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SIMULTANEOUS CABIN AND AMBIENT OZONE MEASUREMENTS ON TWO BOEING--ETC(U)
JUL 79 P J PERKINS, J D HOLDEMAN, G D NASTROM
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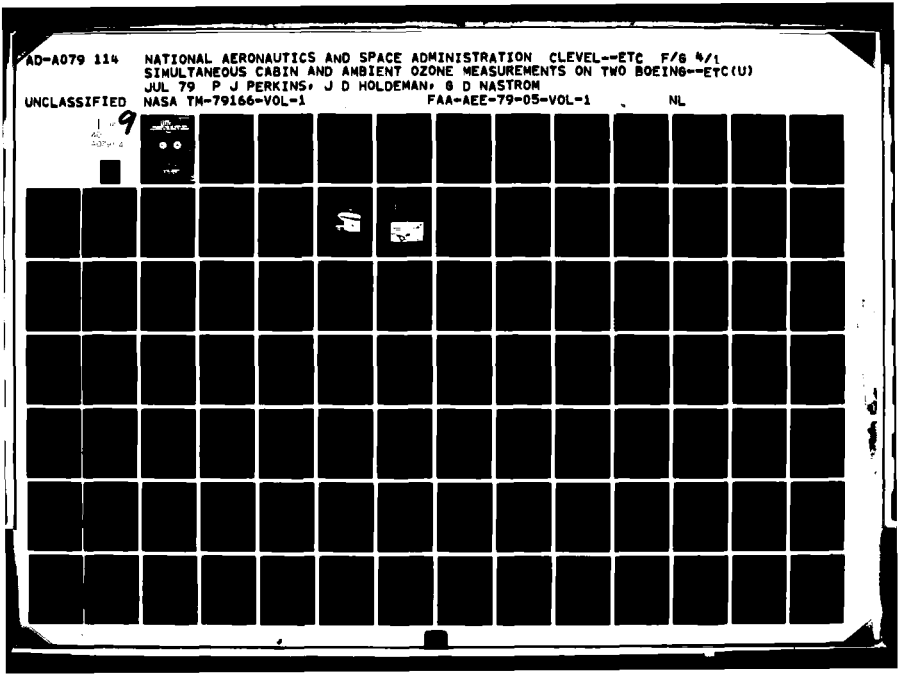

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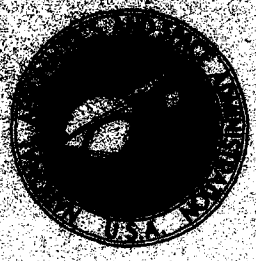

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16. Abstract

Measurements of ozone concentrations both outside and in the cabin of an airline operated Boeing 747SP and Boeing 747-100 airliner are presented. Plotted data and the corresponding tables of observations taken at altitude between the departure and destination airports of each flight are arranged chronologically for the two aircraft. Data were taken at five or ten minute intervals by automated instrumentation used in the NASA Global Atmospheric Sampling Program (GASP). All ozone data obtained in the cabin from March through December 1977 are presented.

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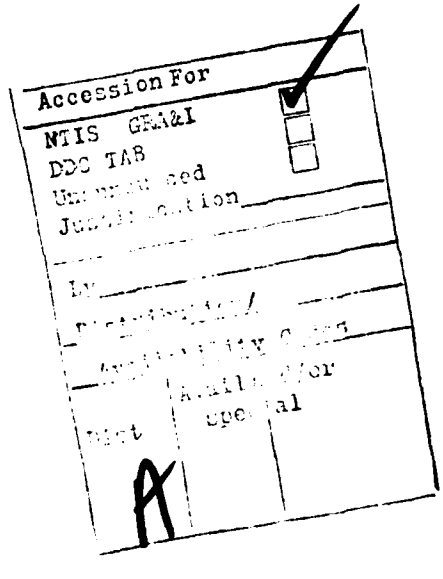

INTRODUCTION

Measurements of ozone concentration in the cabins of airline operated Boeing 747SP and 747-100 airliners are tabulated and plotted along with simultaneous measurements of atmospheric ozone concentrations existing outside the aircraft. High concentrations of ozone in the cabins of some jet aircraft are of concern to both flight crews and passengers as well as industry and government organizations. Certain physical discomfort experienced on some flights has been attributed to high levels of ambient ozone entering the cabin from the outside (refs. 1 and 2).

The simultaneous measurements of inside and outside ozone levels are necessary to determine the destruction of ozone in the aircraft pressurization - ventilation systems. This information is useful in the design of cabin ozone removal devices and systems. The relation between in the cabin and outside ozone levels is also required to determine the statistical probabilities of encountering high ozone levels in the cabin from available climatological data on atmospheric ozone.

The tabulated and plotted ozone data contained in this report permit an evaluation of the cabin ozone problem in terms of the ozone levels in the cabin of these type aircraft experienced during routine operations on certain flight routes. These data also contribute to the statistical data base of atmospheric ozone levels during several months in the peak ozone season.

Ozone measurements were taken by an airborne atmospheric sampling system as part of the NASA Global Atmospheric Sampling Program (GASP). The NASA instrumentation was installed on the Boeing 747 airliners to measure constituents of the upper atmosphere, including ozone (ref. 3). Equipment installation, maintenance, and service of the GASP instrumentation has been carried out by the United Airlines Engineering Group under contract to NASA.

Selected aircraft cabin and ambient (atmospheric) ozone measurements for two GASP equipped 747 airliners have been reported by NASA (refs. 4-8). The GASP equipped 747-100 airliner (N4711U) operated by United

Airlines obtained ozone data over the contiguous United States and to Hawaii. The 747SP aircraft (N533PA) of Pan American World Airways acquired data on many international routes.

This report presents all the cabin ozone data collected from March through December 1977. Data that has been collected after this period will be published in this same format as it is processed.

INSTRUMENTATION

Description of Ozone Measurement System

Instrument Type - Ozone was measured on both aircraft by commercially available ultraviolet absorption photometers modified and repackaged to operate in the airborne environment. Readings are continuous, updating every 20 seconds. Range is from 3 to 20,000 ppbv (parts per billion by volume). Operational procedures were set up to insure the integrity of the data. These include in-flight instrument health checks, instrument calibration techniques, measurement of ozone loss in the GASP air sample inlet line and pressurization system, and periodic instrument maintenance.

Modifications to the commercial-type instrument for use in the fully automated GASP system included (1) manual control mode switch replaced with logic circuits activated by the preprogrammed GASP onboard computer. (2) visual display replaced with an output shift register for digital recording of the airborne data, (3) circuits added to provide instrument identifications, and (4) output logic modified to read out a negative zero offset not available in the original instrument.

In-flight Checks and Calibration - In-flight instrument health checks, recorded with the data, monitor the instrument zero, span, and frequencies of the two electronic counters used to measure the ozone concentration. These checks are performed once each hour. Zero gas is provided for the instrument zero by directing the air sample at the proper time through an ozone scrubber in the inlet line.

All flight instruments are calibrated before installation in the aircraft and periodically thereafter using a secondary transfer standard. This standard is a laboratory-type ultraviolet photometer which was initially calibrated using a one percent neutral buffered potassium iodide (KI) method. Later in the GASP program, the standard was calibrated at the Jet Propulsion Laboratory (JPL). This calibration is traceable to the JPL five meter UV photometer described in reference 9. The KI calibration was found to be 9 percent higher than the UV photometer calibration. Thus, all published GASP ozone data are 9 percent high compared to the JPL calibrations. This is a systematic difference and can be easily corrected if the KI method is determined incorrect and other methods such as the UV photometer is adopted as the standard.

The reliability of the instruments was determined from flight and ground checks and the laboratory recalibrations following installation in the aircraft. Most component failures could be detected from the instrument output or ground checks. One type of failure (deterioration of the ozone scrubber) was detected only at the time of recalibration. Excluding failures, the stability of the ten flight instruments during one year of operation (seven calibrations per instrument) was within one percent.

A concern in the ozone measurement is the destruction of ozone in the lines from the stainless steel inlet probe to the instrument, and in the sample pump that raises the sample pressure to 1 atm. The lines are Teflon, and the pump is a Teflon coated diaphragm pump. Ozone destruction through the aircraft installed system is measured under conditions simulating operation in flight. An ozone destruct test package was developed by NASA to periodically determine this loss on the aircraft. Initial test data from different systems indicated ozone destruction from 13 to 19 percent. This was later reduced to less than 6 percent with a random error of ± 2 percent using improved materials in the pump. Thus, the random error of the total ozone measuring system was found to be less than 4 percent of reading or 3 ppbv, whichever is greater.

It has been observed that smoke injested into the instrument produces transitory fluctuations in the

readings, either positive or negative. This effect may account for some of the spikes that appear occasionally in the ozone data recorded in the cabin.

A complete description of the ozone measurement system is given in reference 10.

Equipment Installation - Ozone was measured on the two 747 airliners by equipment installed for the NASA Global Atmospheric Sampling Program (GASP) (ref. 3). The air sampling system is completely automated. Unattended operation provides continuous data acquisition during normal passenger service along established airline routes. A second ozone instrument was added to the GASP system to measure ozone in the cabin simultaneously with the outside ozone measurement.

Location of sample air inlets - The points where ozone was measured outside and inside the 747 cabin are shown figures 1 and 2. Air from outside the aircraft was sampled by a special external probe extending beyond the boundary layer near the nose of the aircraft. Air flowed in a 2.54 cm. diameter tube from the probe to the ozone instrument and associated equipment mounted on a special rack below the passenger deck at about station 360. Air from inside the aircraft was sampled at only one point in the cabin. Air was drawn from a 0.62 cm. diameter port about 1.5 m. above the floor in the right outside wall of the staircase to the upper deck (left side of the right isle). A Teflon ring attached to the wall extended the inlet to the port about 0.62 cm. from the wall surface (detail in fig. 2). This minimized drawing air from along the wall surface into the sample since ozone can be destroyed by contact with surfaces. About 6 m. of 0.62 cm. diameter Teflon-coated tubing was used between this port and the ozone analyzer on the GASP rack. The tubing was cleaned and found to cause negligible loss of ozone.

Air sample pressurization - Although unpressurized air is desirable to avoid altering the air constituent being measured, measurements such as ozone need a pressurized air sample to achieve the desired instrument sensitivity. A diaphragm or bellows-type pump was used to increase the low pressure air at altitude to one atmosphere pressure. A pressure regulation

system holds the inlet pressure to the instruments constant at 1 $\pm$ 0.007 atm. at altitudes up to 13.78 km with a flow rate of 14 liters/min.

Data Acquisition System - Ozone data (atmospheric and in-cabin) are taken with the existing GASP data acquisition and control system. All major components of this system are airborne units used by many airlines in normal flight data recording systems. The preprogrammed processor for automatic system control is a modified Data Management Unit. This unit also provides certain data acquisition functions. Additional data acquisition is handled by a standard flight data acquisition unit. All data are recorded on a digital cassette recorder which is the same type Digital Aids Recorder (DAR) used by airlines for flight recording. The GASP system is autonomous having dedicated units for all data acquisition and system control.

Instruments are turned on during aircraft preflight. The computer or processor takes over control just prior to takeoff. A standby condition is held until a signal is received by the processor from the altimeter to set up the system for sampling. This was set at 6.1 km (20,000 ft.). A basic 60-minute sampling cycle is constructed by alternating 5-minute air sampling and 5-minute calibration modes. Thus, there are six sample readings and six different calibrations taken each cycle. All data are recorded during a 16-second period at the end of each 5-minute air sampling and calibration mode. The ozone instrument requires only four calibrations during each 1 hour cycle. Thus, ozone measurements are taken every 10 minutes during the first 40 minutes of the cycle and every 5 minutes during the remaining 20 minutes. Before landing, the system is returned to a standby condition. The time, position of the aircraft, altitude, speed and direction are recorded and thus pinpoint each ozone measurement.

Data Reduction Procedure - The tape recorder cassettes are removed from the aircraft about every two weeks. In-flight data on the cassettes are transcribed onto computer compatible tape which is shipped to NASA Lewis Research Center. This tape is initially processed at NASA to provide a direct printout of the flight data, dividing the continuous data record into flight

segments based on flight origin and destination. Further data processing includes the ozone system calibration correction, deletion of questionable and redundant data, and a re-transcription to a final format (refs. 6 and 7).

PRESENTATION OF DATA

All GASP data, including the cabin and ambient ozone data presented herein, are available to the public on magnetic computer tape from the National Climatic Center, Federal Building, Asheville, NC 28801. In addition to providing compact storage of a large amount of data, the availability of the data on computer tape facilitates data analysis and alternate presentations which would be awkward if not impossible from the hard copy.

The data tabulated and plotted here are from GASP Tapes VL0009, VL0010, VL0012 and VL0014. These tapes include all data obtained by GASP equipped aircraft N533PA and N4711U from January 3, 1977 through January 3, 1978. Flight routes and dates, instrumentation, data processing procedures, data tape specifications, and selected analysis of the cabin ozone data are reported in refs. 6 and 7.

Explanation of Data Tables and Plots

Tabulation and plots of all data - The plots and tables of GASP ozone data are organized chronologically by aircraft in appendixes A and B for the 747SP (N533PA) and 747-100 (N4711U) aircraft respectively. In the plots for each flight, the upper panel gives the altitude (boxes) and latitude (crosses), the center panel gives the ambient (boxes) and cabin (crosses) ozone levels, and the lower panel gives the ratio (cabin divided by ambient). The altitude, ambient ozone, and ratio data are jointed by solid lines and latitude and cabin ozone are joined by segmented lines whenever the time between observations is 10 minutes or less (data are plotted at the multiple of 5 minutes nearest to their actual elapsed time). Data points are not connected if the time interval is greater than ten minutes. For ambient ozone less than 0.1 ppmv, the corresponding ratios are not plotted or tablulated. Each table has a heading where the departure and arrival airports are identified by the standard

three-letter airport code (ref. 11), and the departure date and the aircraft number are given. The remainder of the heading is self-explanatory, although special cases arise: if no ambient ozone values were observed on a flight, then stars are entered for the maximum ambient ozone value and the maximum ratio value is given as zero; if no ambient ozone value greater than 0.1 ppmv was observed, then stars are entered for the maximum ratio value.

In the tables, ETIM is the elapsed time after the time of the first data record on the flight. RATIO is the cabin ozone amount divided by the ambient ozone amount. If any variable in the tables is missing, its position in the table is left blank. Observations are entered at minimum time intervals of 5 minutes (during the data processing, any observations made less than 5 minutes after the most recent acceptable observation were disregarded). If two or more observations were made during the same GMT minute, they were averaged together and an "A" is entered after the GMT. If the GMT was missing for an observation, then for all following observations on the flight, the elapsed time between observations was computed using the aircraft speed and the distance travelled between the geographic coordinates of the data points. The GMT of each observation was then estimated by adding the computed elapsed time to the GMT of the previous observation. In these cases an "M" is entered in the table after the GMT, unless two or more observations had the same estimated GMT in which case the "A" tag takes precedence.

During the period April 2 through August 6, 1977, 15th stage compressor bleed was used intermittently on N533PA to reduce cabin ozone levels (refs. 4, 5, and 7). The high temperature (340°C - 480°C) associated with this stage dissociates much of the ambient ozone that would be otherwise coming into the cabin using the normal lower temperature compressor bleed. After May 15 the use of 15th stage bleed was coded into the onboard GASP data recording. Whenever the data records indicate bleed was in use a "B" is entered in the tables after the ratio value.

Summary tabulations - A data summary, by flight, for all GASP flights with cabin and/or ambient ozone from January - December, 1977 is given in appendixes C

and D, for aircraft N533PA and N4711U respectively. The parameters presented were selected based on the requirements of reference 2 and include, for each flight, the departure date, route, mean flight level, data time interval, and cabin and ambient ozone data. All ozone levels are expressed as parts per million by volume (ppmv).

Entries appear for all flights from tapes VL0009 (ref. 6), VL0010 and VL0012 (ref. 7), and VL0014 for which cabin and/or ambient ozone data are available. The number of cabin ozone measurements for each flight is given in the column headed ND following the departure date, route, and mean flight level. The elapsed time from the first to the last cabin ozone measurement for each flight is given in the TOTAL time column. An 'M' next to the TOTAL indicates that the observation time was not available for one or more cabin ozone measurements during the flight. Note that since the GASP system does not obtain data at altitudes below FL 195, the TOTAL time here is less than the segment time specified in reference 2. The time during which the cabin ozone level exceeded 0.1 ppmv is given in the 03 > .1 column; and the time during which the cabin ozone level exceeded 0.3 ppmv is given in the 03 > .3 column.

The mean (MEAN) and mean plus 1 standard deviation (M + SD) cabin ozone levels are time-weighted averages over the time period given by TOTAL. The maximum observed cabin ozone levels are also listed. The maximum time-weighted average cabin ozone level during any two hour interval in the flight is given under 2HR. If TOTAL is less than 2 hours, the value appearing in the 2HR column is the flight mean.

Next, the number of data points, time-weighted mean and mean plus 1 standard deviation, and maximum values of ambient ozone data are given for each flight. For measurement periods in which both cabin and ambient ozone data are available, and in which the ambient ozone level is greater than 0.1 ppmv, the ratio of cabin to ambient ozone is calculated. The number of these data points, as well as the mean and standard deviation are given following the ambient ozone data for each flight.

The final column in the Summary Tabulations indicates the compressor bleed/filter status, when available, for aircraft N533PA. The tags in this column identify operational and configuration changes made by the airline in efforts to reduce cabin ozone levels. A "B" in this column for flights after May 12, 1977 indicates that high temperature (15th compressor stage) bleed was used for cabin air during one or more measurement periods in the flight. Because independent documentation on the use of 15th stage bleed is not available for flights prior to May 12th, these are identified by a '?', although 15th stage bleed was used prior to this date. Flights and time intervals in which high temperature bleed was used are generally readily apparent in the flight plots, as shown by a marked decrease in the ratio of cabin to ambient ozone. An 'F' in the final column identifies flights after a charcoal filter system was installed on August 6, 1977. Note that this column applies only to aircraft N533PA (appendix C). There were no air conditioning system modifications or use of high temperature bleed for cabin air on N4711U (appendix D). Further analysis of these data are given in refs. 6 and 7.

Table I summarizes the simultaneous cabin and ambient ozone data for both GASP equipped aircraft. As our purpose here is to consider only those times when ozone may be a problem, only those cases when the ambient ozone amount was above 0.1 ppmv are included in the table. Thus, the statistics in table I generally refer to stratospheric flights. There may be factors other than those listed which influence the retention ratio from flight to flight, or even within a flight, such as load factor or flight duration (ref. 5). A measure of the variability of the retention ratio is given by its standard deviation, which has been included in table I.

SUMMARY OF RESULTS

Measurements of ozone concentrations both outside and in the cabin of an airline operated Boeing 747SP and Boeing 747-100 airliner are tabulated and plotted. Tables and the corresponding plots for each flight are arranged chronologically for the two aircraft. Data were taken at five or ten minute intervals by automated

instrumentation used in the NASA Global Atmospheric Sampling Program (GASP). All cabin ozone data obtained by GASP-equipped airliners N533PA and N4711U during 1977 are presented.

