Chapter S5 ENVIRONMENTAL AIR ANALYSIS

Contents

Photographs

5.1 Environment of Model Areas

5.1.1 Buenos Aires

This model area covers the whole of Buenos Aires City. The city is developed on a vast plain spreading out in smooth geographical features, and has the La Plata river to the east of the city. The urban area where many high buildings and houses are densely built-up, stretches along the river at an interval of 1km. In the urban area, people use cars for transportation at every turn and the traffic to the arterial highway is chronically heavy and bustling with human activity causing peak highway congestion in the morning and evening on weekdays.

The Nuevo Puerto and the Puerto Nuevo power plants are located at the Buenos Aires seaport, northeastward from the center of the Capital Federal and close to the urban area. Both power plants are approximately 500m apart from each other. The Nuevo Puerto power plant is located on the north side and the Puerto Nuevo on the south side. The surrounding area is an industrial area comprised of relatively small-scale factories. The Central Costanera power plant is located at the eastern extremity of Buenos Aires city, where both the La Plata River and the Riachuelo river which is the boundary between Buenos Aires city and Gran Buenos Aires area, are confluent. Around the power plant, a dockyard adjoins and oil refineries exist at a distance of 1km southeastward. The refineries are outside of the model area.

The domestic airport is situated on the banks of the La Plata River about 2km northwest of the power plants. The international airport is outside the model area.

5.1.2 Lujan de Cuyo

This area is centered on the Lujan de Cuyo power plant. The Lujan de Cuyo power plant is located in the industrial park at a distance of 10km west-southwest of Lujan de Cuyo city in the Province of Mendoza. Lujan de Cuyo city is developed on flat land at an altitude of 900m at a distance of 30km south of the center of Mendoza city, the provincial capital. The area reaches to the piedmont of the Andean 5km west of the power plant. Vineyards surround the power plant.

A YPF oil refinery and a petrochemical plant adjoin to the power plant, while other plants also in exist including a silicone inorganic chemical factory, a coke plant and gypsum plant. A large amount of pollutants (soot and dust) are constantly emitted from almost all these factories. Roadways for Mendoza and Chile run around the power plant but the traffic is light. The area is on oil and natural gas deposit fields.

5.1.3 San Nicolas

The San Nicolas power plant is central to this model area and is located at the northwestern extremity of Buenos Aires Province and to the northeast part of San Nicolas city which is in 200km northwest of Buenos Aires City. This area has a flat topographic feature and the Paraná River to the northeast of the city. The urban area is developed for 6km round with very little traffic, and pasture and farm fields stretch out around it.

The San Nicolas power plant faces the Paraná River and an steel works is situated nearby to the south of the plant and numerous stationary emission sources exist. To the west of the power plant, the urban area stretches out and is home to an insect- and herbicide manufacturing plant and cement factories are found. Another steel works exists 15km northwest of the power plant.

5.2 Air Quality Monitoring

5.2.1 Planning

The purpose of the monitoring is to grasp the current status of air pollution in the model area and to obtain adequate data and information to verify the simulation model. The monitoring was carried out both in summer and winter, when the fuel used in the power plant was supposed to be different.

The sites of manual sampling were selected in the area 5 km around each main power plant and the number of the sites was 9, considering the quantity of available instruments in the possession of CNEA and including those by JICA as well. At one of the sites of each model area, the automatic analyzers were also mobilized together with the manual sampling in order to verify each method.

The chemical analysis was carried out by counterparts using instrument in the possession of CNEA. Regarding oxides of nitrogen, only total NOx was monitored, conforming to the actual environmental criteria of Argentina. As for SO_2 analysis, an ion chromatography method was adopted using the CNEA's instrument.

5.2.2 Monitoring Sites and Chemical Laboratory

1) Buenos Aires

For manual sampling, because of breakdowns of high volume air samplers and the night safety of the area around the sites, 7 sites of ① to ⑦ around the hospitals were selected for the summer monitoring. For the winter monitoring, 9 sites of ① to ③ and ⑤ to ⑨ were selected. For automatic analyzers, the Hospital Alemán was selected. The monitoring was implemented by CNEA. Figure 5.2.1 indicates the location of the monitoring sites and Table 5.2.1 shows their general description.

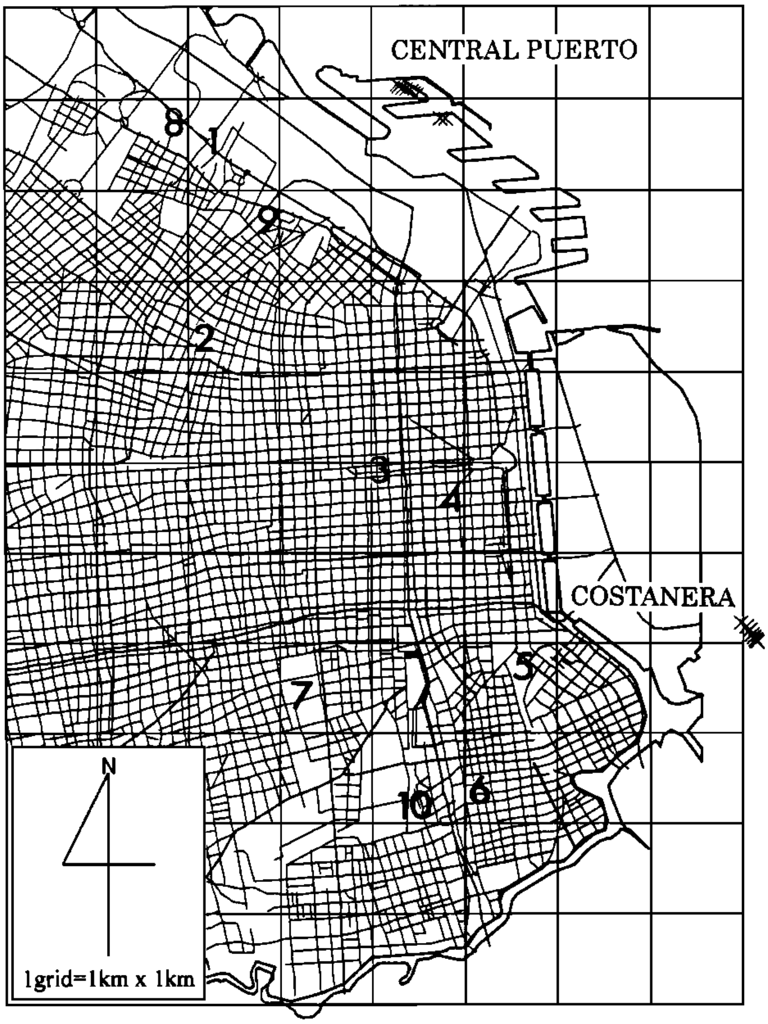

Figure 5.2.1 Location of the Monitoring Sites of Buenos Aires

Table 5.2.1 General Description of the Monitoring Sites of Buenos Aires

Monitoring sites	Direction and distance from the Puerto P/P	Direction and distance from the Costanera P/P	Surrounding conditions
①EMERGENCIAS SANITARIAS	1.6km west	7.3km northwest	Situated on grassy premises of the Dirección de Emergencias Sanitarias Ministerio de Salud with an emergency heliport, close to a highway.
② HOSPITAL ALEMAN	2.6km southwest	6.1km west-northwest	Situated on the premises of the Hospital Alemán. Surrounding roads have heavy traffic.
③ RAPALLINI	3.5km south	3.9km west-northwest	Situated on 5th floor of an apartment facing an arterial highway.
④ INAP*1	3.6km south	4km west-northwest	Situated on 3rd floor of the INAP Centro de Capacitación facing an arterial highway.
⑤ CASA AMARILLA	5.6km south southeast	2.1km west	Situated in the park of the Casa Amarilla del Almirante Guillermo Brown facing an arterial highway.
⑥ METRO GAS	6.8km south	3km west-southwest	Situated on the premises of the gas company.
⑦ GARRAHAN	5.7km south southwest	4km west	Situated on the rooftop of the 4-story building of the Hospital National de Pediatria on the park fringe.
⑧ JARDIN JAPOINES*2	2.3km west	7.5km northwest	Situated in the Japanese garden. The surrounding roads congested with heavy traffics.
⑨ BIBLIOTECA NATOINAL*2	1.8km southwest	6.3km northwest	Situated on a hill on the 2nd floor of the national library, in a residential area with many apartment buildings.
⑩ AGUAS ARGENTINAS*2	6.9km south	3.9km west-southwest	Situated in the office of the water treatment plant.

The automatic monitoring site was determined on the rooftop of the 7-story building of the HOSPITAL ALEMAN.

*1 : Monitoring site only in summer.

*2 : Monitoring site only in winter.

2) Lujan de Cuyo

For manual sampling, the 9 monitoring sites of ① to ⑨ were selected with collaboration from the Mendoza provincial government. The thermal power plant (CTM) was selected as a monitoring site for automatic analyzer. NOx analysis was carried out at a tenanted part of the water analysis institute of Lujan de Cuyo city, while other analyses were carried out in CNEA. Figure 5.2.2 indicates the location of the monitoring sites and Table 5.2.2 shows their general description.

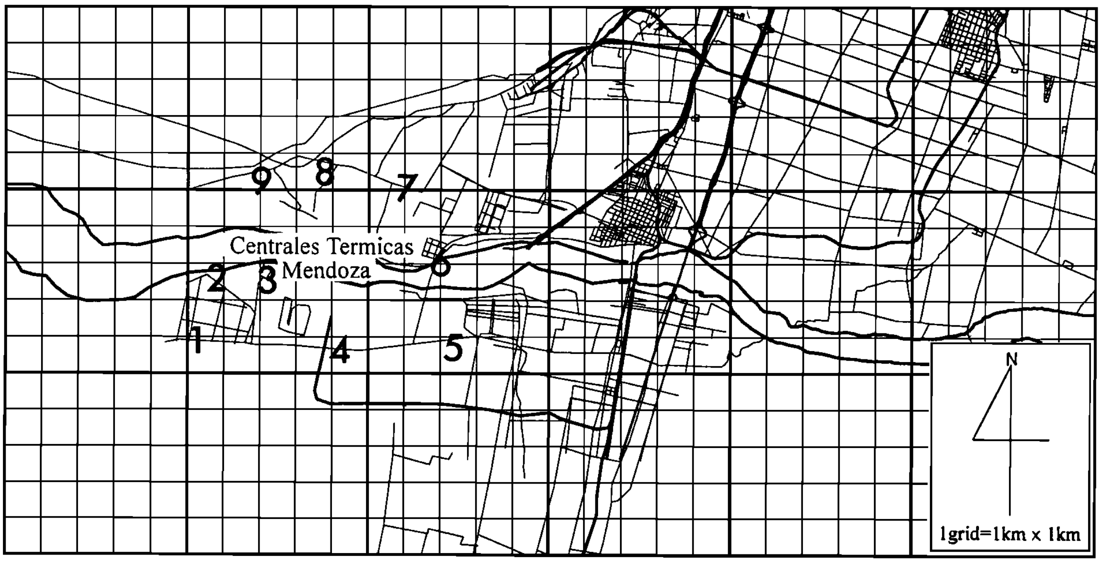

Figure 5.2.2 Location of the Monitoring Sites of Lujan de Cuyo

Table 5.2.3 General Description of the Monitoring Sites of Lujan de Cuyo

Monitoring sites	Direction and distance from the Lujan de Cuyo power plant	Surrounding conditions
① ZONA FRANCA	1.85km southwest	Situated on vast premises of a bonded warehouse which is sometimes filled with dust turbulence.
② ACSA	0.67km west-northwest	Situated on the premises of Aceros Cartellone S. A.
③ CTM		Situated on the power plant premises.
④ ALMACEN	2.8km southeast	Situated on the premises of the container factory facing an arterial highway, and front of the YPF.
⑤ MISTA	5.7km east-southeast	Situated on the premises of a machine factory.
⑥ CHIPOLETTI	5km east-northeast	Situated at the dam observation post of the Mendoza river.
⑦ VISTALBA	5.25km northeast	Situated in a villa area
⑧ YPF GAS STATION	3.25km north-northeast	Situated next to a gas station facing an arterial highway.
⑨ CASA UHGO	2.74km north	Situated in the garden of a personal residence facing an arterial highway.

・ The automatic monitoring site was determined at Centrales Termicas Mendoze (CTM).

3) San Nicolas

For manual sampling, the 9 monitoring sites of ① to ⑨ were selected in summer and 9 slightly different sites of ① to ⑧ and ⑩ in winter. For automatic analyzers, a site on a premises of the UTN (National University of Technology) was selected. NOx analysis was carried out in a chemical laboratory at the power plant in summer, while at the UTN in winter. The other analyses were carried out in CNEA. Figure 5.2.3 indicates the location of the monitoring sites and Table 5.2.3 shows their general description.

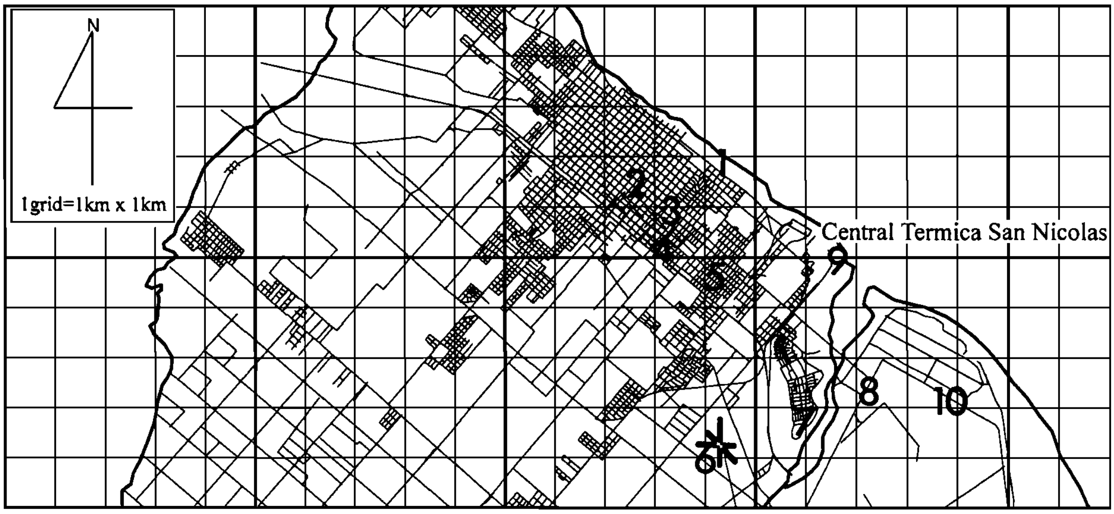

Figure 5.2.3 Location of the Monitoring Sites of San Nicolas

Table 5.2.3 General Description of the Monitoring Sites of San Nicolas

Monitoring sites	Direction and distance from the power plant	Surrounding conditions
① Universidad Tech. Nacional	3.85km northwest	Situated on the rooftop of the 3-story building of the National University of Technology facing the Paraná river.
② HOTEL RIO	5.1km west-northwest	Situated on the rooftop of a barn back of a hotel on a busy street.
③ TANQUE	4.04km west-northwest	It faces an arterial highway.
④ TRANSIBA	3.85km west	Situated on a premises of a transformer station on a busy street.
⑤ B° FAMILY	3.1km west-southwest	Situated in a residential area.
⑥ AERO CLUB	4.6km south-southwest	Situated in an airport for Cessna, which is sometimes filled with dust turbulence.
⑦ CASA DE MINA	3.52km south	Situated in a residential area
⑧ METALURGICA FLOGG	2.89km south-southeast	Situated on premises of a welding shop
⑨ CENTRAL TERMICA*1		Situated on the premises of the power plant
⑩ ESTABLECIMINET METALURGICO UNIVERSAL*2	4.1km southeast	Situated on the premises of a metal processing factory.

The automatic monitoring site was determined on the rooftop of the 3-story building of the UTN.

*1: Monitoring site only in summer.

*2: Monitoring site only in winter.

5.2.3 Monitoring Item, Frequency and Analytical Method

Table 5.2.4 gives monitored items and frequencies, and also analytical methods employed for the monitoring.

Table 5.2.4 Monitoring Item, Frequency and Analytical Method

	Item	Analytical Method	Monitoring Frequency
Manual sampling	SO_2	ASTM D-2914-95 Ion chromatography	6 times a day (each 1 hour at 0, 4, 8, 12, 16, 20 o'clock) for 7 days
	NOx	ASTM D-3608-95 Saltzman Absorptiometry	6 times a day (each 1 hour at 0, 4, 8, 12, 16, 20 o'clock) for 7 days
	TSP	ASTM D-4096-91 High volume air sampler	Once a day (from 12 to 12 o'clock) for 7 days
Automatic analyzers	SO_2	UV Fluorescence	For 7 days continuously
	NOx	Chemiluminescence	For 7 days continuously
	PM	β -ray absorption	For 7 days continuously

5.2.4 Monitored and Collected Data

1) General

The integrated results of air quality monitoring implemented by both manual sampling and automatic analyzers in summer is summarized in Table 5.2.5, and that of winter monitoring in Table 5.2.6, respectively. The results are evaluated in the Article 5.3.

2) Buenos Aires

The summer monitoring was carried out from noon Thursday 8 March 2001 to noon Thursday 15 March 2001.

S5-A1 describes the detailed results of the manual sampling (SO_2, NOx and TSP), and S5-A2 does of the automatic analyzers (SO_2, NO, NO_2, NOx and PM) respectively.

S5-A3, S5-A4 and S5-A5 give the operating data, the pollutant source data and the meteorological data of the Puerto power plant, respectively. The sets of data for the Costanera power plant are shown in S5-A6, S5-A7 and S5-A8, respectively. Except the monthly data (NOx, TSP, Settled dust, etc.) from 1997 to 1999 given by the City of Buenos Aires (#121), the Study Team was unable to acquire additional data monitored by other research agencies in this model area during the summer monitoring.

The winter monitoring was planned to be carried out from noon Friday, 13 July, 2001 to noon Sunday, 22 July, 2001. However, the monitoring was called off for two days, Wednesday 18 and Thursday 19 July because of a strike. Consequently the schedule was extended for two more days on Saturday 21 and Sunday 22 July. S5-A9 describes the detailed results of the manual sampling (SO_2, NOx and TSP), and S5-A10 shows the automatic analyzers (SO_2, NO, NO_2, NOx and PM) respectively. The operating data, the pollutant source data and the meteorological data of the Puerto power plant obtained during the Field Works are shown in S5-A11, S5-A12 and S5-A13, respectively. S5-A14, S5-A15 and S5-A16 show the results of the Costanera power plant, respectively. No additional data monitored by other research agencies was acquired during the winter monitoring.

3) Lujan de Cuyo

The summer monitoring was carried out from noon Sunday 18 February 2001 to noon Sunday 25 February 2001.

S5-A17 and S5-A18 contain the detailed results of the manual sampling (SO_2, NOx and TSP), and automatic analyses (SO_2, NO, NO_2, NOx and PM).

S5-A19 summarizes the operating data of the Lujan de Cuyo power plant and the pollutant source data during the monitoring. The meteorological data observed by the Provincial Government of Mendoza on a premise of the Lujan de Cuyo power plant are shown in S5-A20.

The winter monitoring was carried out from noon Wednesday 27 June 2001 to noon Wednesday 4 July 2001.

S5-A21 describes the detailed results of the manual sampling (SO_2, NOx and TSP), and S5-A22 shows the automatic analyzers (SO_2, NO, NO_2, NOx and PM) respectively. S5-A23 summarizes the operating data of the Lujan de Cuyo power plant and the pollutant source data during the monitoring. The meteorological data observed by the Provincial Government of Mendoza on a premise of the Lujan de Cuyo power plant are shown in S5-A24.

The Mendoza Province official gave to the Study Team daily data of SO_2, NOx, etc. monitored at sites in Mendoza City from 1/1999 to 7/2000, in YPF Refinery from 1/1999 to 6/2000 (#130), and also at CTM and YPF from 1/2000 to 12/2000 (#232).

Since the Provincial Government of Mendoza had stopped the monitoring at CTM during the summer monitoring of the Study, the monitoring data at CTM measured by the Provincial Government of Mendoza in a proximal period of the summer work is shown in S5-A25 and that of winter in S5-A26, respectively. Table 5.2.7 shows the integrated results of both analyses. The data are shown in the Table 5.2.6 and in S5-2-13. In comparison of the existing available data with the monitored data in the summer by the Study Team, no good correspondence is found. This discrepancy may arise from the different methodologies. Namely, the sampling period of the NOx monitoring was 1 hour for the Study, while it was 1day in the case of the of Mendoza Provincial Government. The Study Team employed high volume air samplers for TSP monitoring, and the Mendoza Government did low volume samplers. In contrast, the monitoring results in winter of both NOx and SO_2 are approximately consistent with the existing data.

4) San Nicolas

The summer monitoring was carried out from noon Monday 5 February 2001 to noon Monday 12 February 2001.

S5-A27 and S5-A28 show the results of the manual sampling (SO_2, NOx and TSP) and automatic analyses (SO_2, NO, NO_2, NOx and PM) respectively. S5-A29 and S5-A30 give the operating and pollutant source data of San Nicolas power plant during the summer monitoring period of the Study. The meteorological data of the same period observed by UTN are shown in S5-A31. The Study Team obtained daily ambient air quality data (SO_2, NOx) from January 1997 to December 1998 and the similar daily data (SO_2, NOx, PM_{10}, etc.) in January and March 1999 provided by ENRE (#137). No additional air quality data monitored by other research agencies could be acquired during the summer monitoring period.

The winter monitoring was carried out from noon Friday 27 July 2001 to noon Friday 3 August 2001.

S5-A32 describes the detailed results of the manual sampling (SO_2, NOx and TSP), and S5-A33 describes the automatic analyzers (SO_2, NO, NO_2, NOx and PM) respectively. S5-A34, S5-A35 and S5-A36 give the operating data and the pollutant source data of the San Nicolas power plant, respectively. The meteorological data during the monitoring period observed by the UTN is shown in S5-A37. No additional air quality data monitored by other research agencies could be acquired during the winter monitoring period.

Table 5.2.5 Integrated Results of Summer Monitoring Data (Mean Value)

			Unit	Buenos Aires	Lujan de Cuyo	San Nicolas
Period of monitoring				3/8～3/15	2/5～2/12	2/18～2/25
NOx	Manual sampling	whole period	μg/m^3	7.7(<4～59.3)	5.6(<4～30.9)	4.9(<4～45.5)
		weekday daytime	μg/m^3	11.7	6.3	5.5
		weekday night	μg/m^3	5.5	5.0	4.8
		weekend daytime	μg/m^3	<4	5.6	<4
		weekend night	μg/m^3	4.6	4.5	4.1
	Continuous and automated monitoring whole period		μg/m^3	49.1 (8～169)	11.5(0～113)	21.8(0～141)
SO_2	Manual sampling	mean value	μg/m^3	111.1(25～1009)	63.2(<9～466)	43.2(<9～1075)
		weekday daytime	μg/m^3	111.3	55.8	42.9
		weekday night	μg/m^3	115.3	71.9	51.8
		weekend daytime	μg/m^3	124.7	66.6	16.3
		weekend night	μg/m^3	113.5	42.5	28.3
	Automatic analyzers whole period		μg/m^3	63(34～89)	32(0～105)	73(26～479)
TSP (PM)	Manual sampling	whole period	μg/m^3	69(48～129)	180(68～443)	108(32～230)
		weekday	μg/m^3	75	187	117
		weekend	μg/m^3	55	151	57
	Automatic analyzers whole period		μg/m^3	5.1(0～12)	5.1(0～12)	13.0(0～56)

Table 5.2.6 Integrated Results of Winter Monitoring Data (Mean Value)

			Unit	Buenos Aires	Lujan de Cuyo	San Nicolas
Period of monitoring				7/13～7/22	6/27～7/4	7/27～8/3
NOx	Manual sampling	whole period	μg/m^3	32.4(<4～1200)	18.1(<4～64.4)	12.6(<4～45.5)
		weekday daytime	μg/m^3	36.8	26.6	11.1
		weekday night	μg/m^3	32.4	21.0	16.1
		weekend daytime	μg/m^3	20.0	8.5	8.8
		weekend night	μg/m^3	21.6	9.5	10.3
	Continuous and automated monitoring whole period		μg/m^3	44.7 (6～133)	60.2(15～165)	6(<8～164)
SO_2	Manual sampling	mean value	μg/m^3	94.7(10.8～1200)	45.0(0～791.7)	39.7(10.8～516.7)
		weekday daytime	μg/m^3	107.8	66.7	45.4
		weekday night	μg/m^3	81.2	31.2	38.2
		weekend daytime	μg/m^3	101.8	20.8	28.4
		weekend night	μg/m^3	234.9	22.2	26.1
	Automatic analyzers whole period		μg/m^3	58(50～68)	68(60～73)	113(23～199)
TSP (PM)	Manual sampling	whole period	μg/m^3	64(19～153)	116(40～346)	92.6(18～254)
		weekday	μg/m^3	67	124	95.1
		weekend	μg/m^3	48	64	61.7
	Automatic analyzers whole period		μg/m^3	4.8(0～10)	6(0～17)	---

Table 5.2.7 Air Quality Data by Other Agencies in the Monitoring Period

Monitoring Item	CTM in Lujan de Cuyo (measured by the Provincial Government of Mendoza)	
	Summer (31/1/2001～23/2/2001)	Winter (5/6/2001～20/7/2001)
NOx(ppm)	0.009 (0.002～0.023)	0.013 (0.004～0.031)
SO_2(ppm)	---	0.006 (0.001～0.019)
TSP(μ g/m^3)	2 (nil～2)	---

5.2.5 Notice on Automatically Analyzed Data

The data by automatic analyzers during the summer monitoring period had a considerable amount of missing and negative indications. The results (S5-2-2, S5-2-10 and S5-2-15) gave no correlative sign with monitoring time or day. In the winter monitoring, the results of NOx and SO_2 approximately consistent with the results of the manual sampling, while the results of TSP were extremely low in comparison with those of the manual sampling. The automatic analyzers are not adequate for the operators to grasp a tendency of the analyzed data continuously, because they are not equipped with plotters for continuous recording, although it has a display to indicate current spot values.

5.3 Air Quality Analyses

5.3.1 Air Pollution Episodes in Model Areas

1) Air Pollution in Buenos Aires Area by Mobile Sources

The City of Buenos Aires has advantageous conditions for good dispersion of air pollutants because of its location on the flat terrain and with relatively strong winds. However, daytime emissions, from mobile sources on weekdays in the downtown area and around the major traffic corridors at peak hours, are heavy insomuch that the street canyons phenomena present. As a result, the air pollutants from the mobile sources are not sufficiently dispersed (#54).

2) Dustfall in San Nicolas Area

In San Nicolas, complaints about settling dust thick on roofs, yards and gardens, were frequently reported by the residents. Several sources including chemical factories, iron works and a power plant exist in the area (#107).

3) Lujan de Cuyo and Mendoza Areas

From dawn to noon on 18 May, 1995, an episode occurred in Mendoza. Many residents complained about respiratory stimulation. According to the record of the meteorological condition at that time, it was calm and had a ground inversion at an altitude of 100 to 200 m. From the wind direction, it was estimated that the source was the petrochemical plant in the provincial industrial park and the causative agents were SO_2 and H_2S (#160).

5.3.2 Climatological Aspects involved in Air Pollution in Argentina

In view of synoptic climatology, Argentina has characteristic winds under the influence of three anticyclones; the warm and humid winds by the Atlantic anticyclone, which characterizes the climate of North Patagonia, the west winds by the Pacific anticyclone, and the cold winds by the Antarctic anticyclone. These three typical winds underlie the climatology of Argentina.

Local winds are also important factors of the climate of Argentine. The Zonda, which is a warm and dry wind and blows generally from May to October, is in the west of pre-cordillera including La Rioja, San Juan and Mendoza. The Sudestada originates locally on the Pampa coast and is extremely humid. The Pampero is a cold and dry south local wind and blows mainly in summer. The temperature and humidity soar after the Pampero blows for several days from October to March. The Plata Basin has tornadoes with a central wind speed of up to 500 km/h (#162).

It is assumed that an internal boundary layer would be formed due to both the difference of aero-dynamical roughness and the difference of the heat capacity between water of the La Plata River and land. The height of the internal boundary layer can be estimated by semi-empirical formula (S5-A38). In Buenos Aires and San Nicolas, no meteorological observation is carried out at present to find out the structure of the internal boundary layer.

5.3.3 Meteorological Data

1) Buenos Aires Area

According to the data provided by the Aeroparque station, the mean wind speed for 10 years (1981-1990) is about 4.4m/s (#109), and the prevailing wind direction is the east. Distinction of wind speed depending on the wind direction is not observed. The calm appears frequently at a rate of 8～9% in winter (#109).

A daytime mixing layer height is the key parameter for the determination of the atmospheric capability to disperse air pollutants. The mixing layer height in this area was estimated by Holzworth’s method, using both the daytime surface hourly meteorological data for 5 years at the Aeroparque station and the upper air meteorological data at 12 GMT (9 Local Time; LT) of Ezeiza Aeroport (#102). The seasonal and annual hourly means of the mixing layer height are shown in Table 5.3.1 and in S5-A39. In general the maximum mixing layer height is observed at 14 LT. The mixing layer height is the lowest in winter among all seasons and is half of that in summer.

S5-A39 (Fig.2) shows the derived seasonal and annual occurrence frequencies of daytime atmospheric stability classes. The Turner atmospheric stability is defined using wind speed, solar radiation and cloud amount. The unstable situation of the atmosphere is dominant in summer (#102).

Table 5.3.1 Hourly Mixing Layer Height

Mixing layer height (m)	Summer	Autumn	Winter	Spring	Annual
Max. Min. Mean range RMS	1170 547 264 - 405 289	822 363 333 - 833 234	592 261 272 - 413 144	891 468 205 - 349 275	870 410 262 - 667 265
Frequency of occurrence < 1500m	85%	95%	99%	94%	93%

2) San Nicolas Area

According to the data measured for 10 years (1981-1990) at the Rosario weather station (#109), the mean wind speed is about 6.2m/s, and the prevailing wind direction is easterly. Distinction of wind speeds depending on the wind direction is not observed. The frequency of calm in winter is fairly high at a rate of 28%.

3) Lujan de Cuyo and Mendoza Areas

At the Mendoza airport, the mean wind speed in 1999 was about 2.6m/s, and the prevailing wind direction was southeast. The calm in winter appears at a rate of 19% (#109). The ground inversion layer and the upper air temperature inversion layer are formed in Mendoza and its vicinities in consequence of the Zonda (dry and warm local wind in winter) and both layers cause reportedly the air pollution problem with a high concentration of pollutants (#159). In the third Field Work, we contacted the author of the paper #159, to confirm the relationship between the Zonda and the air pollution with a high concentration of pollutants. According to his comments, the description of the paper had inaccuracies and the concentration of pollutants diminishes when the Zonda blows.

5.3.4 Air Quality Data

1) Buenos Aires

The air quality data of the manual analysis for NO_x, TSP and SO_2 implemented in the second Field Work (Summer) were analyzed (Tables 5.2.4 and 5.2.5). With regard to the time series behavior of hourly NO_x concentration, generally it was low at night and high during the day, and a peak was observed at 16 LT with the maximum value of 0.03 ppm. The peak at 16 LT was recognized at 5 sites*). The wind speed and direction at the peak time, were 3m/s and the east, respectively. Considering the location of the large factories in relation to the measuring sites, it is estimated that the peak arose under the influence of vehicular emission (Figure 1 and 2 in S5-A40). The NO_x concentration during the First Air Quality Monitoring (Summer) was below the environmental standard of the city of 0.21ppm (20min) and0.05 ppm (1day).

*) The 5 sites are Dines, Hospital Alemán, Casa Marilla, Metro Gas and Garhan.

Regarding the daily variation of TSP, it was the highest on Saturday, with the maximum daily value of 0.13 mg/m^3, and the lowest on Sunday. The site No.1 (Dines) always marked higher value than the other sites during the Monitoring. This can be attributed to the vehicular emission. Comparing with the level of San Nicolas and Lujan de Cuyo, however, the TSP concentration is rather low. The TSP during the First Air Quality Monitoring (Summer) was also below the standard of the city of 0.15 mg/m^3 (1day).

According to the result of the manual analysis, the hourly SO_2 concentration marked 0.38ppm (1hr) at its highest, although it was below the national environmental standard 1ppm (1hr). No difference of concentration depending on the wind direction and speed was recognized during the Field Work (Figure 3 and 4 in S5-A40).

The air quality data of the measurement implemented in Winter were analyzed in Tables 5.2.4 and 5.2.6.

The hourly data of the manual analysis for NO_x in winter were extremely higher and nearly double of that in summer. It is inferred that the height of the mixed layer caused the high concentration in winter (#102). The maximum level of NO_x during the third Field Work (Winter) was 0.12ppm (1hr) and 0.05ppm (1day), which didn't exceed the environmental standard for the city of 0.05ppm (1day) and 0.21ppm (20min). Regarding the meteorological conditions at the time, the wind speed was 3.5m/s and the Pasquill atmospheric stability Class was BC. A difference of concentration depending on the wind direction was not recognized during the measuring period because of the scant wind. The concentration showed a tendency to be low on Sundays (Figure 13 and 14 in S5-A40).

The daily mean concentration of TSP in winter was slightly higher than the measurement result in summer. The maximum value marked was 0.16mg/m^3 (1day), which was over the environmental standard for the city of 0.15mg/m^3 (1day), although it was below the environmental standard for the city of 0.5 mg/m^3 (20min). The concentration tended to be low on Sundays.

According to the hourly data of the manual analysis, the maximum SO_2 concentrations marked 0.48 ppm (1hr) and 0.16ppm (1day), which exceeded the environmental standard for the city 0.19 ppm (20min) and 0.027ppm (1hr), although it was below the national environmental standard 1ppm (1hr). No difference of concentration depending on the wind direction and speed was recognized during the Field Work. (Figure 15 and 16 in S5-A40)

According to the result of past measurements implemented by Buenos Aires City in 1998 (#82), the annual monthly mean of NO_x concentration at "Estacion : Av. Las Herasy y O. De Ocampo" was 0.11ppm, which exceeded the environmental standard for the city of Buenos Aires (0.05ppm, 1day). In order to realize a commensurate comparison between the NO_x concentration data and the environmental standard value, the Larsen model was applied to estimate the values of 24hrs and 1hr, using the monthly mean values (Table 1 in S5-A42). According to the estimation by the Larsen model, the mean concentration of 1hr was 0.09ppm and the value at the standard deviation point was 0.15ppm. The maximum value was estimated at 0.57ppm, while the national environmental standard of NO_x is 0.45ppm (1hr). As a result, it can be assumed that the maximum value would go beyond the national environmental standard. Regarding the value of 24 hours, the mean concentration was estimated by the Larsen model at 0.10ppm, at the standard deviation point at 0.12ppm and the maximum value at 0.16ppm, while the national environmental standard is 0.15ppm (1day) and the environmental standard for city is 0.05 ppm. It can also be assumed that the maximum value would go beyond the national and civic environmental standard. It is difficult to estimate maximum concentration using the Larsen model. According to an accuracy check of the Larsen model using a known hourly dataset (1year) measured in Tokyo, an error of maximum concentration comes from that of estimated standard deviation.

The concentrations of TSP and NO_x obtained by the Monitoring were nearly equal to the results of the measurement implemented in the World Bank project "the Air Quality Situation in the Gran Buenos Aires area" (#98). Accordingly it can be considered that the air pollution has not increased in Buenos Aires in the past several years.

2) San Nicolas

The air quality data of the manual analysis for NO_x, TSP and SO_2 implemented in the second Field Work (Summer) were analyzed (Tables 5.2.4 and 5.2.5).

The hourly NO_x concentration during the Monitoring was below the provincial environmental standard 0.2 ppm (1hr), and marked 0.023 ppm (1hr) at the highest. Any particular patterns were not recognized for the time series behavior of NO_x concentration (Figures 5 and 6 in S5-A40).

Regarding the daily variation of TSP, it was high on weekdays, with the maximum hourly data of 0.23 mg/m^3 (1day), and low at the weekend. The maximum concentration exceeded the national environmental standard of 0.15 mg/m^3 (1month). The site No.5 (B'Family) always marked higher values than the other sites during the second Field Work. The cause is considered to be a natural origination because the site is situated in a residential area

The hourly SO_2 concentration during the First Air Quality Monitoring (Summer) was below the provincial standard 0.50 ppm (3 hrs), and marked 0.11 ppm at the highest. Any particular patterns were not recognized for the time series behavior of SO_2 concentration. As for the relation between the SO_2 concentration and the wind speed and direction, the highest concentration was observed at 2m/s of wind speed and in north-northwestern (Figure 7 and 8 in S5-A40). Factories were situated to the north of the site where the highest value was observed.

The air quality data of the measurement implemented in Winter were analyzed in Tables 5.2.4 and 5.2.6.

The measurement result of the manual analysis for hourly NO_x in winter was extremely higher and nearly double of that in summer. The maximum level of NO_x during the third Field Work (Winter) was 0.05ppm (1hr), which was below the provincial environmental standard of Buenos Aires 0.2ppm (1hr). During the measurement period it was recognized that the concentration increased when the wind speed weakened. The concentration tended to be high when the wind direction was the northeast. (Figure 17 and 18 in S5-A40)

The daily mean concentration of TSP measured in winter (0.25mg/m^3 at the maximum) had almost the same trend as the measurement result in summer. A tendency was not recognized for the concentration to be low on Sundays. The maximum concentration exceeded the national environmental standard of 0.15 mg/m^3 (1 month).

The hourly SO_2 concentration during the Second Air Quality Monitoring (Winter) was below the provincial environmental standard 0.50 ppm (3 hrs), and marked 0.21 ppm (1hr) at the highest. No difference of concentration depending on the wind direction and speed was recognized during the Field Work except for a few data. (Figure 19 and 20 in S5-A40).

Universida Technologica Nacional (UTN) is carrying out air quality monitoring in San Nicolas sponsored by the Central Termica San Nicolas. The Central Termica San Nicolas did not want to open the air quality data to this Study.

3) Lujan de Cuyo and Mendoza

The air quality data of the manual analysis for NO_x, TSP and SO_2 at Lujan de Cuyo implemented in the First Air Quality Monitoring (Summer) were analyzed (Tables 5.2.4 and 5.2.5). The hourly NO_x concentration was below the national environmental standard of 0.45 ppm (1hr). With regard to the time series behavior of NO_x concentration, it was low at night and high during the day, and a peak was observed at 16 LT with the maximum value of 0.02ppm. The peak at 16 LT was recognized at 6 sites*). Considering the location of these sites, the NO_x concentration was high all over the area. The wind speed and direction at the peak time, were 5m/s and the east respectively, while the Pasquill atmospheric stability Class was B. At the peak time the concentration was elevated because the insolation was strong and the atmospheric state was unstable (Figure 9 and 10 in S5-A40).

*) The 6 sites are Hotel Rio, Tarnsba, Tanque, B'Family, Aeroclub, and Casa de Mina.

Regarding the daily variation of TSP, it was high on weekdays, with the maximum value of 0.44 mg/m^3, and low at the weekend. The site No.2 (ACSA) always marked higher values than the other sites during the Monitoring. The maximum concentration exceeded the national environmental standard of 0.15 mg/m^3 (1 month).

According to the result of the manual analysis, the hourly SO_2 concentration marked 0.17ppm at the highest, which was below the national environmental standard 1.0 ppm (1hr). During the measurement period a tendency was recognized for the concentration to increase when the wind speed weakened. The concentration tended to be high when the wind direction was the west and the east. A tendency was not recognized which elevated the concentration when the wind blew from the west as the result of NO_x concentration (Figure 11 and 12 in S5-A40).

The air quality data of the measurement implemented in Winter were analyzed in Tables 5.2.4 and 5.2.6.

The measurement result of the manual analysis for hourly NO_x in winter was extremely higher and nearly double of that in summer. The maximum level of NO_x during the Field Work (Winter) was 0.04ppm (1hr), which was below the national environmental standard of 0.45 ppm (1hr). During the measurement period a tendency was recognized for the concentration to increase when the wind speed weakened. Depending on the wind direction, no difference of concentration was recognized (Figure 21 and 22 in S5-A40).

The daily mean concentration of TSP measured in winter (0.35mg/m^3 at the maximum) tended to be lower than the measurement result in summer. The maximum concentration exceeded the national environmental standard of 0.15 mg/m^3 (1 month). A tendency was not recognized for the concentration to be low on Sundays.

According to the result of the manual analysis, the hourly SO_2 concentration marked

0.32 ppm at the highest, which was below the national environmental standard of 1.0 ppm (1hr). No difference of concentration depending on the wind direction and speed was recognized during the Field Work (Figure 23 and 24 in S5-A40).

Table 5.3.2 Concentration of Pollutants in Mendoza Urban Area

		Intersection of San Juan St. and Lavalle St.	Godoy Cruz government plaza	San Martin general park
TSP	period	1987-1994	1992-1994	1991-1994
	average	0.138 mg/m^3	0.42 mg/m^3	0.009 mg/m^3
	max	0.721 mg/m^3	—	0.179 mg/m^3
SO_2	period	1987-1994	1992-1994	1991-1994
	average	0.0019ppm	0.0006ppm	0.0009ppm
	max	0.26ppm	2.7ppm	0.009ppm
NO_x	period	1987-1994	1992-1994	1991-1994
	average	28.25 μ g/m^3	15.6 μ g/m^3	9.531 μ g/m^3
	max	988 μ g/m^3	—	50 μ g/m^3

The measurement of air quality in Mendoza was implemented by the Instituto de Estudios de Medio Ambiente - University of Mendoza and the Dirección de Saneamiento y Control Ambiental del Ministerio de Medio Ambiente, Urbanismo y Vivienda (#160). Table 5.3.2 shows the summary of the results. The measurement data of NO_x and TSP are daily mean and measurement data of SO_2 is weekly mean. It is indicated that the principal source of pollutants is vehicular emission. Considering the seasonal change, the concentration of pollutant becomes the highest in winter.

The monthly concentrations of NO_x (obtained at 5 sites) and TSP (obtained at 4 sites) in Mendoza City was analyzed (Table2 and 3 in S5-A42). In order to uniform averaging times and evaluate the actual situation of conformance to the environmental standard, the Larsen model was applied to estimate the daily and hourly mean values and the standard deviation from the monthly mean values. The maximum value of NO_x concentration was estimated 0.14 ppm at the site No.20, and its value is near the national environmental standard 0.15 ppm (1day). As a result, regarding the NO_x concentration it is assumable that neither hourly nor daily mean values would go beyond the national environmental standard. As for TSP, maximum monthly value (0.196 mg/m^3) was observed at the site No.22 (Patricias Mendocinas), and the monthly mean exceeded the national standard (0.15 mg/m^3). It is considered to be due to the frequent departure and arrival of buses.

4) Achievement of the Environmental Standards in Three Cities.

Achievement of the environmental standards in Buenos Aires, San Nicolas and Lujan de Cuyo using the air quality data implemented in the Field Works (Summer and Winter) was shown in Table 5.3.3.

Table 5.3.3 Achievement of the Environmental Standards

<table>
<tr><td rowspan="2"></td><td colspan="2">Buenos Aires</td><td colspan="2">San Nicolas</td><td colspan="2">Lujan de Cuyo</td></tr>
<tr><td>Summer</td><td>Winter</td><td>summer</td><td>Winter</td><td>summer</td><td>winter</td></tr>
<tr><td rowspan="2">NO_x (ppm)</td><td>○
0.02/0.05
(1day/1day C)</td><td>○
0.05/0.05
(1day/1day C)</td><td rowspan="2">○
0.02/0.2
(1h/1h PB)</td><td rowspan="2">○
0.05/0.2
(1h/1h PB)</td><td rowspan="2">○
0.02/0.45
(1h/1h N)</td><td rowspan="2">○
0.04/0.45
(1h/1h N)</td></tr>
<tr><td>○
0.03/0.21
(1h/20min C)</td><td>○
0.12/0.21
(1h/20min C)</td></tr>
<tr><td rowspan="2">TSP (mg/m^3)</td><td>○
0.13/0.15
(1day/
1day C)</td><td>×
0.16/0.15
(1day/
1day C)</td><td>○
0.14/0.15
(7day/
1mon N)</td><td>○
0.15/0.15
(7day/
1mon N)</td><td rowspan="2">×
0.27/0.15
(7day/
1mon N)</td><td rowspan="2">○
0.17/0.15
(7day
/1mon N)</td></tr>
<tr><td>○
0.13/0.5
(1day/
20min C)</td><td>○
0.16/0.5
(1day/
20min C)</td><td>○
0.23/0.15
(1day/
1mon N)</td><td>○
0.25/0.15
(1day/
1mon N)</td></tr>
<tr><td rowspan="3">SO_2 (ppm)</td><td>×
0.10/0.027
(1day/1day C)</td><td>×
0.16/0.027
(1day/1day C)</td><td>○
0.11/0.5
(1h/3h PB)</td><td>○
0.21/0.5
(1h/3h PB)</td><td rowspan="3">○
0.17/1.0
(1h/1h N)</td><td rowspan="3">○
0.32/1.0
(1h/1h N)</td></tr>
<tr><td>×
0.38/0.19
(1h/20min C)</td><td>×
0.48/0.19
(1h/20min C)</td><td rowspan="2">○
0.11/1.0
(1h/1h N)</td><td rowspan="2">○
0.21/1.0
(1h/1h N)</td></tr>
<tr><td>○
0.38/1.0
(1h/1h N)</td><td>○
0.48/1.0
(1h/1h N)</td></tr>
</table>

○:This marks below the environmental standard.

×:This marks over the environmental standard.

N :The National environmental standard

C : The environmental standard for Buenos Aires

PB : The environmental standard for province of Buenos Aires

Numerator of fractional number : maximum concentration during air quality monitoring.

Denominator of fractional number: concentration of the environmental standard.

Fraction in parenthesis : Sampling time (numerator) and averaging time in environmental standard (denominator).

