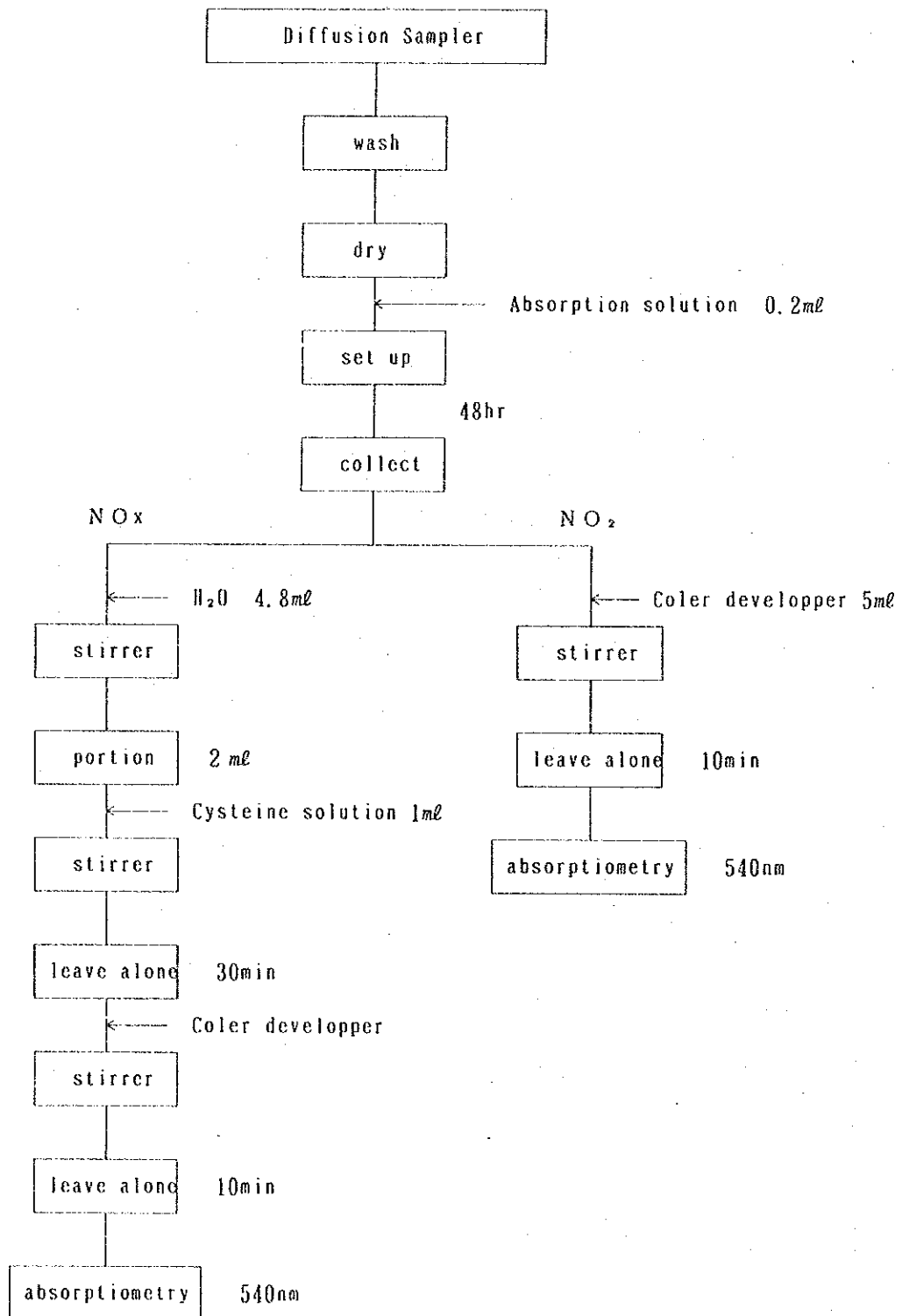


Figure 2.1.2 Flow Chart of Simplified Measurement

## 2.2 Results of Measurement

### 2.2.1 Nitrogen Oxides at the Fixed Station

Monthly summary of measurement of nitrogen oxides at OFICINA CENTRAL DE DDF is shown in Table 2.2.1.

Figure 2.2.1 shows the time of day average concentration of NO, NO<sub>2</sub> and NO<sub>x</sub> in each month.

Figure 2.2.2 shows cumulative frequency distribution curves for NO, NO<sub>2</sub> and NO<sub>x</sub> concentration. Both hourly and daily average values are generally in accord with the logarithmic normal distribution.

Table 2.2.1 Stationary Station Monthly List

ITEM : NO	UNIT : PPB	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	ANNUAL
MONTH		661	739	104	741	738	669	552	640	723	683	741	569	7560
MEASURING TIME		184	134	123	342	359	378	258	238	169	152	179	214	378
MAX		1	7	7	3	2	3	3	3	3	3	0	0	0
MIN		28	31	4	31	31	28	23	26	29	28	31	24	314
NUMBER OF EFFECTIVE		60.6	37.2	31.0	96.1	85.0	71.6	81.5	41.7	38.9	58.9	65.3	75.7	96.1
DAILY MEAN VALUES		9.0	14.3	15.0	22.9	18.1	11.6	16.1	13.9	9.5	7.6	12.3	11.0	7.6
DAILY MEAN MAX		28.4	26.2	24.5	60.0	54.2	46.5	34.7	25.0	22.6	24.0	31.0	44.1	36.0
DAILY MEAN MIN														
MONTHLY MEAN														

ITEM : NO2	UNIT : PPB	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	ANNUAL
MONTH		661	739	104	741	738	669	552	640	723	683	741	569	7560
MEASURING TIME		124	111	85	321	223	322	231	187	196	136	128	148	322
MAX		8	7	10	12	9	7	8	10	16	9	9	0	0
MIN		28	31	4	31	31	28	23	26	29	28	31	24	314
NUMBER OF EFFECTIVE		43.0	43.3	25.0	93.1	76.9	77.9	73.3	72.1	73.5	64.6	64.0	66.0	93.1
DAILY MEAN VALUES		18.7	12.7	16.9	35.7	25.9	26.7	29.0	31.4	40.5	21.0	24.1	17.9	12.7
DAILY MEAN MAX		31.1	25.6	20.1	59.2	53.3	50.1	45.8	52.6	59.6	41.1	42.0	35.2	44.9
DAILY MEAN MIN														
MONTHLY MEAN														

ITEM : NOX	UNIT : PPB	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	ANNUAL
MONTH		661	739	104	741	738	669	552	640	723	683	741	569	7560
MEASURING TIME		226	188	141	467	456	529	379	311	283	224	221	237	529
MAX		11	15	18	17	12	19	14	13	21	14	12	9	9
MIN		28	31	4	31	31	28	23	26	29	28	31	24	314
NUMBER OF EFFECTIVE		99.8	77.6	56.1	189.7	159.9	145.4	122.3	109.6	109.5	106.9	117.6	124.3	189.7
DAILY MEAN VALUES		31.0	27.6	32.6	59.0	44.5	38.8	45.8	48.3	55.2	31.9	40.5	30.9	27.6
DAILY MEAN MAX		60.0	52.3	45.1	119.7	108.0	97.1	81.1	78.1	82.6	65.6	73.5	79.8	81.4
DAILY MEAN MIN														
MONTHLY MEAN														

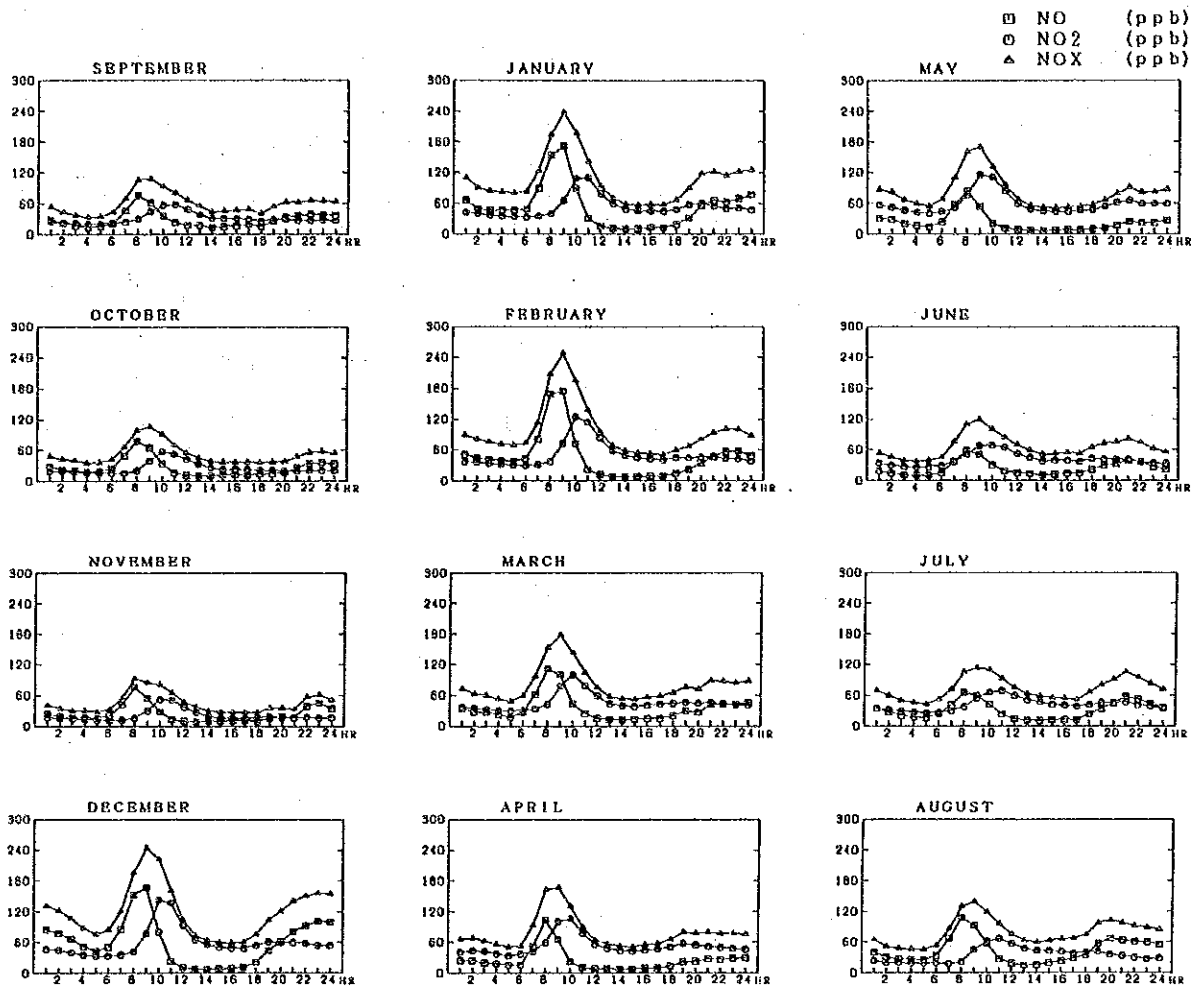


Figure 2.2.1 Daily Hourly Fluctuation of Nitrogen Oxides by Month at Fixed Station

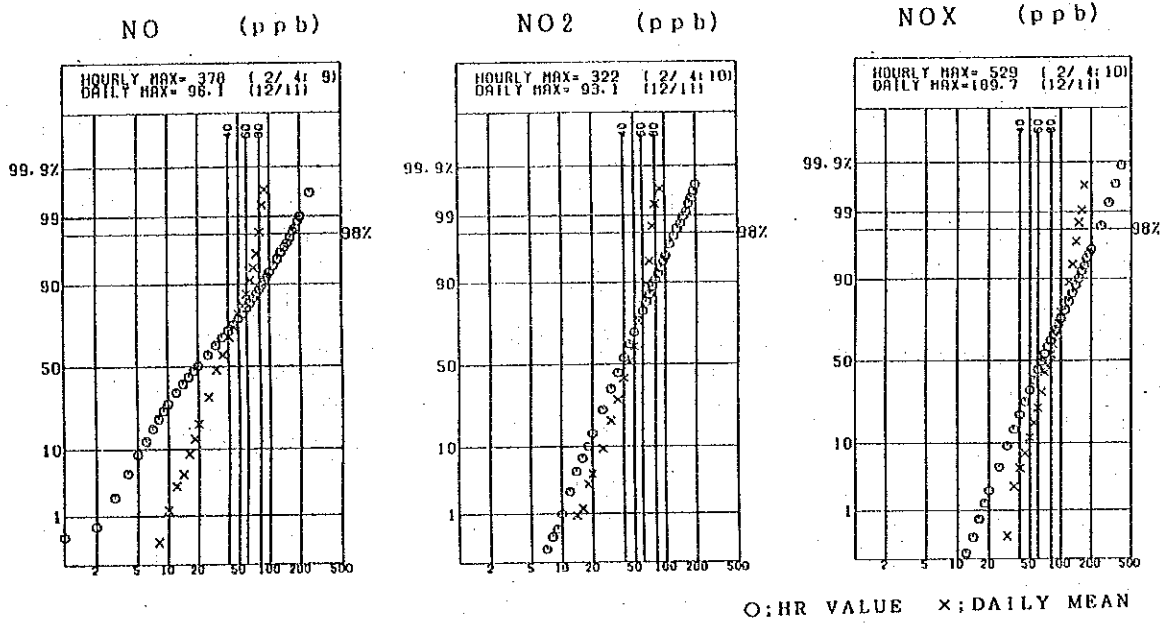


Figure 2.2.2 P - C Curve

### 2.2.2 Measurement by Monitoring Cars

Table 2.2.2 summarizes the results of the measurement by the monitoring cars.

The time of day average concentration of each item at each measuring point is shown in Figures 2.2.3 through 2.2.10.

Table 2.2.2 (1) Summary of Results of Air Quality Measurement by Monitoring Cars

Point		SO2 PPB	NO PPB	NO2 PPB	NOX PPB	CO PPH	O3 PPB	NHCH PPMC	MHCH PPMC	THCH PPMC	SPM UG/M3
5:METRO CUAUHTEMOC (87.12. 9-87.12.28)	Average	56.32	69.25	67.80	137.04	6.39	33.78	1.63	2.10	3.73	101.61
	Maximum	392	310	372	490	23.07	230	4.19	5.13	8.85	390
	Minimum	0	5	12	29	0.84	0	0.40	1.65	2.06	6
	Sample	463	463	463	463	463	463	462	462	462	460
14:AZCAPOTZALCO (87.12. 7-87.12.28)	Average	67.33	51.18	64.74	115.88	4.55	40.07	2.36	2.22	4.58	87.30
	Maximum	314	311	339	437	16.92	291	8.11	6.87	12.44	318
	Minimum	0	2	12	15	0.38	0	0.12	0.33	1.69	2
	Sample	509	509	509	509	509	509	462	462	462	503
11:ECATEPEC (88. 1. 6-88. 1.28)	Average	75.06	109.71	52.21	161.97	3.93	27.97	0.98	2.45	3.43	170.32
	Maximum	428	1093	168	1187	21.85	363	3.85	10.34	11.04	525
	Minimum	7	4	14	19	0.45	0	0.10	1.63	1.80	20
	Sample	490	471	471	471	490	490	488	488	488	477
11:ROSARIO (88. 1.10-88. 2. 1)	Average	55.38	75.59	38.66	114.22	4.34	30.26	1.54	2.19	3.74	78.84
	Maximum	195	496	153	501	22.52	173	6.98	4.53	11.30	293
	Minimum	2	0	1	13	0.27	0	0.02	1.15	1.59	2
	Sample	509	377	377	377	509	509	493	493	493	497
17:CENTRO MEDICO (88. 2.12-88. 3. 4)	Average	40.85	122.31	62.59	184.89	6.76	34.18	1.26	2.08	3.34	103.60
	Maximum	277	578	276	678	24.56	329	3.70	4.52	7.35	340
	Minimum	1	5	0	19	0.50	0	0.10	1.70	1.87	5
	Sample	427	427	427	427	427	427	423	423	423	404
18:FUJIYAMA (88. 2.11-88. 3. 3)	Average	23.32	-	-	-	1.80	33.69	1.07	2.04	3.11	49.63
	Maximum	212	-	-	-	16.60	259	6.40	5.25	9.22	278
	Minimum	0	-	-	-	0.00	1	0.00	1.08	1.57	1
	Sample	479	-	-	-	480	478	478	478	478	475
7:ZARAGOZA Y LEON (88. 3.23-88. 4.13)	Average	25.37	52.98	49.12	102.09	3.08	32.80	0.83	2.54	3.37	126.91
	Maximum	126	405	170	492	17.68	156	4.99	10.37	12.48	313
	Minimum	0	3	10	18	0.38	0	0.17	1.69	1.89	8
	Sample	431	431	431	431	431	413	430	430	430	427
9:IZTAPALAPA (88. 3.16-88. 4. 6)	Average	34.44	-	-	-	3.96	31.95	1.56	2.12	3.68	77.83
	Maximum	216	-	-	-	17.79	140	6.68	4.57	11.09	244
	Minimum	2	-	-	-	0.64	0	0.15	1.38	1.90	17
	Sample	420	-	-	-	420	419	420	420	420	414
12:D. M. NACIONAL (88. 4.27-88. 5.21)	Average	40.23	28.05	48.24	76.29	2.67	53.21	0.86	3.10	3.96	129.23
	Maximum	290	286	131	386	15.08	232	3.63	14.01	17.64	837
	Minimum	0	1	15	17	0.65	0	0.00	0.05	0.00	26
	Sample	570	570	570	570	570	570	289	289	289	564
19:AGRICOLA ORIENTAL (88. 4.29-88. 5.24)	Average	-	-	-	-	4.27	34.79	1.75	2.39	4.14	90.19
	Maximum	-	-	-	-	21.07	191	7.92	9.50	12.08	311
	Minimum	-	-	-	-	1.29	0	0.08	1.30	1.64	15
	Sample	-	-	-	-	583	583	507	507	507	569
4:CUERMANCO (88. 5.24-88. 6.13)	Average	10.37	2.55	18.89	21.45	0.92	58.41	0.21	1.98	2.19	50.22
	Maximum	115	42	72	89	4.83	206	1.35	2.87	3.45	157
	Minimum	0	0	0	8	0.23	0	0.01	1.65	1.68	8
	Sample	483	477	477	477	484	484	482	482	482	473
10:CENTRO NO. 2 (88. 5.25-88. 6.15)	Average	41.43	25.95	42.56	68.53	3.84	39.17	1.80	2.05	3.85	54.75
	Maximum	416	227	113	288	14.76	222	9.08	6.65	11.68	194
	Minimum	0	1	4	9	0.43	1	0.00	0.99	1.54	5
	Sample	493	492	492	492	493	492	413	413	413	487



Table 2.2.2 (2) Summary of Results of Air Quality Measurement by Monitoring Cars

Point		SO2 PPB	NO PPB	NO2 PPB	NOX PPB	CO PPM	O3 PPB	NHCM PPMC	MHCM PPMC	THCM PPMC	SPM UG/M3
3:MIGUEL HIDALGO (88. 6.15-88. 7. 7)	Average	49.10	-	-	-	2.45	20.85	0.51	1.97	2.47	50.65
	Maximum	272	-	-	-	12.85	197	1.58	3.08	4.21	181
	Minimum	0	-	-	-	0.25	0	0.07	0.16	0.37	1
	Sample	489	-	-	-	490	488	370	370	370	487
15:NAUCALPAN (88. 6.17-88. 7.11)	Average	42.08	20.85	23.65	44.52	2.66	25.98	2.47	2.66	5.13	42.13
	Maximum	242	118	78	149	11.08	203	8.85	5.11	13.80	146
	Minimum	0	1	6	8	0.20	0	0.30	1.38	2.20	1
	Sample	565	566	566	566	566	566	32	32	32	561
2:INDIOS VERDES (88. 7. 8-88. 8. 1)	Average	27.13	-	-	-	2.60	18.67	0.46	2.15	2.61	79.86
	Maximum	147	-	-	-	11.42	132	3.20	6.27	7.48	253
	Minimum	0	-	-	-	0.22	0	0.07	1.02	1.68	0
	Sample	212	-	-	-	547	420	494	494	494	538
16:D. G. N. (88. 7.13-88. 8.11)	Average	22.78	15.55	14.53	30.11	2.24	43.18	1.20	1.90	3.10	34.21
	Maximum	145	74	42	89	8.25	260	3.38	3.00	5.71	737
	Minimum	0	0	0	5	0.12	0	0.36	0.99	1.40	1
	Sample	492	199	199	199	530	529	305	305	305	498
6:ESTUDIOS CHURUBUSCO (88. 8.17-88. 9. 5)	Average	-	-	-	-	8.78	34.27	0.70	1.94	2.64	62.23
	Maximum	-	-	-	-	35.92	247	1.92	2.72	4.34	197
	Minimum	-	-	-	-	0.27	0	0.14	1.12	1.46	5
	Sample	-	-	-	-	292	251	152	152	153	265
13:A. OBREGON (88. 9.24-88.10. 6)	Average	36.57	11.94	27.64	39.62	2.06	28.76	0.91	1.91	2.82	37.40
	Maximum	209	124	103	150	8.03	190	3.02	8.22	9.86	163
	Minimum	4	1	6	7	0.39	0	0.24	1.06	1.73	1
	Sample	280	280	280	280	280	280	279	279	279	260
20:CENTRO NO. 5 (88. 9.22-88.10.17)	Average	-	11.34	20.17	31.50	1.40	29.43	-	-	-	34.55
	Maximum	-	124	104	185	7.79	191	-	-	-	187
	Minimum	-	0	1	2	0.21	1	-	-	-	0
	Sample	-	581	581	581	581	581	-	-	-	543

S O<sub>2</sub> (ppb)

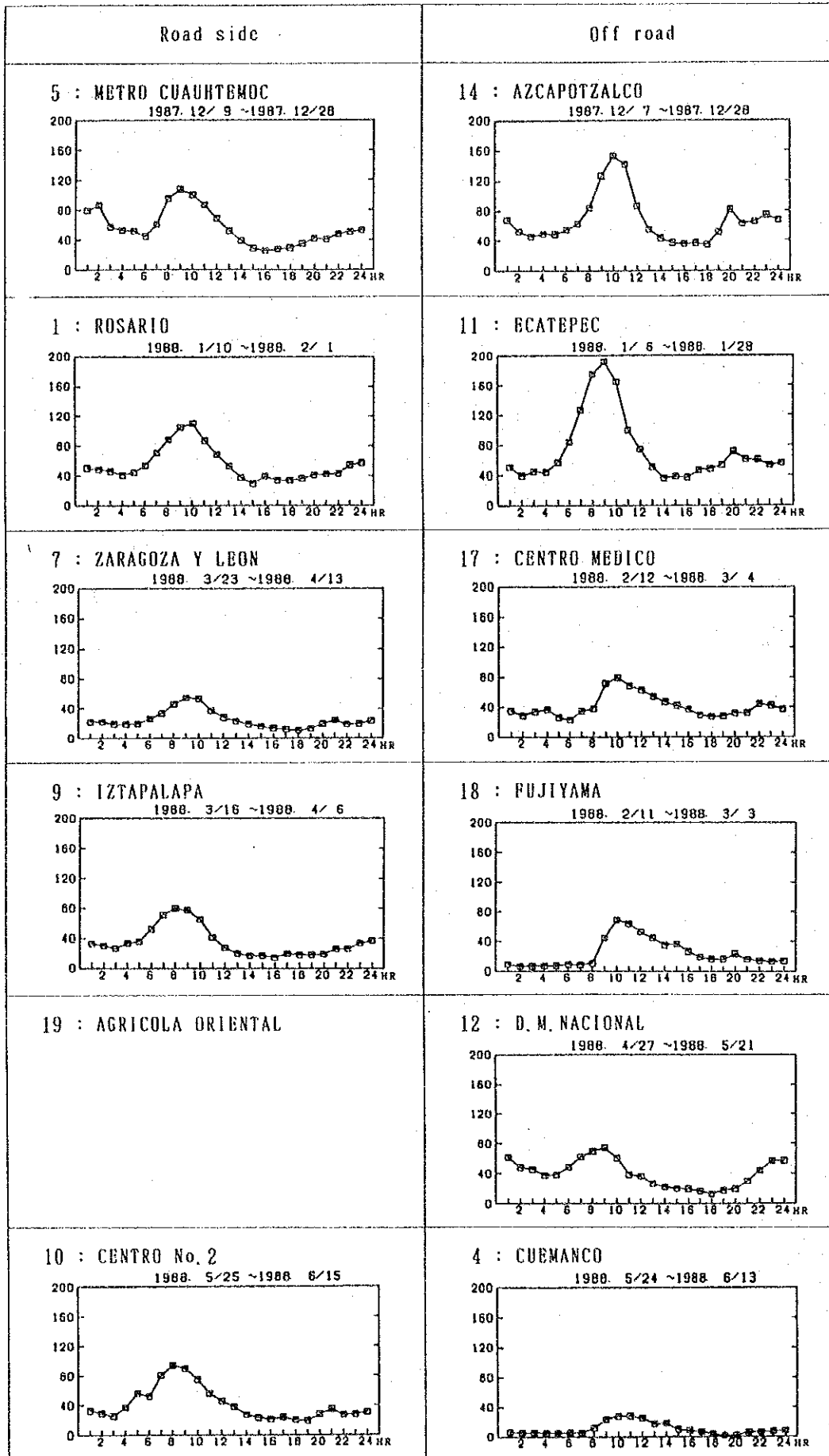


Figure 2.2.3 (1) Daily Hourly Fluctuation of Pollutant Concentration by Month Measured with Monitoring Car

S O<sub>2</sub> (ppb)

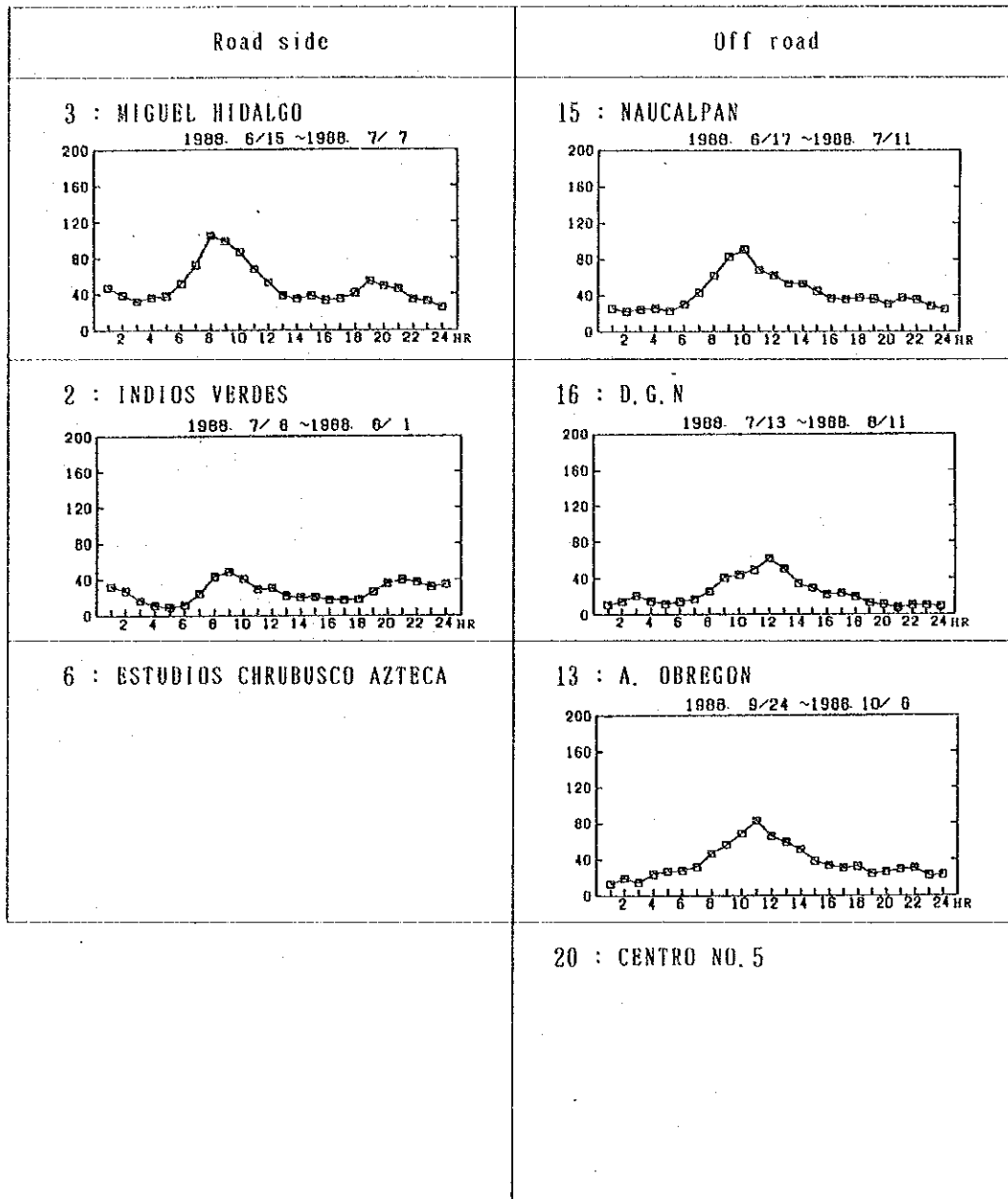


Figure 2.2.3 (2) Daily Hourly Fluctuation of Pollutant Concentration by Month Measured with Monitoring Car