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TABLE I - CORRELATION BETWEEN SIMULTANEOUS CABIN AND AMBIENT OZONE MEASUREMENTS FROM GASP DATA FOR MARCH THROUGH DECEMBER 1977

Aircraft	Added technique for destroying ozone	ND	CABIN/AMBIENT (Ambient > .1) MEAN	SD	Correlation Coefficient
747SP (N533PA)	None	527*	.825	.208	.871
	15th stage compressor bleed	123*	.268	.132	.513
	Modified air recirculation without 15th stage bleed	1995	.552	.191	.813
	Modified air recirculation with 15th stage bleed	972	.211	.109	.415
	Charcoal filter	1093	.061	.089	.297
747-100	None	941	.465	.201	.859

*Data prior to 5/12/77 not used

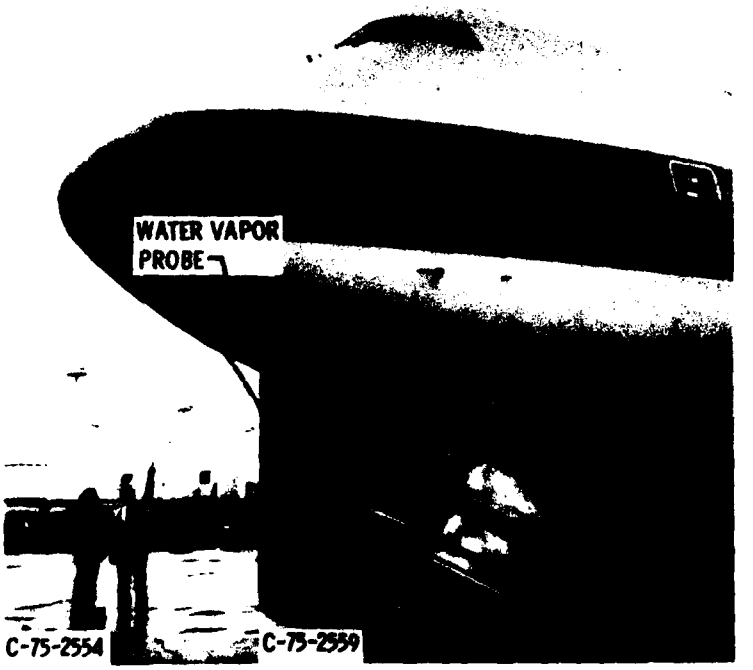


Figure 1. - Air sample inlet probes mounted on 747 airliner equipped for GASP.

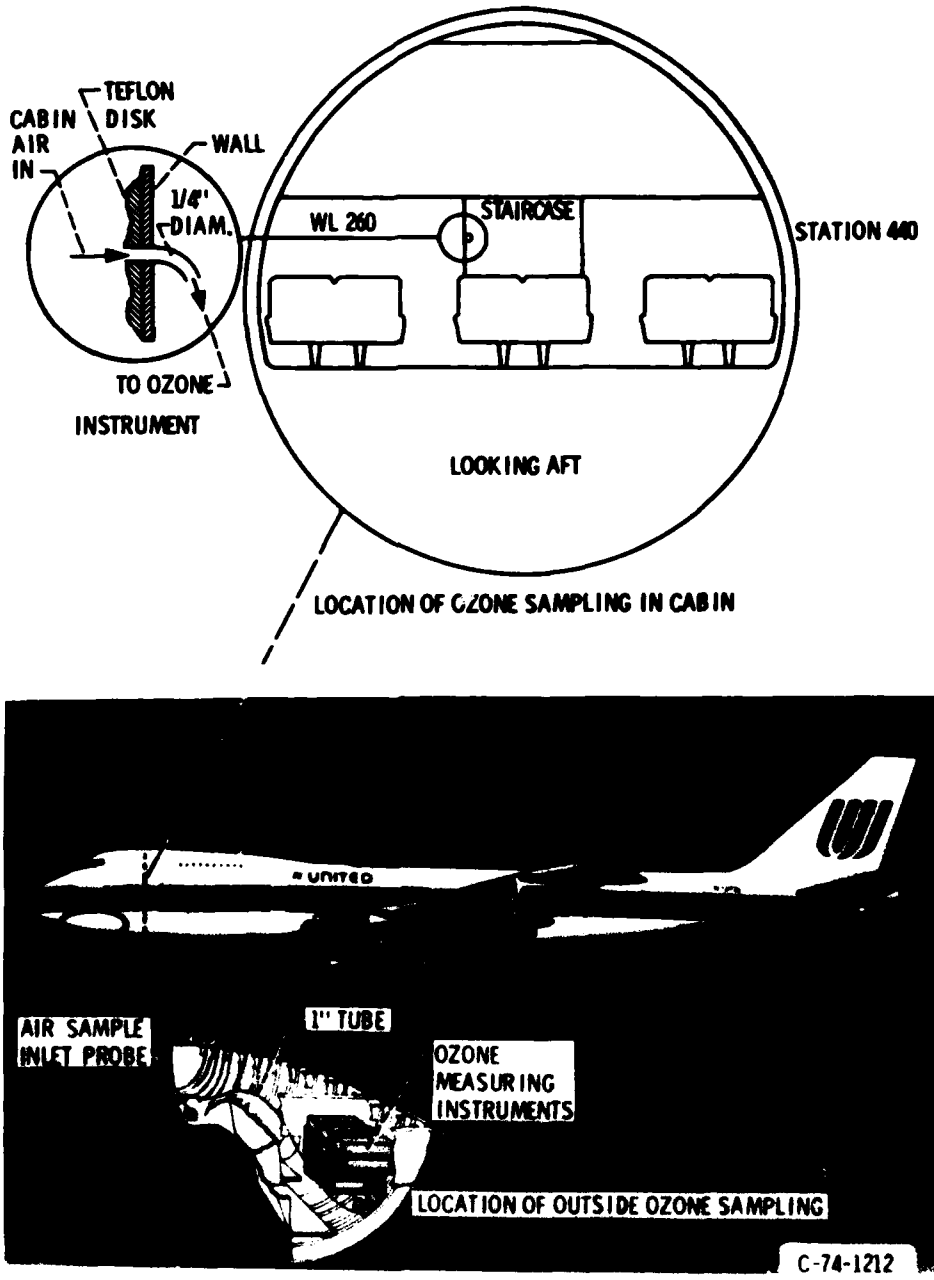


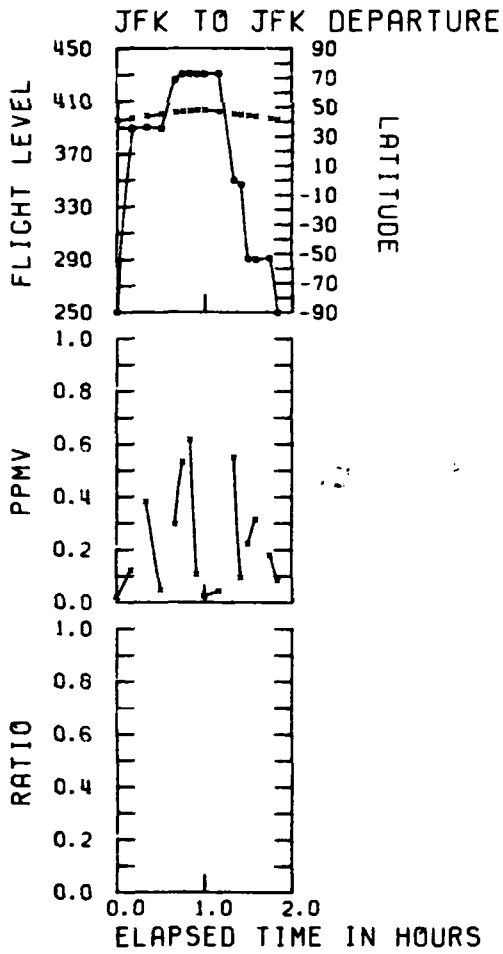
Figure 2. - Ozone measurement locations on B747 airliner.

APPENDIX A

DATA PLOTS AND TABLES OF GASP

OZONE DATA

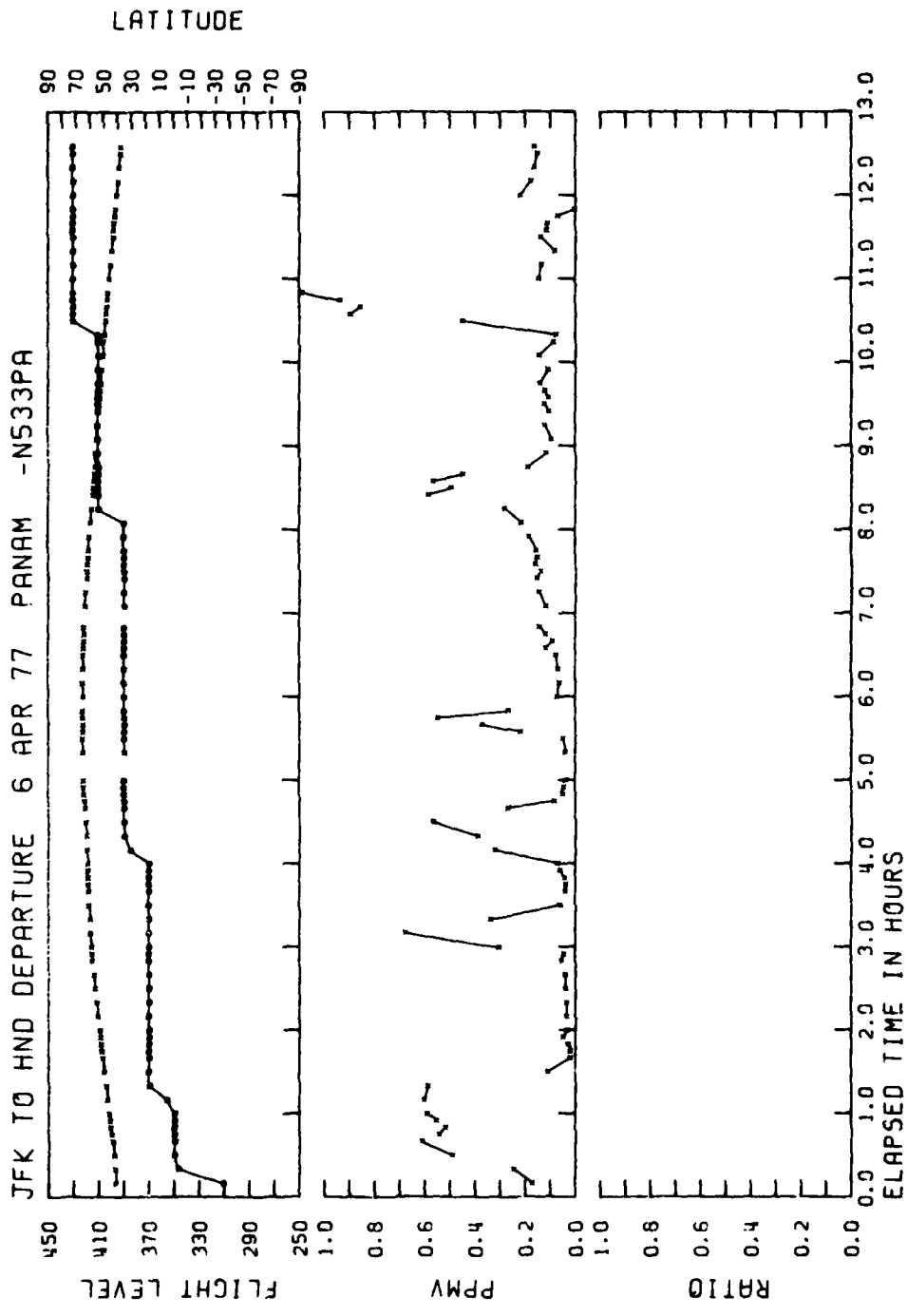
FOR BOEING 747SP (N533PA)


JFK TO JFK DEPARTURE 6 APR 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
ELAPSED TIME IN HOURS

JFK TO JFK (PAGE 1 OF 1) DEPARTURE: 6 APR 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .618 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 16
DATA SOURCE: GASP TAPE VL010, FILE 2 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/ 6/77	1323	0:00	215	41.14N	73.01W	-29.	.021		
4/ 6/77	1333	0:10	390	42.56N	73.32W	-44.	.124		
4/ 6/77	1343	0:20	390	44.10N	73.26W	-40.	.384		
4/ 6/77	1353	0:30	389	45.44N	73.85W	-42.	.048		
4/ 6/77	1403	0:40	426	46.45N	75.06W	-44.	.297		
4/ 6/77	1408	0:45	431	46.93N	75.74W	-44.	.533		
4/ 6/77	1413	0:50	431	47.39N	76.47W	-44.	.618		
4/ 6/77	1418	0:55	431	47.83N	77.23W	-42.	.106		
4/ 6/77	1423	1:00	431	47.94N	77.99W	-43.	.025		
4/ 6/77	1433	1:10	431	46.83N	79.02W	-44.	.043		
4/ 6/77	1446	1:23	350	45.40N	78.02W	-42.	.551		
4/ 6/77	1451A	1:28	347	44.84N	77.24W	-42.	.095		
4/ 6/77	1456A	1:33	291	44.42N	76.62W	-42.	.223		
4/ 6/77	1501	1:38	290	43.79N	76.27W	-41.	.315		
4/ 6/77	1511	1:48	291	42.56N	75.58W	-41.	.180		
4/ 6/77	1517A	1:54	228	41.87N	75.31W	-36.	.085		


JFK TO HND DEPARTURE 6 APR 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0 13.0
ELAPSED TIME IN HOURS

JFK TO HNO (PAGE 1 OF 2) DEPARTURE: 6 APR 77 AIRCRAFT: PANAM -N533PA

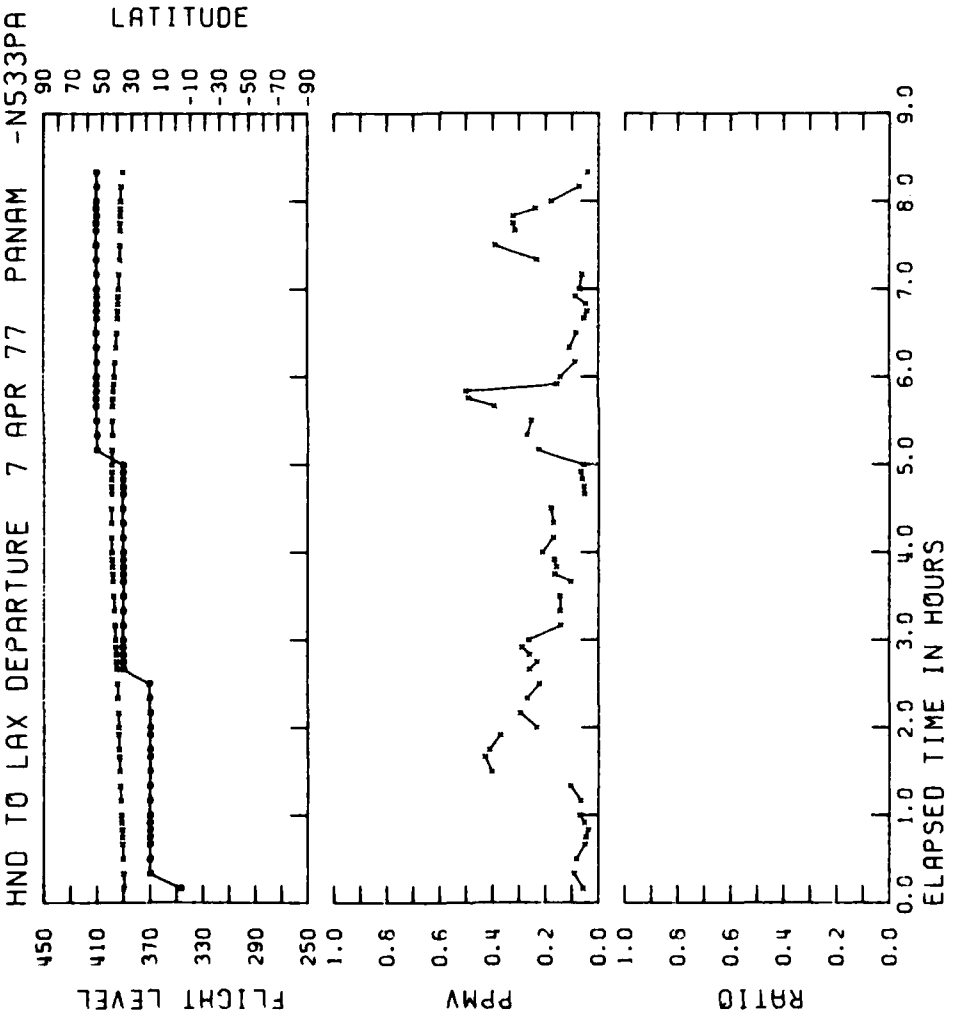
MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE=1.089 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 98
DATA SOURCE: GASP TAPE VL010, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/ 6/77	1811	0:10	311	41.84N	75.20W	-43.	.172		
4/ 6/77	1821	0:20	347	42.19N	76.40W	-42.	.240		
4/ 6/77	1831	0:30	350	42.95N	77.72W	-42.	.489		
4/ 6/77	1841	0:40	350	44.13N	78.64W	-42.	.613		
4/ 6/77	1846	0:45	350	44.74N	79.04W	-42.	.544		
4/ 6/77	1851	0:50	350	45.36N	79.46W	-43.	.516		
4/ 6/77	1856	0:55	350	45.97N	79.88W	-43.	.554		
4/ 6/77	1901	1:00	350	46.58N	80.31W	-43.	.591		
4/ 6/77	1911	1:10	356	47.80N	81.19W	-43.	.602		
4/ 6/77	1921	1:20	370	48.97N	82.10W	-44.	.588		
4/ 6/77	1931	1:30	370	50.10N	83.09W	-44.	.108		
4/ 6/77	1941	1:40	370	51.22N	84.19W	-44.	.020		
4/ 6/77	1946	1:45	370	51.78N	84.77W	-44.	.022		
4/ 6/77	1951	1:50	370	52.33N	85.35W	-44.	.028		
4/ 6/77	1956	1:55	370	52.87N	85.94W	-43.	.049		
4/ 6/77	2001	2:00	370	53.40N	86.55W	-44.	.033		
4/ 6/77	2011	2:10	370	54.45N	87.79W	-44.	.033		
4/ 6/77	2021	2:20	370	55.48N	89.10W	-44.	.034		
4/ 6/77	2031	2:30	370	56.47N	90.46W	-43.	.039		
4/ 6/77	2041	2:40	370	57.44N	91.91W	-44.	.040		
4/ 6/77	2051	2:50	370	58.42N	93.48W	-43.	.053		
4/ 6/77	2056	2:55	370	58.83N	94.41W	-43.	.045		
4/ 6/77	2101	3:00	370	59.14N	95.51W	-44.	.303		
4/ 6/77	2111	3:10	370	59.72N	97.70W	-44.	.677		
4/ 6/77	2121	3:20	370	60.26N	99.99W	-44.	.338		
4/ 6/77	2131	3:30	370	60.75N	102.30W	-46.	.060		
4/ 6/77	2141	3:40	370	61.20N	104.66W	-47.	.039		
4/ 6/77	2146	3:45	370	61.41N	105.85W	-48.	.038		
4/ 6/77	2151	3:50	370	61.60N	107.05W	-49.	.043		
4/ 6/77	2156	3:55	370	61.78N	108.24W	-50.	.060		
4/ 6/77	2201	4:00	370	61.95N	109.46W	-50.	.071		
4/ 6/77	2211	4:10	384	62.26N	111.85W	-52.	.320		
4/ 6/77	2221	4:20	390	62.55N	114.32W	-51.	.389		
4/ 6/77	2231	4:30	390	63.17N	116.54W	-50.	.566		
4/ 6/77	2241	4:40	390	63.78N	118.95W	-50.	.268		
4/ 6/77	2246	4:45	390	64.07N	120.22W	-50.	.084		
4/ 6/77	2251	4:50	390	64.35N	121.51W	-49.	.051		
4/ 6/77	2256	4:55	390	64.62N	122.84W	-48.	.044		
4/ 6/77	2301	5:00	390	64.88N	124.19W	-49.	.038		
4/ 6/77	2321	5:20	390	65.40N	129.96W	-50.	.040		
4/ 6/77	2331	5:30	390	65.45N	132.96W	-51.	.050		
4/ 6/77	2336	5:35	390	65.45N	134.46W	-51.	.218		
4/ 6/77	2341	5:40	390	65.43N	135.96W	-51.	.374		
4/ 6/77	2346	5:45	390	65.41N	137.52W	-51.	.547		
4/ 6/77	2351	5:50	390	65.36N	139.05W	-50.	.266		
4/ 7/77	0001	6:00	390	65.23N	142.09W	-50.	.073		
4/ 7/77	0011	6:10	390	65.16N	145.16W	-49.	.065		
4/ 7/77	0021	6:20	390	65.06N	148.17W	-49.	.068		
4/ 7/77	0031	6:30	390	64.89N	151.20W	-51.	.078		
4/ 7/77	0036	6:35	390	64.79N	152.69W	-51.	.116		
4/ 7/77	0041	6:40	390	64.67N	154.18W	-50.	.090		
4/ 7/77	0046	6:45	390	64.53N	155.61W	-51.	.119		
4/ 7/77	0051	6:50	390	64.38N	157.05W	-51.	.143		
4/ 7/77	0106	7:05	390	63.80N	161.27W	-52.	.119		
4/ 7/77	0116	7:15	390	63.18N	163.87W	-53.	.144		
4/ 7/77	0126	7:25	390	62.52N	166.31W	-52.	.154		
4/ 7/77	0131	7:30	390	62.18N	167.49W	-53.	.139		
4/ 7/77	0136	7:35	390	61.83N	168.63W	-52.	.158		
4/ 7/77	0141	7:40	390	61.47N	169.76W	-53.	.151		
4/ 7/77	0146	7:45	390	61.11N	170.89W	-55.	.154		
4/ 7/77	0156	7:55	390	60.38N	173.04W	-55.	.183		
4/ 7/77	0206	8:05	390	59.63N	175.06W	-56.	.215		
4/ 7/77	0216	8:15	410	58.85N	177.01W	-55.	.281		
4/ 7/77	0226	8:25	410	58.02N	178.88W	-55.	.586		
4/ 7/77	0231	8:30	410	57.60N	179.78W	-55.	.495		
4/ 7/77	0236	8:35	410	57.28N	179.22E	-55.	.566		
4/ 7/77	0241	8:40	410	56.98N	178.20E	-55.	.448		
4/ 7/77	0246	8:45	410	56.66N	177.18E	-55.	.190		
4/ 7/77	0256	8:55	410	56.00N	175.14E	-53.	.114		
4/ 7/77	0306	9:05	410	55.29N	173.14E	-52.	.094		
4/ 7/77	0316	9:15	410	54.54N	171.18E	-51.	.121		
4/ 7/77	0326	9:25	410	53.80N	169.21E	-49.	.105		
4/ 7/77	0331	9:30	411	53.45N	168.21E	-50.	.123		
4/ 7/77	0336	9:35	410	53.11N	167.23E	-50.	.108		
4/ 7/77	0341	9:40	410	52.75N	166.28E	-49.	.120		
4/ 7/77	0346	9:45	410	52.39N	165.33E	-48.	.141		
4/ 7/77	0356	9:55	410	51.63N	163.48E	-48.	.109		
4/ 7/77	0406	10:05	410	50.86N	161.71E	-49.	.145		
4/ 7/77	0416	10:15	410	50.06N	159.99E	-48.	.088		
4/ 7/77	0421	10:20	410	49.64N	159.16E	-49.	.075		
4/ 7/77	0431	10:30	430	48.80N	157.55E	-51.	.449		
4/ 7/77	0436	10:35	430	48.38N	156.77E	-50.	.896		
4/ 7/77	0441	10:40	430	47.93N	155.98E	-50.	.857		
4/ 7/77	0446	10:45	430	47.50N	155.24E	-49.	.935		
4/ 7/77	0451	10:50	430	47.06N	154.50E	-50.	1.089		
4/ 7/77	0501	11:00	430	46.16N	153.06E	-51.	.145		
4/ 7/77	0511	11:10	430	45.26N	151.69E	-52.	.135		
4/ 7/77	0521	11:20	430	44.34N	150.36E	-53.	.082		
4/ 7/77	0531	11:30	430	43.44N	149.08E	-53.	.138		
4/ 7/77	0536	11:35	430	42.99N	148.45E	-53.	.115		
4/ 7/77	0541	11:40	430	42.55N	147.84E	-53.	.109		
4/ 7/77	0546	11:45	430	42.10N	147.24E	-54.	.070		