S5-A1 **Buenos Aires Manual Monitoring Data(3.2001)**

μg/m^3

		No 1			No 2			No 3			No 4			No 5			No 6			No 7			No 8			No 9		
	hr	SO2	NOx	TSP	SO2	NOx	TSP	SO2	NOx	TSP	SO2	NOx	TSP	SO2	NOx	TSP	SO2	NOx	TSP	SO2	NOx	TSP	SO2	NOx	TSP	SO2	NOx	TSP
3/8	12	–	–		–	–		–	–		–	–		–	–		–	–		–	–			–			–	
	16	250.8	58.15		217.5	51.36		154.2	37.95		291.7	32.4		34.2	57.36		174.2	59.32		69.2	54.63			–			–	
	20	92.5	<4		99.2	<4		100.8	<4		166.7	<4		241.7	<4		92.5	<4		131.7	<4			–			–	
	Av			76			50			56			53			68			70			50						
3/9	0	86.7	ND		79.2	ND		116.7	ND		74.2	ND		119.2	ND		63.3	ND		107.5	ND			–			–	
	4	80	<4		283.3	<4		70	<4		150.8	<4		84.2	4.54		106.7	<4		39.2	<4			–			–	
	8	59.2	<4		166.7	<4		133	8.67		79.2	8.29		152.5	<4		91.7	<4		71.7	<4			–			–	
	12	216..7	5.21		225	5.25		118.3	<4		275	<4		283.3	<4		91.7	7.81		45	<4			–			–	
	16	104.2	<4		147.5	19.5		225	13.17		109.2	11		200	10.37		100.8	7.55		100.8	16.6			–			–	
	20	200	<4		64.2	<4		150.8	5.65		105.8	<4		188.3	<4		92.5	<4		74.2	<4			–			–	
	Av			90			53			60			58			77			82			53						
3/10	0	266.7	<4		233.3	<4		208.3	5.65		49.2	<4		241.7	<4		65.8	<4		87.5	<4			–			–	
	4	106.7	<4		50.8	<4		25	<4		85	<4		50.8	<4		54.2	<4		109.2	<4			–			–	
	8	67.5	5.31		76.7	8.74		156.7	10.98		52.5	7.55		160.8	<4		46.7	<4		59.2	5.79			–			–	
	12	85.8	4.46		63.3	13.36		123.3	18.17		45.8	12.41		64.2	11.1		79.2	7.32		45	7			–			–	
	16	48.3	7.93		55	12.41		57.5	13.17		47.5	8.51		39.2	6.84		72.5	8.22		166.7	5.22			–			–	
	20	241.7	<4		358.3	<4		1009	5.79		65	<4		165.8	<4		156.7	<4		52.5	<4			–			–	
	Av			129			80			95			98			100			94			82						
3/11	0	105	<4		70	<4		130.8	<4		68.3	<4		37.5	<4		250	<4		159.2	<4			–			–	
	4	119.2	<4		87.5	<4		73.3	<4		67.5	<4		89.2	<4		104.2	<4		75.8	<4			–			–	
	8	127.5	<4		65.8	<4		120.8	4.93		107.5	<4		165.8	<4		89.2	<4		120	<4			–			–	
	12	99.2	<4		154.2	<4		268.3	<4		93.3	<4		80.8	<4		110.8	<4		110.8	<4			–			–	
	16	88.3	<4		130.8	<4		233.3	<4		114.2	<4		92.5	<4		94.2	<4		150.8	<4			–			–	
	20	84.2	6.79		78.3	8.55		64.2	5.79		106.7	6.84		160.8	<4		65	<4		125.8	<4			–			–	
	Av			61			50			54			53			65			50			49						
3/12	0	258.3	<4		144.2	5.5		52.5	<4		102.5	<4		118.3	<4		105	<4		275	<4			–			–	
	4	119.2	<4		81.7	<4		115	<4		76.7	<4		83.3	<4		30.8	<4		59.2	<4			–			–	
	8	135	5.55		58.3	9.84		65	12.43		122.5	11.27		114.2	7.12		79.2	<4		81.7	8.17			–			–	
	12	125.8	12.46		58.3	8.17		58.3	12.12		55.8	11.84		75.8	8.7		137.5	<4		95	11.93			–			–	
	16	72.5	13.98		258.3	5.46		360	12.31		144.2	16.1		89.2	11.07		52.5	10.65		87.5	12.17			–			–	
	20	65.8	15.12		100.8	25.49		94.2	25.36		72.5	20.36		78.3	19.27		65.8	14.5		90	17.98			–			–	
	Av			102			49			55			56			64			60			45						
3/13	0	275	6.27		54.2	13.36		127.5	ND		72.5	6.79		70.8	7.32		167.5	6		122.5	8.89			–			–	
	4	110	<4		62.5	<4		125.8	ND		85.8	<4		125.8	<4		91.7	<4		89.2	<4			–			–	
	8	155.8	5.79		82.5	<4		70	ND		64.2	16.93		92.5	9.56		157.5	9.1		125.8	7.7			–			–	
	12	152.5	<4		59.2	<4		130.8	ND		72.5	<4		172.5	12.12		93.3	7.46		408.3	6.41			–			–	
	16	153.3	5.05		96.7	26.19		64.2	31.32		57.5	28.65		100.8	16.66		90.8	12.14		550	22.38			–			–	
	20	178.3	<4		104.2	<4		92.5	<4		111.7	<4		30.8	<4		94.2	<4		59.2	<4			–			–	
	Av			91			62			–			80			74			88			62						
3/14	0	132.5	<4		107.5	<4		54.2	<4		47.5	<4		92.5	<4		115.8	<4		79.2	<4			–			–	
	4	366.7	<4		67.5	6.63		61.7	<4		35.8	<4		41.7	12.3		79.2	5.38		42.5	4.94			–			–	
	8	65	10.88		37.5	18.4		152.5	10.23		44.2	17.8		69.2	<4		52.5	5.65		70.8	7.94			–			–	
	12	69.2	20		93.3	36.88		70	9.3		54.2	12.03		65	4.94		111.7	<4		35.8	5.22			–			–	
	16	118.3	<4		39.2	7.45		94.2	7.22		56.7	9.36		106.7	6.9		233.3	<4		70	<4			–			–	
	20	558.3	<4		73.3	<4		37.5	<4		50	<4		70.8	<4		57.5	<4		79.2	<4			–			–	
	Av			103			63			60			55			59			70			50						
3/15	0	50.8	<4		45.8	<4		139.2	<4		66.7	<4		84.2	<4		111.7	<4		52.5	<4			–			–	
	4	45.8	<4		86.7	<4		39.2	<4		82.5	<4		52.5	<4		64.2	<4		150	<4			–			–	
	8	64.2	<4		110.8	<4		139.2	17.7		42.5	5.32		75.8	<4		74.2	<4		55	<4			–			–	

S5-A2 Buenos Aires Automatic Data (Summer)

day hour	PM(Mg/m^3)	GSR(w/m^2)	SO_2(ppm)	NO(ppm)	NO_2(ppm)	NOx(ppm)	CO(ppm)
03/08/2001 11:06	0.000	762	-	0.003	0.001	0.004	0.000
03/08/2001 12:06	0.001	836	0.034	0.025	<0.004	0.020	0.400
03/08/2001 13:06	0.001	853	0.032	0.024	<0.004	0.021	0.670
03/08/2001 14:06	0.002	808	0.030	0.018	<0.004	0.016	0.430
03/08/2001 15:06	0.002	675	0.030	0.046	<0.004	0.034	0.610
03/08/2001 16:06	0.002	582	0.029	0.060	<0.004	0.045	0.720
03/08/2001 17:06	0.003	336	0.029	0.030	<0.004	0.025	0.490
03/08/2001 18:06	0.003	133	0.029	0.043	<0.004	0.034	0.820
03/08/2001 19:06	0.003	2	0.029	0.077	<0.004	0.056	1.240
03/08/2001 20:06	0.004	0	0.028	0.044	<0.004	0.034	0.870
03/08/2001 21:06	0.004	0	0.020	0.040	<0.004	0.034	0.920
03/08/2001 22:06	0.005	0	0.028	0.032	<0.004	0.028	0.670
03/08/2001 23:06	0.005	0	0.030	0.016	0.001	0.018	0.620
03/09/2001 00:06	0.006	0	0.030	0.019	<0.004	0.019	0.440
03/09/2001 01:06	0.006	0	0.030	0.014	<0.004	0.015	0.530
03/09/2001 02:06	0.006	0	0.030	0.013	<0.004	0.013	0.390
03/09/2001 03:06	0.006	0	0.030	0.007	<0.004	0.008	0.300
03/09/2001 04:06	0.006	0	0.030	0.009	<0.004	0.009	0.350
03/09/2001 05:06	0.007	0	0.032	0.009	<0.004	0.009	0.350
03/09/2001 06:06	0.007	0	0.030	0.015	<0.004	0.012	0.390
03/09/2001 07:06	0.008	17	0.032	0.050	<0.004	0.033	0.530
03/09/2001 08:06	0.008	54	0.031	0.046	<0.004	0.032	0.930
03/09/2001 09:06	0.009	378	0.032	0.050	<0.004	0.034	1.300
03/09/2001 10:06	0.009	645	0.031	0.050	<0.004	0.033	1.360
03/09/2001 11:06	0.000	880	0.031	0.063	<0.004	0.041	0.910
03/09/2001 12:06	0.001	829	0.030	0.025	<0.004	0.020	0.680
03/09/2001 13:06	0.001	835	0.030	0.025	<0.004	0.021	1.230
03/09/2001 14:06	0.002	788	0.031	0.048	<0.004	0.031	0.580
03/09/2001 15:06	0.002	871	0.029	0.087	<0.004	0.057	0.600
03/09/2001 16:06	0.003	513	0.028	0.084	<0.004	0.056	0.730
03/09/2001 17:06	0.004	325	0.028	0.050	<0.004	0.037	0.600
03/09/2001 18:06	0.004	129	0.028	0.038	<0.004	0.029	0.750
03/09/2001 19:06	0.005	2	0.027	0.070	<0.004	0.049	0.910
03/09/2001 20:06	0.005	0	0.027	0.070	<0.004	0.050	1.260
03/09/2001 21:06	0.006	0	0.027	0.054	<0.004	0.040	1.210
03/09/2001 22:06	0.007	0	0.027	0.074	<0.004	0.050	0.720
03/09/2001 23:06	0.007	0	0.027	0.030	<0.004	0.024	0.690
03/10/2001 00:06	0.008	0	0.027	0.021	<0.004	0.018	0.430
03/10/2001 01:06	0.009	0	0.027	0.022	<0.004	0.019	0.670
03/10/2001 02:06	0.009	0	0.026	0.027	<0.004	0.020	0.490
03/10/2001 03:06	0.010	0	0.027	0.020	<0.004	0.016	0.560
03/10/2001 04:06	0.010	0	0.027	0.012	<0.004	0.011	0.380
03/10/2001 05:06	0.010	0	0.028	0.024	<0.004	0.017	0.470
03/10/2001 06:06	0.011	0	0.028	0.021	<0.004	0.015	0.460
03/10/2001 07:06	0.011	22	0.028	0.030	<0.004	0.021	0.390
03/10/2001 08:06	0.011	144	0.027	0.028	<0.004	0.020	0.520
03/10/2001 09:06	0.011	272	0.027	0.029	<0.004	0.021	0.500
03/10/2001 10:06	0.012	109	0.029	0.017	<0.004	0.015	0.400
03/10/2001 11:06	0.000	489	0.027	0.042	<0.004	0.032	0.750
03/10/2001 12:06	0.001	285	0.026	0.027	<0.004	0.025	0.790
03/10/2001 13:06	0.002	307	0.026	0.039	<0.004	0.036	0.690
03/10/2001 14:06	0.002	144	0.025	0.017	<0.004	0.022	0.900
03/10/2001 15:06	0.003	100	0.024	0.011	<0.004	0.015	0.530
03/10/2001 16:06	0.003	117	0.026	0.043	<0.004	0.035	0.770
03/10/2001 17:06	0.004	358	0.028	0.024	<0.004	0.025	0.770
03/10/2001 18:06	0.004	59	0.024	0.042	<0.004	0.035	0.830
03/10/2001 19:06	0.005	0	0.025	0.034	<0.004	0.032	1.020
03/10/2001 20:06	0.005	0	0.025	0.023	<0.004	0.023	0.830
03/10/2001 21:06	0.006	0	0.024	0.032	<0.004	0.028	1.050
03/10/2001 22:06	0.006	0	0.026	0.026	<0.004	0.024	0.860
03/10/2001 23:06	0.007	0	0.027	0.017	<0.004	0.018	0.620
03/11/2001 00:06	0.007	0	0.020	0.016	<0.004	0.017	0.480
03/11/2001 01:06	0.006	0	0.026	0.010	<0.004	0.013	0.450
03/11/2001 02:06	0.008	0	0.026	0.009	<0.004	0.009	0.390
03/11/2001 03:06	0.008	0	0.026	0.007	<0.004	0.007	0.230
03/11/2001 04:06	0.008	0	0.027	0.008	<0.004	0.009	0.190
03/11/2001 05:06	0.009	0	0.027	0.010	<0.004	0.010	0.220
03/11/2001 08:06	0.009	0	0.028	0.011	<0.004	0.011	0.200
03/11/2001 07:06	0.009	39	0.029	0.007	<0.004	0.009	0.270
03/11/2001 08:06	0.009	101	0.028	0.009	<0.004	0.009	0.220
03/11/2001 09:06	0.009	193	0.028	0.010	<0.004	0.010	0.280
03/11/2001 10:06	0.010	162	0.028	0.014	<0.004	0.012	0.230
03/11/2001 11:06	0.000	250	0.026	0.012	<0.004	0.012	0.220
03/11/2001 12:06	0.001	68	0.026	0.020	<0.004	0.018	0.760
03/11/2001 13:06	0.001	45	0.025	0.013	<0.004	0.014	0.500
03/11/2001 14:06	0.002	150	0.027	0.023	<0.004	0.019	0.680
03/11/2001 15:06	0.002	131	0.026	0.017	<0.004	0.017	0.550
03/11/2001 16:06	0.003	104	0.025	0.015	<0.004	0.015	0.490
03/11/2001 17:06	0.003	88	0.025	0.011	<0.004	0.011	0.490
03/11/2001 18:06	0.003	36	0.025	0.021	<0.004	0.018	0.490
03/11/2001 19:06	0.004	0	0.024	0.024	<0.004	0.021	0.630
03/11/2001 20:06	0.004	0	0.024	0.031	<0.004	0.024	0.740
03/11/2001 21:06	0.005	0	0.025	0.031	<0.004	0.024	0.540
03/11/2001 22:06	0.006	0	0.024	0.023	<0.004	0.020	0.540
03/11/2001 23:06	0.005	0	0.025	0.032	<0.004	0.024	0.520
03/12/2001 00:06	0.006	0	0.024	0.026	<0.004	0.021	0.510
03/12/2001 01:06	0.006	0	0.025	0.027	<0.004	0.022	0.520
03/12/2001 02:06	0.006	0	0.025	0.010	<0.004	0.009	0.260
03/12/2001 03:06	0.006	0	0.025	0.070	<0.004	0.006	0.190
03/12/2001 04:06	0.007	0	0.025	0.007	<0.004	0.007	0.060
03/12/2001 05:06	0.007	0	0.026	0.006	<0.004	0.005	0.180

day hour	PM(Mg/m^3)	GSR(w/m^2)	SO_2(ppm)	NO(ppm)	NO_2(ppm)	NOx(ppm)	CO(ppm)
03/12/2001 06:06	0.007	0	0.025	0.011	<0.004	0.008	0.190
03/12/2001 07:06	0.007	13	0.025	0.025	<0.004	0.019	0.540
03/12/2001 08:06	0.007	108	0.025	0.038	<0.004	0.026	0.670
03/12/2001 09:06	0.007	171	0.025	0.052	<0.004	0.034	0.840
03/12/2001 10:06	0.008	656	0.024	0.045	<0.004	0.030	0.890
03/12/2001 11:06	0.000	464	0.024	0.038	<0.004	0.027	0.560
03/12/2001 12:06	0.001	810	0.023	0.030	<0.004	0.022	0.520
03/12/2001 13:06	0.001	281	0.023	0.031	<0.004	0.022	0.610
03/12/2001 14:06	0.001	903	0.023	0.036	<0.004	0.026	0.710
03/12/2001 15:06	0.002	664	0.023	0.027	<0.004	0.019	0.740
03/12/2001 16:06	0.002	506	0.023	0.045	<0.004	0.033	0.680
03/12/2001 17:06	0.002	318	0.023	0.043	<0.004	0.032	0.650
03/12/2001 18:06	0.003	120	0.022	0.039	<0.004	0.031	0.820
03/12/2001 19:06	0.003	0	0.024	0.050	<0.004	0.043	0.890
03/12/2001 20:06	0.004	0	0.024	0.060	<0.004	0.045	1.130
03/12/2001 21:06	0.004	0	0.023	0.060	<0.004	0.043	1.000
03/12/2001 22:06	0.005	0	0.024	0.063	<0.004	0.043	0.800
03/12/2001 23:06	0.005	0	0.022	0.034	<0.004	0.025	0.720
03/13/2001 00:06	0.005	0	0.022	0.055	<0.004	0.036	0.430
03/13/2001 01:06	0.005	0	0.022	0.051	<0.004	0.038	0.470
03/13/2001 02:06	0.005	0	0.022	0.011	<0.004	0.009	0.130
03/13/2001 03:06	0.006	0	0.022	0.006	<0.004	0.006	0.200
03/13/2001 04:06	0.006	0	0.023	0.007	<0.004	0.006	0.140
03/13/2001 05:06	0.006	0	0.023	0.009	<0.004	0.007	0.160
03/13/2001 06:06	0.006	0	0.022	0.014	<0.004	0.012	0.260
03/13/2001 07:06	0.007	14	0.022	0.050	<0.004	0.032	0.410
03/13/2001 08:06	0.007	215	0.022	0.044	<0.004	0.028	0.570
03/13/2001 09:06	0.008	504	0.022	0.036	<0.004	0.024	0.730
03/13/2001 10:06	0.008	714	0.021	0.069	<0.004	0.044	0.990
03/13/2001 11:06	0.000	692	0.022	0.040	<0.004	0.028	0.760
03/13/2001 12:06	0.001	766	0.022	0.072	<0.004	0.047	0.830
03/13/2001 13:06	0.001	797	0.022	0.031	<0.004	0.024	0.600
03/13/2001 14:06	0.001	154	0.021	0.053	<0.004	0.038	0.880
03/13/2001 15:06	0.001	621	0.020	0.033	<0.004	0.025	0.460
03/13/2001 16:06	0.002	458	0.020	0.036	<0.004	0.026	0.720
03/13/2001 17:06	0.002	256	0.020	0.067	<0.004	0.047	1.040
03/13/2001 18:06	0.003	80	0.020	0.037	<0.004	0.029	1.090
03/13/2001 19:06	0.003	0	0.021	0.085	<0.004	0.057	1.230
03/13/2001 20:06	0.008	0	0.020	0.097	<0.004	0.090	1.730
03/13/2001 21:06	0.005	0	0.021	0.072	<0.004	0.056	1.730
03/13/2001 22:06	0.006	0	0.020	0.049	<0.004	0.041	1.220
03/13/2001 23:06	0.006	0	0.021	0.040	<0.004	0.032	1.000
03/14/2001 00:06	0.007	0	0.022	0.028	<0.004	0.025	0.820
03/14/2001 01:06	0.007	0	0.021	0.025	<0.004	0.022	0.620
03/14/2001 02:06	0.008	0	0.021	0.012	<0.004	0.014	0.490
03/14/2001 03:06	0.008	0	0.021	0.011	<0.004	0.011	0.210
03/14/2001 04:06	0.008	0	0.022	0.010	<0.004	0.011	0.170
03/14/2001 05:06	0.009	0	0.013	0.013	<0.004	0.013	0.260
03/14/2001 06:06	0.009	0	0.022	0.030	<0.004	0.023	0.290
03/14/2001 07:06	0.009	13	0.021	0.062	<0.004	0.041	0.620
03/14/2001 08:06	0.009	192	0.021	0.089	<0.004	0.056	1.290
03/14/2001 09:06	0.010	473	0.022	0.083	<0.004	0.053	1.150
03/14/2001 10:06	0.011	580	0.021	0.051	<0.004	0.035	1.100
03/14/2001 11:06	0.000	713	0.021	0.052	<0.004	0.037	0.860
03/14/2001 12:06	0.001	796	0.021	0.047	<0.004	0.034	0.780
03/14/2001 13:06	0.001	809	0.020	0.034	<0.004	0.025	0.360
03/14/2001 14:06	0.001	764	0.020	0.026	<0.004	0.021	0.490
03/14/2001 15:06	0.002	652	0.021	0.032	<0.004	0.025	0.240
03/14/2001 16:06	0.002	492	0.019	0.035	<0.004	0.028	0.480
03/14/2001 17:06	0.002	305	0.020	0.053	<0.004	0.038	0.720
03/14/2001 18:06	0.003	112	0.019	0.037	<0.004	0.028	0.880
03/14/2001 19:06	0.003	0	0.019	0.040	<0.004	0.037	1.220
03/14/2001 20:06	0.004	0	0.019	0.049	<0.004	0.037	0.960
03/14/2001 21:06	0.005	0	0.019	0.028	<0.004	0.025	0.760
03/14/2001 22:06	0.005	0	0.019	0.029	<0.004	0.259	0.610
03/14/2001 23:06	0.005	0	0.020	0.014	<0.004	0.015	0.490
03/15/2001 00:06	0.005	0	0.020	0.014	<0.004	0.014	0.460
03/15/2001 01:06	0.006	0	0.021	0.016	<0.004	0.015	0.370
03/15/2001 02:06	0.006	0	0.021	0.021	<0.004	0.018	0.310
03/15/2001 03:06	0.006	0	0.021	0.010	<0.004	0.010	0.380
03/15/2001 04:06	0.007	0	0.022	0.010	<0.004	0.009	0.270
03/15/2001 05:06	0.007	0	0.021	0.010	<0.004	0.009	0.310
03/15/2001 06:06	0.007	0	0.020	0.027	<0.004	0.020	0.280
03/15/2001 07:06	0.007	13	0.020	0.068	<0.004	0.042	0.500
03/15/2001 08:06	0.008	59	0.019	0.062	<0.004	0.041	1.200
03/15/2001 09:06	0.009	276	0.020	0.071	<0.004	0.044	1.770
03/15/2001 10:06	0.009	609	0.020	0.051	<0.004	0.035	1.020
03/15/2001 11:06	0.000	705	0.020	0.029	<0.004	0.023	3.070
03/15/2001 12:06	0.001	778	0.018	0.096	<0.004	0.061	0.620
03/15/2001 13:06	0.002	292	0.019	0.071	<0.004	0.049	1.000
03/15/2001 14:06	0.002	307	0.019	0.039	<0.004	0.036	1.040
03/15/2001 15:06	0.003	578	0.018	0.028	<0.004	0.028	0.910
03/15/2001 16:06	0.003	433	0.018	0.036	<0.004	0.036	0.820
03/15/2001 17:06	0.004	247	0.017	0.034	<0.004	0.030	0.840
03/15/2001 18:06	0.004	80	0.017	0.054	<0.004	0.041	1.050
03/15/2001 19:06	0.005	0	0.018	0.041	<0.004	0.033	0.780
03/15/2001 20:06	0.005	0	0.019	0.027	<0.004	0.023	0.790
03/15/2001 21:06	0.006	0	0.019	0.380	<0.004	0.030	0.770
03/15/2001 22:06	0.006	0	0.020	0.025	<0.004	0.024	0.780
03/15/2001 23:06	0.006	0	0.019	0.019	<0.004	0.019	0.530

S5-A3 Central Puerto Operation Data (Summer)

Consumos diarios calculados por curva de consumo especifico.
(Valores calculados)

	NP5 Dam3	NP6(27.5+132) Dam3	PN7 Dam3	PN8 Dam3	PN9 Dam3	CC Dam3
8-Mar	356.91	851.45	0.00	0.00	802.74	3079.50
9-Mar	399.35	983.11	0.00	0.00	953.71	3058.39
10-Mar	358.65	731.40	199.45	281.49	704.55	3012.55
11-Mar	338.05	737.48	504.72	594.61	650.08	2913.89
12-Mar	346.77	698.58	545.42	594.78	674.29	3019.41
13-Mar	411.87	718.54	0.00	689.93	983.84	2530.35
14-Mar	340.54	1015.14	0.00	606.02	996.85	2942.24
15-Mar	474.63	1088.73	0.00	637.00	1095.21	3028.78

Consumos diarios calculados por curva de consumo especifico.
(Valores calculados)

	NP5 MWH	NP6(27.5+132) MWH	PN7 MWH	PN8 MWH	PN9 MWH	CC MWh
8-Mar	351.00	796.05	0.00	0.00	757.99	2936.19
9-Mar	388.98	912.14	0.00	0.00	900.52	2935.71
10-Mar	353.63	685.38	165.19	206.25	659.83	2872.35
11-Mar	336.39	685.23	503.94	542.60	601.25	2766.19
12-Mar	342.87	650.69	536.76	549.71	626.96	2875.81
13-Mar	404.31	666.81	0.00	627.57	908.53	2415.52
14-Mar	334.83	936.53	0.00	545.47	945.21	2802.50
15-Mar	465.09	1002.96	0.00	570.45	1041.86	2878.54

S5-A4 Central Puerto Nuevo and Nuevo Puerto Emission Data (Summer)

NAME: CENTRAL PUERTO NUEVO LOCATION: BUENOS AIRES ARGENT STATION ID: 1

CHAN NAME	O1516	OP-17	S1516	N1516	SO217	NO-17	O2-15	O2-17
CHAN UNITS	%	%	PPM	PPM	PPM	PPM	%	%
2001/3/8 Ave.	0.7	0.6	1	-1	3	147	15.3	8
2001/3/9 Ave.	0.7	0.6	2	-1	4	162	15.3	7
2001/3/10 Ave	2.0	0.6	9	20	11	131	13.1	7
2001/3/11 Ave.	1.1	0.6	2	61	4	117	9.9	8
2001/3/12 Ave.	1.1	0.7	11	55	13	123	9.9	7
2001/3/13 Ave.	1.0	0.6	2	57	4	167	9.6	7
2001/3/14 Ave.	0.7	0.6	13	47	15	187	9.2	7
2001/3/15 Ave	0.8	0.9	9	42	10	179	9.2	6

NAME: CENTRAL NUEVO PUERTO LOCATION: BUENOS AIRES ARGENT STATION ID: 2

CHAN NAME	OP-13	OP-14	SO213	NO-13	SO214	NO-14	O2-13	O2-14
CHAN UNITS	%	%	PPM	PPM	PPM	PPM	%	%
2001/3/8 Ave.	2.1	0.5	3	2	27	15	8.6	8
2001/3/9 Ave.	2.2	0.6	3	2	29	16	7.8	7
2001/3/10 Ave.	2.5	0.5	3	2	27	14	8.7	8
2001/3/11 Ave	2.7	0.5	3	2	27	15	8.4	9
2001/3/12 Ave.	4.5	0.5	3	2	28	17	9.0	10
2001/3/13 Ave.	6.3	0.7	3	2	28	16	8.3	9
2001/3/14 Ave.	7.9	0.6	3	2	29	15	9.5	7
2001/3/15 Ave.	8.6	1.0	5	5	29	15	7.7	7

NAME: CALDERA "/ LOCATION: CICLO COMBINADO STATION ID: 3

CHAN NAME	NOXco	O2"A"	NOX A	OPA A	NOxno	COMBUSTIBLE	OBSERV
CHAN UNITS	ppm	%	ppm	%	mg/m3	GAS/DESTILADO	
2001/3/8 Ave	12.70	13.40	18	1	0		
2001/3/9 Ave	12.40	13.30	18	1	0		
2001/3/10 Ave	11.60	13.40	16	1	0		
2001/3/11 Ave	14.00	13.50	19	1	0		
2001/3/12 Ave	12.30	13.50	17	1	0		
2001/3/13 Ave	12.10	13.40	17	1	0		
2001/3/14 Ave	11.70	13.40	16	0	0		
2001/3/15 Ave	9.30	16.90	16	0	32		

NAME: CALDERA "B" LOCATION: CICLO COMBINADO STATION ID: 4

CHAN NAME	NOXco	O2"B"	NOX B	OPA B	NOxno	COMBUSTIBLE	OBSERV
CHAN UNITS	ppm	%	ppm	%	mg/m3	GAS/DESTILADO	
03/13/01 00:00	12.20	13.40	17	0	23		premix
03/13/01 00:24	46.50	13.70	60	0	19<		pilot premix
03/13/01 02:42	0.10	19.90	0	0	0		F/S
03/13/01 08:30	3.30	19.90	1	-1	6		primary
03/13/01 08:36	35.60	17.80	21	-1	68		pilote premix
03/13/01 09:30	69.40	14.50	82	22	102B		pilote premix

NAME: CALDERA 15/16 STATION ID: 5

CHAN NAME	O1516	S1516	N1516
CHAN UNITS	%	PPM	PPM
03/08/01 08:48	0.5	17	-1
03/08/01 09:24	33.8	0	-1
03/08/01 09:30	4.8	-2	-1
03/10/01 16:00	1.5	3	20
03/10/01 16:30	3.9	14	32
03/10/01 16:36	25.5	4	35
03/10/01 17:06	8.6	8	23
03/10/01 17:30	2.6	10	61

NAME: CALDERA 17 STATION ID: 6

CHAN NAME	OP-17	SO217	NO-17
CHAN UNITS	%	PPM	PPM
03/15/01 09:00	0.7	9	116
03/15/01 09:30	0.7	6	153
03/15/01 09:36	54.1	0	-2
03/15/01 09:48	0.7	8	143

NAME: CALDERA 13 STATION ID: 7

CHAN NAME	OP-13	SO213	NO-13	02-13
CHAN UNITS	%	PPM	PPM	%
03/09/01 11:42	0.8	2	2	8
03/09/01 12:00	0.8	2	2	8
03/09/01 12:18	26.7	2	2	8
03/09/01 12:42	2.4	3	2	9
03/09/01 13:00	2.6	3	2	9

NAME: CALDERA 14 STATION ID: 8

CHAN NAME	OP-14	SO214	NO-14	O2-14
CHAN UNITS	%	PPM	PPM	%
03/15/01 09:36	0.5	32	20	6
03/15/01 09:54	54.3	0	-2	0
03/15/01 10:24	0.5	27	11	6

S5-A5 Central Puerto Meteorological Data (Summer)

Fecha	Hora	Temp Aire ° C	Max ° C	Min ° C	Hpascal	Velocidad Viento Km/h	Max Km/h	Direc Viento	Sens Termica ° C	Recorrido del Viento Km	Punto Rocio ° C	Indice T.H.
2001/3/8	0:00	25.6	25.8	25.4	1011.4	25.7	32.2	NNE	22.9	12.4	25.6	28.9
2001/3/8	1:00	25.4	25.5	25.3	1011.6	30.6	38.6	NNE	22.3	14.5	25.4	28.9
2001/3/8	2:00	25.3	25.3	25.2	1011.8	29	38.6	N	22.2	13	25.3	28.9
2001/3/8	3:00	25	25.2	24.9	1011.5	30.6	38.6	N	21.7	13.8	25	27.8
2001/3/8	4:00	24.7	24.9	24.6	1011.7	30.6	40.2	N	21.3	14.2	24.7	27.8
2001/3/8	5:00	24.3	24.4	24.3	1011.8	29	35.4	N	20.9	13.5	24.3	26.7
2001/3/8	6:00	23.7	23.9	23.6	1012.2	30.6	41.8	N	19.9	13.8	23.7	26.1
2001/3/8	7:00	23.4	23.5	23.3	1013	22.5	32.2	NNO	20.3	10.1	23.4	25.6
2001/3/8	8:00	23.2	23.3	23.1	1013.5	19.3	27.4	NNO	20.4	8.9	23.2	25.6
2001/3/8	9:00	23.2	23.3	22.9	1013.5	20.9	27.4	N	20.2	9.5	23.2	25.6
2001/3/8	10:00	23.5	23.8	23.3	1013.5	20.9	30.6	N	20.7	9.7	23.5	25.6
2001/3/8	11:00	24.1	24.7	23.9	1013.6	19.3	29	NNO	21.6	8.9	24.1	26.1
2001/3/8	12:00	24.6	25	24.5	1013.5	17.7	24.1	N	22.4	7.6	24.6	26.7
2001/3/8	13:00	24.7	24.8	24.7	1012.8	22.5	32.2	N	22.1	10.6	24.7	27.8
2001/3/8	14:00	25.4	25.4	25.2	1012.1	20.9	29	NNE	23.1	10	---	---
2001/3/8	15:00	25.8	26.1	25.6	1011.4	14.5	20.9	NNE	24.4	6.8	25.8	30.6
2001/3/8	16:00	26.2	26.3	26	1010.3	11.3	14.5	NE	25.3	5.1	---	---
2001/3/8	17:00	26.4	26.8	26.3	1009.7	11.3	16.1	NE	25.6	4.8	---	---
2001/3/8	18:00	26.1	26.2	26	1009.6	16.1	20.9	SE	24.4	7.6	---	---
2001/3/8	19:00	26.2	26.3	26.1	1009.5	12.9	19.3	ESE	25.1	6.1	---	---
2001/3/8	20:00	26.4	27.3	26.1	1009.6	17.7	30.6	E	24.8	8	26.4	32.2
2001/3/8	21:00	27.3	27.4	27.3	1009.8	30.6	37	NNE	25	14.3	---	---
2001/3/8	22:00	26.9	27	26.8	1010	27.4	37	NNE	24.6	13	26.9	32.2
2001/3/8	23:00	26.4	26.6	26.3	1010	25.7	32.2	NE	24.1	12.1	26.4	32.2
2001/3/9	0:00	26.1	26.2	25.9	1009.6	29	37	NNE	23.4	13.5	26.1	30.6
2001/3/9	1:00	25.7	25.9	25.5	1009.8	30.6	40.2	NNE	22.7	13.7	25.7	28.9
2001/3/9	2:00	25.4	25.5	25.2	1009.5	25.7	33.8	NE	22.7	11.7	---	---
2001/3/9	3:00	25	25.1	24.9	1009	33.8	41.8	NNE	21.5	15.4	25	27.8
2001/3/9	4:00	24.4	24.7	24.1	1009	35.4	45.1	N	20.5	16.1	24.4	26.7
2001/3/9	5:00	23.6	23.7	23.5	1008.7	32.2	40.2	NNE	19.6	14.8	23.6	26.1
2001/3/9	6:00	23.3	23.3	23.2	1008.8	33.8	41.8	NNE	19	15.6	23.3	25.6
2001/3/9	7:00	22.9	23	22.8	1009	32.2	40.2	NNE	18.6	14.8	22.9	25
2001/3/9	8:00	22.9	23	22.8	1009.2	30.6	38.6	NNE	18.7	14.2	22.9	25
2001/3/9	9:00	22.8	22.9	22.7	1009.1	27.4	33.8	NNE	18.9	12.1	22.8	25
2001/3/9	10:00	23	23.1	22.9	1009.1	20.9	29	N	20	9.3	23	25
2001/3/9	11:00	23.4	23.6	23.3	1008.9	20.9	27.4	N	20.6	9.3	23.4	25.6
2001/3/9	12:00	24.1	24.3	23.9	1008.3	19.3	27.4	N	21.6	8.7	24.1	26.1
2001/3/9	13:00	24.8	25.1	24.6	1007.4	17.7	22.5	NNE	22.7	8.2	24.8	27.8
2001/3/9	14:00	25.4	25.6	25.3	1006.9	11.3	16.1	NE	24.4	5.3	25.4	28.9
2001/3/9	15:00	26	26.1	25.9	1006	11.3	17.7	ENE	25.1	5.1	---	---
2001/3/9	16:00	26.4	26.6	26.3	1005	14.5	19.3	E	25.1	6.4	---	---
2001/3/9	17:00	26.6	26.6	26.5	1004.6	14.5	19.3	E	25.2	6.4	26.6	32.2
2001/3/9	18:00	26.2	26.3	26.1	1004.7	24.1	30.6	ESE	23.9	10.9	---	---
2001/3/9	19:00	26.2	26.2	26.1	1004.3	22.5	30.6	ESE	24	10.3	26.2	30.6
2001/3/9	20:00	25.8	25.9	25.8	1003.9	19.3	29	ESE	23.8	9.2	---	---
2001/3/9	21:00	26.6	26.9	26.2	1004.2	17.7	24.1	ENE	24.9	8.2	---	---
2001/3/9	22:00	26.9	27.1	26.8	1004.4	25.7	30.6	NE	24.7	11.6	26.9	32.2
2001/3/9	23:00	26.5	26.6	26.4	1004.4	32.2	40.2	NNE	23.7	15	---	---
2001/3/10	0:00	26.2	26.3	26.1	1004.2	30.6	41.8	NNE	23.4	14.2	26.2	30.6
2001/3/10	1:00	26.2	26.2	26.1	1003.9	40.2	48.3	NNE	22.9	18.3	26.2	30.6
2001/3/10	2:00	26.1	26.2	26.1	1003.9	43.5	53.1	N	22.7	19.8	---	---
2001/3/10	3:00	25.7	25.8	25.5	1003.8	41.8	53.1	NNE	22.2	19.2	25.7	28.9
2001/3/10	4:00	25.1	25.5	24.7	1003.8	38.6	49.9	NNE	21.4	17.7	25.1	27.8
2001/3/10	5:00	24.3	24.4	24.2	1004	35.4	45.1	N	20.3	16.1	24.3	26.7
2001/3/10	6:00	24.1	24.1	24	1004.6	30.6	38.6	N	20.4	13.7	24.1	26.1
2001/3/10	7:00	24.3	24.4	24.2	1005.8	22.5	32.2	N	21.5	10.1	24.3	26.7
2001/3/10	8:00	24.3	24.4	24.3	1006.3	19.3	25.7	N	21.9	9	24.3	26.7
2001/3/10	9:00	24.6	24.6	24.4	1007	17.7	24.1	N	22.4	8.4	24.6	26.7
2001/3/10	10:00	25.3	25.7	24.9	1007.6	12.9	19.3	NNO	24.1	6	25.3	28.9
2001/3/10	11:00	25.9	26.5	25.4	1007	11.3	29	O	25.1	5.1	---	---
2001/3/10	12:00	25.4	25.9	25	1007	14.5	24.1	SSE	23.9	6.6	25.4	28.9
2001/3/10	13:00	24.8	25	24.7	1007.5	14.5	17.7	ESE	23.2	6.9	24.8	27.8
2001/3/10	14:00	25.2	25.4	24.9	1008.4	4.8	9.7	NE	25.2	1.9	---	---
2001/3/10	15:00	26.9	27.4	26.3	1008.8	9.7	30.6	NO	26.4	4.3	---	---
2001/3/10	16:00	26.1	26.7	25.7	1005.9	4.8	20.9	O	26.1	2.6	---	---
2001/3/10	17:00	24.7	25.1	24.6	1006.8	24.1	35.4	SE	21.8	11.1	---	---
2001/3/10	18:00	24.7	25.2	24.6	1006.9	17.7	24.1	ESE	22.5	8.2	---	---
2001/3/10	19:00	25.6	26.3	24.8	1007.8	11.3	22.5	S	24.7	5.3	---	---
2001/3/10	20:00	25.4	25.6	25.3	1008.9	17.7	38.6	SSE	23.4	8.2	---	---
2001/3/10	21:00	25.3	25.5	25.2	1009.7	14.5	35.4	S	23.8	6.8	25.3	28.9
2001/3/10	22:00	25.2	25.4	25	1010.4	16.1	32.2	SSE	23.3	7.6	25.2	27.8
2001/3/11	0:00	22.8	23.1	22.7	1011.2	24.1	45.1	SSE	19.4	11.6	22.8	25
2001/3/11	1:00	22.6	22.7	22.4	1011.4	20.9	45.1	SSE	19.4	9.7	22.6	25
2001/3/11	2:00	22	22.3	21.6	1012.7	19.3	40.2	SSE	18.9	8.7	22	24.4
2001/3/11	3:00	20.8	20.9	20.6	1012.6	20.9	43.5	SSE	17.1	9.7	20.8	22.2
2001/3/11	4:00	20.1	20.4	19.7	1012.4	19.3	40.2	SSE	16.5	9.3	20.1	21.1
2001/3/11	5:00	19.3	19.7	19	1013.4	16.1	40.2	S	16.1	7.2	19.3	---
2001/3/11	6:00	18.7	18.9	18.6	1013.4	24.1	45.1	SSE	13.8	10.6	18.7	---
2001/3/11	7:00	18.4	18.6	18.2	1013.6	20.9	40.2	SSE	14.1	9.7	17.2	---
2001/3/11	8:00	18.6	18.8	18.6	1014.4	22.5	41.8	S	14.1	9.7	17.4	---
2001/3/11	9:00	19.2	19.3	18.9	1014.6	20.9	40.2	SSE	15.1	10	17.7	---
2001/3/11	10:00	19.8	20	19.7	1014.7	22.5	41.8	SSE	15.7	10.1	18.2	---
2001/3/11	11:00	20.8	21.1	20.4	1015.3	25.7	41.8	SE	16.4	11.4	20.8	22.2
2001/3/11	12:00	22.1	22.4	21.7	1015.8	17.7	37	SSE	19.2	8.4	22.1	24.4
2001/3/11	13:00	22	22.1	21.9	1015.8	16.1	30.6	SSE	19.4	7.1	22	24.4
2001/3/11	14:00	22.2	22.4	22.1	1015.2	19.3	35.4	SSE	19.2	8.9	22.2	24.4
2001/3/11	15:00	23	23.4	22.7	1015.3	27.4	43.5	SE	19.2	12.9	23	25
2001/3/11	16:00	23.4	23.6	23.3	1015.1	33.8	45.1	SE	19.2	15.8	23.4	25.6
2001/3/11	17:00	23.3	23.5	23.1	1015	29	43.5	SE	19.4	13	23.3	25.6
2001/3/11	18:00	22.4	22.6	22.4	1015.4	25.7	40.2	SE	18.7	12.1	22.4	24.4
2001/3/11	19:00	22.9	22.9	22.8	1015.8	27.4	43.5	SE	19.1	13.2	22.9	25
2001/3/11	20:00	22.7	22.9	22.6	1015.9	20.9	37	SE	19.7	9.8	22.7	25
2001/3/11	21:00	22.6	22.7	22.6	1016.4	22.5	41.8	SE	19.3	10.3	22.6	25
2001/3/11	22:00	22.5	22.7	22.3	1016.9	19.3	33.8	SSE	19.6	8.9	22.5	25
2001/3/11	23:00	22.3	22.4	22.3	1016.8	20.9	33.8	SE	19.2	9.5	22.3	24.4

Fecha	Hora	Temp Aire ° C	Max ° C	Min ° C	Hpascal Barometro	Velocidad Viento Km/h	Velocidad Max Km/h	Direccion Viento	Sensacion Termica ° C	Recorrido del Viento Km	Punto Rocio ° C	Indice T.H.
2001/3/12	0:00	22.7	22.8	22.3	1016.7	24.1	37	SE	19.2	10.9	22.7	25
2001/3/12	1:00	23.9	24.1	23.3	1016.9	32.2	43.5	ESE	20	15.1	23.9	26.1
2001/3/12	2:00	23.9	23.9	23.8	1016.9	32.2	40.2	ESE	20	14.8	23.9	26.1
2001/3/12	3:00	23.7	23.7	23.6	1016.6	29	38.6	ESE	20	13.5	23.7	26.1
2001/3/12	4:00	23.8	23.8	23.6	1016.7	33.8	41.8	E	19.7	15.3	23.8	26.1
2001/3/12	5:00	23.2	23.4	23.1	1017	32.2	41.8	E	19	15	23.2	25.6
2001/3/12	6:00	22.7	22.9	22.6	1017.2	25.7	33.8	E	19.1	11.4	22.7	25
2001/3/12	7:00	22.6	22.6	22.4	1017.3	19.3	27.4	ENE	19.7	9.2	22.6	25
2001/3/12	8:00	22.6	22.6	22.5	1017.7	20.9	29	ENE	19.4	9.3	22.6	25
2001/3/12	9:00	22.6	22.7	22.5	1018.1	17.7	25.7	ENE	19.9	8.2	22.6	25
2001/3/12	10:00	22.2	22.4	22	1018.2	20.9	27.4	E	19	9.3	22.2	24.4
2001/3/12	11:00	22.2	22.3	22.1	1018.2	17.7	24.1	E	19.4	8.2	22.2	24.4
2001/3/12	12:00	22.8	22.9	22.6	1017.4	17.7	25.7	E	20.2	8.2	22.8	25
2001/3/12	13:00	24.1	24.4	23.5	1016.7	12.9	20.9	ENE	22.6	6.3	24.1	26.1
2001/3/12	14:00	24.9	25.2	24.7	1015.7	14.5	25.7	E	23.2	6.9	24.9	27.8
2001/3/12	15:00	24.1	24.3	24.1	1014.9	20.9	25.7	SE	21.4	9.5	24.1	26.1
2001/3/12	16:00	24.6	24.7	24.4	1014	24.1	30.6	SE	21.8	11.1	24.6	26.7
2001/3/12	17:00	25	25.3	24.7	1013.4	24.1	32.2	SE	22.3	11.1	---	---
2001/3/12	18:00	24.9	25.1	24.8	1012.8	27.4	35.4	SE	21.9	12.9	24.9	27.8
2001/3/12	19:00	24.9	25	24.7	1012.8	27.4	37	SE	21.8	12.9	24.9	27.8
2001/3/12	20:00	24.9	25	24.8	1012.9	24.1	32.2	ESE	22.1	11.4	24.9	27.8
2001/3/12	21:00	25.1	25.2	24.9	1013.4	16.1	24.1	ESE	23.2	7.6	25.1	27.8
2001/3/12	22:00	25.3	25.4	25.3	1013.5	14.5	17.7	ESE	23.8	6.3	---	---
2001/3/12	23:00	25.6	25.7	25.6	1013.6	16.1	24.1	ENE	23.8	7.4	25.6	28.9
2001/3/13	0:00	25.6	25.8	25.4	1013.4	35.4	45.1	NE	22.3	15.9	25.6	28.9
2001/3/13	1:00	24.7	24.8	24.6	1013.8	38.6	49.9	NE	20.8	17.9	24.7	26.7
2001/3/13	2:00	24.2	24.3	23.9	1013.4	45.1	57.9	NNE	19.7	20.9	24.2	26.7
2001/3/13	3:00	23.7	23.7	23.6	1013.3	48.3	56.3	NNE	18.8	21.7	23.7	26.1
2001/3/13	4:00	23.5	23.7	23.4	1013.1	49.9	57.9	NNE	18.5	22.7	23.5	25.6
2001/3/13	5:00	23.3	23.3	23.2	1013.2	46.7	57.9	N	18.3	21.6	23.3	25.6
2001/3/13	6:00	23	23.1	22.9	1014.5	29	46.7	N	19.1	13.4	23	25
2001/3/13	7:00	23	23.1	22.9	1014.6	20.9	32.2	N	20	9.8	23	25
2001/3/13	8:00	23.1	23.1	23	1015.2	19.3	29	N	20.3	9	23.1	25.6
2001/3/13	9:00	23.2	23.5	23.1	1016	17.7	24.1	N	20.7	8	23.2	25.6
2001/3/13	10:00	23.7	23.8	23.5	1016.1	16.1	25.7	NNO	21.4	7.4	23.7	26.1
2001/3/13	11:00	24.3	24.6	23.8	1015.1	14.5	20.9	NNO	22.5	6.6	24.3	26.7
2001/3/13	12:00	24.7	24.8	24.3	1014.1	17.7	24.1	NNO	22.5	7.7	24.7	26.7
2001/3/13	13:00	25.8	26.6	25.3	1013.6	16.1	24.1	NNO	24.1	7.1	---	---
2001/3/13	14:00	27.5	28.3	26.6	1013.3	11.3	16.1	N	26.8	5.1	---	---
2001/3/13	15:00	26.5	26.6	26.4	1012.7	14.5	17.7	NNE	25.2	6.9	26.5	32.2
2001/3/13	16:00	26.3	26.4	26.3	1012.1	11.3	14.5	ENE	25.5	5.3	26.3	30.6
2001/3/13	17:00	26.6	26.7	26.4	1012	9.7	12.9	NE	25.9	4.3	26.6	32.2
2001/3/13	18:00	26.9	26.9	26.8	1012	8	9.7	NE	26.6	3.4	---	---
2001/3/13	19:00	26.8	26.9	26.8	1012.2	4.8	8	NE	26.8	2.6	---	---
2001/3/13	20:00	26.7	26.8	26.6	1012.3	4.8	8	E	26.7	2.4	---	---
2001/3/13	21:00	27.5	27.6	27.3	1012.9	8	9.7	SE	27.2	3.4	---	---
2001/3/13	22:00	27.1	27.2	26.9	1013	11.3	17.7	SE	26.3	5.1	---	---
2001/3/13	23:00	26.3	26.3	26.2	1012.9	11.3	14.5	SE	25.4	5.5	---	---
2001/3/14	0:00	25.6	25.6	25.5	1012.6	9.7	12.9	ESE	24.9	4.2	---	---
2001/3/14	1:00	25.4	25.5	25.4	1012.7	9.7	12.9	ESE	24.8	4.3	---	---
2001/3/14	2:00	25.3	25.4	25.2	1012.5	14.5	19.3	NE	23.7	6.4	---	---
2001/3/14	3:00	25	25.1	24.9	1012.3	12.9	17.7	NE	23.7	6.3	25	27.8
2001/3/14	4:00	24.7	24.8	24.7	1012.3	12.9	17.7	NE	23.3	6.1	24.7	27.8
2001/3/14	5:00	24.6	24.7	24.5	1012.3	12.9	16.1	NNE	23.2	5.8	---	---
2001/3/14	6:00	24.6	24.6	24.6	1012.3	9.7	14.5	NNE	23.8	4.7	---	---
2001/3/14	7:00	24.6	24.6	24.5	1012.7	8	12.9	NE	24.1	4	---	---
2001/3/14	8:00	24.7	24.7	24.6	1013.2	9.7	12.9	NE	23.9	4.7	---	---
2001/3/14	9:00	24.8	24.9	24.7	1013.6	9.7	12.9	ENE	24.1	4	---	---
2001/3/14	10:00	25.3	25.7	25.1	1013.3	9.7	16.1	ESE	24.6	4.5	---	---
2001/3/14	11:00	25.1	25.4	24.8	1013.5	11.3	16.1	ESE	24.1	5.6	---	---
2001/3/14	12:00	25.1	25.4	24.8	1013	12.9	19.3	ESE	23.8	5.6	---	---
2001/3/14	13:00	25.6	25.8	25.4	1012.4	14.5	22.5	ESE	24.1	6.6	---	---
2001/3/14	14:00	25.7	25.8	25.5	1012.1	19.3	27.4	ESE	23.6	8.9	---	---
2001/3/14	15:00	25.2	25.4	25.1	1011.3	22.5	30.6	SE	22.7	10.6	25.2	27.8
2001/3/14	16:00	25.2	25.3	25.1	1010.9	22.5	29	SE	22.7	10.1	25.2	27.8
2001/3/14	17:00	25.6	25.8	25.4	1010.3	20.9	30.6	SE	23.4	10	25.6	28.9
2001/3/14	18:00	26	26.2	25.9	1010.4	20.9	33.8	SE	23.9	10.1	26	30.6
2001/3/14	19:00	25.6	25.7	25.4	1010.3	27.4	37	SE	22.8	13	25.6	28.9
2001/3/14	20:00	25.2	25.4	25.1	1010.3	30.6	38.6	SE	22	14	---	---
2001/3/14	21:00	25.2	25.2	25.1	1010.4	27.4	37	ESE	22.2	12.7	25.2	27.8
2001/3/14	22:00	25.4	25.6	25.3	1010.6	33.8	43.5	ESE	22.1	15.6	25.4	28.9
2001/3/14	23:00	25.6	25.7	25.5	1010.3	33.8	43.5	ESE	22.4	15.8	25.6	28.9
2001/3/15	0:00	25.3	25.3	25.2	1010.4	35.4	46.7	E	21.8	16.6	25.3	28.9
2001/3/15	1:00	25.1	25.2	24.9	1010.5	30.6	38.6	E	21.8	14.2	25.1	27.8
2001/3/15	2:00	24.7	24.8	24.7	1010	22.5	33.8	ENE	22.1	10.5	24.7	27.8
2001/3/15	3:00	24.7	24.8	24.6	1010	32.2	40.2	NNE	21.1	14.5	24.7	26.7
2001/3/15	4:00	24.6	24.7	24.6	1009.9	32.2	40.2	N	21	14.6	24.6	26.7
2001/3/15	5:00	24.5	24.6	24.4	1009.7	27.4	35.4	N	21.3	12.1	24.5	26.7
2001/3/15	6:00	24.5	24.7	24.4	1009.9	27.4	35.4	N	21.3	12.6	24.5	26.7
2001/3/15	7:00	24.3	24.4	24.3	1010.4	17.7	22.5	N	22.1	7.9	24.3	26.7
2001/3/15	8:00	24.4	24.5	24.4	1011	19.3	25.7	N	22.1	8.5	24.4	26.7
2001/3/15	9:00	24.6	24.8	24.4	1011.2	14.5	20.9	N	22.8	6.1	24.6	26.7
2001/3/15	10:00	24.9	25.2	24.7	1011.2	11.3	16.1	N	23.8	5.3	24.9	27.8
2001/3/15	11:00	25	25.1	24.8	1011.3	12.9	17.7	N	23.7	6	25	27.8
2001/3/15	12:00	25.3	25.6	25.2	1011.4	8	12.9	ENE	24.9	3.5	25.3	28.9
2001/3/15	13:00	25.8	25.8	25.6	1011	12.9	19.3	E	24.6	5.8	---	---
2001/3/15	14:00	26.2	26.3	25.9	1010.8	14.5	20.9	ESE	24.8	6.9	26.2	30.6
2001/3/15	15:00	26.8	26.9	26.6	1010.2	17.7	24.1	SE	25.2	8	26.8	32.2
2001/3/15	16:00	27.7	28	27.1	1009.6	12.9	22.5	SE	26.8	6.1	27.7	35.6
2001/3/15	17:00	27.8	27.9	27.6	1009.1	14.5	20.9	ESE	26.7	7.1	27.8	35.6
2001/3/15	18:00	25.9	26.3	25.6	1010.2	38.6	56.3	SE	22.6	18.2	25.9	30.6
2001/3/15	19:00	25.6	25.7	25.4	1010.6	33.8	49.9	SE	22.3	16.6	25.6	28.9
2001/3/15	20:00	25.3	25.4	25.2	1011.2	35.4	45.1	SE	21.8	16.7	25.3	28.9
2001/3/15	21:00	25.2	25.3	25.1	1012.4	27.4	38.6	ESE	22.2	13.5	25.2	27.8
2001/3/15	22:00	25.5	25.6	25.3	1013.2	30.6	43.5	SE	22.4	15	---	---
2001/3/15	23:00	24.8	25.1	24.4	1013.8	29	45.1	SE	21.6	13.5	24.8	27.8