□ NO、○ NO<sub>2</sub>、△ NO<sub>x</sub> (ppb)

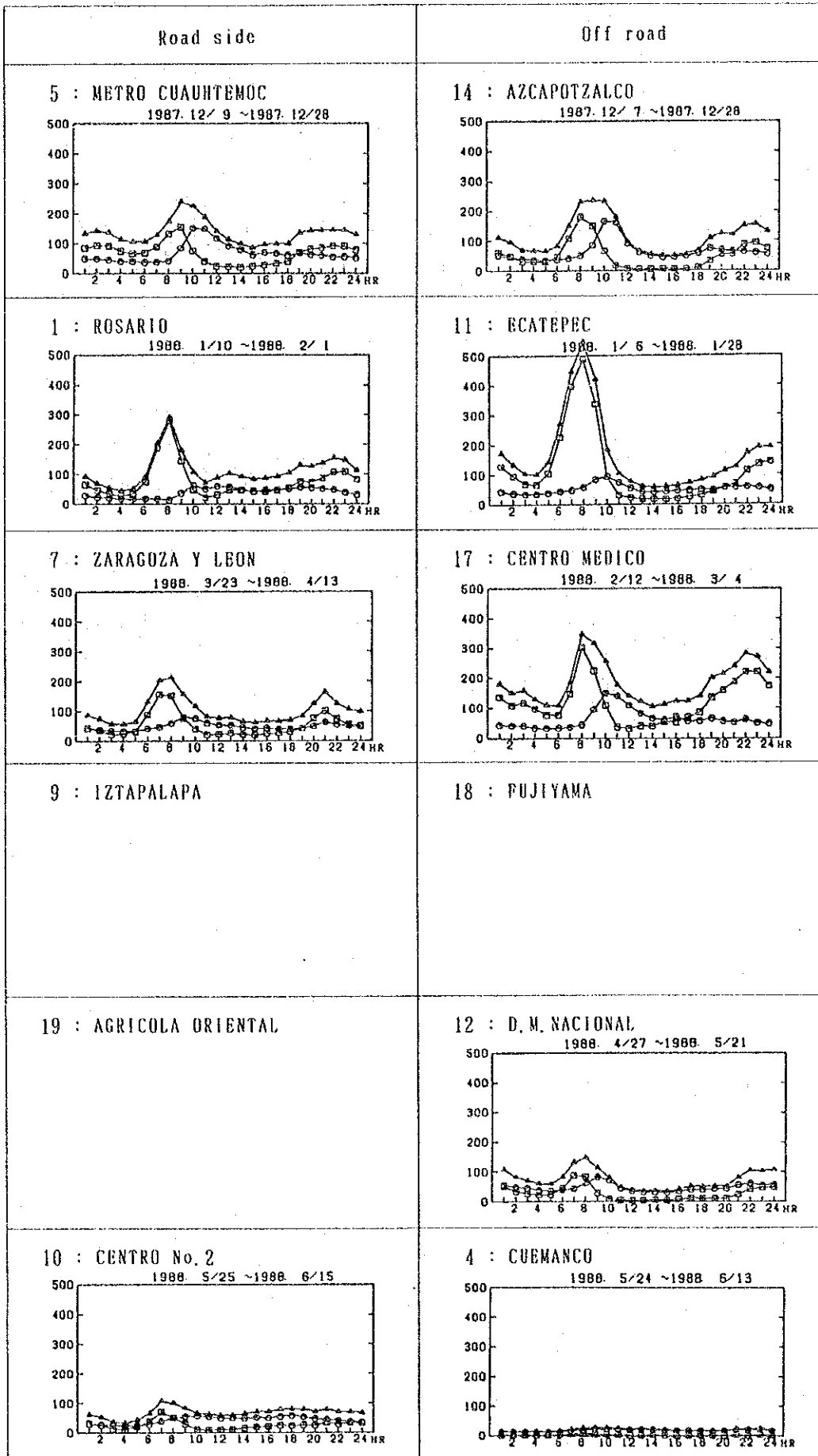


Figure 2.2.4 (1) Daily Hourly Fluctuation of Pollutant Concentration by Month Measured with Monitoring Car

□ NO、○ NO<sub>2</sub>、△ NO<sub>x</sub> (ppb)

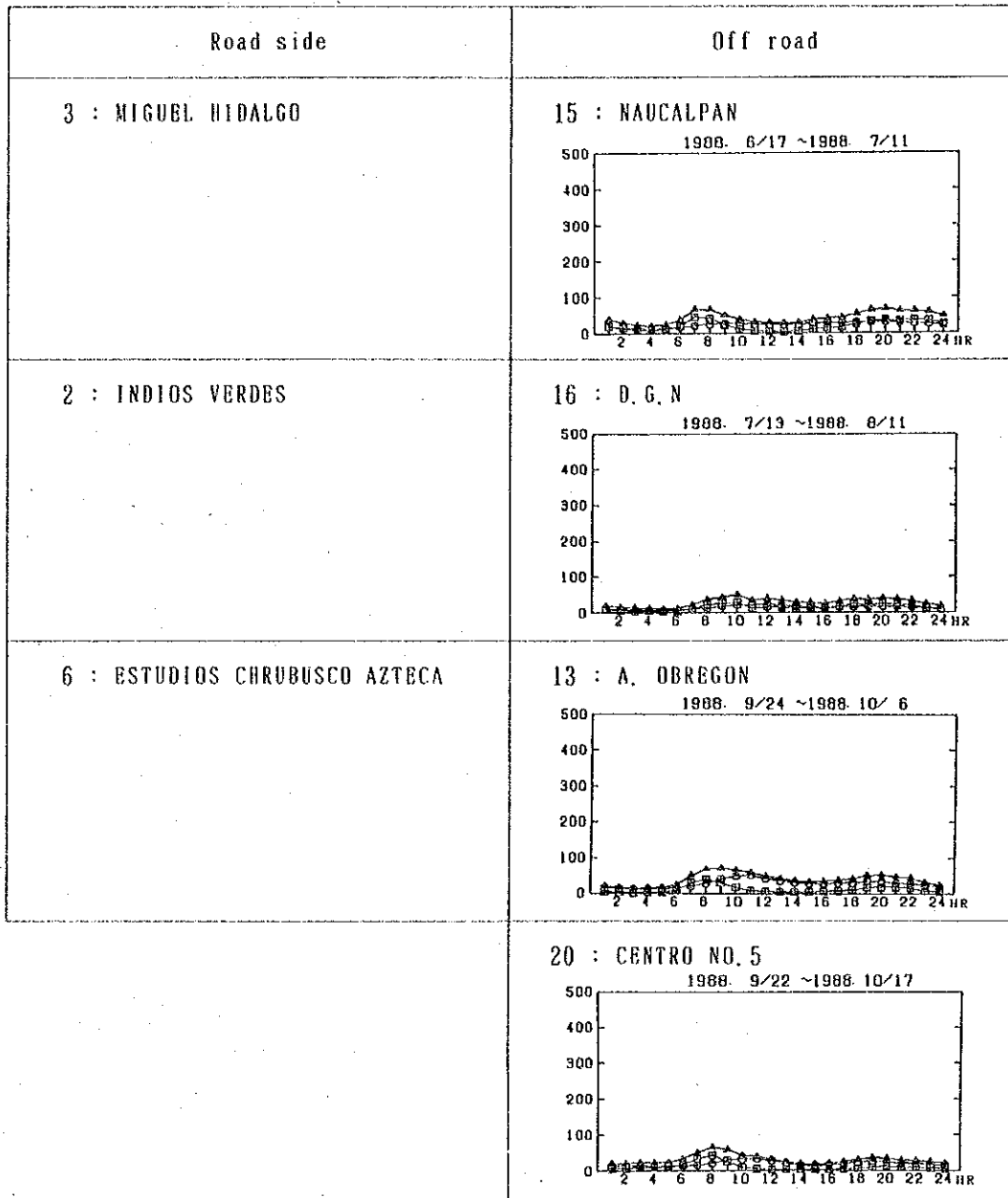


Figure 2.2.4 (2) Daily Hourly Fluctuation of Pollutant Concentration by Month Measured with Monitoring Car

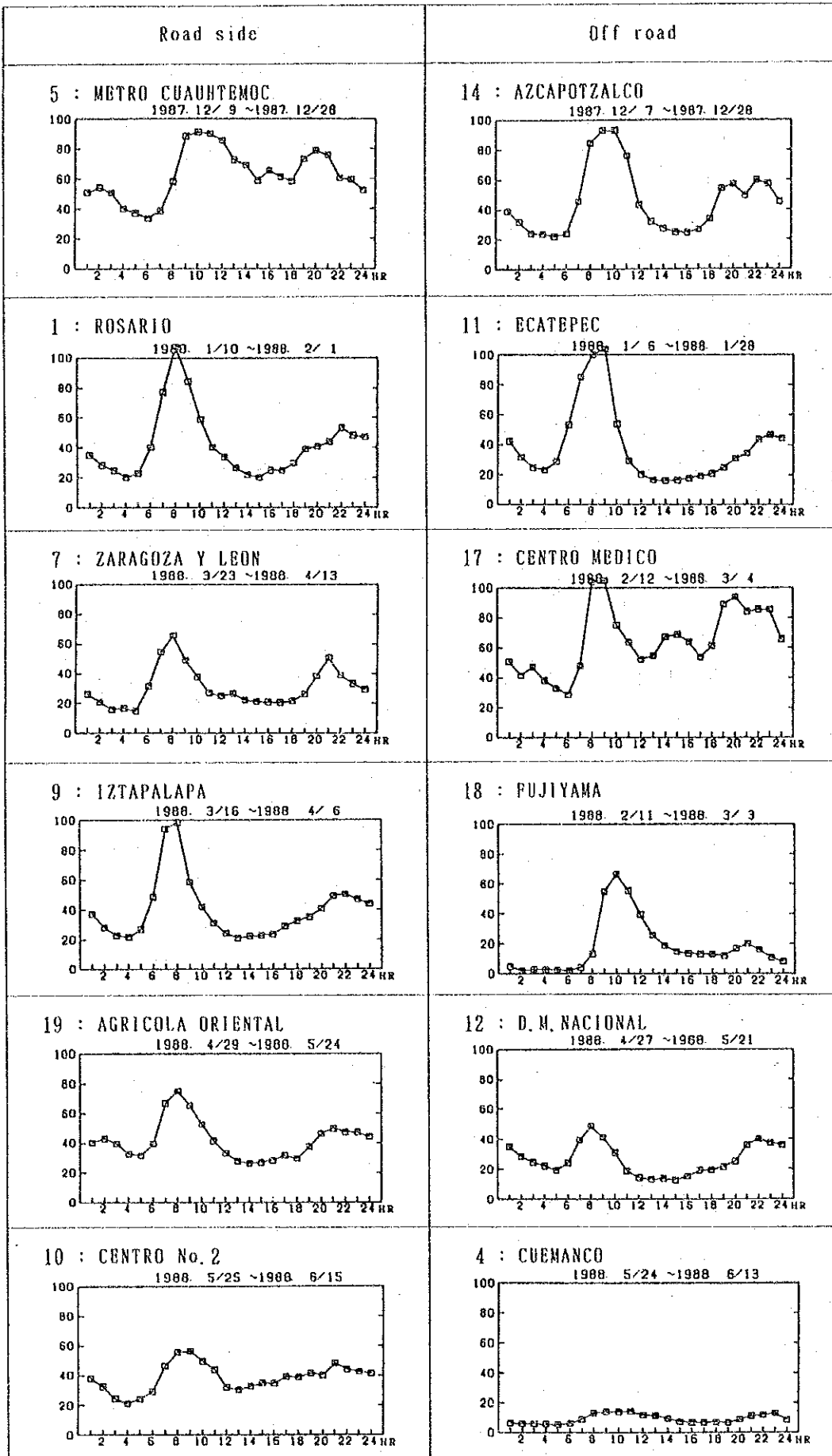


Figure 2.2.5 (1) Daily Hourly Fluctuation of Pollutant Concentration by Month Measured with Monitoring Car

C O (0.1ppm)

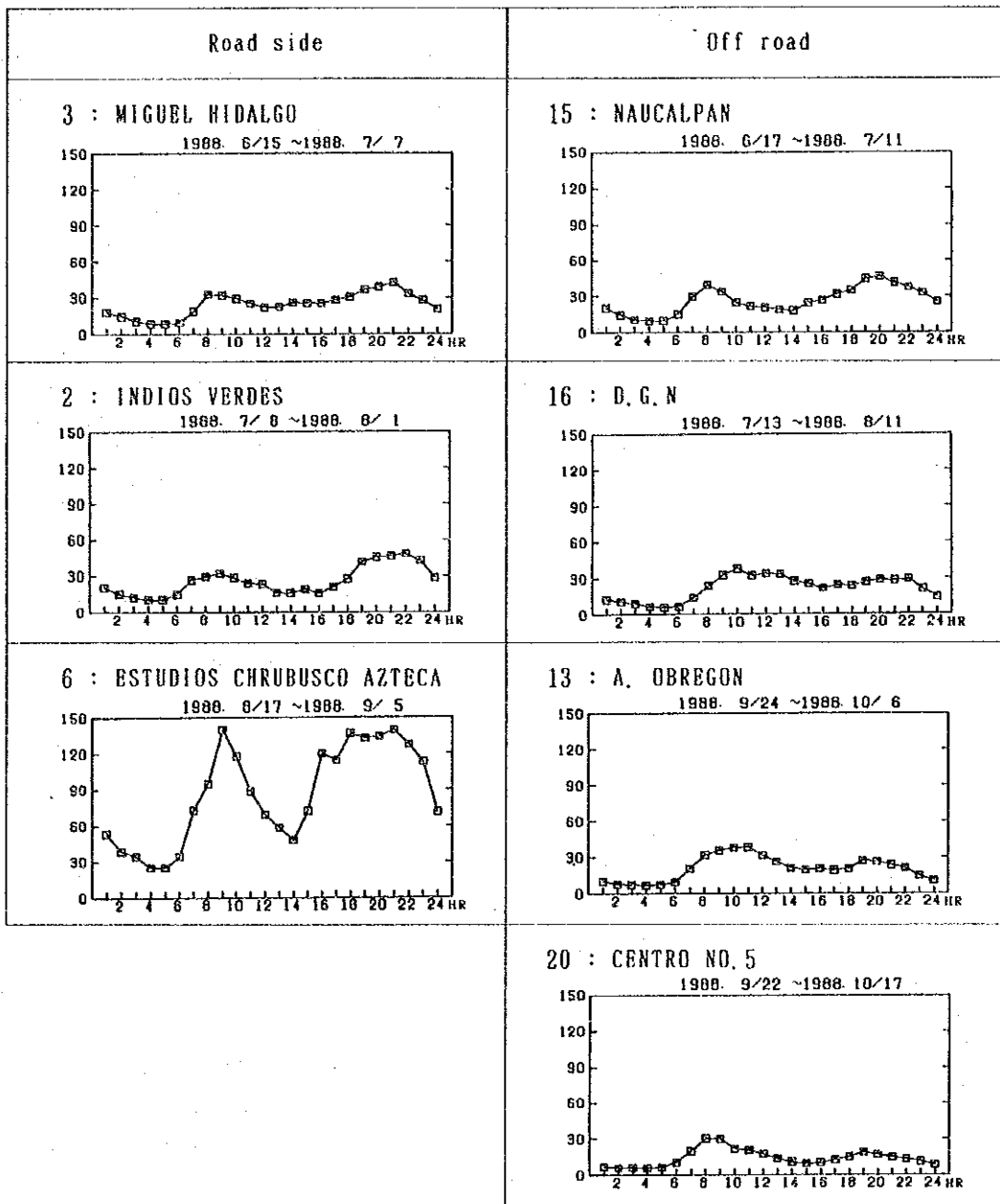


Figure 2.2.5 (2) Daily Hourly Fluctuation of Pollutant Concentration by Month Measured with Monitoring Car

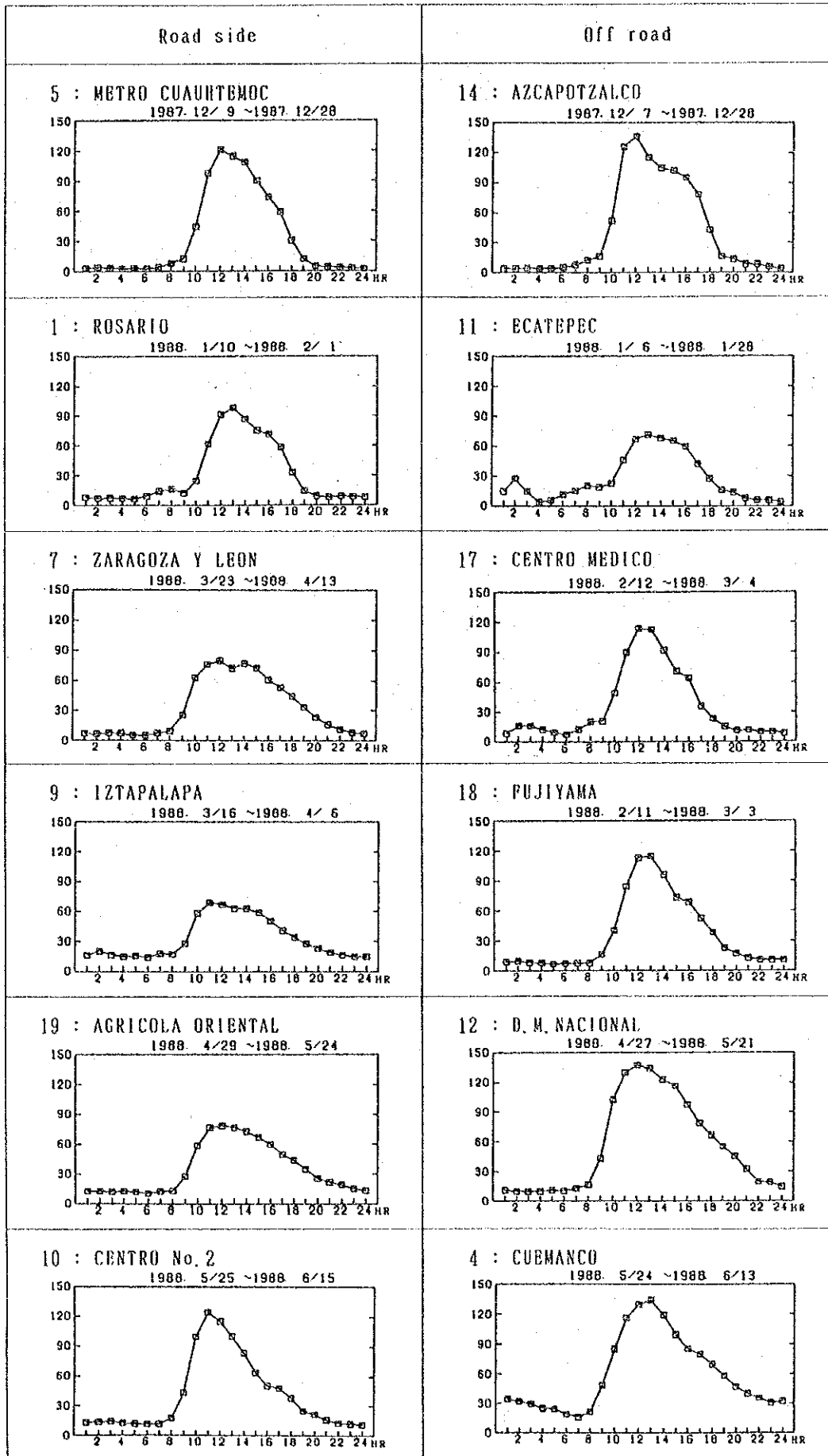


Figure 2.2.6 (1) Daily Hourly Fluctuation of Pollutant Concentration by Month Measured with Monitoring Car



O<sub>3</sub> (ppb)

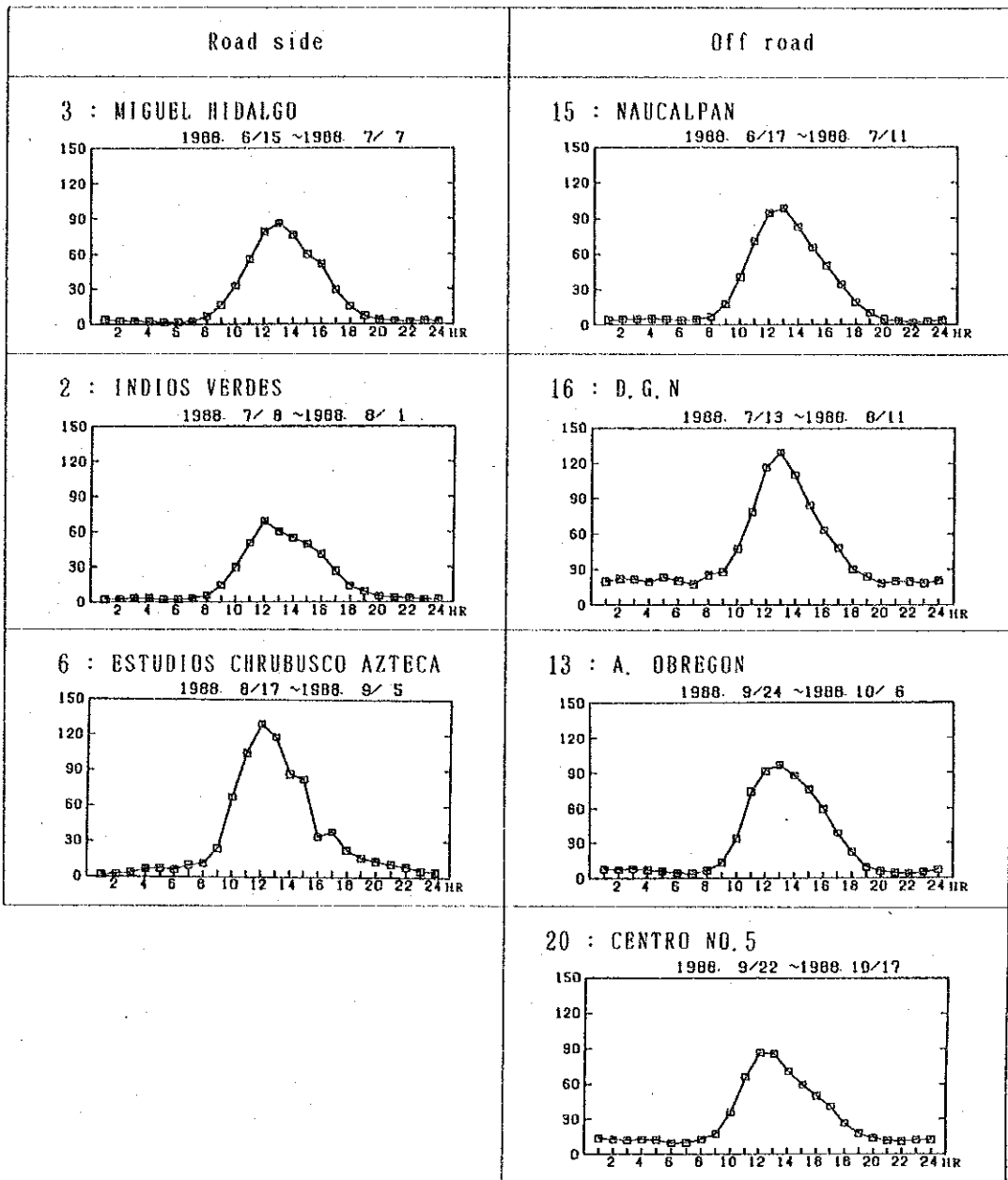


Figure 2.2.6 (2) Daily Hourly Fluctuation of Pollutant Concentration by Month Measured with Monitoring Car

NMHC (10ppbC)

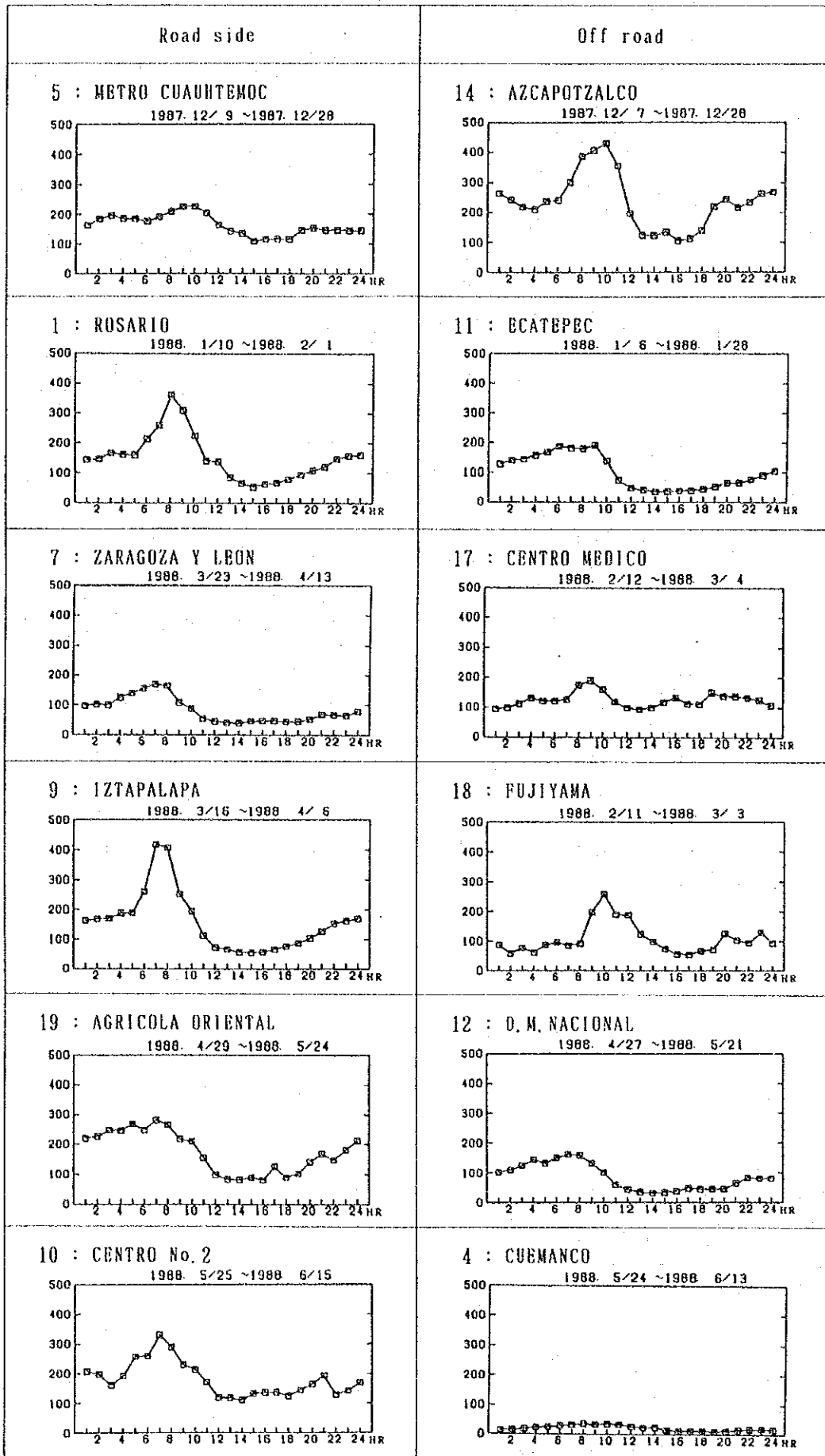


Figure 2.2.7 (1) Daily Hourly Fluctuation of Pollutant Concentration by Month Measured with Monitoring Car