JFK TO HND (PAGE 2 OF 2) DEPARTURE: 6 APR 77 AIRCRAFT: PANAM -N 33PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE=1.089 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 98
DATA SOURCE: GASP TAPE VL010, FILE 2

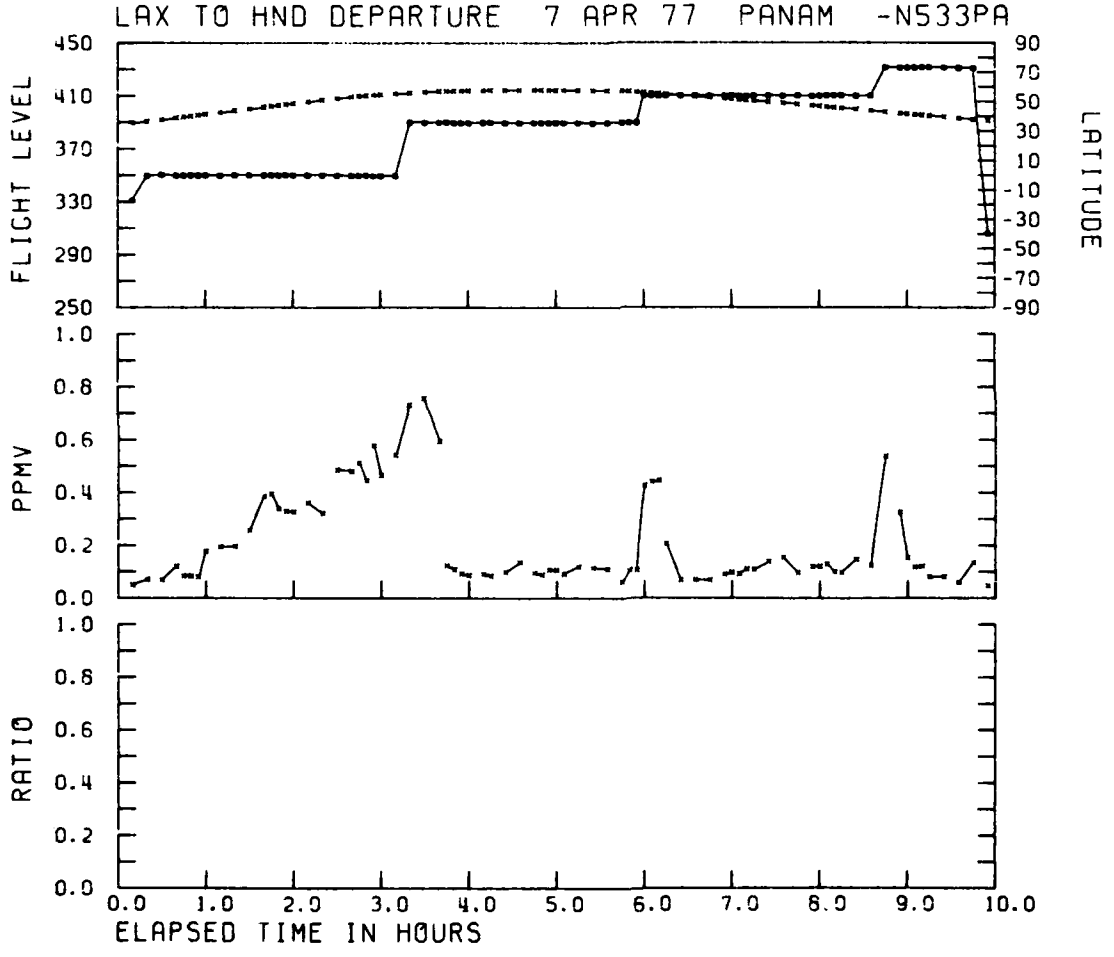
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/ 7/77	0551	11:50	430	41.64N	146.64E	-55.	.003		
4/ 7/77	0601	12:00	430	40.74N	145.49E	-56.	.219		
4/ 7/77	0611	12:10	430	39.85N	144.37E	-58.	.178		
4/ 7/77	0621	12:20	430	38.95N	143.25E	-58.	.162		
4/ 7/77	0631	12:30	430	38.03N	142.20E	-59.	.150		
4/ 7/77	0636	12:35	430	37.60N	141.71E	-60.	.164		


HND TO LAX DEPARTURE 7 APR 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0
ELAPSED TIME IN HOURS

HND TO LAX (PAGE 1 OF 1) DEPARTURE: 7 APR 77 AIRCRAFT: PANAM -N433PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .499 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 65
DATA SOURCE: GASP TAPE VL010, FILE 2

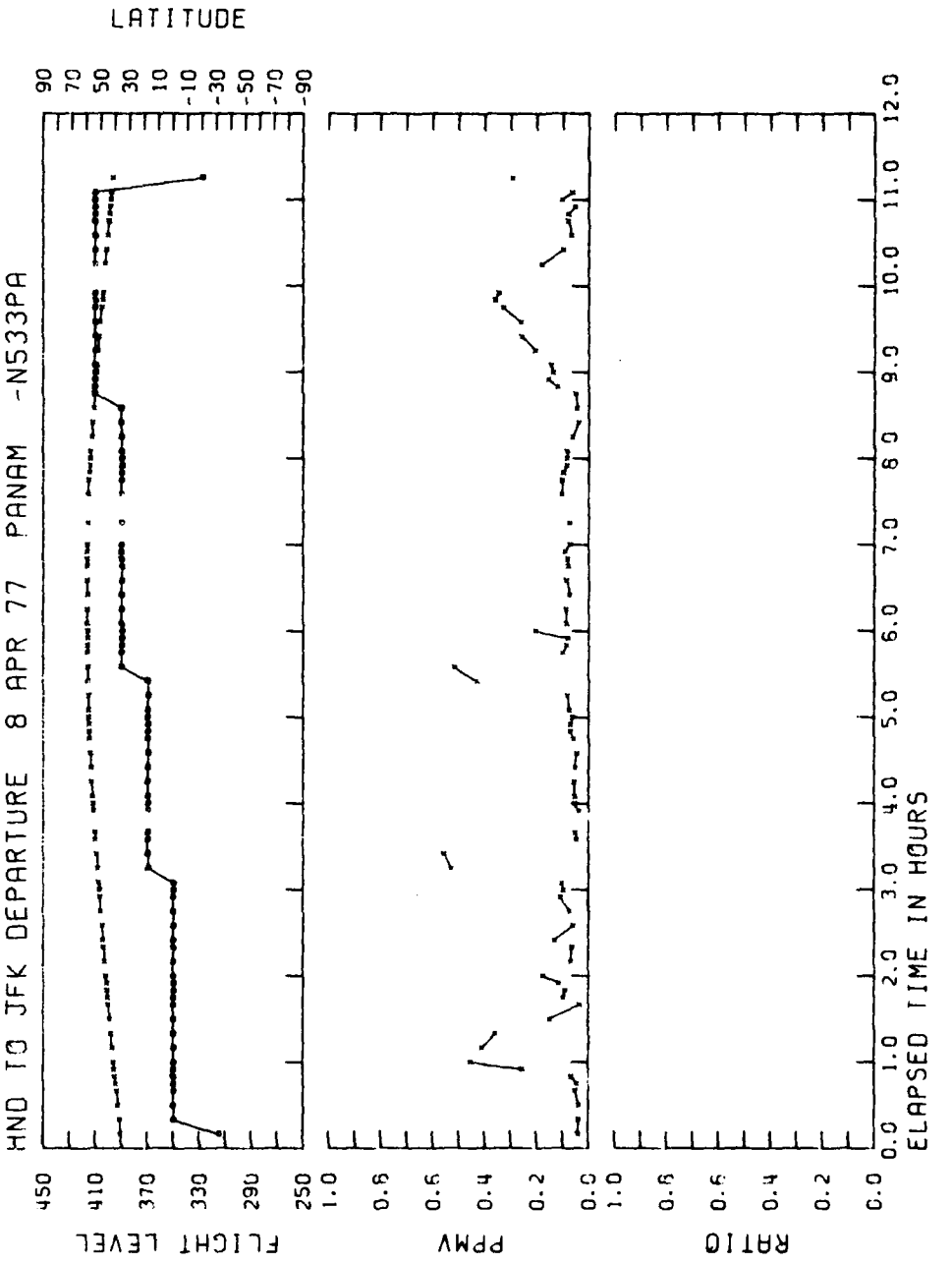
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/ 7/77	0959	0:10	346	35.54N	142.83E	-53.	.057		
4/ 7/77	1009	0:20	370	35.95N	144.67E	-60.	.091		
4/ 7/77	1019	0:30	370	36.34N	146.53E	-62.	.083		
4/ 7/77	1029	0:40	370	36.70N	148.40E	-62.	.050		
4/ 7/77	1034	0:45	370	36.87N	149.36E	-63.	.047		
4/ 7/77	1039	0:50	370	36.95N	149.81E	-63.	.037		
4/ 7/77	1044	0:55	370	37.29N	151.27E	-63.	.052		
4/ 7/77	1049	1:00	370	37.51N	152.25E	-62.	.070		
4/ 7/77	1059	1:10	370	37.94N	154.24E	-61.	.067		
4/ 7/77	1109	1:20	370	38.33N	156.23E	-60.	.104		
4/ 7/77	1119	1:30	370	38.68N	158.20E	-56.	.403		
4/ 7/77	1129	1:40	370	38.99N	160.16E	-53.	.428		
4/ 7/77	1134	1:45	370	39.13N	161.16E	-54.	.412		
4/ 7/77	1144	1:55	370	39.38N	163.21E	-53.	.371		
4/ 7/77	1149	2:00	370	39.49N	164.24E	-53.	.234		
4/ 7/77	1159	2:10	370	39.69N	166.32E	-53.	.296		
4/ 7/77	1209	2:20	370	39.85N	168.43E	-53.	.268		
4/ 7/77	1219	2:30	370	40.07N	170.55E	-54.	.222		
4/ 7/77	1229	2:40	390	40.55N	172.61E	-57.	.260		
4/ 7/77	1234	2:45	390	40.77N	173.62E	-58.	.231		
4/ 7/77	1239	2:50	390	40.98N	174.65E	-58.	.260		
4/ 7/77	1244	2:55	390	41.19N	175.70E	-59.	.289		
4/ 7/77	1249	3:00	390	41.38N	176.75E	-60.	.263		
4/ 7/77	1259	3:10	390	41.75N	178.92E	-65.	.142		
4/ 7/77	1309	3:20	390	42.17N	178.94W	-64.	.145		
4/ 7/77	1319	3:30	390	42.64N	176.87W	-64.	.145		
4/ 7/77	1329	3:40	390	43.07N	174.75W	-64.	.105		
4/ 7/77	1334	3:45	390	43.27N	173.67W	-63.	.166		
4/ 7/77	1339	3:50	390	43.46N	172.59W	-63.	.159		
4/ 7/77	1344	3:55	390	43.64N	171.52W	-63.	.167		
4/ 7/77	1349	4:00	390	43.81N	170.46W	-62.	.212		
4/ 7/77	1359	4:10	390	43.95N	168.32W	-64.	.171		
4/ 7/77	1409	4:20	390	43.99N	166.14W	-64.	.171		
4/ 7/77	1419	4:30	390	43.99N	164.03W	-67.	.180		
4/ 7/77	1429	4:40	390	43.94N	161.93W	-67.	.054		
4/ 7/77	1434	4:45	390	43.91N	160.86W	-67.	.056		
4/ 7/77	1439	4:50	390	43.86N	159.78W	-67.	.062		
4/ 7/77	1444	4:55	390	43.78N	158.70W	-66.	.068		
4/ 7/77	1449	5:00	390	43.70N	157.62W	-67.	.058		
4/ 7/77	1459	5:10	410	43.51N	155.53W	-67.	.227		
4/ 7/77	1509	5:20	410	43.29N	153.51W	-66.	.272		
4/ 7/77	1519	5:30	410	43.04N	151.50W	-68.	.255		
4/ 7/77	1529	5:40	410	42.71N	149.49W	-59.	.394		
4/ 7/77	1534	5:45	410	42.46N	148.52W	-57.	.489		
4/ 7/77	1539	5:50	410	42.21N	147.55W	-55.	.499		
4/ 7/77	1544	5:55	410	41.93N	146.56W	-55.	.155		
4/ 7/77	1549	6:00	410	41.65N	145.59W	-52.	.142		
4/ 7/77	1559	6:10	410	41.07N	143.70W	-51.	.087		
4/ 7/77	1609	6:20	410	40.48N	141.92W	-48.	.108		
4/ 7/77	1619	6:30	410	39.87N	140.16W	-48.	.083		
4/ 7/77	1629	6:40	410	39.53N	138.29W	-48.	.054		
4/ 7/77	1634	6:45	410	39.37N	137.36W	-45.	.042		
4/ 7/77	1639	6:50	410	39.20N	136.44W	-47.	.048		
4/ 7/77	1644	6:55	410	39.03N	135.52W	-47.	.087		
4/ 7/77	1649	7:00	410	38.85N	134.62W	-48.	.071		
4/ 7/77	1659	7:10	410	38.48N	132.85W	-48.	.062		
4/ 7/77	1709	7:20	410	38.09N	131.10W	-51.	.233		
4/ 7/77	1719	7:30	410	37.83N	129.36W	-54.	.390		
4/ 7/77	1729	7:40	410	37.85N	127.55W	-60.	.315		
4/ 7/77	1734	7:45	410	37.84N	126.67W	-60.	.322		
4/ 7/77	1739	7:50	410	37.83N	125.80W	-63.	.322		
4/ 7/77	1744	7:55	410	37.70N	124.96W	-65.	.238		
4/ 7/77	1749	8:00	410	37.56N	124.08W	-65.	.178		
4/ 7/77	1759	8:10	410	37.09N	122.49W	-66.	.073		
4/ 7/77	1809	8:20	410	36.20N	121.27W	-67.	.041		


LAX TO HND DEPARTURE 7 APR 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
ELAPSED TIME IN HOURS

LAX TO HNO (PAGE 1 OF 1) DEPARTURE: 7 APR 77 AIRCRAFT: PANAM -N-33PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .757 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 79
DATA SOURCE: GASP TAPE VL010, FILE 2