S5-A6 Central Termica Costanera Operation Data (Summer)

2001	ENERGIA BRUTA (calculada en forma horaria a partir de una función de la energia Neta Smec). INTERVALO	Bruta TV1	Bruta TV2	Bruta TV3	Bruta TV4	ΣΒρυτα 1ξ4	Bruta TV6	Bruta T 7	Bruta T 8	Bruta T 9	Bruta T 10	ΣΒρυτα XXσα	Bruta TG-cba	Bruta TV5cba	ΣΒρυτα XBA
3/8	Mwh	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5585.534	5565.294	7479.297	18630.125	4492.375	2166.945	6659.320
	m^3 GAS	0	0	0	0	0	0	0				3498730			1319930
3/9	Mwh	0.000	0.000	0.000	0.000	0.000	0.000	0.000	5504.214	5488.908	7408.330	18401.452	4447.850	2152.054	6599.904
	m^3 GAS	0	0	0	5540	5540	23120	0				3490060			1308780
3/10	Mwh	0.000	0.000	0.000	826.197	826.197	2136.650	0.000	5520.661	5507.325	7401.990	21392.823	4427.927	2135.736	6563.664
	m^3 GAS	0	0	0	309340	309340	713060	0				4492010			1304080
3/11	Mwh	0.000	0.000	56.250	1218.235	1274.485	3676.395	0.000	4060.829	4220.063	4994.890	18226.663	3315.676	1742.405	5058.081
	m^3 GAS	0	12953	37464	436792	487210	1040440	0				4120720			1045860
3/12	Mwh	0.000	1126.667	1820.029	981.747	3928.443	6352.548	0.000	4217.017	4804.406	3143.536	22445.951	4476.149	2102.975	6579.124
	m^3 GAS	0	398696	577479	325555	1301730	1693440	0				5811620			1314960
3/13	Mwh	0.000	1412.244	1735.259	2199.222	5346.724	2502.478	0.000	5330.113	5289.027	7029.039	25497.382	4366.904	2063.443	6430.347
	m^3 GAS	0	441870	516650	637830	1596350	682800	0				5599140			1278720
3/14	Mwh	0.000	1773.547	2274.334	2270.574	6318.455	0.000	0.000	5356.142	5332.352	7134.629	24141.578	4423.081	2079.656	6502.737
	m^3 GAS	0	535741	654619	659590	1849950	0	0				5231370			1302210
3/15	Mwh	0.000	1711.215	2081.183	2099.160	5891.558	0.000	2972.951	5264.346	5230.524	7043.506	26402.884	4442.113	2083.242	6525.355
	m^3 GAS	0	516038	601937	612165	1730140	0	960910				6028690			1308940

S5-A7 Central Termica Costanera Emission Data (Summer)

C.C.S.A.	Datos de Chimenea Nro. 1					8 al 15 de Marzo de				2001				(Promedios Horarios)
DIA	NOx ppm	SO2 ppm	OPAC %	TEMP °C	O2 %	GAS1 m3/ h	GAS2 m3/h	FUEL1 tn/h	FUEL2 tn/h	CO1 ppm	CO2 ppm	NOx mg/m^3	SO_2 mg/m^3	COMENTARIOS
8	1	0	0	25	20.7	0	0	0	0	0	0	1	0	Gas2 Estimado
9	1	0	0	26	20.7	0	0	0	0	0	0	1	0	Gas2 Estimado
10	0	0	0	26	20.7	0	0	0	0	0	0	0	0	Gas2 Estimado
11	7	1	1	33	20.6	0	523	0	0	0	0	7	1	Gas2 Estimado
12	42	0	3	91	13.5	0	16612	0	0	0	0	113	0	Gas2 Estimado
13	47	0	1	105	13	0	18411	0	0	0	0	128	0	Gas2 Estimado
14	41	0	2	109	11.9	0	22323	0	0	0	0	96	2	Gas2 Estimado
15	48	1	1	110	12.2	0	21502	0	0	0	0	115	7	Gas2 Estimado

C.C.S.A.	Datos de Chimenea Nro. 2								8 al 15 de Marzo de 2001					(Promedios Horarios)
DIA	NOx ppm	SO2 ppm	OPAC %	TEMP °C	O2 %	GAS3 m3/ h	GAS4 m3/ h	FUEL3 tn/h	FUEL 4 tn/h	CO 3 ppm	CO 4 ppm	NOx mg/m^3	SO_2 mg/m^3	COMENTARIOS
8	1	0	0	33	20.9	0	0	0	0	0	0	1	0	CO3
8	1	0	0	35	20.9	0	0	0	0	0	0	1	0	CO3
9	2	0	1	45	20.7	0	862	0	0	0	3	2	0	CO3
10	14	0	3	95	18.1	96	10765	0	0	0	43	30	0	CO3
11	20	0	0	95	16.5	881	15930	0	0	0	0	24	0	CO3
12	63	0	1	117	12.3	19621	13457	0	0	0	7	148	0	CO3
13	88	0	0	130	9	19589	25962	0	0	0	0	158	1	CO3
14	109	0	2	137	7.9	24156	25555	0	0	0	1	174	1	CO3
15	86	0	1	125	8.8	22498	23954	0	0	0	4	151	0	CO3

C.C.S	Datos de Chimenea				3		MARZO	2001			(Promedios Horarios)
DIA	NOx ppm	SO2 ppm	OPAC %	TEMP °C	O2 %	GAS m3/ h	FUEL tn/h	CO ppm	NOx mg/m^3_N	SO_2 mg/m^3_N	COMENTARIOS
8	2	0	0	27	20.8	0	0	0	2	0	
9	3	1	0	34	20.8	0	0	2	3	1	
10	71	0	0	72	13.1	24547	0	2	115	1	
11	122	0	0	74	8	41096	0	1	208	0	
12	220	1	0	91	5.9	67776	0	90	315	2	
13	82	1	2	88	13.4	31298	0	49	120	2	
14	2	0	0	38	20.9	0	0	8	2	0	
15	1	0	0	28	20.9	0	0	7	1	0	

C.C.S	Datos de Chimenea				4 MARZO			2001			(Promedios Horarios)
DIA	NOx ppm	SO2 ppm	OPAC %	TEMP °C	O2 %	GAS m3/h	FUEL tn/h	CO ppm	NOx mg/m^3_N	SO_2 mg/m^3_N	COMENTARIOS
8	1	0	0	27	20.9	6	0	0	1	0	
9	2	1	0	28	20.9	0	0	0	2	1	
10	1	0	0	28	20.9	0	0	0	1	0	
11	2	0	0	25	20.9	0	0	0	2	0	
12	2	1	0	27	20.9	0	0	0	2	1	
13	6	0	0	28	20.9	0	0	0	6	0	
14	30	0	0	28	20.9	0	0	0	30	0	
15	42	1	1	74	14	31975	0	0	70	4	

S5-A8 Centaral Termica Costanera Meteorological Data (Summer)

Día -Hora	Temp.	Temp.	Hume	Hume	Vel.	Dir.	Sens.T	Presión	Dew	Día -Hora	Temp.	Temp.	Hume	Hume	Vel.	Dir.	Sens.T	Presión	Dew
	Ext	Int	Ext	Int	Vient	Vient	Temp		Point		Ext	Int	Ext	Int	Vient	Vient	Temp		Point
2001/3/8 0:00	26.3	28.1	77.0	64.0	4.8	0	26.3	1011.8	21.9	2001/3/13 20:00	28.5	23.9	73.0	41.0	0.0	0	28.5	1013.0	23.2
2001/3/8 1:00	26.2	28.0	73.0	62.0	6.4	0	26.1	1012.0	20.9	2001/3/13 21:00	28.2	23.9	72.0	50.0	0.0		28.2	1013.4	22.7
2001/3/8 2:00	26.1	27.9	72.0	61.0	9.7	0	25.4	1012.4	20.6	2001/3/13 22:00	28.1	23.7	73.0	49.0	1.6	8	28.0	1013.6	22.7
2001/3/8 3:00	26.1	27.9	71.0	60.0	9.7	0	25.3	1012.1	20.3	2001/3/13 23:00	27.8	23.8	77.0	44.0	1.6	8	27.8	1013.5	23.4
2001/3/8 4:00	26.1	27.8	71.0	60.0	9.7	0	25.3	1012.2	20.3	2001/3/14 0:00	27.8	23.7	78.0	54.0	0.0	9	27.8	1013.3	23.6
2001/3/8 5:00	25.8	27.7	73.0	60.0	9.7	0	25.1	1012.3	20.6	2001/3/14 1:00	27.7	23.6	80.0	53.0	0.0	9	27.6	1013.4	23.8
2001/3/8 6:00	25.6	27.7	76.0	61.0	12.9	0	24.3	1012.7	20.9	2001/3/14 2:00	27.4	23.6	81.0	45.0	1.6	15	27.4	1013.1	23.8
2001/3/8 7:00	25.0	27.6	79.0	64.0	11.3	1	23.9	1013.4	21.1	2001/3/14 3:00	27.0	23.5	76.0	56.0	3.2	0	27.0	1013.0	22.4
2001/3/9 9:00	26.0	28.6	79.0	64.0	9.7	0	25.3	1009.7	22.1	2001/3/14 4:00	26.8	23.4	77.0	44.0	3.2	0	26.8	1012.9	22.4
2001/3/9 10:00	27.1	28.9	75.0	63.0	11.3	0	26.3	1009.7	22.2	2001/3/14 5:00	26.6	23.5	75.0	51.0	3.2	0	26.5	1012.9	21.7
2001/3/9 11:00	27.8	28.9	75.0	63.0	8.0	0	27.5	1009.2	22.9	2001/3/14 6:00	26.3	23.4	75.0	58.0	3.2	1	26.3	1012.8	21.6
2001/3/9 12:00	28.4	29.0	73.0	59.0	8.0	0	28.2	1008.9	23.2	2001/3/14 7:00	26.3	23.7	77.0	49.0	3.2	1	26.3	1013.2	22.0
2001/3/9 13:00	29.3	27.6	73.0	44.0	6.4	0	29.3	1008.0	23.9	2001/3/14 8:00	26.3	23.4	76.0	57.0	3.2	1	26.3	1013.8	21.7
2001/3/9 14:00	29.6	26.6	74.0	43.0	6.4	0	29.6	1007.5	24.4	2001/3/14 9:00	27.1	23.4	69.0	44.0	3.2	0	27.0	1014.1	20.8
2001/3/9 15:00	29.8	26.0	73.0	41.0	3.2	0	29.8	1006.6	24.4	2001/3/14 10:00	28.6	23.6	67.0	52.0	4.8	0	28.5	1013.9	21.8
2001/3/9 16:00	29.9	25.6	75.0	42.0	3.2	0	29.9	1005.7	25.0	2001/3/14 11:00	29.3	23.6	63.0	46.0	4.8	0	29.3	1014.1	21.5
2001/3/9 18:00	29.3	24.7	76.0	49.0	3.2	3.0		1005.2		2001/3/14 12:00	29.9	23.3	63.0	49.0	4.8	0	29.9	1013.7	22.1
2001/3/9 19:00	28.9	24.6	77.0	48.0	3.2	14.0		1004.8		2001/3/14 13:00	30.5	23.4	60.0	43.0	3.2	15	30.5	1013.0	21.9
2001/3/12 10:00	25.8	26.3	77.0	63.0	4.8	0	25.8	1018.8	21.4	2001/3/14 14:00	30.9	23.6	60.0	42.0	3.2	14	30.9	1012.6	22.3
2001/3/12 11:00	26.4	25.2	75.0	45.0	6.4	15	26.4	1018.7	21.7	2001/3/14 15:00	31.0	23.8	64.0	44.0	3.2	13	31.0	1012.1	23.4
2001/3/12 12:00	27.2	24.1	73.0	55.0	6.4	15	27.2	1018.1	21.9	2001/3/14 16:00	30.6	23.7	70.0	53.0	3.2	14	30.5	1011.7	24.4
2001/3/12 13:00	28.0	23.7	68.0	46.0	4.8	15	28.0	1017.4	21.6	2001/3/14 17:00	29.0	23.7	70.0	46.0	6.4	8	29.0	1010.9	23.0
2001/3/12 14:00	28.5	23.8	74.0	52.0	4.8	0	28.5	1016.6	23.4	2001/3/14 18:00	28.6	23.9	67.0	45.0	6.4	8	28.5	1010.9	21.8
2001/3/12 15:00	28.4	23.6	76.0	48.0	4.8	14	28.4	1015.5	23.8	2001/3/14 19:00	28.4	23.7	74.0	46.0	4.8	9	28.4	1010.9	23.3
2001/3/12 16:00	28.4	23.7	76.0	52.0	3.2	0	28.4	1014.6	23.8	2001/3/14 20:00	28.2	23.9	76.0	47.0	3.2	11	28.1	1010.8	23.5
2001/3/12 17:00	28.1	23.6	77.0	45.0	3.2	13	28.0	1013.9	23.6	2001/3/14 21:00	27.9	23.6	77.0	47.0	3.2	13	27.9	1011.0	23.5
2001/3/12 18:00	27.7	23.6	79.0	56.0	3.2	0	27.7	1013.5	23.7	2001/3/14 22:00	27.8	23.7	74.0	46.0	4.8	14	27.8	1011.1	22.8
2001/3/12 19:00	27.3	23.6	84.0	45.0	3.2	15	27.3	1013.1	24.3	2001/3/14 23:00	27.8	23.5	78.0	52.0	4.8	14	27.8	1010.8	23.6
2001/3/12 20:00	26.9	23.7	86.0	58.0	3.2	15	26.9	1013.3	24.3	2001/3/15 0:00	27.7	23.6	82.0	45.0	8.0	3	27.3	1011.0	24.3
2001/3/12 21:00	26.7	25.1	87.0	57.0	3.2	14	26.7	1013.8	24.3	2001/3/15 1:00	27.6	23.4	83.0	56.0	9.7	3	27.0	1011.1	24.3
2001/3/12 22:00	26.7	26.0	87.0	58.0	3.2	0	26.7	1014.0	24.3	2001/3/15 2:00	27.4	23.4	83.0	44.0	6.4	4	27.4	1010.6	24.3
2001/3/12 23:00	26.8	26.4	84.0	59.0	3.2	2	26.8	1014.0	23.9	2001/3/15 3:00	27.1	23.4	88.0	52.0	4.8	0	27.0	1010.7	24.8
2001/3/13 0:00	26.7	26.8	76.0	61.0	6.4	3	26.7	1013.9	22.1	2001/3/15 4:00	26.8	23.3	88.0	50.0	9.7	0	26.2	1010.6	24.6
2001/3/13 1:00	26.4	27.1	76.0	61.0	8.0	2	26.0	1014.3	21.8	2001/3/15 5:00	26.6	23.4	89.0	48.0	9.7	0	25.9	1010.3	24.6
2001/3/13 2:00	26.1	27.2	77.0	62.0	8.0	0	25.6	1013.9	21.7	2001/3/15 6:00	26.6	23.4	90.0	49.0	11.3	0	25.7	1010.5	24.8
2001/3/13 3:00	25.4	27.2	79.0	62.0	11.3	0	24.4	1013.9	21.6	2001/3/15 7:00	26.5	23.2	92.0	54.0	9.7	0	25.9	1010.9	25.1
2001/3/13 4:00	25.2	27.3	80.0	62.0	14.5	0	23.6	1013.9	21.5	2001/3/15 8:00	26.5	23.3	91.0	47.0	11.3	1	25.7	1011.3	24.9
2001/3/13 5:00	25.0	27.3	81.0	62.0	12.9	0	23.7	1013.8	21.5	2001/3/15 9:00	26.8	23.3	86.0	43.0	9.7	1	26.2	1011.7	24.2
2001/3/13 6:00	24.9	27.3	83.0	65.0	12.9	0	23.6	1015.0	21.8	2001/3/15 10:00	28.6	23.4	78.0	43.0	6.4	0	28.5	1011.8	24.3
2001/3/13 7:00	24.7	27.3	82.0	65.0	12.9	1	23.3	1015.1	21.4	2001/3/15 11:00	29.8	23.3	76.0	47.0	4.8	0	29.8	1012.0	25.1
2001/3/13 8:00	24.7	26.4	84.0	44.0	11.3	0	23.6	1015.8	21.7	2001/3/15 12:00	30.6	23.7	75.0	43.0	4.8	0	30.5	1012.0	25.6
2001/3/13 9:00	25.3	24.8	79.0	50.0	9.7	0	24.6	1016.6	21.4	2001/3/15 13:00	31.0	23.6	74.0	43.0	3.2	0	31.0	1011.7	25.8
2001/3/13 10:00	26.3	24.7	79.0	45.0	6.4	0	26.3	1016.6	22.4	2001/3/15 14:00	30.9	23.5	75.0	42.0	4.8	0	30.9	1011.6	26.0
2001/3/13 11:00	27.1	24.3	74.0	49.0	8.0	0	26.7	1015.7	22.0	2001/3/15 15:00	31.1	23.6	75.0	44.0	4.8	15	31.0	1010.9	26.1
2001/3/13 12:00	28.1	24.4	72.0	47.0	9.7	0	27.6	1014.7	22.6	2001/3/15 16:00	31.4	23.4	71.0	41.0	3.2	14	31.4	1010.2	25.6
2001/3/13 13:00	28.8	23.7	73.0	43.0	9.7	0	28.4	1014.2	23.4	2001/3/15 17:00	31.4	23.3	72.0	43.0	3.2	14	31.4	1009.9	25.7
2001/3/13 14:00	29.5	23.3	71.0	40.0	6.4	0	29.5	1014.0	23.7	2001/3/15 18:00	29.5	24.3	78.0	46.0	11.3	7	29.1	1010.8	25.3
2001/3/13 15:00	29.8	23.8	72.0	46.0	1.6	0	29.8	1013.4	24.2	2001/3/15 19:00	28.4	24.6	77.0	48.0	8.0	8	28.2	1011.2	24.0
2001/3/13 16:00	29.8	23.6	73.0	41.0	1.6	1	29.8	1012.8	24.5	2001/3/15 20:00	28.4	24.2	81.0	40.0	4.8	10	28.4	1011.7	24.8
2001/3/13 17:00	29.6	23.7	71.0	42.0	3.2	0	29.5	1012.6	23.7	2001/3/15 21:00	28.2	23.8	82.0	50.0	4.8	14	28.2	1012.8	24.8
2001/3/13 18:00	29.4	23.7	71.0	48.0	3.2	0	29.4	1012.5	23.6	2001/3/15 22:00	28.2	23.5	80.0	41.0	3.2	13	28.1	1014.0	24.3
2001/3/13 19:00	29.1	23.8	73.0	53.0	1.6	0	29.0	1012.7	23.7	2001/3/15 23:00	27.6	23.6	85.0	49.0	6.4	7	27.5	1014.4	24.8

S5-A9 **Buenos Aires Manual Monitoring Data(7.2001)**

μg/m³

		No 1			No 2			No 3			No 5			No 6			No 7			No 8			No 9			No 10		
	hr	SO2	NOx	TSP	SO2	NOx	TSP	SO2	NOx	TSP	SO2	NOx	TSP	SO2	NOx	TSP	SO2	NOx	TSP	SO2	NOx	TSP	SO2	NOx	TSP	SO2	NOx	TSP
7/13	12	42.5	19.1			29.7			38.3			65.9			30.7		92.5	41.4			S/D			38.3			34.8	
	16	208.3	225.7		558.3	28.4		558.3	14.5		566.7	30.7		191.7	29.8		208.3	20.8		45	S/D		131.7	39.3		85.8	29.6	
	20	32.5	48.5		19.2	37.6		40	30.8		130	69.9		40.8	25.9		90	52.6		79.2	S/D		550	35.2		16.7	33.7	
	Av			87			48			50			63			60			51			S/D			42			43
7/4	0	10.8	23.6		10.8	26.6		126.7	25.4		135	32.8		10.8	24.1		10.8	26.4		67.5	S/D		20.8	55.5		160.8	25.9	
	4	208.3	4.6		66.7	＜4		266.7	＜4		51.7	＜4		55	＜4		60.8	＜4		46.7	S/D		113.3	7.5		166.7	＜4	
	8	34.2	13.1		10.8	11.7		216.7	9		21.7	7.3		10.8	7.7		10.8	＜4		10.8	S/D		10.8	14.6		425	13.7	
	12	15.8	33.8		11.7	41.0		31.7	38.5		114.2	39.5		10.8	31.7		10.8	29.7		22.5	S/D		51.7	＜4		112.5	41.3	
	16	55.8	95.1		106.7	43.1		24.2	53.4		50.8	55.2		117.5	48		19.2	40.9		441.7	83.5		86.7	57.3		35.8	56.7	
	20	140.8	–		115	47.4		25.8	40.3		70.8	110.4		258.3	55.2		166.7	57.9		166.7	114.6		115	72.5		43.3	131.6	
	Av			134			86			86			114			98			61			123			73			96
7/15	0	16.7	S/D		250	44.7		27.5	37.9		75.8	52.2		30	43.6		51.7	43.2		25.8	76.5		35	78.3		241.7	68.6	
	4	10.8	17.7		191.7	16.1		110.8	12.8		71.7	21.7		116.7	14.1		95	18.6		18.3	26.7		300	41		60.8	29.4	
	8	216.7	12.3		115.8	11.4		134.2	6.5		119.2	21.1		104.2	8.3		57.5	13.7		10.8	17.2		101.7	16.5		11.7	19.2	
	12	216.7	9.3		16.7	15.4		49.2	14		118.3	19.2		14.2	10.5		14.2	16.5		16.7	20		72.5	18.4		34.2	12.5	
	16	128.3	32.8		133.3	20.6		115.8	21.7		101.7	41.2		191.7	24.6		191.7	30.5		79.2	50.6		175	34.6		208.3	20	
	20	137.5	15.8		99.2	18.0		87.5	18		79.2	22.7		166.7	19.9		208.3	33.7		113.3	66.9		616.7	44		110.8	30.3	
	Av			52			44			32			77			27			48			67			42			40
7/16	0	128.3	16.4		140.8	35.3		104.2	15.1		155	17.8		128.3	15.9		99.2	15.8		126.7	26		134.2	26.8		135	18.1	
	4	137.5	19.2		132.5	24.7		120	7.3		70.8	13.1		120	＜4		175	7.5		225	12		115.8	23.5		112.5	14.1	
	8	583.3	33.7		23.3	60.2		84.2	29.5		216.7	47		72.5	30.5		27.5	24.8		225	52.2		1100	31.6		1200	26.6	
	12	127.5	67.5		95	110.7		208.3	83.5		175	47.4		27.5	48.3		25	48.6		130.8	64.5		700	73.6		110.8	71.4	
	16	140	44.4		114.2	48.2		118.3	49.2		151.7	50.4		119.2	45.5		125.8	48.7		146.7	60.4		208.3	77.8		175	61.2	
	20	120.8	36.1		120	40.3		65	38.7		146.7	38.3		200	33.9		53.3	39.7		333.3	49.1		208.3	65.5		200	52.4	
	Av			109			67			18			70			88			88			100			54			117
7/17	0	55.8	26.1		90	30.5		16.7	28.5		23.3	31.7		130	29.2		55	31.3		250	31.4		155.8	41.8		150.8	32.2	
	4	54.2	30.3		10.8	20.8		10.8	23		10.8	23.9		40	24.8		56.7	26.3		10.8	28.4		16.7	33.7		18.3	29.1	
	8	84.2	–		19.2	—		10.8	—		55	—		56.7	—		49.2	—		10.8	—		13.3	–		69.2	–	
	12	10.8	29.7		60	43.6		10.8	32.6		10.8	38.4		55	30.3		55	41.3		50.8	47.9		84.2	42.1		83.3	38	
	16	39.2	32		72.5	45.3		10.8	29.3		10.8	29.4		77.5	35.1		57.5	39		87.5	59.4		46.7	66.8		90	33	
	20	31.7	39.4		37.5	17.8		10.8	29.3		104.2	32		58.3	27		94.2	28.8		50.8	41.8		78.3	50.2		82.5	45.5	
	Av			119			27			79			92			77			125			153			52			71
7/18	0	134.2	13.2		120.8	18.0		20	15.6		10.8	15.7		25.8	14.4		37.5	14		141.7	17.7		75.8	24.1		84.2	23.7	
	4	22.5	19.7		35	15.2		19.2	21.6		10.8	18.9		34.2	19.8		11.7	18.6		10.8	19.5		55	＜4		151.7	29.6	
	8	10.8	36.1		10.8	17.9		14.2	16		10.8	32.6		10.8	32.3		10.8	27.1		41.7	＜4		14.2	31.2		30	50.5	
	12	10.8	21.7		10.8	＜4		15.8	S/D		10.8	23.2		10.8	21.6		10.8	19.7		11.7	29		30	43.1		10.8	41.5	
	16	34.2	–	82	55.8	–	132	11.7	–	45	17.5	–	41	84.2	–	43	110.8	–	45	250	–	105	60	–	85	107.5	–	42
	20	44.2	–		63.3	–		105	–		10.8	–		74.2	–		100.8	–		183.3	–		46.7	–		75.8	–	
	Av																											
7/20	12	57.5	20.3		45.8	14.4		92.5	18.7		42.5	30.2		70	29.1		175	24.3		233.3	44.9		57.5	129.8		66.7	31	
	16	35	33.9		107.5	23.3		35.8	35.3		49.2	11		10.8	30.4		69.2	25.6		61.7	34.9		120.8	51		47.5	45.9	
	20	39.2	36.2	28	45.8	39.7	33	32.5	22.1	S/D	122.5	41.1	39	10.8	28.1	46	87.5	27.3	159	25.8	47.3	49	34.2	37.4	30	50.8	53.6	35
7/21	0	15.8	48		10.8	43.1		10.8	29		191.7	30.3		109.2	29.1		26.7	38.2		35	48.7		43.3	47.1		23.3	54.8	
	4	10.8	4		10.8	5.7		10.8	＜4		283.3	4.6		10.8	＜4		10.8	5.3		10.8	10.9		18.3	18.8		13.3	＜4	
	8	10.8	7.4		10.8	＜4		10.8	10.4		71.7	7.2		10.8	6.5		17.5	4.6		10.8	10.4		31.7	18.8		13.3	18.7	
	12	10.8	18.4		10.8	8.6		10.8	212.8		125	18.3		10.8	18.8		10.8	14.7		10.8	24.1		19.2	32.4		11.7	29.6	
	16	43.3	13.5		75.8	15.3		10.8	13.8		45	12.7		57.5	12.7		124.2	7.1		124.2	16		93.3	24.5		140	18.1	
	20	62.5	–		72.5	–		10.8	–		55	–		150.8	–		165	–		74.2	–		105.8	–		118.3	–	
	Av			16			21			22			23			19			18			25			51			19
7/22	0																											
	4																											
	8																											

S5-A10 Buenos Aires Automatic Data (Winter)

FECHA	HORA	PM-10(mg/m^3)	GSR(w/m^2)	SO2(ppm)	NO(ppm)	NO2(ppm)	NOx(ppm)	CO(ppm)
13-7	11:22	0.000	508	0.020	0.029	< 0.004	0.024	0.71
13-7	12:22	0.001	336	0.020	0.039	< 0.004	0.029	0.82
13-7	13:22	0.001	501	0.019	0.029	< 0.004	0.023	0.71
13-7	14:22	0.001	881	0.019	0.040	< 0.004	0.032	0.95
13-7	15:22	0.002	344	0.019	0.020	< 0.004	0.020	0.85
13-7	16:22	0.003	350	0.019	0.022	< 0.004	0.021	0.73
13-7	17:22	0.003	49	0.019	0.033	< 0.004	0.029	1.23
13-7	18:22	0.003	5	0.019	0.033	< 0.004	0.031	1.06
13-7	19:22	0.004	0	0.019	0.038	< 0.004	0.034	2.04
13-7	20:22	0.004	0	0.019	0.036	< 0.004	0.031	1.22
13-7	21:22	0.004	0	0.020	0.029	< 0.004	0.025	0.91
13-7	22:22	0.005	0	0.019	0.098	< 0.004	0.066	1.53
13-7	23:22	0.005	0	0.019	0.049	< 0.004	0.037	0.88
14-7	0:22	0.005	0	0.019	0.039	< 0.004	0.032	0.56
14-7	1:22	0.005	0	0.019	0.021	< 0.004	0.021	0.73
14-7	2:22	0.006	0	0.020	0.016	< 0.004	0.015	0.43
14-7	3:22	0.006	0	0.020	0.010	< 0.004	0.011	0.38
14-7	4:22	0.006	0	0.020	0.020	< 0.004	0.017	0.30
14-7	5:22	0.006	0	0.021	0.012	< 0.004	0.011	0.28
14-7	6:22	0.007	0	0.021	0.014	< 0.004	0.013	0.33
14-7	7:22	0.007	13	0.021	0.039	< 0.004	0.029	0.85
14-7	8:22	0.008	212	0.020	0.051	< 0.004	0.037	0.72
14-7	9:22	0.009	530	0.021	0.084	< 0.004	0.058	1.33
14-7	10:22	0.009	581	0.020	0.077	< 0.004	0.052	0.98
14-7	11:22	0.000	725	0.020	0.026	< 0.004	0.021	1.96
14-7	12:22	0.001	790	0.020	0.103	< 0.004	0.071	2.48
14-7	13:22	0.001	791	0.019	0.011	< 0.004	0.013	0.38
14-7	14:22	0.002	745	0.019	0.012	< 0.004	0.014	0.32
14-7	15:22	0.002	632	0.019	0.011	< 0.004	0.012	0.51
14-7	16:22	0.003	472	0.019	0.020	< 0.004	0.020	1.05
14-7	17:22	0.003	283	0.019	0.041	< 0.004	0.032	1.20
14-7	18:22	0.004	94	0.018	0.036	< 0.004	0.032	1.33
14-7	19:22	0.004	0	0.018	0.043	< 0.004	0.037	0.85
14-7	20:22	0.005	0	0.019	0.039	< 0.004	0.034	1.08
14-7	21:22	0.006	0	0.018	0.038	< 0.004	0.035	0.81
14-7	22:22	0.006	0	0.019	0.021	< 0.004	0.023	1.02
14-7	23:22	0.007	0	0.019	0.036	< 0.004	0.033	1.28
15-7	0:22	0.007	0	0.019	0.041	< 0.004	0.037	1.04
15-7	1:22	0.007	0	0.021	0.037	< 0.004	0.029	0.69
15-7	2:22	0.008	0	0.019	0.028	< 0.004	0.022	0.40
15-7	3:22	0.008	0	0.019	0.035	< 0.004	0.025	0.66
15-7	4:22	0.009	0	0.018	0.044	< 0.004	0.031	0.77
15-7	5:22	0.009	0	0.019	0.039	< 0.004	0.028	0.61
15-7	6:22	0.009	0	0.019	0.015	< 0.004	0.013	0.26
15-7	7:22	0.009	15	0.019	0.018	< 0.004	0.015	0.35
15-7	8:22	0.010	130	0.019	0.010	< 0.004	0.009	0.33
15-7	9:22	0.010	140	0.019	0.027	< 0.004	0.020	0.42
15-7	10:22	0.010	151	0.019	0.037	< 0.004	0.027	0.58
15-7	11:22	0.000	199	0.018	0.024	< 0.004	0.019	0.49
15-7	12:22	0.001	59	0.019	0.030	< 0.004	0.024	1.04
15-7	13:22	0.001	110	0.019	0.019	< 0.004	0.018	0.81
15-7	14:22	0.002	124	0.018	0.038	< 0.004	0.031	1.55
15-7	15:22	0.002	248	0.018	0.020	< 0.004	0.023	1.06
15-7	16:22	0.003	225	0.019	0.008	< 0.004	0.010	0.67
15-7	17:22	0.003	141	0.019	0.011	< 0.004	0.011	0.49
15-7	18:22	0.004	9	0.019	0.018	< 0.004	0.018	0.74
15-7	19:22	0.004	2	0.019	0.022	< 0.004	0.018	0.69
15-7	20:22	0.005	0	0.019	0.022	< 0.004	0.019	1.04
15-7	21:22	0.005	0	0.019	0.021	< 0.004	0.018	0.61
15-7	22:22	0.005	0	0.020	0.016	< 0.004	0.014	0.15
15-7	23:22	0.005	0	0.020	0.010	< 0.004	0.010	0.22
16-7	0:22	0.005	0	0.021	0.009	< 0.004	0.008	0.13
16-7	1:22	0.006	0	0.021	0.008	< 0.004	0.008	0.31
16-7	2:22	0.006	0	0.022	0.005	< 0.004	0.005	0.20
16-7	3:22	0.006	0	0.023	0.004	< 0.004	0.005	0.21
16-7	4:22	0.006	0	0.024	0.005	< 0.004	0.006	0.21
16-7	5:22	0.007	0	0.024	0.005	< 0.004	0.007	0.20
16-7	6:22	0.007	0	0.024	0.018	< 0.004	0.017	0.08
16-7	7:22	0.007	11	0.024	0.037	< 0.004	0.029	0.27
16-7	8:22	0.007	220	0.025	0.058	< 0.004	0.041	0.58
16-7	9:22	0.008	430	0.023	0.083	< 0.004	0.056	0.86
16-7	10:22	0.008	624	0.025	0.083	< 0.004	0.058	1.11
16-7	11:22	0.000	742	0.024	0.068	< 0.004	0.053	0.83
16-7	12:22	0.001	823	0.023	0.027	< 0.004	0.022	0.29
16-7	13:22	0.001	802	0.023	0.014	< 0.004	0.017	0.37
16-7	14:22	0.001	758	0.023	0.022	< 0.004	0.020	0.48
16-7	15:22	0.002	631	0.023	0.016	< 0.004	0.017	0.67
16-7	16:22	0.002	430	0.022	0.022	< 0.004	0.023	0.40
16-7	17:22	0.002	139	0.022	0.026	< 0.004	0.026	0.89
16-7	18:22	0.003	68	0.022	0.035	< 0.004	0.035	1.15
16-7	19:22	0.003	0	0.021	0.049	< 0.004	0.042	0.94
16-7	20:22	0.004	0	0.021	0.060	< 0.004	0.046	0.92
16-7	21:22	0.004	0	0.022	0.045	< 0.004	0.037	0.73
16-7	22:22	0.005	0	0.021	0.034	< 0.004	0.029	0.98
16-7	23:22	0.005	0	0.021	0.041	< 0.004	0.034	0.90
17-7	0:22	0.006	0	0.022	0.053	< 0.004	0.041	0.60
17-7	1:22	0.006	0	0.022	0.022	< 0.004	0.021	0.40
17-7	2:22	0.006	0	0.022	0.011	< 0.004	0.014	0.22
17-7	3:22	0.006	0	0.023	0.008	< 0.004	0.006	0.25
17-7	4:22	0.006	0	0.022	0.006	< 0.004	0.007	0.28
17-7	5:22	0.007	0	0.023	0.008	< 0.004	0.009	0.02
17-7	6:22	0.007	0	0.023	0.013	< 0.004	0.014	0.30
17-7	7:22	0.007	4	0.023	0.027	< 0.004	0.023	0.35
17-7	8:22	0.007	55	0.023	0.067	< 0.004	0.047	0.88
17-7	9:22	0.008	439	0.023	0.034	< 0.004	0.027	0.60
17-7	10:22	0.008	365	0.022	0.031	< 0.004	0.025	0.59
17-7	11:22	0.000	295	0.022	0.037	< 0.004	0.029	0.74
17-7	12:22	0.001	357	0.023	0.021	< 0.004	0.018	0.64
17-7	13:22	0.001	101	0.022	0.027	< 0.004	0.024	0.74
17-7	14:22	0.001	297	0.023	0.034	< 0.004	0.027	0.78
17-7	15:22	0.002	27	0.022	0.035	< 0.004	0.029	0.76
17-7	16:22	0.002	113	0.022	0.049	< 0.004	0.038	1.23
17-7	17:22	0.003	8	0.023	0.034	< 0.004	0.030	1.03
17-7	18:22	0.003	22	0.023	0.036	< 0.004	0.029	0.69
17-7	19:22	0.004	0	0.022	0.033	< 0.004	0.027	0.77
17-7	20:22	0.004	0	0.023	0.032	< 0.004	0.026	0.51
17-7	21:22	0.004	0	0.023	0.020	< 0.004	0.019	0.55
17-7	22:22	0.005	0	0.024	0.019	< 0.004	0.017	0.53
17-7	23:22	0.005	0	0.024	0.013	< 0.004	0.012	0.38
18-7	0:22	0.005	0	0.023	0.007	< 0.004	0.009	0.33
18-7	1:22	0.005	0	0.024	0.009	< 0.004	0.010	0.14
18-7	2:22	0.005	0	0.024	0.006	< 0.004	0.005	0.11
18-7	3:22	0.006	0	0.024	0.004	< 0.004	0.003	-0.02
18-7	4:22	0.006	0	0.025	0.004	< 0.004	0.003	0.15
18-7	5:22	0.006	0	0.025	0.003	< 0.004	0.003	0.25
18-7	6:22	0.006	0	0.025	0.006	< 0.004	0.007	0.15
18-7	7:22	0.007	0	0.025	0.007	< 0.004	0.008	0.16
18-7	8:22	0.007	12	0.026	0.015	< 0.004	0.016	0.72
18-7	9:22	0.007	32	0.026	0.014	< 0.004	0.016	0.77
18-7	10:22	0.007	15	0.025	0.016	< 0.004	0.016	0.86
18-7	11:22	0.000	95	0.025	0.020	< 0.004	0.019	0.70
18-7	12:22	0.001	60	0.025	0.013	< 0.004	0.015	0.41
18-7	13:22	0.001	75	0.024	0.014	< 0.004	0.014	0.50
18-7	14:22	0.002	56	0.025	0.018	< 0.004	0.018	0.89
18-7	15:22	0.002	61	0.024	0.012	< 0.004	0.012	0.73
18-7	16:22	0.002	53	0.025	0.014	< 0.004	0.013	0.41
18-7	17:22	0.002	13	0.026	0.023	< 0.004	0.019	0.80
18-7	18:22	0.002	6	0.026	0.023	< 0.004	0.020	0.90
18-7	19:22	0.003	0	0.025	0.024	< 0.004	0.020	0.81
18-7	20:22	0.003	0	0.025	0.015	< 0.004	0.014	0.70
18-7	21:22	0.003	0	0.025	0.010	< 0.004	0.011	0.59
18-7	22:22	0.004	0	0.025	0.008	< 0.004	0.009	0.12
18-7	23:22	0.004	0	0.026	0.007	< 0.004	0.007	0.28
19-7	0:22	0.004	0	0.026	0.007	< 0.004	0.008	0.46
19-7	1:22	0.004	0	0.026	0.004	< 0.004	0.005	0.02
19-7	2:22	0.004	0	0.026	0.004	< 0.004	0.004	-0.08
19-7	3:22	0.005	0	0.026	0.006	< 0.004	0.005	0.01
19-7	4:22	0.005	0	0.025	0.003	< 0.004	0.003	0.12
19-7	5:22	0.005	0	0.026	0.004	< 0.004	0.004	-0.02
19-7	6:22	0.006	0	0.026	0.010	< 0.004	0.010	0.27
19-7	7:22	0.006	0	0.026	0.017	< 0.004	0.016	0.57
19-7	8:22	0.006	9	0.025	0.023	< 0.004	0.021	0.67
19-7	9:22	0.007	23	0.025	0.055	< 0.004	0.040	0.93
19-7	10:22	0.007	33	0.025	0.065	< 0.004	0.046	1.41
19-7	11:22	0.000	38	0.025	0.085	< 0.004	0.057	1.08
19-7	12:22	0.001	85	0.025	0.077	< 0.004	0.054	1.27
19-7	13:22	0.001	130	0.025	0.055	< 0.004	0.041	1.25
19-7	14:22	0.002	119	0.025	0.036	< 0.004	0.029	0.77
19-7	15:22	0.002	184	0.025	0.034	< 0.004	0.025	0.77
19-7	16:22	0.003	28	0.024	0.039	< 0.004	0.032	0.69
19-7	17:22	0.003	43	0.024	0.094	< 0.004	0.061	1.87
19-7	18:22	0.004	20	0.025	0.075	< 0.004	0.051	1.41
19-7	19:22	0.004	0	0.025	0.050	< 0.004	0.036	1.27
19-7	20:22	0.004	0	0.024	0.084	< 0.004	0.055	1.54
19-7	21:22	0.005	0	0.025	0.057	< 0.004	0.040	1.08
19-7	22:22	0.006	0	0.025	0.032	< 0.004	0.026	0.39
19-7	23:22	0.006	0	0.025	0.035	< 0.004	0.027	0.79
20-7	0:22	0.006	0	0.025	0.016	< 0.004	0.015	0.33
20-7	1:22	0.007	0	0.026	0.014	< 0.004	0.014	0.14
20-7	2:22	0.007	0	0.025	0.010	< 0.004	0.011	0.24
20-7	3:22	0.007	0	0.026	0.007	< 0.004	0.008	-0.04
20-7	4:22	0.007	0	0.026	0.005	< 0.004	0.006	0.23
20-7	5:22	0.007	0	0.025	0.006	< 0.004	0.007	0.14
20-7	6:22	0.007	0	0.026	0.011	< 0.004	0.013	0.24
20-7	7:22	0.008	9	0.025	0.035	< 0.004	0.028	0.58
20-7	8:22	0.008	65	0.026	0.039	< 0.004	0.031	0.69
20-7	9:22	0.009	131	0.026	0.045	< 0.004	0.035	0.85
20-7	10:22	0.009	243	0.025	0.048	< 0.004	0.038	0.89
20-7	11:22	0.000	253	0.025	0.045	< 0.004	0.036	1.19
20-7	12:22	0.001	343	0.025	0.040	< 0.004	0.031	0.68
20-7	13:22	0.001	308	0.025	0.048	< 0.004	0.036	0.89
20-7	14:22	0.002	182	0.024	0.037	< 0.004	0.028	0.74
20-7	15:22	0.002	118	0.024	0.032	< 0.004	0.027	0.79
20-7	16:22	0.003	60	0.024	0.037	< 0.004	0.033	0.90
20-7	17:22	0.003	57	0.024	0.069	< 0.004	0.050	1.35
20-7	18:22	0.004	13	0.025	0.053	< 0.004	0.039	1.20
20-7	19:22	0.004	0	0.024	0.042	< 0.004	0.033	1.33
20-7	20:22	0.005	0	0.024	0.048	< 0.004	0.036	1.04
20-7	21:22	0.005	0	0.024	0.042	< 0.004	0.032	0.79
20-7	22:22	0.005	0	0.025	0.032	< 0.004	0.026	0.77
20-7	23:22	0.006	0	0.024	0.020	< 0.004	0.017	0.62
21-7	0:22	0.006	0	0.020	0.023	< 0.004	0.023	0.48
21-7	1:22	0.007	0	0.021	0.018	< 0.004	0.019	0.30
21-7	2:22	0.007	0	0.019	0.009	< 0.004	0.011	0.48
21-7	3:22	0.007	0	0.019	0.008	< 0.004	0.010	0.20
21-7	4:22	0.007	0	0.019	0.007	< 0.004	0.007	0.21
21-7	5:22	0.007	0	0.019	0.006	< 0.004	0.005	0.18
21-7	6:22	0.008	0	0.019	0.009	< 0.004	0.010	0.24
21-7	7:22	0.008	14	0.019	0.015	< 0.004	0.015	0.29
21-7	8:22	0.008	46	0.018	0.042	< 0.004	0.032	0.77
21-7	9:22	0.009	163	0.019	0.045	< 0.004	0.033	0.85
21-7	10:22	0.009	257	0.019	0.032	< 0.004	0.025	0.73

S5-A11 Central Purto Operation Data (Winter)

	NP5 MWH	NP6(27.5+132) MWH	PN7 MWH	PN8 MWH	PN9 MWH	TG11 MWh	TG12 MWh	TV10 MWh	CC MWh
13-Jul	0.00	2147.54	0.00	0.00	3038.42	4618.05	3994.39	5337.37	13950.17
14-Jul	0.00	2201.75	0.00	0.00	2130.84	0.00	4111.43	2566.56	6678.09
15-Jul	0.00	17.19	0.00	0.00	40.34	1197.71	2110.49	1996.96	5305.16
16-Jul	0.00	0.00	0.00	0.00	2330.19	5221.07	1180.31	3566.79	9968.17
17-Jul	0.00	1152.45	0.00	0.00	2339.06	5017.88	3374.04	4946.83	13338.75
18-Jul	0.00	2253.42	0.00	0.00	2181.98	5009.44	0.00	2809.81	7819.26
19-Jul	0.00	2308.13	0.00	0.00	2112.93	5151.69	0.00	2748.44	7900.13
20-Jul	0.00	2426.39	0.00	0.00	2299.32	4891.97	0.06	2724.36	7616.39
21-Jul	0.00	2978.92	0.00	0.00	2113.09	1153.50	3953.40	2857.45	7964.35
22-Jul	0.00	2145.27	0.00	0.00	2109.69	5039.16	0.00	2730.27	7769.43

Consumos horarios solicitados para el control de emisiones.
(Valores calculados)

GAS

	NP5 Dam^3	NP6(27.5+132) Dam^3	PN7 Dam^3	PN8 Dam^3	PN9 Dam^3	CC Dam^3
13-Jul	0.00	515.06	0.00	0.00	407.02	2657.49
14-Jul	0.00	666.34	0.00	0.00	628.74	1319.29
15-Jul	0.00	5.38	0.00	0.00	4.17	1074.19
16-Jul	0.00	0.00	0.00	0.00	689.35	1936.28
17-Jul	0.00	334.77	0.00	0.00	689.89	2498.18
18-Jul	0.00	687.54	0.00	0.00	650.75	1448.83
19-Jul	0.00	700.38	0.00	0.00	633.54	1499.73
20-Jul	0.00	729.41	8.81	0.00	679.43	1406.36
21-Jul	0.00	862.31	0.00	0.00	634.05	1505.40
22-Jul	0.00	658.53	0.00	0.00	632.55	1339.51

Consumos horarios solicitados para el control de emisiones.
(Valores calculados)

Combustible alternativo

	NP5 Ton	NP6(27.5+132) Ton	PN7 Ton	PN8 Ton	PN9 Ton	CC Ton
13-Jul	0.00	123.25	0.00	0.00	385.11	0.00
14-Jul	0.00	0.00	0.00	0.00	0.00	0.00
15-Jul	0.00	0.00	0.00	0.00	0.00	0.00
16-Jul	0.00	0.00	0.00	0.00	0.00	0.00
17-Jul	0.00	0.00	0.00	0.00	0.00	0.00
18-Jul	0.00	0.00	0.00	0.00	0.00	0.00
19-Jul	0.00	0.00	0.00	0.00	0.00	0.00
20-Jul	0.00	0.00	0.00	0.00	0.00	0.00
21-Jul	0.00	0.00	0.00	0.00	0.00	0.00
22-Jul	0.00	0.00	0.00	0.00	0.00	0.00

S5-A12 Central Puerto Emission Data (Winter)

NAME: CENTRAL PUERTO NUEVO LOCATION: BUENOS AIRES ARGENT STATION ID: 1

	CHAN NAME / CHAN UNITS	O1516 %	OP-17 %	S1516 PPM	N1516 PPM	SO217 PPM	NO-17 PPM	O2-15 %	O2-17 %
13-Jul	Daily Average	0.5	1.9	96	10	98	174	19.8	10
14-Jul	Daily Average	0.7	0.7	7	14	8	132	19.6	11
15-Jul	Daily Average	0.7	0.9	4	14	6	24	19.6	21
16-Jul	Daily Average	1.0	0.8	3	11	5	120	19.6	10
17-Jul	Daily Average	1.3	0.7	-1	16	1	109	19.7	10
18-Jul	Daily Average	1.4	0.7	1	15	3	110	19.7	11
19-Jul	Daily Average	1.9	0.7	0	13	2	104	19.7	11
20-Jul	Daily Average	1.5	0.7	-1	12	1	120	19.8	10
21-Jul	Daily Average	0.6	0.6	-1	15	1	115	19.8	11
22-Jul	Daily Average	0.6	0.6	0	16	2	106	19.6	11