NMHC (10ppbC)

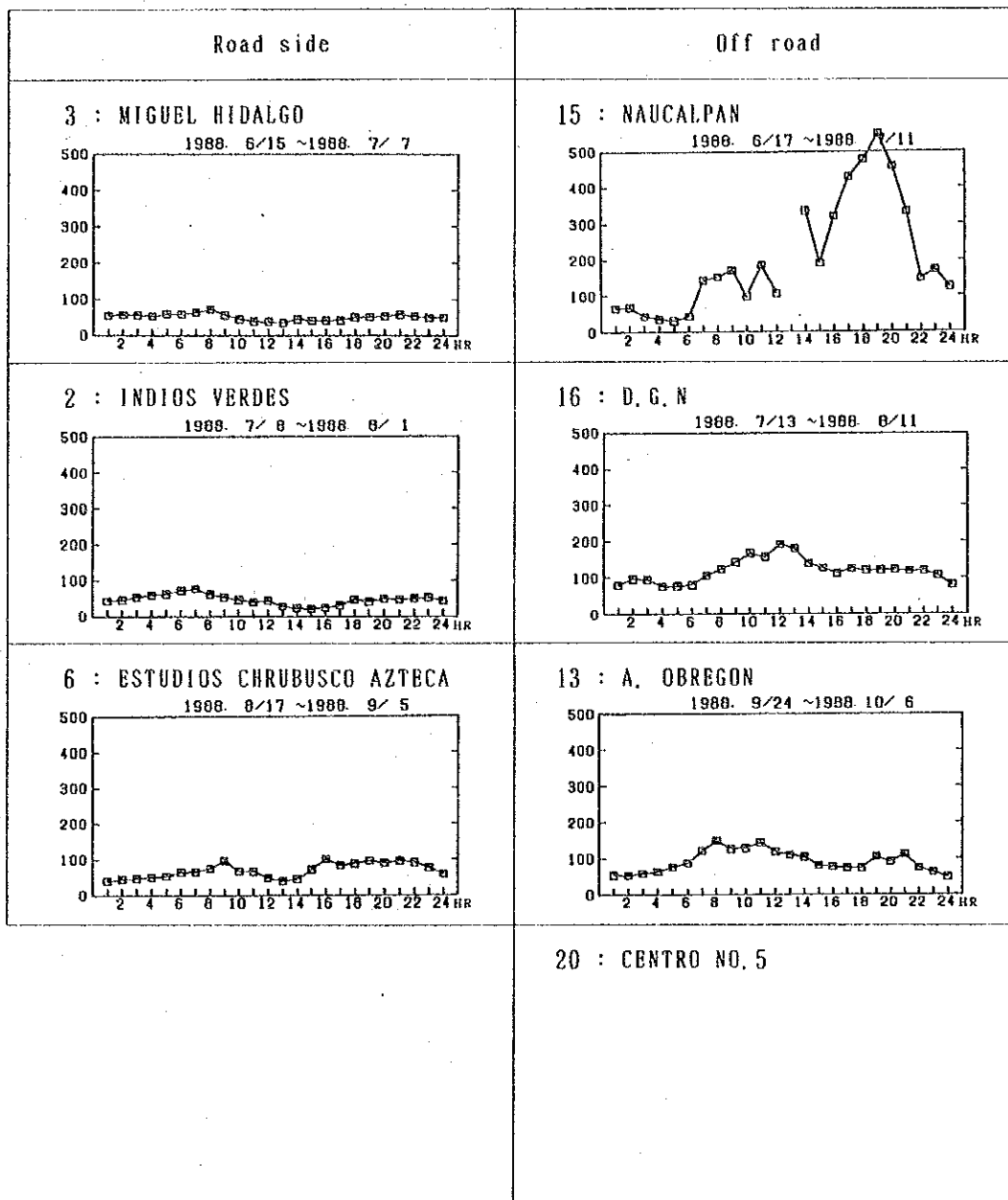


Figure 2.2.7 (2) Daily Hourly Fluctuation of Pollutant Concentration by Month Measured with Monitoring Car

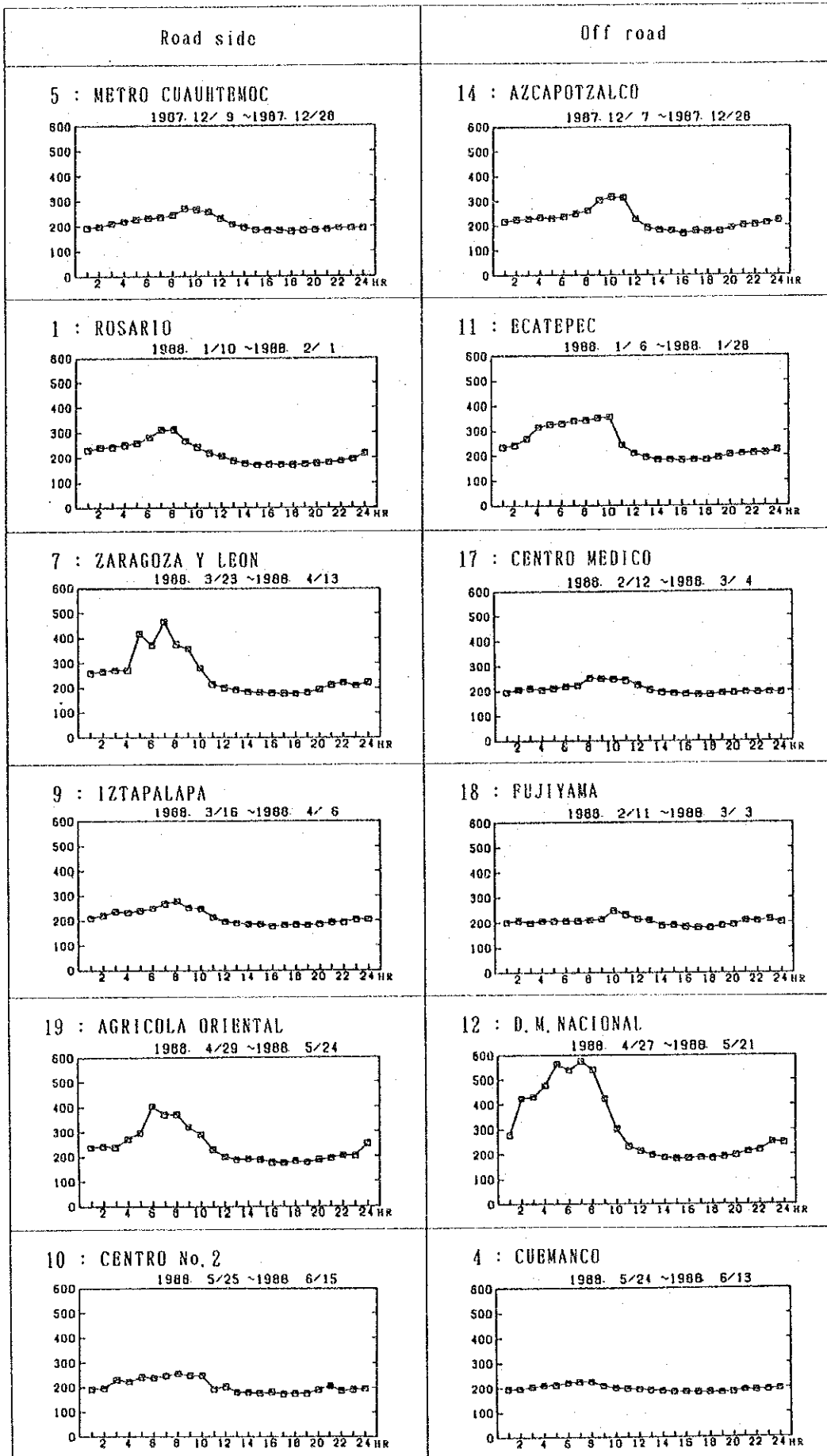


Figure 2.2.8 (1) Daily Hourly Fluctuation of Pollutant Concentration by Month Measured with Monitoring Car

C H<sub>4</sub> (10ppbC)

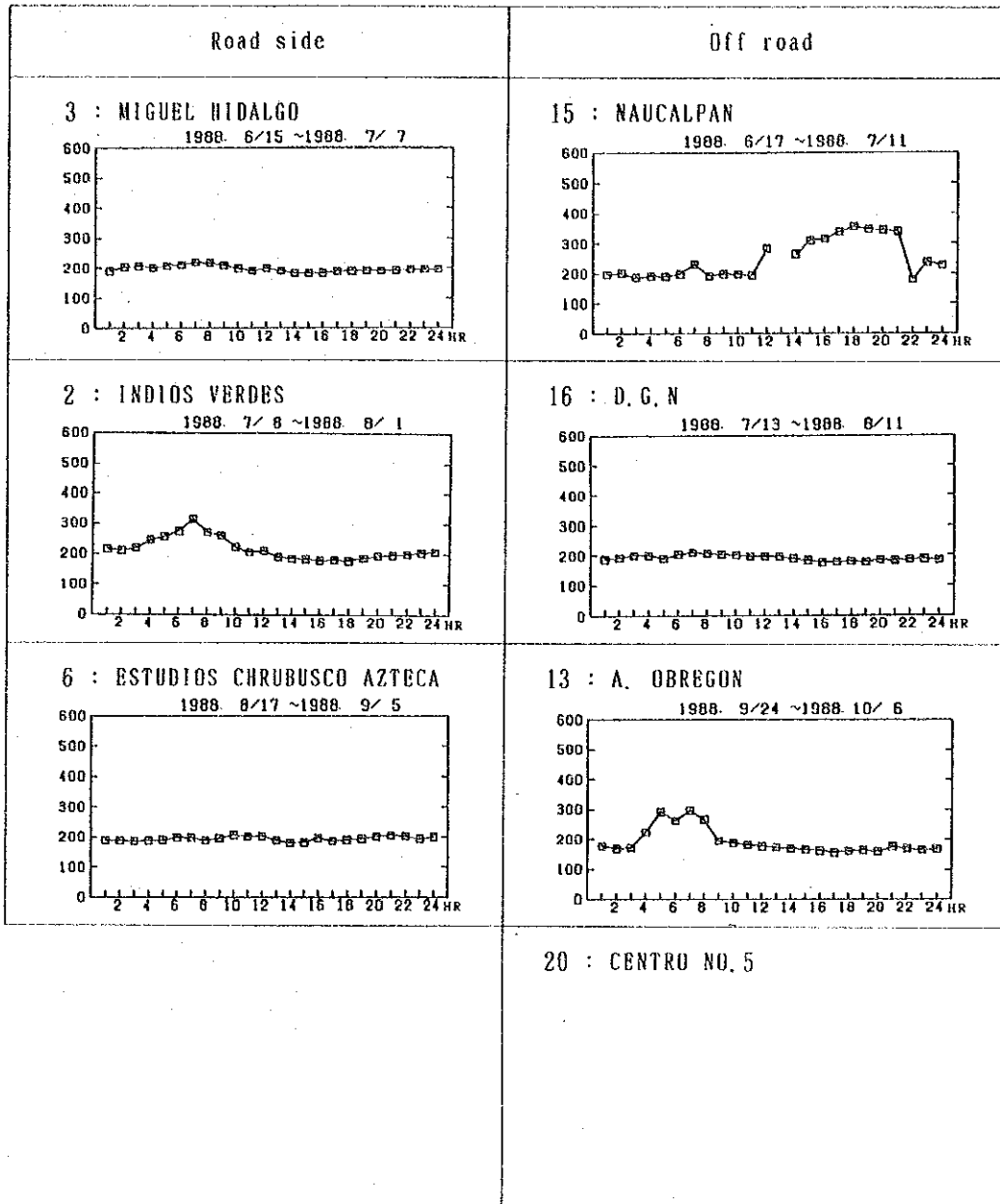


Figure 2.2.8 (2) Daily Hourly Fluctuation of Pollutant Concentration by Month Measured with Monitoring Car

THC (10ppbC)

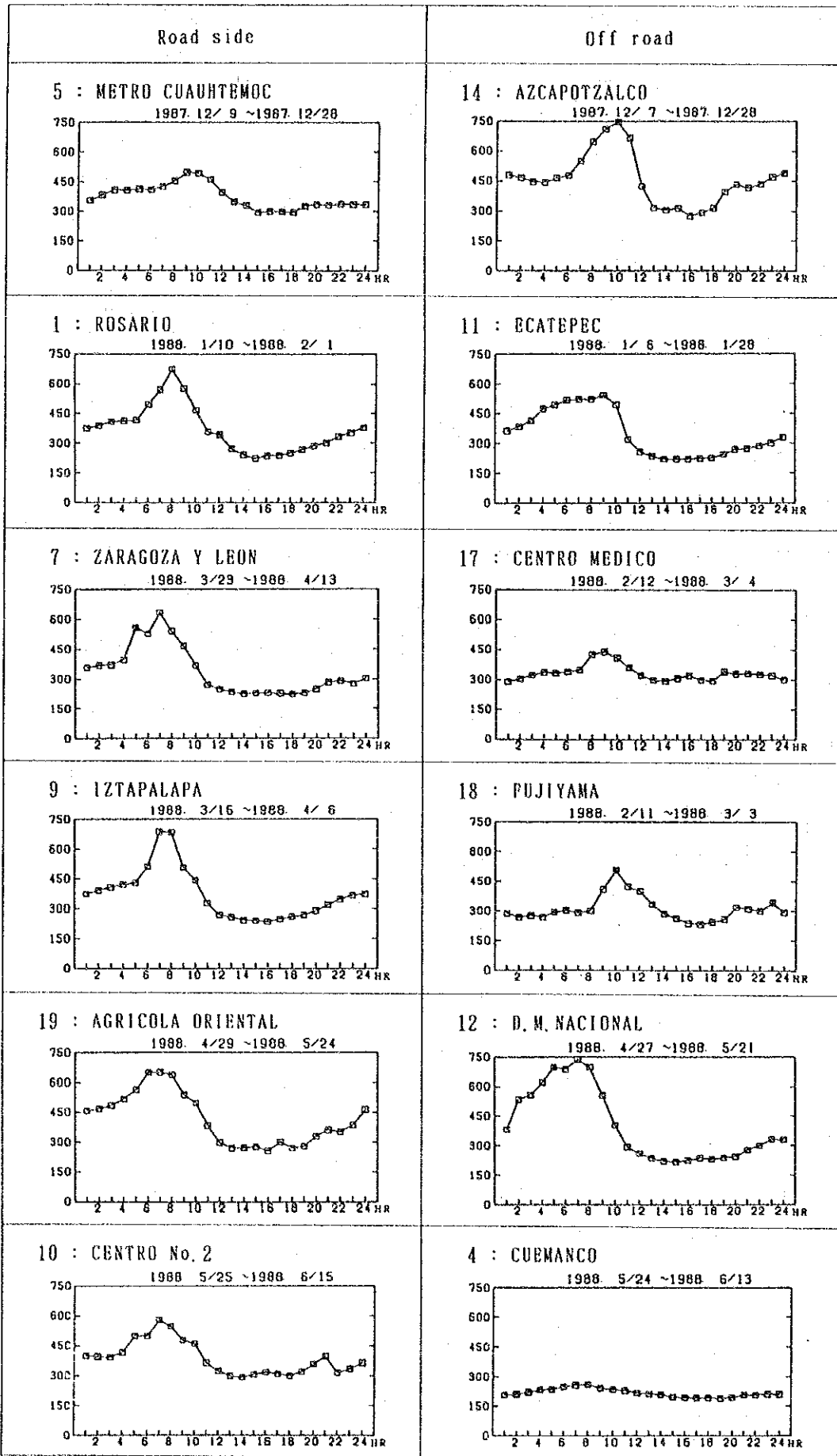


Figure 2.2.9 (1) Daily Hourly Fluctuation of Pollutant Concentration by Month Measured with Monitoring Car

THC (10ppbC)

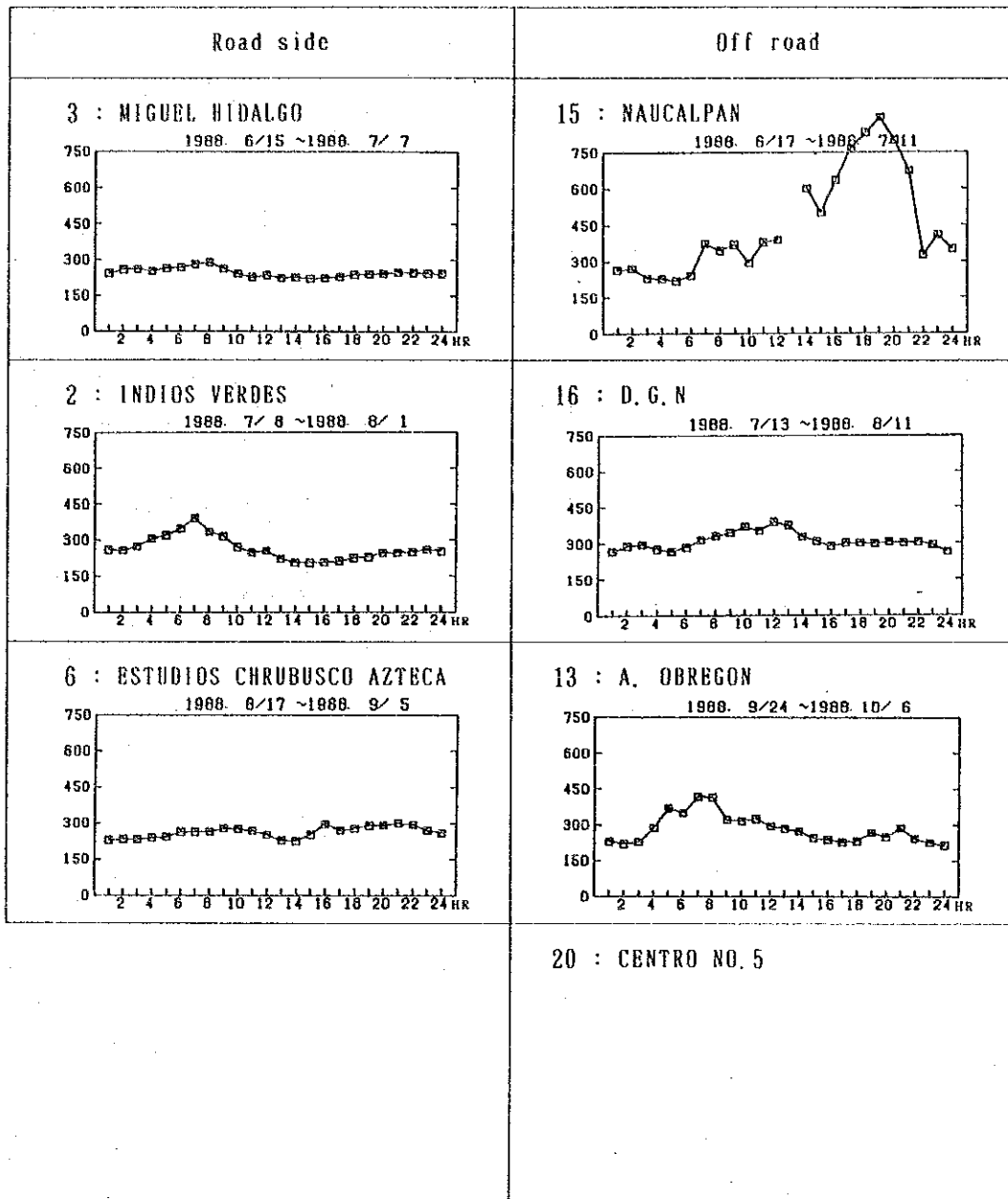


Figure 2.2.9 (2) Daily Hourly Fluctuation of Pollutant Concentration by Month Measured with Monitoring Car

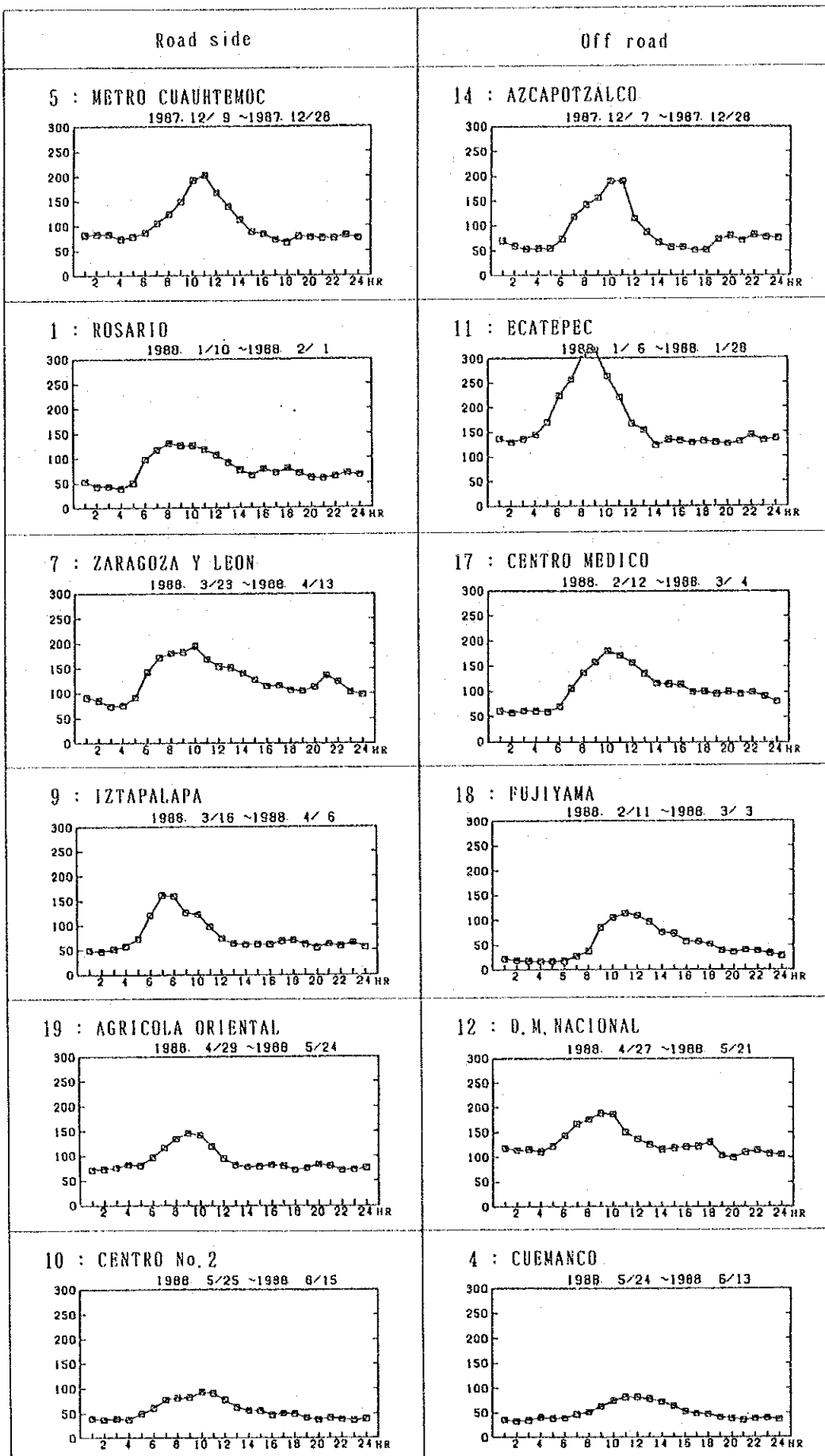


Figure 2.2.10 (1) Daily Hourly Fluctuation of Pollutant Concentration by Month Measured with Monitoring Car



S P M ( $\mu\text{g}/\text{m}^3$ )

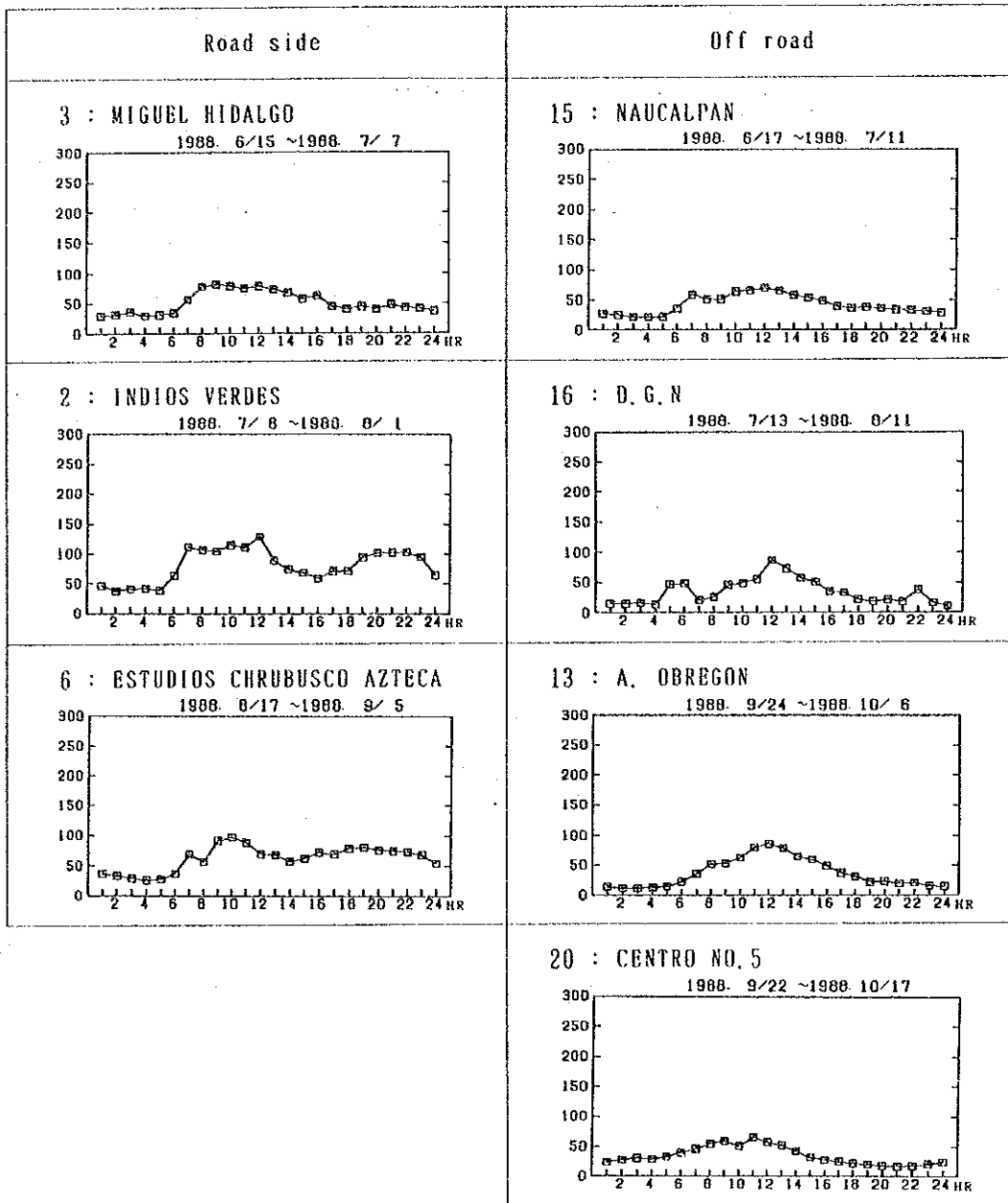


Figure 2.2.10 (2) Daily Hourly Fluctuation of Pollutant Concentration by Month Measured with Monitoring Car

### 2.2.3 Particle Size Distribution of TSP and Metallic Element Content

Table 2.2.3 summarizes the results of measurement, at five points, of SPM (suspended particulate matter) concentration by particle sizes and content of metallic elements in each size.

Monthly values are shown in Tables 2.2.4 through 2.2.12.

Figure 2.2.11 shows monthly variation of particle size distribution of TSP.

Figure 2.2.12 shows monthly variation of metallic element concentration in TSP.