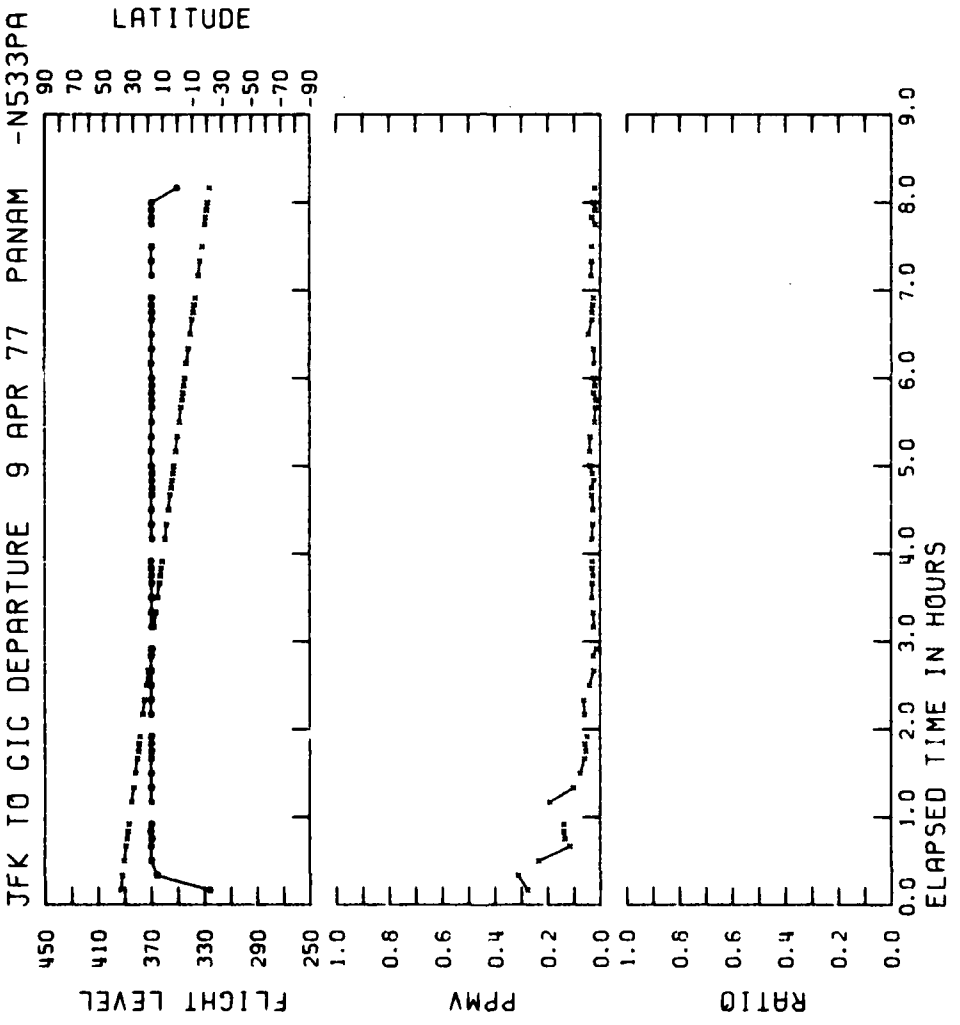
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/ 7/77	2232	0:10	331	35.56N	120.16W	-52.	.050		
4/ 7/77	2242	0:20	350	36.73N	121.03W	-56.	.071		
4/ 7/77	2252	0:30	350	37.90N	121.94W	-57.	.070		
4/ 7/77	2302	0:40	350	39.09N	122.90W	-58.	.121		
4/ 7/77	2307	0:45	350	39.69N	123.39W	-58.	.085		
4/ 7/77	2312	0:50	350	40.30N	123.91W	-59.	.084		
4/ 7/77	2317	0:55	350	40.91N	124.45W	-57.	.081		
4/ 7/77	2322	1:00	350	41.53N	125.01W	-57.	.178		
4/ 7/77	2332	1:10	350	42.79N	126.18W	-55.	.196		
4/ 7/77	2342	1:20	350	44.01N	127.51W	-54.	.196		
4/ 7/77	2352	1:30	350	45.18N	126.95W	-54.	.258		
4/ 8/77	0002	1:40	350	46.37N	130.38W	-52.	.386		
4/ 8/77	0007	1:45	350	47.01N	131.04W	-53.	.395		
4/ 8/77	0012	1:50	350	47.64N	131.71W	-53.	.339		
4/ 8/77	0017	1:55	350	48.26N	132.41W	-52.	.329		
4/ 8/77	0022	2:00	350	48.87N	133.10W	-54.	.326		
4/ 8/77	0032	2:10	350	50.07N	134.54W	-54.	.361		
4/ 8/77	0042	2:20	350	51.21N	135.99W	-57.	.321		
4/ 8/77	0052	2:30	350	52.31N	137.49W	-52.	.486		
4/ 8/77	0102	2:40	350	53.36N	139.02W	-51.	.480		
4/ 8/77	0107	2:45	350	53.88N	139.81W	-50.	.512		
4/ 8/77	0112	2:50	350	54.27N	140.74W	-48.	.445		
4/ 8/77	0117	2:55	350	54.61N	141.71W	-47.	.578		
4/ 8/77	0122	3:00	350	54.93N	142.69W	-48.	.465		
4/ 8/77	0132	3:10	350	55.56N	144.67W	-46.	.542		
4/ 8/77	0142	3:20	390	56.17N	146.76W	-49.	.732		
4/ 8/77	0152	3:30	390	56.73N	148.91W	-50.	.757		
4/ 8/77	0202	3:40	390	57.16N	151.13W	-49.	.595		
4/ 8/77	0207	3:45	390	57.31N	152.30W	-51.	.124		
4/ 8/77	0212	3:50	390	57.44N	153.46W	-51.	.109		
4/ 8/77	0217	3:55	390	57.57N	154.63W	-51.	.093		
4/ 8/77	0222	4:00	390	57.68N	155.78W	-52.	.087		
4/ 8/77	0232	4:10	390	57.88N	158.15W	-53.	.092		
4/ 8/77	0237	4:15	390	57.96N	159.33W	-53.	.085		
4/ 8/77	0247	4:25	390	58.06N	161.72W	-54.	.099		
4/ 8/77	0257	4:35	390	58.09N	164.11W	-54.	.136		
4/ 8/77	0307	4:45	390	58.09N	166.55W	-53.	.096		
4/ 8/77	0312	4:50	390	58.07N	167.78W	-52.	.089		
4/ 8/77	0317	4:55	390	58.03N	169.00W	-52.	.108		
4/ 8/77	0322	5:00	390	58.00N	170.22W	-54.	.107		
4/ 8/77	0327	5:05	390	57.97N	171.46W	-54.	.093		
4/ 8/77	0337	5:15	390	57.88N	173.93W	-53.	.120		
4/ 8/77	0347	5:25	390	57.74N	176.37W	-52.	.115		
4/ 8/77	0357	5:35	390	57.56N	178.80W	-52.	.110		
4/ 8/77	0407	5:45	390	57.14N	178.92E	-51.	.063		
4/ 8/77	0412	5:50	390	56.83N	177.86E	-51.	.106		
4/ 8/77	0417	5:55	390	56.50N	176.81E	-50.	.106		
4/ 8/77	0422	6:00	410	56.16N	175.77E	-50.	.426		
4/ 8/77	0427	6:05	410	55.81N	174.74E	-50.	.441		
4/ 8/77	0432	6:10	410	55.46N	173.75E	-50.	.446		
4/ 8/77	0437	6:15	410	55.10N	172.76E	-50.	.206		
4/ 8/77	0447	6:25	410	54.33N	170.80E	-50.	.068		
4/ 8/77	0457	6:35	410	53.61N	168.83E	-51.	.069		
4/ 8/77	0507	6:45	410	52.91N	166.87E	-49.	.069		
4/ 8/77	0517	6:55	410	52.19N	164.98E	-50.	.090		
4/ 8/77	0522	7:00	410	51.81N	164.06E	-49.	.098		
4/ 8/77	0527	7:05	410	51.44N	163.16E	-51.	.092		
4/ 8/77	0532	7:10	410	51.06N	162.29E	-51.	.110		
4/ 8/77	0537	7:15	410	50.67N	161.43E	-51.	.109		
4/ 8/77	0547	7:25	410	49.88N	159.75E	-52.	.139		
4/ 8/77	0557	7:35	410	49.05N	158.15E	-52.	.155		
4/ 8/77	0607	7:45	410	48.21N	156.60E	-51.	.097		
4/ 8/77	0617	7:55	410	47.35N	155.13E	-54.	.120		
4/ 8/77	0622	8:00	410	46.92N	154.41E	-53.	.120		
4/ 8/77	0627	8:05	410	46.49N	153.71E	-53.	.130		
4/ 8/77	0632	8:10	410	46.05N	153.02E	-53.	.100		
4/ 8/77	0637	8:15	410	45.62N	152.35E	-54.	.098		
4/ 8/77	0647	8:25	410	44.74N	151.05E	-52.	.146		
4/ 8/77	0657	8:35	410	43.87N	149.81E	-54.	.123		
4/ 8/77	0707	8:45	432	43.02N	148.60E	-54.	.537		
4/ 8/77	0717	8:55	431	42.16N	147.44E	-55.	.325		
4/ 8/77	0722	9:00	431	41.73N	146.87E	-56.	.152		
4/ 8/77	0727	9:05	431	41.30N	146.31E	-55.	.118		
4/ 8/77	0732	9:10	432	40.86N	145.75E	-57.	.120		
4/ 8/77	0737	9:15	432	40.41N	145.20E	-57.	.080		
4/ 8/77	0747	9:25	431	39.55N	144.11E	-59.	.081		
4/ 8/77	0757	9:35	431	38.71N	143.07E	-59.	.059		
4/ 8/77	0807	9:45	431	37.86N	142.07E	-65.	.134		
4/ 8/77	0817	9:55	306	37.19N	141.05E	-42.	.047		


LATITUDE
HND TO JFK DEPARTURE 8 APR 77 PANAM -N533PA
FLIGHT LEVEL
PPMV
RATIO
ELAPSED TIME IN HOURS

HND TO JFK (PAGE 1 OF 1) DEPARTURE: 8 APR 77 AIRCRAFT: PANAM -N 33PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .558 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 84
DATA SOURCE: GASP TAPE VL010, FILE 2

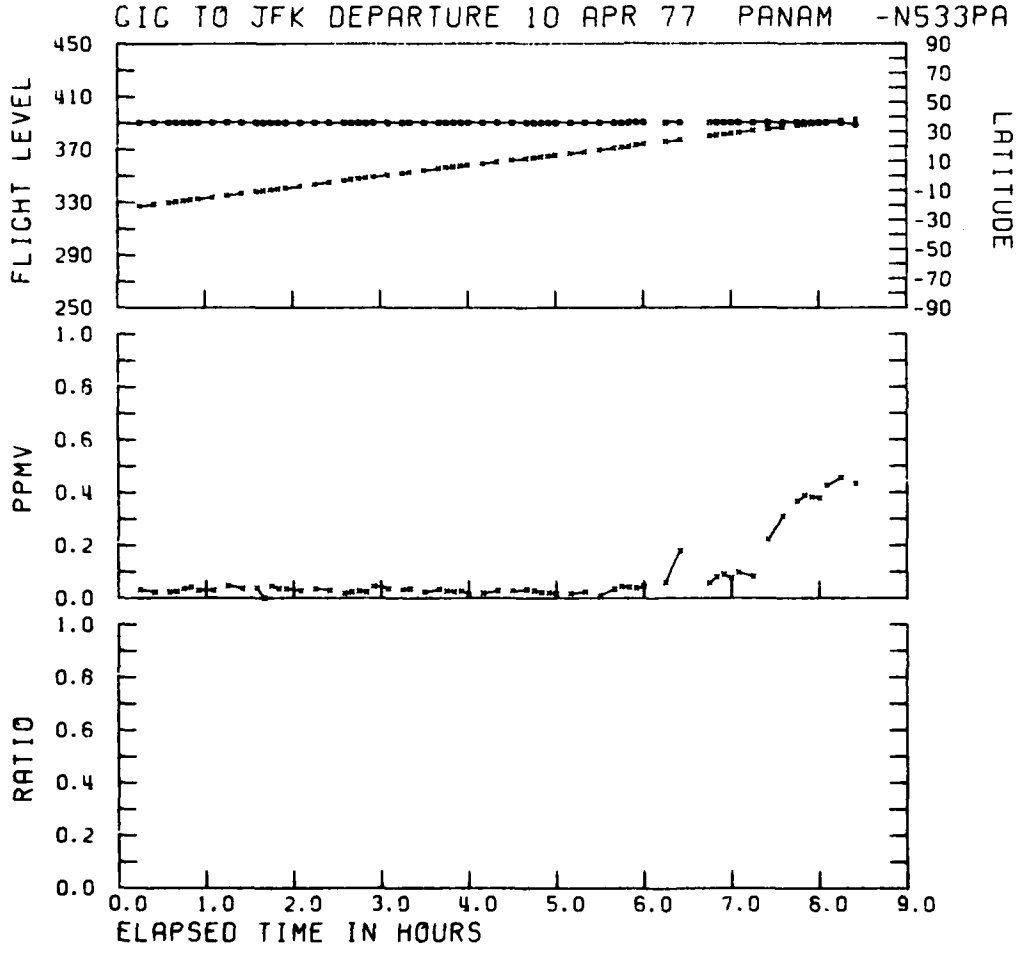
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/ 8/77	1214	0:10	314	36.58N	142.69E	-43.	.040		
4/ 8/77	1224	0:20	350	37.32N	144.36E	-54.	.038		
4/ 8/77	1234	0:30	350	38.41N	145.71E	-55.	.039		
4/ 8/77	1244	0:40	350	39.47N	147.12E	-55.	.052		
4/ 8/77	1249	0:45	350	40.00N	147.85E	-55.	.046		
4/ 8/77	1254	0:50	350	40.54N	148.60E	-55.	.067		
4/ 8/77	1259	0:55	350	41.06N	149.35E	-53.	.255		
4/ 8/77	1304	1:00	350	41.57N	150.10E	-52.	.454		
4/ 8/77	1314	1:10	350	42.50N	151.67E	-53.	.411		
4/ 8/77	1324	1:20	350	43.41N	153.27E	-53.	.360		
4/ 8/77	1334	1:30	350	44.29N	154.93E	-55.	.149		
4/ 8/77	1344	1:40	350	45.13N	156.59E	-55.	.035		
4/ 8/77	1349	1:45	350	45.54N	157.44E	-55.	.097		
4/ 8/77	1354	1:50	350	45.95N	158.32E	-56.	.090		
4/ 8/77	1359	1:55	350	46.35N	159.21E	-56.	.116		
4/ 8/77	1404	2:00	350	46.74N	160.10E	-56.	.177		
4/ 8/77	1414	2:10	350	47.57N	161.82E	-56.	.067		
4/ 8/77	1424	2:20	350	48.36N	163.57E	-55.	.064		
4/ 8/77	1429	2:25	350	48.75N	164.48E	-56.	.132		
4/ 8/77	1439	2:35	350	49.49N	166.27E	-53.	.060		
4/ 8/77	1449	2:45	350	50.19N	168.09E	-50.	.074		
4/ 8/77	1459	2:55	350	50.86N	169.95E	-49.	.107		
4/ 8/77	1504	3:00	350	51.26N	170.80E	-49.	.097		
4/ 8/77	1509	3:05	350	51.67N	171.65E	-50.	.104		
4/ 8/77	1519	3:15	369	52.48N	173.43E	-49.	.530		
4/ 8/77	1529	3:25	370	53.23N	175.34E	-50.	.558		
4/ 8/77	1539	3:35	369	53.93N	177.39E	-48.	.046		
4/ 8/77	1544	3:40	369	54.28N	178.45E	-47.	.052		
4/ 8/77	1559	3:55	369	55.27N	178.30W	-47.	.039		
4/ 8/77	1604	4:00	369	55.58N	177.20W	-47.	.055		
4/ 8/77	1609	4:05	369	55.88N	176.08W	-49.	.053		
4/ 8/77	1619	4:15	369	56.46N	173.77W	-48.	.056		
4/ 8/77	1629	4:25	369	56.98N	171.41W	-49.	.053		
4/ 8/77	1639	4:35	369	57.49N	168.97W	-51.	.047		
4/ 8/77	1649	4:45	369	57.99N	166.45W	-52.	.058		
4/ 8/77	1654	4:50	369	58.22N	165.16W	-52.	.070		
4/ 8/77	1659	4:55	370	58.43N	163.88W	-54.	.070		
4/ 8/77	1704	5:00	369	58.64N	162.57W	-55.	.063		
4/ 8/77	1709	5:05	370	58.76N	161.22W	-54.	.075		
4/ 8/77	1719	5:15	369	58.81N	158.41W	-54.	.083		
4/ 8/77	1729	5:25	369	58.90N	155.66W	-54.	.432		
4/ 8/77	1739	5:35	390	59.15N	152.91W	-53.	.516		
4/ 8/77	1749	5:45	390	59.36N	150.05W	-53.	.101		
4/ 8/77	1754	5:50	390	59.44N	148.63W	-52.	.085		
4/ 8/77	1759	5:55	390	59.50N	147.19W	-52.	.079		
4/ 8/77	1804	6:00	390	59.54N	145.75W	-50.	.206		
4/ 8/77	1809	6:05	390	59.58N	144.33W	-50.	.087		
4/ 8/77	1819	6:15	390	59.60N	141.50W	-50.	.086		
4/ 8/77	1829	6:25	390	59.58N	138.67W	-49.	.075		
4/ 8/77	1839	6:35	390	59.60N	135.84W	-47.	.086		
4/ 8/77	1849	6:45	389	59.57N	133.04W	-48.	.080		
4/ 8/77	1854	6:50	390	59.52N	131.63W	-48.	.081		
4/ 8/77	1859	6:55	390	59.47N	130.23W	-47.	.092		
4/ 8/77	1904	7:00	390	59.40N	128.84W	-49.	.072		
4/ 8/77	1919	7:15	390	59.12N	124.73W	-50.	.074		
4/ 8/77	1939	7:35	390	58.75N	119.13W	-57.	.104		
4/ 8/77	1949	7:45	390	58.51N	116.39W	-57.	.102		
4/ 8/77	1954	7:50	390	58.14N	115.23W	-60.	.098		
4/ 8/77	1959	7:55	390	57.77N	114.08W	-60.	.085		
4/ 8/77	2004	8:00	390	57.39N	112.96W	-63.	.085		
4/ 8/77	2009	8:05	389	57.01N	111.86W	-63.	.083		
4/ 8/77	2019	8:15	390	56.34N	109.57W	-65.	.061		
4/ 8/77	2029	8:25	390	55.74N	107.21W	-65.	.040		
4/ 8/77	2039	8:35	390	55.09N	104.92W	-65.	.046		
4/ 8/77	2049	8:45	410	54.49N	102.60W	-68.	.052		
4/ 8/77	2054	8:50	410	54.18N	101.47W	-67.	.120		
4/ 8/77	2059	8:55	410	53.85N	100.37W	-66.	.154		
4/ 8/77	2104	9:00	410	53.48N	99.32W	-68.	.137		
4/ 8/77	2109	9:05	410	53.10N	98.27W	-65.	.145		
4/ 8/77	2119	9:15	410	52.27N	96.17W	-63.	.206		
4/ 8/77	2129	9:25	410	51.42N	94.16W	-62.	.260		
4/ 8/77	2139	9:35	410	50.45N	92.37W	-61.	.259		
4/ 8/77	2149	9:45	410	49.39N	90.72W	-59.	.329		
4/ 8/77	2154	9:50	410	48.83N	89.90W	-57.	.362		
4/ 8/77	2159	9:55	410	48.27N	89.09W	-57.	.348		
4/ 8/77	2219	10:15	410	46.84N	85.15W	-53.	.181		
4/ 8/77	2229	10:25	410	46.13N	83.21W	-51.	.098		
4/ 8/77	2239	10:35	410	45.25N	81.40W	-50.	.069		
4/ 8/77	2249	10:45	410	44.28N	79.73W	-50.	.080		
4/ 8/77	2254	10:50	410	43.84N	78.86W	-47.	.078		
4/ 8/77	2259	10:55	410	43.36N	78.04W	-49.	.052		
4/ 8/77	2304	11:00	410	42.94N	77.18W	-49.	.104		
4/ 8/77	2309	11:05	410	42.58N	76.27W	-48.	.064		
4/ 8/77	2319	11:15	328	41.94N	74.45W	-47.	.294		


JFK TO GIC DEPARTURE 9 APR 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0
ELAPSED TIME IN HOURS

JFK TO G16 (PAGE 1 OF 1) DEPARTURE: 9 APR 77 AIRCRAFT: PANAM -N-33PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .313 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 58
DATA SOURCE: GASP TAPE VL010, FILE 2