NAME: CENTRAL NUEVO PUERTO LOCATION: BUENOS AIRES ARGENT STATION ID: 2

	CHAN NAME / CHAN UNITS	OP-13 %	OP-14 %	SO213 PPM	NO-13 PPM	SO214 PPM	NO-14 PPM	O2-13 %	O2-14 %
12-Jul	Daily Average	2.0	6.0	3	2	63	86	21.1	6
13-Jul	Daily Average	2.0	5.8	3	2	47	54	21.1	6
14-Jul	Daily Average	2.2	2.1	3	2	31	23	21.1	6
15-Jul	Daily Average	2.4	0.6	3	2	15	14	21.1	15
16-Jul	Daily Average	2.2	0.4	3	2	14	15	21.1	15
17-Jul	Daily Average	2.0	1.1	3	2	25	21	21.1	11
18-Jul	Daily Average	2.0	1.3	3	2	28	20	21.1	6
19-Jul	Daily Average	1.9	1.3	3	2	30	22	21.1	6
20-Jul	Daily Average	2.0	1.5	3	2	28	17	21.1	6
21-Jul	Daily Average	2.0	1.9	3	2	37	37	21.1	5
22-Jul	Daily Average	2.1	1.7	3	2	32	30	21.1	6

NAME: CALDERA "A" LOCATION: CICLO COMBINADO STATION ID: 3

	CHAN NAME / CHAN UNITS	NOXco ppm	O2"A" %	NOx A ppm	OPA A %	NOXno mg/m3
12-Jul	Daily Average	17.7	14.4	20	1	34
13-Jul	Daily Average	18.3	14.6	20	2	35
14-Jul	Daily Average	-0.1	22.3	0	0	0
15-Jul	Daily Average	19.3	19.7	13	1	37
16-Jul	Daily Average	15.3	14.0	19	1	29
17-Jul	Daily Average	14.5	13.9	18	1	28
18-Jul	Daily Average	14.7	14.0	18	1	28
19-Jul	Daily Average	15.0	13.9	19	1	29
20-Jul	Daily Average	14.9	14.0	18	1	28
21-Jul	Daily Average	14.8	20.0	12	2	28
22-Jul	Daily Average	16.7	14.4	19	1	32

NAME: CALDERA "B" LOCATION: CICLO COMBINADO STATION ID: 4

	CHAN NAME / CHAN UNITS	NOXco ppm	O2"B" %	NOX B ppm	OPA B %	NOxno Mg/m3
12-Jul	Daily Average	9.3	13.7	12	0	18
13-Jul	Daily Average	9.1	13.6	11	0	17
14-Jul	Daily Average	9.2	13.5	12	0	17
15-Jul	Daily Average	4.7	16.7	6	0	9
16-Jul	Daily Average	9.4	18.2	10	1	18
17-Jul	Daily Average	11.4	13.4	15	0	22
18-Jul	Daily Average	0.2	20.4	0	1	0
19-Jul	Daily Average	0.1	20.3	0	1	0
20-Jul	Daily Average	0.2	20.3	0	1	0
21-Jul	Daily Average	19.2	14.1	20	0	37
22-Jul	Daily Average	0.1	20.8	0	0	0

S5-A13 Central Puerto Meteorological Data (Winter)

FECHA	HORA	TEMPERATURA AIRE MEDIA	TEMPERATURA AIRE MÁXIMA	TEMPERATURA AIRE MÍNIMA	BAROMET	VELOC DEL VIENTO MEDIA	VELOC DEL VIENTO MÁXIMA	DIRECC VIENTO	SENSAC TÉRMICA	RECORR VIENTO	HUMEDAD	PUNTO ROCÍO
		°C	°C	°C	mBAR	Km/h	Km/h		°C	Km	%	°C
7/13	0:00	9.1	9.2	8.8	1024.1	35.4	41.8	ENE	-1.7	15.9	74	4.7
7/13	1:00	8.7	8.8	8.7	1023.6	33.8	41.8	ENE	-1.9	15.8	76	4.7
7/13	2:00	8.8	8.9	8.7	1023.4	30.6	40.2	ENE	-1.2	14.3	72	4.0
7/13	3:00	8.9	9.1	8.8	1023.2	29.0	37.0	NE	-0.6	13.7	75	4.7
7/13	4:00	9.1	9.1	9.0	1023.0	25.7	32.2	NE	0.5	11.4	73	4.5
7/13	5:00	8.8	8.9	8.7	1023.0	22.5	29.0	NE	1.1	10.6	72	4.0
7/13	6:00	8.7	8.7	8.6	1023.3	24.1	29.0	NE	0.4	10.8	74	4.3
7/13	7:00	8.6	8.7	8.5	1023.5	27.4	33.8	NE	-0.6	12.4	72	3.8
7/13	8:00	8.7	8.8	8.7	1023.5	29.0	38.6	NE	-0.8	13.2	72	3.9
7/13	9:00	8.7	8.8	8.6	1023.8	30.6	38.6	NE	-1.4	14.5	73	4.1
7/13	10:00	8.4	8.6	8.3	1024.0	30.6	37.0	NE	-1.7	14.0	75	4.3
7/13	11:00	8.2	8.3	8.1	1023.6	25.7	32.2	NE	-0.7	11.7	76	4.2
7/13	12:00	8.4	8.6	8.4	1022.6	29.0	40.2	NNE	-1.2	13.5	76	4.4
7/13	13:00	9.7	10.0	9.4	1021.3	27.4	32.2	NNE	0.9	12.7	69	4.3
7/13	14:00	10.4	10.7	10.3	1019.4	22.5	29.0	N	3.3	10.8	68	4.8
7/13	15:00	10.9	11.2	10.8	1018.3	16.1	22.5	NNE	5.7	7.1	65	4.6
7/13	16:00	11.6	11.7	11.5	1017.0	12.9	17.7	NNE	8.0	6.3	69	6.1
7/13	17:00	12.2	12.3	12.2	1017.0	12.9	16.1	NNE	8.8	5.6	69	6.7
7/13	18:00	12.3	12.3	12.3	1017.0	9.7	11.3	ENE	10.4	4.0	72	7.4
7/13	19:00	12.3	12.4	12.3	1016.7	20.9	25.7	ENE	6.2	9.3	73	7.6
7/13	20:00	12.3	12.5	12.2	1016.5	22.5	29.0	ENE	5.8	10.5	73	7.6
7/13	21:00	11.7	11.9	11.6	1016.7	24.1	32.2	ENE	4.5	11.4	77	7.8
7/13	22:00	11.4	11.5	11.3	1017.8	27.4	37.0	NE	3.3	12.7	77	7.5
7/13	23:00	11.5	11.6	11.3	1016.2	30.6	43.5	NNE	2.7	14.3	74	7.1
7/14	0:00	11.6	11.7	11.6	1016.0	33.8	40.2	NNE	2.2	15.3	75	7.3
7/14	1:00	11.4	11.5	11.3	1015.9	29.0	40.2	N	2.9	13.2	77	7.5
7/14	2:00	11.4	11.6	11.3	1016.0	29.0	41.8	N	2.9	12.6	74	7.0
7/14	3:00	11.4	11.5	11.3	1016.1	27.4	38.6	NNO	3.3	12.7	74	7.0
7/14	4:00	10.9	11.0	10.8	1016.1	20.9	30.6	NNO	4.3	9.5	76	6.8
7/14	5:00	10.6	10.7	10.6	1015.3	22.5	32.2	NNO	3.5	10.0	77	6.8
7/14	6:00	10.3	10.4	10.2	1015.5	20.9	32.2	NO	3.5	9.5	78	6.6
7/14	7:00	9.8	9.9	9.7	1016.0	16.1	27.4	NO	4.3	7.6	76	5.8
7/14	8:00	9.4	9.6	9.4	1016.3	11.3	19.3	NO	6.4	5.1	77	5.6
7/14	9:00	10.2	11.3	9.4	1016.8	6.4	16.1	NO	10.2	2.7	71	5.2
7/14	10:00	12.4	12.6	12.2	1017.2	8.0	22.5	O	11.3	3.2	60	4.8
7/14	11:00	13.6	14.4	13.1	1017.7	4.8	22.5	O	13.6	2.4	54	4.5
7/14	12:00	15.3	15.6	15.1	1017.4	6.4	19.3	O	15.3	3.4	51	5.2
7/14	13:00	15.3	15.4	15.0	1017.2	4.8	17.7	OSO	15.3	2.4	52	5.5
7/14	14:00	16.5	16.8	16.0	1016.9	4.8	12.9	OSO	16.5	2.3	51	6.3
7/14	15:00	17.1	17.6	16.9	1017.0	3.2	12.9	OSO	17.1	1.6	45	5.1
7/14	16:00	16.9	17.8	15.2	1016.8	4.8	14.5	OSO	16.9	2.4	59	8.9
7/14	17:00	14.2	14.9	13.8	1016.7	3.2	9.7	NNO	14.2	1.4	66	7.9
7/14	18:00	13.3	13.4	13.2	1016.6	3.2	8.0	NNE	13.3	1.4	78	9.6
7/14	19:00	12.7	12.9	12.5	1018.1	3.2	6.4	NNE	12.7	1.3	84	10.1
7/14	20:00	14.5	15.2	12.9	1017.4	3.2	8.0	O	14.5	1.4	75	10.1
7/14	21:00	12.4	12.7	12.3	1016.9	4.8	8.0	SE	12.4	1.9	79	8.9
7/14	22:00	12.3	12.7	12.1	1016.6	6.4	11.3	NO	12.3	2.9	72	7.4
7/14	23:00	13.1	13.1	12.9	1017.0	9.7	12.9	NO	11.2	4.2	60	5.5
7/15	0:00	12.9	13.1	12.7	1017.1	4.8	9.7	NO	12.9	1.9	63	6.0
7/15	1:00	12.7	12.9	12.5	1016.4	4.8	11.3	NNO	12.7	2.6	62	5.6
7/15	2:00	11.3	11.4	11.2	1015.1	16.1	22.5	NNO	6.1	7.4	79	7.8
7/15	3:00	11.5	11.6	11.4	1014.9	17.7	24.1	NNO	5.9	7.9	78	7.8
7/15	4:00	11.4	11.7	10.9	1014.4	16.1	24.1	NNO	6.3	7.7	81	8.3
7/15	5:00	10.5	10.6	10.4	1013.9	11.3	14.5	NO	7.6	5.0	82	7.6
7/15	6:00	10.3	10.4	10.3	1013.5	8.0	11.3	NO	9.1	3.7	84	7.8
7/15	7:00	10.9	10.9	10.8	1013.4	17.7	22.5	N	5.2	7.9	86	8.7
7/15	8:00	10.8	10.8	10.7	1013.9	19.3	27.4	NNO	4.6	8.9	84	8.2
7/15	9:00	10.6	10.7	10.3	1014.1	16.1	22.5	NNO	5.2	6.9	81	7.4
7/15	10:00	10.5	10.9	10.4	1014.4	16.1	22.5	NNO	5.1	7.1	80	7.2
7/15	11:00	11.7	12.1	11.3	1013.5	12.9	19.3	NNO	8.2	6.0	77	7.8
7/15	12:00	12.2	12.5	11.9	1012.9	16.1	20.9	NNO	7.3	6.8	77	8.3
7/15	13:00	11.7	11.9	11.5	1011.3	16.1	20.9	N	6.6	7.1	83	8.9
7/15	14:00	12.6	12.9	12.3	1009.9	14.5	20.9	N	8.4	6.3	81	9.4
7/15	15:00	13.2	13.3	13.1	1008.9	16.1	20.9	N	8.4	7.6	83	10.3
7/15	16:00	13.9	14.1	13.8	1008.9	11.3	16.1	N	11.5	5.0	83	11.1
7/15	17:00	14.5	15.1	14.0	1008.9	8.0	14.5	N	13.5	3.5	84	11.8
7/15	18:00	14.3	14.6	14.2	1009.0	8.0	17.7	NNO	13.3	3.9	80	10.9
7/15	19:00	14.7	14.8	14.4	1008.6	9.7	16.1	NNO	13.0	4.3	81	11.4
7/15	20:00	14.5	14.9	14.2	1008.4	14.5	17.7	NNE	10.7	6.6	79	10.9
7/15	21:00	14.5	14.6	14.4	1007.6	16.1	20.9	NNE	10.1	7.9	81	11.3
7/15	22:00	14.3	14.4	14.2	1007.1	16.1	24.1	NNE	9.8	7.9	83	11.4
7/15	23:00	14.1	14.2	13.9	1008.1	9.7	17.7	N	12.3	4.8	84	11.4
7/16	0:00	14.1	14.2	13.9	1007.7	8.0	12.9	NNO	13.1	3.7	86	11.8
7/16	1:00	13.8	13.9	13.6	1007.5	11.3	24.1	NNO	11.3	5.5	87	11.7
7/16	2:00	14.3	14.5	14.2	1007.0	8.0	11.3	NO	13.3	3.4	85	11.8
7/16	3:00	14.2	14.4	14.1	1006.9	6.4	9.7	NO	14.2	3.2	84	11.5
7/16	4:00	14.2	14.4	14.0	1006.7	9.7	12.9	NO	12.5	4.0	84	11.6
7/16	5:00	14.2	14.3	14.0	1005.6	8.0	11.3	NO	13.1	3.7	87	12.1
7/16	6:00	14.1	14.2	14.0	1005.6	8.0	12.9	NO	13.0	4.0	87	11.9
7/16	7:00	14.2	14.3	14.1	1006.4	8.0	11.3	NO	13.2	4.0	85	11.7
7/16	8:00	14.4	14.7	14.3	1007.2	9.7	16.1	NO	12.7	4.7	85	11.9
7/16	9:00	14.0	14.1	13.9	1007.7	11.3	14.5	NO	11.6	5.5	87	11.9
7/16	10:00	14.3	14.8	14.0	1008.3	11.3	16.1	NO	11.9	5.1	88	12.3
7/16	11:00	14.6	15.1	14.3	1008.8	8.0	16.1	NO	13.6	4.0	86	12.3
7/16	12:00	15.6	16.3	15.1	1009.5	6.4	12.9	NO	15.6	2.9	81	12.4
7/16	13:00	16.7	18.4	15.6	1008.3	3.2	14.5	ONO	16.7	1.4	76	12.4
7/16	14:00	20.7	21.1	20.4	1007.8	8.0	24.1	OSO	20.1	4.0	100	20.7
7/16	15:00	18.4	21.1	15.5	1008.0	12.9	20.9	SE	16.1	6.3	82	15.3
7/16	16:00	13.8	14.1	13.7	1008.0	9.7	12.9	E	12.1	4.5	91	12.4
7/16	17:00	14.7	14.8	14.6	1008.2	6.4	12.9	ENE	14.7	3.4	88	12.8
7/16	18:00	14.6	14.9	14.3	1008.2	9.7	19.3	ESE	12.9	4.8	89	12.8
7/16	19:00	14.5	14.7	14.2	1008.6	17.7	24.1	ESE	9.7	7.9	91	13.1
7/16	20:00	13.7	13.8	13.6	1008.4	22.5	29.0	SE	7.5	10.3	91	12.2
7/16	21:00	13.7	13.8	13.6	1008.7	20.9	32.2	SE	7.9	9.8	85	11.2
7/16	22:00	13.1	13.3	12.9	1008.3	19.3	32.2	SE	7.6	9.5	88	11.2
7/16	23:00	12.1	12.2	12.1	1008.4	22.5	30.6	SE	5.4	10.3	92	10.8
7/17	0:00	11.9	11.9	11.8	1008.7	24.1	37.0	SE	4.7	11.1	93	10.8
7/17	1:00	11.4	11.6	11.4	1008.2	22.5	37.0	SE	4.6	10.5	95	10.7
7/17	2:00	11.4	11.6	11.2	1007.6	19.3	33.8	SSE	5.4	9.2	94	10.4
7/17	3:00	11.3	11.3	11.2	1006.8	17.7	30.6	SSE	5.7	8.7	94	10.3
7/17	4:00	11.2	11.3	11.2	1005.8	22.5	33.8	SE	4.3	10.3	95	10.4
7/17	5:00	11.4	11.5	11.4	1004.1	24.1	38.6	SE	4.1	11.7	97	11.0
7/17	6:00	11.6	11.8	11.4	1004.0	25.7	38.6	SE	3.9	11.7	99	11.4
7/17	7:00	13.2	13.4	13.0	1004.1	24.1	33.8	SE	6.5	11.1	98	12.9
7/17	8:00	12.3	12.4	12.2	1003.6	20.9	41.8	SE	6.2	10.0	98	12.1
7/17	9:00	12.7	12.9	12.5	1002.7	16.1	24.1	ESE	7.8	7.7	100	12.7
7/17	10:00	12.8	12.9	12.7	1002.1	20.9	27.4	SE	6.8	9.8	100	12.8
7/17	11:00	13.0	13.1	12.9	1001.5	14.5	20.9	ESE	8.9	7.1	100	13.0
7/17	12:00	13.3	13.6	13.2	1000.4	12.9	17.7	E	10.1	5.6	99	13.2
7/17	13:00	14.3	14.7	14.2	999.7	9.7	16.1	E	12.6	4.8	99	14.2
7/17	14:00	17.2	17.9	16.6	998.5	1.6	6.4	E	17.2	1.0	88	15.2
7/17	15:00	17.3	17.8	16.9	997.3	8.0	12.9	E	16.5	3.7	87	15.2
7/17	16:00	17.1	17.2	16.9	997.1	9.7	16.1	SSE	15.7	4.5	87	14.9
7/17	17:00	16.2	16.6	15.9	997.4	17.7	25.7	SE	11.9	8.0	93	15.1
7/17	18:00	15.1	15.2	14.9	997.6	16.1	25.7	SE	10.8	7.6	94	14.1
7/17	19:00	15.9	16.1	15.7	998.2	11.3	19.3	SSE	13.7	5.0	91	14.5
7/17	20:00	15.2	15.3	15.1	998.5	8.0	12.9	SSE	14.3	4.2	93	14.1
7/17	21:00	16.1	16.2	15.8	999.2	6.4	12.9	SSE	16.1	3.4	90	14.4
7/17	22:00	15.9	16.3	15.6	999.5	4.8	11.3	SSE	15.9	2.4	90	14.3
7/17	23:00	15.9	16.4	15.7	999.7	1.6	6.4	OSO	15.9	0.8	91	14.5

FECHA	HORA	TEMPERATURA AIRE MEDIA	TEMPERATURA AIRE MÁXIMA	TEMPERATURA AIRE MÍNIMA	BAROMET	VELOC DEL VIENTO MEDIA	VELOC DEL VIENTO MÁXIMA	DIRECC VIENTO	SENSAC TÉRMICA	RECORR VIENTO	HUMEDAD	PUNTO ROCÍO
		°C	°C	°C	mBAR	Km/h	Km/h		°C	Km	%	°C
7/18	0:00	17.3	17.6	16.7	1000.8	8.0	20.9	OSO	16.4	3.2	90	15.6
7/18	1:00	15.2	15.3	15.1	1001.6	8.0	24.1	OSO	14.2	3.5	90	13.6
7/18	2:00	14.9	15.0	14.8	1002.4	11.3	33.8	SO	12.6	5.0	88	12.9
7/18	3:00	14.2	14.4	14.1	1003.0	11.3	32.2	OSO	11.8	5.0	87	12.1
7/18	4:00	13.4	13.4	13.4	1003.9	11.3	38.6	OSO	10.9	5.1	89	11.7
7/18	5:00	13.4	13.5	13.3	1003.8	16.1	38.6	O	8.8	6.4	89	11.7
7/18	6:00	14.0	14.1	13.9	1004.3	9.7	30.6	O	12.3	4.5	84	11.3
7/18	7:00	14.1	14.2	13.9	1005.6	8.0	20.9	O	13.0	3.4	82	11.1
7/18	8:00	13.6	13.8	13.1	1007.1	8.0	22.5	O	12.5	3.2	84	10.9
7/18	9:00	13.7	13.8	13.3	1008.3	6.4	19.3	O	13.7	3.1	84	11.0
7/18	10:00	13.6	14.1	13.3	1008.8	9.7	19.3	SSO	11.8	4.0	79	10.1
7/18	11:00	15.7	16.4	14.8	1008.7	6.4	20.9	OSO	15.7	2.6	71	10.4
7/18	12:00	17.7	18.1	17.3	1008.4	4.8	14.5	OSO	17.7	2.4	61	10.1
7/18	13:00	14.7	16.0	13.8	1008.1	11.3	19.3	ESE	12.3	5.0	81	11.4
7/18	14:00	12.9	13.2	12.8	1007.1	14.5	20.9	ESE	8.8	6.1	88	10.9
7/18	15:00	13.4	13.8	12.7	1007.2	12.9	22.5	SE	10.1	6.0	90	11.8
7/18	16:00	13.1	13.2	12.9	1007.7	8.0	11.3	N	11.9	3.4	90	11.4
7/18	17:00	12.6	12.7	12.5	1007.6	6.4	12.9	NE	12.6	3.1	93	11.4
7/18	18:00	10.9	11.2	10.8	1007.9	9.7	12.9	E	8.9	3.7	98	10.7
7/18	19:00	10.8	10.9	10.8	1008.7	9.7	16.1	ESE	8.8	4.2	100	10.8
7/18	20:00	10.6	10.8	10.5	1009.6	8.0	14.5	ESE	9.4	3.7	100	10.6
7/18	21:00	10.8	10.9	10.6	1009.8	8.0	12.9	SE	9.6	3.7	100	10.8
7/18	22:00	11.3	11.4	11.2	1010.2	4.8	8.0	SE	11.3	2.6	100	11.3
7/18	23:00	12.2	12.5	11.8	1010.1	11.3	16.1	ESE	9.6	5.8	90	10.6
7/19	0:00	12.4	12.6	12.2	1009.9	16.1	20.9	ESE	7.5	7.2	90	10.8
7/19	1:00	11.6	11.9	10.9	1010.0	17.7	22.5	E	6.0	8.4	96	10.9
7/19	2:00	11.1	11.3	10.9	1009.1	14.5	20.9	ESE	6.7	6.6	100	11.1
7/19	3:00	10.9	10.9	10.7	1008.2	22.5	32.2	SE	3.8	10.3	100	10.9
7/19	4:00	10.7	10.8	10.6	1007.9	24.1	33.8	SE	3.2	11.6	100	10.7
7/19	5:00	10.5	10.6	10.4	1006.8	27.4	33.8	ESE	2.1	12.7	100	10.5
7/19	6:00	10.6	10.7	10.4	1005.8	29.0	38.6	ESE	1.7	13.5	100	10.6
7/19	7:00	10.7	10.8	10.5	1005.3	27.4	37.0	ESE	2.3	13.0	100	10.7
7/19	8:00	11.5	11.8	11.2	1005.8	27.4	40.2	E	3.4	12.9	92	10.2
7/19	9:00	12.1	12.2	11.9	1005.0	27.4	38.6	ESE	4.2	13.0	87	9.9
7/19	10:00	11.9	12.1	11.8	1003.8	33.8	49.9	ESE	2.6	15.9	85	9.4
7/19	11:00	11.4	11.7	11.3	1003.6	24.1	46.7	ESE	4.1	11.4	90	9.8
7/19	12:00	12.1	12.5	11.8	1002.3	22.5	32.2	ENE	5.4	10.6	94	11.2
7/19	13:00	13.1	13.3	12.8	999.8	25.7	33.8	ENE	6.0	12.2	94	12.2
7/19	14:00	13.8	14.0	13.6	998.9	16.1	30.6	ENE	9.2	7.4	95	13.0
7/19	15:00	11.9	12.2	11.8	998.7	14.5	25.7	SSE	7.7	7.2	96	11.3
7/19	16:00	12.6	13.0	12.3	998.9	16.1	38.6	SSE	7.7	7.2	94	11.6
7/19	17:00	11.7	12.0	11.5	998.2	22.5	40.2	SE	4.9	10.8	97	11.3
7/19	18:00	12.3	12.4	12.2	999.5	17.7	30.6	SE	6.9	7.9	96	11.7
7/19	19:00	12.3	12.3	12.3	999.0	11.3	19.3	SSE	9.7	5.1	96	11.7
7/19	20:00	12.3	12.5	12.2	999.0	12.9	25.7	SE	8.9	6.1	96	11.7
7/19	21:00	13.8	14.3	12.9	999.9	6.4	24.1	O	13.8	3.2	89	12.1
7/19	22:00	13.5	13.8	13.2	999.9	6.4	16.1	O	13.5	3.1	90	11.9
7/19	23:00	12.9	13.1	12.6	1001.2	11.3	30.6	NO	10.3	5.0	93	11.8
7/20	0:00	12.5	12.9	12.3	1001.3	11.3	29.0	O	9.8	5.0	93	11.4
7/20	1:00	12.4	12.6	12.3	1001.3	9.7	27.4	OSO	10.5	4.3	89	10.6
7/20	2:00	11.8	11.9	11.8	1001.5	9.7	33.8	O	9.9	4.8	89	10.1
7/20	3:00	11.4	11.6	11.2	1002.1	9.7	22.5	OSO	9.4	4.5	88	9.5
7/20	4:00	11.2	11.3	11.0	1002.3	9.7	25.7	O	9.2	5.0	87	9.2
7/20	5:00	11.2	11.3	10.9	1002.8	8.0	25.7	OSO	10.0	4.2	86	8.9
7/20	6:00	10.9	11.2	10.8	1003.5	9.7	25.7	O	8.9	4.8	85	8.5
7/20	7:00	10.8	10.8	10.7	1004.9	9.7	29.0	O	8.7	4.5	86	8.6
7/20	8:00	10.8	10.9	10.6	1005.8	6.4	20.9	OSO	10.8	3.5	84	8.2
7/20	9:00	10.8	10.9	10.7	1006.7	8.0	22.5	OSO	9.6	3.9	82	7.9
7/20	10:00	12.2	12.6	11.8	1007.3	8.0	22.5	O	11.1	3.9	74	7.7
7/20	11:00	12.9	13.1	12.8	1008.0	9.7	27.4	OSO	11.1	4.5	73	8.2
7/20	12:00	13.7	14.1	13.4	1008.1	12.9	30.6	O	10.4	5.8	72	8.7
7/20	13:00	13.9	14.2	13.7	1007.6	12.9	35.4	SO	10.7	6.3	73	9.1
7/20	14:00	14.1	14.5	13.8	1007.6	12.9	38.6	OSO	11.0	5.8	69	8.5
7/20	15:00	15.1	15.6	14.8	1007.9	9.7	25.7	O	13.4	4.8	68	9.3
7/20	16:00	14.4	14.9	13.9	1008.1	11.3	27.4	OSO	12.0	5.6	69	8.8
7/20	17:00	13.9	14.2	13.6	1008.9	9.7	30.6	O	12.1	4.5	69	8.3
7/20	18:00	13.6	14.1	13.2	1009.1	8.0	27.4	O	12.5	3.9	71	8.4
7/20	19:00	12.6	12.7	12.5	1010.3	8.0	24.1	O	11.5	3.9	75	8.3
7/20	20:00	12.2	12.2	12.1	1010.9	8.0	20.9	OSO	11.0	3.9	75	7.9
7/20	21:00	12.7	12.8	12.6	1011.2	8.0	29.0	O	11.6	4.2	74	8.2
7/20	22:00	12.1	12.5	11.8	1011.8	11.3	27.4	O	9.3	5.1	79	8.6
7/20	23:00	11.8	11.9	11.6	1012.1	9.7	30.6	O	9.9	4.7	73	7.2
7/21	0:00	11.7	11.9	11.5	1012.3	9.7	24.1	O	9.8	4.7	73	7.1
7/21	1:00	10.8	10.9	10.7	1012.4	11.3	30.6	O	7.9	5.1	79	7.3
7/21	2:00	9.9	10.2	9.6	1012.5	11.3	30.6	O	6.9	5.5	80	6.6
7/21	3:00	9.2	9.4	8.9	1012.8	12.9	32.2	O	5.2	6.0	81	6.1
7/21	4:00	9.2	9.3	8.9	1013.5	12.9	32.2	O	5.3	5.6	78	5.6
7/21	5:00	9.0	9.3	8.8	1014.4	8.0	22.5	O	7.7	3.9	78	5.4
7/21	6:00	9.0	9.3	8.3	1014.7	4.8	16.1	O	9.0	2.4	79	5.6
7/21	7:00	8.4	8.6	8.2	1015.7	4.8	17.7	O	8.4	2.4	77	4.7
7/21	8:00	7.6	8.0	7.2	1016.0	9.7	24.1	OSO	5.3	4.5	79	4.2
7/21	9:00	7.8	8.0	7.7	1017.1	8.0	24.1	O	6.4	4.0	80	4.6
7/21	10:00	7.3	7.4	6.9	1017.9	9.7	25.7	O	4.9	4.0	83	4.6
7/21	11:00	7.6	7.9	7.3	1018.6	9.7	24.1	O	5.2	4.2	83	4.8
7/21	12:00	8.2	8.4	8.0	1018.5	8.0	25.7	O	6.9	3.9	80	5.0
7/21	13:00	8.8	9.3	8.4	1018.4	6.4	20.9	O	8.8	3.2	80	5.6
7/21	14:00	8.6	8.8	8.3	1018.4	9.7	24.1	OSO	6.3	4.0	80	5.3
7/21	15:00	9.6	9.8	9.3	1018.1	8.0	24.1	O	8.3	3.4	76	5.6
7/21	16:00	10.2	10.4	9.9	1018.5	8.0	22.5	OSO	8.9	4.0	73	5.6
7/21	17:00	10.9	11.1	10.6	1019.2	6.4	22.5	OSO	10.9	3.1	69	5.4
7/21	18:00	10.7	11.0	10.4	1020.0	8.0	19.3	O	9.5	3.7	68	5.1
7/21	19:00	10.8	10.9	10.4	1020.8	9.7	30.6	O	8.7	4.0	71	5.7
7/21	20:00	9.8	10.2	9.5	1021.7	9.7	29.0	OSO	7.7	4.8	67	3.9
7/21	21:00	9.1	9.3	8.6	1022.5	11.3	27.4	O	5.9	5.0	79	5.6
7/21	22:00	8.2	8.5	7.1	1023.5	12.9	30.6	SSO	4.1	5.8	86	5.9
7/21	23:00	6.7	6.7	6.6	1024.5	16.1	35.4	SSE	0.4	7.2	82	3.8
7/22	0:00	7.1	7.4	6.8	1025.3	11.3	27.4	SSE	3.8	5.1	74	2.8
7/22	1:00	7.1	7.4	6.7	1025.8	11.3	32.2	S	3.7	5.5	66	1.2
7/22	2:00	7.4	7.6	7.3	1026.5	9.7	25.7	O	5.1	4.3	65	1.3
7/22	3:00	7.1	7.2	6.9	1026.8	9.7	19.3	O	4.7	4.0	68	1.6
7/22	4:00	6.9	7.0	6.8	1027.0	9.7	19.3	O	4.5	3.9	69	1.6
7/22	5:00	6.4	6.8	6.2	1026.8	9.7	24.1	O	3.9	4.2	71	1.5
7/22	6:00	5.9	5.9	5.8	1026.9	9.7	22.5	ONO	3.4	3.9	77	2.2
7/22	7:00	5.9	6.2	5.7	1027.4	8.0	19.3	O	4.4	4.0	73	1.4
7/22	8:00	5.7	5.9	5.6	1027.9	8.0	22.5	O	4.2	3.9	74	1.4
7/22	9:00	6.1	6.5	5.9	1028.4	8.0	20.9	O	4.7	3.9	70	1.1
7/22	10:00	7.1	7.3	6.9	1029.1	9.7	24.1	OSO	4.7	4.0	66	1.2
7/22	11:00	8.3	8.7	7.8	1029.6	8.0	22.5	OSO	7.0	3.7	60	1.1
7/22	12:00	9.3	10.1	7.9	1029.2	6.4	20.9	O	9.3	3.2	59	1.7
7/22	13:00	9.4	9.8	8.7	1028.5	6.4	24.1	O	9.4	3.1	54	0.6
7/22	14:00	9.7	10.7	8.7	1028.0	4.8	14.5	O	9.7	2.6	49	-0.5
7/22	15:00	10.6	11.3	9.6	1027.5	6.4	22.5	OSO	10.6	3.2	48	0.1
7/22	16:00	9.9	11.2	8.8	1027.7	6.4	14.5	SSE	9.9	2.7	50	-0.1
7/22	17:00	8.8	9.9	8.4	1028.1	8.0	16.1	E	7.4	3.9	56	0.5
7/22	18:00	8.5	8.6	8.4	1028.4	11.3	16.1	N	5.3	5.0	58	0.7
7/22	19:00	8.7	9.1	8.4	1028.3	8.0	16.1	SSE	7.3	3.4	55	0.1
7/22	20:00	8.1	8.2	8.0	1028.8	11.3	20.9	SSE	4.9	5.3	60	0.8
7/22	21:00	7.8	7.9	7.8	1029.1	9.7	19.3	SSE	5.5	4.5	62	1.0
7/22	22:00	7.4	7.7	7.3	1029.0	11.3	19.3	SSE	4.2	5.0	65	1.3
7/22	23:00	7.3	7.4	7.2	1029.1	9.7	17.7	SSE	5.0	4.8	68	1.8

S5-A14 Central Termica Costanera Operation Data (Winter)

Mwh

	SMC_U1	SMC_U2	SMC_U3	SMC_U4	SMC_U6	SMC_U7
7/13	0	0	0	0	1793	0
7/14	0	0	0	0	0	0
7/15	0	0	0	0	0	0
7/16	0	0	0	0	0	0
7/17	0	0	0	0	0	0
7/18	0	0	0	0	0	0
7/19	0	0	0	0	0	0
7/20	0	0	0	0	0	0
7/21	0	0	0	0	0	0
7/22	0	0	0	0	6.45	0

	SMC_U8	SMC_U9	SMC_U10	SMC_BATV	SMC_BATG
7/13	354	0	1921	0	0
7/14	339	0	1836	0	0
7/15	376	0	2116	0	0
7/16	337	0	1887	0	0
7/17	343	0	1897	0	0
7/18	202	1887	2031	0	0
7/19	0	3563	1914	0	0
7/20	0	3653	1990	0	0
7/21	0	3611	1933	0	0
7/22	0	3752	1986	0	0

S5-A15 Central Termica Costanera Emission Data (Winter)

C. C. S. A CHIMENEA1 CAMMESA #1

dia	NOX(mg/Nm3)			SO2(mg/Nm3)			O2(%)			GAS	FUEL	OPACIDAD(%)		
	MIN	RROM	MAX	MIN	PROM	MAX	MIN	PROM	MAX	(mg/dia)	tn/dia	MIN	PROM	MAX
7/13	0	0	0	0	0	0	20.7	20.76	20.8	857	0	0	0	0
7/14	0	0	0	0	0	0	20.7	20.81	20.9	68	0	0	0	0
7/15	0	0	0	0	0	0	20.7	20.8	20.9	25	0	0	0	0
7/16	0	0	1	0	0	0	20.7	20.8	21.1	0	0	0	0	0
7/17	0	0	0	0	0	0	20.6	20.85	21.6	4	0	0	0	0
7/18	0	0	3	0	0	0	20.7	20.85	21	0	0	0	0	0
7/19	0	0	0	0	0	0	20.7	20.89	21.2	18	0	0	0	0
7/20	0	0	0	0	0	0	20.9	20.93	21	348	0	0	0	0
7/21	0	0	0	0	0	0	20.9	20.92	21.1	3263	0	0	0	0
7/22	0	0	0	0	0	0	19.9	20.79	21.7	4914	0	0	0.6	12

C. C. S. A CHIMENEA2 CAMMESA #2

dia	NOX(mg/Nm3)			SO2(mg/Nm3)			O2(%)			GAS	FUEL	OPACIDAD(%)		
	MIN	RROM	MAX	MIN	PROM	MAX	MIN	PROM	MAX	(mg/dia)	tn/dia	MIN	PROM	MAX
7/13	0	3	8	0	0	0	20.6	20.77	20.9	0	1.71	0	0	0
7/14	2	5	10	0	0	0	20.5	20.74	21	0	1.03	0	0	0
7/15	0	3	14	0	0	0	20.5	20.73	21	0	0.4	0	0	0
7/16	0	2	9	0	0	0	20.5	20.76	21	0	0	0	0	0
7/17	0	2	11	0	0	0	20.2	20.74	21.6	0	0.15	0	0.01	2
7/18	0	4	15	0	0	0	20.5	20.84	21.1	0	0.26	0	0	0
7/19	0	3	11	0	0	1	20.5	20.86	21.6	0	1.3	0	0	0
7/20	0	4	11	0	0	0	20.8	20.91	21	0	2.19	0	0	0
7/21	0	0	3	0	0	0	20.8	20.94	21.1	0	0.98	0	0	0
7/22	0	2	12	0	0	0	19.5	20.56	21	11523	1.72	0	0.42	12

C. C. S. A CHIMENEA4 CAMMESA #3

dia	NOX(mg/Nm3)			SO2(mg/Nm3)			O2(%)			GAS	FUEL	OPACIDAD(%)		
	MIN	RROM	MAX	MIN	PROM	MAX	MIN	PROM	MAX	(mg/dia)	tn/dia	MIN	PROM	MAX
7/13	0	147	323	0	0	0	11	16.22	21.2	5E+05	68.53	0	0	0
7/14	0	1	13	0	0	0	20.9	21.08	21.2	0	0	0	0	0
7/15	0	0	6	0	0	0	20.8	20.96	21.2	0	0	0	0	0
7/16	0	1	9	0	0	0	20.7	20.97	21.2	0	0	0	0	0
7/17	0	1	13	0	0	0	20.3	20.81	21.2	0	0	0	0	0
7/18	0	0	8	0	0	1	20.6	20.87	21.2	0	0	0	0	0
7/19	0	0	1	0	0	2	20.7	20.88	21.1	0	0	0	0	0
7/20	0	0	1	0	0	2	20.8	20.97	21.2	0	0	0	0.02	2
7/21	0	0	7	0	0	1	20.6	20.9	21	0	0	0	0	0
7/22	0	8	20	0	0	2	18.7	20.55	21.2	2366	0	0	0.44	6

C. C. S. A CHIMENEA4 CAMMESA4

dia	NOX(mg/Nm3)			SO2(mg/Nm3)			O2(%)			GAS	FUEL	OPACIDAD(%)		
	MIN	RROM	MAX	MIN	PROM	MAX	MIN	PROM	MAX	(mg/dia)	tn/dia	MIN	PROM	MAX
7/13	1	3	6	0	0	0	20.8	20.8	20.8	0	0	0	0.18	1
7/14	0	2	6	0	0	0	20.8	20.8	20.8	0	0.11	0	0.02	1
7/15	0	2	10	0	0	0	20.8	20.8	20.8	0	0.38	0	0.07	7
7/16	1	3	7	0	0	0	20.8	20.8	20.8	0	0.06	0	0.09	1
7/17	1	3	8	0	0	0	20.8	20.8	20.8	0	0	0	0	0
7/18	0	2	7	0	0	1	20.8	20.8	20.8	0	0	0	0	0
7/19	1	1	3	0	0	2	20.8	20.8	20.8	0	0	0 –		0
7/20	0	1	4	0	0	2	20.7	20.75	20.8	0	0	0	0	2
7/21	0	1	4	0	0	1	20.7	20.7	20.7	0	0	0	0	0
7/22	0	1	2	0	0	2	20.7	20.7	20.7	0	0	0	0	0

S5-A16 Central Termica Costanera Meteorological Data (Winter)

Día -Hora	Temp.. Ext	Temp. Int	Humedad Ex	Humedad Int	Vel. Vient	Dir. Vient	Sens. Termica	Presión	Dew Point
2001/7/13 1:00	10.2	17.9	79.0	49.0	9.7	3	8.1	1024.6	6.7
2001/7/13 2:00	10.1	17.8	80.0	50.0	9.7	3	7.9	1024.2	6.8
2001/7/13 3:00	10.2	17.3	78.0	53.0	9.7	3	8.1	1023.9	6.5
2001/7/13 4:00	10.2	17.3	77.0	52.0	8.0	4	9.0	1023.8	6.4
2001/7/13 5:00	10.2	17.3	79.0	51.0	4.8	3	10.2	1023.7	6.7
2001/7/13 6:00	9.9	17.2	77.0	51.0	6.4	2	9.9	1023.9	6.1
2001/7/13 7:00	9.8	17.2	77.0	51.0	4.8	1	9.8	1024.0	5.9
2001/7/13 8:00	9.8	17.1	77.0	50.0	6.4	2	9.8	1024.3	5.9
2001/7/13 9:00	9.8	17.1	77.0	50.0	6.4	3	9.8	1024.5	5.9
2001/7/13 10:00	9.9	17.0	77.0	50.0	6.4	0	9.9	1024.8	6.1
2001/7/13 11:00	10.2	17.0	76.0	49.0	6.4	3	10.2	1024.4	6.2
2001/7/13 12:00	10.7	17.1	75.0	49.0	6.4	0	10.7	1023.6	6.5
2001/7/13 13:00	11.6	17.1	72.0	50.0	4.8	0	11.5	1022.4	6.6
2001/7/13 14:00	13.3	17.3	65.0	50.0	6.4	0	13.2	1020.4	6.8
2001/7/13 15:00	13.8	17.7	64.0	49.0	4.8	0	13.8	1019.0	7.1
2001/7/13 16:00	13.7	17.9	72.0	50.0	1.6	1	13.7	1018.0	8.7
2001/7/13 17:00	13.1	18.2	76.0	51.0	3.2	1	13.1	1017.5	8.9
2001/7/13 18:00	12.8	18.4	82.0	51.0	1.6	1	12.7	1017.7	9.7
2001/7/13 19:00	12.3	18.5	86.0	52.0	3.2	1	12.3	1017.3	10.0
2001/7/13 20:00	12.3	18.6	85.0	52.0	4.8	3	12.3	1017.1	9.8
2001/7/13 21:00	12.3	18.6	84.0	52.0	4.8	3	12.2	1017.5	9.6
2001/7/13 22:00	12.1	18.7	84.0	52.0	6.4	3	12.1	1017.1	9.4
2001/7/13 23:00	11.9	18.7	82.0	52.0	4.8	3	11.9	1016.9	8.9
2001/7/14 0:00	11.9	18.7	83.0	52.0	6.4	0	11.9	1016.5	9.2
2001/7/14 1:00	12.1	18.7	82.0	52.0	9.7	1	10.1	1016.6	9.0
2001/7/14 2:00	11.9	18.8	83.0	52.0	11.3	1	9.2	1016.6	9.2
2001/7/14 3:00	12.0	18.8	82.0	52.0	14.5	1	7.7	1017.1	9.0
2001/7/14 4:00	11.9	18.9	79.0	52.0	9.7	1	10.0	1016.9	8.4
2001/7/14 5:00	11.6	18.9	82.0	52.0	4.8	1	11.6	1016.1	8.6
2001/7/14 6:00	11.3	18.9	82.0	51.0	6.4	0	11.2	1016.0	8.3
2001/7/14 7:00	11.1	18.9	80.0	52.0	3.2	0	11.1	1016.6	7.7
2001/7/14 8:00	11.2	18.8	77.0	50.0	1.6	15	11.2	1016.9	7.3
2001/7/14 9:00	11.3	18.9	75.0	52.0	1.6	14	11.2	1017.5	6.9
2001/7/14 10:00	11.8	19.1	70.0	53.0	4.8	12	11.7	1018.0	6.4
2001/7/14 11:00	12.1	19.2	67.0	53.0	6.4	11	12.1	1018.5	6.1
2001/7/14 12:00	13.2	19.2	62.0	53.0	8.0	10	12.1	1018.3	6.1
2001/7/14 13:00	13.6	19.3	63.0	52.0	4.8	9	13.6	1018.0	6.7
2001/7/14 14:00	14.2	19.4	62.0	52.0	4.8	9	14.2	1018.0	7.0
2001/7/14 15:00	14.8	19.6	59.0	53.0	3.2	9	14.8	1017.7	6.8
2001/7/14 16:00	15.3	19.8	55.0	54.0	3.2	10	15.3	1017.5	6.3
2001/7/14 17:00	15.1	19.9	53.0	54.0	1.6	11	15.0	1017.5	5.5
2001/7/14 18:00	14.8	19.9	78.0	55.0	1.6	11	14.7	1017.4	10.9
2001/7/14 19:00	13.8	19.7	84.0	55.0	0.0		13.7	1018.2	11.1
2001/7/14 20:00	13.3	19.4	67.0	55.0	0.0	8	13.3	1018.5	7.3
2001/7/14 21:00	13.1	19.3	70.0	54.0	0.0		13.1	1017.9	7.7
2001/7/14 22:00	12.5	19.2	76.0	54.0	0.0	8	12.5	1017.3	8.4
2001/7/14 23:00	12.4	19.1	81.0	54.0	0.0		12.4	1017.5	9.3
2001/7/15 0:00	12.4	19.0	76.0	54.0	0.0		12.4	1017.8	8.3
2001/7/15 1:00	12.2	18.9	79.0	54.0	0.0		12.2	1017.4	8.6
2001/7/15 2:00	11.8	18.8	86.0	54.0	3.2	1	11.8	1015.8	9.5
2001/7/15 3:00	11.7	18.7	88.0	55.0	6.4	2	11.7	1015.7	9.7
2001/7/15 4:00	11.7	18.7	86.0	55.0	6.4	1	11.7	1015.3	9.4
2001/7/15 5:00	11.6	18.6	87.0	55.0	6.4	2	11.5	1014.8	9.4
2001/7/15 6:00	11.4	18.5	87.0	55.0	4.8	1	11.4	1014.0	9.3
2001/7/15 7:00	11.4	18.4	92.0	55.0	6.4	1	11.4	1013.9	10.1
2001/7/15 8:00	11.3	18.3	89.0	55.0	11.3	1	8.4	1014.4	9.5
2001/7/15 9:00	11.1	18.3	89.0	55.0	8.0	1	9.8	1014.6	9.3
2001/7/15 10:00	11.3	18.3	86.0	55.0	8.0	1	10.1	1014.7	9.0
2001/7/15 11:00	12.3	18.4	81.0	55.0	8.0	0	11.2	1014.3	9.1
2001/7/15 12:00	13.3	18.5	81.0	55.0	8.0	0	12.2	1013.3	10.1
2001/7/15 13:00	14.0	18.6	76.0	55.0	9.7	0	12.3	1012.0	9.8
2001/7/15 14:00	15.2	18.6	75.0	55.0	4.8	1	15.2	1010.5	10.8
2001/7/15 15:00	15.8	18.7	79.0	55.0	3.2	1	15.8	1009.6	12.2
2001/7/15 16:00	15.8	18.8	83.0	55.0	6.4	0	15.7	1009.2	12.8
2001/7/15 17:00	15.3	18.9	87.0	55.0	4.8	1	15.2	1009.3	13.1
2001/7/15 18:00	14.7	18.9	88.0	56.0	4.8	1	14.7	1009.3	12.8
2001/7/15 19:00	14.3	18.9	89.0	57.0	4.8	1	14.3	1009.1	12.5
2001/7/15 20:00	14.3	18.9	90.0	57.0	3.2	1	14.2	1009.0	12.6
2001/7/15 21:00	14.0	18.9	92.0	58.0	1.6	1	14.0	1008.4	12.7
2001/7/15 22:00	13.9	19.0	94.0	58.0	4.8	1	13.9	1007.8	13.0
2001/7/15 23:00	14.0	19.0	94.0	58.0	6.4	0	14.0	1008.5	13.1
2001/7/16 0:00	14.1	19.0	93.0	58.0	3.2	0	14.0	1008.4	12.9
2001/7/16 1:00	14.0	19.1	95.0	59.0	6.4	1	14.0	1008.2	13.2
2001/7/16 2:00	14.1	18.9	94.0	68.0	4.8	0	14.1	1007.8	13.1
2001/7/16 3:00	14.3	18.9	93.0	65.0	6.4	1	14.3	1007.6	13.2
2001/7/16 4:00	14.4	19.0	94.0	63.0	4.8	1	14.4	1007.1	13.4
2001/7/16 5:00	14.6	19.0	94.0	62.0	8.0	1	13.5	1006.4	13.6
2001/7/16 6:00	14.3	19.0	95.0	61.0	8.0	1	13.3	1006.1	13.5
2001/7/16 7:00	14.3	19.0	94.0	61.0	6.4	1	14.2	1006.9	13.3
2001/7/16 8:00	14.3	19.1	95.0	61.0	4.8	1	14.3	1007.7	13.5
2001/7/16 9:00	14.6	19.1	95.0	63.0	4.8	1	14.6	1008.0	13.8
2001/7/16 10:00	14.9	19.3	94.0	62.0	4.8	1	14.9	1008.7	14.0
2001/7/16 11:00	15.6	19.6	95.0	65.0	3.2	0	15.5	1009.5	14.7
2001/7/16 12:00	16.1	19.5	93.0	68.0	1.6	0	16.1	1009.7	14.9
2001/7/16 13:00	17.2	19.8	83.0	67.0	3.2	0	17.1	1009.4	14.2
2001/7/16 14:00	18.3	20.3	81.0	66.0	6.4	9	18.3	1008.2	15.0
2001/7/16 15:00	18.8	20.6	81.0	65.0	4.8	8	18.8	1008.3	15.4
2001/7/16 16:00	17.7	20.6	87.0	63.0	4.8	3	17.7	1008.3	15.5
2001/7/16 17:00	16.7	20.6	89.0	64.0	1.6	1	16.6	1008.6	14.8
2001/7/16 18:00	16.3	20.1	92.0	65.0	1.6	1	16.3	1008.7	15.0
2001/7/16 19:00	16.1	20.2	92.0	65.0	1.6	1	16.1	1009.1	14.8
2001/7/16 20:00	15.8	20.4	91.0	63.0	1.6	12	15.7	1009.4	14.3
2001/7/16 21:00	15.3	20.7	92.0	62.0	3.2	8	15.2	1009.3	13.9
2001/7/16 22:00	14.8	20.7	91.0	62.0	1.6	8	14.8	1009.2	13.3
2001/7/16 23:00	14.4	20.6	90.0	61.0	4.8	7	14.4	1009.4	12.8
2001/7/17 0:00	14.2	20.6	91.0	61.0	3.2	9	14.2	1009.5	12.8
2001/7/17 1:00	13.9	20.6	92.0	60.0	4.8	8	13.9	1009.1	12.6
2001/7/17 2:00	13.6	20.2	93.0	65.0	4.8	7	13.6	1008.7	12.4
2001/7/17 3:00	13.4	20.1	94.0	63.0	4.8	7	13.4	1008.1	12.5
2001/7/17 4:00	13.4	20.1	94.0	63.0	4.8	7	13.4	1006.7	12.4
2001/7/17 5:00	13.4	20.0	95.0	62.0	3.2	7	13.4	1005.5	12.7
2001/7/17 6:00	13.4	20.0	100.0	62.0	4.8	8	13.4	1005.0	13.4
2001/7/17 7:00	13.6	20.1	100.0	62.0	4.8	7	13.5	1003.9	13.5
2001/7/17 8:00	13.4	19.7	100.0	64.0	3.2	7	13.4	1004.6	13.4
2001/7/17 9:00	13.6	19.7	100.0	63.0	3.2	2	13.6	1003.7	13.6
2001/7/17 10:00	13.9	20.1	100.0	62.0	3.2	7	13.9	1003.1	13.9
2001/7/17 11:00	14.2	20.3	100.0	63.0	3.2	8	14.2	1002.1	14.2
2001/7/17 12:00	14.9	20.6	100.0	63.0	6.4	3	14.9	1001.1	14.9
2001/7/17 13:00	15.9	20.8	100.0	63.0	3.2	3	15.9	1000.2	15.9
2001/7/17 14:00	16.6	21.0	100.0	62.0	1.6	3	16.6	999.4	16.6
2001/7/17 15:00	17.7	21.2	100.0	64.0	3.2	8	17.6	997.7	17.6
2001/7/17 16:00	17.4	20.9	99.0	71.0	3.2	7	17.4	997.6	17.3
2001/7/17 17:00	17.2	20.7	99.0	71.0	1.6	7	17.1	998.0	16.9
2001/7/17 18:00	16.4	20.2	98.0	69.0	1.6	8	16.4	998.1	16.1
2001/7/17 19:00	16.0	19.8	97.0	70.0	1.6	8	16.0	998.9	15.5
2001/7/17 20:00	16.0	19.8	99.0	68.0	1.6	7	16.0	999.3	15.8
2001/7/17 21:00	16.1	20.4	98.0	67.0	0.0	7	16.1	999.9	15.7
2001/7/17 22:00	16.3	20.6	98.0	66.0	0.0	7	16.3	999.9	16.0
2001/7/17 23:00	16.4	20.7	100.0	66.0	0.0	7	16.4	1000.2	16.4
2001/7/18 0:00	16.7	20.8	100.0	66.0	4.8	11	16.6	1001.5	16.6