Table 2.2.3 Particle Size Distribution of TSP and Metals  
Sept. 1987 - July 1988

1st row: concentration ( $\mu\text{g}/\text{m}^3$ )  
2nd row: concentration ratio to TSP (%)  
3rd row: concentration ratio to the total (%)

地点名	粒径 ( $\mu\text{m}$ )	SP	FE	ZN	NI	PB	V	MN	NA	CA	K	AL
OFICINA CENTRAL DE D. D. F	***-7.0	62.99 37.8	1.3593 2.16 42.9	0.1213 0.19 18.7	0.0081 0.01 27.6	0.1207 0.19 12.9	0.0295 0.05 23.2	0.0276 0.04 26.2	1.5753 2.50 29.4	2.5745 4.09 70.0	0.2984 0.47 28.2	1.2639 2.01 58.2
	3.3-7.0	19.76 11.9	0.3271 1.66 10.3	0.0820 0.41 12.6	0.0054 0.03 18.5	0.0712 0.36 7.6	0.0130 0.07 10.2	0.0214 0.11 20.3	1.3657 6.91 25.5	0.4575 2.32 12.4	0.1748 0.89 16.5	0.2956 1.50 13.6
	2.0-3.3	11.28 6.8	0.2508 2.22 7.9	0.0942 0.84 14.5	0.0051 0.05 17.3	0.0621 0.55 6.7	0.0211 0.19 16.6	0.0161 0.14 15.3	0.1706 1.51 3.2	0.3186 2.83 8.7	0.1050 0.93 9.9	0.1708 1.51 7.9
	1.1-2.0	12.52 7.5	0.1595 1.27 5.0	0.1164 0.93 17.9	0.0032 0.03 10.7	0.0710 0.57 7.6	0.0118 0.09 9.3	0.0172 0.14 16.3	1.1080 8.85 20.7	0.0960 0.77 2.6	0.0759 0.61 7.2	0.1216 0.97 5.6
	1.1-0.	60.07 38.1	1.0709 1.78 33.8	0.2349 0.39 36.2	0.0076 0.01 25.8	0.6089 1.01 65.2	0.0518 0.09 40.7	0.0230 0.04 21.8	1.1397 1.90 21.3	0.2296 0.38 6.2	0.4032 0.67 38.1	0.3193 0.53 14.7
	#	166.62	3.17 1.9	0.65 0.4	0.03 0.0	0.93 0.6	0.13 0.1	0.11 0.1	5.36 3.2	3.68 2.2	1.06 0.6	2.17 1.3
TACUBA	***-7.0	43.92 32.5	0.7192 1.64 37.2	0.1409 0.32 21.2	0.0095 0.02 26.4	0.0511 0.12 11.0	0.0212 0.05 17.1	0.0562 0.13 45.6	1.6643 3.79 78.2	1.1621 2.65 57.0	0.1928 0.44 51.0	1.0649 2.42 52.5
	7.0-0.	91.33 67.5	1.2119 1.33 62.8	0.5240 0.57 78.8	0.0264 0.03 73.6	0.4124 0.45 89.0	0.1028 0.11 82.9	0.0672 0.07 54.4	0.4630 0.51 21.8	0.8759 0.96 43.0	0.1854 0.20 49.0	0.9652 1.06 47.5
	#	135.25	1.93 1.4	0.66 0.5	0.04 0.0	0.46 0.3	0.12 0.1	0.12 0.1	2.13 1.6	2.04 1.5	0.38 0.3	2.03 1.5
SAN AGUSTIN	***-7.0	68.90 38.8	1.7147 2.49 50.3	0.1425 0.21 29.4	0.0067 0.01 29.3	0.0453 0.07 11.8	0.0121 0.02 19.5	0.0390 0.06 39.1	1.1163 1.62 63.5	1.9329 2.81 54.9	0.4872 0.71 42.0	1.8629 2.70 33.9
	7.0-0.	108.60 61.2	1.6945 1.56 49.7	0.3418 0.31 70.6	0.0161 0.01 70.7	0.3376 0.31 88.2	0.0498 0.05 80.5	0.0607 0.06 60.9	0.6425 0.59 36.5	1.5872 1.46 45.1	0.6720 0.62 58.0	3.6286 3.34 66.1
	#	177.50	3.41 1.9	0.48 0.3	0.02 0.0	0.38 0.2	0.06 0.0	0.10 0.1	1.76 1.0	3.52 2.0	1.16 0.7	5.49 3.1
PEDREGAL	***-7.0	35.13 33.5	1.0435 2.97 44.1	0.0600 0.17 13.7	0.0083 0.02 32.6	0.0478 0.14 11.0	0.0135 0.04 20.1	0.0275 0.08 44.9	0.5027 1.43 50.8	1.1830 3.37 61.5	0.2364 0.67 35.0	0.9109 2.59 48.5
	7.0-0.	69.66 66.5	1.3236 1.90 55.9	0.3778 0.54 86.3	0.0171 0.02 67.4	0.3886 0.56 89.0	0.0536 0.08 79.9	0.0337 0.05 55.1	0.4861 0.70 49.2	0.7404 1.06 38.5	0.4388 0.63 65.0	0.9675 1.39 51.5
	#	104.79	2.37 2.3	0.44 0.4	0.03 0.0	0.44 0.4	0.07 0.1	0.06 0.1	0.99 0.9	1.92 1.8	0.68 0.6	1.88 1.8
ESTRELLA	***-7.0	123.37 42.0	2.0318 1.65 59.8	0.0966 0.08 21.0	0.0109 0.01 54.8	0.0911 0.07 20.0	0.0147 0.01 18.4	0.0374 0.03 53.7	1.0276 0.83 22.1	2.6317 2.13 69.4	0.4027 0.33 48.7	2.6900 2.18 60.6
	7.0-0.	170.14 58.0	1.3648 0.80 40.2	0.3637 0.21 79.0	0.0090 0.01 45.2	0.3641 0.21 80.0	0.0652 0.04 81.6	0.0322 0.02 46.3	3.6195 2.13 77.9	1.1614 0.68 30.6	0.4236 0.25 51.3	1.7520 1.03 39.4
	#	293.51	3.40 1.2	0.46 0.2	0.02 0.0	0.46 0.2	0.08 0.0	0.07 0.0	4.65 1.6	3.79 1.3	0.83 0.3	4.44 1.5

Table 2.2.4 Particle Size Distribution of TSP and Metals Sept. 1987

1st row: concentration ( $\mu\text{g}/\text{m}^3$ )  
 2nd row: concentration ratio to TSP (%)  
 3rd row: concentration ratio to the total (%)

站名	粒径 ( $\mu\text{m}$ )	SP	FE	ZN	NI	PB	V	MN	NA	CA	K	AL
OFICINA CENTRAL DE D. D. F	***-7.0	40.96 36.7	1.1383 2.78 45.9	0.1402 0.34 29.3	0.0 0.0 0.0	0.0856 0.21 9.7	0.0740 0.18 30.6	0.0245 0.06 27.0	0.0 0.0 0.0	2.6915 6.57 80.8	0.2132 0.52 37.3	0.2376 0.58 54.4
	3.3-7.0	13.05 11.7	0.3714 2.85 15.0	0.0 0.0 0.0	0.0 0.0 0.0	0.0718 0.55 8.1	0.0271 0.21 11.2	0.0087 0.07 9.6	0.2769 2.12 32.2	0.2594 1.39 7.8	0.0189 0.14 3.3	0.0870 0.67 19.9
	2.0-3.3	7.96 7.1	0.3097 2.85 12.5	0.1000 1.26 20.9	0.0 0.0 0.0	0.0885 1.11 10.0	0.0561 0.70 23.2	0.0132 0.17 14.5	0.0 0.0 0.0	0.1449 1.82 4.4	0.0595 0.75 10.4	0.0275 0.35 6.3
	1.1-2.0	8.00 7.2	0.2308 2.88 9.3	0.0527 0.66 11.0	0.0 0.0 0.0	0.0803 1.00 9.1	0.0127 0.16 5.3	0.0087 0.11 9.6	0.2284 2.85 26.6	0.1052 1.31 3.2	0.0233 0.29 4.1	0.0259 0.32 5.9
	1.1-0.	41.52 37.2	0.4296 1.03 17.3	0.1858 0.45 38.8	0.0 0.0 0.0	0.5597 1.55 63.2	0.0719 0.17 29.7	0.0357 0.09 39.3	0.3546 0.85 41.2	0.1286 0.31 3.9	0.2563 0.62 44.9	0.0590 0.14 13.5
	#	111.49 2.2	2.48 0.4	0.48 0.0	0.0 0.0	0.89 0.8	0.24 0.2	0.09 0.1	0.86 0.8	3.33 3.0	0.57 0.5	0.44 0.4
SAN AGUSTIN	***-7.0	27.46 41.0	0.5318 1.94 100.0	0.0 0.0 0.0	0.0 0.0 0.0	0.0280 0.10 76.5	0.0 0.0 0.0	0.0137 0.05 100.0	0.0 0.0 0.0	0.6154 2.24 100.0	0.0632 0.23 100.0	0.1224 0.45 100.0
	7.0-0.	39.50 59.0	0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.0086 0.02 23.5	0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.0 0.0
	#	66.96 0.8	0.53 0.0	0.0 0.0	0.0 0.0	0.04 0.1	0.0 0.0	0.01 0.0	0.0 0.0	0.62 0.9	0.06 0.1	0.12 0.2
PEDREGAL	***-7.0	15.84 25.4	0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.0393 0.25 51.5	0.0 0.0 0.0	0.0065 0.04 100.0	0.0 0.0 0.0	0.0848 0.54 100.0	0.0 0.0 0.0	0.1091 0.69 100.0
	7.0-0.	46.40 74.6	0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.0370 0.08 48.5	0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.0 0.0
	#	62.24 0.0	0.0 0.0	0.0 0.0	0.0 0.0	0.08 0.1	0.0 0.0	0.01 0.0	0.0 0.0	0.08 0.1	0.0 0.0	0.11 0.2
ESTRELLA	***-7.0	63.68 44.7	1.7673 2.78 81.1	0.0 0.0 0.0	0.0 0.0 0.0	0.0847 0.13 23.1	0.0 0.0 0.0	0.0253 0.04 93.4	0.0 0.0 0.0	0.7704 1.21 71.7	0.1106 0.17 100.0	0.5016 0.79 90.8
	7.0-0.	78.69 55.3	0.4120 0.52 18.9	0.0 0.0 0.0	0.0 0.0 0.0	0.2815 0.36 76.9	0.0 0.0 0.0	0.0018 0.00 6.6	0.0 0.0 0.0	0.3045 0.39 28.3	0.0 0.0 0.0	0.0508 0.06 9.2
	#	142.37 1.5	2.18 0.0	0.0 0.0	0.0 0.0	0.37 0.3	0.0 0.0	0.03 0.0	0.0 0.0	1.07 0.8	0.11 0.1	0.55 0.4

Table 2.2.5 Particle Size Distribution of TSP and Metals

Oct. 1987

1st row: concentration ( $\mu\text{g}/\text{m}^3$ )  
 2nd row: concentration ratio to TSP (%)  
 3rd row: concentration ratio to the total (%)

地点名	粒径 ( $\mu\text{m}$ )	SP	FE	ZN	NI	PB	V	MN	NA	CA	K	AL
OFICINA CENTRAL DE D. D. F	***-7.0	77.31 44.6	2.7511 3.56 67.2	0.1665 0.22 36.5	0.0 0.0 0.0	0.1086 0.14 14.2	0.0 0.0 0.0	0.0494 0.06 48.8	0.2287 0.30 79.7	3.0726 3.97 83.4	0.2684 0.35 67.0	0.8064 1.04 56.9
	3.3-7.0	22.42 12.9	0.2609 1.16 6.4	0.0 0.0 0.0	0.0 0.0 0.0	0.0197 0.09 2.6	0.0 0.0 0.0	0.0117 0.05 11.5	0.0 0.0 0.0	0.1916 0.85 5.2	0.0 0.0 0.0	0.2384 1.06 16.8
	2.0-3.3	10.06 5.8	0.3634 3.61 8.9	0.0784 0.78 17.2	0.0 0.0 0.0	0.0769 0.76 10.1	0.0 0.0 0.0	0.0141 0.14 13.9	0.0 0.0 0.0	0.0834 0.83 2.3	0.0 0.0 0.0	0.1130 1.12 8.0
	1.1-2.0	9.61 5.5	0.1593 1.66 3.9	0.0 0.0 0.0	0.0 0.0 0.0	0.0523 0.54 6.9	0.0 0.0 0.0	0.0062 0.06 6.1	0.0581 0.60 20.3	0.0177 0.18 0.5	0.0 0.0 0.0	0.0924 0.96 6.5
	1.1-0.	54.08 31.2	0.5619 1.04 13.7	0.2115 0.39 46.3	0.0 0.0 0.0	0.5059 0.94 66.3	0.0183 0.03 100.0	0.0199 0.04 19.6	0.0 0.0 0.0	0.3167 0.59 8.6	0.1320 0.24 33.0	0.1677 0.31 11.8
	#	173.48 2.4	4.10 0.3	0.46 0.0	0.0 0.0	0.76 0.4	0.02 0.0	0.10 0.1	0.29 0.2	3.68 2.1	0.40 0.2	1.42 0.8
TACUBA	***-7.0	48.01 39.2	0.3390 0.71 16.5	0.0212 0.04 9.3	0.0 0.0 0.0	0.0270 0.06 7.4	0.0 0.0 0.0	0.0357 0.07 37.3	0.0 0.0 0.0	1.5506 3.23 47.6	0.1168 0.24 77.8	0.6472 1.35 60.3
	7.0-0.	74.61 60.8	1.7112 2.29 83.5	0.2059 0.28 90.7	0.0 0.0 0.0	0.3384 0.45 92.6	0.1468 0.20 100.0	0.0599 0.08 62.7	0.0 0.0 0.0	1.7102 2.29 52.4	0.0334 0.04 22.2	0.4266 0.57 39.7
	#	122.62 1.7	2.05 0.2	0.23 0.0	0.0 0.0	0.37 0.5	0.15 0.1	0.10 0.1	0.0 0.0	3.26 2.7	0.15 0.1	1.07 0.9
SAN AGUSTIN	***-7.0	31.40 52.0	0.7669 2.44 32.5	0.0 0.0 0.0	0.0 0.0 0.0	0.0193 0.06 6.8	0.0 0.0 0.0	0.0206 0.07 46.1	0.0532 0.17 24.6	0.8689 2.77 43.7	0.0887 0.28 100.0	0.4058 1.29 48.1
	7.0-0.	29.01 48.0	1.5925 5.49 67.5	0.0 0.0 0.0	0.0 0.0 0.0	0.2629 0.91 93.2	0.0456 0.16 100.0	0.0241 0.08 53.9	0.1629 0.56 75.4	1.1180 3.85 56.3	0.0 0.0 0.0	0.4372 1.51 51.9
	#	60.41 3.9	2.36 0.0	0.0 0.0	0.0 0.0	0.28 0.5	0.05 0.1	0.04 0.1	0.22 0.4	1.99 3.3	0.09 0.1	0.84 1.4
PEDREGAL	***-7.0	53.62 43.0	2.1679 4.04 54.4	0.0 0.0 0.0	0.0 0.0 0.0	0.0790 0.15 11.0	0.0437 0.08 35.9	0.0341 0.06 49.9	0.0 0.0 0.0	1.6685 3.11 61.9	0.1275 0.24 100.0	0.7698 1.44 71.4
	7.0-0.	71.10 57.0	1.8166 2.55 45.6	0.0 0.0 0.0	0.0 0.0 0.0	0.6421 0.90 89.0	0.0781 0.11 64.1	0.0342 0.05 50.1	0.0651 0.09 100.0	1.0284 1.45 38.1	0.0 0.0 0.0	0.3083 0.43 28.6
	#	124.72 3.2	3.98 0.0	0.0 0.0	0.0 0.0	0.72 0.6	0.12 0.1	0.07 0.1	0.07 0.1	2.70 2.2	0.13 0.1	1.08 0.9
ESTRELLA	***-7.0	115.71 48.5	3.2461 2.81 72.0	0.0128 0.01 1.3	0.0048 0.00 100.0	0.0959 0.08 11.1	0.0 0.0 0.0	0.0485 0.04 59.8	0.6675 0.58 100.0	3.2983 2.85 70.7	0.4791 0.41 80.1	0.8952 0.77 64.2
	7.0-0.	122.75 51.5	1.2650 1.03 28.0	0.9978 0.81 98.7	0.0 0.0 0.0	0.7643 0.62 88.9	0.0993 0.08 100.0	0.0326 0.03 40.2	0.0 0.0 0.0	1.3667 1.11 29.3	0.1192 0.10 19.9	0.4990 0.41 35.8
	#	238.46 1.9	4.51 0.4	1.01 0.0	0.00 0.0	0.86 0.4	0.10 0.0	0.08 0.0	0.67 0.3	4.66 2.0	0.60 0.3	1.39 0.6

Table 2.2.6 Particle Size Distribution of TSP and Metals

1st row: concentration ( $\mu\text{g}/\text{m}^3$ )  
 2nd row: concentration ratio to TSP (%)  
 3rd row: concentration ratio to the total (%)

地点	粒径 ( $\mu\text{m}$ )	SP	FE	ZN	NI	PB	V	MN	NA	CA	K	AL
OFICINA CENTRAL DE D. D. F	***-7.0	89.54	2.5843	0.2466	0.0134	0.1304	0.0352	0.0386	0.5377	5.8556	0.2920	1.7198
		44.3	2.89	0.28	0.01	0.15	0.04	0.04	0.60	6.54	0.33	1.92
	3.3-7.0	24.48	0.2776	0.1669	0.0	0.0888	0.0139	0.0125	0.0217	0.7790	0.0956	0.3506
		12.1	1.13	0.68	0.0	0.36	0.06	0.05	0.09	3.18	0.39	1.43
	2.0-3.3	12.01	0.1626	0.1896	0.0025	0.1068	0.0072	0.0125	0.0530	0.2995	0.0662	0.1899
		5.9	1.35	1.58	0.02	0.89	0.06	0.10	0.44	2.49	0.55	1.58
1.1-2.0	12.76	0.0884	0.2169	0.0	0.1156	0.0081	0.0083	0.0	0.0	0.0541	0.0938	
	6.3	0.69	1.70	0.0	0.91	0.06	0.07	0.0	0.0	0.42	0.74	
1.1-0.	63.16	0.1911	0.4037	0.0056	0.6676	0.0574	0.0184	0.0524	0.4566	0.2048	0.2111	
	31.3	0.30	0.64	0.01	1.06	0.09	0.03	0.08	0.72	0.32	0.33	
#	201.95	3.30	1.22	0.02	1.11	0.12	0.09	0.66	7.39	0.71	2.57	
TACUBA	***-7.0	50.99	0.6122	0.0897	0.0	0.0851	0.0178	0.0225	0.0513	0.7415	0.1400	0.9638
		39.8	1.20	0.18	0.0	0.17	0.03	0.04	0.10	1.45	0.27	1.89
	7.0-0.	77.27	0.6726	0.3923	0.0	0.5481	0.0879	0.0296	0.0385	1.2741	0.2870	0.7933
#	128.26	1.28	0.48	0.0	0.63	0.11	0.05	0.09	2.02	0.43	1.76	
SAN AGUSTIN	***-7.0	91.83	1.0643	0.0982	0.0097	0.0809	0.0125	0.0277	0.7288	5.6766	0.2322	1.1818
		48.8	1.16	0.11	0.01	0.09	0.01	0.03	0.79	6.18	0.25	1.29
	7.0-0.	96.42	0.6386	0.8354	0.0	0.7518	0.0384	0.0357	0.1815	3.0268	0.3504	0.9221
#	188.25	0.66	0.87	0.0	0.78	0.04	0.04	0.19	3.14	0.36	0.96	
PEDREGAL	***-7.0	36.38	0.5178	0.0446	0.0	0.0739	0.0086	0.0126	0.0	2.6752	0.0991	1.7446
		38.2	1.42	0.12	0.0	0.20	0.02	0.03	0.0	7.35	0.27	4.80
	7.0-0.	58.84	0.3079	0.1515	0.0	0.6414	0.0458	0.0116	0.0	0.0320	0.1257	0.5471
#	95.22	0.52	0.26	0.0	1.09	0.08	0.02	0.0	0.05	0.21	0.93	
ESTRELLA	***-7.0	121.03	1.6824	0.2138	0.0	0.1333	0.0275	0.0387	0.2035	3.7365	0.5746	3.0238
		49.9	1.39	0.18	0.0	0.11	0.02	0.03	0.17	3.09	0.47	2.50
	7.0-0.	121.54	0.7528	0.5605	0.0	0.4833	0.0816	0.0248	0.1210	1.7877	0.3848	1.0451
#	242.57	0.62	0.46	0.0	0.40	0.07	0.02	0.10	1.47	0.32	0.86	
#	242.57	2.44	0.77	0.0	0.62	0.11	0.06	0.32	5.52	0.96	4.07	
#	1.0	0.3	0.0	0.3	0.0	0.0	0.0	0.1	2.3	0.4	1.7	

Table 2.2.7 Particle Size Distribution of TSP and Metals  
Dec. 1987

1st row: concentration ( $\mu\text{g}/\text{m}^3$ )  
2nd row: concentration ratio to TSP (%)  
3rd row: concentration ratio to the total (%)

地点名	粒径 ( $\mu\text{m}$ )	SP	FE	ZN	NI	PB	V	MN	NA	CA	K	AL
OFICINA CENTRAL DE D. D. F	***-7.0	87.87 42.0	1.4772 1.68 14.9	0.1350 0.15 19.4	0.0054 0.01 34.2	0.1294 0.15 12.3	0.0 0.0 0.0	0.0320 0.04 49.5	0.5830 0.66 74.7	4.8528 5.52 76.0	0.2939 0.35 19.9	1.6272 1.85 63.8
	3.3-7.0	24.22 11.6	0.4750 1.96 4.8	0.0824 0.34 11.8	0.0027 0.01 17.1	0.1116 0.46 10.6	0.0158 0.07 55.6	0.0070 0.03 10.8	0.0 0.0 0.0	0.4927 2.03 7.7	0.0997 0.41 6.8	0.3535 1.46 13.9
	2.0-3.3	13.70 6.5	0.1773 1.29 1.8	0.0769 0.56 11.0	0.0 0.0 0.0	0.0907 0.66 8.6	0.0 0.0 0.0	0.0068 0.05 10.5	0.1971 1.44 25.3	0.4852 3.54 7.6	0.0717 0.52 4.9	0.1645 1.20 6.4
	1.1-2.0	12.71 6.1	0.0 0.0 0.0	0.1160 0.91 16.6	0.0 0.0 0.0	0.1163 0.92 11.1	0.0126 0.10 44.4	0.0028 0.02 4.3	0.0 0.0 0.0	0.0 0.0 0.0	0.0622 0.49 4.2	0.1273 1.00 5.0
	1.1-0.	70.93 33.9	7.7580 10.94 78.5	0.2868 0.40 41.1	0.0077 0.01 48.7	0.6043 0.85 57.4	0.0 0.0 0.0	0.0160 0.02 24.8	0.0 0.0 0.0	0.5559 0.78 8.7	0.9485 1.34 64.3	0.2785 0.39 10.9
	#	209.43	9.89 4.7	0.70 0.3	0.02 0.0	1.05 0.5	0.03 0.0	0.06 0.0	0.78 0.4	6.39 3.0	1.48 0.7	2.55 1.2
TACUBA	***-7.0	67.23 39.7	0.2015 0.30 8.2	0.0974 0.14 8.1	0.0093 0.01 100.0	0.0875 0.13 11.9	0.0 0.0 0.0	0.0334 0.05 48.8	0.3884 0.58 100.0	3.5170 5.23 82.0	0.1957 0.29 37.2	0.3079 0.46 32.7
	7.0-0.	102.07 60.3	2.2521 2.21 91.8	1.1117 1.09 91.9	0.0 0.0 0.0	0.6489 0.64 88.1	0.1032 0.10 100.0	0.0350 0.03 51.2	0.0 0.0 0.0	0.7720 0.76 18.0	0.3307 0.32 62.8	0.6350 0.62 67.3
	#	169.30	2.45 1.4	1.21 0.7	0.01 0.0	0.74 0.4	0.10 9.1	0.07 0.0	0.39 0.2	4.29 2.5	0.53 0.3	0.94 0.6
SAN AGUSTIN	***-7.0	113.08 33.3	3.4606 3.06 88.3	0.1293 0.11 24.0	0.0032 0.00 100.0	0.0658 0.06 12.0	0.0 0.0 0.0	0.0328 0.03 35.1	3.5350 3.13 46.7	6.6580 5.89 66.6	1.6031 1.42 51.9	4.8013 4.25 49.2
	7.0-0.	226.38 66.7	0.4585 0.20 11.7	0.4087 0.18 76.0	0.0 0.0 0.0	0.4832 0.21 88.0	0.0919 0.04 100.0	0.0606 0.03 64.9	4.0405 1.78 53.3	3.3460 1.48 33.4	1.4848 0.66 48.1	4.9588 2.19 50.8
	#	339.46	3.92 1.2	0.54 0.2	0.00 0.0	0.55 0.2	0.09 0.0	0.09 0.0	7.58 2.2	10.00 2.9	3.09 0.9	9.76 2.9
PEDREGAL	***-7.0	36.93 34.6	0.5025 1.36 12.2	0.0237 0.06 8.9	0.0180 0.05 54.2	0.0611 0.17 16.3	0.0 0.0 0.0	0.0130 0.04 69.9	0.2097 0.57 100.0	1.3697 3.71 100.0	0.1133 0.31 36.1	0.9450 2.56 71.9
	7.0-0.	69.88 65.4	3.6067 5.16 87.8	0.2416 0.35 91.1	0.0152 0.02 45.8	0.3137 0.45 83.7	0.0370 0.05 100.0	0.0056 0.01 30.1	0.0 0.0 0.0	0.0 0.0 0.0	0.2009 0.29 63.9	0.3693 0.53 28.1
	#	106.81	4.11 3.8	0.27 0.2	0.03 0.0	0.37 0.4	0.04 0.0	0.02 0.0	0.21 0.2	1.37 1.3	0.31 0.3	1.31 1.2
ESTRELLA	***-7.0	205.05 47.0	2.1758 1.06 100.0	0.0801 0.04 21.7	0.0209 0.01 100.0	0.1112 0.05 63.7	0.0 0.0 0.0	0.0647 0.03 62.5	0.7491 0.37 100.0	6.2390 3.04 70.9	0.7155 0.35 56.9	4.0655 1.98 62.9
	7.0-0.	230.94 53.0	0.0 0.0 0.0	0.2889 0.13 78.3	0.0 0.0 0.0	0.0633 0.03 36.3	0.0832 0.04 100.0	0.0388 0.02 37.5	0.0 0.0 0.0	2.5572 1.11 29.1	0.5417 0.23 43.1	2.4022 1.04 37.1
	#	435.99	2.18 0.5	0.37 0.1	0.02 0.0	0.17 0.0	0.08 0.0	0.10 0.0	0.75 0.2	8.80 2.0	1.26 0.3	6.47 1.5

Table 2.2.8 Particle Size Distribution of TSP and Metals  
Jan. 1988

1st row: concentration ( $\mu\text{g}/\text{m}^3$ )  
2nd row: concentration ratio to TSP (%)  
3rd row: concentration ratio to the total (%)