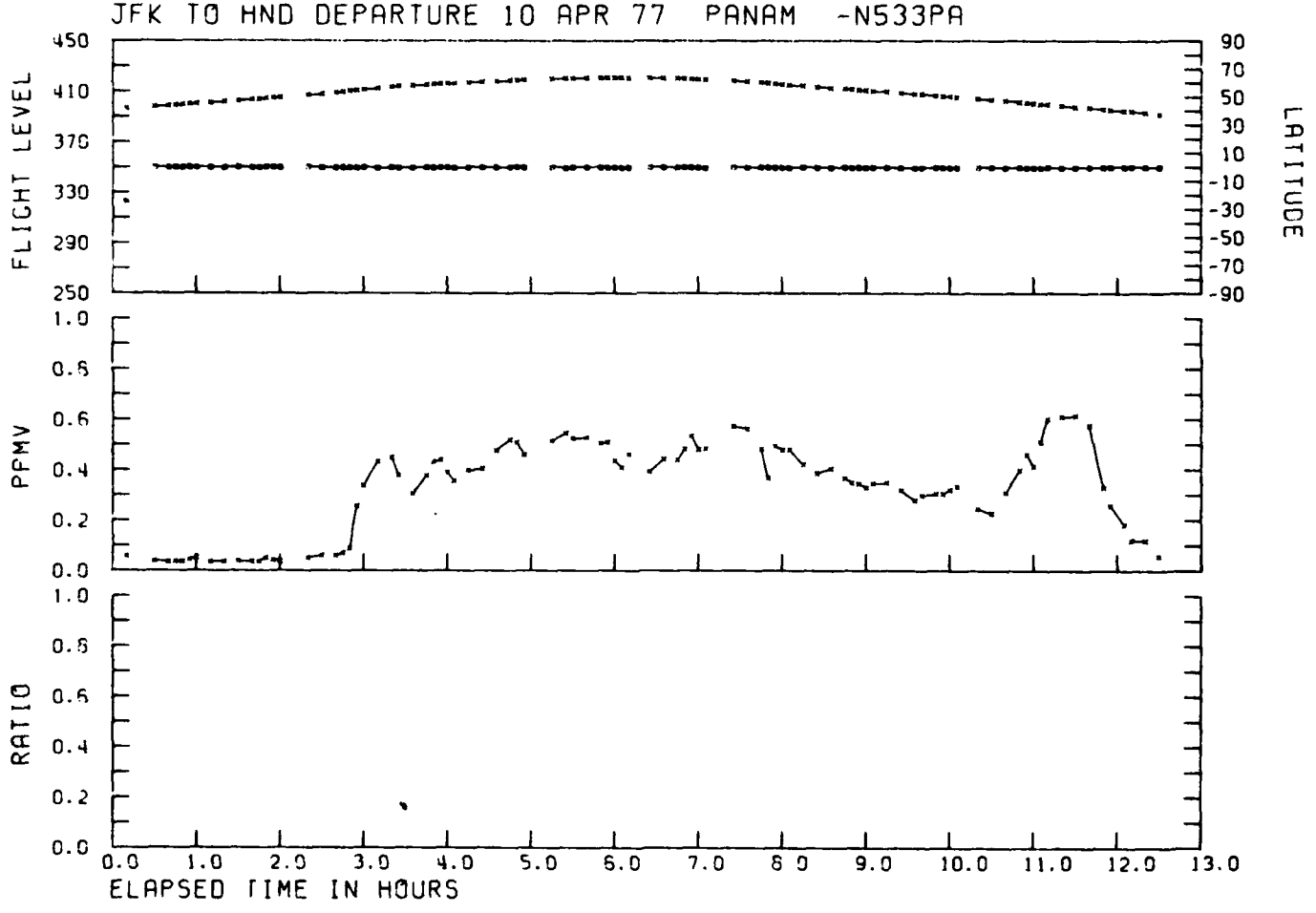
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	OZONE(PPMV) AMB.	RATIO
4/ 9/77	0238	0:11	326	38.84N	72.09W	-48.	.277		
4/ 9/77	0247	0:20	366	37.63N	71.70W	-54.	.313		
4/ 9/77	0257	0:30	370	36.38N	71.33W	-55.	.233		
4/ 9/77	0307	0:40	370	35.11N	70.95W	-55.	.116		
4/ 9/77	0312	0:45	370	34.46N	70.77W	-55.	.134		
4/ 9/77	0317	0:50	371	33.82N	70.59W	-56.	.137		
4/ 9/77	0323	0:56	370	33.17N	70.40W	-57.	.137		
4/ 9/77	0338	1:11	370	31.23N	69.83W	-53.	.190		
4/ 9/77	0347	1:20	370	29.94N	69.46W	-54.	.101		
4/ 9/77	0357	1:30	370	28.64N	69.09W	-55.	.076		
4/ 9/77	0407	1:40	370	27.32N	68.73W	-55.	.059		
4/ 9/77	0412	1:45	370	26.69N	66.41W	-54.	.054		
4/ 9/77	0417	1:50	370	26.11N	67.92W	-53.	.058		
4/ 9/77	0423	1:56	370	25.52N	67.43W	-52.	.050		
4/ 9/77	0438	2:11	370	23.73N	65.98W	-52.	.059		
4/ 9/77	0447	2:20	370	22.51N	65.15W	-50.	.063		
4/ 9/77	0457	2:30	370	21.25N	64.33W	-51.	.041		
4/ 9/77	0508	2:41	370	19.99N	63.53W	-51.	.024		
4/ 9/77	0517	2:50	370	18.73N	62.75W	-51.	.028		
4/ 9/77	0523	2:56	370	18.11N	62.37W	-51.	.013		
4/ 9/77	0538	3:11	370	16.26N	61.27W	-50.	.025		
4/ 9/77	0547	3:20	370	15.01N	60.56W	-50.	.026		
4/ 9/77	0557	3:30	370	13.74N	59.86W	-51.	.031		
4/ 9/77	0607	3:40	370	12.49N	59.13W	-51.	.030		
4/ 9/77	0612	3:45	370	11.87N	58.75W	-51.	.028		
4/ 9/77	0617	3:50	370	11.25N	58.38W	-52.	.030		
4/ 9/77	0623	3:56	370	10.63N	58.02W	-52.	.030		
4/ 9/77	0638	4:11	370	8.83N	56.96W	-51.	.031		
4/ 9/77	0647	4:20	370	7.63N	56.32W	-51.	.028		
4/ 9/77	0657	4:30	370	6.42N	55.69W	-50.	.028		
4/ 9/77	0707	4:40	370	5.20N	55.08W	-50.	.032		
4/ 9/77	0712	4:45	370	4.57N	54.84W	-50.	.033		
4/ 9/77	0717	4:50	370	3.94N	54.60W	-49.	.024		
4/ 9/77	0722	4:55	370	3.32N	54.35W	-49.	.030		
4/ 9/77	0727	5:00	370	2.70N	54.11W	-49.	.038		
4/ 9/77	0737	5:10	370	1.45N	53.59W	-49.	.039		
4/ 9/77	0747	5:20	370	.20N	53.06W	-50.	.038		
4/ 9/77	0757	5:30	370	1.03S	52.54W	-50.	.022		
4/ 9/77	0807	5:40	370	2.26S	52.02W	-50.	.017		
4/ 9/77	0812	5:45	370	2.88S	51.78W	-51.	.017		
4/ 9/77	0817	5:50	370	3.50S	51.53W	-50.	.025		
4/ 9/77	0822	5:55	370	4.13S	51.27W	-50.	.021		
4/ 9/77	0827	6:00	370	4.77S	51.02W	-50.	.022		
4/ 9/77	0838	6:11	370	6.06S	50.50W	-49.	.024		
4/ 9/77	0847	6:20	370	7.35S	49.95W	-49.	.025		
4/ 9/77	0857	6:30	370	8.57S	49.34W	-49.	.046		
4/ 9/77	0907	6:40	370	9.87S	48.83W	-49.	.031		
4/ 9/77	0912	6:45	370	10.52S	48.57W	-49.	.032		
4/ 9/77	0917	6:50	370	11.19S	48.40W	-50.	.028		
4/ 9/77	0923	6:56	370	11.89S	48.35W	-49.	.026		
4/ 9/77	0938	7:11	370	13.97S	48.20W	-49.	.035		
4/ 9/77	0947	7:20	370	15.37S	48.10W	-50.	.033		
4/ 9/77	0957	7:30	370	16.67S	47.66W	-50.	.033		
4/ 9/77	1012	7:45	370	18.48S	46.55W	-51.	.020		
4/ 9/77	1017	7:50	370	19.08S	46.17W	-50.	.033		
4/ 9/77	1022	7:55	370	19.70S	45.78W	-50.	.020		
4/ 9/77	1027	8:00	370	20.31S	45.38W	-51.	.025		
4/ 9/77	1037	8:10	351	21.53S	44.58W	-46.	.022		


GIC TO JFK DEPARTURE 10 APR 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
ELAPSED TIME IN HOURS

GIG TO JFK (PAGE 1 OF 1) DEPARTURE: 10 APR 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .456 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 65
DATA SOURCE: GASP TAPE VL010, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/10/77	0202	0:15	391	20.48S	43.78W	-56.	.032		
4/10/77	0212	0:25	390	19.25S	44.30W	-56.	.022		
4/10/77	0222	0:35	390	18.03S	44.91W	-56.	.023		
4/10/77	0227	0:40	390	17.43S	45.20W	-55.	.025		
4/10/77	0232	0:45	390	16.83S	45.50W	-55.	.036		
4/10/77	0237	0:50	390	16.23S	45.79W	-55.	.042		
4/10/77	0242	0:55	390	15.62S	46.08W	-56.	.029		
4/10/77	0252	1:05	390	14.39S	46.67W	-56.	.030		
4/10/77	0302	1:15	390	13.14S	47.27W	-55.	.047		
4/10/77	0312	1:25	390	11.88S	47.86W	-55.	.036		
4/10/77	0322	1:35	390	10.64S	48.44W	-55.	.039		
4/10/77	0327	1:40	390	10.01S	48.71W	-55.	.000		
4/10/77	0332	1:45	390	9.38S	48.98W	-55.	.046		
4/10/77	0337	1:50	390	8.75S	49.25W	-55.	.036		
4/10/77	0342	1:55	390	8.11S	49.53W	-55.	.035		
4/10/77	0352	2:05	390	6.85S	50.07W	-55.	.027		
4/10/77	0402	2:15	390	5.59S	50.60W	-55.	.035		
4/10/77	0412	2:25	390	4.31S	51.14W	-55.	.029		
4/10/77	0422	2:35	390	3.03S	51.68W	-55.	.019		
4/10/77	0427	2:40	390	2.39S	51.96W	-55.	.023		
4/10/77	0432	2:45	390	1.75S	52.23W	-55.	.027		
4/10/77	0437	2:50	390	1.12S	52.49W	-55.	.023		
4/10/77	0442	2:55	390	.50S	52.76W	-54.	.045		
4/10/77	0452	3:05	390	.74N	53.29W	-54.	.036		
4/10/77	0502	3:15	390	1.99N	53.82W	-55.	.033		
4/10/77	0507	3:20	390	2.63N	54.08W	-55.	.035		
4/10/77	0517	3:30	390	3.92N	54.58W	-55.	.024		
4/10/77	0527	3:40	390	5.16N	55.06W	-55.	.034		
4/10/77	0532	3:45	390	5.74N	55.32W	-55.	.027		
4/10/77	0537	3:50	390	6.31N	55.62W	-55.	.024		
4/10/77	0542	3:55	390	6.89N	55.92W	-55.	.027		
4/10/77	0547	4:00	390	7.46N	56.22W	-55.	.015		
4/10/77	0557	4:10	390	8.60N	56.82W	-55.	.019		
4/10/77	0607	4:20	390	9.73N	57.47W	-55.	.028		
4/10/77	0617	4:30	390	10.85N	58.14W	-55.	.028		
4/10/77	0627	4:40	390	11.99N	58.82W	-55.	.033		
4/10/77	0632	4:45	390	12.56N	59.17W	-55.	.029		
4/10/77	0637	4:50	390	13.13N	59.51W	-55.	.022		
4/10/77	0642	4:55	390	13.71N	59.83W	-55.	.021		
4/10/77	0647	5:00	390	14.28N	60.15W	-56.	.017		
4/10/77	0657	5:10	390	15.43N	60.79W	-56.	.018		
4/10/77	0707	5:20	390	16.56N	61.43W	-55.	.024		
4/10/77	0717	5:30	390	17.75N	62.00W	-55.	.010		
4/10/77	0727	5:40	390	18.99N	62.49W	-55.	.035		
4/10/77	0732	5:45	390	19.62N	62.74W	-55.	.044		
4/10/77	0737	5:50	390	20.25N	63.00W	-55.	.042		
4/10/77	0742	5:55	390	20.87N	63.25W	-56.	.039		
4/10/77	0747	6:00	390	21.49N	63.50W	-57.	.046		
4/10/77	0802	6:15	390	23.36N	64.29W	-58.	.059		
4/10/77	0812	6:25	390	24.60N	64.82W	-60.	.179		
4/10/77	0832	6:45	390	27.04N	65.90W	-60.	.058		
4/10/77	0837	6:50	390	27.65N	66.18W	-59.	.080		
4/10/77	0842	6:55	390	28.26N	66.46W	-61.	.090		
4/10/77	0847	7:00	390	28.87N	66.75W	-59.	.076		
4/10/77	0852	7:05	390	29.48N	67.04W	-59.	.098		
4/10/77	0902	7:15	390	30.71N	67.64W	-58.	.082		
4/10/77	0912	7:25	390	31.92N	68.24W	-57.	.222		
4/10/77	0922	7:35	390	33.14N	68.86W	-54.	.310		
4/10/77	0932	7:45	390	34.33N	69.49W	-53.	.367		
4/10/77	0937	7:50	390	34.91N	69.80W	-53.	.389		
4/10/77	0942	7:55	390	35.50N	70.12W	-53.	.383		
4/10/77	0947	8:00	390	36.06N	70.44W	-52.	.379		
4/10/77	0952	8:05	390	36.64N	70.76W	-54.	.427		
4/10/77	1002	8:15	390	37.77N	71.42W	-53.	.456		
4/10/77	1012	8:25	389	38.86N	72.20W	-51.	.435		