Día -Hora	Temp.. Ext	Temp. Int	Humedad Ex	Humedad Int	Vel. Vient	Dir. Vient	Sens. Termica	Presión	Dew Point
2001/7/18 1:00	15.7	20.8	99.0	66.0	9.7	11	14.1	1002.2	15.5
2001/7/18 2:00	15.3	20.6	97.0	70.0	9.7	11	13.7	1003.4	14.8
2001/7/18 3:00	14.8	20.6	96.0	67.0	12.9	10	11.8	1003.9	14.2
2001/7/18 4:00	14.4	20.4	97.0	66.0	12.9	10	11.4	1004.7	14.0
2001/7/18 5:00	14.2	20.4	96.0	65.0	12.9	10	11.1	1004.5	13.6
2001/7/18 6:00	14.3	20.3	95.0	64.0	9.7	9	12.5	1005.1	13.4
2001/7/18 7:00	14.1	20.3	95.0	64.0	6.4	9	14.0	1006.2	13.2
2001/7/18 8:00	13.9	20.3	94.0	64.0	3.2	8	13.9	1007.3	12.9
2001/7/18 9:00	13.8	20.2	94.0	62.0	4.8	8	13.7	1008.8	12.8
2001/7/18 10:00	13.8	20.8	90.0	61.0	6.4	9	13.8	1009.2	12.2
2001/7/18 11:00	14.8	20.7	89.0	60.0	4.8	9	14.7	1009.1	12.9
2001/7/18 12:00	15.4	20.6	84.0	59.0	3.2	10	15.4	1008.9	12.7
2001/7/18 13:00	16.7	21.1	81.0	60.0	3.2	7	16.7	1008.3	13.4
2001/7/18 14:00	17.7	21.3	78.0	60.0	1.6	3	17.7	1007.5	13.8
2001/7/18 15:00	17.4	21.3	82.0	60.0	1.6	5	17.4	1007.5	14.3
2001/7/18 16:00	16.7	20.9	88.0	60.0	1.6	0	16.6	1008.1	14.6
2001/7/18 17:00	15.7	20.7	90.0	60.0	3.2	0	15.7	1008.0	14.1
2001/7/18 18:00	14.7	20.9	94.0	61.0	1.6	0	14.7	1008.6	13.7
2001/7/18 19:00	14.4	21.0	92.0	61.0	1.6	1	14.4	1009.2	13.1
2001/7/18 20:00	14.2	20.8	93.0	62.0	1.6	2	14.2	1010.0	13.1
2001/7/18 21:00	14.0	20.6	91.0	62.0	1.6	0	14.0	1010.6	12.6
2001/7/18 22:00	14.2	20.6	88.0	62.0	0.0	0	14.2	1010.9	12.3
2001/7/18 23:00	14.2	20.4	90.0	62.0	0.0	2	14.2	1010.8	12.6
2001/7/19 0:00	14.3	20.4	90.0	62.0	1.6	2	14.2	1010.5	12.6
2001/7/19 1:00	14.1	20.4	94.0	62.0	3.2	3	14.0	1010.5	13.1
2001/7/19 2:00	13.9	19.9	93.0	68.0	1.6	3	13.9	1009.9	12.8
2001/7/19 3:00	13.8	20.0	94.0	65.0	3.2	12	13.8	1009.0	12.8
2001/7/19 4:00	13.7	19.9	95.0	65.0	1.6	9	13.7	1008.5	12.9
2001/7/19 5:00	13.4	19.9	94.0	64.0	3.2	9	13.4	1007.3	12.5
2001/7/19 6:00	13.3	19.8	96.0	63.0	4.8	13	13.2	1006.5	12.6
2001/7/19 7:00	13.2	19.8	95.0	63.0	4.8	13	13.2	1005.7	12.4
2001/7/19 8:00	13.2	19.9	95.0	63.0	6.4	4	13.2	1006.3	12.4
2001/7/19 9:00	13.4	20.1	92.0	62.0	4.8	14	13.4	1005.5	12.2
2001/7/19 10:00	13.6	20.2	90.0	60.0	4.8	12	13.5	1004.0	11.9
2001/7/19 11:00	13.4	20.3	99.0	62.0	6.4	14	13.4	1004.2	13.3
2001/7/19 12:00	13.2	20.4	99.0	62.0	4.8	4	13.2	1002.6	13.1
2001/7/19 13:00	13.8	20.4	100.0	63.0	4.8	3	13.7	1000.1	13.7
2001/7/19 14:00	14.1	20.5	100.0	63.0	6.4	0	14.1	999.9	14.1
2001/7/19 15:00	13.2	20.4	100.0	63.0	6.4	9	13.2	998.8	13.2
2001/7/19 16:00	13.2	20.4	100.0	63.0	6.4	9	13.2	999.2	13.2
2001/7/19 17:00	12.9	20.4	100.0	64.0	6.4	7	12.9	998.9	12.9
2001/7/19 18:00	13.2	20.4	100.0	64.0	4.8	8	13.2	1000.1	13.2
2001/7/19 19:00	13.2	20.2	100.0	64.0	3.2	8	13.2	999.5	13.2
2001/7/19 20:00	13.3	20.1	100.0	64.0	1.6	8	13.2	999.8	13.2
2001/7/19 21:00	13.3	19.9	100.0	63.0	3.2	10	13.2	1000.6	13.2
2001/7/19 22:00	13.2	19.8	100.0	63.0	4.8	10	13.2	1000.4	13.2
2001/7/19 23:00	13.2	19.8	100.0	63.0	4.8	10	13.2	1002.0	13.2
2001/7/20 0:00	12.8	19.6	100.0	63.0	12.9	10	9.3	1001.7	12.7
2001/7/20 1:00	12.6	19.4	100.0	63.0	11.3	10	9.8	1002.0	12.5
2001/7/20 2:00	12.3	19.4	99.0	62.0	11.3	10	9.6	1002.1	12.1
2001/7/20 3:00	11.9	19.3	97.0	61.0	11.3	10	9.2	1002.5	11.5
2001/7/20 4:00	11.8	19.2	96.0	61.0	11.3	10	9.1	1003.1	11.2
2001/7/20 5:00	11.7	19.1	94.0	61.0	9.7	10	9.8	1003.9	10.8
2001/7/20 6:00	11.5	19.1	94.0	60.0	11.3	10	8.7	1004.3	10.6
2001/7/20 7:00	11.4	18.9	93.0	60.0	8.0	10	10.3	1005.6	10.3
2001/7/20 8:00	11.4	18.9	93.0	58.0	8.0	10	10.2	1006.4	10.3
2001/7/20 9:00	11.1	18.5	92.0	56.0	6.4	10	11.1	1007.3	9.8
2001/7/20 10:00	11.3	17.9	87.0	59.0	8.0	10	10.1	1008.0	9.2
2001/7/20 11:00	12.4	18.8	83.0	58.0	9.7	10	10.5	1008.4	9.6
2001/7/20 12:00	13.1	19.1	83.0	57.0	11.3	10	10.4	1008.8	10.2
2001/7/20 13:00	13.8	19.2	81.0	57.0	12.9	10	10.6	1008.6	10.6
2001/7/20 14:00	14.3	19.3	75.0	57.0	11.3	10	11.9	1008.2	9.9
2001/7/20 15:00	14.9	19.4	77.0	56.0	9.7	10	13.2	1008.6	10.9
2001/7/20 16:00	14.2	19.6	78.0	56.0	11.3	10	11.8	1008.9	10.4
2001/7/20 17:00	13.5	19.7	78.0	57.0	9.7	10	11.7	1009.6	9.7
2001/7/20 18:00	13.2	19.6	81.0	56.0	6.4	10	13.2	1009.9	10.1
2001/7/20 19:00	12.8	19.5	84.0	57.0	6.4	10	12.8	1011.0	10.2
2001/7/20 20:00	12.5	19.4	85.0	57.0	6.4	10	12.5	1011.3	10.1
2001/7/20 21:00	12.4	19.4	86.0	57.0	6.4	10	12.4	1012.0	10.2
2001/7/20 22:00	12.2	19.3	87.0	57.0	6.4	9	12.2	1012.4	10.1
2001/7/20 23:00	11.9	19.1	83.0	58.0	6.4	9	11.9	1012.7	9.2
2001/7/21 0:00	11.7	19.0	83.0	57.0	6.4	9	11.7	1013.0	8.9
2001/7/21 1:00	11.3	18.9	85.0	57.0	8.0	9	10.1	1013.3	8.8
2001/7/21 2:00	10.7	18.7	88.0	57.0	6.4	9	10.7	1013.2	8.8
2001/7/21 3:00	10.2	18.6	86.0	57.0	8.0	10	9.0	1013.3	8.0
2001/7/21 4:00	9.9	18.5	86.0	57.0	8.0	10	8.6	1014.1	7.7
2001/7/21 5:00	9.7	18.4	86.0	57.0	6.4	10	9.7	1014.6	7.4
2001/7/21 6:00	9.4	18.3	84.0	57.0	4.8	10	9.4	1015.4	6.9
2001/7/21 7:00	9.3	18.2	84.0	57.0	3.2	10	9.2	1016.3	6.7
2001/7/21 8:00	8.9	18.2	85.0	56.0	4.8	9	8.9	1016.9	6.5
2001/7/21 9:00	8.7	18.0	87.0	55.0	6.4	9	8.7	1017.8	6.6
2001/7/21 10:00	8.4	17.9	88.0	55.0	8.0	9	7.1	1018.7	6.6
2001/7/21 11:00	8.7	17.7	87.0	54.0	6.4	9	8.7	1019.3	6.7
2001/7/21 12:00	9.1	17.7	86.0	54.0	6.4	9	9.0	1019.2	6.8
2001/7/21 13:00	9.4	17.7	85.0	55.0	4.8	9	9.4	1019.0	7.0
2001/7/21 14:00	9.5	17.7	85.0	55.0	6.4	10	9.5	1019.1	7.1
2001/7/21 15:00	9.8	17.7	84.0	55.0	6.4	9	9.7	1018.9	7.2
2001/7/21 16:00	10.1	17.7	81.0	55.0	4.8	9	10.0	1019.2	6.9
2001/7/21 17:00	10.4	17.7	80.0	54.0	6.4	8	10.4	1020.1	7.2
2001/7/21 18:00	10.4	17.7	78.0	54.0	6.4	9	10.4	1020.7	6.7
2001/7/21 19:00	10.3	17.7	80.0	54.0	6.4	9	10.2	1021.5	6.9
2001/7/21 20:00	9.8	17.7	78.0	54.0	8.0	9	8.5	1022.5	6.1
2001/7/21 21:00	9.4	17.6	87.0	54.0	8.0	10	8.2	1023.2	7.4
2001/7/21 22:00	8.9	17.6	92.0	54.0	8.0	9	7.6	1024.3	7.7
2001/7/21 23:00	8.6	17.5	83.0	54.0	4.8	8	8.6	1025.3	5.8
2001/7/22 0:00	8.4	17.4	78.0	53.0	4.8	9	8.4	1026.0	4.8
2001/7/22 1:00	8.3	17.4	74.0	53.0	4.8	9	8.2	1026.6	3.9
2001/7/22 2:00	7.9	17.3	76.0	53.0	4.8	8	7.8	1027.0	3.9
2001/7/22 3:00	7.5	17.2	79.0	53.0	4.8	9	7.5	1027.5	4.1
2001/7/22 4:00	7.3	17.2	80.0	53.0	4.8	10	7.2	1027.7	4.0
2001/7/22 5:00	7.0	17.1	81.0	53.0	4.8	10	7.0	1027.7	3.9
2001/7/22 6:00	6.7	17.0	83.0	53.0	4.8	10	6.6	1027.8	3.9
2001/7/22 7:00	6.3	16.8	84.0	53.0	4.8	10	6.3	1028.2	3.8
2001/7/22 8:00	6.1	16.7	84.0	53.0	6.4	10	6.0	1028.8	3.5
2001/7/22 9:00	5.8	16.6	84.0	52.0	4.8	10	5.8	1029.3	3.3
2001/7/22 10:00	6.2	16.5	78.0	52.0	4.8	9	6.1	1030.0	2.6
2001/7/22 11:00	7.7	16.4	71.0	52.0	4.8	9	7.6	1030.3	2.7
2001/7/22 12:00	8.8	16.4	67.0	52.0	4.8	9	8.7	1030.0	2.9
2001/7/22 13:00	9.7	16.4	59.0	51.0	4.8	8	9.7	1029.1	2.1
2001/7/22 14:00	10.8	16.5	55.0	51.0	4.8	11	10.7	1028.7	2.1
2001/7/22 15:00	10.6	16.6	54.0	51.0	3.2	10	10.6	1028.2	1.7
2001/7/22 16:00	10.5	16.7	56.0	50.0	3.2	7	10.5	1028.5	2.1
2001/7/22 17:00	9.8	16.7	57.0	51.0	1.6	7	9.8	1028.7	1.7
2001/7/22 18:00	9.8	16.8	60.0	51.0	1.6	7	9.8	1029.2	2.4
2001/7/22 19:00	9.4	16.8	67.0	51.0	1.6	8	9.4	1029.1	3.6
2001/7/22 20:00	9.0	16.8	70.0	51.0	3.2	8	9.0	1029.6	3.8
2001/7/22 21:00	8.7	16.8	71.0	52.0	3.2	9	8.7	1029.6	3.8
2001/7/22 22:00	8.4	16.8	74.0	52.0	1.6	9	8.4	1029.6	4.1
2001/7/22 23:00	8.3	16.8	75.0	52.0	1.6	9	8.3	1029.8	4.1
2001/7/23 0:00	8.2	16.8	76.0	52.0	1.6	9	8.2	1030.1	4.2

Lujan de Cuyo Manual Monitoring Data (2001.2)

		No 1			No 2			No 3			No 4			No 5			No 6			No 7			No 8		
	hr	SO2	NOx	TSP	SO2	NOx	TSP	SO2	NOx	TSP	SO2	NOx	TSP	SO2	NOx	TSP	SO2	NOx	TSP	SO2	NOx	TSP	SO2	NOx	TSP
2/18	12	44	<4	92	<9	<4	215	23	ND	90	–	ND	139	213	<4	124	48	<4	208	23	<4	186	28	<4	97
	16	56	<4		<9	<4		19	<4		–	<4		23	<4		28	<4		24	<4		33	<4	
	20	43	<4		74	<4		66	<4		–	<4		61	17.72		26	<4		31	<4		37	<4	
2/19	0	61	<4		47	<4		45	<4		–	<4		41	<4		32	<4		–	<4		–	<4	
	4	46	<4		36	<4		32	<4		–	<4		44	<4		57	<4		41	<4		33	<4	
	8	34	<4		41	<4		32	<4		39	<4		62	<4		35	<4		36	<4		47	<4	
	12	102	<4	149	37	<4	275	52	<4	127	56	<4	–	44	<4	150	54	6	196	49	<4	159	39	<4	114
	16	57	<4		29	<4		38	4.34		34	<4		32	<4		37	<4		72	<4		34	<4	
	20	39	<4		36	<4		32	<4		27	<4		36	<4		34	<4		46	<4		35	<4	
2/20	0	29	4.58		26	4.07		26	5.61		26	8.19		28	8.19		22	7.16		–	ND		–	ND	
	4	29	<4		58	6.13		27	<4		36	<4		44	4.58		27	5.1		32	<4		31	<4	
	8	40	<4		32	<4		33	<4		42	<4		31	<4		37	<4		32	<4		31	<4	
	12	189	6.44	123	41	13.28	339	36	15.28	133	106	11.37	155	29	12.45	179	53	11.99	232	132	11.38	179	32	11.58	196
	16	87	ND		22	30.92		27	19.91		22	26.91		33	26.19		22	22.74		18	21.97		44	13.64	
	20	58	<4		52	4.27		45	<4		35	7.83		39	11.02		35	4.84		33	8.70		31	<4	
2/21	0	27	10.76		22	5.97		28	6.74		28	8.24		24	9.32		29	6.23		27	8.24		29	6.39	
	4	57	4.58		34	9.37		41	5.41		27	6.03		30	6.8		27	10.71		37	7.93		33	7.88	
	8	34	5.36		26	<4		26	4.23		25	<4		19	4.18		19	6.13		29	6.75		43	6.33	
	12	29	9.53	185	57	8.53	315	80	9.94	316	37	10.09	203	53	8.18	215	37	8.60	–	104	8.29	268	87	9.53	203
	16	225	<4		92	<4		53	<4		147	<4		91	<4		44	<4		136	<4		69	<4	
	20	86	<4		95	<4		61	<4		92	<4		57	<4		47	<4		34	<4		36	<4	
2/22	0	44	<4		45	<4		57	9.45		72	<4		37	<4		47	<4		76	<4		41	<4	
	4	37	<4		33	<4		40	<4		41	<4		57	<4		52	<4		41	<4		208	<4	
	8	62	<4		62	<4		36	<4		39	<4		37	<4		49	<4		67	<4		36	<4	
	12	139	<4	217	68	<4	443	46	<4	231	142	<4	216	72	<4	265	47	<4	–	44	<4	254	67	<4	240
	16	115	<4		41	10		47	12.1		50	<4		44	<4		42	<4		33	<4		42	<4	
	20	41	<4		55	<4		44	<4		44	<4		87	<4		48	<4		48	<4		35	<4	
2/23	0	233	<4		190	<4		295	<4		157	<4		375	<4		225	<4		46	<4		27	<4	
	4	34	<4		135	<4		41	<4		174	<4		64	<4		176	<4		99	<4		59	<4	
	8	46	<4		37	<4		47	<4		36	<4		42	<4		215	<4		214	<4		165	<4	
	12	39	<4	121	30	<4	179	61	<4	110	27	<4	117	48	<4	142	32	<4	–	41	<4	152	–	<4	141
	16	135	<4		44	5.46		36	4.44		39	4.44		67	<4		39	<4		31	<4		27	<4	
	20	248	4.95		77	<4		60	<4		154	8.51		152	5.7		157	5.05		79	6.22		97	<4	
2/24	0	40	<4		37	4.44		42	5.46		–	<4		40	<4		34	<4		27	<4		49	<4	
	4	127	<4		136	4.44		155	<4		124	5.46		174	4.95		77	4.95		111	7.49		48	<4	
	8	66	6.98		47	11.1		34	11.1		32	17.16		33	10.54		27	5.96		136	6.98		116	8.97	
	12	56	＜4	75	–	12.2	115	68	<4	70	52	<4	68	62	<4	84	49	<4	–	22	<4	99	82	5.86	95
	16	40	＜4		32	5		29	5.62		27	<4		27	<4		31	<4		37	<4		38	<4	
	20	157	＜4		44	<4		79	<4		90	7.05		48	4.42		41	4.42		216	7.05		43	8.56	
2/25	0	62	＜4		142	4.73		132	<4		56	<4		59	<4		37	5.36		29	<4		36	<4	
	4	197	6.94		94	4.73		119	6.41		177	11.71		97	6.1		170	5.52		122	5.36		87	12.71	
	8	79	5.52		117	4.94		56	5.84		33	9.25		31	6.05		48	7.62		107	12.34		466	14.55	

S5-A18 Lujan de Cuyo Automatic Data (Summer)

day hour	PM(Mg/m^3)	GSR(w/m^2)	SO_2(ppm)	NO(ppm)	NO_2(ppm)	NOx(ppm)	CO(ppm)	day hour	PM(Mg/m^3)	GSR(w/m^2)	SO_2(ppm)	NO(ppm)	NO_2(ppm)	NOx(ppm)	CO(ppm)
02/19/2001 16	0.000	980	0.034	0.099	-	-	0.952	02/23/2001 15	0.060	821	0.010	0.010	0.000	0.000	0.920
02/19/2001 17	0.000	0	0.023	0.028	-	0.026	0.935	02/23/2001 16	0.060	205	0.010	0.000	0.000	0.000	0.740
02/19/2001 18	-	0	0.016	0.119	-	-	0.790	02/23/2001 17	0.000	487	0.010	0.000	0.000	0.000	0.700
02/19/2001 19	-	0	0.015	0.099	-	-	0.559	02/23/2001 18	0.000	232	0.010	0.010	0.000	0.000	0.600
02/19/2001 20	-	0	0.013	0.085	-	-	0.476	02/23/2001 19	0.000	39	0.010	0.000	0.000	0.000	0.450
02/19/2001 21	-	0	0.013	0.010	-	0.009	0.329	02/23/2001 20	0.000	0	0.010	0.000	0.000	0.000	0.400
02/19/2001 22	-	319	0.013	0.005	0.001	0.006	0.270	02/23/2001 21	0.000	0	0.010	0.000	0.000	0.000	0.440
02/19/2001 23	-	0	0.014	0.006	-	0.005	0.199	02/23/2001 22	0.000	0	0.010	0.000	0.000	0.000	0.470
02/20/2001 00	-	0	0.014	0.015	-	0.013	0.429	02/23/2001 23	0.000	0	0.010	0.000	0.000	0.010	0.380
02/20/2001	-	0	0.015	0.004	0.000	0.005	0.188	02/24/2001 00	0.000	0	0.010	0.000	0.000	0.000	0.310
02/20/2001	-	0	0.016	0.003	0.002	0.006	0.161	02/24/2001 01	0.000	0	0.010	0.000	0.000	0.000	0.360
02/20/2001	-	0	0.016	0.011	0.003	0.014	0.251	02/24/2001 02	0.010	0	0.010	0.000	0.000	0.000	0.380
02/20/2001	-	10	0.017	0.004	0.003	0.007	0.123	02/24/2001 03	0.010	0	0.010	0.000	0.000	0.000	0.320
02/20/2001	-	255	0.018	0.001	0.001	0.002	0.061	02/24/2001 04	0.010	0	0.010	0.000	0.000	0.000	0.430
02/20/2001	-	417	0.018	0.003	0.001	0.004	0.273	02/24/2001 05	0.010	0	0.010	0.000	0.000	0.000	0.360
02/20/2001 07	-	0	0.018	0.004	-	0.004	0.233	02/24/2001 06	0.010	0	0.010	0.000	0.000	0.000	0.230
02/20/2001 08	-	-	-	-	-	-	-	02/24/2001 07	0.010	20	0.010	0.000	0.000	0.000	0.390
02/20/2001 09	-	-	-	-	-	-	-	02/24/2001 08	0.010	82	0.010	0.010	0.000	0.010	0.420
02/20/2001 10	-	2138	0.040	0.010	0.000	0.010	-	02/24/2001 09	0.010	345	0.020	0.010	0.000	0.010	0.580
02/21/2001	-	0	0.020	0.010	0.000	0.010	0.900	02/24/2001 10	0.010	577	0.020	0.010	0.000	0.010	0.950
02/21/2001	-	0	0.030	0.010	0.000	0.020	1.180	02/24/2001 11	0.010	466	0.010	0.010	0.000	0.010	0.830
02/21/2001 13	-	0	0.020	0.010	0.000	0.010	0.930	02/24/2001 12	0.010	856	0.010	0.010	0.000	0.010	0.880
02/21/2001 14	-	0	0.010	0.010	0.000	0.010	1.200	02/24/2001 13	0.010	997	0.010	0.010	0.000	0.000	0.890
02/21/2001 15	-	0	0.010	0.010	0.000	0.010	1.060	02/24/2001 14	0.010	415	0.010	0.010	0.000	0.010	0.920
02/21/2001 16	-	0	0.010	0.010	0.000	0.010	1.180	02/24/2001 15	0.010	812	0.010	0.010	0.000	0.010	0.990
02/21/2001 17	0.000	0	0.010	0.090	-	-	0.820	02/24/2001 16	0.020	675	0.010	0.010	0.000	0.010	0.930
02/21/2001 18	0.000	0	0.010	0.010	-	-	0.680	02/24/2001 17	0.000	442	0.010	0.010	0.000	0.000	0.770
02/21/2001 19	0.000	0	0.010	0.020	0.000	0.010	0.480	02/24/2001 18	0.000	246	0.010	0.010	0.000	0.010	0.570
02/21/2001 20	0.000	0	0.010	0.000	0.000	0.010	0.300	02/24/2001 19	0.000	28	0.010	0.010	0.000	0.010	0.470
02/21/2001 21	0.000	0	0.010	0.000	0.000	0.000	0.480	02/24/2001 20	0.000	0	0.010	0.000	0.000	0.000	0.300
02/21/2001 22	0.000	0	0.010	0.000	0.000	0.010	0.720	02/24/2001 21	0.000	0	0.010	0.000	0.000	0.010	0.360
02/21/2001 23	-	0	0.010	0.000	0.000	0.000	0.770	02/24/2001 22	0.000	0	0.010	0.000	0.000	0.000	0.310
02/22/2001 00	-	0	0.010	0.030	-	-	0.840	02/24/2001 23	0.000	0	0.010	0.000	0.000	0.000	0.270
02/22/2001	-	0	0.010	0.000	0.000	0.010	0.780	02/25/2001 00	0.000	0	0.010	0.000	0.000	0.000	0.260
02/22/2001	-	0	0.010	0.000	0.000	0.000	0.810	02/25/2001 01	0.000	0	0.010	0.000	0.000	0.000	0.260
02/22/2001	-	0	0.010	0.000	0.000	0.010	0.860	02/25/2001 02	0.000	0	0.010	0.000	0.000	0.000	0.310
02/22/2001	-	0	0.010	0.000	0.000	0.010	0.970	02/25/2001 03	0.000	0	0.010	0.000	0.000	0.000	0.350
02/22/2001	-	0	0.010	0.000	0.000	0.010	0.720	02/25/2001 04	0.000	0	0.010	0.000	0.000	0.000	0.430
02/22/2001	-	0	0.020	0.010	0.000	0.010	0.910	02/25/2001 05	0.000	0	0.010	0.000	0.000	0.000	0.410
02/22/2001	-	0	0.020	0.010	0.000	0.010	1.060	02/25/2001 06	0.010	0	0.010	0.000	0.000	0.000	0.330
02/22/2001	-	0	0.020	0.000	0.000	0.010	0.480	02/25/2001 07	0.010	11	0.010	0.000	0.000	0.000	0.570
02/22/2001	-	0	0.020	0.000	0.000	0.000	0.590	02/25/2001 08	0.010	240	0.010	0.010	0.000	0.000	0.410
02/22/2001	-	0	0.020	0.010	0.000	0.010	0.720	02/25/2001 09	0.010	397	0.020	0.010	0.000	0.010	1.310
02/22/2001	-	644	0.020	0.090	-	-	1.440	02/25/2001 10	0.010	598	0.020	0.010	0.000	0.010	0.760
02/22/2001	0.040	769	0.010	0.060	0.000	0.060	1.250	02/25/2001 11	0.010	765	0.010	0.010	0.000	0.010	0.830
02/22/2001 13	0.040	816	0.010	0.010	-	-	1.370	02/25/2001 12	0.010	880	0.010	0.010	0.000	0.010	0.870
02/22/2001 14	0.050	754	0.010	0.010	0.010	0.020	1.540	02/25/2001 13	0.010	442	0.010	0.010	0.000	0.010	0.930
02/22/2001 15	0.050	671	0.010	0.010	0.020	0.030	1.520	02/25/2001 14	0.010	216	0.010	0.010	0.000	0.010	0.770
02/22/2001 16	0.050	524	0.010	0.010	0.000	0.010	1.390	02/25/2001 15	0.010	372	0.010	0.010	0.000	0.010	0.740
02/22/2001 17	0.000	362	0.010	0.000	0.000	0.010	1.160	02/25/2001 16	0.010	127	0.010	0.000	0.000	0.000	0.630
02/22/2001 18	0.000	145	0.010	0.000	0.000	0.010	1.100	02/25/2001 17	0.000	16	0.010	0.010	0.000	0.000	0.760
02/22/2001 19	0.010	19	0.010	0.000	0.000	0.010	0.890	02/25/2001 18	0.000	37	0.010	0.000	0.000	0.000	0.400
02/22/2001 20	0.010	0	0.010	0.000	0.000	0.010	0.970	02/25/2001 19	0.000	47	0.010	0.000	0.000	0.010	0.400
02/22/2001 21	0.010	0	0.010	0.000	0.010	0.010	1.000	02/25/2001 20	0.000	0	0.010	0.000	0.000	0.010	0.310
02/22/2001 22	0.010	0	0.010	0.000	0.000	0.010	1.070	02/25/2001 21	0.000	0	0.010	0.000	0.000	0.010	0.250
02/22/2001 23	0.020	0	0.010	0.000	0.000	0.010	0.900	02/25/2001 22	0.010	0	0.010	0.000	0.000	0.000	0.270
02/23/2001 00	0.020	0	0.010	0.000	0.000	0.010	0.810	02/25/2001 23	0.010	0	0.010	0.000	0.000	0.000	0.220
02/23/2001 01	0.020	0	0.010	0.000	0.000	0.000	0.630	02/26/2001 00	0.010	0	0.010	0.000	0.000	0.000	0.300
02/23/2001 02	0.030	0	0.010	0.000	0.000	0.010	0.850	02/26/2001 01	0.010	0	0.010	0.000	0.000	0.000	0.340
02/23/2001 03	0.030	0	0.010	0.000	0.000	0.000	0.550	02/26/2001 02	0.010	0	0.010	0.000	0.000	0.000	0.330
02/23/2001 04	0.030	0	0.010	0.000	0.000	0.000	0.240	02/26/2001 03	0.010	0	0.010	0.000	0.000	0.000	0.370
02/23/2001 05	0.030	0	0.010	0.000	0.000	0.000	0.350	02/26/2001 04	0.010	0	0.010	0.000	0.000	0.000	0.580
02/23/2001 06	0.040	0	0.010	0.000	0.000	0.000	0.270	02/26/2001 05	0.010	0	0.010	0.000	0.000	0.000	0.300
02/23/2001 07	0.040	21	0.010	0.000	0.000	0.000	0.310	02/26/2001 06	0.010	0	0.010	0.000	0.000	0.000	0.260
02/23/2001 08	0.040	161	0.010	0.000	0.000	0.000	0.280	02/26/2001 07	0.010	37	0.010	0.010	0.000	0.010	0.250
02/23/2001 09	0.050	379	0.010	0.000	0.000	0.000	0.250	02/26/2001 08	0.010	105	0.010	0.010	0.000	0.010	0.310
02/23/2001 10	0.050	547	0.010	0.000	0.000	0.000	0.620	02/26/2001 09	0.010	200	0.010	0.010	0.000	0.000	0.420
02/23/2001 11	0.050	706	0.010	0.000	0.000	0.000	0.850	02/26/2001 10	0.010	595	0.010	0.010	0.000	0.010	0.780
02/23/2001 12	0.050	824	0.020	0.010	0.000	0.010	3.430	02/26/2001 11	0.010	435	0.010	0.010	0.000	0.010	0.560
02/23/2001 13	0.060	614	0.010	0.010	0.000	0.000	0.940								
02/23/2001 14	0.060	291	0.020	0.010	0.000	0.010	1.030								

S5-A19 Central Termica Lujan de Cuyo Generation Data (Summer)

Day	Unit No.	Out put		Fuel Type	Fuel burned		Stack gas		
		Unit (Mw)	Total (Mw)		Unit (m^3N/h)	Total (m^3_N/h)	Temp (℃)	NO_x (mg/m^3_N)	O_2 (mg/m^3_N)
2001/2/18	25	170.5	291.5	GN	47568	63704	129	36.4	14.33
	15	81							
	23	20		GN-GO	8068				
	24	20		GN-GO					
2001/2/19	25	172.8	293.3	GN	45984	61428	128.9	43.69	14.37
	15	80.5							
	23	20		GN-GO	7722				
	24	20		GN-GO	7722				
2001/2/20	25	165	311.8	GN	44400	69172	127.8	40.8	14.35
	15	79.8							
	22	17		GN-GO	9500				
	14	12							
	23	19		GN-GO	7636				
	24	19		GN-GO	7636				
2001/2/21	25	176.5	326.4	GN	46944	71760	128.9	41.07	14.3
	15	80.9							
	22	18		GN-GO	9500				
	14	12							
	23	19.5		GN-GO	7658		120	203.2	14.8
	24	19.5		GN-GO	7658		120	184.4	14.6
2001/2/22	25	170.8	320.1	GN	45552	70244	127.9	39.77	14.3
	15	81.3							
	22	18		GN-GO	9500				
	14	12							
	23	19		GN-GO	7596				
	24	19		GN-GO	7596				
2001/2/23	25	176	326.4	GN	44928	69722	128.2	42.22	14.3
	15	82							
	22	18.4		GN-GO	9500				
	14	12							
	23	19		GN-GO	7647				
	24	19		GN-GO	7647				
2001/2/24	25	175	296	GN	44256	59692	127.9	42.89	14.35
	15	81							
	23	20		GN-GO	7718				
	24	20		GN-GO	7718				
2001/2/25	25	174	296	GN	45648	61290	128.5	44	14.35
	15	82							
	23	20		GN-GO	7821				
	24	20		GN-GO	7821				

S5-A20 Central Termica Meteorological Data (Feb/20 – Feb/25)

Date	Time	WDD grado	WDS m/s	Temp. ˚C	RH %	PYRO W/m2	UVB W/m2	Date	Time	WDD grado	WDS m/s	Temp. ˚C	RH %	PYRO W/m2	UVB W/m2
2001/2/20	12:30	60.5	4.817	26.57	34.72	855.1	0.603	2001/2/23	7:00	265.4	5.269	20.98	37.16	-3.7	0.096
2001/2/20	13:00	88.79	3.945	27.35	35.59	924.8	0.603	2001/2/23	8:00	229.7	2.434	19.95	41.07	43.96	0.112
2001/2/20	14:00	82.27	6.156	28.39	32.79	981.1	0.602	2001/2/23	9:00	213.3	3.585	22.32	27.32	212.3	0.158
2001/2/20	15:00	82.03	5.899	30.1	28.16	941	0.609	2001/2/23	10:00	194.7	4.478	23.62	21.88	479.6	0.248
2001/2/20	16:00	98.94	5.068	31.41	23.27	834.9	0.606	2001/2/23	11:00	213	4.234	24.2	26.68	600.2	0.359
2001/2/20	17:00	78.82	6.14	31.62	18.54	661.5	0.483	2001/2/23	12:00	204.1	3.593	25.41	21.26	752.7	0.483
2001/2/20	18:00	82.75	6.302	31.81	15.59	457.3	0.339	2001/2/23	13:00	173.1	4.083	26.47	22.52	857	0.539
2001/2/20	19:00	88.7	5.805	30.97	22.52	214.5	0.233	2001/2/23	14:00	104.4	4.387	26.32	26.74	823.6	0.509
2001/2/20	20:00	81.04	2.597	29.17	27.79	10.82	0.168	2001/2/23	15:00	125.4	4.262	27.49	29.4	765.7	0.506
2001/2/20	21:00	306.7	2.633	27.97	28.51	-6.55	0.132	2001/2/23	16:00	91.83	4.365	26.95	36.74	645.3	0.446
2001/2/20	22:00	256.5	2.51	26.67	30.03	-5.87	0.135	2001/2/23	17:00	81.83	3.139	26.71	39.23	367.4	0.311
2001/2/20	23:00	120	2.06	25.72	31.55	-5.86	0.132	2001/2/23	18:00	86.29	3.617	27.17	37.2	438.1	0.287
2001/2/20	0:00:00	249.5	2.123	25.24	35.72	-4.81	0.13	2001/2/23	19:00	91.16	2.652	26.96	37.48	187.9	0.199
2001/2/21	1:00	134.2	1.366	24.09	39.23	-3.45	0.125	2001/2/23	20:00	81.79	3.005	25.94	40.66	15.6	0.143
2001/2/21	2:00	274.5	2.289	23.24	41.3	-3.62	0.123	2001/2/23	21:00	85.84	2.323	24.78	45.15	-2.82	0.125
2001/2/21	3:00	246.8	2.332	20.85	45.12	-3.12	0.12	2001/2/23	22:00	243.3	1.967	24.27	44.6	-1.69	0.123
2001/2/21	4:00	243.7	2.547	20.71	48.29	-1.92	0.113	2001/2/23	23:00	110.5	3.147	23.53	51.84	0	0.12
2001/2/21	5:00	238.9	2.479	21.4	46.61	-2.2	0.11	2001/2/23	0:00:00	157.2	2.261	22.88	53.44	0	0.113
2001/2/21	6:00	198.8	3.5	22.97	37.54	-4.22	0.108	2001/2/24	1:00	81.86	2.924	20.51	61.85	2.364	0.11
2001/2/21	7:00	197.1	3.461	21.13	31.76	-5.14	0.105	2001/2/24	2:00	195.2	1.842	19.86	64.38	3.019	0.105
2001/2/21	8:00	230	4.638	22.31	25.07	62.41	0.129	2001/2/24	3:00	261.2	1.897	19.31	65.19	4.517	0.098
2001/2/21	9:00	185.9	3.714	23.7	19.13	269.2	0.195	2001/2/24	4:00	260.8	2.4	19.95	62.18	3.463	0.096
2001/2/21	10:00	163.5	4.11	24.39	19.1	394.2	0.287	2001/2/24	5:00	156.7	1.907	20.38	59.75	2.913	0.093
2001/2/21	11:00	167.7	5.964	24.25	17.31	661	0.448	2001/2/24	6:00	284.1	2.333	18.31	67.41	4.069	0.092
2001/2/21	12:00	158.2	5.452	25.12	16.79	842.4	0.613	2001/2/24	7:00	305.5	1.818	18.5	67.72	4.175	0.086
2001/2/21	13:00	144.4	4.603	26.05	14.65	908	0.633	2001/2/24	8:00	133.2	1.437	19.01	65.75	61.37	0.105
2001/2/21	14:00	124.6	3.606	26.77	14.38	962.6	0.62	2001/2/24	9:00	172.6	1.264	21.26	56.51	276	0.167
2001/2/21	15:00	124.1	2.863	27.94	14.18	925.5	0.625	2001/2/24	10:00	213.8	2.063	22.52	50.13	400.2	0.232
2001/2/21	16:00	86.97	6.029	27.78	15.33	821.5	0.605	2001/2/24	11:00	163.5	2.77	24.26	44.74	643.8	0.364
2001/2/21	17:00	99.67	3.94	28.22	18.26	657.6	0.478	2001/2/24	12:00	112.7	4.157	24.18	44.85	746.4	0.473
2001/2/21	18:00	82.08	4.429	27.42	21.6	450.6	0.331	2001/2/24	13:00	85.99	5.109	24.39	48.33	878.2	0.54
2001/2/21	19:00	122.2	2.147	27.29	25.64	182.9	0.222	2001/2/24	14:00	100.7	4.143	25.61	44.44	1026	0.581
2001/2/21	20:00	255.3	1.866	26.18	28	17.78	0.155	2001/2/24	15:00	94.61	4.837	25.86	46.18	883.2	0.548
2001/2/21	21:00	287.8	1.324	24.91	29.84	-6.47	0.136	2001/2/24	16:00	97.87	4.181	26.79	43.98	782	0.515
2001/2/21	22:00	114.4	3.949	24.16	32.25	-4.86	0.132	2001/2/24	17:00	85.45	3.323	27.07	43.68	616	0.41
2001/2/21	23:00	274.3	1.894	22.31	37.73	-5.09	0.125	2001/2/24	18:00	94	2.859	27.25	44.76	405.7	0.296
2001/2/21	0:00:00	126.9	1.872	21.71	37.99	-5.13	0.12	2001/2/24	19:00	104.2	2.538	26.86	43.81	136.6	0.202
2001/2/22	1:00	120.2	1.903	20.76	39.4	-4.97	0.113	2001/2/24	20:00	69.88	2.915	25.42	50.29	13.16	0.145
2001/2/22	2:00	263.2	2.178	18.23	42.33	-3.65	0.108	2001/2/24	21:00	83.52	3.305	24.16	55.11	0.362	0.125
2001/2/22	3:00	265.8	2.26	17.86	43.75	-3.06	0.101	2001/2/24	22:00	77.53	2.504	23.59	61.15	3.125	0.12
2001/2/22	4:00	262.4	2.09	18.06	44.16	-2.94	0.097	2001/2/24	23:00	169	1.158	22.12	62.69	2.189	0.114
2001/2/22	5:00	258.8	2.76	16.93	46.41	-2.33	0.093	2001/2/24	0:00:00	238.9	3.257	21.66	59.64	1.733	0.11
2001/2/22	6:00	271.2	2.191	16.78	46.5	-2.74	0.088	2001/2/25	1:00	254.6	3.787	21.14	65.81	4.191	0.106
2001/2/22	7:00	266.4	3.302	17.78	45.5	-2.74	0.084	2001/2/25	2:00	255.6	3.033	21.47	62.97	2.93	0.101
2001/2/22	8:00	256.7	3.27	18.02	45.13	44.91	0.095	2001/2/25	3:00	185.8	2.168	21.05	63.97	3.125	0.098
2001/2/22	9:00	263.1	3.458	21.58	36.82	203.3	0.14	2001/2/25	4:00	88.43	2.41	19.18	71.46	6.592	0.094
2001/2/22	10:00	209.8	1.932	24.76	27.64	399.1	0.215	2001/2/25	5:00	157.2	1.799	19.16	73.11	7.161	0.088
2001/2/22	11:00	90.14	3.738	24.24	30	510.8	0.263	2001/2/25	6:00	198.7	1.36	18.14	76.4	8.919	0.086
2001/2/22	12:00	86.73	4.762	24.62	32.24	699.2	0.379	2001/2/25	7:00	150.8	1.214	18.12	75.54	7.987	0.083
2001/2/22	13:00	95.18	4.26	25.34	31.68	798.8	0.442	2001/2/25	8:00	284.6	2.05	18.24	73.23	30.4	0.095
2001/2/22	14:00	92.46	4.158	26.31	31.93	828.5	0.439	2001/2/25	9:00	255.6	3.03	21.22	60.1	281.4	0.166
2001/2/22	15:00	90.55	4.253	27.56	30.75	782.1	0.422	2001/2/25	10:00	187.9	1.424	24.34	51.72	468.3	0.261
2001/2/22	16:00	81.53	4.548	28.08	28.89	667	0.378	2001/2/25	11:00	86.11	3.845	24.29	50.63	685.7	0.418
2001/2/22	17:00	85.4	3.806	28.55	28.47	508.3	0.298	2001/2/25	12:00	98.35	4.527	24.46	53.02	758.7	0.562
2001/2/22	18:00	96.29	4.293	28.59	29.03	327.8	0.234	2001/2/25	13:00	87.61	3.601	26.47	46.08	982	0.628
2001/2/22	19:00	99.15	3.551	28.22	30.87	100.7	0.175	2001/2/25	14:00	83.22	3.598	27.57	43.32	1046	0.644
2001/2/22	20:00	92.17	1.997	27.06	34.93	7.568	0.143	2001/2/25	15:00	97.43	3.307	26.49	49.02	225	0.265
2001/2/22	21:00	278	2.811	24.8	38.83	-5.12	0.13	2001/2/25	16:00	89.39	3.394	26.02	50.81	189.8	0.25
2001/2/22	22:00	260.6	3.399	24.14	37.87	-5.07	0.125	2001/2/25	17:00	94.41	2.629	25.16	55.11	105.7	0.192
2001/2/22	23:00	257	3.498	24.15	37.99	-4.7	0.12	2001/2/25	18:00	302	3.005	23.72	64.64	14.88	0.128
2001/2/22	0:00:00	261.3	2.714	24.26	36.48	-5.13	0.118	2001/2/25	19:00	303.9	2.563	24.13	63.17	70.89	0.147
2001/2/23	1:00	282.4	2.121	23.39	37.63	-4.55	0.113	2001/2/25	20:00	289.1	2.65	23.91	65.38	56.14	0.128
2001/2/23	2:00	235.1	1.686	22.45	38.19	-3.67	0.11	2001/2/25	21:00	255.9	2.588	23.29	65.79	3.996	0.11
2001/2/23	3:00	252.5	2.315	22.48	36.85	-5.01	0.108	2001/2/25	22:00	294.8	2.301	22.24	69.44	5.868	0.108
2001/2/23	4:00	257	3.706	23.2	30.07	-5.83	0.105	2001/2/25	23:00	267.1	2.443	22.1	68.84	5.868	0.105
2001/2/23	5:00	249.2	3.013	21.82	28.12	-6.36	0.101	2001/2/25	0:00:00	248.1	1.775	22.21	69.75	7.308	0.101
2001/2/23	6:00	244.9	3.111	20.99	49.01	-2.01	0.098								