地点名	粒径 ( $\mu\text{m}$ )	SP	FE	ZN	NI	PB	V	MN	NA	CA	K	AL
OFICINA CENTRAL DE D. D. F	***-7.0	91.50 42.6	1.9419 2.12 59.3	0.1152 0.13 13.9	0.0128 0.01 29.2	0.0877 0.10 3.1	0.0496 0.05 20.9	0.0603 0.07 41.4	0.4742 0.52 37.0	6.8604 7.50 75.0	0.2703 0.30 55.9	1.4033 1.53 67.9
	3.3-7.0	24.29 11.3	0.4602 1.89 14.0	0.0955 0.39 11.5	0.0045 0.02 10.3	0.0599 0.25 2.1	0.0225 0.09 9.5	0.0234 0.10 16.1	0.2277 0.94 17.8	1.4591 6.01 15.9	0.0559 0.23 11.6	0.3036 1.25 14.7
	2.0-3.3	15.69 7.3	0.2423 1.54 7.4	0.0880 0.56 10.6	0.0101 0.06 23.1	0.0547 0.35 2.0	0.0115 0.07 4.9	0.0294 0.19 20.2	0.0 0.0 0.0	0.2856 1.82 3.1	0.0280 0.18 5.8	0.1542 0.98 7.5
	1.1-2.0	13.17 6.1	0.1912 1.45 5.8	0.1538 1.17 18.5	0.0025 0.02 5.7	0.0580 0.44 2.1	0.0157 0.12 6.6	0.0145 0.11 10.0	0.2343 1.78 18.3	0.1000 0.76 1.1	0.0224 0.17 4.6	0.0904 0.69 4.4
	1.1-0.	70.03 32.6	0.4406 0.63 13.4	0.3776 0.54 45.5	0.0139 0.02 31.7	2.5262 3.61 90.7	0.1375 0.20 58.1	0.0179 0.03 12.3	0.3449 0.49 26.9	0.4443 0.63 4.9	0.1072 0.15 22.2	0.1144 0.16 5.5
	#	214.68	3.28 1.5	0.83 0.4	0.04 0.0	2.79 1.3	0.24 0.1	0.15 0.1	1.28 0.6	9.15 4.3	0.48 0.2	2.07 1.0
TACUBA	***-7.0	68.89 38.1	1.6775 2.44 59.2	0.7996 1.16 69.4	0.0063 0.01 21.4	0.0565 0.08 11.5	0.0366 0.05 19.6	0.0428 0.06 50.2	0.0764 0.11 67.8	1.6407 2.38 63.1	0.1600 0.23 35.0	1.0514 1.53 43.6
	7.0-0.	112.08 61.9	1.1538 1.03 40.8	0.3532 0.32 30.6	0.0232 0.02 78.6	0.4362 0.39 88.5	0.1501 0.13 80.4	0.0425 0.04 49.8	0.0363 0.03 32.2	0.9612 0.86 36.9	0.2968 0.26 65.0	1.3600 1.21 56.4
	#	180.97	2.83 1.6	1.15 0.6	0.03 0.0	0.49 0.3	0.19 0.1	0.09 0.0	0.11 0.1	2.60 1.4	0.46 0.3	2.41 1.3
SAN AGUSTIN	***-7.0	78.43 40.3	1.5712 2.00 45.0	0.4421 0.56 73.3	0.0053 0.01 38.4	0.0258 0.03 100.0	0.0 0.0 0.0	0.0336 0.04 41.0	1.1234 1.43 99.0	0.9688 1.24 34.2	0.1899 0.24 44.6	1.1350 1.45 48.3
	7.0-0.	116.19 59.7	1.9240 1.66 55.0	0.1608 0.14 26.7	0.0085 0.01 61.6	0.0 0.0 0.0	0.0212 0.02 100.0	0.0483 0.04 59.0	0.0108 0.01 1.0	1.8663 1.61 65.8	0.2357 0.20 55.4	1.2161 1.05 51.7
	#	194.62	3.50 1.8	0.60 0.3	0.01 0.0	0.03 0.0	0.02 0.0	0.08 0.0	1.13 0.6	2.84 1.5	0.43 0.2	2.35 1.2
PEDREGAL	***-7.0	65.18 39.2	1.4560 2.23 57.2	0.0394 0.06 21.9	0.0055 0.01 100.0	0.0465 0.07 10.6	0.0069 0.01 7.9	0.0255 0.04 38.8	0.3421 0.52 44.0	1.1376 1.75 45.5	0.1402 0.22 50.5	0.9249 1.42 64.1
	7.0-0.	101.04 60.8	1.0894 1.08 42.8	0.1408 0.14 78.1	0.0 0.0 0.0	0.3937 0.39 89.4	0.0809 0.08 92.1	0.0402 0.04 61.2	0.4346 0.43 56.0	1.3602 1.35 54.5	0.1372 0.14 49.5	0.5170 0.51 35.9
	#	166.22	2.55 1.5	0.18 0.1	0.01 0.0	0.44 0.3	0.09 0.1	0.07 0.0	0.78 0.5	2.50 1.5	0.28 0.2	1.44 0.9
ESTRELLA	***-7.0	147.96 47.9	2.6639 1.80 57.2	0.0730 0.05 93.2	0.0187 0.01 65.2	0.0594 0.04 38.5	0.0128 0.01 12.9	0.0551 0.04 47.8	0.6818 0.46 49.6	3.2177 2.17 57.8	0.5038 0.34 70.9	1.6509 1.12 60.9
	7.0-0.	160.91 52.1	1.9905 1.24 42.8	0.0053 0.00 6.8	0.0100 0.01 34.8	0.0950 0.06 61.5	0.0862 0.05 87.1	0.0601 0.04 52.2	0.6932 0.43 50.4	2.3491 1.46 42.2	0.2065 0.13 29.1	1.0595 0.66 39.1
	#	308.87	4.65 1.5	0.08 0.0	0.03 0.0	0.15 0.0	0.10 0.0	0.12 0.0	1.38 0.4	5.57 1.8	0.71 0.2	2.71 0.9



Table 2.2.9 Particle Size Distribution of TSP and Metals  
Feb. 1988

1st row: concentration ( $\mu\text{g}/\text{m}^3$ )  
2nd row: concentration ratio to TSP (%)  
3rd row: concentration ratio to the total (%)

地点名	粒径 ( $\mu\text{m}$ )	SP	FE	ZN	NI	PB	V	MN	NA	CA	K	AL
OFICINA CENTRAL DE D. D. F	***-7.0	72.35 42.4	0.4086 0.56 25.7	0.0475 0.07 14.7	0.0 0.0 0.0	0.4462 0.62 48.6	0.0 0.0 0.0	0.0040 0.01 18.2	0.1158 0.16 22.6	0.2058 0.28 15.0	0.0079 0.01 6.8	0.6738 0.93 35.1
	3.3-7.0	23.05 13.5	0.3196 1.39 20.1	0.0831 0.36 25.8	0.0040 0.02 44.4	0.1306 0.57 14.2	0.0 0.0 0.0	0.0060 0.03 27.3	0.1860 0.81 36.3	0.4808 2.09 35.1	0.0416 0.18 35.6	0.3908 1.70 20.4
	2.0-3.3	8.80 5.2	0.2335 2.65 14.7	0.0406 0.46 12.6	0.0 0.0 0.0	0.0326 0.37 5.6	0.0 0.0 0.0	0.0020 0.02 9.1	0.0 0.0 0.0	0.6322 7.18 46.1	0.0 0.0 0.0	0.2919 3.32 15.2
	1.1-2.0	9.77 5.7	0.1583 1.62 9.9	0.0277 0.28 8.6	0.0020 0.02 22.2	0.0228 0.23 2.5	0.0 0.0 0.0	0.0010 0.01 4.5	0.0643 0.66 12.6	0.0416 0.43 3.0	0.0020 0.02 1.7	0.1662 1.70 8.7
	1.1-0.	56.63 33.2	0.4710 0.83 29.6	0.1237 0.22 38.3	0.0030 0.01 33.3	0.2859 0.50 31.1	0.0 0.0 0.0	0.0090 0.02 40.9	0.1457 0.26 28.5	0.0109 0.02 0.8	0.0653 0.12 55.9	0.3958 0.70 20.6
	#	170.60 0.9	1.59 0.2	0.32 0.0	0.01 0.0	0.92 0.5	0.0 0.0	0.02 0.3	0.51 0.8	1.37 0.1	0.12 0.1	1.92 1.1
TACUBA	***-7.0	52.03 33.5	0.9894 1.90 59.3	0.0336 0.06 32.7	0.0 0.0 0.0	0.0346 0.07 12.2	0.0 0.0 0.0	0.0139 0.03 100.0	0.0 0.0 0.0	0.2513 0.48 100.0	0.0336 0.06 44.2	1.2427 2.39 88.0
	7.0-0.	103.33 66.5	0.6787 0.66 40.7	0.0693 0.07 67.3	0.0 0.0 0.0	0.2483 0.24 87.8	0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.0 0.0 0.0	0.0425 0.04 55.8	0.1692 0.16 12.0
	#	155.36 1.1	1.67 0.1	0.10 0.0	0.0 0.0	0.28 0.2	0.0 0.0	0.01 0.0	0.0 0.0	0.25 0.2	0.08 0.0	1.41 0.9
SAN AGUSTIN	***-7.0	106.78 37.8	3.4599 3.24 52.8	0.1801 0.17 36.4	0.0 0.0 0.0	0.0406 0.04 10.4	0.0 0.0 0.0	0.0445 0.04 52.9	0.2226 0.21 60.7	1.8571 1.74 56.7	0.7688 0.81 45.8	3.1344 2.94 18.5
	7.0-0.	175.35 62.2	3.0889 1.76 47.2	0.3146 0.18 63.6	0.0 0.0 0.0	0.3502 0.20 89.6	0.0 0.0 0.0	0.0396 0.02 47.1	0.1444 0.08 39.3	1.4198 0.81 43.3	0.9083 0.52 54.2	13.802 7.87 81.5
	#	282.13 2.3	6.55 0.2	0.49 0.0	0.0 0.0	0.39 0.1	0.0 0.0	0.08 0.1	0.37 1.2	3.28 0.6	1.68 0.6	16.94 6.0
PEDREGAL	***-7.0	49.08 41.4	1.7206 3.51 44.3	0.1276 0.26 32.0	0.0 0.0 0.0	0.0455 0.09 6.1	0.0 0.0 0.0	0.0277 0.06 60.9	0.7668 1.56 49.8	1.9788 4.03 52.0	0.9676 1.97 44.8	2.1628 4.41 44.2
	7.0-0.	69.37 58.6	2.1668 3.12 55.7	0.2706 0.39 68.0	0.0 0.0 0.0	0.6946 1.00 93.9	0.0 0.0 0.0	0.0178 0.03 39.1	0.7717 1.11 50.2	1.8235 2.63 48.0	1.1932 1.72 55.2	2.7337 3.94 55.8
	#	118.45 3.3	3.89 0.3	0.40 0.0	0.0 0.0	0.74 0.6	0.0 0.0	0.05 0.0	1.54 1.3	3.80 3.2	2.16 1.8	4.90 4.1
ESTRELLA	***-7.0	151.10 38.3	1.1220 0.74 36.8	0.0702 0.05 25.4	0.0 0.0 0.0	0.0396 0.03 7.3	0.0 0.0 0.0	0.0218 0.01 50.0	0.0841 0.06 40.9	0.6411 0.42 35.9	0.3206 0.21 38.3	1.5385 1.02 38.2
	7.0-0.	243.21 61.7	1.9244 0.79 63.2	0.2058 0.08 74.6	0.0 0.0 0.0	0.5056 0.21 92.7	0.0 0.0 0.0	0.0218 0.01 50.0	0.1217 0.05 59.1	1.1467 0.47 64.1	0.5155 0.21 61.7	2.4893 1.02 61.8
	#	394.31 0.8	3.05 0.1	0.28 0.0	0.0 0.0	0.55 0.1	0.0 0.0	0.04 0.0	0.21 0.1	1.79 0.5	0.84 0.2	4.03 1.0

Table 2.2.10 Particle Size Distribution of TSP and Metals  
March 1988

1st row: concentration ( $\mu\text{g}/\text{m}^3$ )  
2nd row: concentration ratio to TSP (%)  
3rd row: concentration ratio to the total (%)

地点名	粒径 ( $\mu\text{m}$ )	SP	FE	ZN	NI	PB	V	MN	NA	CA	K	AL
OFICINA CENTRAL DE D. D. F	***-7.0	55.24 1.06 40.8	0.5837 0.10 47.2	0.0554 0.10 28.4	0.0063 0.01 22.3	0.0463 0.08 12.3	0.0188 0.03 17.3	0.0117 0.02 84.6	3.4710 6.28 86.5	0.6915 1.25 58.4	0.0404 0.07 5.5	0.8709 1.58 46.2
	3.3-7.0	14.73 0.88 10.9	0.1289 0.45 10.4	0.0656 0.09 33.6	0.0133 0.09 47.2	0.0306 0.21 8.1	0.0149 0.10 13.7	0.0008 0.01 4.4	0.5440 3.69 13.5	0.1567 1.06 13.2	0.0 0.0 0.0	0.3309 2.25 17.6
	2.0-3.3	8.45 2.11 6.2	0.1782 0.16 14.4	0.0131 0.16 6.7	0.0038 0.04 13.5	0.0335 0.40 8.9	0.0096 0.11 8.8	0.0 0.0 0.0	0.0 0.0 0.0	0.0808 0.96 6.8	0.0273 0.32 3.7	0.1899 2.25 10.1
	1.1-2.0	8.86 0.67 6.5	0.0590 0.18 4.8	0.0160 0.18 8.2	0.0 0.0 0.0	0.0362 0.41 9.6	0.0101 0.11 9.3	0.0 0.0 0.0	0.0 0.0 0.0	0.2084 2.35 17.6	0.0122 0.14 1.7	0.0898 1.01 4.8
	1.1-0.	48.26 0.59 35.6	0.2860 0.09 23.1	0.0449 0.09 23.0	0.0048 0.01 17.0	0.2310 0.48 61.2	0.0553 0.11 50.9	0.0056 0.01 30.9	0.0 0.0 0.0	0.0458 3.9 3.9	0.6581 1.36 89.2	0.4020 0.83 21.3
	#	135.54 0.9	1.24 0.1	0.19 0.1	0.03 0.0	0.38 0.3	0.11 0.1	0.02 0.0	4.01 3.0	1.18 0.9	0.74 0.5	1.88 1.4
	TACUBA	***-7.0	31.29 0.83 30.6	0.2611 0.01 10.7	0.0044 0.01 0.4	0.0006 0.00 4.7	0.0424 0.14 10.5	0.0109 0.03 21.4	0.0016 0.01 37.2	0.0 0.0 0.0	0.0931 0.30 17.6	0.0950 0.30 97.9
7.0-0.		71.03 3.06 69.4	2.1710 1.40 89.3	0.9978 1.40 99.6	0.0123 0.02 95.3	0.3630 0.51 89.5	0.0400 0.06 78.6	0.0027 0.00 62.8	0.0989 0.14 100.0	0.4346 0.61 82.4	0.0020 0.00 2.1	1.5212 2.14 90.3
#		102.32 2.4	2.43 1.0	1.00 1.0	0.01 0.0	0.41 0.4	0.05 0.0	0.00 0.0	0.10 0.1	0.53 0.5	0.10 0.1	1.68 1.6
SAN AGUSTIN	***-7.0	69.63 5.12 48.5	3.5626 0.05 49.6	0.0360 0.01 13.2	0.0046 0.01 25.0	0.0340 0.05 7.9	0.0199 0.03 16.0	0.0210 0.03 30.8	0.0 0.0 0.0	0.0105 0.02 0.7	0.4269 0.61 34.9	1.0947 1.57 25.5
	7.0-0.	74.07 4.89 51.5	3.6215 0.32 50.4	0.2373 0.32 86.8	0.0138 0.02 75.0	0.3967 0.54 92.1	0.1043 0.14 84.0	0.0471 0.06 69.2	0.0 0.0 0.0	1.5950 2.15 99.3	0.7965 1.08 65.1	3.2056 4.33 74.5
	#	143.70 5.0	7.18 0.2	0.27 0.2	0.02 0.0	0.43 0.3	0.12 0.1	0.07 0.0	0.0 0.0	1.61 1.1	1.22 0.9	4.30 3.0
PEDREGAL	***-7.0	10.65 13.38 20.1	1.4250 0.36 41.0	0.0385 0.09 27.9	0.0096 0.09 62.7	0.0523 0.49 14.0	0.0102 0.10 19.8	0.0218 0.20 49.9	0.6144 5.77 39.2	1.8286 17.17 58.9	0.0638 0.60 100.0	1.0734 10.08 39.4
	7.0-0.	42.46 4.84 79.9	2.0532 0.23 59.0	0.0994 0.23 72.1	0.0057 0.01 37.3	0.3225 0.76 86.0	0.0412 0.10 80.2	0.0219 0.05 50.1	0.9546 2.25 60.8	1.2740 3.00 41.1	0.0 0.0 0.0	1.6527 3.89 60.6
	#	53.11 6.5	3.48 0.3	0.14 0.3	0.02 0.0	0.37 0.7	0.05 0.1	0.04 0.1	1.57 3.0	3.10 5.8	0.06 0.1	2.73 5.1
ESTRELLA	***-7.0	96.09 0.87 27.9	0.8387 0.05 45.5	0.0498 0.01 24.5	0.0065 0.01 100.0	0.0513 0.05 16.8	0.0180 0.02 23.7	0.0396 0.04 52.5	0.0 0.0 0.0	0.9471 0.99 91.6	0.0706 0.07 18.5	0.6566 0.68 49.7
	7.0-0.	247.76 0.40 72.1	1.0033 0.06 54.5	0.1535 0.06 75.5	0.0 0.0 0.0	0.2538 0.10 83.2	0.0581 0.02 76.3	0.0359 0.01 47.5	0.0 0.0 0.0	0.0865 0.03 8.4	0.3104 0.13 81.5	0.6632 0.27 50.3
	#	343.85 0.5	1.84 0.1	0.20 0.1	0.01 0.0	0.31 0.1	0.08 0.0	0.08 0.0	0.0 0.0	1.03 0.3	0.38 0.1	1.32 0.4

Table 2.2.11 Particle Size Distribution of TSP and Metals  
April 1988

1st row: concentration ( $\mu\text{g}/\text{m}^3$ )  
2nd row: concentration ratio to TSP (%)  
3rd row: concentration ratio to the total (%)

地点名	粒径 ( $\mu\text{m}$ )	SP	FE	ZN	NI	PB	V	MN	NA	CA	K	AL
OFICINA CENTRAL DE D. D. F	***-7.0	56.22 34.2	1.1853 2.11 44.4	0.1780 0.32 25.8	0.0 0.0 0.0	0.0916 0.16 23.2	0.0070 0.01 21.2	0.0256 0.03 6.5	0.1593 0.28 60.7	0.9408 1.67 41.8	0.2027 0.36 20.1	1.0874 1.93 49.3
	3.3-7.0	19.48 11.9	0.5853 3.00 21.9	0.1102 0.57 16.0	0.0 0.0 0.0	0.0708 0.36 17.9	0.0027 0.01 8.2	0.1387 0.71 35.3	0.0 0.0 0.0	0.2730 1.40 12.1	0.5555 2.85 55.1	0.4209 2.16 19.1
	2.0-3.3	11.53 7.0	0.2737 2.37 10.2	0.0972 0.84 14.1	0.0 0.0 0.0	0.0711 0.62 18.0	0.0 0.0 0.0	0.0593 0.51 15.1	0.1030 0.89 39.3	0.9944 8.62 44.2	0.0919 0.80 9.1	0.1931 1.67 8.8
	1.1-2.0	10.97 6.7	0.2657 2.42 9.9	0.1254 1.14 18.2	0.0 0.0 0.0	0.0847 0.77 21.4	0.0 0.0 0.0	0.0857 0.78 21.8	0.0 0.0 0.0	0.0 0.0 0.0	0.0132 0.12 1.3	0.1518 1.38 6.9
	1.1-0.	66.06 40.2	0.3604 0.55 13.5	0.1783 0.27 25.9	0.0 0.0 0.0	0.0771 0.12 19.5	0.0233 0.04 70.6	0.0835 0.13 21.3	0.0 0.0 0.0	0.0427 0.06 1.9	0.1452 0.22 14.4	0.3510 0.53 15.9
	#	164.26	2.67 1.6	0.69 0.4	0.0 0.0	0.40 0.2	0.03 0.0	0.39 0.2	0.26 0.2	2.25 1.4	1.01 0.6	2.20 1.3
TACUBA	***-7.0	12.13 11.3	0.8721 7.19 50.3	0.0880 0.73 21.5	0.0134 0.11 22.9	0.0182 0.15 26.9	0.0393 0.32 23.2	0.3498 2.88 50.9	0.0 0.0 0.0	0.8416 6.94 81.4	0.1672 1.38 23.8	1.2133 10.00 54.0
	7.0-0.	95.60 88.7	0.8632 0.90 49.7	0.3216 0.34 78.5	0.0452 0.05 77.1	0.0495 0.05 73.1	0.1303 0.14 76.8	0.3381 0.35 49.1	0.0 0.0 0.0	0.1917 0.20 18.6	0.5352 0.56 76.2	1.0338 1.08 46.0
	#	107.73	1.74 1.6	0.41 0.4	0.06 0.1	0.07 0.1	0.17 0.2	0.69 0.6	0.0 0.0	1.03 1.0	0.70 0.7	2.25 2.1
SAN AGUSTIN	***-7.0	53.04 39.6	1.1113 2.10 50.4	0.0941 0.18 33.4	0.0110 0.02 24.4	0.0730 0.14 100.0	0.0039 0.01 8.8	0.1530 0.29 42.1	0.9407 1.77 96.1	0.6839 1.29 79.3	0.2192 0.41 27.5	1.0554 1.99 48.9
	7.0-0.	81.00 60.4	1.0948 1.35 49.6	0.1873 0.23 66.6	0.0341 0.04 75.6	0.0 0.0 0.0	0.0404 0.05 91.2	0.2107 0.26 57.9	0.0379 0.05 3.9	0.1782 0.22 20.7	0.5775 0.71 72.5	1.1022 1.36 51.1
	#	134.04	2.21 1.6	0.28 0.2	0.05 0.0	0.07 0.1	0.04 0.0	0.36 0.3	0.98 0.7	0.86 0.6	0.80 0.6	2.16 1.6
PEDREGAL	***-7.0	36.61 34.5	0.8849 2.42 58.6	0.0727 0.20 35.0	0.0119 0.03 23.4	0.0178 0.05 100.0	0.0076 0.02 14.0	0.1238 0.34 45.5	0.6682 1.83 100.0	0.7647 2.09 90.1	0.2137 0.58 48.3	1.1692 3.19 40.6
	7.0-0.	69.36 65.5	0.6261 0.90 41.4	0.1353 0.20 65.0	0.0390 0.06 76.6	0.0 0.0 0.0	0.0465 0.07 86.0	0.1480 0.21 54.5	0.0 0.0 0.0	0.0842 0.12 9.9	0.2286 0.33 51.7	1.7072 2.46 59.4
	#	105.96	1.51 1.4	0.21 0.2	0.05 0.0	0.02 0.0	0.05 0.1	0.27 0.3	0.67 0.6	0.85 0.8	0.44 0.4	2.88 2.7

Table 2.2.12 Particle Size Distribution of TSP and Metals  
May 1988

1st row: concentration ( $\mu\text{g}/\text{m}^3$ )  
2nd row: concentration ratio to TSP (%)  
3rd row: concentration ratio to the total (%)

地点	粒径 ( $\mu\text{m}$ )	SP	FE	ZN	NI	PB	V	MN	NA	CA	K	AL
OFICINA CENTRAL DE D. D. F	***-7.0	66.74 25.1	1.4651 45.7	0.1153 12.5	0.0 0.0	0.0625 6.2	0.0 0.0	0.0264 30.4	1.1301 11.7	1.8278 79.3	0.4708 17.6	1.2010 36.9
	3.3-7.0	28.46 10.7	0.3058 9.5	0.0097 1.0	0.0 0.0	0.1022 10.2	0.0 0.0	0.0093 10.7	0.0 0.0	0.0 0.0	0.1732 6.5	0.3340 10.3
	2.0-3.3	19.95 7.5	0.3108 9.7	0.1117 12.1	0.0 0.0	0.0309 3.1	0.0 0.0	0.0123 14.2	0.3394 3.5	0.3294 14.3	0.3371 12.6	0.3328 10.2
	1.1-2.0	38.76 14.6	0.2697 8.4	0.1899 20.5	0.0 0.0	0.1065 10.6	0.0 0.0	0.0114 13.1	1.6557 17.1	0.0 0.0	0.3325 12.4	0.2904 8.9
	1.1-0.	111.72 42.1	0.8534 26.6	0.4984 53.9	0.0 0.0	0.7013 69.9	0.0 0.0	0.0275 31.6	6.5629 67.7	0.1473 6.4	1.3600 50.9	1.0978 33.7
	#	265.63	3.20 1.2	0.92 0.3	0.0 0.0	1.00 0.4	0.0 0.0	0.09 0.0	9.69 3.6	2.30 0.9	2.67 1.0	3.26 1.2
TACUBA	***-7.0	51.71 25.5	1.1389 41.9	0.0817 9.7	0.0 0.0	0.0786 6.9	0.0 0.0	0.0262 42.5	6.4463 81.6	1.4771 2.86	0.2002 0.39	1.3063 2.53
	7.0-0.	151.45 74.5	1.5812 58.1	0.7604 90.3	0.0 0.0	1.0561 93.1	0.1442 100.0	0.0355 57.5	1.4530 18.4	0.8656 36.9	0.0190 8.7	1.4800 53.1
	#	203.16	2.72 1.3	0.84 0.4	0.0 0.0	1.13 0.6	0.14 0.1	0.06 0.0	7.90 3.9	2.34 1.2	0.22 0.1	2.79 1.4
SAN AGUSTIN	***-7.0	73.73 31.6	1.1672 32.7	0.1098 18.6	0.0104 100.0	0.0457 10.1	0.0 0.0	0.0255 30.3	1.4821 74.9	1.6750 49.4	1.0915 55.9	1.4203 33.5
	7.0-0.	159.88 68.4	2.4047 67.3	0.4809 81.4	0.0 0.0	0.4085 89.9	0.0366 100.0	0.0586 69.7	0.4963 25.1	1.7174 50.6	0.8598 44.1	2.8208 66.5
	#	233.61	3.57 1.5	0.59 0.3	0.01 0.0	0.45 0.2	0.04 0.0	0.08 0.0	1.98 0.8	3.39 1.5	1.95 0.8	4.24 1.8
PEDREGAL	***-7.0	41.32 26.3	0.7354 44.0	0.0841 31.1	0.0047 100.0	0.0305 23.8	0.0 0.0	0.0135 47.2	0.7473 65.7	0.6596 81.6	0.3569 20.3	0.7380 46.6
	7.0-0.	115.59 73.7	0.9349 56.0	0.1866 68.9	0.0 0.0	0.0974 76.2	0.0 0.0	0.0151 52.8	0.3910 34.3	0.1488 18.4	1.3973 79.7	0.8454 53.4
	#	156.91	1.67 1.1	0.27 0.2	0.00 0.0	0.13 0.1	0.0 0.0	0.03 0.0	1.14 0.7	0.81 0.5	1.75 1.1	1.58 1.0
ESTRELLA	***-7.0	160.18 39.6	2.3626 46.2	0.1592 30.0	0.0 0.0	0.1258 53.9	0.0 0.0	0.0125 18.2	1.8766 100.0	2.6886 64.5	0.4643 34.3	2.7881 46.5
	7.0-0.	244.38 60.4	2.7498 53.8	0.3723 70.0	0.0008 100.0	0.1077 46.1	0.0388 100.0	0.0560 81.8	0.0 0.0	1.4800 35.5	0.8878 65.7	3.2132 53.5
	#	404.56	5.11 1.3	0.53 0.1	0.00 0.0	0.23 0.1	0.04 0.0	0.07 0.0	1.88 0.5	4.17 1.0	1.35 0.3	6.00 1.5

Table 2.2.12' Particle Size Distributin of TSP and Metals  
June 1988

1st row: concentration ( $\mu\text{g}/\text{m}^3$ )  
2nd row: concentration ratio to TSP (%)  
3rd row: concentration ratio to the total (%)