JFK TO HND DEPARTURE 10 APR 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0 13.0
ELAPSED TIME IN HOURS

JFK TO HNO (PAGE 1 OF 2) DEPARTURE: 10 APR 77 AIRCRAFT: PANAM -N533PA

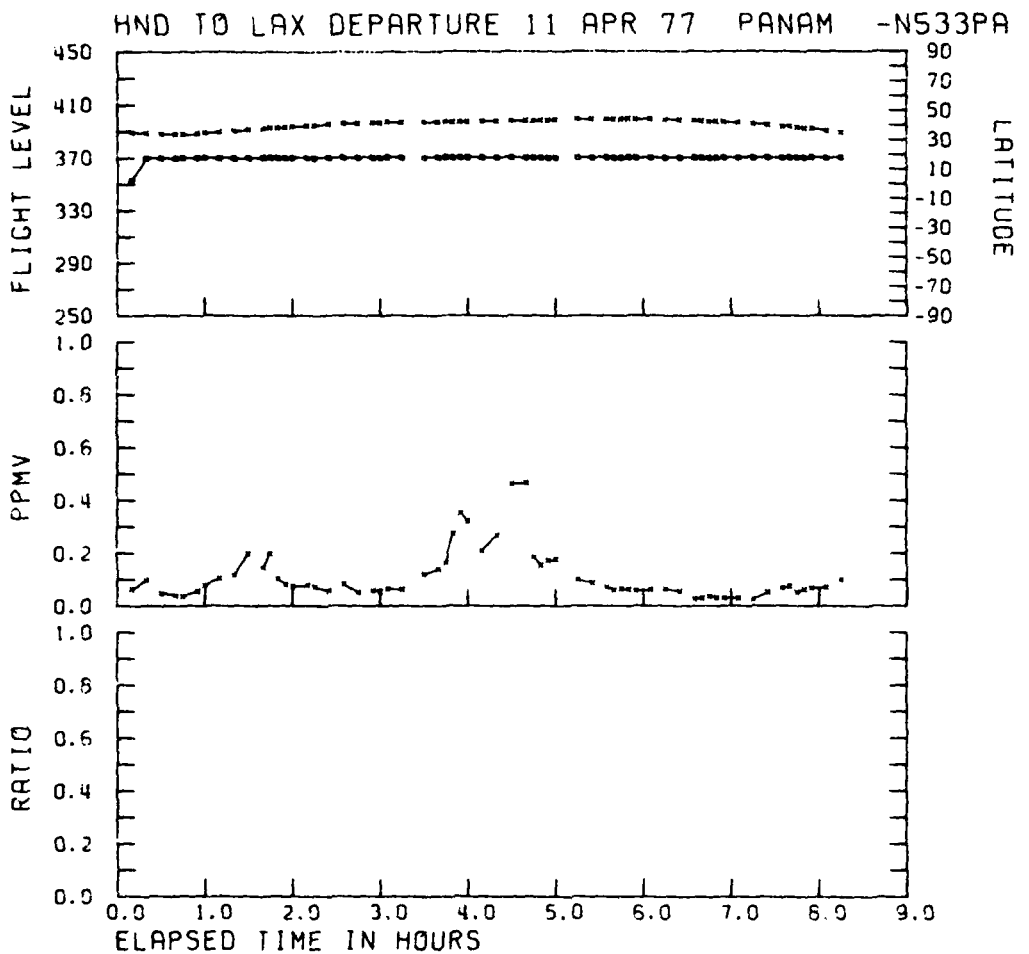
MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .616 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 93
DATA SOURCE: GASP TAPE VL010, FILE 2 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/10/77	1754	0:10	323	41.93N	75.56W	-52.	.058		
4/10/77	1814	0:30	350	43.28N	78.02W	-58.	.039		
4/10/77	1824	0:40	350	43.96N	79.29W	-58.	.035		
4/10/77	1829	0:45	350	44.31N	79.94W	-58.	.037		
4/10/77	1834	0:50	350	44.64N	80.60W	-58.	.037		
4/10/77	1839	0:55	350	44.98N	81.27W	-58.	.044		
4/10/77	1844	1:00	350	45.31N	81.95W	-58.	.051		
4/10/77	1854	1:10	350	45.98N	83.37W	-58.	.035		
4/10/77	1904	1:20	350	46.62N	84.84W	-57.	.037		
4/10/77	1914	1:30	350	47.41N	86.22W	-58.	.038		
4/10/77	1924	1:40	350	48.20N	87.68W	-58.	.036		
4/10/77	1929	1:45	350	48.60N	88.43W	-58.	.036		
4/10/77	1934	1:50	350	48.99N	89.21W	-58.	.051		
4/10/77	1939	1:55	350	49.37N	89.98W	-58.	.041		
4/10/77	1944	2:00	350	49.73N	90.75W	-58.	.037		
4/10/77	2004	2:20	350	51.18N	93.85W	-58.	.051		
4/10/77	2014	2:30	350	52.21N	94.98W	-59.	.060		
4/10/77	2024	2:40	350	53.22N	96.15W	-59.	.060		
4/10/77	2029	2:45	350	53.73N	96.78W	-58.	.071		
4/10/77	2034	2:50	349	54.24N	97.41W	-56.	.089		
4/10/77	2039	2:55	349	54.74N	98.06W	-53.	.256		
4/10/77	2044	3:00	350	55.24N	98.73W	-52.	.337		
4/10/77	2054	3:10	349	56.26N	100.17W	-51.	.433		
4/10/77	2104	3:20	350	57.17N	101.83W	-51.	.449		
4/10/77	2109	3:25	349	57.55N	102.78W	-52.	.376		
4/10/77	2114	3:35	350	58.27N	104.73W	-52.	.305		
4/10/77	2129	3:45	350	58.99N	106.79W	-53.	.377		
4/10/77	2134	3:50	350	59.34N	107.83W	-53.	.431		
4/10/77	2139	3:55	350	59.61N	108.95W	-55.	.439		
4/10/77	2144	4:00	350	59.77N	110.18W	-54.	.389		
4/10/77	2149	4:05	349	59.92N	111.41W	-53.	.356		
4/10/77	2159	4:15	350	60.38N	113.79W	-53.	.399		
4/10/77	2209	4:25	350	60.87N	116.24W	-51.	.404		
4/10/77	2219	4:35	350	61.37N	118.80W	-50.	.476		
4/10/77	2229	4:45	350	61.80N	121.46W	-51.	.518		
4/10/77	2234	4:50	350	62.05N	122.81W	-50.	.506		
4/10/77	2239	4:55	350	62.28N	124.17W	-50.	.460		
4/10/77	2259	5:15	350	63.06N	129.84W	-47.	.516		
4/10/77	2309	5:25	349	63.38N	132.80W	-44.	.545		
4/10/77	2314A	5:30	350	63.53N	134.54W	-45.	.524		
4/10/77	2325	5:41	350	63.74N	137.63W	-50.	.529		
4/10/77	2335	5:51	350	63.89N	140.68W	-50.	.506		
4/10/77	2340	5:56	350	63.92N	142.22W	-48.	.510		
4/10/77	2345	6:01	350	63.93N	143.75W	-48.	.437		
4/10/77	2350	6:06	350	63.92N	145.26W	-50.	.410		
4/10/77	2355	6:11	350	63.89N	146.77W	-50.	.462		
4/11/77	0010	6:26	350	63.72N	151.31W	-50.	.393		
4/11/77	0020	6:36	350	63.53N	154.30W	-49.	.443		
4/11/77	0030	6:46	350	63.27N	157.24W	-48.	.440		
4/11/77	0035	6:51	350	63.12N	158.70W	-48.	.483		
4/11/77	0040	6:56	350	62.96N	160.13W	-47.	.534		
4/11/77	0045	7:01	350	62.78N	161.53W	-47.	.481		
4/11/77	0050	7:06	349	62.59N	162.91W	-47.	.484		
4/11/77	0110	7:26	350	61.70N	168.23W	-47.	.572		
4/11/77	0120	7:36	350	61.12N	170.71W	-47.	.562		
4/11/77	0130	7:46	350	60.37N	172.94W	-49.	.483		
4/11/77	0135	7:51	350	59.98N	174.01W	-51.	.368		
4/11/77	0140	7:56	350	59.58N	175.06W	-52.	.493		
4/11/77	0145	8:01	350	59.18N	176.08W	-52.	.479		
4/11/77	0150	8:06	350	58.77N	177.08W	-53.	.480		
4/11/77	0200	8:16	350	57.92N	179.00W	-55.	.421		
4/11/77	0210	8:26	350	57.17N	179.01E	-56.	.386		
4/11/77	0220	8:36	350	56.54N	176.92E	-57.	.404		
4/11/77	0230	8:46	350	55.87N	174.90E	-58.	.367		
4/11/77	0235	8:51	350	55.52N	173.91E	-59.	.349		
4/11/77	0240	8:56	350	55.16N	172.93E	-60.	.345		
4/11/77	0245	9:01	350	54.79N	171.95E	-59.	.330		
4/11/77	0250	9:06	350	54.42N	171.01E	-59.	.347		
4/11/77	0300	9:16	350	53.70N	169.09E	-58.	.348		
4/11/77	0310	9:26	350	53.02N	167.16E	-59.	.319		
4/11/77	0320	9:36	350	52.31N	165.29E	-59.	.279		
4/11/77	0325	9:41	350	51.95N	164.39E	-60.	.299		
4/11/77	0335	9:51	350	51.20N	162.63E	-59.	.305		
4/11/77	0340	9:56	350	50.83N	161.78E	-58.	.305		
4/11/77	0345	10:01	350	50.46N	160.97E	-58.	.321		
4/11/77	0350	10:06	350	50.07N	160.15E	-57.	.334		
4/11/77	0405	10:21	350	48.90N	157.86E	-60.	.246		
4/11/77	0415	10:31	350	48.11N	156.43E	-58.	.227		
4/11/77	0425	10:41	350	47.30N	155.03E	-57.	.311		
4/11/77	0435	10:51	350	46.46N	153.67E	-58.	.398		
4/11/77	0440	10:56	349	46.04N	153.00E	-56.	.461		
4/11/77	0445	11:01	350	45.61N	152.34E	-53.	.415		
4/11/77	0450	11:06	350	45.16N	151.66E	-51.	.511		
4/11/77	0455	11:11	350	44.69N	150.99E	-50.	.602		
4/11/77	0505	11:21	349	43.81N	149.65E	-46.	.611		
4/11/77	0515	11:31	350	43.00N	148.24E	-47.	.616		
4/11/77	0525	11:41	350	42.18N	146.86E	-46.	.577		
4/11/77	0535	11:51	350	41.35N	145.53E	-50.	.331		
4/11/77	0540	11:56	350	40.94N	144.89E	-52.	.258		
4/11/77	0550	12:06	350	40.11N	143.64E	-56.	.184		
4/11/77	0555	12:11	350	39.70N	143.04E	-56.	.121		
4/11/77	0605	12:21	350	38.86N	141.85E	-55.	.119		

JFK TO HNO (PAGE 2 OF 2) DEPARTURE: 10 APR 77 AIRCRAFT: PANAM -N-33PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .616 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 93
DATA SOURCE: GASP TAPE VL010, FILE 2 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

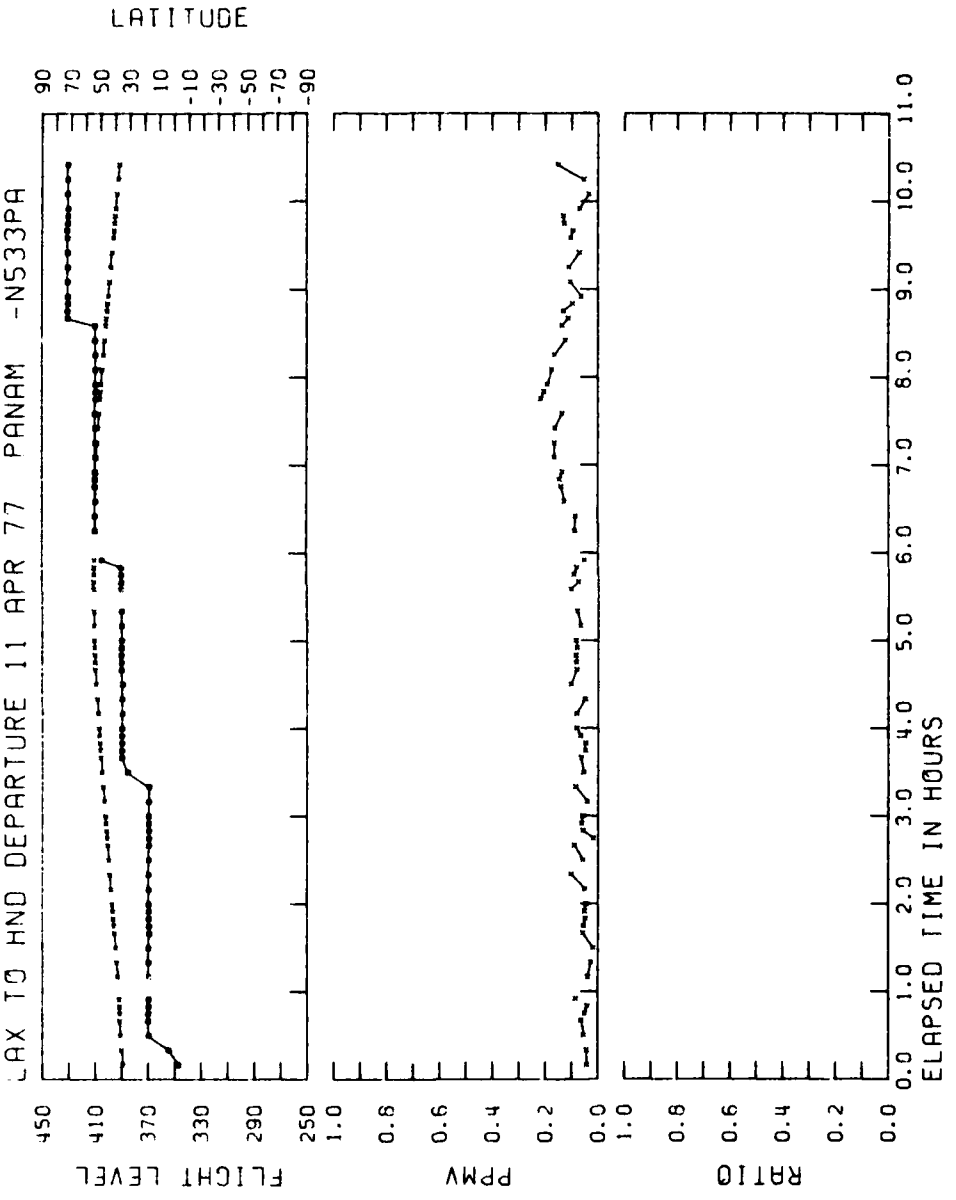
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	OZONE(PPMV) AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	OZONE(PPMV) AMB.	RATIO
4/11/77	0615	12:31	350	37.77N	140.99E	-55.	.058												


HND TO LAX DEPARTURE 11 APR 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
ELAPSED TIME IN HOURS

HND TO LAX (PAGE 1 OF 1) DEPARTURE: 11 APR 77 AIRCRAFT: PANAM -N-33PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .467 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 63
DATA SOURCE: GASP TAPE VL010, FILE 2

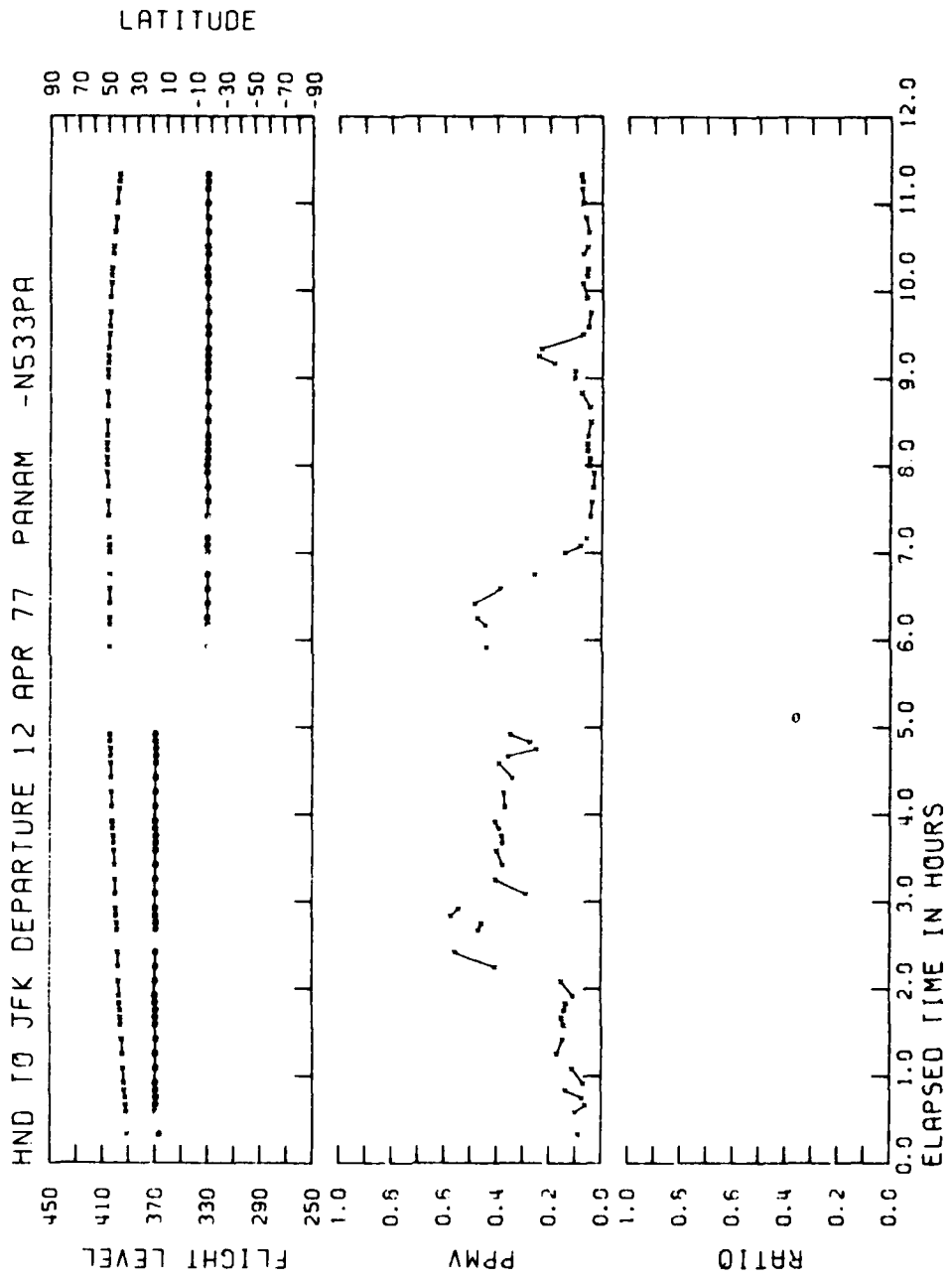
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/11/77	0950	0:10	353	35.27N	143.08E	-55.	.063		
4/11/77	1000	0:20	370	34.95N	145.05E	-59.	.096		
4/11/77	1010	0:30	370	34.61N	146.99E	-59.	.048		
4/11/77	1020	0:40	370	34.23N	148.91E	-58.	.039		
4/11/77	1025	0:45	370	34.03N	149.86E	-59.	.036		
4/11/77	1035	0:55	370	34.63N	151.62E	-55.	.056		
4/11/77	1040	1:00	370	35.02N	152.50E	-54.	.080		
4/11/77	1050	1:10	370	35.78N	154.26E	-51.	.105		
4/11/77	1100	1:20	370	36.53N	156.08E	-49.	.116		
4/11/77	1110	1:30	370	37.25N	157.91E	-49.	.199		
4/11/77	1120	1:40	370	37.93N	159.77E	-49.	.146		
4/11/77	1125	1:45	370	38.27N	160.71E	-52.	.198		
4/11/77	1130	1:50	370	38.60N	161.68E	-53.	.105		
4/11/77	1135	1:55	370	38.94N	162.68E	-54.	.081		
4/11/77	1140	2:00	370	39.27N	163.71E	-56.	.076		
4/11/77	1150	2:10	370	39.89N	165.78E	-57.	.079		
4/11/77	1155	2:15	370	40.19N	166.84E	-58.	.073		
4/11/77	1205	2:25	370	40.76N	169.03E	-58.	.058		
4/11/77	1215	2:35	370	41.19N	171.27E	-58.	.083		
4/11/77	1225	2:45	370	41.48N	173.58E	-58.	.051		
4/11/77	1235	2:55	370	41.72N	175.90E	-58.	.059		
4/11/77	1240	3:00	370	41.83N	177.08E	-58.	.055		
4/11/77	1245	3:05	370	41.92N	178.26E	-58.	.066		
4/11/77	1255	3:15	370	42.04N	179.93W	-58.	.063		
4/11/77	1310	3:30	370	42.14N	175.76W	-58.	.120		
4/11/77	1320	3:40	370	42.13N	173.45W	-56.	.142		
4/11/77	1325	3:45	370	42.11N	172.32W	-56.	.165		
4/11/77	1330	3:50	370	42.07N	171.20W	-55.	.275		
4/11/77	1335	3:55	370	42.03N	170.07W	-53.	.354		
4/11/77	1340	4:00	370	42.15N	168.98W	-52.	.321		
4/11/77	1350	4:10	370	42.42N	166.80W	-50.	.210		
4/11/77	1400	4:20	370	42.66N	164.62W	-50.	.268		
4/11/77	1410	4:30	370	42.86N	162.41W	-48.	.463		
4/11/77	1420	4:40	370	43.02N	160.16W	-48.	.467		
4/11/77	1425	4:45	370	43.15N	159.04W	-48.	.187		
4/11/77	1430	4:50	370	43.30N	157.91W	-48.	.155		
4/11/77	1435	4:55	370	43.44N	156.77W	-49.	.173		
4/11/77	1440	5:00	370	43.56N	155.63W	-50.	.178		
4/11/77	1455	5:15	370	43.86N	152.19W	-56.	.100		
4/11/77	1505	5:25	370	44.00N	149.93W	-61.	.086		
4/11/77	1515	5:35	370	44.08N	147.71W	-61.	.072		
4/11/77	1520	5:40	370	44.10N	146.60W	-61.	.060		
4/11/77	1525	5:45	370	44.11N	145.51W	-60.	.065		
4/11/77	1530	5:50	370	44.12N	144.43W	-60.	.064		
4/11/77	1535	5:55	370	44.11N	143.36W	-61.	.058		
4/11/77	1545	6:05	370	44.06N	141.25W	-61.	.063		
4/11/77	1555	6:15	370	43.91N	139.19W	-60.	.064		
4/11/77	1605	6:25	370	43.57N	137.19W	-61.	.056		
4/11/77	1615	6:35	370	43.19N	135.23W	-62.	.028		
4/11/77	1620	6:40	370	43.00N	134.27W	-62.	.031		
4/11/77	1625	6:45	370	42.79N	133.32W	-62.	.037		
4/11/77	1630	6:50	370	42.58N	132.37W	-62.	.032		
4/11/77	1635	6:55	370	42.36N	131.42W	-62.	.031		
4/11/77	1645	7:05	370	41.86N	129.57W	-62.	.030		
4/11/77	1655	7:15	370	41.13N	127.89W	-62.	.025		
4/11/77	1705	7:25	370	40.30N	126.32W	-62.	.053		
4/11/77	1715	7:35	370	39.56N	124.70W	-63.	.069		
4/11/77	1720	7:40	370	39.19N	123.90W	-63.	.076		
4/11/77	1725	7:45	370	38.70N	123.21W	-63.	.053		
4/11/77	1730	7:50	370	38.15N	122.57W	-63.	.062		
4/11/77	1735	7:55	370	37.59N	121.93W	-63.	.070		
4/11/77	1745	8:05	370	36.37N	120.86W	-63.	.071		
4/11/77	1755	8:15	370	35.18N	119.78W	-60.	.101		


LAX TO HND DEPARTURE 11 APR 77 PANAM -N533PA
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
FLIGHT LEVEL
450
410
370
330
290
250
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
ELAPSED TIME IN HOURS

LAX TO HND (PAGE 1 OF 1) DEPARTURE: 11 APR 77 AIRCRAFT: PANAM -N 33PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .217 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 78
DATA SOURCE: GASP TAPE VL010, FILE 2