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		No 1			No 2			No 3			No 4		
	hr	SO2	NOx	TSP	SO2	NOx	TSP	SO2	NOx	TSP	SO2	NOx	TSP
6/27	12	165.8	26.3		366.7	31.6		175	30.3		100.8	25.7	
	16	516.7	33.7		155	24.6		49.2	28.9		58.3	29.7	
	20	57.5	-		29.2	21.7		40.8	16.5		30	18	
	Av			48			118			179			118
6/28	0	25.8	32.3		30.8	31.1		46.7	33.4		44.2	39.3	
	4	14.2	13.0		15	<4		10.8	15.9		17.5	19.4	
	8	36.7	28.8		18.3	19.5		25.8	19.6		11.7	19.9	
	12	34.2	44.0		27.5	34.6		20.8	35.8		34.2	34.5	
	16	100.8	43.4		225	35.3		65.8	35.0		55	45.8	
	20	23.3	38.9		11.7	35.4		27.5	36.0		35	57.4	
	Av			47			80			171			124
6/29	0	30	39.8		22.5	36.7		24.2	37.4		27.5	37.5	
	4	30	19.9		17.5	17.1		63.3	18.6		22.5	15.5	
	8	39.2	24.8		36.7	19.6		25.8	19.2		41.7	27.7	
	12	26.7	64.4		84.2	42.7		20.8	44.2		23.3	40.50	
	16	208.3	57.3		316.7	45.9		65.8	52.3		98.3	50.80	
	20	55.8	22.0		35.8	18.9		27.5	22.1		49.2	18.90	
	Av			73			144			260			119
6/30	0	32.5	29.1		62.5	25.9		24.2	30.8		40	27.70	
	4	25.8	19.0		20.8	17.4		63.3	18.3		25.8	18.60	
	8	13.3	22.4		39.2	18.9		25.8	21.5		35.8	24.10	
	12	46.7	26.1		28.3	13.4		125.8	14.9		24.2	17.10	
	16	63.3	<4		24.2	<4		208.3	4.5		14.2	<4	
	20	60.8	16.1		31.7	12.1		18.3	12.6		13.3	13.30	
	Av			77			141			176			82
7/1	0	10.8	<4		10.8	<4		49.2	<4		22.5	<4	
	4	10.8	<4		28.3	<4		29.2	4.6		10.8	10.1	
	8	31.7	11.7		32.5	9.3		12.5	13.2		10.8	10.4	
	12	34.2	4.0		16.7	4.2		22.5	4.9		53.3	4	
	16	10.8	9.4		26.7	9.2		13.3	7.6		10.8	7	
	20	13.3	9.1		36.7	7.3		26.7	7.5		53.3	9.9	
	Av			42			77			97			89
7/2	0	0	10.8		10.8	9.9		13.3	9.7		0	6.7	
	4	18.3	5.8		16.6	<4		15	<4		35.8	<4	
	8	21.7	21.1		30	20.1		55	21.5		32.5	27.3	
	12	72.5	23.7		791.7	23.7		84.2	32.6		37.5	30.3	
	16	58.3	18.5		112.5	24.5		75.8	33.0		36.7	30.7	
	20	19.2	16.2		18.3	20.0		0	22.9		37.5	32.9	
	Av			98			249			105			148
7/3	0	23.3	24.8		28.3	23.0		31.7	22.3		30	20.6	
	4	24.2	18.3		30.8	15.5		49.2	10.9		13.3	7.1	
	8	41.7	9.3		55.8	<4		57.5	<4		88.3	36.2	
	12	16.7	27.3		114.2	29.7		66.7	38		95.8	41.6	
	16	27.5	19.7		35	28.1		39.2	21.2		36.7	20.9	
	20	25.8	24.0		32.5	26.1		22.5	34.1		40	32.5	
	Av			146			346			160			157
7/4	0	19.2	23.3		19.2	34.4		45	21.5		21.7	18.3	
	4	10.8	17.0		28.3	15.7		19.2	18		25	18	
	8	18.3	10.5		29.2	26.4		15.8	10.5		13.3	16.5	

		No 5			No 6			No 7			No 8		
	hr	SO2	NOx	TSP	SO2	NOx	TSP	SO2	NOx	TSP	SO2	NOx	TSP
6/27	12	107.5	28.4		140	27.4		35	21.7		275	36.0	
	16	35	28.0		12.5	29.5		22.5	34.5		62.5	24.9	
	20	57.5	22.2		37.5	20.6		45.8	22.0		31.7	75.5	
	Av			95			93			44			67
6/28	0	48.3	34.3		55.8	31.9		65	30.9		76.7	31.1	
	4	39.2	17.8		19.2	16.6		10.8	19.1		22.5	15.0	
	8	62.5	29.7		25.8	17.4		19.2	18.0		36.7	20.8	
	12	18.3	37.2		13.3	33.4		10.8	32.8		30	35.2	
	16	333.3	38.4		69.2	36.9		250	43.2		216.7	38.0	
	20	25.8	40.5		23.3	39.5		22.5	43.8		20.8	35.6	
	Av			96			54			79			56
6/29	0	11.7	S/D		23.3	40		26.7	38.8		10.8	27.5	
	4	15.8	12.7		19.2	15.7		31.7	14.9		17.5	14.2	
	8	57.5	24.0		24.2	18.1		45	18.4		34.2	14.7	
	12	40.8	44.6		20.8	40.60		30	41.6		70.8	44.2	
	16	54.2	43.9		39.2	46.10		18.3	55.5		60	48.1	
	20	32.5	15.7		15.8	23.70		17.5	13.5		39.2	23.5	
	Av			148			97			104			84
6/30	0	143.3	31.9		43.3	43.10		63.3	30.0		37.5	23.9	
	4	19.2	19.4		10.8	17.60		19.2	16.8		10.8	16.5	
	8	34.2	23.9		22.5	20.70		15	18.8		9.2	21.0	
	12	19.2	18.7		62.5	14.80		28.3	18.6		31.7	13.0	
	16	13.3	<4		14.2	<4		19.2	<4		9.2	<4	
	20	44.2	13.0		51.7	11.60		19.2	18.8		34.2	13.6	
	Av			105			96			169			87
7/1	0	15.8	<4		18.3	4.4		10.8	<4		11.7	<4	
	4	10.8	8.5		29.2	4.9		13.3	5.4		14.2	5.9	
	8	19.2	9.4		38.3	10.4		22.5	11.7		17.5	9.3	
	12	38.3	4.3		15.8	5.7		10.8	5.7		25.8	6.5	
	16	10.8	7.5		10.8	9		11.7	14.0		13.3	13.8	
	20	36.7	11.8		51.7	9.2		27.5	25.5		34.2	8.1	
	Av			78			40			63			73
7/2	0	10.8	7.8		10.8	7.7		10.8	7.4		10.8	4.0	
	4	31.7	<4		38.3	<4		28.3	<4		10.8	<4	
	8	51.7	26.1		60.8	18.9		28.3	20.2		17.5	20.4	
	12	65	35.4		87.5	29.7		50	20.2		94.2	28.6	
	16	61.7	29.1		27.5	19.9		48.3	35.8		99.2	29.1	
	20	30	24.0		75.8	19.8		23.3	21.7		16.7	21.5	
	Av			115			78			80			76
7/3	0	36.7	20.8		27.5	19.9		20	19.2		25	20.4	
	4	175	12.8		18.3	7.1		49.2	7.6		34.2	8.8	
	8	90	31.7		0	26.4		41.7	19.8		67.5	21.8	
	12	34.2	28.1		25.8	27.5		41.7	44.9		52.5	28.6	
	16	57.5	24.8		25	26.1		32.5	34.2		28.3	30.3	
	20	32.5	34.6		31.7	39.3		19.2	39.2		18.3	32.5	
	Av			196			180			175			268
7/4	0	108.3	16.0		25.8	23		19.2	18.7		72.5	17.2	
	4	53.3	15.4		19.2	15.5		55	11.1		48.3	10.9	
	8	43.3	14.7		31.7	8.7		14.2	13.8		18.3	24.4	

S5-A22 Lujan de Cuyo Automatic Data (Winter)

FECHA	HORA	PM-10(mg/m^3)	SO2(ppm)	NO(ppm)	NO2(ppm)	NOx(ppm)	CO(ppm)	FECHA	HORA	PM-10(mg/m^3)	SO2(ppm)	NO(ppm)	NO2(ppm)	NOx(ppm)	CO(ppm)
27-6	11:40	0.000	0.025	0.045	< 0.004	0.036	1.19	30-6	13:40	0.001	0.027	0.020	< 0.004	0.019	0.37
27-6	12:40	0.001	0.025	0.040	< 0.004	0.031	0.68	30-6	14:40	0.002	0.027	0.021	< 0.004	0.020	0.38
27-6	13:40	0.001	0.025	0.048	< 0.004	0.036	0.89	30-6	15:40	0.002	0.026	0.032	< 0.004	0.027	0.69
27-6	14:40	0.002	0.024	0.037	< 0.004	0.028	0.74	30-6	16:40	0.002	0.027	0.024	< 0.004	0.023	0.93
27-6	15:40	0.002	0.024	0.032	< 0.004	0.027	0.79	30-6	17:40	0.003	0.027	0.051	< 0.004	0.039	0.90
27-6	16:40	0.003	0.024	0.037	< 0.004	0.033	0.90	30-6	18:40	0.003	0.026	0.064	< 0.004	0.046	1.21
27-6	17:40	0.003	0.024	0.069	< 0.004	0.050	1.35	30-6	19:40	0.003	0.026	0.035	< 0.004	0.030	1.42
27-6	18:40	0.004	0.025	0.053	< 0.004	0.039	1.20	30-6	20:40	0.004	0.026	0.061	< 0.004	0.044	1.72
27-6	19:40	0.004	0.024	0.042	< 0.004	0.033	1.33	30-6	21:40	0.004	0.026	0.062	< 0.004	0.045	1.15
27-6	20:40	0.005	0.024	0.048	< 0.004	0.036	1.04	30-6	22:40	0.005	0.026	0.077	< 0.004	0.052	1.25
27-6	21:40	0.005	0.024	0.042	< 0.004	0.032	0.79	30-6	23:40	0.005	0.026	0.032	< 0.004	0.026	0.64
27-6	22:40	0.005	0.025	0.032	< 0.004	0.026	0.77	1-7	0:40	0.006	0.027	0.021	< 0.004	0.019	0.43
27-6	23:40	0.006	0.024	0.020	< 0.004	0.017	0.62	1-7	1:40	0.006	0.026	0.013	< 0.004	0.013	0.12
28-6	0:40	0.006	0.024	0.019	< 0.004	0.017	0.42	1-7	2:40	0.006	0.027	0.016	< 0.004	0.016	0.43
28-6	1:40	0.006	0.024	0.015	< 0.004	0.013	0.39	1-7	3:40	0.006	0.026	0.010	< 0.004	0.010	0.13
28-6	2:40	0.006	0.025	0.016	< 0.004	0.014	0.36	1-7	4:40	0.007	0.026	0.012	< 0.004	0.012	0.13
28-6	3:40	0.007	0.025	0.009	< 0.004	0.009	0.32	1-7	5:40	0.007	0.028	0.019	< 0.004	0.017	0.05
28-6	4:40	0.007	0.026	0.007	< 0.004	0.008	0.36	1-7	6:40	0.007	0.028	0.039	< 0.004	0.030	0.54
28-6	5:40	0.007	0.026	0.011	< 0.004	0.011	0.32	1-7	7:40	0.008	0.028	0.054	< 0.004	0.038	0.70
28-6	6:40	0.008	0.026	0.013	< 0.004	0.013	0.33	1-7	8:40	0.009	0.027	0.087	< 0.004	0.058	0.87
28-6	7:40	0.008	0.025	0.012	< 0.004	0.012	0.38	1-7	9:40	0.009	0.028	0.096	< 0.004	0.063	0.92
28-6	8:40	0.009	0.026	0.036	< 0.004	0.027	0.71	1-7	10:40	0.010	0.028	0.054	< 0.004	0.040	0.88
28-6	9:40	0.009	0.026	0.050	< 0.004	0.034	0.59	1-7	11:40	0.000	0.028	0.044	< 0.004	0.035	0.54
28-6	10:40	0.009	0.025	0.050	< 0.004	0.036	0.85	1-7	12:40	0.001	0.028	0.034	< 0.004	0.030	0.32
28-6	11:40	0.000	0.025	0.063	< 0.004	0.046	1.34	1-7	13:40	0.001	0.028	0.017	< 0.004	0.019	0.41
28-6	12:40	0.001	0.025	0.049	< 0.004	0.036	1.08	1-7	14:40	0.002	0.028	0.029	< 0.004	0.027	0.82
28-6	13:40	0.001	0.025	0.040	< 0.004	0.034	0.95	1-7	15:40	0.002	0.027	0.030	< 0.004	0.028	0.73
28-6	14:40	0.002	0.024	0.029	< 0.004	0.033	1.34	1-7	16:40	0.003	0.026	0.024	< 0.004	0.024	0.77
28-6	15:40	0.002	0.024	0.013	< 0.004	0.019	0.56	1-7	17:40	0.003	0.027	0.041	< 0.004	0.035	1.19
28-6	16:40	0.003	0.023	0.023	< 0.004	0.028	0.64	1-7	18:40	0.004	0.026	0.046	< 0.004	0.038	1.08
28-6	17:40	0.003	0.023	0.010	< 0.004	0.016	0.63	1-7	19:40	0.004	0.026	0.078	< 0.004	0.055	1.53
28-6	18:40	0.003	0.023	0.025	< 0.004	0.025	0.72	1-7	20:40	0.005	0.026	0.095	< 0.004	0.085	2.46
28-6	19:40	0.003	0.024	0.027	< 0.004	0.026	0.76	1-7	21:40	0.006	0.026	0.095	< 0.004	0.088	1.99
28-6	20:40	0.004	0.023	0.094	< 0.004	0.062	1.43	1-7	22:40	0.007	0.026	0.119	< 0.004	0.078	1.61
28-6	21:40	0.004	0.024	0.035	< 0.004	0.028	1.05	1-7	23:40	0.009	0.027	0.104	< 0.004	0.070	1.50
28-6	22:40	0.004	0.023	0.038	< 0.004	0.030	1.15	2-7	0:40	0.010	0.027	0.083	< 0.004	0.057	1.20
28-6	23:40	0.005	0.024	0.018	< 0.004	0.016	0.70	2-7	1:40	0.010	0.026	0.072	< 0.004	0.050	0.63
29-6	0:40	0.005	0.024	0.018	< 0.004	0.016	0.50	2-7	2:40	0.011	0.027	0.051	< 0.004	0.038	1.47
29-6	1:40	0.005	0.024	0.014	< 0.004	0.014	0.44	2-7	3:40	0.012	0.028	0.039	< 0.004	0.030	0.53
29-6	2:40	0.006	0.025	0.020	< 0.004	0.017	0.27	2-7	4:40	0.012	0.026	0.034	< 0.004	0.026	0.60
29-6	3:40	0.006	0.024	0.017	< 0.004	0.014	0.43	2-7	5:40	0.013	0.027	0.045	< 0.004	0.033	0.55
29-6	4:40	0.006	0.024	0.012	< 0.004	0.011	0.17	2-7	6:40	0.013	0.027	0.077	< 0.004	0.050	0.46
29-6	5:40	0.006	0.025	0.019	< 0.004	0.016	0.27	2-7	7:40	0.015	0.027	0.106	< 0.004	0.068	0.79
29-6	6:40	0.006	0.025	0.013	< 0.004	0.012	0.37	2-7	8:40	0.016	0.027	0.090	< 0.004	0.082	1.45
29-6	7:40	0.007	0.025	0.012	< 0.004	0.012	0.23	2-7	9:40	0.017	0.027	0.094	< 0.004	0.087	2.17
29-6	8:40	0.007	0.025	0.011	< 0.004	0.010	0.10	2-7	10:40	0.017	0.028	0.101	< 0.004	0.072	1.19
29-6	9:40	0.008	0.025	0.008	< 0.004	0.008	0.30	2-7	11:40	0.000	0.028	0.032	< 0.004	0.034	1.36
29-6	10:40	0.008	0.025	0.009	< 0.004	0.008	0.19	2-7	12:40	0.002	0.027	0.033	< 0.004	0.032	0.73
29-6	11:40	0.000	0.025	0.014	< 0.004	0.012	0.44	2-7	13:40	0.003	0.027	0.026	< 0.004	0.026	1.49
29-6	12:40	0.001	0.026	0.066	< 0.004	0.044	0.70	2-7	14:40	0.003	0.026	0.034	< 0.004	0.032	0.73
29-6	13:40	0.001	0.026	0.016	< 0.004	0.014	0.69	2-7	15:40	0.004	0.026	0.044	< 0.004	0.035	0.73
29-6	14:40	0.002	0.026	0.009	< 0.004	0.009	0.50	2-7	16:40	0.004	0.026	0.041	< 0.004	0.037	1.06
29-6	15:40	0.002	0.025	0.009	< 0.004	0.009	0.51	2-7	17:40	0.005	0.026	0.048	< 0.004	0.040	1.55
29-6	16:40	0.002	0.026	0.012	< 0.004	0.012	0.40	2-7	18:40	0.005	0.025	0.085	< 0.004	0.060	1.30
29-6	17:40	0.002	0.026	0.015	< 0.004	0.014	0.42	2-7	19:40	0.006	0.024	0.057	< 0.004	0.044	1.30
29-6	18:40	0.003	0.026	0.015	< 0.004	0.014	0.82	2-7	20:40	0.006	0.026	0.062	< 0.004	0.048	1.03
29-6	19:40	0.003	0.027	0.016	< 0.004	0.016	0.42	2-7	21:40	0.007	0.026	0.078	< 0.004	0.057	1.38
29-6	20:40	0.003	0.025	0.023	< 0.004	0.022	1.17	2-7	22:40	0.009	0.026	0.053	< 0.004	0.039	0.90
29-6	21:40	0.004	0.026	0.020	< 0.004	0.019	1.00	2-7	23:40	0.009	0.026	0.046	< 0.004	0.035	0.84
29-6	22:40	0.004	0.026	0.020	< 0.004	0.019	0.76	3-7	0:40	0.010	0.026	0.060	< 0.004	0.044	0.85
29-6	23:40	0.004	0.027	0.023	< 0.004	0.020	0.30	3-7	1:40	0.011	0.027	0.044	< 0.004	0.034	0.72
30-6	0:40	0.004	0.026	0.012	< 0.004	0.013	0.50	3-7	2:40	0.012	0.026	0.037	< 0.004	0.030	0.35
30-6	1:40	0.004	0.027	0.010	< 0.004	0.012	0.39	3-7	3:40	0.012	0.027	0.036	< 0.004	0.029	0.63
30-6	2:40	0.005	0.028	0.008	< 0.004	0.010	0.20	3-7	4:40	0.013	0.026	0.030	< 0.004	0.024	0.33
30-6	3:40	0.005	0.028	0.009	< 0.004	0.010	0.02	3-7	5:40	0.013	0.028	0.042	< 0.004	0.031	0.52
30-6	4:40	0.006	0.027	0.004	< 0.004	0.006	0.09	3-7	6:40	0.014	0.028	0.051	< 0.004	0.035	0.63
30-6	5:40	0.006	0.028	0.006	< 0.004	0.007	0.05	3-7	7:40	0.014	0.028	0.080	< 0.004	0.053	1.08
30-6	6:40	0.006	0.027	0.010	< 0.004	0.011	0.10	3-7	8:40	0.014	0.027	0.119	< 0.004	0.075	1.15
30-6	7:40	0.006	0.027	0.020	< 0.004	0.018	0.32	3-7	9:40	0.015	0.028	0.102	< 0.004	0.095	1.40
30-6	8:40	0.006	0.028	0.093	< 0.004	0.060	1.14	3-7	10:40	0.016	0.027	0.068	< 0.004	0.052	1.14
30-6	9:40	0.007	0.028	0.046	< 0.004	0.033	0.63	3-7	11:40	0.000	0.027	0.053	< 0.004	0.042	1.05
30-6	10:40	0.007	0.027	0.023	< 0.004	0.020	0.34	3-7	12:40	0.001	0.027	0.061	< 0.004	0.047	1.13
30-6	11:40	0.000	0.028	0.030	< 0.004	0.025	0.69	3-7	13:40	0.002	0.028	0.046	< 0.004	0.040	0.96
30-6	12:40	0.001	0.027	0.029	< 0.004	0.026	0.60	3-7	14:40	0.003	0.027	0.024	< 0.004	0.028	0.80

S5-A23 Centaral Termica Lujan de Cuyo Generation Data (Winter)

Day	Unit No.	Out put		Fuel Type	Fuel burned		Stack gas		
		Unit (Mw)	Total (Mw)		Unit (m^3_N/h)	Total (m^3_N/h)	Temp (℃)	NO_x (mg/m^3_N)	O_2 (mg/m^3_N)
2001/6/27	25	162	283.1	GN	48625	69938	117.35	91	14.4
	15	78							
	23	21.3		GN-GO	10698		135	179	14.8
	24	21.8		GN-GO	10615		130	182	14.8
2001/6/28	25	156	275.1	GN	45455	66768	116.08	117	14.45
	15	76							
	23	21.3		GN-GO	10698		135	179	14.8
	24	21.8		GN-GO	10615		130	182	14.8
2001/6/29	25	162	283.1	GN	47486	68799	117.42	95	14.38
	15	78							
	23	21.3		GN-GO	10698		135	179	14.8
	24	21.8		GN-GO	10615		130	182	14.8
2001/6/30	25	150	267.1	GN	45033	66346	115.69	106	14.43
	15	74							
	23	21.3		GN-GO	10698		135	179	14.8
	24	21.8		GN-GO	10615		130	182	14.8
2001/7/1	25	162	282.1	GN	46922	68235	116.45	123	14.34
	15	77							
	23	21.3		GN-GO	10698		135	179	14.8
	24	21.8		GN-GO	10615		130	182	14.8
2001/7/2	25	188	317.1	GN	53860	75731	116	88	14.2
	15	86							
	23	21.3		GN-GO	10698		135	179	14.8
	24	21.8		GN-GO	10615		130	182	14.8
2001/7/3	25	168	291.1	GN	47487	68800	117	95	14.2
	15	80							
	23	21.3		GN-GO	10698		135	179	14.8
	24	21.8		GN-GO	10615		130	182	14.8
2001/7/4	25	128	229.1	GN	38869	60209	115	75	14.3
	15	58							
	23	21.3		GN-GO	10698		135	179	14.8
	24	21.8		GN-GO	10615		130	182	14.8

S5-A24 Central Termica Lujan de Cuyo Meteorological Data (Winter)

DATE	TIME	WD	WS	T	RH	PYRO	UVB
		°	m/s	° C	%	W/m2	W/m2
2001/6/26	16:00	87.83	3.393	14.37	31.58	356.1	0.149
2001/6/26	17:00	90.17	2.566	14.34	32.04	148.5	0.092
2001/6/26	18:00	84.12	2.615	13.56	34.21	54.59	0.056
2001/6/26	19:00	226.8	0.943	9.224	47.75	−3.28	0.031
2001/6/26	20:00	283.5	2.057	6.322	59.93	0.37	0.027
2001/6/26	21:00	281.3	2.575	7.021	58.27	0.004	0.024
2001/6/26	22:00	281	3.163	7.252	57.42	0	0.023
2001/6/26	23:00	278.9	3.164	6.982	57.33	0	0.022
2001/6/26	24:00:00	276.9	1.942	4.791	65.33	2.897	0.022
2001/6/27	1:00	277.4	3.55	5.946	59.9	1.335	0.02
2001/6/27	2:00	285.6	3.439	5.902	59.63	0.928	0.02
2001/6/27	3:00	278	2.891	4.891	62.88	2.641	0.018
2001/6/27	4:00	273.9	2.932	5.001	62.24	2.608	0.017
2001/6/27	5:00	280.2	2.656	4.322	63.86	3.206	0.015
2001/6/27	6:00	285.4	2.327	3.992	62.5	2.686	0.015
2001/6/27	7:00	278.8	2.311	3.349	64.04	3.044	0.015
2001/6/27	8:00	282.1	2.41	4.12	60.98	2.315	0.015
2001/6/27	9:00	277.7	2.15	3.174	59.68	16.01	0.022
2001/6/27	10:00	294.9	1.994	4.746	59.03	70.61	0.062
2001/6/27	11:00	266.3	1.314	11.87	41.62	392.3	0.141
2001/6/27	12:00	99.2	1.716	11.95	42.22	478.9	0.192
2001/6/27	13:00	98.43	2.548	12.44	40.06	528.9	0.228
2001/6/27	14:00	97.27	3.229	13.02	40.28	528.1	0.233
2001/6/27	15:00	90.8	2.945	13.09	40.8	447.8	0.2
2001/6/27	16:00	94.08	3.138	13.11	42.51	301.5	0.153
2001/6/27	17:00	81.08	3.158	11.84	46.69	129.5	0.099
2001/6/27	18:00	82.81	2.282	10.74	50.3	53.17	0.057
2001/6/27	19:00	268.5	1.228	9.385	54.68	0.191	0.037
2001/6/27	20:00	242	1.334	6.27	67.64	4.032	0.034
2001/6/27	21:00	269.6	3.224	6.859	67.64	4.313	0.032
2001/6/27	22:00	267.9	2.95	7.265	64.82	3.52	0.027
2001/6/27	23:00	272.8	3.183	8.252	58.58	0.68	0.025
2001/6/27	24:00:00	275.6	2.637	7.406	59.94	1.017	0.024
2001/6/28	1:00	283.4	1.437	6.082	62.31	2.14	0.024
2001/6/28	2:00	287.8	2.111	3.374	70.2	6.112	0.022
2001/6/28	3:00	272.6	2.286	3.423	70.42	5.981	0.02
2001/6/28	4:00	310.4	2.476	4.323	64.8	3.796	0.02
2001/6/28	5:00	292	1.96	5.865	61.43	3.097	0.019
2001/6/28	6:00	306.9	1.919	6.662	56.09	0.574	0.018
2001/6/28	7:00	279.3	1.236	6.89	54.43	−0.13	0.016
2001/6/28	8:00	301.8	1.886	4.08	58.37	0.562	0.015
2001/6/28	9:00	265.3	3.759	9.416	36.03	0.199	0.024
2001/6/28	10:00	233.7	4.332	11.21	36.09	37.02	0.062
2001/6/28	11:00	193.1	3.891	12.74	31.24	320	0.13
2001/6/28	12:00	179.4	4.843	12.28	33.58	443.8	0.189
2001/6/28	13:00	160.1	4.546	12.94	35.38	511.8	0.231
2001/6/28	14:00	142.5	2.423	13.74	35.5	394	0.206
2001/6/28	15:00	92.56	2.576	13.51	36.02	364.1	0.19
2001/6/28	16:00	99.16	2.651	13.98	34.47	375.9	0.172
2001/6/28	17:00	73.57	2.927	13.86	36.61	154.4	0.109
2001/6/28	18:00	76.35	2.689	12.22	41.55	37.88	0.068
2001/6/28	19:00	310.9	2.051	9.836	50.47	−1.92	0.039
2001/6/28	20:00	281.5	1.667	7.525	58.05	0.004	0.036
2001/6/28	21:00	184.5	0.995	4.103	70.41	5.778	0.032
2001/6/28	22:00	227.2	1.094	3.102	72.69	6.734	0.027
2001/6/28	23:00	215	1.148	3.028	72.9	7.149	0.025
2001/6/28	24:00:00	283.4	2.371	4.387	71.8	6.868	0.023
2001/6/29	1:00	292.2	2.573	3.765	70.33	6.466	0.022
2001/6/29	2:00	285.1	2.669	4.44	67.64	4.496	0.02
2001/6/29	3:00	285.3	2.903	4.39	67.35	4.378	0.02
2001/6/29	4:00	286	3.629	5.09	63.23	3.145	0.02
2001/6/29	5:00	286.6	3.373	4.563	65.39	4.248	0.019
2001/6/29	6:00	263.2	2.024	4.072	66.84	4.427	0.017
2001/6/29	7:00	244.1	2.304	3.51	70.14	6.84	0.016
2001/6/29	8:00	268.7	2.051	2.44	73.86	8.081	0.015
2001/6/29	9:00	291.7	2.71	2.471	73.75	16.07	0.023
2001/6/29	10:00	275.8	1.82	4.807	69.31	49.41	0.058
2001/6/29	11:00	194	1.961	9.716	50.8	321.6	0.123
2001/6/29	12:00	204.9	1.935	10.8	46.89	441.5	0.179
2001/6/29	13:00	113.2	3.002	12.95	42.9	517.7	0.222
2001/6/29	14:00	113.8	2.338	14.11	40.37	551.4	0.242
2001/6/29	15:00	112.2	2.336	15.5	39.55	458.4	0.213
2001/6/29	16:00	109	1.899	16.59	38.18	385.5	0.17
2001/6/29	17:00	231.2	1.719	16.82	37.48	162.4	0.11
2001/6/29	18:00	174.9	1.442	16.34	40.19	65.17	0.073
2001/6/29	19:00	148.8	2.513	13.04	48.24	−2.56	0.046
2001/6/29	20:00	100.7	3.539	10.04	56.07	−0.01	0.043
2001/6/29	21:00	263.7	1.805	8.832	57.26	0.02	0.037
2001/6/29	22:00	300.4	2.625	6.537	67.22	3.817	0.034
2001/6/29	23:00	271.9	3.58	7.088	63.11	2.612	0.032
2001/6/29	24:00:00	283.7	3.366	8.122	56.2	0	0.027
2001/6/30	1:00	275.6	3.586	8.015	52.18	−1.36	0.025
2001/6/30	2:00	282.6	3.207	7.558	50.64	−1.81	0.024
2001/6/30	3:00	238.8	0.929	4.176	59.02	0.171	0.023
2001/6/30	4:00	304	3.205	4.69	55.58	0	0.022
2001/6/30	5:00	294.2	3.117	5.601	52.43	−1.17	0.022
2001/6/30	6:00	287.1	3.103	5.404	51.62	−1.25	0.02
2001/6/30	7:00	280.2	3.372	5.268	51.64	−1.41	0.02
2001/6/30	8:00	274.5	3.69	5.143	51.08	−1.38	0.02
2001/6/30	9:00	273.5	3.814	5.541	48.6	19.21	0.025
2001/6/30	10:00	282	2.261	5.966	55.55	99.89	0.064
2001/6/30	11:00	294.7	2.371	7.459	51.12	129.5	0.087
2001/6/30	12:00	254.8	1.473	12.63	39.58	437.8	0.181
2001/6/30	13:00	83.89	2.673	12.38	43.92	503.8	0.222
2001/6/30	14:00	87.88	3.218	13.47	41.04	454.7	0.216
2001/6/30	15:00	91.61	4.44	12.21	46.02	358.2	0.177
2001/6/30	16:00	107.7	2.855	11.25	49.5	127.9	0.109
2001/6/30	17:00	201.7	1.952	11.76	47.56	183.6	0.1
2001/6/30	18:00	95.08	2.271	11.34	51.54	90.3	0.065
2001/6/30	19:00	216.2	1.369	8.975	58.45	0.549	0.035
2001/6/30	20:00	271.9	3.526	6.716	66.95	4.618	0.033

DATE	TIME	WD	WS	T	RH	PYRO	UVB
		°	m/s	° C	%	W/m2	W/m2
2001/6/30	21:00	269.6	2.714	6.359	69.45	6.075	0.028
2001/6/30	22:00	272.2	2.546	6.592	67.65	5.176	0.027
2001/6/30	23:00	261.2	2.483	6.825	60.69	2.283	0.024
2001/6/30	24:00:00	245.9	1.505	6.127	64.18	3.361	0.024
2001/7/1	1:00	273.7	2.427	6.946	58.14	1.152	0.022
2001/7/1	2:00	275.1	3.098	6.577	58.69	1.774	0.022
2001/7/1	3:00	281.3	3.069	7.114	58.1	0.72	0.021
2001/7/1	4:00	266.1	4.285	8.03	54.3	0	0.022
2001/7/1	5:00	244.8	2.858	8.339	51.33	−0.96	0.022
2001/7/1	6:00	295.5	3.668	7.631	55.19	0.704	0.022
2001/7/1	7:00	289	2.824	8.379	54.31	1.758	0.022
2001/7/1	8:00	175.9	2.75	8.472	57.74	2.824	0.022
2001/7/1	9:00	265.5	2.178	5.732	70.12	11.54	0.027
2001/7/1	10:00	105.1	2.163	6.377	66.41	47.61	0.044
2001/7/1	11:00	88.14	2.842	5.892	67.48	68.58	0.057
2001/7/1	12:00	87.2	2.041	5.569	68.29	42.71	0.045
2001/7/1	13:00	112	2.868	4.816	56.42	65.7	0.06
2001/7/1	14:00	112.9	1.967	5.024	54.96	91.35	0.074
2001/7/1	15:00	103.9	2.414	5.102	53.26	105.4	0.082
2001/7/1	16:00	98.95	1.839	4.976	54.79	81.02	0.068
2001/7/1	17:00	238	1.598	5.244	53.53	50.61	0.049
2001/7/1	18:00	150.7	0.92	5.368	57.94	35.09	0.036
2001/7/1	19:00	120.7	1.441	4.717	60.65	3.849	0.022
2001/7/1	20:00	171	0.962	4.659	59.94	3.552	0.022
2001/7/1	21:00	297.2	1.809	4.412	64.47	5.693	0.022
2001/7/1	22:00	166.7	1.22	4.608	62.71	4.679	0.021
2001/7/1	23:00	249.8	1.265	4.428	59.18	3.259	0.021
2001/7/1	24:00:00	234	1.247	3.619	67.51	6.759	0.02
2001/7/2	1:00	126.6	1.871	3.525	64.92	5.241	0.02
2001/7/2	2:00	263.2	1.187	2.897	68.74	7.092	0.02
2001/7/2	3:00	87.84	1.628	2.608	67.79	6.498	0.019
2001/7/2	4:00	282	2.089	2.475	56.65	0.248	0.018
2001/7/2	5:00	164.6	0.883	0.399	64.07	2.596	0.015
2001/7/2	6:00	293.2	1.906	−0.18	76.74	9.794	0.015
2001/7/2	7:00	236.2	1.623	−0.81	74.99	9.562	0.013
2001/7/2	8:00	192.9	1.136	−1.13	79.82	12.05	0.012
2001/7/2	9:00	201.2	0.948	−0.74	78.39	23.68	0.019
2001/7/2	10:00	264.9	2.117	1.788	71.14	79.09	0.055
2001/7/2	11:00	131.5	2.273	4.203	55.71	271.8	0.111
2001/7/2	12:00	165.4	1.187	6.964	45.19	394.7	0.167
2001/7/2	13:00	110.8	2.081	7.539	42.31	520.2	0.223
2001/7/2	14:00	217.6	2.298	9.062	43.19	527.4	0.231
2001/7/2	15:00	101.3	3.204	10.17	41.76	518	0.22
2001/7/2	16:00	83.72	3.454	9.924	38.23	350.8	0.152
2001/7/2	17:00	101.7	2.658	8.965	42.28	66.48	0.082
2001/7/2	18:00	103.4	2.179	8.422	42.61	25.42	0.055
2001/7/2	19:00	267.4	1.792	6.858	48.03	−1.6	0.028
2001/7/2	20:00	305.8	2.685	3.719	61.79	2.523	0.025
2001/7/2	21:00	237.5	1.718	4.269	60.41	2.511	0.024
2001/7/2	22:00	251.8	1.874	3.395	61.31	2.771	0.022
2001/7/2	23:00	271.3	2.636	1.788	69.13	6.567	0.021
2001/7/2	24:00:00	213	1.603	4.173	62.78	3.638	0.02
2001/7/3	1:00	211.7	1.752	5.637	58.21	1.355	0.02
2001/7/3	2:00	155	1.675	3.968	63.93	3.634	0.019
2001/7/3	3:00	221.1	1.564	3.012	64.73	3.992	0.016
2001/7/3	4:00	298.8	1.812	2.043	72.95	8.11	0.015
2001/7/3	5:00	144.7	2.089	4.288	63.58	3.748	0.015
2001/7/3	6:00	232.3	1.9	3.194	66.22	4.972	0.015
2001/7/3	7:00	251.4	1.214	0.782	71.18	7.178	0.015
2001/7/3	8:00	267.1	2.657	1.42	74.2	9.639	0.014
2001/7/3	9:00	260.7	2.151	2.263	69.76	28.28	0.022
2001/7/3	10:00	319.4	3.234	5.261	63.79	87	0.06
2001/7/3	11:00	134.6	1.871	7.699	55.78	222.7	0.11
2001/7/3	12:00	109.2	3.192	10.07	50.57	289.9	0.154
2001/7/3	13:00	162	1.754	11.11	51.97	283.9	0.155
2001/7/3	14:00	156.2	1.948	12.07	49.87	314.1	0.173
2001/7/3	15:00	108.7	2.229	13.44	46.75	410.7	0.194
2001/7/3	16:00	151.8	1.78	14.69	45.22	299.8	0.148
2001/7/3	17:00	129.3	2.288	15	44.53	150	0.103
2001/7/3	18:00	289.4	2.98	14	49.1	92.31	0.065
2001/7/3	19:00	134.9	1.697	11.8	56.1	0.781	0.036
2001/7/3	20:00	154.5	2.612	9.13	61.06	2.616	0.034
2001/7/3	21:00	194.4	2.147	7.618	60.95	2.38	0.032
2001/7/3	22:00	262.8	2.98	6.499	63.64	3.532	0.027
2001/7/3	23:00	223.3	2.08	7.999	58.38	1.42	0.026
2001/7/3	24:00:00	275.9	2.021	9.169	52.89	−0.13	0.024
2001/7/4	1:00	175.3	1.81	7.861	60.94	2.555	0.024
2001/7/4	2:00	265.3	2.893	6.348	67.42	5.542	0.024
2001/7/4	3:00	242.7	2.538	6.378	68.15	6.026	0.022
2001/7/4	4:00	284.6	2.76	7.638	66.55	5.025	0.022
2001/7/4	5:00	278.9	2.821	11.68	44.23	−2.38	0.022
2001/7/4	6:00	262.2	3.419	5.242	75.03	9.452	0.022
2001/7/4	7:00	137.7	1.092	5.631	74.38	10.81	0.022
2001/7/4	8:00	100.4	2.301	5.251	71.08	9.448	0.021
2001/7/4	9:00	81.16	2.905	4.973	72.1	10.71	0.022
2001/7/4	10:00	86.96	2.199	4.382	64.7	25.87	0.032
2001/7/4	11:00	264.8	1.899	4.73	62.15	63.01	0.055
2001/7/4	12:00	88.63	2.041	5.444	57.04	131.7	0.093
2001/7/4	13:00	92.4	2.664	6.083	54.12	190.3	0.124
2001/7/4	14:00	75.64	3.801	6.295	51.46	384.7	0.198
2001/7/4	15:00	76.17	3.533	7.237	48.86	433.9	0.201
2001/7/4	16:00	94.5	3.192	6.976	46.73	177.8	0.122
2001/7/4	17:00	93.77	3.144	6.586	44.6	62.42	0.063
2001/7/4	18:00	76.59	3.062	6.344	46.23	33.99	0.041
2001/7/4	19:00	82.48	2.467	5.696	49.89	0.549	0.024
2001/7/4	20:00	103.7	1.336	5.327	51.64	−0.02	0.023
2001/7/4	21:00	279.8	1.812	3.987	58.02	0.216	0.022
2001/7/4	22:00	274.1	1.765	2.8	65.1	4.077	0.021
2001/7/4	23:00	279.9	1.748	2.834	66.03	4.382	0.02
2001/7/4	24:00:00	298.3	2.046	3.589	63.1	4.712	0.019

S5-A25 **CTM No.23 Concentration Data (Summer)**

Estación Nº 23 - Centrales Termicas Febrero de 2001		
FECHA	NOx (ppm)	Partículas en suspensión (μg/m3)
31-1	0.004	s/m
01-02	0.002	s/m
05-06	0.003	s/m
06-07	0.003	s/m
07-08	0.002	s/m
08-09	0.003	s/m
12-13	0.019	2
13-14	0.013	2
14-15	0.013	2
15-16	0.023	2
19-20	0.014	
20-21	0.014	
21-22	0.004	
22-23	0.004	
promedio	0.009	2.000

s/m : nil

S5-A26 **CTM No.23 Concentration Data (Winter)**

Estación Nº 23 - Centrales Termicas Junio de 2001		
FECHA	NOx (ppm)	SO2 (ppm)
5	0.016	0.001
6	0.016	0.001
7	0.010	0.01
8	0.009	0.011
12	0.011	0.019
13	0.012	0.018
14	0.007	0.009
15	0.006	0.007
19	0.016	0.006
20	0.015	0.006
21	0.016	0.006
22	0.014	0.006
promedio	0.012	0.009
Estación Nº 23 - Centrales Termicas Julio de 2001		
FECHA	NOx (ppm)	SO2 (ppm)
3	0.008	0.003
4	0.008	0.004
5	0.031	0.002
6	0.028	0.001
17	0.014	0.002
18	0.015	0.002
19	0.006	0.002
20	0.004	0.002
promedio	0.014	0.002

S5-A27

San Nicolas Manual Monitoring Data (2001.2)

	hr	No 1 SO2	No 1 NOx	No 1 TSP	No 2 SO2	No 2 NOx	No 2 TSP	No 3 SO2	No 3 NOx	No 3 TSP	No 4 SO2	No 4 NOx	No 4 TSP
2/5	12	160	<4	90	121.7	＜4	114	86.7	＜4	119	11.17	＜4	60
	16	79.2	<4		152.5	＜4		121.7	＜4		81.7	＜4	
	20	48.3	<4		74.2	＜4		75	＜4		103.3	＜4	
2/6	0	－	<4		112.5	＜4		72.5	＜4		59.2	＜4	
	4	－	<4		75.8	＜4		129.2	＜4		132.5	＜4	
	8	ND	<4		10.5	＜4		26.7	＜4		30	＜4	
	12	ND	<4	74	79.2	＜4	95	19.2	＜4	105	22.5	＜4	93
	16	61.7	<4		56	＜4		95.8	＜4		29.2	＜4	
	20	ND	37.8		21.7	＜4		30	＜4		26	＜4	
2/7	0	15	<4		ND	＜4		9.2	＜4		ND	＜4	
	4	20.6	<4		ND	＜4		17.5	6.90		14.2	＜4	
	8	21.7	<4		ND	7.38		14.2	＜4		35	＜4	
	12	31.7	<4	70	36.7	＜4	182	37.5	＜4	106	41.7	＜4	174
	16	76.7	45.5		25.3	6.89		15	5.40		41.7	＜4	
	20	58.3	<4		34.2	＜4		73.3	4.00		34.2	8.82	
2/8	0	－	ND		84.2	＜4		62.5	＜4		112.5	＜4	
	4	64	ND		34.2	9.36		45	＜4		10.8	＜4	
	8	26.7	＜4		16.7	＜4		36.7	＜4		40.8	＜4	
	12	20	4.00	32	61.7	＜4	111	18.3	＜4	63	52.5	＜4	53
	16	35	＜4		18.3	＜4		19.2	＜4		20	5.90	
	20	ND	＜4		15	＜4		38.3	＜4		43.3	＜4	
2/9	0	25.8	＜4		21.7	＜4		70.8	＜4		49.2	＜4	
	4	53.3	＜4		41.7	＜4		37.5	＜4		34.2	＜4	
	8	43.3	＜4		55.8	6.06		45	＜4		59.2	4.96	
	12	10.8	＜4	139	46.7	6.67	－	14.2	6.06	185	54.2	6.06	149
	16	39.2	＜4		26.7	9.17		31.7	8.17		ND	5.16	
	20	24.2	＜4		24.2	＜4		15.8	＜4		69.2	＜4	
2/10	0	－	－		－	－		－	－		－	－	
	4	－	－		－	－		－	－		－	－	
	8	29.2	＜4		21.7	＜4		19.2	＜4		－	＜4	
	12	32.5	6.37	95	15.8	8.91	106	11.7	10.3	51	35.8	5.66	107
	16	30	4.16		24.2	＜4		41.7	5.67		50.8	＜4	
	20	39.2	＜4		45	6.87		23.3	4.16		204	＜4	
2/11	0	35.8	＜4		44.2	7.17		42.5	6.87		62.5	＜4	
	4	24.2	＜4		27.5	6.32		17.5	6.82		15	＜4	
	8	ND	＜4		10.8	＜4		ND	＜4		10.8	＜4	
	12	20.8	＜4	52	10.8	＜4	66	11.7	＜4	72	ND	＜4	58
	16	34.2	＜4		26.7	＜4		32.5	＜4		20	＜4	
	20	13.3	＜4		25.8	＜4		65	＜4		37.5	＜4	
2/12	0	9.2	＜4		16.7	4.9		ND	4.40		12.5	＜4	
	4	15	＜4		75.8	＜4		－	＜4		27.5	4.42	
	8	35.8	＜4		45.8	4.9		20.8	7.33		75.8	4.42	

	hr	No 5 SO2	No 5 NOx	No 5 TSP	No 6 SO2	No 6 NOx	No 6 TSP	No 7 SO2	No 7 NOx	No 7 TSP	No 8 SO2	No 8 NOx	No 8 TSP
2/5	12	－	＜4	202	126.7	＜4	153	150.8	＜4	122	132	－	－
	16	81.7	＜4		70	＜4		90.8	＜4		－	－	
	20	96.7	＜4		262.5	＜4		44.2	＜4		－	－	
2/6	0	35	＜4		28.3	＜4		35.8	＜4		－	－	
	4	65	＜4		40.8	＜4		63.3	＜4		－	－	
	8	21.7	＜4		22.5	＜4		14.2	＜4		－	－	
	12	45	＜4	197	19.2	＜4	127	30.8	＜4	102		－	－
	16	51.7	＜4		17.5	＜4		19.2	＜4		－	－	
	20	ND	＜4		15	＜4		19.2	＜4		－	－	
2/7	0	10.8	＜4		ND	＜4		ND	＜4		－	－	
	4	ND	＜4		ND	＜4		9.2	＜4		－	－	
	8	49.2	＜4		52.5	13.8		37.5	4.91		－	－	
	12	29.2	＜4	220	17.5	＜4	117	35	＜4	95	－	－	132
	16	81.7	＜4		90.3	＜4		76.7	＜4		89.2	－	
	20	27	＜4		42.5	＜4		23.3	＜4		－	－	
2/8	0	123.3	＜4		62.5	＜4		91.7	＜4		89.2	＜4	
	4	24.2	＜4		56.7	＜4		41.7	＜4			4.40	
	8	45	＜4		28.3	＜4		48.3	＜4		47.5	＜4	
	12	26.7	＜4	102	12.5	＜4	75	25.8	＜4	74	24.2	11.34	115
	16	30	＜4		28.3	8.87		－	4.90		49.2	6.39	
	20	40	＜4		35	＜4		44	＜4		－	＜4	
2/9	0	67.5	9.17		160	7.77		60.8	10.13		－	＜4	
	4	66.7	6.16		48	11.5		26.7	＜4		51.7	＜4	
	8	45	＜4		33	＜4		57.5	7.02		35	6.17	
	12	49.2	＜4	230	37	＜4	199	19.2	＜4	165	14.2	10.7	197
	16	17.5	＜4		38.3	＜4		79.2	5.16		44.2	13.2	
	20	28.2	＜4		20.8	＜4		26	＜4		46.7	＜4	
2/10	0	－	－		－	－		－	－		－	－	
	4	－	－		－	－		－	－		－	－	
	8	27.5	＜4		19.2	＜4		14.2	＜4		22	＜4	
	12	44.2	＜4	84	16.7	＜4	54	25.8	5.16	82	53.3	＜4	71
	16	12.5	＜4		47.5	＜4		19.2	＜4		－	ND	
	20	1075	＜4		25.8	＜4		89.2	＜4		34.2	＜4	
2/11	0	20.8	＜4		ND			57.5	＜4		25	＜4	
	4	10	＜4		10.8	＜4		12.8	＜4		－	ND	
	8	12.5	＜4		ND	＜4		11.7	＜4		－	ND	
	12	16.7	＜4	53	ND	＜4	43	14.2	＜4	48	－	ND	－
	16	30	＜4		19.2	＜4		17.5	＜4		－	ND	
	20	25.8	＜4		ND	＜4		ND	＜4		48.3	ND	
2/12	0	9.2	＜4		34.2	＜4		12.5	＜4		－	ND	
	4	16.7	＜4		19.2	＜4		30	＜4		－	＜4	
	8	12.5	＜4		－	＜4		19.2	＜4		－	＜4	