地点名	粒径 ( $\mu\text{m}$ )	SP	FE	ZN	NI	PB	V	MN	NA	CA	K	AL
OFICINA CENTRAL DE D. D. F	***-7.0	30.72 27.7	0.4852 1.58 51.3	0.0583 0.19 17.9	0.0061 0.02 22.3	0.0489 0.16 10.4	0.0139 0.05 27.9	0.0153 0.05 22.0	8.2527 26.86 37.6	0.3358 1.09 50.0	0.9408 3.06 45.3	3.8430 12.51 81.6
	3.3-7.0	11.76 10.6	0.1535 1.31 16.2	0.0429 0.36 13.2	0.0033 0.03 12.0	0.0425 0.36 9.0	0.0010 0.01 2.0	0.0096 0.08 13.8	8.1131 68.99 36.9	0.1008 0.85 15.0	0.4801 4.08 23.1	0.2823 2.40 6.0
	2.0-3.3	9.42 8.5	0.1305 1.39 13.8	0.0928 0.99 28.4	0.0048 0.05 17.5	0.0444 0.47 9.5	0.0 0.0 0.0	0.0069 0.07 9.9	0.3133 3.33 9.9	0.0797 0.85 11.9	0.1507 1.60 7.3	0.1606 1.70 3.4
	1.1-2.0	7.43 6.7	0.0586 0.79 6.2	0.0540 0.73 16.6	0.0050 0.07 18.2	0.0542 0.73 11.5	0.0 0.0 0.0	0.0275 0.37 39.5	5.2365 70.48 23.8	0.0895 1.20 13.3	0.1782 2.40 8.6	0.1255 1.69 2.7
	1.1-0.	51.63 46.5	0.1172 0.23 12.4	0.0782 0.15 24.0	0.0082 0.02 29.9	0.2798 0.54 59.6	0.0350 0.07 70.1	0.0104 0.02 14.9	0.0431 0.08 0.2	0.0663 0.13 9.9	0.3255 0.63 15.7	0.2959 0.57 6.3
	#	110.96	0.94 0.9	0.33 0.3	0.03 0.0	0.47 0.4	0.05 0.0	0.07 0.1	21.96 19.8	0.67 0.6	2.08 1.9	4.71 4.2
TACUBA	***-7.0	32.21 31.7	0.4413 1.37 61.5	0.0526 0.16 29.7	0.0072 0.02 92.3	0.0321 0.10 61.5	0.0078 0.02 21.1	0.0202 0.06 52.6	2.7307 8.48 100.0	0.2005 0.62 100.0	0.6929 2.15 82.4	3.2628 10.13 66.2
	7.0-0.	69.49 68.3	0.2768 0.40 38.5	0.1244 0.18 70.3	0.0006 0.00 7.7	0.0201 0.03 38.5	0.0291 0.04 78.9	0.0182 0.03 47.4	0.0 0.0 0.0	0.0 0.0 0.0	0.1483 0.21 17.6	1.6670 2.40 33.8
	#	101.70	0.72 0.7	0.18 0.2	0.01 0.0	0.05 0.1	0.04 0.0	0.04 0.0	2.73 2.7	0.20 0.2	0.84 0.8	4.93 4.8
SAN AGUSTIN	***-7.0	43.66 33.1	0.4508 1.03 51.4	0.0507 0.12 31.7	0.0025 0.01 24.0	0.0398 0.09 50.8	0.0 0.0 0.0	0.0181 0.04 45.4	0.8443 1.93 92.8	0.3146 0.72 94.8	0.1889 0.43 53.7	4.2783 9.80 50.5
	7.0-0.	88.21 66.9	0.4268 0.48 48.6	0.1094 0.12 68.3	0.0079 0.01 76.0	0.0386 0.04 49.2	0.0202 0.02 100.0	0.0218 0.02 54.6	0.0654 0.07 7.2	0.0172 0.02 5.2	0.1629 0.18 46.3	4.1923 4.75 49.5
	#	131.87	0.88 0.7	0.16 0.1	0.01 0.0	0.08 0.1	0.02 0.0	0.04 0.0	0.91 0.7	0.33 0.3	0.35 0.3	8.47 6.4
PEDREGAL	***-7.0	24.18 24.4	0.5329 2.20 59.7	0.0481 0.20 27.7	0.0043 0.02 30.7	0.0391 0.16 10.2	0.0039 0.02 6.5	0.0161 0.07 40.9	0.3410 1.41 100.0	0.2078 0.86 100.0	0.1735 0.72 59.1	0.0900 0.37 13.1
	7.0-0.	75.07 75.6	0.3599 0.48 40.3	0.1254 0.17 72.3	0.0097 0.01 69.3	0.3441 0.46 89.8	0.0559 0.07 93.5	0.0233 0.03 59.1	0.0 0.0 0.0	0.0 0.0 0.0	0.1202 0.16 40.9	0.5948 0.79 86.9
	#	99.25	0.89 0.9	0.17 0.2	0.01 0.0	0.38 0.4	0.06 0.1	0.04 0.0	0.34 0.3	0.21 0.2	0.29 0.3	0.68 0.7
ESTRELLA	***-7.0	95.58 37.9	2.2845 2.39 64.5	0.0964 0.10 39.7	0.0054 0.01 100.0	0.0789 0.08 30.1	0.0006 0.00 3.9	0.0365 0.04 72.7	3.3440 3.50 16.7	2.3570 2.47 95.1	0.5435 0.57 49.1	10.187 10.66 66.6
	7.0-0.	156.93 62.1	1.2600 0.80 35.5	0.1462 0.09 60.3	0.0 0.0 0.0	0.1836 0.12 69.9	0.0146 0.01 96.1	0.0137 0.01 27.3	16.666 10.62 83.3	0.1216 0.08 4.9	0.5623 0.36 50.9	5.0995 3.25 33.4
	#	252.51	3.54 1.4	0.24 0.1	0.01 0.0	0.26 0.1	0.02 0.0	0.05 0.0	20.01 7.9	2.48 1.0	1.11 0.4	15.29 6.1

Table 2.2.12<sup>11</sup> Particle Size Distributin of TSP and Metals  
June 1988

1st row: concentration ( $\mu\text{g}/\text{m}^3$ )  
2nd row: concentration ratio to TSP (%)  
3rd row: concentration ratio to the total (%)

地名	粒径 ( $\mu\text{m}$ )	SP	FE	ZN	NI	PB	V	MN	NA	CA	K	AL
OFICINA CENTRAL DE D. D. F	***-7.0	24.45	0.9320	0.0767	0.0049	0.0910	0.0081	0.0163	0.8009	0.9849	0.2820	0.4321
		32.7	3.81	0.31	0.02	0.37	0.03	0.07	3.28	4.03	1.15	1.77
	3.3-7.0	11.38	0.2594	0.0814	0.0049	0.0546	0.0065	0.0081	0.1906	0.3822	0.0531	0.1598
		15.2	2.28	0.72	0.04	0.48	0.06	0.07	1.67	3.36	0.47	1.40
	2.0-3.3	6.47	0.3767	0.1480	0.0044	0.0531	0.0	0.0047	0.0178	0.0897	0.1126	0.0609
		8.7	5.82	2.29	0.07	0.82	0.0	0.07	0.28	1.39	1.74	0.94
1.1-2.0	5.71	0.1139	0.2112	0.0	0.0544	0.0	0.0062	0.2787	0.1097	0.0588	0.0844	
	7.6	1.99	3.70	0.0	0.95	0.0	0.11	4.88	1.92	1.03	1.48	
1.1-0.	26.77	0.3108	0.1955	0.0102	0.2587	0.0161	0.0093	0.4744	0.3107	0.2320	0.1387	
	35.8	1.16	0.73	0.04	0.97	0.06	0.03	1.77	1.16	0.87	0.52	
#	74.78	1.99	0.71	0.02	0.51	0.03	0.04	1.76	1.88	0.74	0.88	
		2.7	1.0	0.0	0.7	0.0	0.1	2.4	2.5	1.0	1.2	
TACUBA	***-7.0	24.69	0.6589	0.1409	0.0200	0.0489	0.0151	0.0161	0.2929	1.3076	0.1264	0.4901
		30.5	2.67	0.57	0.08	0.20	0.06	0.07	1.19	5.30	0.51	1.99
	7.0-0.	56.38	0.7580	0.9038	0.0507	0.4158	0.0940	0.0430	0.6882	0.7977	0.1591	0.5657
69.5		1.34	1.60	0.09	0.74	0.17	0.08	1.22	1.41	0.28	1.00	
#	81.07	1.42	1.04	0.07	0.46	0.11	0.06	0.98	2.11	0.29	1.06	
		1.7	1.3	0.1	0.6	0.1	0.1	1.2	2.6	0.4	1.3	
PEDREGAL	***-7.0	16.63	0.4918	0.0611	0.0041	0.0408	0.0	0.0075	0.3324	0.6372	0.1084	0.2928
		26.1	2.96	0.37	0.02	0.25	0.0	0.05	2.00	3.83	0.65	1.76
	7.0-0.	47.19	0.2745	2.0490	0.0161	0.3998	0.0436	0.0197	0.2996	0.1725	0.1072	0.3997
73.9		0.58	4.34	0.03	0.85	0.09	0.04	0.63	0.37	0.23	0.85	
#	63.82	0.77	2.11	0.02	0.44	0.04	0.03	0.63	0.81	0.22	0.69	
		1.2	3.3	0.0	0.7	0.1	0.0	1.0	1.3	0.3	1.1	
ESTRELLA	***-7.0	77.33	2.1746	0.1142	0.0092	0.1309	0.0	0.0313	0.6143	2.4210	0.2440	1.5933
		45.1	2.81	0.15	0.01	0.17	0.0	0.04	0.79	3.13	0.32	2.06
	7.0-0.	94.30	0.9256	0.5431	0.0162	0.9031	0.0596	0.0365	0.4959	0.4139	0.2844	0.9978
54.9		0.98	0.58	0.02	0.96	0.06	0.04	0.53	0.44	0.30	1.06	
#	171.63	3.10	0.66	0.03	1.03	0.06	0.07	1.11	2.83	0.53	2.59	
		1.8	0.4	0.0	0.6	0.0	0.0	0.6	1.7	0.3	1.5	

September 1987 ~ July 1988

Unit ( $\mu\text{g}/\text{m}^3$ )

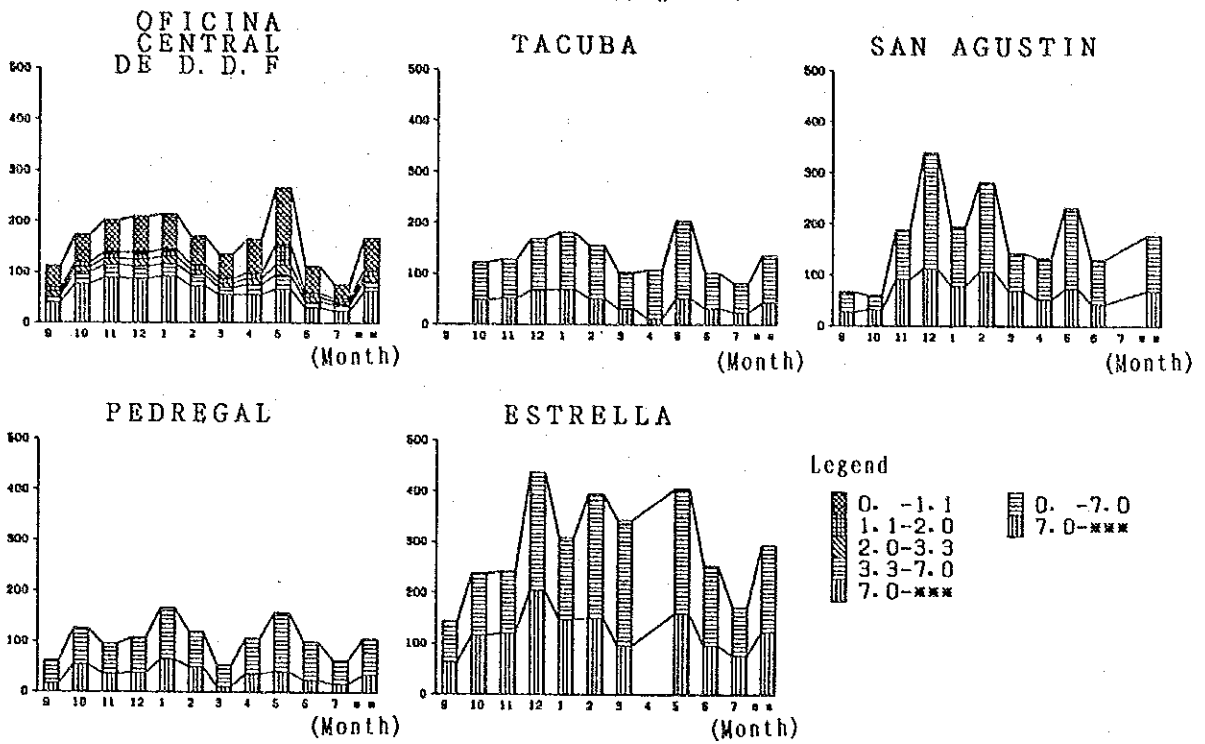


Figure 2.2.11 Monthly Variation of TSP Size Distribution

September 1987 ~ July 1988

Unit ( $\mu\text{g}/\text{m}^3$ )

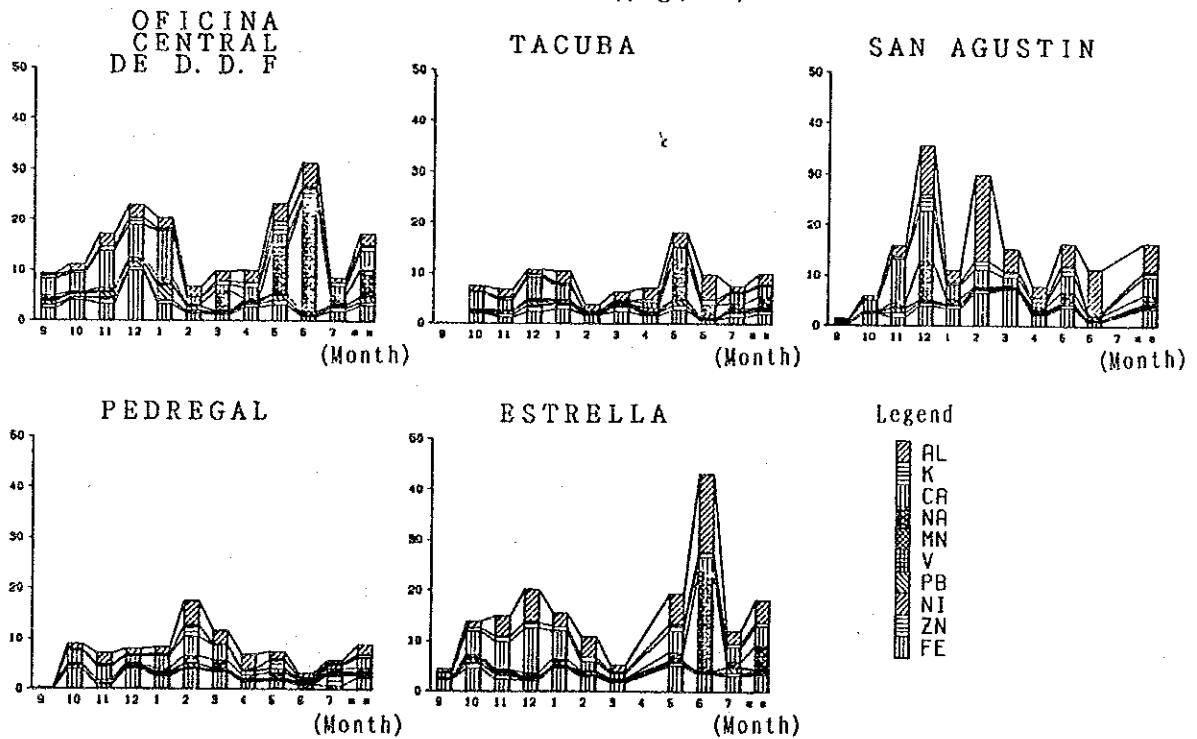


Figure 2.2.12 Monthly Variation of Metals in TSP

#### 2.2.4 Simplified Measurement of Nitrogen Oxides

Tables 2.2.13 through 2.2.27 show the results of measurement of nitrogen oxides by the simplified method.



Table 2.2.13 Result of Measurement of Nitrogen Oxides by Simplified Method

Punto 1		Oct. 6-8, 1987		Punto 1		Jan. 5-7, 1988		UNIT: ppm			
ITEM No	NO	NO <sub>x</sub>	ITEM No	NO	NO <sub>x</sub>	ITEM No	NO	NO <sub>x</sub>	ITEM No		
1	0.145	0.032	26	0.325	0.021	26	0.223	0.109	26	0.250	0.330
2	—	—	27	0.028	0.039	27	0.050	0.113	27	0.166	0.054
3	0.081	0.021	28	0.181	0.025	28	0.121	0.126	28	0.190	0.063
4	0.033	0.049	29	0	0.062	29	0.229	0.065	29	0.136	0.068
5	0.245	0.046	30	0.182	0.094	30	0.116	0.068	30	0.139	0.080
6	0.382	0.049	31	—	—	31	0.126	0.060	31	0.156	0.044
7	0.038	0.016	32	0.033	0.114	32	0.100	0.070	32	0.104	0.052
8	—	—	33	0.302	0.062	33	0.158	0.066	33	0.208	0.068
9	0.369	0.023	34	0.286	0.058	34	0.177	0.154	34	0.224	0.079
10	0.076	0.025	35	0.392	0.043	35	0.107	0.074	35	0.093	0.228
11	0.101	0.043	36	0.332	0.038	36	0.076	0.106	36	0.223	0.081
12	0.056	0.048	37	0.076	0.026	37	0.130	0.047	37	0.055	0.073
13	—	—	38	0.263	0.043	38	0.183	0.063	38	0.061	0.050
14	0.084	0.026	39	0.682	0.055	39	0.192	0.069	39	0.109	0.081
15	0.294	0.025	40	0	0.043	40	0.236	0.086	40	0.197	0.089
16	0.184	0.021	41	0.007	0.031	41	0.184	0.176	41	0.167	0.074
17	0.051	0.028	42	0.024	0.045	42	0.220	0.158	42	0.098	0.050
18	0.169	0.046	43	0	0.040	43	0.160	0.061	43	0.078	0.176
19	0.132	0.028	44	0.135	0.050	44	0.060	0.163	44	0.262	0.074
20	0.047	0.032	45	0.131	0.052	45	0.245	0.103	45	0.251	0.091
21	0.173	0.021	46	0.129	0.039	46	0.119	0.072	46	—	—
22	0.084	0.022	47	0.086	0.045	47	0.140	0.101	47	—	—
23	0.043	0.021	48	0.156	0.032	48	0.252	0.090	48	—	—
24	0.292	0.028	49	0.059	0.032	49	0.161	0.062	49	—	—
25	0.233	0.032	50	—	—	50	0.152	0.065	50	—	—

Table 2.2.14 Result of Measurement of Nitrogen Oxides by Simplified Method

UNIT : ppm

ITEM No	NO	NO <sub>2</sub>	NO <sub>x</sub>	ITEM No	NO	NO <sub>2</sub>	NO <sub>x</sub>
1	0.131	0.045	0.176	26	0.167	0.082	0.249
2	0.010	0.120	0.130	27	0.142	0.069	0.211
3	0.163	0.106	0.269	28	0.164	0.088	0.252
4	0.151	0.086	0.237	29	0.145	0.070	0.215
5	0.168	0.066	0.234	30	0.136	0.053	0.189
6	0.102	0.104	0.206	31	0.084	0.059	0.143
7	0.088	0.046	0.134	32	0.046	0.054	0.100
8	0.201	0.059	0.260	33	0.152	0.060	0.212
9	0.143	0.036	0.179	34	—	0.071	—
10	0.204	0.066	0.270	35	0.174	0.051	0.225
11	0.145	0.034	0.209	36	0.125	0.042	0.167
12	0.117	0.040	0.157	37	0.156	0.080	0.236
13	0.174	0.085	0.259	38	0.058	0.056	0.114
14	0.126	0.064	0.190	39	0.176	0.063	0.239
15	0.184	0.119	0.303	40	0.105	0.060	0.165
16	0.158	0.095	0.253	41	0.134	0.048	0.182
17	0.161	0.124	0.285	42	0.090	0.045	0.135
18	0.188	0.067	0.255	43	0.092	0.074	0.166
19	0.108	0.072	0.180	44	0.097	0.076	0.173
20	0.079	0.057	0.136	45	0.137	0.046	0.183
21	0	0.068	0.068	46	0.187	0.051	0.238
22	0.135	0.077	0.212	47	0.151	0.067	0.218
23	0.090	0.078	0.168	48	0.120	0.087	0.207
24	0.060	0.064	0.124	49	0.103	0.051	0.154
25	—	—	—	50	0	0.222	0.222

Table 2.2.15 Result of Measurement of Nitrogen Oxides by Simplified Method

Punto 2 Feb. 23-25. 1988

ITEM No	NO	NO <sub>x</sub>	ITEM No	NO	NO <sub>x</sub>
1	0.147	0.126	26	0.079	0.059
2	0.042	0.134	27	0.028	0.060
3	—	—	28	0.087	0.062
4	0.026	0.156	29	0.166	0.068
5	0.057	0.070	30	0.028	0.057
6	0.063	0.048	31	0.067	0.069
7	0.131	0.056	32	0.088	0.051
8	0.028	0.073	33	0.032	0.055
9	—	—	34	0.078	0.053
10	0.036	0.042	35	0.082	0.055
11	0	0.122	36	0.086	0.059
12	0.069	0.155	37	0.038	0.049
13	0.109	0.061	38	0	0.106
14	0.054	0.082	39	0.032	0.054
15	0.026	0.057	40	0.029	0.060
16	0.025	0.080	41	0.020	0.058
17	0.050	0.047	42	0.096	0.071
18	0.032	0.062	43	0.039	0.044
19	0.019	0.089	44	0.037	0.047
20	0.058	0.072	45	0.095	0.065
21	0.041	0.036	46	0.029	0.057
22	0.112	0.050	47	0.029	0.075
23	—	—	48	0.057	0.048
24	—	—	49	0.089	0.055
25	0.097	0.089	50	0.117	0.062

UNIT : ppm

Punto 2 Jun. 7-9. 1988

ITEM No	NO	NO <sub>x</sub>	ITEM No	NO	NO <sub>x</sub>
1	0.018	0.052	26	—	—
2	0.104	0.076	27	0	0.068
3	0.015	0.068	28	0.026	0.078
4	0.017	0.046	29	0.023	0.061
5	0.054	0.066	30	0.008	0.068
6	0.028	0.063	31	0.012	0.065
7	0.014	0.068	32	0.019	0.066
8	0.017	0.057	33	0.004	0.076
9	0.037	0.071	34	0.040	0.061
10	0.049	0.068	35	0.077	0.082
11	—	—	36	0.028	0.066
12	0.063	0.069	37	0.041	0.066
13	0.023	0.061	38	0.022	0.065
14	0.020	0.062	39	0.022	0.078
15	0.011	0.056	40	0.054	0.065
16	0.058	0.066	41	0.016	0.074
17	0.091	0.072	42	0.050	0.067
18	0.021	0.111	43	0.025	0.071
19	0.025	0.036	44	0.021	0.063
20	0.032	0.067	45	0.030	0.060
21	0.068	0.068	46	0.017	0.110
22	0.014	0.059	47	0.001	0.073
23	0.026	0.061	48	0.010	0.062
24	0.035	0.067	49	0.025	0.069
25	0.044	0.074	50	0.014	0.148

UNIT : ppm

Table 2.2.16 Result of Measurement of Nitrogen Oxides by Simplified Method

Punto 3 Jan. 20-22, 1988

Punto 3 Jan. 1-3, 1988

ITEM No.	NO	NO <sub>x</sub>	ITEM No.	NO	NO <sub>x</sub>
1	0.104	0.060	26	0.139	0.082
2	0.161	0.059	27	0.011	0.011
3	0.290	0.077	28	0.130	0.072
4	0.141	0.070	29	0.131	0.055
5	0.217	0.059	30	0.097	0.046
6	0.272	0.118	31	0.145	0.050
7	0.199	0.056	32	0.335	0.066
8	0.123	0.044	33	0.193	0.157
9	0.219	0.060	34	0.245	0.056
10	—	—	35	0.176	0.048
11	0.245	0.056	36	0.119	0.068
12	0.276	0.053	37	0.187	0.088
13	0.152	0.056	38	0.098	0.060
14	0.274	0.056	39	0.147	0.058
15	0.231	0.064	40	0.240	0.075
16	0.247	0.058	41	0.163	0.042
17	0.213	0.056	42	0.098	0.060
18	0.165	0.046	43	0.104	0.051
19	0.172	0.086	44	0.171	0.070
20	0.187	0.092	45	—	—
21	0.134	0.060	46	—	—
22	0.182	0.088	47	—	—
23	0.233	0.065	48	—	—
24	0.212	0.070	49	—	—
25	0.195	0.059	50	—	—

UNIT : ppm

ITEM No.	NO	NO <sub>x</sub>	ITEM No.	NO	NO <sub>x</sub>
1	0.028	0.073	26	0.044	0.068
2	0.078	0.076	27	0.024	0.052
3	0.043	0.063	28	0.100	0.085
4	0.049	0.076	29	0.056	0.088
5	0	0.079	30	0.026	0.090
6	0.088	0.077	31	0.084	0.078
7	0.091	0.104	32	0.026	0.060
8	0.061	0.076	33	0.036	0.057
9	0.051	0.077	34	0.002	0.062
10	0.024	0.066	35	0.007	0.074
11	0.043	0.060	36	0	0.168
12	0.052	0.104	37	0.024	0.063
13	0.070	0.062	38	0.054	0.081
14	0.024	0.057	39	0.134	0.045
15	0.051	0.085	40	0.093	0.088
16	0.076	0.082	41	0.027	0.066
17	0.087	0.070	42	0.018	0.082
18	0.111	0.083	43	0	0.085
19	0.099	0.088	44	0.037	0.089
20	0.034	0.068	45	0.014	0.083
21	0.090	0.056	46	0.060	0.073
22	0.073	0.080	47	0.042	0.071
23	0.018	0.087	48	0	0.064
24	0.028	0.067	49	0.021	0.066
25	0.220	0.066	50	0.018	0.046

Table 2.2.17 Result of Measurement of Nitrogen Oxides by Simplified Method

Punto 4 Dec. 28-30, 1987

ITEM No.	NO	NO <sub>2</sub>	NOX	ITEM No.	NO	NO <sub>2</sub>	NOX
1	0.038	0.066	0.104	26	0.071	0.064	0.135
2	0.127	0.068	0.195	27	0.017	0.066	0.083
3	0.004	0.088	0.092	28	0.142	0.071	0.213
4	0	0.066	0.066	29	0.108	0.062	0.170
5	0.080	0.064	0.144	30	0.130	0.058	0.188
6	0.004	0.043	0.047	31	0.150	0.062	0.212
7	0.021	0.062	0.083	32	—	—	—
8	0.058	0.054	0.112	33	—	—	—
9	0.083	0.062	0.145	34	0.021	0.062	0.083
10	0.058	0.066	0.124	35	0.117	0.058	0.175
11	0.081	0.051	0.132	36	0.086	0.096	0.182
12	0	0.058	0.058	37	0.050	0.076	0.126
13	0.080	0.053	0.133	38	0.357	0.076	0.433
14	0.158	0.066	0.224	39	0.108	0.058	0.166
15	0.052	0.062	0.114	40	0.019	0.064	0.083
16	0.090	0.080	0.170	41	0.047	0.054	0.101
17	0.004	0.043	0.047	42	0.024	0.058	0.082
18	0.119	0.071	0.190	43	0.060	0.046	0.106
19	0.095	0.141	0.236	44	0.060	0.054	0.114
20	0.130	0.058	0.188	45	0.084	0.062	0.146
21	0	0.050	0.050	46	0.062	0.043	0.105
22	0.018	0.127	0.145	47	0.034	0.046	0.080
23	0.320	0.066	0.386	48	0.027	0.054	0.081
24	0.108	0.068	0.176	49	0.002	0.108	0.110
25	0.041	0.062	0.103	50	—	—	—

Punto 4 Feb. 9-11, 1988

ITEM No.	NO	NO <sub>2</sub>	NOX	ITEM No.	NO	NO <sub>2</sub>	NOX
1	0.131	0.046	0.177	26	0.096	0.042	0.138
2	0.089	0.049	0.138	27	—	—	—
3	0.142	0.062	0.206	28	0.129	0.052	0.181
4	0.157	0.064	0.221	29	0.108	0.043	0.151
5	0.141	0.064	0.205	30	0.105	0.050	0.155
6	0.154	0.061	0.215	31	0.050	0.043	0.093
7	0.127	0.043	0.170	32	0.095	0.046	0.141
8	0.172	0.049	0.221	33	0.124	0.048	0.172
9	0.153	0.045	0.198	34	0.123	0.053	0.176
10	0.193	0.045	0.238	35	0.111	0.042	0.153
11	0.096	0.045	0.141	36	0.090	0.052	0.142
12	0.074	0.048	0.122	37	—	—	—
13	0.119	0.058	0.177	38	0.151	0.048	0.199
14	0.098	0.046	0.144	39	0.174	0.046	0.220
15	0.152	0.073	0.225	40	0.127	0.054	0.181
16	0.095	0.054	0.149	41	0.130	0.038	0.168
17	—	—	—	42	0.108	0.041	0.149
18	0.139	0.051	0.190	43	0.051	0.039	0.090
19	0.085	0.040	0.125	44	0.039	0.044	0.083
20	0.086	0.043	0.129	45	0.056	0.036	0.092
21	0.158	0.049	0.207	46	0.087	0.047	0.234
22	0.061	0.047	0.108	47	0.136	0.050	0.186
23	0.121	0.052	0.173	48	0.147	0.048	0.195
24	0.155	0.059	0.214	49	0.125	0.041	0.166
25	0.183	0.054	0.237	50	0.130	0.054	0.191