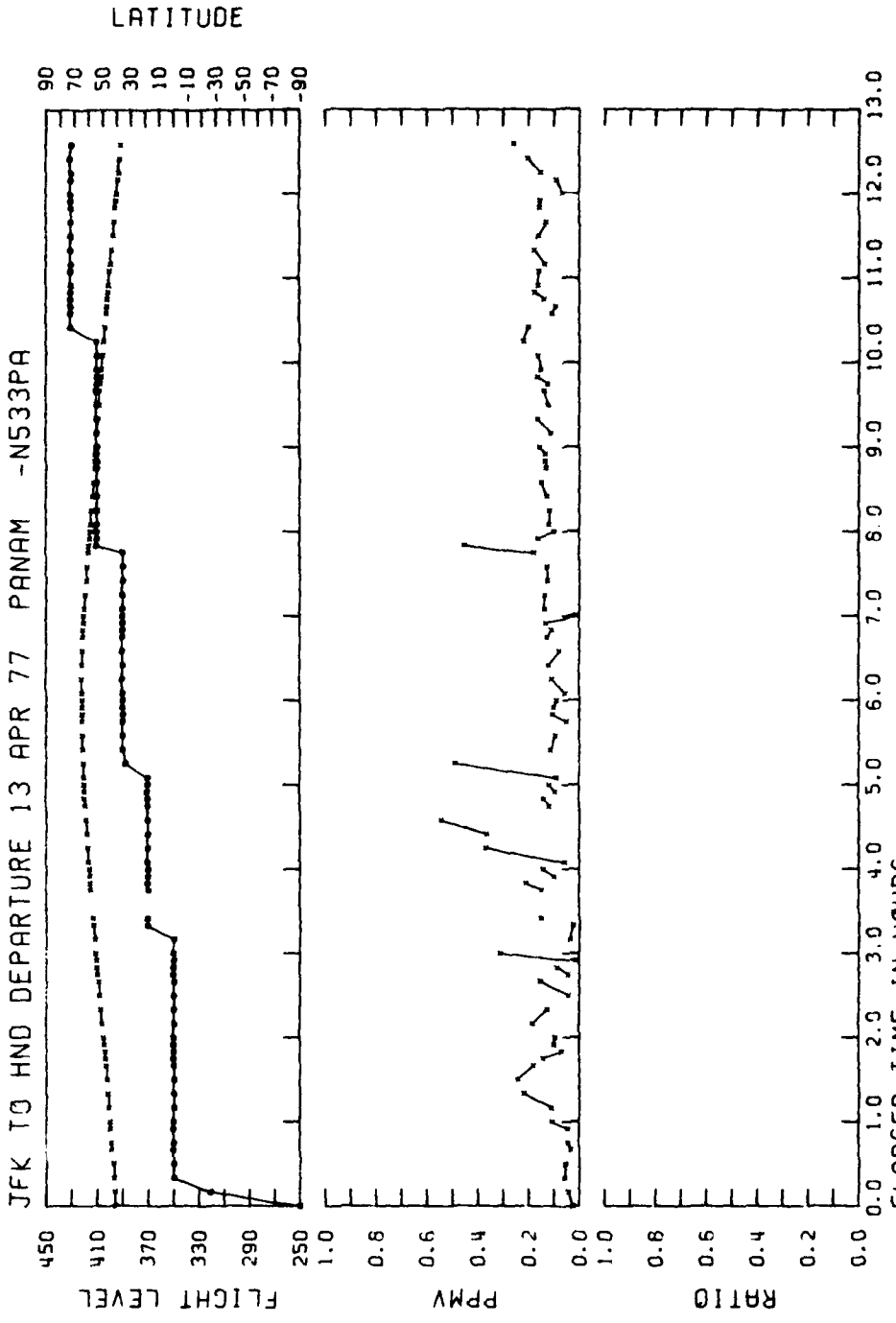
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/11/77	2229	0:10	347	35.17N	120.07W	-57.	.043		
4/11/77	2239	0:20	354	36.08N	120.99W	-59.	.044		
4/11/77	2249	0:30	370	36.90N	122.00W	-63.	.055		
4/11/77	2259	0:40	370	37.32N	123.44W	-63.	.064		
4/11/77	2304	0:45	370	37.49N	124.21W	-62.	.050		
4/11/77	2309	0:50	370	37.66N	124.99W	-61.	.041		
4/11/77	2314	0:55	370	37.82N	125.75W	-61.	.085		
4/11/77	2329	1:10	370	38.82N	127.66W	-62.	.040		
4/11/77	2339	1:20	370	39.49N	128.97W	-62.	.027		
4/11/77	2349	1:30	370	40.20N	130.29W	-61.	.020		
4/11/77	2359	1:40	369	41.03N	131.49W	-60.	.058		
4/12/77	0004	1:45	370	41.42N	132.09W	-61.	.056		
4/12/77	0009	1:50	370	41.82N	132.70W	-60.	.049		
4/12/77	0014	1:55	370	42.22N	133.32W	-60.	.052		
4/12/77	0019	2:00	370	42.62N	133.95W	-60.	.045		
4/12/77	0029	2:10	370	43.40N	135.24W	-60.	.051		
4/12/77	0039	2:20	370	44.17N	136.56W	-60.	.103		
4/12/77	0049	2:30	370	44.91N	137.91W	-61.	.059		
4/12/77	0059	2:40	370	45.63N	139.26W	-61.	.091		
4/12/77	0104	2:45	370	45.97N	139.94W	-61.	.019		
4/12/77	0109	2:50	370	46.35N	140.60W	-60.	.058		
4/12/77	0114	2:55	370	46.73N	141.26W	-58.	.063		
4/12/77	0119	3:00	370	47.12N	141.94W	-56.	.058		
4/12/77	0129	3:10	370	47.89N	143.37W	-49.	.043		
4/12/77	0139	3:20	369	48.69N	144.91W	-46.	.085		
4/12/77	0149	3:30	386	49.47N	146.52W	-46.	.056		
4/12/77	0159	3:40	390	50.24N	148.22W	-46.	.065		
4/12/77	0204	3:45	390	50.61N	149.06W	-47.	.050		
4/12/77	0209	3:50	390	50.97N	149.94W	-47.	.048		
4/12/77	0214	3:55	390	51.31N	150.85W	-47.	.068		
4/12/77	0219	4:00	390	51.63N	151.78W	-48.	.082		
4/12/77	0229	4:10	390	52.25N	153.66W	-48.	.082		
4/12/77	0239	4:20	390	52.83N	155.58W	-48.	.050		
4/12/77	0249	4:30	390	53.38N	157.55W	-49.	.104		
4/12/77	0259	4:40	390	53.90N	159.58W	-47.	.082		
4/12/77	0304	4:45	390	54.09N	160.63W	-48.	.084		
4/12/77	0309	4:50	390	54.23N	161.71W	-47.	.086		
4/12/77	0314	4:55	390	54.37N	162.79W	-47.	.081		
4/12/77	0319	5:00	390	54.49N	163.87W	-47.	.085		
4/12/77	0325	5:10	390	54.71N	166.05W	-47.	.068		
4/12/77	0339	5:20	390	54.89N	168.24W	-46.	.080		
4/12/77	0354	5:35	390	54.90N	171.56W	-48.	.104		
4/12/77	0359	5:40	390	54.82N	172.67W	-48.	.076		
4/12/77	0404	5:45	390	54.72N	173.77W	-48.	.092		
4/12/77	0409	5:50	390	54.62N	174.88W	-49.	.081		
4/12/77	0414	5:55	405	54.51N	175.98W	-50.	.053		
4/12/77	0434	6:15	410	54.00N	179.66E	-51.	.088		
4/12/77	0444	6:25	410	53.95N	177.43E	-52.	.085		
4/12/77	0454	6:35	410	53.87N	175.23E	-55.	.128		
4/12/77	0504	6:45	410	53.74N	173.06E	-57.	.140		
4/12/77	0509	6:50	410	53.66N	171.96E	-58.	.147		
4/12/77	0514	6:55	410	53.58N	170.86E	-57.	.136		
4/12/77	0524	7:05	410	53.15N	168.80E	-58.	.166		
4/12/77	0534	7:15	410	52.56N	166.89E	-57.	.165		
4/12/77	0544	7:25	410	51.93N	165.02E	-58.	.163		
4/12/77	0554	7:35	410	51.27N	163.20E	-58.	.136		
4/12/77	0604	7:45	410	50.60N	161.45E	-58.	.217		
4/12/77	0609	7:50	410	50.26N	160.61E	-57.	.205		
4/12/77	0614	7:55	410	49.90N	159.80E	-57.	.192		
4/12/77	0624	8:05	410	49.09N	158.23E	-55.	.176		
4/12/77	0634	8:15	410	48.30N	156.77E	-55.	.166		
4/12/77	0644	8:25	410	47.48N	155.35E	-54.	.125		
4/12/77	0654	8:35	410	46.67N	153.99E	-55.	.137		
4/12/77	0659	8:40	431	46.25N	153.34E	-56.	.114		
4/12/77	0704	8:45	431	45.83N	152.69E	-56.	.132		
4/12/77	0709	8:50	431	45.41N	152.04E	-55.	.097		
4/12/77	0714	8:55	431	44.99N	151.41E	-55.	.064		
4/12/77	0724	9:05	431	44.12N	150.17E	-58.	.106		
4/12/77	0734	9:15	431	43.27N	148.95E	-57.	.111		
4/12/77	0744	9:25	431	42.42N	147.79E	-57.	.071		
4/12/77	0754	9:35	431	41.56N	146.65E	-58.	.104		
4/12/77	0759	9:40	431	41.13N	146.10E	-58.	.095		
4/12/77	0804	9:45	431	40.70N	145.56E	-59.	.129		
4/12/77	0809	9:50	431	40.27N	145.03E	-57.	.132		
4/12/77	0814	9:55	430	39.85N	144.49E	-56.	.070		
4/12/77	0824	10:05	431	39.00N	143.43E	-58.	.035		
4/12/77	0834	10:15	431	38.15N	142.41E	-61.	.054		
4/12/77	0844	10:25	431	37.37N	141.32E	-58.	.152		


LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
HND TO JFK DEPARTURE 12 APR 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
12.0
ELAPSED TIME IN HOURS

HND TO JFK (PAGE 1 OF 1) DEPARTURE: 12 APR 77 AIRCRAFT: PANAM -NF33PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .573 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 78
DATA SOURCE: GASP TAPE VL010, FILE 2 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/12/77	1230	0:20	367	37.03N	144.09E	-60.	.089		
4/12/77	1245	0:35	370	38.01N	146.88E	-61.	.100		
4/12/77	1250	0:40	370	38.31N	147.80E	-61.	.062		
4/12/77	1255	0:45	370	38.60N	148.73E	-61.	.076		
4/12/77	1300	0:50	370	38.90N	149.67E	-62.	.136		
4/12/77	1305	0:55	370	39.21N	150.61E	-62.	.069		
4/12/77	1315	1:05	370	39.85N	152.49E	-63.	.111		
4/12/77	1325	1:15	370	40.44N	154.36E	-62.	.170		
4/12/77	1335	1:25	370	40.99N	156.23E	-64.	.148		
4/12/77	1345	1:35	370	41.50N	158.08E	-63.	.144		
4/12/77	1350	1:40	370	41.74N	159.00E	-63.	.152		
4/12/77	1355	1:45	370	41.97N	159.94E	-63.	.142		
4/12/77	1400	1:50	370	42.20N	160.87E	-62.	.135		
4/12/77	1405	1:55	370	42.42N	161.81E	-60.	.107		
4/12/77	1415	2:05	370	42.84N	163.70E	-62.	.152		
4/12/77	1425	2:15	370	43.23N	165.64E	-55.	.405		
4/12/77	1435	2:25	370	43.58N	167.57E	-54.	.558		
4/12/77	1450	2:40	370	44.08N	170.45E	-55.	.470		
4/12/77	1455	2:45	370	44.31N	171.38E	-52.	.458		
4/12/77	1500	2:50	370	44.53N	172.33E	-52.	.573		
4/12/77	1505	2:55	370	44.74N	173.30E	-50.	.543		
4/12/77	1515	3:05	370	45.14N	175.25E	-52.	.287		
4/12/77	1525	3:15	370	45.51N	177.24E	-52.	.403		
4/12/77	1535	3:25	370	45.85N	179.30E	-52.	.377		
4/12/77	1545	3:35	370	46.30N	178.58W	-54.	.400		
4/12/77	1550	3:40	370	46.55N	177.50W	-54.	.378		
4/12/77	1555	3:45	370	46.79N	176.39W	-54.	.380		
4/12/77	1600	3:50	370	47.02N	175.27W	-55.	.391		
4/12/77	1605	3:55	370	47.24N	174.14W	-55.	.403		
4/12/77	1615	4:05	370	47.65N	171.84W	-55.	.367		
4/12/77	1625	4:15	370	48.02N	169.46W	-55.	.372		
4/12/77	1635	4:25	370	48.33N	167.05W	-53.	.340		
4/12/77	1645	4:35	370	48.59N	164.62W	-54.	.391		
4/12/77	1650	4:40	370	48.71N	163.38W	-54.	.358		
4/12/77	1655	4:45	370	48.80N	162.14W	-53.	.250		
4/12/77	1700	4:50	370	48.89N	160.90W	-52.	.274		
4/12/77	1705	4:55	370	48.95N	159.66W	-52.	.346		
4/12/77	1809	5:59	330	49.03N	143.91W	-50.	.437		
4/12/77	1824	6:14	330	48.95N	140.49W	-49.	.441		
4/12/77	1829	6:19	330	48.98N	139.40W	-49.	.472		
4/12/77	1839	6:29	330	49.12N	137.13W	-48.	.483		
4/12/77	1849	6:39	330	49.22N	134.89W	-48.	.386		
4/12/77	1859	6:49	330	49.28N	132.65W	-48.	.257		
4/12/77	1914	7:04	330	49.26N	129.33W	-55.	.141		
4/12/77	1919	7:09	330	49.25N	128.22W	-55.	.080		
4/12/77	1924	7:14	330	49.47N	127.09W	-55.	.058		
4/12/77	1939	7:29	330	50.05N	123.65W	-53.	.045		
4/12/77	1949	7:39	330	50.37N	121.40W	-53.	.039		
4/12/77	1959	7:49	330	50.64N	119.11W	-53.	.035		
4/12/77	2009	7:59	330	50.87N	116.83W	-53.	.030		
4/12/77	2014	8:04	330	50.96N	115.68W	-52.	.048		
4/12/77	2019	8:09	330	51.05N	114.55W	-53.	.047		
4/12/77	2024	8:14	330	51.07N	113.42W	-52.	.056		
4/12/77	2029	8:19	330	51.03N	112.30W	-53.	.056		
4/12/77	2034	8:24	330	50.98N	111.18W	-54.	.055		
4/12/77	2044	8:34	330	50.91N	109.00W	-54.	.044		
4/12/77	2054	8:44	330	50.81N	106.85W	-55.	.048		
4/12/77	2104	8:54	330	50.66N	104.73W	-56.	.080		
4/12/77	2114	9:04	330	50.49N	102.62W	-55.	.104		
4/12/77	2119	9:09	330	50.38N	101.55W	-55.	.103		
4/12/77	2124	9:14	330	50.25N	100.48W	-54.	.184		
4/12/77	2129	9:19	330	50.12N	99.41W	-55.	.243		
4/12/77	2134	9:24	330	49.97N	98.31W	-56.	.233		
4/12/77	2144A	9:34	330	49.62N	96.05W	-56.	.076		
4/12/77	2149	9:39	330	49.44N	95.00W	-56.	.055		
4/12/77	2159	9:49	330	49.06N	92.91W	-55.	.045		
4/12/77	2209	9:59	330	48.64N	90.85W	-55.	.059		
4/12/77	2219	10:09	330	48.04N	88.97W	-54.	.075		
4/12/77	2224	10:14	330	47.77N	87.97W	-54.	.058		
4/12/77	2229	10:19	330	47.41N	87.03W	-54.	.054		
4/12/77	2239	10:29	330	46.74N	85.11W	-54.	.072		
4/12/77	2244	10:34	330	46.36N	84.21W	-54.	.056		
4/12/77	2254	10:44	330	45.52N	82.50W	-53.	.052		
4/12/77	2304	10:54	330	44.63N	80.89W	-53.	.063		
4/12/77	2314	11:04	330	43.79N	79.26W	-52.	.072		
4/12/77	2324	11:14	330	43.06N	77.56W	-53.	.077		
4/12/77	2329	11:19	330	42.72N	76.68W	-52.	.075		
4/12/77	2334	11:24	330	42.33N	75.84W	-52.	.080		