S5-A28 San Nicolas Automatic Data (Summer)

day hour	PM(mg/m^3)	GSR(w/m^2)	SO_2(ppm)	NO(ppm)	NO_2(ppm)	NOx(ppm)	CO(ppm)
02/05/2001 00	0.007	0	-	-	0.002	0.002	-
02/05/2001 01	0.008	0	-	-	-	-	-
02/05/2001 02	0.010	0	-	0.005	-	0.002	-
02/05/2001 03	0.010	0	-	0.008	0.000	0.008	-
02/05/2001 04	0.011	0	-	0.002	0.019	0.021	-
02/05/2001 05	0.014	0	-	-	0.008	0.007	-
02/05/2001 06	0.015	0	-	0.001	0.010	0.011	-
02/05/2001 07	0.015	0	-	0.005	0.015	0.020	-
02/05/2001 08	0.021	0	-	-	0.023	0.020	-
02/05/2001 09	0.025	0	-	-	0.004	0.004	-
02/05/2001 10	0.026	86	-	0.003	-	-	-
02/05/2001 11	0.027	99	-	-	-	-	-
02/05/2001 12	0.028	112	-	0.011	-	-	-
02/05/2001 13	0.029	116	-	0.001	-	-	-
02/05/2001 14	0.030	56	-	0.005	0.001	0.006	-
02/05/2001 15	0.031	101	-	-	0.004	0.000	-
02/05/2001 16	0.032	847	-	0.003	0.003	0.006	-
02/05/2001 17	0.034	625	-	0.007	-	-	-
02/05/2001 18	0.000	376	-	-	0.005	-	-
02/05/2001 19	0.002	128	-	-	0.006	0.005	-
02/05/2001 20	0.005	0	-	0.011	0.002	0.013	-
02/05/2001 21	0.010	0	-	0.007	0.013	0.020	-
02/05/2001 22	0.011	0	-	0.003	0.007	0.010	-
02/05/2001 23	0.020	0	-	0.011	0.000	0.001	-
02/05/2001 00	0.022	0	-	0.000	0.000	0.000	-
02/06/2001 01	0.023	0	-	-	0.005	0.005	-
02/06/2001 02	0.030	0	-	0.021	-	0.020	-
02/06/2001 03	0.032	0	-	0.008	0.004	0.012	-
02/06/2001 04	0.034	0	-	0.003	0.008	0.011	-
02/06/2001 05	0.036	0	-	0.022	-	0.020	-
02/06/2001 06	0.037	0	-	0.012	0.013	0.025	-
02/06/2001 07	0.040	77	-	0.013	0.026	0.039	-
02/06/2001 08	0.043	311	-	0.025	0.050	0.075	-
02/06/2001 09	0.044	563	-	0.013	0.024	0.037	-
02/06/2001 10	0.045	775	-	0.006	0.025	0.031	-
02/06/2001 11	0.047	955	-	0.000	0.004	0.011	-
02/06/2001 12	0.049	1078	-	0.004	0.003	0.007	-
02/06/2001 13	0.050	1126	-	0.003	0.005	0.008	-
02/06/2001 14	0.052	687	-	-	0.009	0.007	-
02/06/2001 15	0.053	984	-	0.006	0.002	0.008	-
02/06/2001 16	0.054	820	-	-	0.018	0.017	-
02/06/2001 17	0.056	604	-	0.013	-	0.011	-
02/06/2001 18	0.000	359	-	-	0.005	-	-
02/06/2001 19	0.002	120	-	0.004	0.002	0.006	-
02/06/2001 20	0.003	0	-	0.008	-	0.008	-
02/06/2001 21	0.004	0	-	0.009	0.004	0.013	-
02/06/2001 22	0.005	0	-	0.004	-	0.001	-
02/06/2001 23	0.006	0	-	0.002	0.013	0.015	-
02/06/2001 00	0.007	0	-	0.011	0.004	0.015	-
02/07/2001 01	0.008	0	-	0.011	-	0.008	-
02/07/2001 02	0.011	0	-	0.011	-	0.011	-
02/07/2001 03	0.011	0	-	0.005	-	0.001	-
02/07/2001 04	0.012	0	-	0.003	0.009	0.012	-
02/07/2001 05	0.013	0	-	0.015	0.026	0.041	-
02/07/2001 06	0.014	0	-	0.020	0.022	0.042	-
02/07/2001 07	0.015	62	-	0.044	0.024	0.068	-
02/07/2001 08	0.016	300	-	0.023	0.005	0.028	-
02/07/2001 09	0.017	535	-	0.010	0.014	0.024	-
02/07/2001 10	0.018	784	-	-	0.008	0.007	-
02/07/2001 11	0.020	966	-	-	0.010	0.009	-
02/07/2001 12	0.022	1090	-	0.002	0.002	0.004	-
02/07/2001 13	0.024	1141	-	0.005	-	0.001	-
02/07/2001 14	0.025	868	-	0.001	-	-	-
02/07/2001 15	0.025	1008	-	0.002	-	-	-
02/07/2001 16	0.026	849	-	0.002	-	-	-
02/07/2001 17	0.026	728	-	0.002	0.004	0.006	-
02/07/2001 18	0.000	379	-	0.006	0.013	0.019	-
02/07/2001 19	0.002	159	-	0.009	0.007	0.017	-
02/07/2001 20	0.003	0	-	0.006	0.021	0.028	-
02/07/2001 21	0.005	0	-	0.008	0.043	0.051	-
02/07/2001 22	0.006	0	-	0.010	-	0.005	-
02/07/2001 23	0.007	0	-	0.013	-	-	-
02/07/2001 00	0.007	0	-	0.013	0.039	0.053	-
02/08/2001 01	0.008	0	-	0.010	-	0.005	-
02/08/2001 02	0.009	0	-	0.005	0.011	0.016	-
02/08/2001 03	0.010	0	-	0.010	0.008	0.018	-
02/08/2001 04	0.011	0	-	0.003	0.004	0.008	-
02/08/2001 05	0.011	0	-	0.009	-	0.009	-
02/08/2001 06	0.012	0	-	0.007	-	0.003	-
02/08/2001 07	0.013	14	-	0.008	0.007	0.016	-
02/08/2001 08	0.014	4	-	0.012	0.001	0.013	-
02/08/2001 09	0.014	99	-	0.010	0.006	0.016	-
02/08/2001 10	0.016	435	-	0.014	0.009	0.023	-
02/08/2001 11	0.017	1053	-	0.008	0.007	0.015	-
02/08/2001 12	0.000	119	-	0.011	0.001	0.012	-
02/08/2001 13	0.002	666	-	0.006	-	-	-
02/08/2001 14	0.003	176	-	-	0.003	0.000	-
02/08/2001 15	0.004	104	-	0.005	0.003	0.009	-
02/08/2001 16	0.005	33	-	0.008	-	-	-
02/08/2001 17	0.006	158	-	-	-	-	-
02/08/2001 18	0.000	139	0.009	0.008	0.005	0.013	-
02/08/2001 19	0.001	66	0.009	0.022	0.042	0.064	-
02/08/2001 20	0.002	0	0.007	0.162	0.091	0.253	-
02/08/2001 21	0.003	0	0.015	0.314	0.128	0.442	-
02/08/2001 22	0.004	0	0.009	0.018	0.001	0.026	-
02/08/2001 23	0.015	0	0.012	0.010	0.005	0.015	-
02/08/2001 00	0.015	0	0.021	-	0.004	0.002	-
02/09/2001 01	0.016	0	0.027	-	0.006	-	-
02/09/2001 02	0.017	0	0.026	0.012	-	0.010	-
02/09/2001 03	0.017	0	0.031	0.012	-	-	-
02/09/2001 04	0.017	0	0.032	0.012	-	-	-
02/09/2001 05	0.017	0	0.033	0.003	0.006	0.009	-
02/09/2001 06	0.018	0	0.033	0.006	-	-	-
02/09/2001 07	0.019	0	0.036	-	0.004	0.003	-
02/09/2001 08	0.020	33	0.035	0.014	0.047	0.061	-
02/09/2001 09	0.021	49	0.037	0.002	0.009	0.010	-
02/09/2001 10	0.022	143	0.038	0.004	-	-	-
02/09/2001 11	0.023	814	0.041	0.008	0.002	0.010	-
02/09/2001 12	0.024	1084	0.037	0.002	0.001	0.004	-
02/09/2001 13	0.025	1139	0.027	0.001	-	-	-
02/09/2001 14	0.026	1138	0.026	-	0.006	-	-
02/09/2001 15	0.028	990	0.020	-	0.003	-	-
02/09/2001 16	0.030	826	-	-	0.003	-	-
02/09/2001 17	0.032	614	-	0.008	0.010	-	-
02/09/2001 18	0.000	370	-	0.010	-	-	-
02/09/2001 19	0.002	123	-	0.005	-	0.001	-
02/09/2001 20	0.003	0	-	-	0.003	0.001	-
02/09/2001 21	0.004	0	-	-	0.016	-	-
02/09/2001 22	0.005	0	-	0.012	0.012	0.025	-
02/09/2001 23	0.006	0	-	0.002	0.000	0.002	-
02/09/2001 00	0.007	0	-	0.007	-	-	-
02/10/2001 01	-	-	-	-	-	-	-
02/09/2001 02	-	-	-	-	-	-	-
02/10/2001 03	0.001	0	0.183	0.015	0.018	0.033	-
02/10/2001 04	0.003	0	0.116	0.014	0.015	0.029	-
02/10/2001 05	0.005	0	0.099	0.010	0.024	0.034	-
02/10/2001 06	0.006	0	0.101	0.002	0.009	0.012	-
02/10/2001 07	0.007	11	0.095	0.019	0.030	0.048	-
02/10/2001 08	0.008	141	0.108	0.001	0.025	0.026	-
02/10/2001 09	-	-	-	-	-	-	-
02/10/2001 10	0.003	147	0.010	0.000	0.000	0.000	0.260
02/10/2001 11	0.003	331	0.010	0.000	0.000	0.000	0.310
02/10/2001 12	0.004	512	0.010	0.000	0.010	0.010	0.350
02/10/2001 13	0.005	304	0.010	0.040	0.010	0.050	0.340
02/10/2001 14	0.005	344	0.010	0.040	0.010	0.050	0.170
02/10/2001 15	0.005	0	0.010	0.000	0.010	0.010	0.120
02/10/2001 16	0.006	186	0.010	0.000	0.000	0.000	0.190
02/10/2001 17	0.006	59	0.010	0.000	0.000	0.000	0.200
02/10/2001 18	0	0	0.010	0.000	0.010	0.010	0.410
02/10/2001 19	0.001	14	0.020	0.000	0.000	0.000	0.110
02/10/2001 20	0.001	0	0.010	0.000	0.000	0.000	0.010
02/10/2001 21	0.001	0	0.020	0.000	0.000	0.000	0.110
02/10/2001 22	0.002	0	0.020	0.000	0.000	0.000	0.570
02/10/2001 23	0.002	0	0.020	0.000	0.000	0.000	0.290
02/11/2001 00	0.002	0	0.020	0.000	0.000	0.000	0.160
02/11/2001 01	0.002	0	0.020	0.000	0.000	0.000	0.120
02/11/2001 02	0.003	0	0.020	0.000	0.000	0.000	0.080
02/11/2001 03	0.003	0	0.020	0.000	0.000	0.000	-
02/11/2001 04	0.003	0	0.020	0.000	0.000	0.000	0.110
02/11/2001 05	0.003	0	0.020	0.000	0.000	0.000	0.200
02/11/2001 06	0.003	0	0.020	0.000	0.000	0.000	0.250
02/11/2001 07	0.004	4	0.020	0.000	0.000	0.000	-
02/11/2001 08	0.004	113	0.020	0.000	0.000	0.000	0.020
02/11/2001 09	0.004	184	0.020	0.000	0.000	0.000	0.030
02/11/2001 10	0.004	102	0.020	0.000	0.000	0.000	-
02/11/2001 11	0.005	133	0.020	0.000	0.000	0.000	0.290
02/11/2001 12	0.005	64	0.020	0.000	0.000	0.000	0.290
02/11/2001 13	0.005	11	0.020	0.000	0.000	0.000	0.270
02/11/2001 14	0.005	188	0.020	0.000	0.000	0.000	0.220
02/11/2001 15	0.006	115	0.020	0.000	0.000	0.000	-
02/11/2001 16	0.006	34	0.020	0.000	0.000	0.000	0.010
02/11/2001 17	0.006	176	0.020	0.000	0.000	0.000	-
02/11/2001 18	0	175	0.020	0.000	0.000	0.000	-
02/11/2001 19	0	22	0.020	0.000	0.000	0.000	-
02/11/2001 20	0.001	0	0.020	0.000	0.000	0.000	-
02/11/2001 21	0.001	0	0.020	0.000	0.000	0.000	0.310
02/11/2001 22	0.001	0	0.020	0.000	0.000	0.000	0.300
02/11/2001 23	0.001	0	0.020	0.000	0.000	0.000	0.470
02/12/2001 00	0.002	0	0.020	0.000	0.000	0.000	0.050
02/12/2001 01	0.002	0	0.020	0.000	0.000	0.000	-
02/12/2001 02	0.002	0	0.020	0.000	0.000	0.000	-
02/12/2001 03	0.002	0	0.020	0.000	0.000	0.000	-
02/12/2001 04	0.002	0	0.020	0.000	0.000	0.000	-
02/12/2001 05	0.002	0	0.020	0.000	0.000	0.000	-
02/12/2001 06	0.003	0	0.020	0.000	0.000	0.000	-
02/12/2001 07	0.003	89	0.020	0.000	0.000	0.010	0.270
02/12/2001 08	0.003	309	0.020	0.000	0.000	0.010	0.490
02/12/2001 09	0.003	529	0.020	0.000	0.000	0.010	0.410
02/12/2001 10	0.003	710	0.020	0.010	0.010	0.010	0.500
02/12/2001 11	0.004	872	0.020	0.000	0.000	0.000	0.020
02/12/2001 12	0.004	964	0.020	0.000	0.000	0.000	0.290

S5-A29 Central Termica San Nicolas Operation Data (Summer)

	Producción/ Production	CARBON - Turbio/Turbio coal		CARBON - Sudafricano/South African coal		GAS NATURAL/NATURAL GAS	
	DAILY	DAILY		DAILY		DAILY	
Fecha		Consumo	PCI	Consumo	PCI	Consumo	PCI
Date	MWh	Tn/Tons	kcal/kg	Tn/Tons	kcal/kg	m^3	$kcal/m^3$
5-Feb-01	4213	75	5623	94	6068	1143127	8400
6-Feb-01	4278	39	5623	531	6068	865096	8400
7-Feb-01	4317	364	5623	56	6068	994659	8400
8-Feb-01	4305	120	5623	180	6068	1078183	8400
9-Feb-01	4306	187	5623	434	6068	846095	8400
10-Feb-01	4282	78	5623	401	6068	938886	8400
11-Feb-01	3989	138	5623	204	6068	952746	8400
12-Feb-01	4006	0	5623	431	6068	865768	8400

S5-A30 Central Termica San Nicolas Emission Data (Summer)

DATE TIME	SO2_B5	NO_B5	OPAC_B5	O2_B5
2001/2/5	29	76	2	4
2001/1/6	85	153	5	4
2001/2/7	88	74	3	4
2001/2/8	53	87	2	3
2001/2/9	99	129	2	8
2001/2/10	59	119	2	8
2001/2/11	65	109	1	9
2001/2/12	62	183	4	10

S5-A31 San Nicolas Wind Speed and Direction (UTN, Summer)

Date	Time	wsp	wdir	Date	Time	wsp	wdir	Date	Time	wsp	wdir
05.02.01	0	4.8	2	**08.02.01**	200	0	255	**11.02.01**	400	11.3	5
05.02.01	100	6.4	1	**08.02.01**	300	0	255	**11.02.01**	500	14.5	5
05.02.01	200	4.8	1	**08.02.01**	400	0	255	**11.02.01**	600	14.5	4
05.02.01	300	3.2	1	**08.02.01**	500	0	255	**11.02.01**	700	11.3	7
05.02.01	400	0	2	**08.02.01**	600	0	255	**11.02.01**	800	11.3	6
05.02.01	500	0	255	**08.02.01**	700	0	255	**11.02.01**	900	9.7	6
05.02.01	600	0	255	**08.02.01**	800	19.3	15	**11.02.01**	1000	9.7	6
05.02.01	700	0	255	**08.02.01**	900	9.7	0	**11.02.01**	1100	11.3	7
05.02.01	800	1.6	0	**08.02.01**	1000	3.2	2	**11.02.01**	1200	9.7	6
05.02.01	900	1.6	0	**08.02.01**	1100	11.3	4	**11.02.01**	1300	6.4	6
05.02.01	1000	4.8	0	**08.02.01**	1200	16.1	1	**11.02.01**	1400	6.4	7
05.02.01	1100	4.8	0	**08.02.01**	1300	16.1	0	**11.02.01**	1500	11.3	7
05.02.01	1200	6.4	15	**08.02.01**	1400	22.5	1	**11.02.01**	1700	14.5	7
05.02.01	1300	9.7	15	**08.02.01**	1500	19.3	1	**11.02.01**	1800	14.5	7
05.02.01	1400	9.7	15	**08.02.01**	1600	19.3	0	**11.02.01**	1900	14.5	7
05.02.01	1500	8	0	**08.02.01**	1700	25.7	0	**11.02.01**	2000	11.3	7
05.02.01	1600	8	15	**08.02.01**	1800	24.1	1	**11.02.01**	2100	9.7	7
05.02.01	1700	8	15	**08.02.01**	1900	14.5	1	**11.02.01**	2200	9.7	7
05.02.01	1800	8	15	**08.02.01**	2000	9.7	1	**11.02.01**	2300	4.8	6
05.02.01	1900	6.4	15	**08.02.01**	2100	1.6	1	**11.02.01**	2400	3.2	7
05.02.01	2000	6.4	15	**08.02.01**	2200	0	255	**12.02.01**	0	3.2	7
05.02.01	2100	6.4	15	**08.02.01**	2300	0	255	**12.02.01**	100	4.8	7
05.02.01	2200	4.8	15	**08.02.01**	2400	0	255	**12.02.01**	200	3.2	8
05.02.01	2300	6.4	14	**09.02.01**	0	0	255	**12.02.01**	300	4.8	7
05.02.01	2400	6.4	14	**09.02.01**	100	0	255	**12.02.01**	400	6.4	7
06.02.01	0	6.4	14	**09.02.01**	200	0	255	**12.02.01**	500	4.8	7
06.02.01	100	6.4	13	**09.02.01**	300	0	255	**12.02.01**	600	6.4	8
06.02.01	200	8	14	**09.02.01**	400	0	255	**12.02.01**	700	6.4	8
06.02.01	300	6.4	14	**09.02.01**	500	0	255	**12.02.01**	800	4.8	8
06.02.01	400	6.4	13	**09.02.01**	600	0	255	**12.02.01**	900	4.8	7
06.02.01	500	4.8	13	**09.02.01**	700	0	255	**12.02.01**	1000	4.8	6
06.02.01	600	3.2	13	**09.02.01**	800	0	255	**12.02.01**	1100	6.4	4
06.02.01	700	1.6	11	**09.02.01**	900	0	255	**12.02.01**	1200	6.4	4
06.02.01	800	3.2	8	**09.02.01**	1000	0	255	**12.02.01**	1300	6.4	4
06.02.01	900	1.6	8	**09.02.01**	1100	6.4	0	**12.02.01**	1400	8	4
06.02.01	1000	1.6	11	**09.02.01**	1200	17.7	0	**12.02.01**	1500	6.4	3
06.02.01	1100	4.8	13	**09.02.01**	1300	22.5	1	**12.02.01**	1600	6.4	3
06.02.01	1200	6.4	0	**09.02.01**	1400	24.1	0	**12.02.01**	1700	8	4
06.02.01	1300	8	15	**09.02.01**	1500	17.7	0	**12.02.01**	1800	9.7	5
06.02.01	1400	8	15	**09.02.01**	1600	16.1	0	**12.02.01**	1900	9.7	5
06.02.01	1500	8	15	**09.02.01**	1700	14.5	0	**12.02.01**	2000	12.9	4
06.02.01	1600	8	15	**09.02.01**	1800	17.7	0	**12.02.01**	2100	11.3	4
06.02.01	1700	8	0	**09.02.01**	1900	19.3	0	**12.02.01**	2200	14.5	4
06.02.01	1800	8	15	**09.02.01**	2000	14.5	1	**12.02.01**	2300	9.7	3
06.02.01	1900	8	15	**09.02.01**	2100	16.1	1	**12.02.01**	2400	14.5	3
06.02.01	2000	8	15	**09.02.01**	2200	14.5	1				
06.02.01	2100	6.4	14	**09.02.01**	2300	14.5	0				
06.02.01	2200	4.8	14	**09.02.01**	2400	9.7	0				
06.02.01	2300	8	15	**10.02.01**	0	9.7	0				
06.02.01	2400	8	14	**10.02.01**	100	8	8				
07.02.01	0	8	14	**10.02.01**	200	4.8	14				
07.02.01	100	9.7	14	**10.02.01**	300	4.8	8				
07.02.01	200	9.7	14	**10.02.01**	400	3.2	8				
07.02.01	300	8	14	**10.02.01**	500	0	8				
07.02.01	400	3.2	14	**10.02.01**	600	0	255				
07.02.01	500	1.6	8	**10.02.01**	700	0	255				
07.02.01	600	1.6	7	**10.02.01**	800	0	255				
07.02.01	700	1.6	7	**10.02.01**	900	0	255				
07.02.01	800	3.2	3	**10.02.01**	1000	0	255				
07.02.01	900	3.2	3	**10.02.01**	1100	3.2	6				
07.02.01	1000	3.2	2	**10.02.01**	1200	12.9	6				
07.02.01	1100	1.6	2	**10.02.01**	1300	11.3	5				
07.02.01	1200	3.2	0	**10.02.01**	1400	9.7	6				
07.02.01	1300	6.4	0	**10.02.01**	1500	9.7	6				
07.02.01	1400	6.4	0	**10.02.01**	1600	9.7	5				
07.02.01	1500	6.4	0	**10.02.01**	1700	11.3	5				
07.02.01	1600	6.4	0	**10.02.01**	1800	14.5	5				
07.02.01	1700	4.8	0	**10.02.01**	1900	17.7	4				
07.02.01	1800	6.4	0	**10.02.01**	2000	12.9	4				
07.02.01	1900	4.8	2	**10.02.01**	2100	9.7	4				
07.02.01	2000	3.2	4	**10.02.01**	2200	9.7	5				
07.02.01	2100	1.6	4	**10.02.01**	2300	8	6				
07.02.01	2200	0	255	**10.02.01**	2400	9.7	5				
07.02.01	2300	0	255	**11.02.01**	0	9.7	5				
07.02.01	2400	0	255	**11.02.01**	100	19.3	4				
08.02.01	0	0	255	**11.02.01**	200	17.7	4				
08.02.01	100	0	255	**11.02.01**	300	14.5	4				

0=N	10=SW
1=NNE	11=WSW
2=NE	12=W
3=ENE	13=WNW
4=E	14=NW
5=ESE	15=NNW
6=SE	255=calmo
7=SSE	
8=S	
9=SSW	

San Nicolas Manual Monitoring Data (7,8.2001)

		No 1			No 2			No 3			No 4			No 5			No 6			No 7			No 8		
	hr	SO2	NOx	TSP	SO2	NOx	TSP	SO2	NOx	TSP	SO2	NOx	TSP	SO2	NOx	TSP	SO2	NOx	TSP	SO2	NOx	TSP	SO2	NOx	TSP
7/27	8	57.5	13.7		258.3	18.8		23.3	18.6		65	13.5		36.7	13.9		16.7	13.8		35	14.8		52.5	16.4	
	12	76.7	10.8		15.8	12.7		33.3	13.7		75.8	11.7		35	10.5		41.7	7.8		25	17.9		12.5	10.9	
	16	57.5	11.8		22.5	15.1		40	13.7		84.2	9.7		26.7	8.5		31.7	8.5		20.8	9.4		30	11.2	
	20	60	21.9	48	30	20.1	63	31.7	25.2	55	66.7	25.8	26	15.8	15.6	81	14.2	20.6	53	21.7	17.5	60	32.5	10.2	32
7/28	0	10.8	8.2		18.3	10.4		10.8	14.8		216.7	17.8		16.7	16.3		10.8	22.9		10.8	15.7		10.8	S/D	
	4	19.2	19.9		11.7	40.7		48.3	34.1		16.7	35.4		10.8	25.2		16.7	30.3		15.8	32.6		10.8	26	
	8	66.7	23.4		43.3	26.1		25.8	25		25.8	26		14.2	22.3		16.7	21.9		13.3	27.8		30.8	27.6	
	12	13.3	8.1		21.7	10.2		39.2	9.7		43.3	14.3		25.8	6.6		60.8	7.4		55.8	9.3		10.8	6.1	
	16	20	7.3		16.7	9.9		10.8	10.2		50.8	11.4		10.8	10.8		10.8	8.8		19.2	15.3		10.8	7.2	
	20	43.3	<4		10.8	9.2		10.8	10.1		10.8	10.2		10.8	8.9		11.7	6.6		16.7	9.2		30	S/D	
	Av			36			43			51			18			124			110			61			103
7/29	0	10.8	<4		10.8	8.6		35	5.8		21.7	5.1		15	<4		19.2	9.3		11.7	13.7		23.3	S/D	
	4	10.8	7		10.8	6		16.7	6.20		12.5	7.5		11.7	6.1		11.7	<4		10.8	9.3		76.7	S/D	
	8	10.8	7.8		10.8	8.6		25.8	6.6		10.8	13.1		10.8	6.8		23.3	5.9		12.5	5.9		16.7	S/D	
	12	10.8	6.1		10.8	8.1		48.3	9		10.8	7.8		24.2	7.4		22.5	9.2		11.7	10.2		35.8	S/D	
	16	10.8	6.6		10.8	13.2		34.2	12.40		53.3	14		60.8	7.3		67.5	12.2		72.5	12.1		30.8	S/D	
	20	16.7	10.8		15	19.5		10.8	<4		61.7	12.5		55.8	<4		10.8	12		62.5	22.2		19.2	S/D	
	Av			28			42			49			39			190			99			89			81
7/30	0	19.2	<4		22.5	6.9		11.7	7.8		12.5	8.6		10.8	8.8		11.7	6.5		12.5	13.7		30.8	S/D	
	4	14.2	21.4		16.7	6.9		11.7	20.5		16.7	6.9		32.5	12.3		27.5	11.6		42.5	17.4		19.2	13.10	
	8	13.3	10.6		17.5	9		16.7	11.5		13.3	13		10.8	12.7		10.8	9.8		10.8	10.2		12.5	10.9	
	12	21.7	<4		27.5	<4		10.8	<4		12.5	<4		11.7	<4		60	5.1		12.5	5.6		58.3	15.3	
	16	30	<4		20	7.1		11.7	11		24.2	9.50		10.8	4.4		13.3	5		76.7	7.90		20	<4	
	20	20.8	<4		54.2	13		26.7	12		13.3	10.3		17.5	<4		10.8	21.4		15.8	73.7		15.8	4	
	Av			80			57			69			65			149			75			72			85
7/31	0	23.3	87.3		26.7	32.7		20	4.8		45.8	11.5		51.7	13.2		19.2	15.80		40.8	10.1		41.7	S/D	
	4	28.3	20.8		65	<4		14.2	11.8		21.7	10.2		24.2	<4		40.8	10.4		196.7	<4		516.7	6.3	
	8	47.5	6.4		81.7	7.1		92.5	14.5		23.3	19.4		58.3	12.4		32.5	14.1		81.7	7		40.8	9.8	
	12	50.8	<4		341.7	13		74.2	9.2		25.8	6.7		21.7	6.4		71.7	5.6		40	4.3		95	<4	
	16	44.2	14.5		146.7	15.8		113.3	16.5		11.7	<4		15	13		10.8	10		34.2	11.6		40	<4	
	20	36.7	8		86.7	29.1		12.5	27.3		37.5	19.7		35.8	9.9		20.8	<4		27.5	9.8		38.3	<4	
	Av			150			184			183			147			–			118			35			65
8/1	0	58.3	<4		35	8.8		12.5	6.1		56.7	<4		13.3	5.5		88.3	6.1		15	6.8		10.8	9.4	
	4	51.7	6.3		74.2	<4		16.7	<4		65.8	<4		15.8	<4		175	<4		15	5.8		35	<4	
	8	63.3	<4		18.3	4.4		117.5	<4		120.8	<4		14.2	7.4		43.3	7.4		30	7.4		101.7	5.2	
	12	50	<4		155.8	5.6		39.2	6.8		45	4.5		75	5.3		83.3	4		25.8	<4		123.3	4.9	
	16	52.5	<4		31.7	12.4		15.8	11		32.5	5.7		12.5	9.6		10.8	8.3		25.8	13.5		10.8	7.9	
	20	28.3	8.6		66.7	18.5		10.8	21.4		65	10.3		14.2	17.8		11.7	10.5		34.2	15.1		10.8	11.2	
	Av			39			95			89			18			254			116			142			210
8/2	0	65.8	12.3		32.5	17.1		10.8	14.5		28.3	16.3		20	12.4		15	13		31.7	16.4		33.3	15.8	
	4	133.3	12.4		31.7	16.5		28.3	33.8		34.2	13.9		26.7	14.6		12.5	16.6		34.2	18.6		49.2	37.5	
	8	26.7	19.1		96.7	18.3		183.3	18.1		33.3	11.2		13.3	14.8		15.8	14.4		20	16.6		29.2	16	
	12	63.3	12.8		135	14.3		16.7	17.2		25	9		12.5	9.8		14.2	11.1		20	11.8		55	14.9	
	16	233.3	8.1		30.8	15.2		15	14.1		30.8	14.9		30.8	16.5		27.5	9.9		22.5	19.9		37.5	17.1	
	20	49.2	<4		50	15.5		15.8	24		191.7	47.1		28.3	20		15	18.9		27.5	18.9		14.2	9.5	
	Av			91			–			85			76			174			218			116			181
8/3	0	62.5	4.4		105	8.1		17.5	5.80		113.3	12.3		10.8	10.7		10.8	9.8		85	9.8		12.5	14.4	
	4	91.7	20.6		80.8	22.9		25.8	23.9		75	23.5		25.8	24.6		20.8	24.3		71.7	26.1		33.3	36.2	
	8																								

S5-A33 San Nicolas Automatic Data (Winter)

FECHA,HORA	SR(W/m2)	SO2(Pppn	NO(ppm)	NO2(ppm)	NOX(ppm)	CO(ppm)	FECHA,HORA	SR(W/m2)	SO2(Pppm	NO(ppm)	NO2(ppm)	NOX(ppm)	CO(ppm)
2001/7/27 17:55	8	0.011	0.019	<0.004	-0.001	0.41	2001/7/31 01:55	0	0.048	0.001	<0.004	0.000	0.14
2001/7/27 18:55	0	0.034	0.073	<0.004	0.054	0.79	2001/7/31 02:55	0	0.048	0.000	<0.004	0.000	0.32
2001/7/27 19:55	0	0.030	0.095	<0.004	0.067	1.23	2001/7/31 03:55	0	0.051	0.001	<0.004	0.002	0.01
2001/7/27 20:55	0	0.032	0.099	<0.004	0.097	2.21	2001/7/31 04:55	0	0.045	0.003	<0.004	0.004	0.18
2001/7/27 21:55	0	0.032	0.063	<0.004	0.039	2.05	2001/7/31 05:55	0	0.048	0.005	<0.004	0.005	0.13
2001/7/27 22:55	0	0.034	0.048	<0.004	0.030	1.43	2001/7/31 06:55	0	0.048	0.000	<0.004	0.002	0.02
2001/7/27 23:55	0	0.037	0.033	<0.004	0.021	0.79	2001/7/31 07:55	18	0.049	0.001	<0.004	0.001	0.04
2001/7/28 00:55	0	0.038	0.019	<0.004	0.012	0.87	2001/7/31 08:55	94	0.050	0.008	<0.004	0.006	0.48
2001/7/28 01:55	0	0.039	0.013	<0.004	0.009	0.13	2001/7/31 09:55	287	0.049	0.002	<0.004	0.002	0.01
2001/7/28 02:55	0	0.042	0.008	<0.004	0.006	0.09	2001/7/31 10:55	365	0.048	0.003	<0.004	0.002	0.06
2001/7/28 03:55	0	0.043	0.007	<0.004	0.005	0.03	2001/7/31 11:55	408	0.045	0.004	<0.004	0.004	0.21
2001/7/28 04:55	0	0.045	0.005	<0.004	0.004	0.40	2001/7/31 12:55	493	0.042	0.004	<0.004	0.003	0.57
2001/7/28 05:55	0	0.050	0.005	<0.004	0.004	0.23	2001/7/31 13:55	458	0.043	0.002	<0.004	0.001	0.22
2001/7/28 06:55	0	0.052	0.006	<0.004	0.004	0.38	2001/7/31 14:55	365	0.038	0.001	<0.004	0.001	0.59
2001/7/28 07:55	10	0.053	0.004	<0.004	0.004	0.12	2001/7/31 15:55	255	0.042	0.004	<0.004	0.005	0.32
2001/7/28 08:55	166	0.056	0.007	<0.004	0.005	0.13	2001/7/31 16:55	120	0.039	0.002	<0.004	0.003	0.39
2001/7/28 09:55	345	0.055	0.008	<0.004	0.008	0.26	2001/7/31 17:55	7	0.040	0.002	<0.004	0.002	0.25
2001/7/28 10:55	469	0.057	0.001	<0.004	0.003	0.62	2001/7/31 18:55	0	0.035	0.002	<0.004	0.005	0.52
2001/7/28 11:55	552	0.055	0.000	<0.004	0.000	0.36	2001/7/31 19:55	0	0.038	0.002	<0.004	0.005	0.29
2001/7/28 12:55	574	0.055	0.000	<0.004	0.000	0.17	2001/7/31 20:55	0	0.034	0.002	<0.004	0.005	0.49
2001/7/28 13:55	542	0.057	0.000	<0.004	0.001	0.74	2001/7/31 21:55	0	0.035	0.001	<0.004	0.003	1.19
2001/7/28 14:55	412	0.053	0.000	<0.004	0.000	0.24	2001/7/31 22:55	0	0.034	0.003	<0.004	0.006	0.84
2001/7/28 15:55	280	0.056	0.000	<0.004	0.000	0.02	2001/7/31 23:55	0	0.034	0.000	<0.004	0.001	1.11
2001/7/28 16:55	106	0.057	0.000	<0.004	0.000	0.08	2001/8/1 00:55	0	0.035	0.001	<0.004	0.001	0.61
2001/7/28 17:55	7	0.055	0.000	<0.004	0.000	0.07	2001/8/1 01:55	0	0.036	0.002	<0.004	0.003	0.80
2001/7/28 18:55	0	0.055	0.000	<0.004	0.000	0.22	2001/8/1 02:55	0	0.036	0.002	<0.004	0.002	0.46
2001/7/28 19:55	0	0.057	0.000	<0.004	0.000	0.10	2001/8/1 03:55	0	0.035	0.000	<0.004	0.002	0.22
2001/7/28 20:55	0	0.057	0.000	<0.004	0.000	0.26	2001/8/1 04:55	0	0.039	0.001	<0.004	0.002	0.32
2001/7/28 21:55	0	0.061	0.000	<0.004	0.000	0.07	2001/8/1 05:55	0	0.038	0.009	<0.004	0.007	0.61
2001/7/28 22:55	0	0.063	0.001	<0.004	0.001	0.21	2001/8/1 06:55	0	0.038	0.009	<0.004	0.007	0.46
2001/7/28 23:55	0	0.061	0.000	<0.004	0.000	0.35	2001/8/1 07:55	14	0.043	0.002	<0.004	0.002	0.76
2001/7/29 00:55	0	0.063	-0.001	<0.004	0.000	0.11	2001/8/1 08:55	99	0.041	0.002	<0.004	0.002	0.50
2001/7/29 01:55	0	0.068	0.000	<0.004	0.000	0.13	2001/8/1 09:55	203	0.039	0.002	<0.004	0.001	0.10
2001/7/29 02:55	0	0.069	0.000	<0.004	0.000	0.11	2001/8/1 10:55	337	0.038	0.002	<0.004	0.001	0.47
2001/7/29 03:55	0	0.067	0.001	<0.004	0.000	0.25	2001/8/1 11:55	340	0.036	0.002	<0.004	0.001	0.26
2001/7/29 04:55	0	0.067	0.000	<0.004	0.000	0.38	2001/8/1 12:55	405	0.037	0.001	<0.004	0.001	0.16
2001/7/29 05:55	0	0.068	0.000	<0.004	-0.001	0.09	2001/8/1 13:55	447	0.035	0.003	<0.004	0.002	0.61
2001/7/29 06:55	0	0.072	-0.001	<0.004	0.000	0.40	2001/8/1 14:55	361	0.036	0.003	<0.004	0.001	0.28
2001/7/29 07:55	15	0.073	-0.001	<0.004	-0.001	0.16	2001/8/1 15:55	298	0.031	0.001	<0.004	0.001	0.57
2001/7/29 08:55	172	0.076	0.000	<0.004	0.000	0.21	2001/8/1 16:55	126	0.031	0.001	<0.004	0.001	0.70
2001/7/29 09:55	421	0.073	0.000	<0.004	0.000	0.33	2001/8/1 17:55	6	0.028	0.001	<0.004	0.000	0.65
2001/7/29 10:55	483	0.070	0.000	<0.004	0.000	0.12	2001/8/1 18:55	0	0.029	0.001	<0.004	0.001	0.33
2001/7/29 11:55	536	0.067	0.001	<0.004	0.000	0.10	2001/8/1 19:55	0	0.025	0.001	<0.004	0.002	0.57
2001/7/29 12:55	338	0.072	0.000	<0.004	0.000	0.04	2001/8/1 20:55	0	0.025	0.001	<0.004	0.000	0.39
2001/7/29 13:55	420	0.066	0.000	<0.004	0.000	0.32	2001/8/1 21:55	0	0.027	0.000	<0.004	0.000	0.29
2001/7/29 14:55	332	0.066	0.000	<0.004	0.000	0.08	2001/8/1 22:55	0	0.028	0.000	<0.004	0.000	0.33
2001/7/29 15:55	157	0.064	0.000	<0.004	0.000	0.10	2001/8/1 23:55	0	0.026	0.001	<0.004	0.001	0.22
2001/7/29 16:55	116	0.062	0.001	<0.004	0.000	0.09	2001/8/2 00:55	0	0.026	0.000	<0.004	0.000	0.25
2001/7/29 17:55	8	0.060	0.000	<0.004	0.000	0.16	2001/8/2 01:55	0	0.028	0.001	<0.004	0.000	0.35
2001/7/29 18:55	0	0.058	0.000	<0.004	0.000	0.17	2001/8/2 02:55	0	0.027	0.000	<0.004	0.000	0.27
2001/7/29 19:55	0	0.061	-0.001	<0.004	0.000	0.16	2001/8/2 03:55	0	0.027	0.000	<0.004	0.000	0.16
2001/7/29 20:55	0	0.061	0.001	<0.004	0.000	0.19	2001/8/2 04:55	0	0.025	0.000	<0.004	0.000	0.23
2001/7/29 21:55	0	0.061	0.000	<0.004	0.000	0.18	2001/8/2 05:55	0	0.029	0.000	<0.004	-0.001	0.23
2001/7/29 22:55	0	0.061	-0.001	<0.004	0.000	0.14	2001/8/2 06:55	0	0.030	0.000	<0.004	0.000	0.41
2001/7/29 23:55	0	0.061	0.000	<0.004	0.000	0.03	2001/8/2 07:55	15	0.027	0.001	<0.004	0.001	0.23
2001/7/30 00:55	0	0.063	0.000	<0.004	0.000	0.36	2001/8/2 08:55	136	0.028	0.003	<0.004	0.004	0.27
2001/7/30 01:55	0	0.061	0.000	<0.004	0.000	0.17	2001/8/2 09:55	299	0.030	0.000	<0.004	0.000	0.38
2001/7/30 02:55	0	0.062	0.000	<0.004	0.000	0.30	2001/8/2 10:55	379	0.028	0.001	<0.004	0.001	0.29
2001/7/30 03:55	0	0.065	0.001	<0.004	0.000	0.06	2001/8/2 11:55	484	0.025	0.001	<0.004	0.001	0.49
2001/7/30 04:55	0	0.063	0.000	<0.004	0.000	0.14	2001/8/2 12:55	513	0.024	0.002	<0.004	0.001	0.50
2001/7/30 05:55	0	0.064	-0.001	<0.004	0.000	0.19	2001/8/2 13:55	483	0.022	0.001	<0.004	0.001	0.40
2001/7/30 06:55	0	0.062	-0.001	<0.004	-0.001	0.19	2001/8/2 14:55	396	0.019	0.002	<0.004	0.001	0.65
2001/7/30 07:55	10	0.061	0.000	<0.004	0.000	0.09	2001/8/2 15:55	278	0.018	0.001	<0.004	0.001	0.63
2001/7/30 08:55	108	0.063	0.000	<0.004	0.000	0.37	2001/8/2 16:55	124	0.018	0.000	<0.004	0.001	0.52
2001/7/30 09:55	319	0.062	0.000	<0.004	-0.001	0.13	2001/8/2 17:55	6	0.014	0.002	<0.004	0.004	0.33
2001/7/30 10:55	427	0.065	0.001	<0.004	0.000	0.08	2001/8/2 18:55	0	0.012	0.002	<0.004	0.002	0.49
2001/7/30 11:55	504	0.060	0.001	<0.004	0.000	0.27	2001/8/2 19:55	0	0.015	0.001	<0.004	0.000	0.47
2001/7/30 12:55	540	0.058	0.002	<0.004	0.002	0.45	2001/8/2 20:55	0	0.009	0.001	<0.004	0.000	0.32
2001/7/30 13:55	339	0.057	0.000	<0.004	0.001	0.45	2001/8/2 21:55	0	0.013	0.000	<0.004	0.000	0.19
2001/7/30 14:55	251	0.050	0.000	<0.004	0.001	0.42	2001/8/2 22:55	0	0.014	0.001	<0.004	0.000	0.39
2001/7/30 15:55	379	0.051	0.000	<0.004	0.001	0.02	2001/8/2 23:55	0	0.015	0.001	<0.004	0.000	0.25
2001/7/30 16:55	131	0.050	0.001	<0.004	0.001	0.04	2001/8/3 00:55	0	0.014	0.000	<0.004	0.000	0.09
2001/7/30 17:55	8	0.051	0.000	<0.004	0.001	0.36	2001/8/3 01:55	0	0.016	0.000	<0.004	0.000	0.36

S5-A34 Central Termica San Nicolas Fuel Consumption Data (Winter)

No.5

	Gas M3	CARBON Tn
27/7/01	151.475	1722
28/7/01	115.456	1559
29/7/01	16665	1589
30/7/01	47006	1581
31/7/01	159965	1660
1/8/01	0	0
2/8/01	0	0
3/8/01	0	0

TV, TG1, TG2

Consumo de gas ciclo combinado	
2001/7/27	0
2001/7/28	0
2001/7/29	0
2001/7/30	659.42
2001/7/31	670.9
2001/8/1	1637.896
2001/8/2	1559.082
2001/8/3	997

S5-A35 Central Termica San Nicolas Generation Data (Winter)

Time	SNICM11P	SNICM12P	SNICM13P	SNICM14P	SNICM15P	TV	TG 2	TG1
	1 - MWhd	1 - MWhd	1 - MWhd	1 - MWhd	1 - MWhd	1 - kWhd	1 -kWhd	1 - kWhd
2001/7/26	0	0	0	0	4180.08	0	0	3691832
2001/7/27	0	0	0	0	4520.94	0	134915	2911829
2001/7/28	0	0	0	0	4121.28	0	0	0
2001/7/29	0	0	0	0	3764.76	0	0	0
2001/7/30	0	0	0	0	3918.42	823775	0	2178288
2001/7/31	0	0	0	0	3865.14	901022	2241509	0
2001/8/1	0	0	0	0	0	810289	2623919	1526868
2001/8/2	0	0	0	0	0	2619954	5536031	38745

S5-A36 Central Termica San Nicolas Emission Data (Winter)

DATETIME	SO2_B5	NO_B5	OPAC_B5	O2_B5	Day		NOx ppm	O2 %
2001/7/27	309	336.8	10.2	5.5	27/7	TG1	32.7	14.7
						TG2	43	16.06
2001/7/28	309.2	337	7.3	6	30/7	TG1	25.6	16.06
2001/7/29	309	336.5	4.9	6.9		TG2	32.7	14.7
2001/7/30	393.3	241.5	3.6	6.5				
2001/7/31	438	190	3.3	6.5	31/07	TG2	42.9	15.9
					01/08	TG1	33.3	15.6
						TG2	41.8	16.5
					02/08	TG2	45.2	19.09

S5-A37 San Nicolas Meteoriological Data (UTN, Winter)

Fecha	Hora	Temp. Exterior	Vel. Viento	Dirección	Fecha	Hora	Temp. Exterior	Vel. Viento	Dirección	Referencia	
30.07.01	0	10.4	11.3	1	01.08.01	700	13.3	11.3	5	0	N
30.07.01	100	10.3	12.9	1	01.08.01	800	13.1	12.9	5	1	NNE
30.07.01	200	10.4	11.3	0	01.08.01	900	13.1	12.9	4	2	NE
30.07.01	300	11	12.9	0	01.08.01	1000	14.5	9.7	5	3	ENE
30.07.01	400	11.2	9.7	1	01.08.01	1100	16.3	6.4	4	4	E
30.07.01	500	11	9.7	2	01.08.01	1200	17.8	6.4	3	5	ESE
30.07.01	600	10.8	9.7	2	01.08.01	1300	19.8	9.7	3	6	SE
30.07.01	700	10.6	6.4	3	01.08.01	1400	21.9	11.3	3	7	SSE
30.07.01	800	10.3	8	3	01.08.01	1500	23.4	12.9	1	8	S
30.07.01	900	10.3	8	2	01.08.01	1600	24	14.5	0	9	SSW
30.07.01	1000	11.8	8	2	01.08.01	1700	24.4	12.9	0	10	SW
30.07.01	1100	14.4	12.9	0	01.08.01	1800	24.7	9.7	1	11	WSW
30.07.01	1200	14.8	12.9	0	01.08.01	1900	24.1	9.7	3	12	WSW
30.07.01	1300	16.2	14.5	0	01.08.01	2000	22.7	8	3	13	WNW
30.07.01	1400	17.2	8	0	01.08.01	2100	21.1	9.7	3	14	NW
30.07.01	1500	18.2	11.3	0	01.08.01	2200	20.4	6.4	2	15	NNW
30.07.01	1600	19.2	9.7	0	01.08.01	2300	20.1	12.9	0		
30.07.01	1700	20.1	11.3	2	01.08.01	2400	19.9	9.7	1		
30.07.01	1800	19.9	11.3	3	02.08.01	0	19.9	9.7	1		
30.07.01	1900	18.7	6.4	4	02.08.01	100	19.7	8	1		
30.07.01	2000	18.2	9.7	3	02.08.01	200	19.4	4.8	1		
30.07.01	2100	17.3	11.3	3	02.08.01	300	19.1	8	1		
30.07.01	2200	16.5	8	3	02.08.01	400	18.7	6.4	1		
30.07.01	2300	15.8	8	4	02.08.01	500	18.5	8	2		
31.07.01	0	15.4	4.8	1	02.08.01	600	18.2	9.7	2		
31.07.01	100	14.8	1.6	1	02.08.01	700	17.8	6.4	1		
31.07.01	200	14.8	3.2	1	02.08.01	800	17.3	3.2	1		
31.07.01	300	14.6	4.8	4	02.08.01	900	18.3	3.2	0		
31.07.01	400	14.3	4.8	4	02.08.01	1000	21.1	4.8	1		
31.07.01	500	14.2	3.2	5	02.08.01	1100	23.6	4.8	1		
31.07.01	600	13.9	4.8	6	02.08.01	1200	23.3	11.3	0		
31.07.01	700	13.6	4.8	6	02.08.01	1300	24.1	14.5	15		
31.07.01	800	13.4	8	5	02.08.01	1400	25.4	12.9	15		
31.07.01	900	13.8	4.8	5	02.08.01	1500	25.8	12.9	15		
31.07.01	1000	15.2	1.6	4	02.08.01	1600	25.8	12.9	15		
31.07.01	1100	18.4	1.6	3	02.08.01	1700	26	8	15		
31.07.01	1200	18.8	1.6	7	02.08.01	1800	25.7	4.8	0		
31.07.01	1300	19.8	4.8	4	02.08.01	1900	25.6	6.4	1		
31.07.01	1400	20.8	6.4	4	02.08.01	2000	23.6	6.4	0		
31.07.01	1500	21.4	6.4	4	02.08.01	2100	22.7	4.8	0		
31.07.01	1600	21.8	6.4	4	02.08.01	2200	22.4	4.8	1		
31.07.01	1700	21.9	8	5	02.08.01	2300	21.7	6.4	1		
31.07.01	1800	21.6	4.8	6	02.08.01	2400	20.9	4.8	2		
31.07.01	1900	20.7	4.8	6	03.08.01	0	20.9	4.8	2		
31.07.01	2000	19.9	4.8	6	03.08.01	100	20.4	6.4	1		
31.07.01	2100	19.1	4.8	6	03.08.01	200	19.9	6.4	1		
31.07.01	2200	18.2	8	6	03.08.01	300	19.7	6.4	2		
31.07.01	2300	17.1	12.9	5	03.08.01	400	19.7	8	2		
01.08.01	0	16.1	11.3	5	03.08.01	500	19.2	9.7	2		
01.08.01	100	15.3	11.3	5	03.08.01	600	19	8	2		
01.08.01	200	14.7	8	5	03.08.01	700	18.7	3.2	2		
01.08.01	300	14.5	4.8	6	03.08.01	800	18.1	1.6	2		
01.08.01	400	13.8	11.3	7	03.08.01	900	18.1	0	255		
01.08.01	500	13.2	8	6	03.08.01	1000	19.8	0	255		
01.08.01	600	13	6.4	6	03.08.01	1100	22.1	1.6	0		

S5-A38 Height of the Thermal Internal Boundary Layer

Height of the thermal internal boundary layer (TIBL) is derived from the heat conservation equation.

$$\frac{\partial\theta(x)}{\partial t}+U\frac{\partial\theta(x)}{\partial x}=-\frac{1}{\rho C_P}\frac{\partial H(x,z)}{\partial z} \qquad (1)$$

$\theta(x)$	: potential temperature (K)
U	: mean wind speed within the TIBL(m/s)
Cp	: specific heat (J/kg/K)
ρ	: air density (kg/m^3)
H(x,z)	: heat flux (W/m^2/s)
x	: distance from the shoreline (m)
z	: height from the earth's surface (m)
$\theta(x)$	:potential temperature (K)

It is considered that the thermal internal boundary layer is built up when wind speed is weak and insolation is strong. The convective mixed layer developed overland keeps on growing and the air temperature increases continually, until a sea breeze is generated at the shoreline. Once a sea breeze blows into the shoreline, the growth of the convective mixed layer and the elevation in air temperature are inhibited by the cold sea breeze. Therefore it can be assumed that $\partial\theta/\partial t=0$, and the following equation (2) is derived from the equation (1).

$$U\frac{\partial\theta(x)}{\partial x}=-\frac{1}{\rho C_P}\frac{\partial H(x,z)}{\partial z} \qquad (2)$$

The vertical profile of the heat flux H(x,z) on the shoreline is given by the following formula, according to the empirical result of airplane observation.

$$H(x,z)=H_0(x)(1-z/h_t(x)) \qquad (3)$$

$H_0(x)$	:heat flux at the earth's surface(W/m^2/s)
$h_t(x)$	:height of thermal internal boundary layer(m)

The heat conservation equation (2) in the steady state is integrated over height z, using equation (3). The boundary condition at the height =z gives $H=H_0$ and at the height = ht gives H=0.

$$\frac{\partial\theta(x)}{\partial x} = \frac{1}{\rho C_P}\frac{H_0}{Uh_t} \tag{4}$$

The profile of potential temperature in respect to the height in upper stable layer is given by the following equation (5).

$$\frac{\partial\theta(x)}{\partial h_t} = \gamma \tag{5}$$

where γ is the temperature lapse rate in the upper stable layer. Based on the observation, the overland heat flux $H_0(x)$ is a constant value.

$$h_t(x) = \sqrt{\frac{1}{\rho C_P}\frac{H_0 x}{\gamma U}} \tag{6}$$

It is proved that the height of the thermal internal boundary layer is proportional to the square root of the distance from the shoreline.