UNIT : ppm

Table 2.2.18 Result of Measurement of Nitrogen Oxides by Simplified Method

Punto 5 Dec. 14-16, 1987

UNIT : ppm

ITEM No	NO	NO <sub>2</sub>	NOx	ITEM No	NO	NO <sub>2</sub>	NOx
1	0.154	0.057	0.211	26	0.136	0.056	0.192
2	0.119	0.048	0.167	27	—	—	—
3	0.130	0.065	0.195	28	0.081	0.050	0.131
4	0.143	0.055	0.198	29	0.088	0.053	0.141
5	0.142	0.064	0.206	30	0.204	0.054	0.258
6	0.128	0.059	0.187	31	0.087	0.048	0.135
7	0.118	0.056	0.174	32	0.114	0.044	0.158
8	0.115	0.057	0.172	33	0.130	0.044	0.174
9	0.132	0.058	0.190	34	0.126	0.050	0.176
10	0.156	0.062	0.218	35	—	—	—
11	0.210	0.086	0.296	36	0.192	0.062	0.254
12	0.125	0.035	0.160	37	0.130	0.045	0.176
13	0.152	0.063	0.215	38	0.089	0.045	0.134
14	—	—	—	39	0.219	0.062	0.281
15	—	—	—	40	0.284	0.044	0.328
16	0.129	0.052	0.181	41	—	—	—
17	0.123	0.117	0.240	42	0.126	0.070	0.196
18	0.185	0.082	0.267	43	0.099	0.041	0.140
19	0.077	0.072	0.149	44	0.073	0.044	0.117
20	0.110	0.052	0.162	45	0.071	0.037	0.108
21	0.136	0.057	0.193	46	—	—	—
22	0.099	0.081	0.180	47	—	—	—
23	0.106	0.050	0.156	48	—	—	—
24	0.104	0.056	0.160	49	—	—	—
25	0.093	0.051	0.144	50	—	—	—

Punto 5 Mar. 15-17, 1988

UNIT : ppm

ITEM No	NO	NO <sub>2</sub>	NOx	ITEM No	NO	NO <sub>2</sub>	NOx
1	0.053	0.056	0.109	26	0.061	0.066	0.127
2	0.087	0.060	0.147	27	0.110	0.060	0.170
3	0.092	0.071	0.163	28	0.060	0.058	0.118
4	0.082	0.054	0.136	29	0.082	0.069	0.151
5	0.062	0.061	0.123	30	0.105	0.070	0.175
6	0.125	0.069	0.194	31	0.133	0.066	0.199
7	0.059	0.054	0.113	32	0.032	0.054	0.086
8	0.085	0.056	0.141	33	0.155	0.053	0.208
9	0.100	0.088	0.188	34	0.125	0.062	0.187
10	0.051	0.053	0.104	35	0.090	0.050	0.140
11	0.102	0.061	0.163	36	0.113	0.061	0.174
12	0.069	0.059	0.128	37	0.095	0.048	0.143
13	0.065	0.050	0.115	38	0.055	0.066	0.121
14	0.158	0.069	0.227	39	0.121	0.068	0.189
15	0.101	0.057	0.158	40	0.096	0.066	0.162
16	0.112	0.062	0.174	41	0.083	0.058	0.141
17	0.158	0.070	0.228	42	0.114	0.060	0.174
18	0.055	0.054	0.109	43	0.118	0.066	0.184
19	0.071	0.064	0.135	44	0.123	0.066	0.189
20	0.125	0.069	0.194	45	0.061	0.050	0.111
21	0.062	0.056	0.118	46	0.069	0.048	0.117
22	0.060	0.059	0.119	47	0.173	0.068	0.241
23	0.131	0.068	0.199	48	0.172	0.053	0.225
24	0.050	0.059	0.109	49	0.070	0.076	0.146
25	0.047	0.057	0.104	50	0.092	0.066	0.158

Table 2.2.19 Result of Measurement of Nitrogen Oxides by Simplified Method

Punto 6 Apr. 5- 7, 1988

ITEM No.	NO	NO <sub>2</sub>	NOX	ITEM No.	NO	NO <sub>2</sub>	NOX
1	0.216	0.069	0.285	26	0.048	0.045	0.093
2	0.045	0.062	0.107	27	0.131	0.039	0.170
3	0.039	0.147	0.186	28	0.054	0.057	0.111
4	0.046	0.050	0.096	29	0.076	0.055	0.131
5	0.088	0.044	0.132	30	0.070	0.056	0.126
6	0.081	0.063	0.144	31	0.090	0.082	0.172
7	0.081	0.060	0.141	32	0.022	0.057	0.079
8	0.071	0.053	0.124	33	0.078	0.078	0.156
9	0.071	0.053	0.124	34	0.076	0.046	0.122
10	0.085	0.056	0.141	35	0.106	0.051	0.157
11	0.044	0.068	0.112	36	0.086	0.048	0.134
12	0.071	0.064	0.135	37	0.060	0.048	0.108
13	0.145	0.044	0.189	38	0.025	0.073	0.098
14	0.112	0.130	0.242	39	0.054	0.067	0.121
15	0.038	0.116	0.154	40	0.063	0.073	0.136
16	0.089	0.071	0.160	41	0.079	0.081	0.170
17	0.130	0.051	0.181	42	0.173	0.071	0.244
18	0.040	0.051	0.091	43	0.049	0.042	0.091
19	0.025	0.064	0.089	44	0.067	0.050	0.117
20	0.049	0.053	0.102	45	0.074	0.050	0.124
21	0.130	0.057	0.187	46	0.089	0.069	0.158
22	0.041	0.054	0.095	47	0.110	0.064	0.174
23	0.070	0.068	0.138	48	0.058	0.048	0.106
24	0.053	0.046	0.099	49	0.053	0.047	0.100
25	0.067	0.057	0.124	50	0.060	0.049	0.109

Punto 6 Jan. 12-14, 1988

ITEM No.	NO	NO <sub>2</sub>	NOX	ITEM No.	NO	NO <sub>2</sub>	NOX
1	0.262	0.100	0.362	26	0.222	0.051	0.273
2	0.408	0.077	0.485	27	0.104	0.051	0.155
3	0.228	0.049	0.277	28	0.189	0.057	0.246
4	0.197	0.068	0.265	29	---	---	---
5	0.170	0.089	0.259	30	0.326	0.076	0.402
6	0.133	0.053	0.186	31	0.225	0.064	0.289
7	0.242	0.069	0.311	32	0.258	0.048	0.306
8	0.518	0.067	0.585	33	0.197	0.048	0.240
9	0.518	0.067	0.585	34	0.087	0.097	0.184
10	0.123	0.085	0.208	35	0.214	0.072	0.286
11	0.158	0.073	0.231	36	0.148	0.060	0.208
12	0.235	0.065	0.300	37	0.105	0.069	0.174
13	0.106	0.074	0.180	38	0.105	0.050	0.155
14	---	---	---	39	0.180	0.058	0.238
15	0.201	0.052	0.253	40	0.154	0.071	0.225
16	0.228	0.049	0.277	41	0.174	0.058	0.232
17	0.340	0.053	0.393	42	0.340	0.061	0.401
18	0.220	0.046	0.266	43	0.289	0.061	0.350
19	0.341	0.086	0.427	44	0.159	0.076	0.235
20	0.144	0.068	0.212	45	0.158	0.063	0.221
21	0.215	0.074	0.289	46	0.087	0.221	0.308
22	0.334	0.068	0.402	47	0.073	0.010	0.083
23	0.241	0.049	0.290	48	0.063	0.029	0.092
24	0.225	0.039	0.264	49	0.015	0.028	0.053
25	0.330	0.067	0.397	50	0.188	0.017	0.205

Table 2.2.20 Result of Measurement of Nitrogen Oxides by Simplified Method

Punto 7 Nov 24-25, 1987

UNIT : ppm

ITEM No	NO	NO <sub>2</sub>	NOX	ITEM No	NO	NO <sub>2</sub>	NOX
1	0.001	0.078	0.079	26	0.066	0.073	0.139
2	0.071	0.076	0.147	27	0.101	0.089	0.190
3	0.050	0.119	0.169	28	0.070	0.084	0.154
4	0.030	0.117	0.147	29	0.107	0.077	0.184
5	0.122	0.072	0.194	30	0.021	0.102	0.123
6	0.043	0.113	0.156	31	—	—	—
7	0.035	0.113	0.148	32	0.033	0.127	0.160
8	0.076	0.086	0.162	33	0.154	0.076	0.230
9	0.078	0.080	0.158	34	0.095	0.077	0.172
10	0.125	0.117	0.242	35	0.070	0.084	0.154
11	0.100	0.092	0.192	36	0.067	0.072	0.139
12	—	—	—	37	0.112	0.085	0.197
13	0.064	0.093	0.157	38	0.023	0.155	0.178
14	0.043	0.167	0.210	39	0.092	0.088	0.180
15	0.123	0.069	0.192	40	0.130	0.080	0.210
16	0.070	0.142	0.212	41	0.093	0.080	0.173
17	0.207	0.096	0.303	42	0.071	0.084	0.155
18	0.134	0.092	0.226	43	0.075	0.085	0.160
19	0.097	0.080	0.177	44	0.048	0.088	0.136
20	0.086	0.084	0.170	45	—	—	—
21	0.129	0.127	0.256	46	—	—	—
22	0	0.085	0.085	47	—	—	—
23	0.091	0.084	0.175	48	—	—	—
24	0.041	0.082	0.123	49	—	—	—
25	—	—	—	50	—	—	—

Punto 7 Feb. 2-4, 1988

UNIT : ppm

ITEM No	NO	NO <sub>2</sub>	NOX	ITEM No	NO	NO <sub>2</sub>	NOX
1	0.338	0.128	0.466	26	0.270	0.083	0.353
2	0.382	0.086	0.468	27	0.191	0.073	0.264
3	0.182	0.061	0.243	28	0.210	0.055	0.265
4	0.213	0.081	0.294	29	0.225	0.103	0.328
5	0.096	0.090	0.186	30	0.205	0.142	0.347
6	0.236	0.090	0.326	31	0.048	0.077	0.125
7	0.170	0.089	0.259	32	0.198	0.089	0.287
8	0.316	0.083	0.399	33	0.325	0.091	0.416
9	0.359	0.096	0.455	34	0.245	0.072	0.317
10	0.165	0.069	0.234	35	0.237	0.075	0.312
11	0.161	0.070	0.231	36	0.220	0.073	0.293
12	0.141	0.071	0.212	37	0.374	0.078	0.452
13	0.247	0.077	0.324	38	0.267	0.081	0.348
14	—	—	—	39	0.191	0.077	0.268
15	0.082	0.070	0.152	40	0.218	0.073	0.291
16	0.213	0.079	0.292	41	0	0.071	0.071
17	0.164	0.077	0.241	42	0.247	0.077	0.324
18	0.259	0.117	0.376	43	0.341	0.064	0.405
19	0.283	0.089	0.371	44	0.202	0.083	0.285
20	0.157	0.074	0.231	45	0.189	0.059	0.248
21	0.154	0.074	0.228	46	0.205	0.067	0.272
22	—	—	—	47	0.216	0.076	0.292
23	0.162	0.089	0.231	48	0.210	0.122	0.332
24	0.410	0.103	0.513	49	0.132	0.110	0.242
25	0.140	0.077	0.217	50	0.200	0.068	0.268



Table 2.2.21 Result of Measurement of Nitrogen Oxides by Simplified Method

Punto 7      Apr. 26-28, 1988      UNIT : ppm

ITEM No.	NO	NO <sub>2</sub>	NOX	ITEM No.	NO	NO <sub>2</sub>	NOX
1	0.118	0.068	0.186	26	0.065	0.071	0.136
2	0.040	0.160	0.200	27	0.142	0.067	0.209
3	0.074	0.061	0.135	28	0.078	0.088	0.146
4	0.167	0.077	0.244	29	0.053	0.074	0.127
5	0.096	0.061	0.157	30	0.095	0.072	0.167
6	0.222	0.067	0.289	31	0.101	0.088	0.189
7	0.238	0.095	0.333	32	0.140	0.077	0.217
8	0.111	0.068	0.179	33	—	—	—
9	0.029	0.076	0.105	34	0.030	0.085	0.115
10	0.048	0.094	0.142	35	0.044	0.096	0.140
11	0.091	0.068	0.159	36	0.066	0.073	0.139
12	0.132	0.092	0.224	37	0.121	0.130	0.251
13	0.074	0.076	0.150	38	0.159	0.088	0.247
14	0.108	0.073	0.181	39	0.085	0.083	0.168
15	0.037	0.067	0.104	40	0.092	0.099	0.191
16	0.052	0.065	0.117	41	0.069	0.110	0.179
17	0.038	0.078	0.116	42	0.083	0.071	0.154
18	0.125	0.088	0.213	43	0.022	0.108	0.130
19	0.049	0.065	0.114	44	0.037	0.095	0.132
20	0.059	0.066	0.125	45	0.057	0.075	0.132
21	0.035	0.078	0.113	46	0.070	0.140	0.210
22	0.108	0.101	0.209	47	0.071	0.108	0.179
23	0.053	0.068	0.121	48	0.150	0.087	0.247
24	0.247	0.087	0.334	49	0.177	0.102	0.279
25	0.050	0.067	0.117	50	0.135	0.080	0.215

Table 2.2.22 Result of Measurement of Nitrogen Oxides by Simplified Method

P u n t o 2 Dec. 28-30, 1987

ITEM No.	NO	NO <sub>2</sub>	NOX	ITEM No.	NO	NO <sub>2</sub>	NOX
1	0.097	0.006	0.103	26	—	—	—
2	0.098	0.015	0.113	27	—	—	—
3	0.082	0.001	0.083	28	0.128	0.026	0.154
4	0.139	0.014	0.153	29	0.096	0.008	0.104
5	0.075	0.001	0.076	30	0.106	0.012	0.118
6	0.140	0.017	0.157	31	0.128	0.022	0.160
7	0.128	0.015	0.143	32	0.119	0.024	0.143
8	0.131	0.017	0.148	33	—	—	—
9	0.146	0.022	0.168	34	—	—	—
10	—	—	—	35	0.089	0.008	0.097
11	0.132	0.032	0.164	36	0.095	0.010	0.105
12	0.154	0.020	0.174	37	0.116	0.012	0.128
13	0.169	0.017	0.186	38	0.085	0.007	0.092
14	0.154	0.013	0.167	39	0.131	0.017	0.148
15	0.169	0.020	0.189	40	0.090	0.008	0.098
16	0.162	0.020	0.182	41	0.107	0.010	0.117
17	0.186	0.017	0.203	42	0.174	0.037	0.211
18	0.186	0.010	0.196	43	—	—	—
19	0.180	0.017	0.197	44	0.264	0.012	0.276
20	0.180	0.029	0.209	45	0.224	0.026	0.260
21	0.167	0.015	0.182	46	—	—	—
22	0.153	0.008	0.161	47	—	—	—
23	0.126	0.020	0.146	48	—	—	—
24	0.142	0.020	0.162	49	—	—	—
25	0.124	0.021	0.145	50	—	—	—

P u n t o 8 Apr. 19-21, 1988

ITEM No.	NO	NO <sub>2</sub>	NOX	ITEM No.	NO	NO <sub>2</sub>	NOX
1	0.107	0.025	0.132	26	0.052	0.087	0.149
2	0.068	0.022	0.150	27	0.129	0.023	0.211
3	0.044	0.028	0.132	28	0.143	0.096	0.239
4	0.059	0.028	0.147	29	0.040	0.076	0.116
5	0.057	0.077	0.154	30	0.070	0.082	0.152
6	0.059	0.073	0.132	31	0.140	0.092	0.232
7	0.102	0.090	0.192	32	0.103	0.079	0.182
8	0.030	0.071	0.121	33	0.062	0.071	0.133
9	0.048	0.075	0.133	34	0.034	0.101	0.135
10	0.067	0.082	0.149	35	0.052	0.085	0.137
11	0.059	0.104	0.163	36	0.119	0.088	0.207
12	0.005	0.094	0.099	37	0.043	0.080	0.123
13	0.077	0.103	0.180	38	0.134	0.078	0.212
14	0.016	0.078	0.144	39	0.052	0.076	0.128
15	0.020	0.025	0.105	40	0	0.134	0.134
16	0.028	0.083	0.151	41	0.082	0.085	0.167
17	0.069	0.023	0.152	42	0.044	0.074	0.118
18	0.094	0.109	0.203	43	0.052	0.068	0.120
19	0.071	0.085	0.156	44	0	0.091	0.091
20	0.106	0.079	0.185	45	0.056	0.129	0.184
21	0.073	0.082	0.155	46	0.051	0.083	0.134
22	0.102	0.057	0.189	47	0.078	0.077	0.155
23	0.074	0.072	0.152	48	0.080	0.069	0.129
24	0	0.180	0.180	49	0	0.073	0.073
25	0.026	0.140	0.166	50	0.056	0.074	0.130

Table 2.2.23 Result of Measurement of Nitrogen Oxides by Simplified Method

Punto 9 Dec. 21-23. 1987

ITEM No.	NO	NO <sub>2</sub>	NO <sub>x</sub>	ITEM No.	NO	NO <sub>2</sub>	NO <sub>x</sub>
1	0.074	0.032	0.106	26	0.070	0.044	0.114
2	0.077	0.053	0.130	27	—	—	—
3	0.092	0.036	0.128	28	0.076	0.044	0.120
4	0.101	0.042	0.143	29	0.113	0.050	0.163
5	0.078	0.048	0.126	30	0.077	0.042	0.119
6	0.099	0.042	0.121	31	0.129	0.048	0.177
7	0.125	0.060	0.185	32	0.095	0.065	0.160
8	0.131	0.045	0.176	33	—	—	—
9	—	—	—	34	0.120	0.043	0.163
10	0.104	0.045	0.149	35	—	—	—
11	0.117	0.080	0.197	36	0.053	0.022	0.075
12	0.110	0.056	0.166	37	0.150	0.042	0.192
13	0.111	0.037	0.148	38	0.098	0.032	0.130
14	—	—	—	39	0.079	0.040	0.119
15	—	—	—	40	0.095	0.042	0.137
16	0.096	0.056	0.152	41	0.118	0.059	0.177
17	0.071	0.049	0.120	42	0.098	0.058	0.156
18	0.053	0.037	0.090	43	0.142	0.053	0.195
19	0.128	0.074	0.202	44	0.142	0.056	0.198
20	0.099	0.076	0.175	45	0.094	0.081	0.175
21	—	—	—	46	—	—	—
22	0.077	0.094	0.171	47	—	—	—
23	0.070	0.043	0.113	48	—	—	—
24	0.112	0.059	0.171	49	—	—	—
25	0.074	0.053	0.127	50	—	—	—

Punto 9 Mar. 23-25. 1988

ITEM No.	NO	NO <sub>2</sub>	NO <sub>x</sub>	ITEM No.	NO	NO <sub>2</sub>	NO <sub>x</sub>
1	0.115	0.087	0.202	26	0.246	0.091	0.337
2	0.233	0.104	0.337	27	0.162	0.098	0.260
3	0.135	0.076	0.211	28	0.213	0.087	0.300
4	0.092	0.082	0.174	29	0.228	0.089	0.297
5	0.101	0.085	0.186	30	0.087	0.097	0.184
6	0.129	0.093	0.222	31	0.164	0.078	0.242
7	0.114	0.084	0.198	32	0.111	0.087	0.198
8	0.193	0.081	0.274	33	0.093	0.093	0.186
9	0.136	0.087	0.223	34	0.111	0.115	0.226
10	0.052	0.065	0.117	35	0.176	0.064	0.240
11	0.021	0.085	0.116	36	0.132	0.080	0.212
12	0.116	0.074	0.190	37	0.049	0.080	0.129
13	0.107	0.099	0.206	38	0.101	0.082	0.183
14	0.148	0.080	0.228	39	—	—	—
15	0.043	0.080	0.123	40	0.153	0.074	0.227
16	0.118	0.085	0.203	41	0.098	0.082	0.180
17	0.035	0.176	0.211	42	0.166	0.087	0.253
18	0.086	0.071	0.157	43	0.153	0.090	0.243
19	—	—	—	44	0.094	0.093	0.187
20	0.122	0.073	0.195	45	0.091	0.086	0.177
21	0.117	0.104	0.221	46	0.073	0.074	0.147
22	0.056	0.079	0.135	47	0.176	0.090	0.266
23	0.174	0.099	0.273	48	0.144	0.079	0.223
24	0.063	0.078	0.141	49	0.167	0.080	0.247
25	0.106	0.101	0.207	50	0.154	0.074	0.228

Table 2.2.24. Result of Measurement of Nitrogen Oxides by Simplified Method

Punto 10 Feb. 16-18, 1988 UNIT: ppm

ITEM No.	NO	NO <sub>2</sub>	NO <sub>x</sub>	ITEM No.	NO	NO <sub>2</sub>	NO <sub>x</sub>
1	0.070	0.066	0.136	26	0.082	0.051	0.133
2	0.027	0.076	0.103	27	0.021	0.080	0.101
3	0.071	0.054	0.125	28	0.047	0.038	0.085
4	0.064	0.078	0.142	29	0.069	0.065	0.134
5	0.073	0.056	0.129	30	0.019	0.054	0.073
6	0.057	0.054	0.111	31	0.054	0.043	0.097
7	0.058	0.064	0.122	32	0.063	0.048	0.111
8	0.046	0.071	0.117	33	0.060	0.040	0.100
9	0.053	0.075	0.128	34	0.077	0.043	0.120
10	0.041	0.072	0.113	35	0.020	0.020	0.040
11	0.049	0.048	0.097	36	0.058	0.060	0.118
12	0.052	0.038	0.090	37	0.072	0.025	0.097
13	0.044	0.043	0.087	38	0.049	0.038	0.087
14	0.080	0.050	0.130	39	0.023	0.066	0.089
15	0.082	0.051	0.133	40	0.046	0.034	0.080
16	0.089	0.043	0.132	41	0.066	0.072	0.138
17	0.038	0.116	0.154	42	0.054	0.049	0.103
18	0.034	0.062	0.096	43	0.088	0.064	0.152
19	0.089	0.060	0.149	44	0.101	0.069	0.170
20	0.058	0.044	0.102	45	0.100	0.054	0.154
21	0.032	0.057	0.089	46	0.080	0.057	0.137
22	0.033	0.057	0.090	47	0.142	0.053	0.195
23	0.073	0.054	0.127	48	0.096	0.058	0.154
24	0.033	0.065	0.098	49	0.098	0.042	0.140
25	0.070	0.053	0.123	50	0.114	0.159	0.273

Punto 10 Nov. 10-12, 1987 UNIT: ppm

ITEM No.	NO	NO <sub>2</sub>	NO <sub>x</sub>	ITEM No.	NO	NO <sub>2</sub>	NO <sub>x</sub>
1	0.025	0.050	0.075	26	0.147	0.073	0.220
2	0.071	0.046	0.117	27	0.111	0.079	0.190
3	0.061	0.101	0.162	28	0.088	0.095	0.183
4	0.115	0.056	0.171	29	0.076	0.099	0.175
5	0.100	0.054	0.154	30	0.084	0.084	0.168
6	0.077	0.071	0.148	31	0.112	0.043	0.155
7	0.080	0.059	0.139	32	0.150	0.070	0.220
8	0.053	0.084	0.137	33	0	0.054	0.054
9	0.050	0.078	0.128	34	0.010	0.046	0.056
10	0.040	0.087	0.127	35	0	0.046	0.046
11	0.068	0.108	0.176	36	0.053	0.085	0.138
12	0.011	0.087	0.098	37	0.007	0.049	0.056
13	0.059	0.103	0.162	38	0.056	0.068	0.124
14	0.038	0.049	0.087	39	0.003	0.043	0.046
15	0.013	0.084	0.097	40	0	0.101	0.101
16	0.041	0.059	0.100	41	0.003	0.054	0.057
17	0.019	0.076	0.095	42	0.032	0.075	0.107
18	—	—	—	43	0.010	0.056	0.066
19	0.038	0.107	0.145	44	0.068	0.056	0.124
20	0.049	0.087	0.136	45	0.048	0.061	0.109
21	0.048	0.081	0.129	46	0.017	0.043	0.060
22	0.076	0.087	0.163	47	—	—	—
23	0.104	0.081	0.185	48	—	—	—
24	0.137	0.060	0.197	49	—	—	—
25	0.158	0.101	0.259	50	—	—	—

Table 2.2.25 Result of Measurement of Nitrogen Oxides by Simplified Method

UNIT : ppm

ITEM No.	NO	NO <sub>2</sub>	NOx	ITEM No.	NO	NO <sub>2</sub>	NOx
1	0.060	0.087	0.147	26	0.010	0.050	0.060
2	0.075	0.056	0.131	27	0.094	0.059	0.153
3	0.062	0.063	0.125	28	0.075	0.060	0.135
4	0.074	0.075	0.149	29	0.126	0.081	0.207
5	0.107	0.062	0.169	30	0.096	0.066	0.156
6	0.066	0.060	0.126	31	0.023	0.080	0.093
7	0.086	0.060	0.146	32	0.252	0.034	0.286
8	0.085	0.052	0.137	33	0.029	0.051	0.090
9	0.042	0.056	0.098	34	0.107	0.068	0.175
10	0.096	0.057	0.153	35	0.092	0.078	0.170
11	0.133	0.056	0.189	36	0.057	0.045	0.102
12	0.099	0.052	0.151	37	0.140	0.045	0.085
13	0.057	0.049	0.106	38	0.122	0.080	0.202
14	0.020	0.068	0.088	39	0.053	0.056	0.109
15	0.088	0.060	0.148	40	0.070	0.054	0.124
16	0.104	0.082	0.186	41	0.040	0.041	0.081
17	0.058	0.056	0.114	42	0.099	0.063	0.162
18	0.066	0.069	0.135	43	0.026	0.051	0.077
19	0.099	0.067	0.166	44	0.050	0.078	0.128
20	0.033	0.054	0.087	45	0.045	0.043	0.088
21	0.067	0.069	0.136	46	0.078	0.078	0.156
22	0.043	0.056	0.119	47	0.108	0.061	0.169
23	0.099	0.062	0.161	48	0.052	0.044	0.096
24	0.074	0.020	0.094	49	0.062	0.068	0.130
25	0.139	0.068	0.207	50	0.052	0.067	0.119

Table 2.2.26 Result of Measurement of Nitrogen Oxides by Simplified Method

Punto II Mar. 8-10. 1968

ITEM No	NO	NO <sub>2</sub>	NOx	ITEM No	NO	NO <sub>2</sub>	NOx
1	0.025	0.039	0.124	26	0.049	0.045	0.094
2	0.113	0.034	0.147	27	0.075	0.036	0.111
3	0.107	0.005	0.192	28	0.121	0.050	0.171
4	0.144	0.028	0.172	29	0.075	0.040	0.115
5	0.127	0.043	0.170	30	0.177	0.043	0.220
6	0.126	0.040	0.186	31	0.199	0.045	0.244
7	0.176	0.040	0.216	32	0.189	0.046	0.235
8	0.044	0.044	0.108	33	0.127	0.045	0.172
9	0.120	0.042	0.162	34	0.100	0.043	0.143
10	0.116	0.047	0.163	35	0.128	0.044	0.172
11	0.215	0.048	0.263	36	0.115	0.037	0.152
12	0.070	0.034	0.104	37	0.064	0.046	0.110
13	0.130	0.050	0.180	38	0.180	0.059	0.239
14	0.143	0.056	0.199	39	0.148	0.044	0.192
15	0.128	0.037	0.165	40	0.102	0.058	0.160
16	0.156	0.044	0.200	41	0.096	0.062	0.158
17	0.083	0.035	0.118	42	0.079	0.058	0.127
18	0.181	0.050	0.231	43	0.124	0.041	0.165
19	0.131	0.050	0.181	44	0.172	0.053	0.225
20	0.100	0.044	0.144	45	0.100	0.042	0.142
21	0.080	0.037	0.117	46	0.080	0.095	0.175
22	0.031	0.023	0.114	47	0.151	0.043	0.194
23	0.094	0.043	0.137	48	0.196	0.068	0.264
24	0.198	0.049	0.147	49	0.044	0.043	0.087
25	0.150	0.042	0.192	50	0.100	0.038	0.138

Punto II Jan. 14-16. 1968

ITEM No	NO	NO <sub>2</sub>	NOx	ITEM No	NO	NO <sub>2</sub>	NOx
1	0.022	0.074	0.096	26	—	—	—
2	0	0.134	0.134	27	0.051	0.068	0.119
3	0.124	0.059	0.183	28	0.014	0.037	0.051
4	0.059	0.040	0.099	29	0.065	0.059	0.124
5	0.045	0.068	0.113	30	0.044	0.054	0.098
6	0	0.029	0.029	31	0.039	0.046	0.075
7	0.005	0.056	0.061	32	0.021	0.047	0.068
8	—	—	—	33	0.093	0.047	0.140
9	0.076	0.055	0.131	34	0.115	0.044	0.159
10	0.031	0.066	0.097	35	0.048	0.045	0.093
11	0.001	0.038	0.039	36	0	0.050	0.050
12	0.028	0.045	0.073	37	—	—	—
13	0.085	0.057	0.142	38	0.142	0.070	0.212
14	0.034	0.058	0.087	39	0.053	0.067	0.120
15	0.045	0.058	0.063	40	0.140	0.048	0.188
16	0.011	0.047	0.058	41	0.044	0.054	0.098
17	0.064	0.054	0.118	42	0.052	0.053	0.105
18	0.015	0.097	0.112	43	0.099	0.047	0.146
19	0.029	0.059	0.088	44	0.039	0.054	0.083
20	0	0.052	0.052	45	0.026	0.048	0.074
21	0.045	0.056	0.101	46	0.051	0.057	0.108
22	0.012	0.050	0.062	47	0.038	0.051	0.089
23	—	—	—	48	0.183	0.043	0.146
24	0.048	0.025	0.123	49	0.079	0.078	0.157
25	0.080	0.049	0.129	50	0.052	0.053	0.105

Table 2.2.2.27 Result of Measurement of Nitrogen Oxides by Simplified Method

Punto 12 Nov. 3-5, 1987

ITEM No	NO	NO <sub>2</sub>	NOX	ITEM No	NO	NO <sub>2</sub>	NOX
1	0.066	0.075	0.141	26	0.076	0.064	0.140
2	0.192	0.057	0.249	27	0.072	0.052	0.124
3	0.139	0.055	0.194	28	0.066	0.049	0.115
4	0.068	0.028	0.156	29	0.045	0.042	0.087
5	0.073	0.044	0.117	30	0.072	0.043	0.115
6	0.030	0.052	0.082	31	0.072	0.052	0.124
7	0.119	0.038	0.157	32	—	—	—
8	0.111	0.037	0.148	33	—	0.038	—
9	0.095	0.055	0.150	34	0.048	0.049	0.095
10	0.114	0.084	0.198	35	0.063	0.048	0.111
11	0.080	0.078	0.158	36	0.047	0.044	0.091
12	0.061	0.058	0.119	37	0.077	0.046	0.123
13	0.045	0.038	0.083	38	0.055	0.029	0.084
14	0.045	0.040	0.085	39	0.032	0.083	0.115
15	0.083	0.043	0.126	40	0.044	0.048	0.092
16	0.146	0.057	0.203	41	0.053	0.033	0.086
17	0.117	0.052	0.169	42	0.062	0.055	0.117
18	0.076	0.063	0.139	43	0.035	0.053	0.088
19	0.111	0.059	0.170	44	0.042	0.044	0.086
20	0.066	0.052	0.118	45	0.095	0.033	0.128
21	0.112	0.055	0.167	46	0.072	0.046	0.118
22	0.138	0.055	0.193	47	0.165	0.043	0.208
23	0.078	0.062	0.140	48	0.073	0.045	0.118
24	0.068	0.050	0.118	49	—	—	—
25	0.086	0.052	0.138	50	—	—	—

Punto 12 Jan. 27-29, 1988

ITEM No	NO	NO <sub>2</sub>	NOX	ITEM No	NO	NO <sub>2</sub>	NOX
1	0.036	0.029	0.065	26	0.056	0.046	0.102
2	0.072	0.030	0.102	27	0.056	0.036	0.092
3	0.033	0.022	0.065	28	0.135	0.074	0.169
4	0.028	0.030	0.088	29	0.073	0.032	0.105
5	0.093	0.042	0.135	30	—	—	—
6	0.164	0.032	0.197	31	0.101	0.037	0.138
7	0.072	0.037	0.109	32	0.135	0.034	0.169
8	0.066	0.049	0.115	33	0.158	0.048	0.206
9	0.101	0.048	0.149	34	0.178	0.057	0.235
10	0.127	0.034	0.161	35	0.112	0.026	0.148
11	0.094	0.027	0.121	36	0.052	0.043	0.096
12	—	—	—	37	0.094	0.028	0.122
13	0.044	0.022	0.076	38	0.063	0.028	0.091
14	0.062	0.054	0.116	39	0.103	0.037	0.140
15	0.038	0.040	0.078	40	0.061	0.039	0.100
16	0.164	0.040	0.204	41	—	—	—
17	0.091	0.025	0.126	42	0.023	0.062	0.085
18	0.056	0.049	0.105	43	0.118	0.034	0.152
19	0.051	0.041	0.092	44	0.083	0.038	0.121
20	0.145	0.044	0.189	45	0.057	0.030	0.087
21	0.082	0.036	0.118	46	0.120	0.032	0.152
22	0.062	0.035	0.097	47	0.072	0.026	0.098
23	0.103	0.062	0.165	48	0.094	0.031	0.125
24	0.173	0.037	0.210	49	0.134	0.034	0.168
25	0.158	0.040	0.198	50	0.091	0.037	0.128





**PART 3 ANALYSIS OF AIR QUALITY AND METEOROLOGICAL DATE  
AT THE SEDUE'S STATIONS**



This part presents the results of analyses on the air quality and meteorological data at the SEDUE's monitoring stations for the one year period from December 1986 to November 1987.

### **3.1 Meteorology**

#### **3.1.1 Wind Speed**

Figures 3.1.1, 3.1.2 and 3.1.3 show monthly average wind speed, daily hourly average wind speed, and frequency of wind classified by wind speed, respectively.

#### **3.1.2 Atmospheric Stability**

Figure 3.1.4 shows frequency of occurrence of atmospheric stability classes.

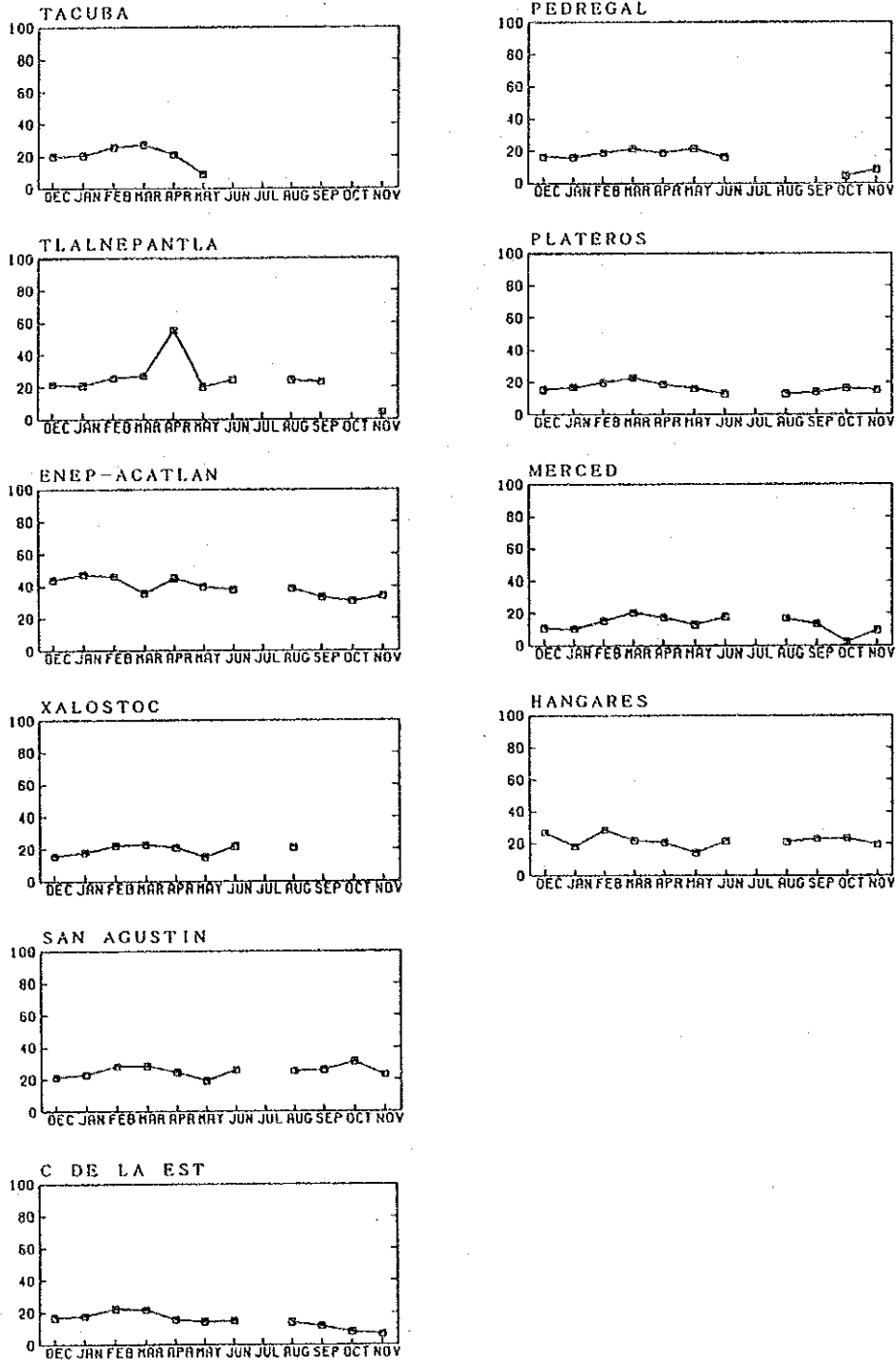


Figure 3.1.1 Monthly Average Wind Speed (Dec. 1986 - Nov. 1987)  
 (Unit: 0.1m/s)

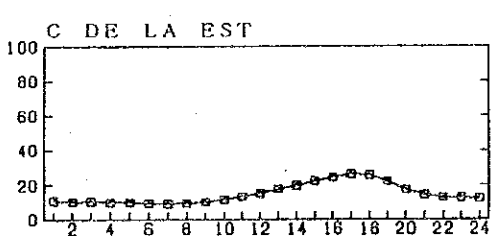
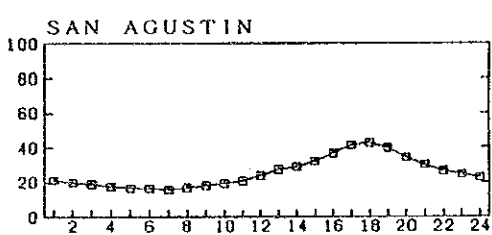
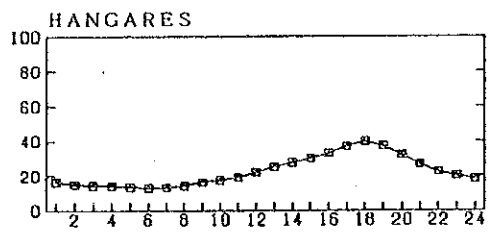
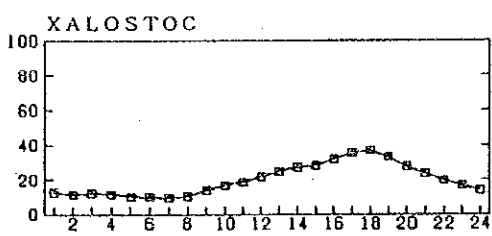
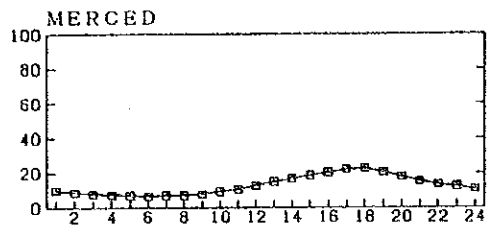
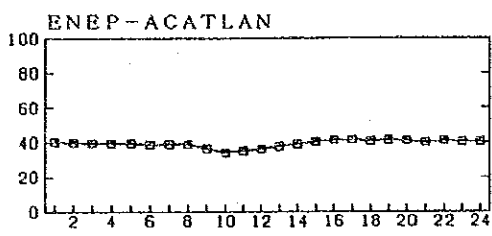
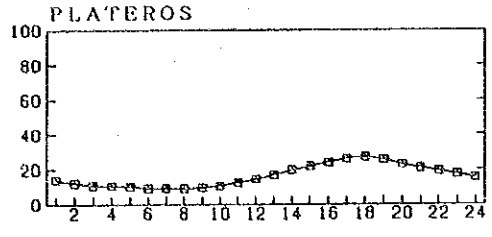
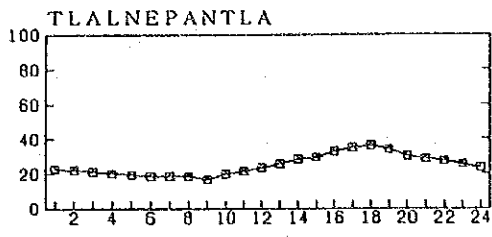
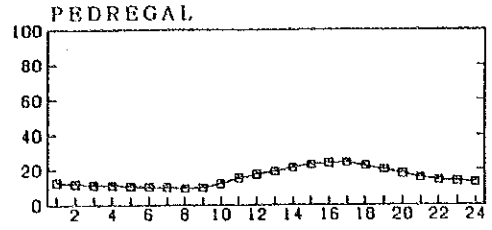
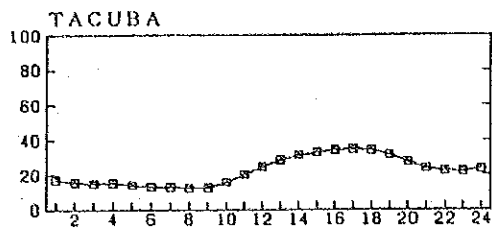


Figure 3.1.2 Time of Day Average Wind Speed (Dec. 1986 - Nov. 1987)  
(Unit: 0.1m/s)

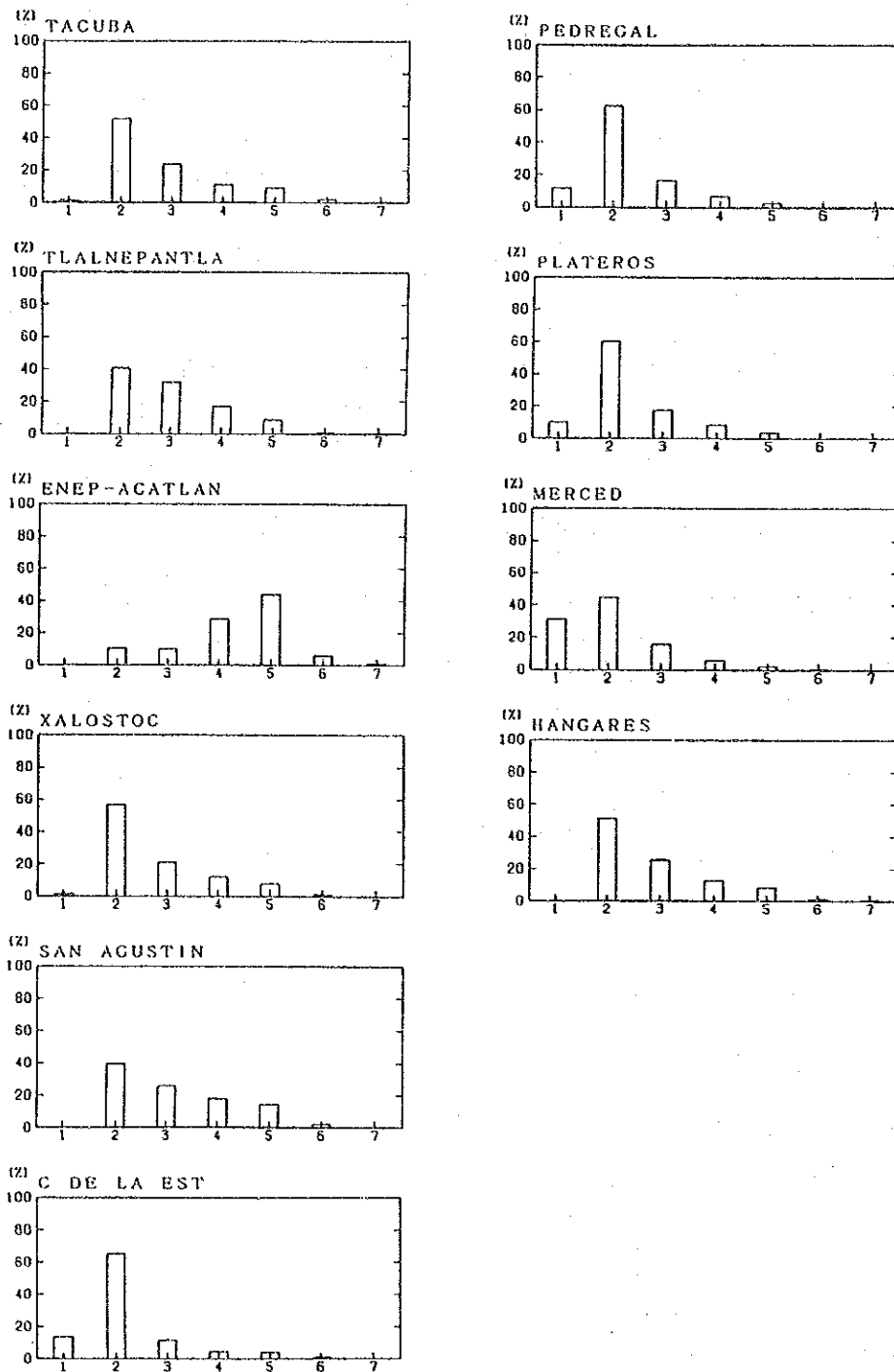


Figure 3.1.3 Frequency of Wind Classified by Wind Speed (Dec. 1986 - Nov. 1987)  
(Unit: 0.1m/s)

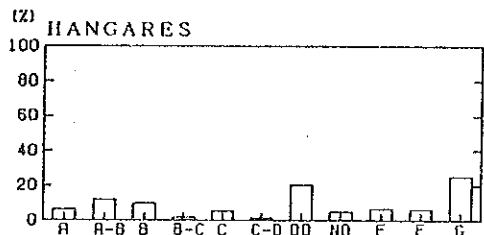
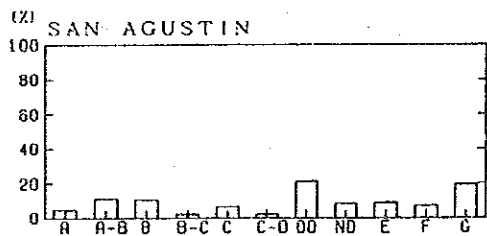
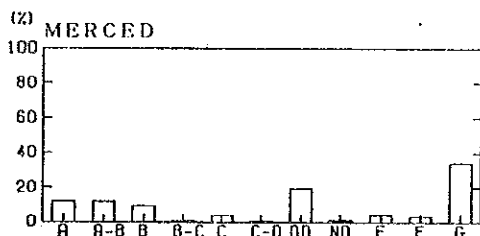
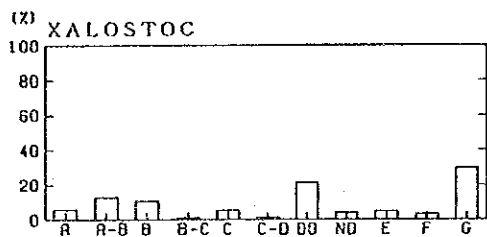
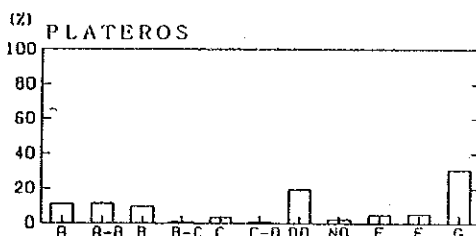
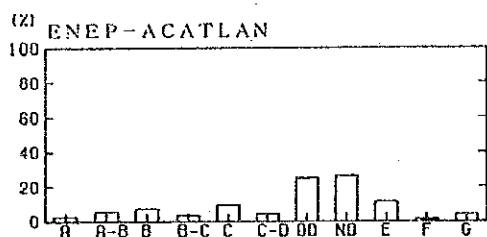
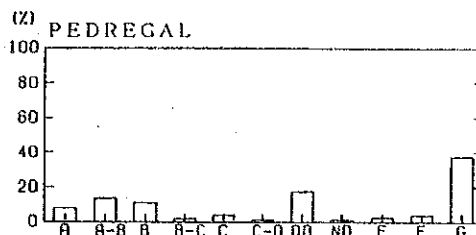
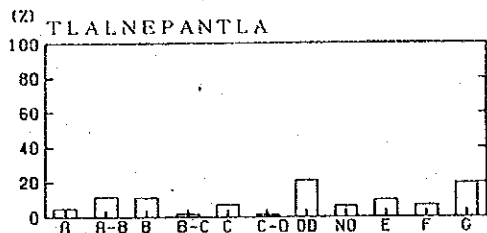
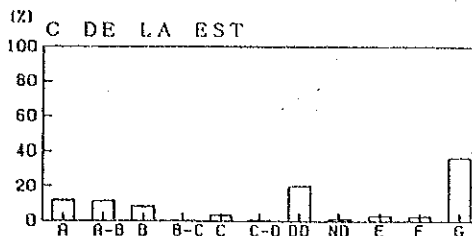
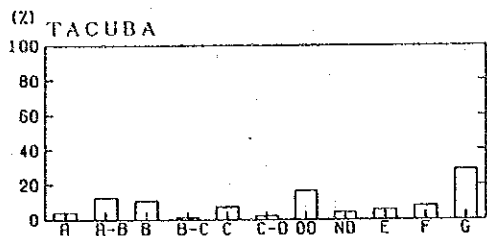


Figure 3.1.4 Frequency of Atmospheric Stability (Dec. 1986 - Nov. 1987)

### 3.1.3 Methods of Cluster Formation on the Basis of Similarity

Extract from Introduction to Multi-variable Analysis II,  
Kawaguchi, M., Morikita Publishing Co., Tokyo, 1978.

The method described below is known as a combinatorial method. This method features the cluster formation process in a hierarchical pattern and calculation of the inter-cluster similarity (or distance) in the course of formation from the similarity (or distance) one stage before. The combinatorial method includes various methods which can be classified according to the definition of the inter-cluster similarity (distance).

The basic algorithm for cluster formation according to these methods consists of following four steps:

Step 1 Assumption of the total number of individuals as "N"

If the input data is not the similarity, the similarity (or the distance) among each individual is calculated.

For the initial state, it is assumed that each of N individuals forms one cluster. Accordingly, the number of clusters M is equal to N.

Step 2 The pair with the highest similarity (smallest distance) is determined from M pieces of clusters and fused into one cluster. Proceed to step 3 if M (assumed as M-1) is larger than 1. If not, skip to step 4.

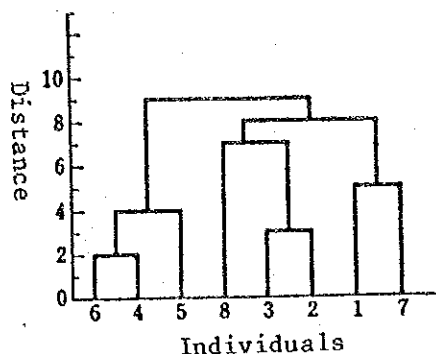
Step 3 Similarity (or distance) between the new cluster and other clusters is calculated.

With the information thus obtained, return to Step 2 .

Step 4 End of calculation after output of necessary information.



As is evident from the above algorithm, gradual cluster formation follows a hierarchical pattern and thus can be expressed by the dendrogram as shown below.



As noted above, there are various methods depending on how the inter-cluster similarity (or distance) (Step 3) is calculated. Before dealing with individual methods, the symbols used are explained below.

Individuals to be classified are randomly assigned with numbers and each individual is identified with the assigned. A set of entire individuals is represented as follows:

$$I = \{1, 2, 3, \dots, N\}$$

K pieces of clusters  $C_1, C_2, \dots, C_k$  are expressed with the set of individual numbers contained in each cluster (e.g.,  $C_1 = \{1, 4, 8, 9\}$ ,

$$C_2 = \{2, 5, 11, 18, 30\}, \dots)$$

Note however that;

$$C_1 \cup C_2 \cup \dots \cup C_k = I,$$

$$C_1 \cap C_2 \cap \dots \cap C_k = \phi \text{ (empty set)}$$

G.N. Lance and W.T. Williams proposed the use of the following equation for recalculation of the inter-cluster distance to express the methods described below on the unified basis. Namely, when clusters  $C_f$  and  $C_g$  are fused into a new cluster  $C_h$  at a specific stage, the distance  $D_{h1}$  between  $C_h$  and remaining cluster  $C_1$  is calculated as follows:

or (A)  $D_{ht} \equiv \alpha_f D_{ft} + \alpha_g D_{gt} + \beta D_{fg} + \gamma |D_{ft} - D_{gt}|$

(B)  $D_{ht}^2 \equiv \alpha_f D_{ft}^2 + \alpha_g D_{gt}^2 + \beta D_{fg}^2 + \gamma |D_{ft}^2 - D_{gt}^2|$

Since each of the individuals is assumed to form one cluster initially, the distance  $D_{fg}$  between clusters agrees with the distance  $d_{fg}$  between individuals.

(1) Nearest Neighbour Method

The distance between fused cluster  $C_h$  and cluster  $C_l$  is expressed as follows.

$$\begin{aligned} D_{hl} &= \frac{1}{2}D_{fl} + \frac{1}{2}D_{gl} - \frac{1}{2}|D_{fl} - D_{gl}| \\ &= \min_{r,s} \{d_{rs} | r \in C_h, s \in C_l\} \\ &= \begin{cases} D_{fl} & \text{for } D_{fl} \leq D_{gl} \\ D_{gl} & \text{for } D_{fl} > D_{gl} \end{cases} \end{aligned}$$

Note that  $d_{rs}$  is the individual distance between an individual "r" belonging to  $C_h$  and an individual "s" belonging to  $C_l$ . This method features the shortest distance between clusters, and is thus superior in detecting linear (or curvi-linear) clusters although its classification decreases ability slightly when two clusters are near. In contrast, this feature may exert a "chain effect" to cause an unsatisfactory result.

(2) Furthest Neighbour Method

Contrary to method (1) above, the furthest distance between two clusters is used. Namely;

$$\begin{aligned} D_{hl} &= \frac{1}{2}D_{fl} + \frac{1}{2}D_{gl} + \frac{1}{2}|D_{fl} - D_{gl}| \\ &= \max_{r,s} \{d_{rs} | r \in C_h, s \in C_l\} \\ &= \begin{cases} D_{fl} & \text{for } D_{fl} \geq D_{gl} \\ D_{gl} & \text{for } D_{fl} < D_{gl} \end{cases} \end{aligned}$$

As is evident from the definition of the inter-cluster distance, the inter-cluster distance increases each time clusters are fused. In this context, the ability of simply classifying clusters is superior to the method (1). However, it is difficult how to interpret the inter-cluster distances for the classified result.

(3) Median Method

This method can be placed between the methods (1) and (2). The inter-cluster distance used may be expressed as follows:

$$D_{ht} = \frac{1}{2}D_{ft} + \frac{1}{2}D_{gt} - \frac{1}{4}D_{fg}$$

This method somewhat alleviates the shortcomings of the methods (1) and (2), but it does not demonstrate their merits.

(4) Group Average Method

The following average distance is used as the inter-cluster distance. Assuming that  $d_{rs}^2$  represents the second power of the Euclidean distance between a random individual "r" of cluster  $C_f$  and a random individual "s" of cluster  $C_g$ , the distance between  $C_f$  and  $C_g$  becomes:

$$D_{fg}^2 = \frac{1}{n_f n_g} \sum_{r \in C_f} \sum_{s \in C_g} d_{rs}^2$$

Using this equation, the distance between  $C_h$  (formed from the fusion of  $C_f$  and  $C_g$ ) and cluster  $C_l$  can be defined as follows:

$$D_{hl}^2 = \frac{n_f}{n_h} D_{fl}^2 + \frac{n_g}{n_h} D_{gl}^2$$