S5-A39 Hourly Mean and Standard Deviations of Mixing Layer Height, and Frequency of Occurrence of Daytime Atmospheric Stability Classes

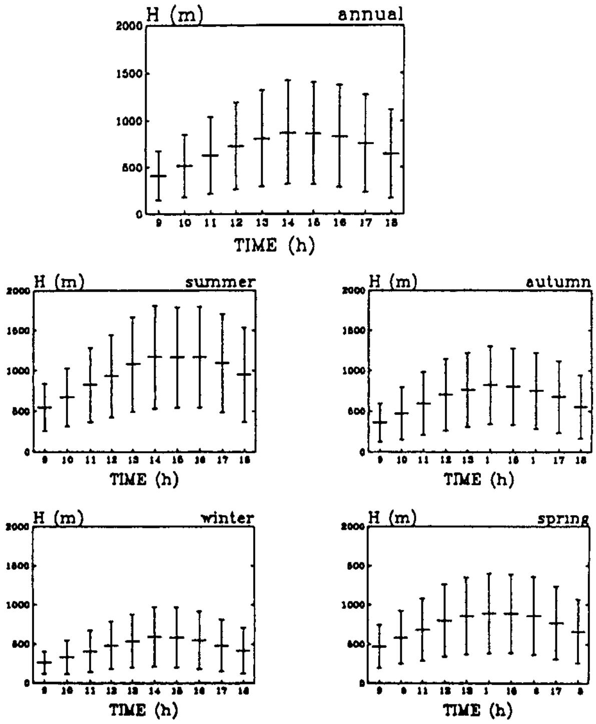

Figure 1 Hourly Mean and Standard Deviations of Mixing Layer Height

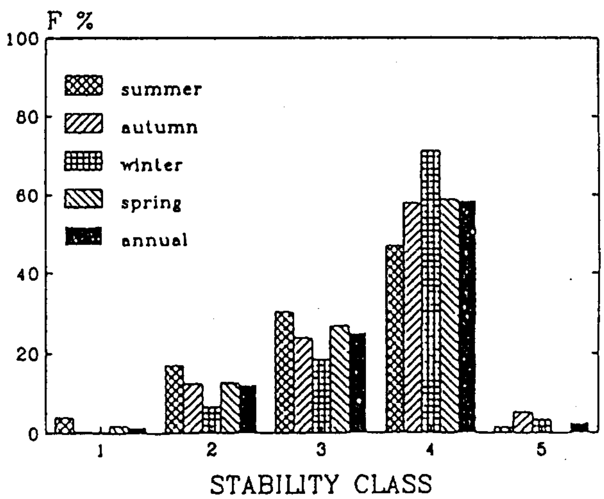

Figure 2 Frequency of Occurrence of Daytime Atmospheric Stability Classes (x-axis indicates Turner's stability class)

S5-A40 Variation of NO_x, TSP and SO_2 with Wind Speed or Wind Direction in Buenos Aires, San Nicolas, and Lujan de Cuyo

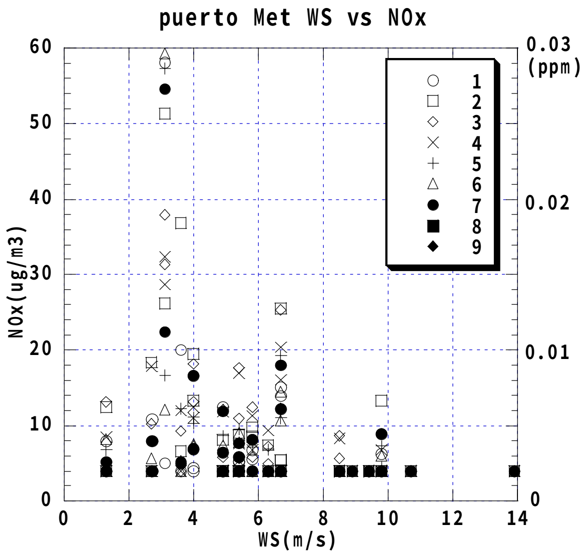

Figure 1 Variation of NO_x Concentration with Wind Speed in Buenos Aires (Summer)

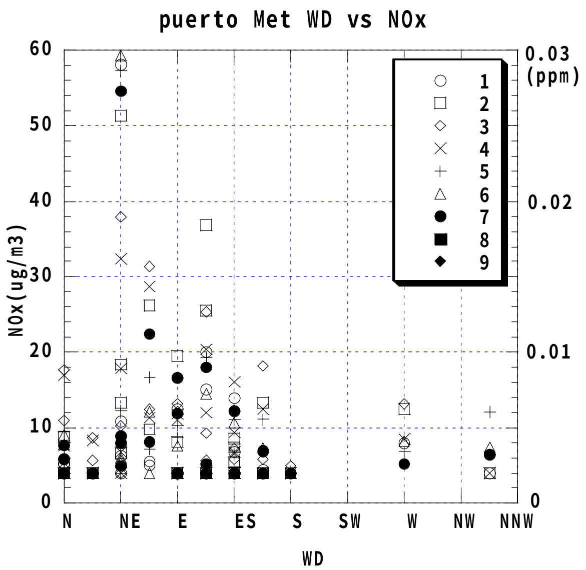

Figure 2 Variation of NO_x Concentration with Wind Direction in Buenos Aires (Summer)

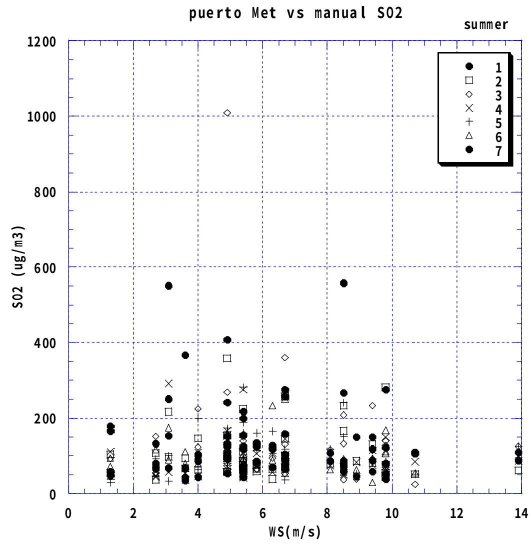

Figure 3 Variation of SO_2 Concentration with Wind Speed in Buenos Aires (Summer)

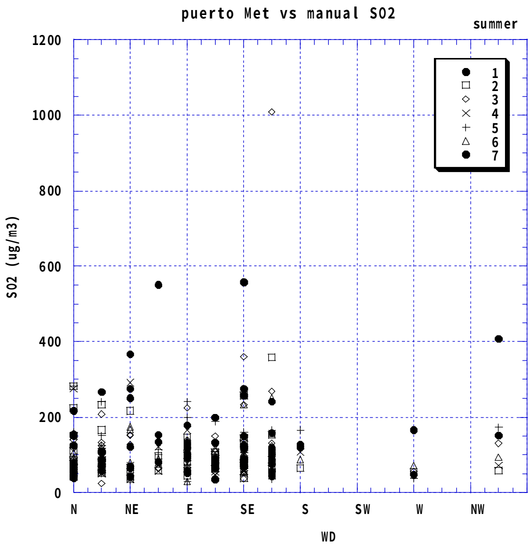

Figure 4 Variation of SO_2 Concentration with Wind Direction in Buenos Aires (Summer)

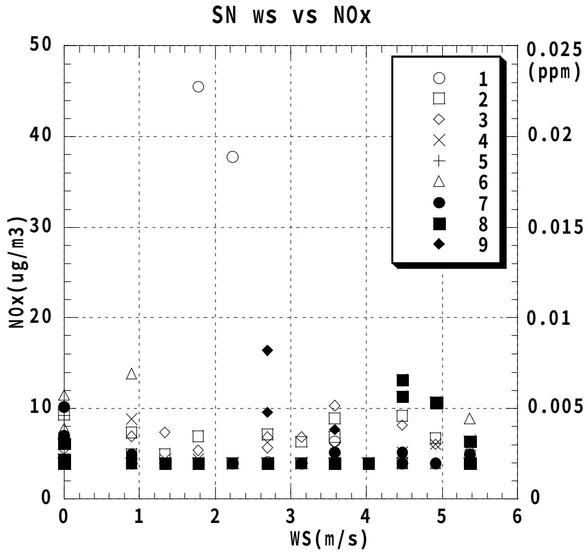

Figure 5 Variation of NO_x Concentration with Wind Speed in San Nicolas (Summer)

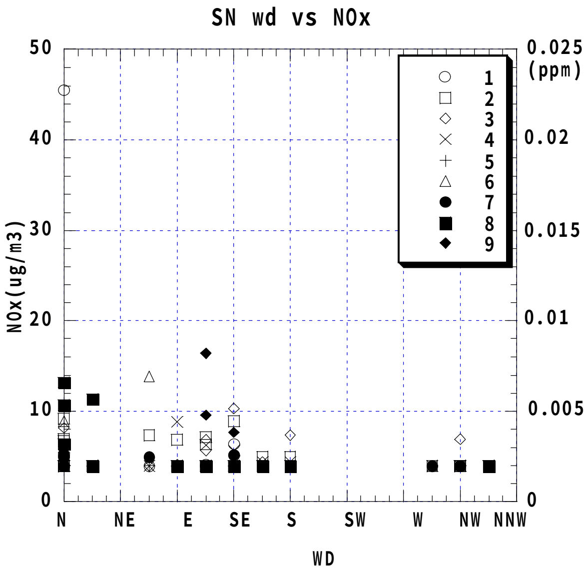

Figure 6 Variation of NO_x Concentration with Wind Direction in San Nicolas (Summer)

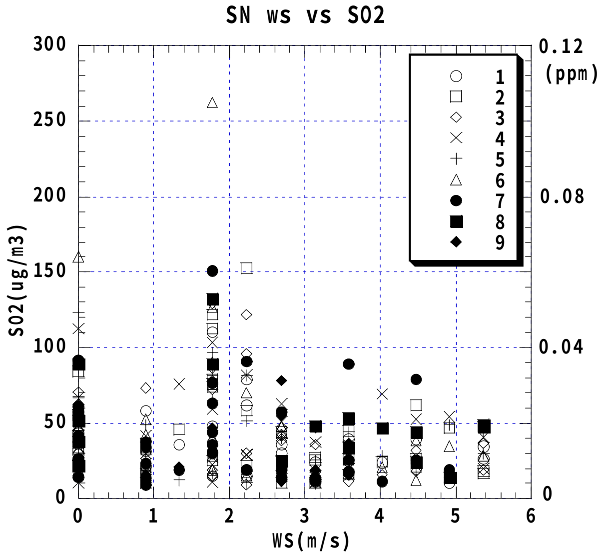

Figure 7 Variation of SO_2 Concentration with Wind Speed in San Nicolas (Summer)

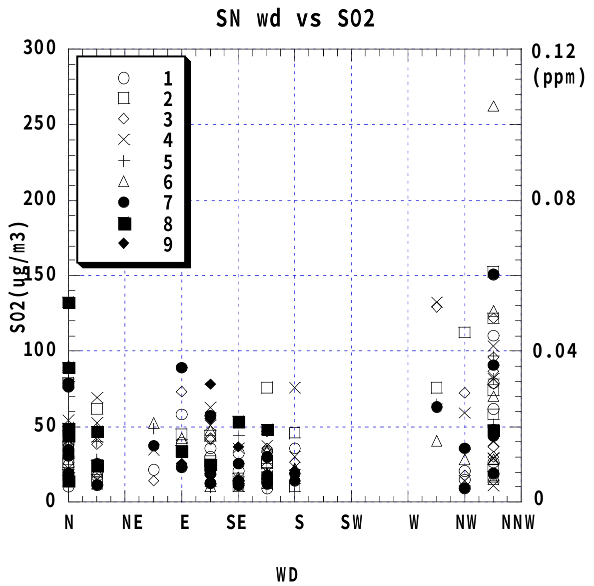

Figure 8 Variation of SO_2 concentration with wind direction in San Nicolas (Summer)

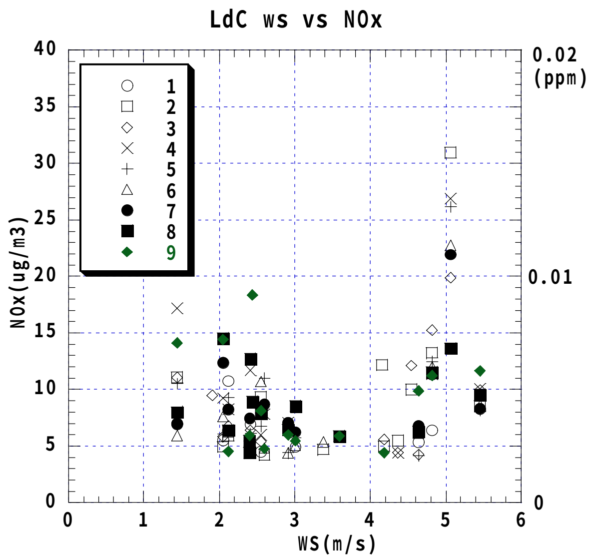

Figure 9 Variation of NO_x Concentration with Wind Speed in Lujan de Cuyo (Summer)

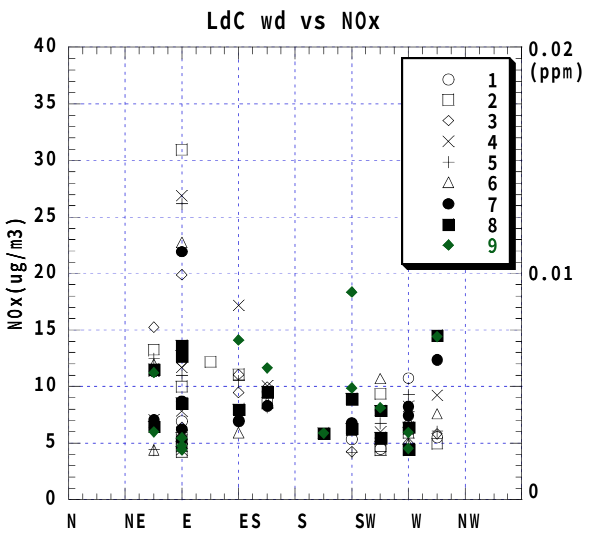

Figure 10 Variation of NO_x Concentration with Wind Direction in Lujan de Cuyo (Summer)

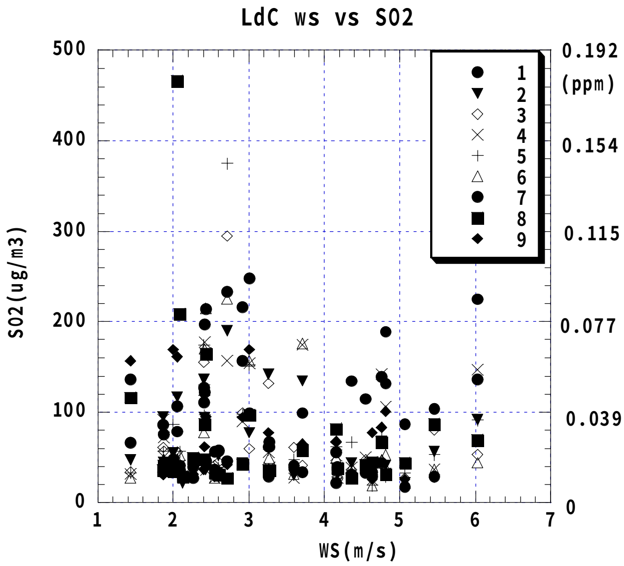

Figure 11 Variation of SO_x Concentration with Wind Speed in Lujan de Cuyo (Summer)

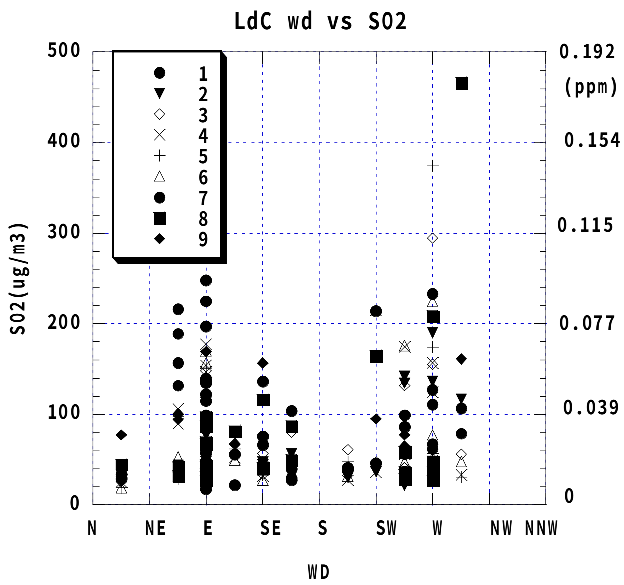

Figure 12 Variation of SO_x Concentration with Wind Direction in Lujan de Cuyo (Summer)

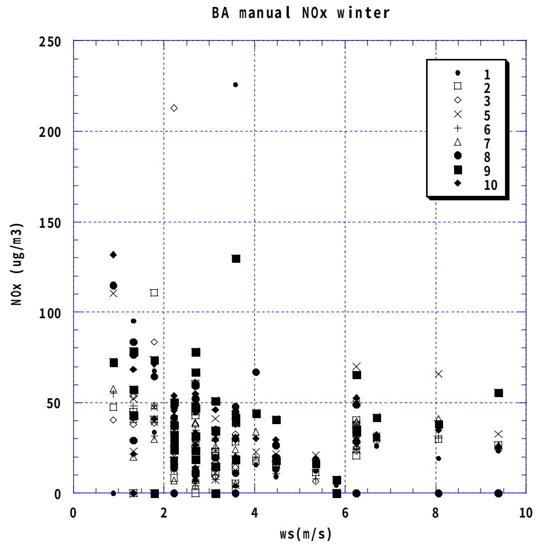

Figure 13 Variation of NO_x Concentration with Wind Speed in Buenos Aires (Winter)

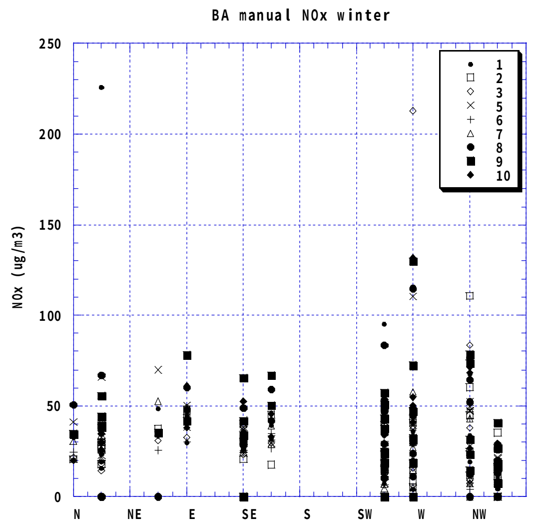

Figure 14 Variation of NO_x Concentration with Wind Direction in Buenos Aires (Winter)

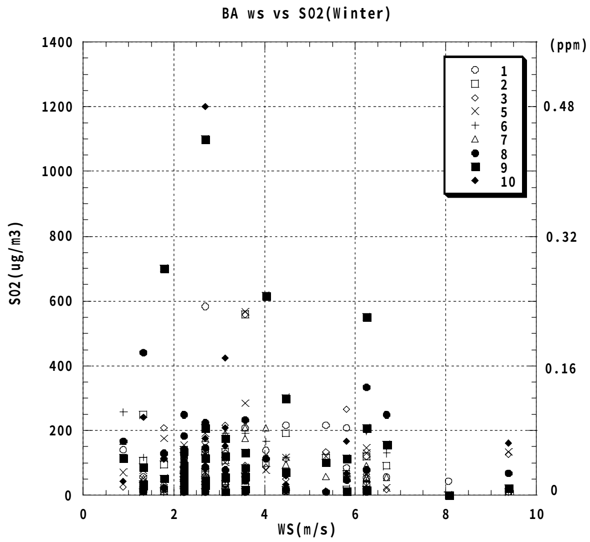

Figure 15 Variation of SO_2 Concentration with Wind Speed in Buenos Aires (Winter)

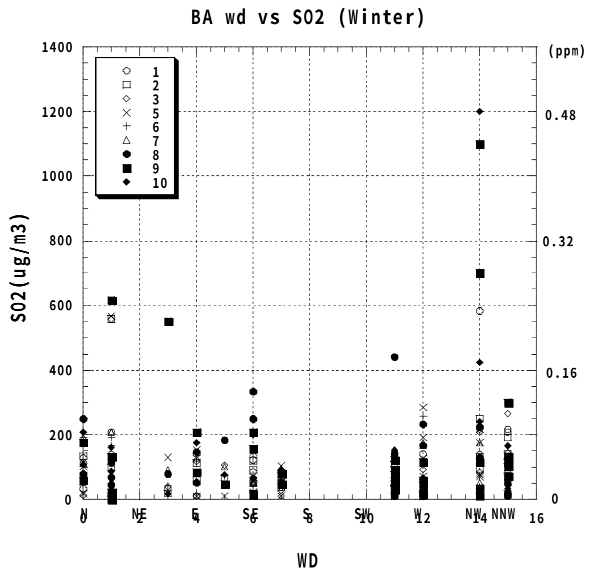

Figure 16 Variation of SO_2 Concentration with Wind Direction in Buenos Aires (Winter)

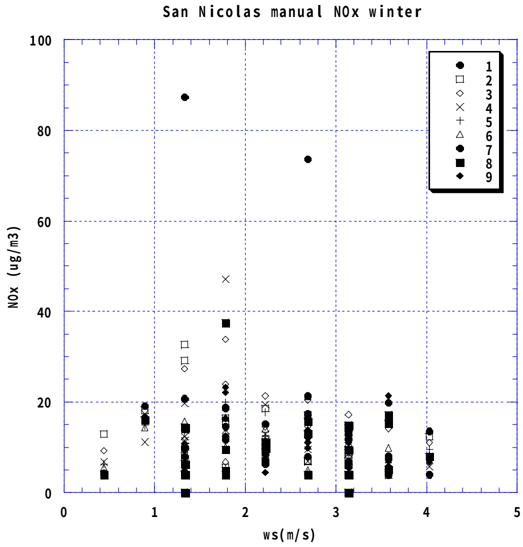

Figure 17 Variation of NO_x Concentration with Wind Speed in San Nicolas (Winter)

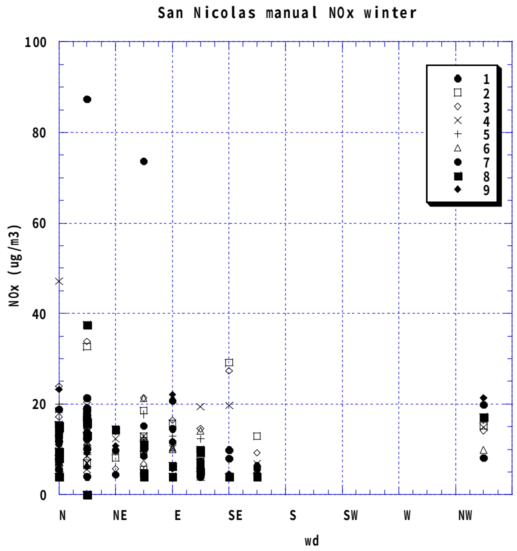

Figure 18 Variation of NO_x Concentration with Wind Direction in San Nicolas (Winter)

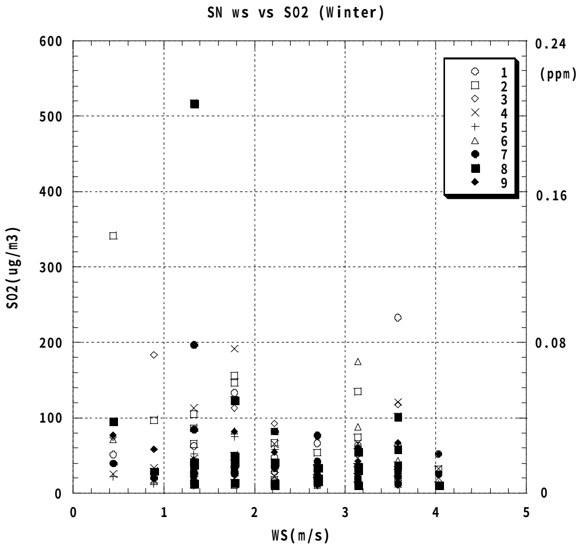

Figure 19 Variation of SO_2 Concentration with Wind Speed in San Nicolas (Winter)

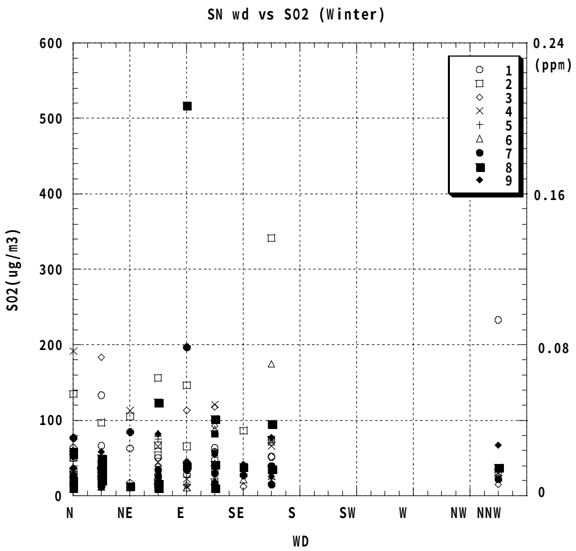

Figure 20 Variation of SO_2 Concentration with Wind Direction in San Nicolas (Winter)

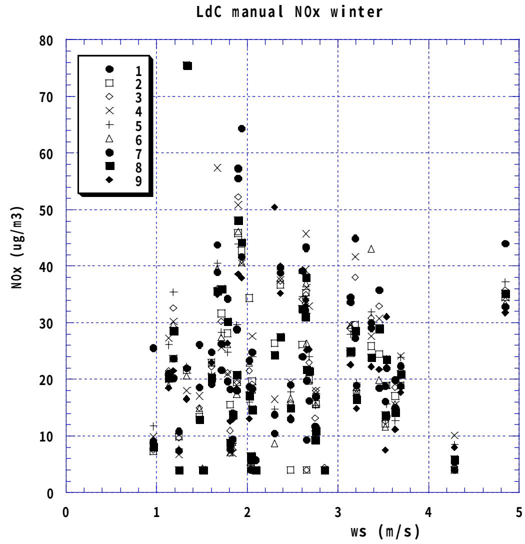

Figure 21 Variation of NO_x Concentration with Wind Speed in Lujan de Cuyo (Winter)

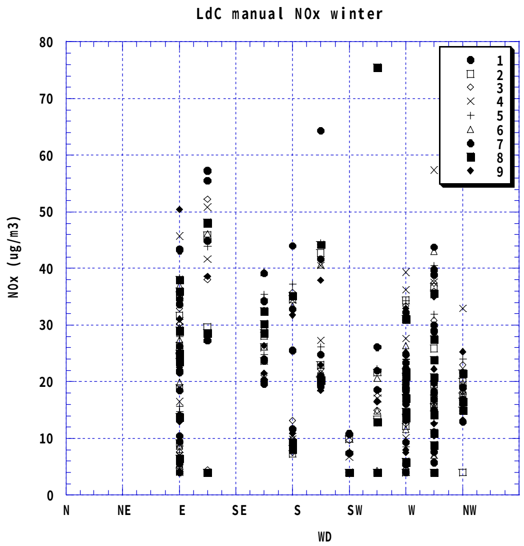

Figure 22 Variation of NO_x Concentration with Wind Direction in Lujan de Cuyo (Winter)

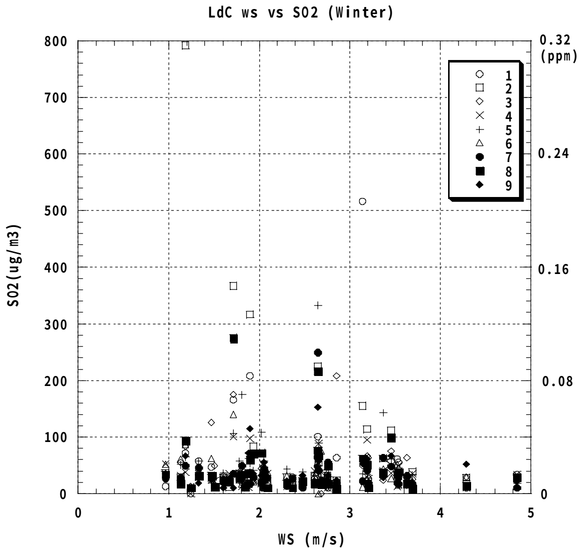

Figure 23 Variation of SO_2 Concentration with Wind Speed in Lujan de Cuyo (Winter)

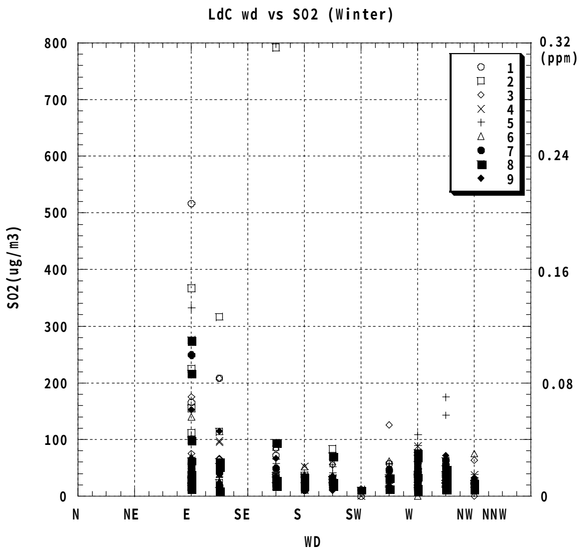

Figure 24 Variation of SO_2 Concentration with Wind Direction in Lujan de Cuyo (Winter)

S5-A41 Review of Air Quality of Buenos Aires, San Nicolas and Mendoza

In this section, the air quality of Buenos Aires, San Nicolas and Mendoza Cities is reviewed based on the information obtained during the Field Works.

1. Buenos Aires Area

In the World Bank project "the Air Quality Situation in the Gran Buenos Aires area" (#98), the passive tube monitoring of NO_2 and SO_2 was performed to measure the concentration in May to July, 1997. The exposure time was one month. The 20 sites of the City of Buenos Aires and the 25 extra urban sites in the province of Buenos Aires were selected for sampling sites. The monthly average of NO_2 concentration was once high, up to 0.06ppm, in the central and southern parts of the City, which went beyond the environmental standard value of the city (0.05ppm,1day). The highest monthly average of SO_2 concentration was 0.012ppm in the Pompeya area, which was below the national environmental standard value (0.03ppm). Accordingly, it is considered that it would not be a matter to pose health problems. The result of passive tube monitoring indicates that the local point sources on rivers, such as power plants and dockyards, do not contribute high concentrations of pollutants around the area.

The concentration of TSP and PM_{10} in the Buenos Aires metropolitan area was also measured in June to August 1997, using low volume air sampler, as part of the same project of the World Bank. The monthly average concentration of TSP was 0.12 mg/m^3 at Isla Maciel and 0.11 mg/m^3 at Moron, which were slightly below 0.15 mg/m^3 (1day), the environmental standard of the city. The monthly average concentrations of PM_{10} were 0.06 mg/m^3 at Isla Maciel and 0.053 mg/m^3 at Liniers.

On the other hand, JICA implemented daily measurement of the air quality in July 1993 (#161). According to the results, NO_2 concentration was in the range of 0.004～0.007ppm, which was below the environmental standard of the city (0.05ppm,1day). The SO_2 concentration was 0.001～0.005ppm, which was also below the standard of the city of 0.19 ppm (20min). The TSP concentration was 0.01～0.09 mg/m^3, which was below the provincial environmental standard of 0.15 mg/m^3 (1day).

2. San Nicolas Area

In November 1994, the CNEA carried out a concentration measurement of TSP and PM_{10} (#104). The monthly averages of TSP concentration at Prefectura Naval and Residencia Scaglia were 0.135 mg/m^3 and 0.064 mg/m^3 respectively, which were both below the provincial standard 0.15 mg/m^3. The monthly averages of PM_{10} concentration at Barrio

Guemes and Escuela Industrial were 0.144 mg/m^3 and 0.048 mg/m^3 respectively, which were also below the provincial standard 0.15 mg/m^3 (1day).

The CNEA also implemented the chemical analysis of samples and examined the sources by the Chemical Mass Balance method (#98). As a result, it was found that the sources of pollutants were mainly unpaved road, chemical plants and iron works, and the effect of the power plant was slight. However, in the respect that the wind direction adopted for the analysis was obtained at the Airport site at a distance of 70 km from this city, the results on week wind conditions should not be absolutely interpreted as they were.

According to the daily mean measurement of the air quality implemented by JICA in July 1993（#161）, the SO_2 concentration was ND～0.001ppm, which was below the provincial standard 0.14ppm (1day).

3. Lujan de Cuyo Area

The Dirección de Saneamiento y Control Ambiental del Ministerio de Medio Ambiente, Urbanismo y Vivienda implemented an air quality measurement. According to the results, at Lavalley and San Juan in the urban area of Mendoza City, the daily mean concentration of NO_2, TSP, and SO_2 were respectively 0.01ppm, 0.018 mg/m^3, and under the detection limit. At Colegio don Bosco, also in the same urban area, the daily mean concentration of NO_2 , TSP and SO_2 were respectively 0.035ppm, 0.018 mg/m^3, and under the detection limit.

According to the daily mean measurement of air quality implemented by JICA in August 1993 （#161）, NO_2 concentration was 0.0003～0.002ppm, which was below the provincial standard 0.1ppm (1day), while the SO_2 concentration was 0.0001～0.002ppm, which was also below the provincial standard of 1.0 ppm (1hr). The TSP concentration was 0.03～0.25 mg/m^3, which exceeded the provincial standard 0.2 mg/m^3 (1day).

S5-A42 Averaging Time Analyses Mathematical Model

Data have been analyzed and plotted by computer as a function of averaging time and frequency for each year, and up to a 7-year period, for concentration of nitric oxide, nitrogen dioxide, sulfur dioxide, carbon monoxide, hydrocarbons, in downtown Chicago, Cincinnati, Denver, Los Angeles, Philadelphia, St. Louis, San Francisco, and Washington. Analysis of these plots has resulted in a general mathematical model with the following characteristics (Larsen,1969).

（Reference）

Larsen, R.I. :A New Mathematical Model of Air Pollutant Concentration, Averaging Time, and Frequency. J. Air Poll. Contr. Assoc. 19,24-30,1969.

- Concentrations are lognormally distributed for all averaging times (Figure.1).
- The median concentration is proportional to averaging time raised to an exponent (and thus plots as a straight line on logarithmic paper).
- The arithmetic mean concentration is the same for all averaging times.
- For the longest averaging time calculated (usually 1 year), the arithmetic mean, geometric mean, maximum concentration, and minimum concentration are all equal.
- Maximum concentration is approximately inversely proportional to averaging time raised to an exponent for averaging times of less than 1 month.

The following equations can be used to analyze data collected for one averaging time.

$$m = \frac{\sum c}{n} \quad (1)$$

where m = the arithmetic mean,

c = the concentrations,

n = the number of concentrations measured.

$$S = \left(\frac{\sum (c - m)^2}{n} \right)^{0.5} \quad (2)$$

where S = the standard deviation (RMS).

$$m_g = \exp\left(\frac{\sum \ln c}{n} \right) \quad (3)$$

where m_g = the geometric mean.

$$S_g = \exp\left[\frac{\sum\left(\ln c - \ln m_g\right)}{n}\right]^{0.5} \quad (4)$$

where S_g = the standard geometric deviation.

$$S_g = \exp\left[\frac{\ln\left(c_h / c_i\right)}{z_h - z_i}\right] \quad (5)$$

where z = number of deviation a point is located away from the median.

h = one given concentration point,

i = a second given concentration point at the same averaging time as h,

$$S_g = \exp\left\{z - \left[z^2 - 2\ln\left(\frac{c}{m}\right)\right]^{0.5}\right\} \quad (6)$$

$$m_g = \frac{c}{S_g{}^z} \quad (7)$$

$$c = m_g S_g{}^z \quad (8)$$

The following equations can be used to calculate values for one averaging time from values that are available for another averaging time.

$$S_{gb} = S_{ga}{}^{V^{0.5}} \quad (9)$$

$$S_{ga} = \exp\left\{\frac{w \pm \left(w^2 - 2(1-v)\ln\left(c_a / c_b\right)\right)^{0.5}}{1-v}\right\} \quad (10)$$

$$v = \frac{\ln\left(t_{total} / t_b\right)}{\ln\left(t_{total} / t_a\right)} \quad (11)$$

$$w = z_a - z_b v^{0.5} \quad (12)$$

$$m_{gb} = m\left(\frac{m_{ga}}{m}\right)^{v} \quad (13)$$

$$m_{gb} = m_{ga} \exp\left[0.5(1 - v)\ln^{2} S_{ga}\right] \quad (14)$$

Where a = one averaging time,

b = a second averaging time,

t = averaging time,

t_{total} = total averaging time, usually 1 year (8760 hr),

z = number of deviation a point is located away from the median.

According to Larsen model (1969), daily and hourly concentration was estimated using monthly concentration in Buenos Aires (Table 1) and Mendoza (Table 2 and 3).

Relationship between environmental standard and its to averaging time was shown in Figures 2 for NO_x, Figure 3 for TSP and Figure 4 for SO_2. According to the Larsen model, the maximum or median air quality concentrations are approximately inversely proportional to averaging time raised to an exponent for averaging times. We could estimate arbitrarily environmental concentration from the relation based on the Larsen model.

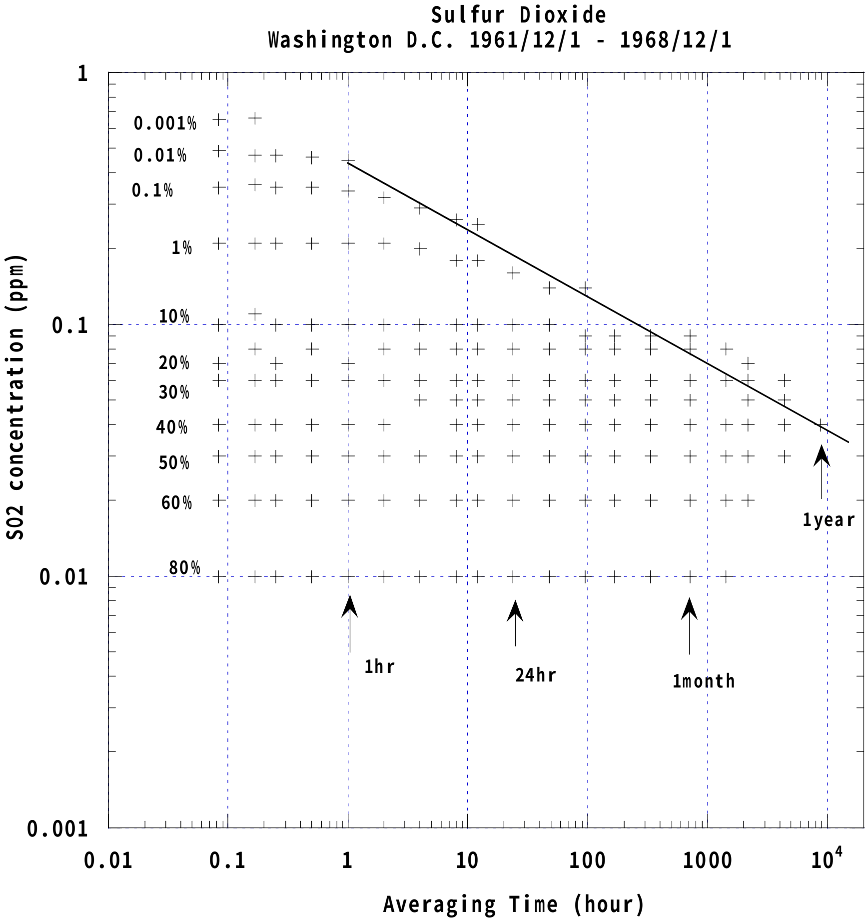

Figure 1 SO_2 Concentration with Various Averaging Time

Table 1 Estimation of Daily and Hourly Concentration of NO_x in Buenos Aires (1998) using Monthly Concentration Values

Estacion:Av. Las Herasy y O. De Ocampo

		Hr	Day	Mon	Yr
NO_x (ug/m3)	Mg	178	198	187	201
	Sg	1.63	1.18	1.29	-
	mg+Sg	290	234	241	-
	Cmax	1142	323	293	201
	Cmax/Cmaxhr	-	0.28	0.26	0.18

		Hr	Day	Mon	Yr
NO_x (ppm)	mg	0.089	0.099	0.094	0.101
	Sg	1.63	1.18	1.29	-
	mg+Sg	0.145	0.117	0.121	-
	Cmax	0.571	0.162	0.147	0.101
	Cmax/Cmaxhr	-	0.283	0.257	0.176

Air Quality Standards in the City of Buenos Aires

Pollutant	ug/m^3	ppm	Time
NO_2	100	0.053	1hr

Air Quality Standards in Argentina

(ppm)

Pollutant	Normal	Alert	Alarm	Time
NO_x	0.45	0.6	1.2	1hr
NO_x	0.15	0.3	0.4	24hr

Mg : Geometric mean

Sg : Geometric standard deviation

Cmax : Maximum concentration

Cmaxhr : Maximum ratio of hourly concentration

Table 2 Estimation of Daily and Hourly Concentration of NO_x in Mendoza using Monthly Concentration Values

(concentration unit: ppm)

NO.	Item	Hourly	Daily	Monthly	Yearly
NO.9	Mg	0.014	0.018	0.019	0.019
	Sg	2.19	1.51	1.31	-
	mg+Sg	0.031	0.027	0.025	-
	Cmax	0.108	0.061	0.035	0.019
	Cmax/Cmaxhr	-	0.56	0.32	0.18
NO.20	Mg	0.022	0.023	0.026	0.028
	Sg	2.04	1.85	1.49	-
	mg+Sg	0.045	0.043	0.039	-
	Cmax	0.148	0.142	0.048	0.028
	Cmax/Cmaxhr	-	0.96	0.32	0.19
NO.21	Mg	0.010	0.012	0.013	0.014
	Sg	2.11	1.7	1.41	-
	mg+Sg	0.021	0.020	0.018	-
	Cmax	0.074	0.056	0.024	0.014
	Cmax/Cmaxhr	-	0.76	0.32	0.19
NO.22	Mg	0.029	0.030	0.032	0.034
	Sg	1.75	1.56	1.33	-
	mg+Sg	0.051	0.047	0.043	-
	Cmax	0.161	0.111	0.052	0.034
	Cmax/Cmaxhr	-	0.69	0.32	0.21
NO.23	Mg	0.009	0.010	0.010	0.010
	Sg	1.49	1.34	1.21	-
	mg+Sg	0.013	0.013	0.012	-
	Cmax	0.043	0.023	0.014	0.010
	Cmax/Cmaxhr	-	0.53	0.33	0.23

Mg : Geometric mean

Sg : Geometric standard deviation

Cmax : Maximum concentration

Cmaxhr : Maximum ratio of hourly concentration

Table 3 Estimation of Daily and Hourly Concentration of TSP in Mendoza using Monthly Concentration Values

(concentration unit:ug/m^3)

NO.	Item	Hourly	Daily	Monthly	Yearly
NO.9	Mg	57	55	57	62
	Sg	1.52	1.68	1.61	-
	mg+Sg	87	92	92	-
	Cmax	269	249	87	62
	Cmax/Cmaxhr	-	0.93	0.32	0.23
NO.20	Mg	22	23	24	25
	Sg	1.74	1.61	1.37	-
	mg+Sg	38	36	33	-
	Cmax	120	92	39	25
	Cmax/Cmaxhr	-	0.77	0.33	0.21
NO.21	Mg	35	35	37	38
	Sg	1.53	1.58	1.35	-
	mg+Sg	54	55	50	-
	Cmax	167	133	54	38
	Cmax/Cmaxhr	-	0.80	0.32	0.23
NO.22	Mg	131	134	139	142
	Sg	1.49	1.38	1.23	-
	mg+Sg	195	186	171	-
	Cmax	604	348	196	142
	Cmax/Cmaxhr	-	0.58	0.32	0.24

Mg : Geometric mean

Sg : Geometric standard deviation

Cmax : Maximum concentration

Cmaxhr : Maximum ratio of hourly concentration

*) The daily value of the site No.9 was estimated by the hourly value, while in the other cases, all the daily and hourly values were estimated based on the monthly values.

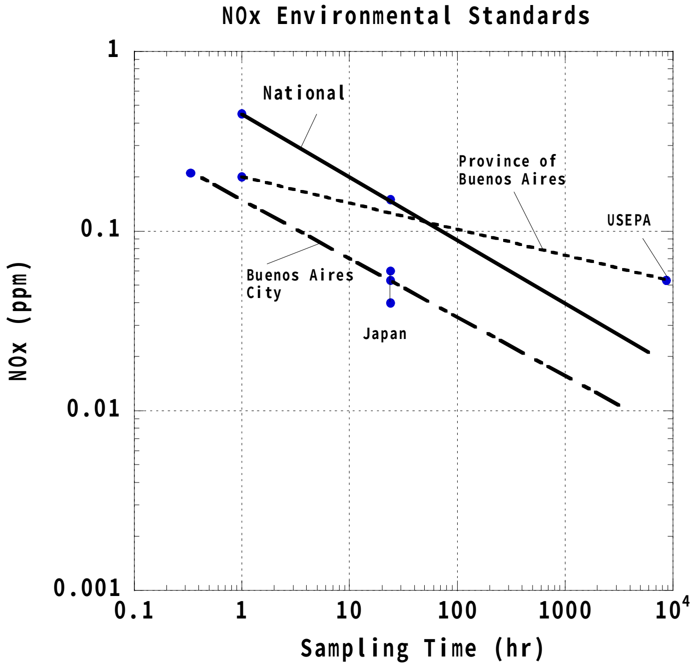

Figure 2 Relationship between NO_x Environmental Standard and its Averaging Time

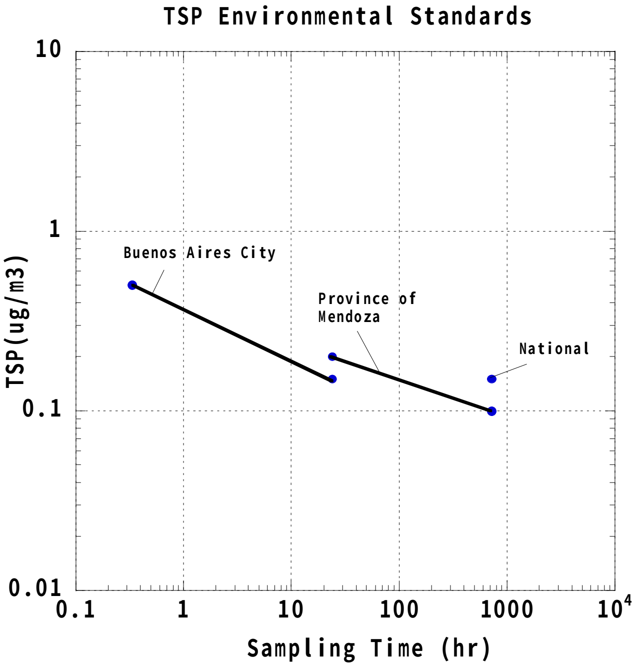

Figure 3 Relationship between TSP Environmental Standard and its Averaging Time

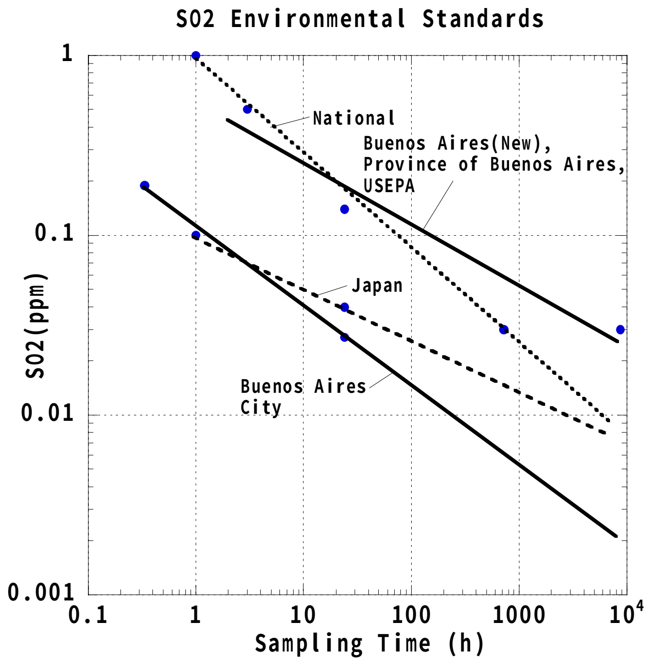

Figure 4 Relationship between SO_2 Environmental Standard and its Averaging Time

Photographs

Air Quality Automatic Continuous Analyzers

Manual Air Sampling Unit

Some of Manual Sampling Sites in Model Areas

Hospital de Pediatria “Prof. Dr. J. P. Garrahan” in the Buenos Aires Area

Aceros Cartellone S.A. in the Lujan de Cuyo Area

TRANSIBA (Transforming station) in the San Nicolas Area