JFK TO HND DEPARTURE 13 APR 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0 13.0
ELAPSED TIME IN HOURS

JFK TO HNO (PAGE 1 OF 2) DEPARTURE: 13 APR 77 AIRCRAFT: PANAM -N433PA

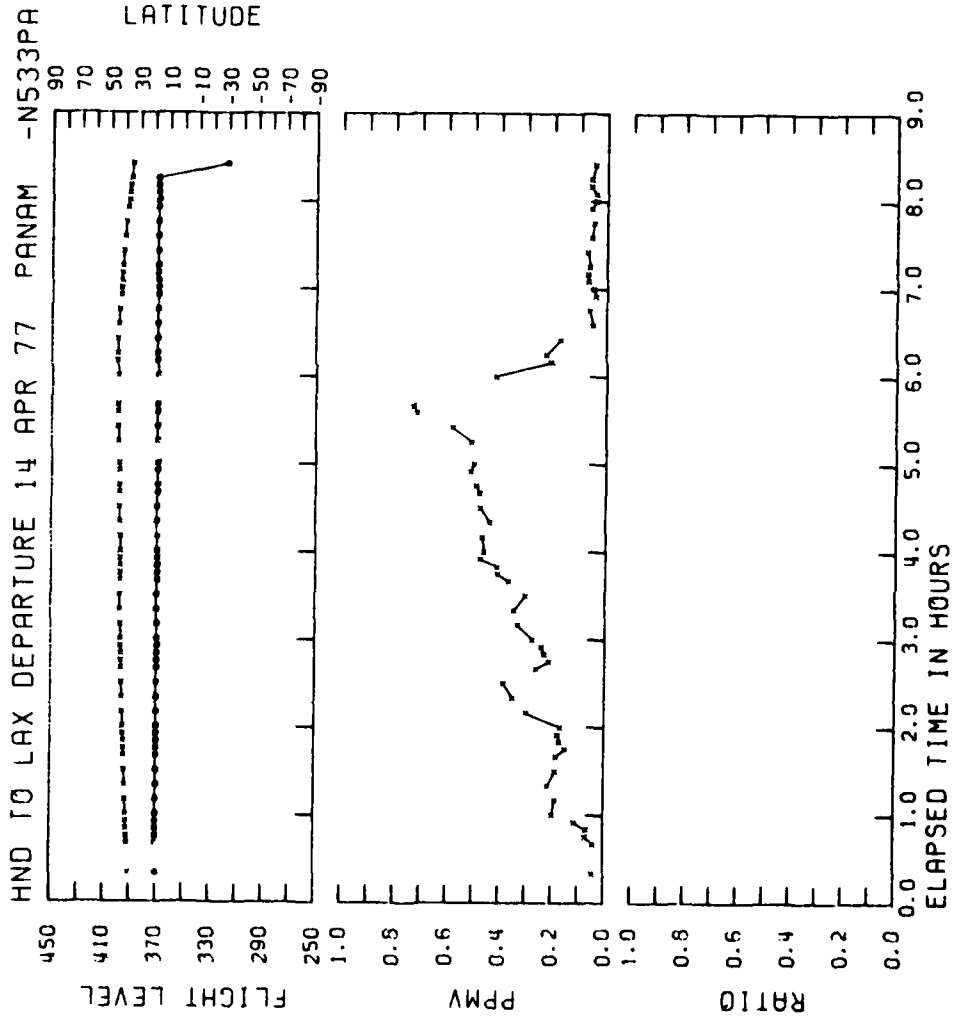
MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .545 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 98
DATA SOURCE: GASP TAPE VL010, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/13/77	1724	0:00	213	41.24N	74.19W	-23.	.025		
4/13/77	1734	0:10	321	41.68N	75.57W	-49.	.043		
4/13/77	1744	0:20	350	42.16N	77.06W	-57.	.059		
4/13/77	1754	0:30	350	42.65N	78.40W	-58.	.055		
4/13/77	1804	0:40	350	43.63N	79.66W	-58.	.035		
4/13/77	1809	0:45	350	44.03N	80.28W	-58.	.043		
4/13/77	1819	0:55	350	44.81N	81.55W	-59.	.046		
4/13/77	1824	1:00	350	45.20N	82.19W	-59.	.106		
4/13/77	1834	1:10	350	45.96N	83.51W	-57.	.111		
4/13/77	1844	1:20	350	46.64N	84.91W	-57.	.219		
4/13/77	1854	1:30	349	47.23N	86.46W	-56.	.241		
4/13/77	1904	1:40	350	47.81N	88.12W	-56.	.182		
4/13/77	1909	1:45	350	48.25N	88.80W	-59.	.142		
4/13/77	1914	1:50	350	48.74N	89.42W	-59.	.067		
4/13/77	1919	1:55	350	49.23N	90.06W	-60.	.100		
4/13/77	1924	2:00	350	49.71N	90.71W	-60.	.096		
4/13/77	1934	2:10	349	50.65N	92.01W	-61.	.183		
4/13/77	1944	2:20	350	51.58N	93.37W	-61.	.125		
4/13/77	1954	2:30	350	52 48N	94.79W	-60.	.043		
4/13/77	2004	2:40	350	53.38N	96.26W	-59.	.154		
4/13/77	2009	2:45	350	53.82N	97.02W	-59.	.045		
4/13/77	2014	2:50	350	54.25N	97.80W	-59.	.086		
4/13/77	2019	2:55	350	54.68N	98.59W	-59.	.012		
4/13/77	2024	3:00	350	55.10N	99.40W	-59.	.312		
4/13/77	2034	3:10	350	55.92N	101.06W	-58.	.036		
4/13/77	2044	3:20	371	56.73N	102.81W	-63.	.025		
4/13/77	2049	3:25	370	57.12N	103.69W	-63.	.150		
4/13/77	2109	3:45	370	58.61N	107.44W	-60.	.148		
4/13/77	2114	3:50	370	58.97N	108.44W	-59.	.210		
4/13/77	2119	3:55	370	59.32N	109.47W	-58.	.100		
4/13/77	2124	4:00	370	59.68N	110.55W	-57.	.143		
4/13/77	2129	4:05	370	60.03N	111.68W	-53.	.058		
4/13/77	2139	4:15	370	60.72N	114.04W	-51.	.366		
4/13/77	2149	4:25	370	61.36N	116.47W	-51.	.365		
4/13/77	2159	4:35	370	61.95N	119.02W	-50.	.545		
4/13/77	2209	4:45	370	62.51N	121.70W	-50.	.118		
4/13/77	2214	4:50	370	62.76N	123.06W	-51.	.138		
4/13/77	2219	4:55	370	63.01N	124.47W	-51.	.095		
4/13/77	2224	5:00	370	63.24N	125.90W	-49.	.117		
4/13/77	2229	5:05	370	63.45N	127.33W	-50.	.089		
4/13/77	2239	5:15	388	63.84N	130.28W	-49.	.489		
4/13/77	2249	5:25	390	64.16N	133.34W	-48.	.114		
4/13/77	2259	5:35	390	64.43N	136.48W	-50.	.092		
4/13/77	2309	5:45	390	64.62N	139.68W	-48.	.051		
4/13/77	2314	5:50	390	64.69N	141.32W	-46.	.105		
4/13/77	2319	5:55	390	64.75N	142.95W	-47.	.102		
4/13/77	2324	6:00	390	64.78N	144.57W	-47.	.091		
4/13/77	2329	6:05	390	64.80N	146.19W	-47.	.054		
4/13/77	2339	6:15	390	64.79N	149.43W	-49.	.107		
4/13/77	2349	6:25	390	64.63N	152.65W	-50.	.120		
4/13/77	2359	6:35	390	64.39N	155.87W	-50.	.078		
4/14/77	0009	6:45	390	64.09N	159.01W	-52.	.128		
4/14/77	0014	6:50	390	63.91N	160.51W	-53.	.110		
4/14/77	0019	6:55	390	63.62N	161.89W	-52.	.132		
4/14/77	0024	7:00	390	63.30N	163.24W	-53.	.013		
4/14/77	0029	7:05	390	62.96N	164.55W	-54.	.137		
4/14/77	0039	7:15	390	62.26N	167.09W	-53.	.136		
4/14/77	0049	7:25	390	61.52N	169.47W	-54.	.126		
4/14/77	0059	7:35	389	60.78N	171.74W	-57.	.126		
4/14/77	0109	7:45	389	60.01N	173.94W	-56.	.177		
4/14/77	0114	7:50	410	59.61N	174.99W	-56.	.452		
4/14/77	0119	7:55	410	59.21N	176.01W	-57.	.162		
4/14/77	0124	8:00	411	58.79N	177.03W	-57.	.098		
4/14/77	0130	8:06	410	58.36N	178.02W	-58.	.120		
4/14/77	0139	8:15	410	57.52N	179.85W	-57.	.115		
4/14/77	0149	8:25	410	56.90N	178.10E	-58.	.128		
4/14/77	0159	8:35	410	56.27N	176.08E	-58.	.149		
4/14/77	0209	8:45	410	55.59N	174.11E	-56.	.131		
4/14/77	0214	8:50	410	55.24N	173.14E	-57.	.136		
4/14/77	0219	8:55	410	54.89N	172.22E	-56.	.134		
4/14/77	0224	9:00	410	54.52N	171.28E	-54.	.155		
4/14/77	0234	9:10	410	53.80N	169.41E	-53.	.110		
4/14/77	0244	9:20	410	53.13N	167.48E	-53.	.162		
4/14/77	0254	9:30	410	52.43N	165.60E	-53.	.123		
4/14/77	0304	9:40	410	51.70N	163.80E	-55.	.137		
4/14/77	0309	9:45	410	51.34N	162.93E	-55.	.124		
4/14/77	0314	9:50	410	50.96N	162.08E	-56.	.163		
4/14/77	0319	9:55	410	50.59N	161.25E	-57.	.151		
4/14/77	0329	10:05	410	49.83N	159.66E	-58.	.162		
4/14/77	0339	10:15	410	49.04N	158.13E	-60.	.221		
4/14/77	0349	10:25	431	48.24N	156.66E	-59.	.200		
4/14/77	0359	10:35	431	47.42N	155.25E	-59.	.106		
4/14/77	0404	10:40	431	47.01N	154.56E	-59.	.092		
4/14/77	0409	10:45	431	46.60N	153.88E	-59.	.139		
4/14/77	0414	10:50	431	46.18N	153.21E	-59.	.176		
4/14/77	0419	10:55	430	45.76N	152.57E	-59.	.162		
4/14/77	0429	11:05	431	44.92N	151.31E	-57.	.158		
4/14/77	0434	11:10	431	44.49N	150.69E	-58.	.135		
4/14/77	0444	11:20	431	43.63N	149.47E	-57.	.178		
4/14/77	0454	11:30	431	42.76N	148.25E	-57.	.162		
4/14/77	0504	11:40	431	41.91N	147.11E	-57.	.129		
4/14/77	0514	11:50	430	41.04N	145.98E	-58.	.155		

JFK TO HND (PAGE 2 OF 2) DEPARTURE: 13 APR 77 AIRCRAFT: PANAM -N[illegible]33PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .545 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 98
DATA SOURCE: GASP TAPE VL010, FILE 2

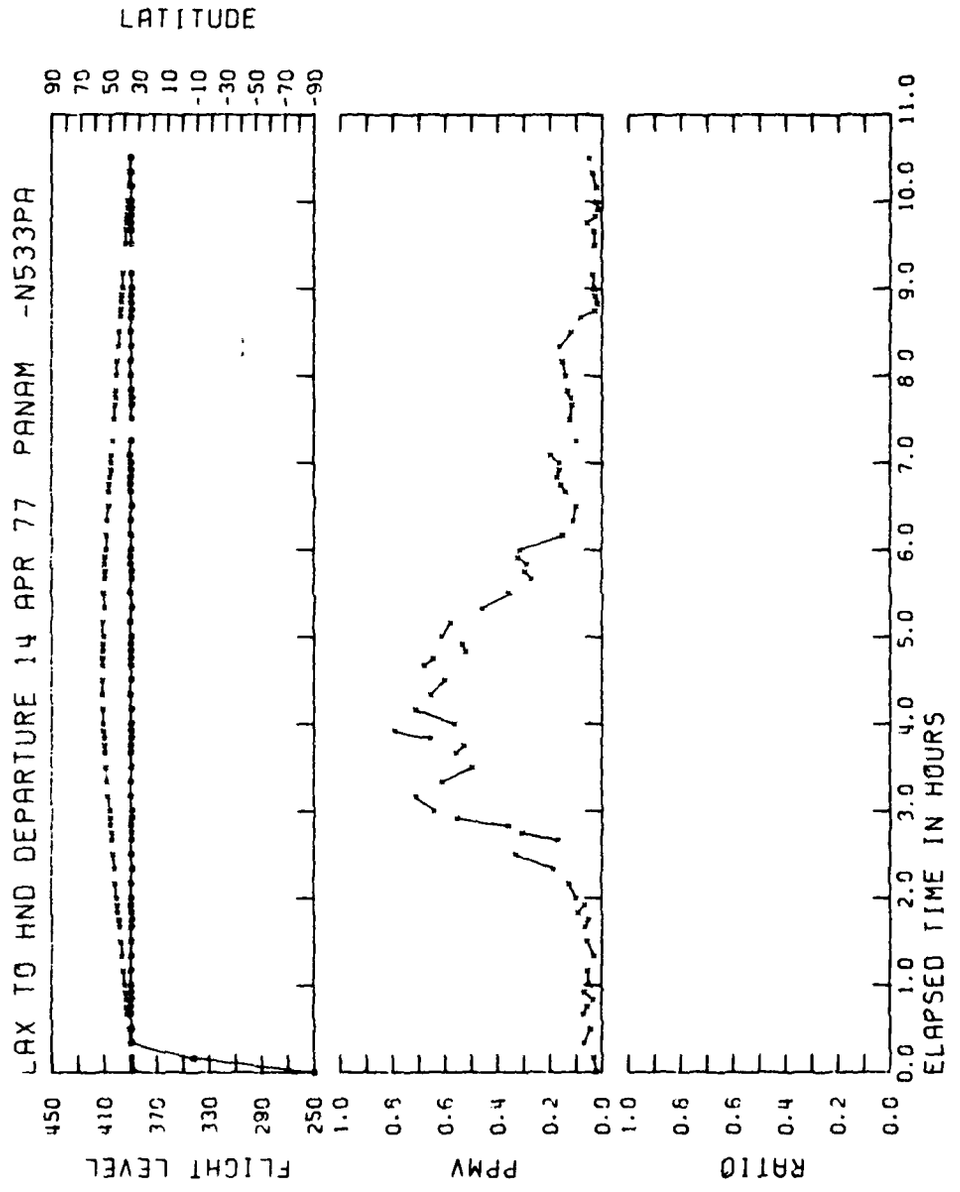
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/14/77	0519	11:55	431	40.60N	145.43E	-58.	.152		
4/14/77	0524	12:00	431	40.15N	144.88E	-58.	.067		
4/14/77	0534	12:10	431	39.26N	143.76E	-58.	.090		
4/14/77	0539	12:15	431	38.81N	143.20E	-58.	.152		
4/14/77	0549	12:25	431	37.90N	142.12E	-59.	.200		
4/14/77	0559	12:35	430	37.09N	140.97E	-60.	.258		


HND TO LAX DEPARTURE 14 APR 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0
ELAPSED TIME IN HOURS

HND TO LAX (PAGE 1 OF 1) DEPARTURE: 14 APR 77 AIRCRAFT: PANAM -N433PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .730 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 61
DATA SOURCE: GASP TAPE VL010, FILE 2

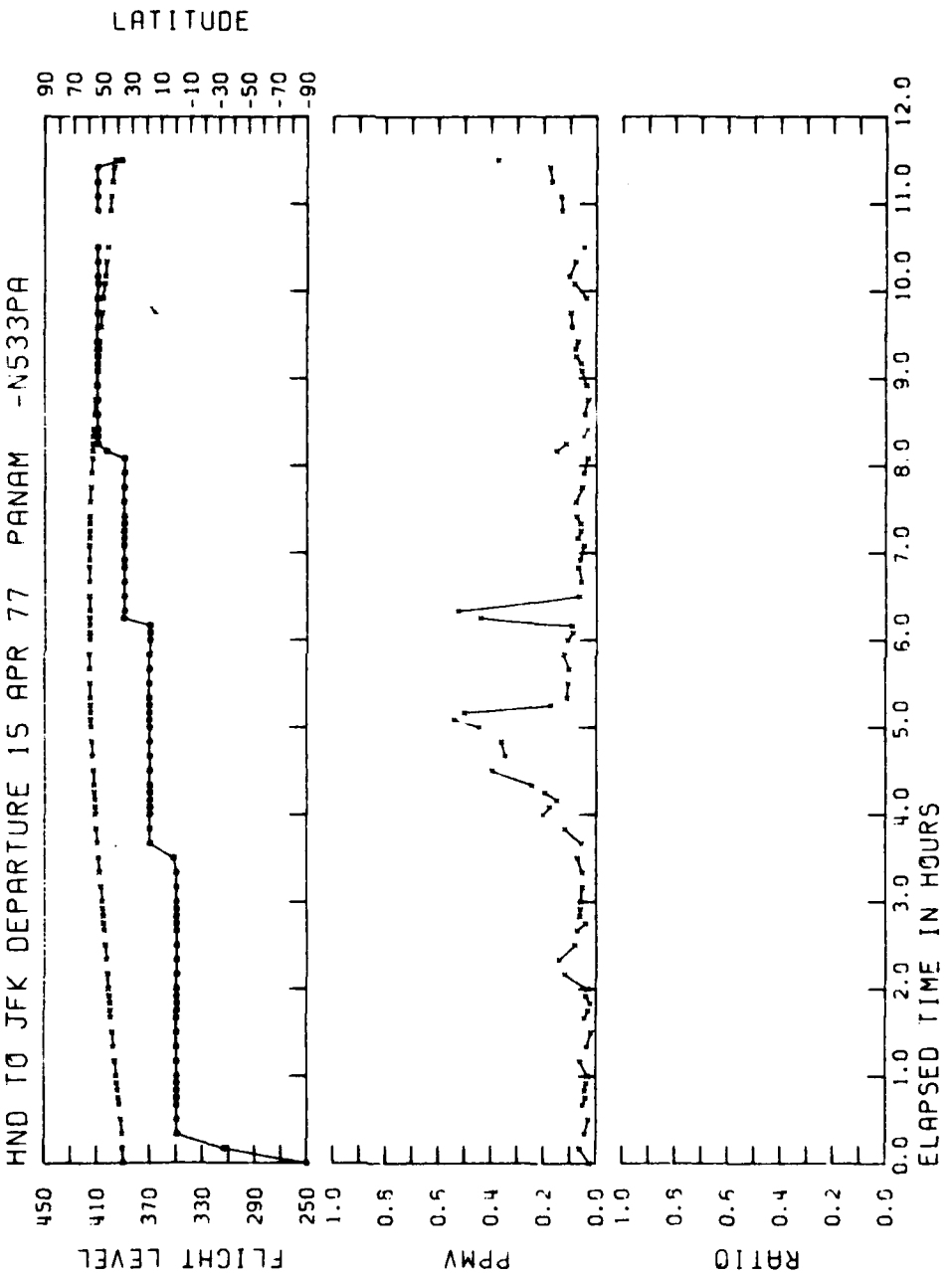
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/14/77	1019	0:20	370	36.32N	144.30E	-58.	.043		
4/14/77	1039	0:40	370	37.40N	147.86E	-60.	.039		
4/14/77	1044	0:45	370	37.66N	148.79E	-60.	.069		
4/14/77	1049	0:50	370	37.91N	149.71E	-61.	.065		
4/14/77	1054	0:55	370	38.15N	150.66E	-60.	.111		
4/14/77	1059	1:00	370	38.37N	151.62E	-59.	.195		
4/14/77	1109	1:10	370	38.80N	153.52E	-58.	.184		
4/14/77	1119	1:20	370	39.18N	155.43E	-59.	.214		
4/14/77	1129	1:30	370	39.55N	157.40E	-60.	.185		
4/14/77	1139	1:40	370	39.88N	159.38E	-61.	.182		
4/14/77	1144	1:45	370	40.06N	160.37E	-62.	.149		
4/14/77	1149	1:50	370	40.29N	161.33E	-61.	.170		
4/14/77	1154	1:55	370	40.52N	162.31E	-62.	.177		
4/14/77	1159	2:00	370	40.74N	163.30E	-61.	.167		
4/14/77	1209	2:10	370	41.14N	165.28E	-61.	.297		
4/14/77	1219	2:20	370	41.50N	167.22E	-59.	.349		
4/14/77	1229	2:30	370	41.82N	169.14E	-61.	.383		
4/14/77	1239	2:40	370	42.11N	171.10E	-64.	.260		
4/14/77	1244	2:45	370	42.24N	172.09E	-64.	.211		
4/14/77	1249	2:50	370	42.36N	173.09E	-64.	.230		
4/14/77	1254	2:55	370	42.48N	174.12E	-64.	.240		
4/14/77	1259	3:00	370	42.58N	175.15E	-62.	.275		
4/14/77	1309	3:10	370	42.77N	177.24E	-61.	.332		
4/14/77	1319	3:20	370	42.91N	179.34E	-60.	.344		
4/14/77	1329	3:30	370	43.00N	178.85W	-61.	.301		
4/14/77	1339	3:40	370	43.04N	176.43W	-58.	.367		
4/14/77	1344	3:45	370	43.05N	175.36W	-58.	.409		
4/14/77	1349	3:50	370	43.04N	174.28W	-61.	.412		
4/14/77	1354	3:55	370	43.03N	173.20W	-54.	.475		
4/14/77	1359	4:00	370	43.01N	172.13W	-55.	.462		
4/14/77	1409	4:10	370	42.94N	169.96W	-54.	.469		
4/14/77	1419	4:20	370	43.22N	167.86W	-55.	.438		
4/14/77	1429	4:30	370	43.47N	165.74W	-56.	.474		
4/14/77	1439	4:40	370	43.68N	163.63W	-65.	.480		
4/14/77	1444	4:45	370	43.77N	162.54W	-53.	.492		
4/14/77	1454	4:55	370	43.91N	160.33W	-54.	.514		
4/14/77	1459	5:00	370	44.04N	159.25W	-52.	.501		
4/14/77	1514	5:15	370	44.44N	155.99W	-52.	.510		
4/14/77	1524	5:25	370	44.66N	153.78W	-48.	.582		
4/14/77	1534	5:35	370	44.84N	151.57W	-48.	.717		
4/14/77	1539	5:40	370	44.91N	150.46W	-49.	.730		
4/14/77	1559	6:00	370	45.06N	145.89W	-53.	.422		
4/14/77	1609	6:10	370	45.06N	143.56W	-55.	.209		
4/14/77	1615	6:16	370	45.04N	142.18W	-56.	.227		
4/14/77	1625	6:26	370	44.95N	139.90W	-59.	.174		
4/14/77	1635	6:36	370	44.41N	137.79W	-61.	.053		
4/14/77	1645	6:46	370	43.84N	135.75W	-60.	.065		
4/14/77	1655	6:56	370	43.26N	133.79W	-60.	.045		
4/14/77	1700	7:01	370	42.95N	132.82W	-59.	.051		
4/14/77	1705	7:06	370	42.64N	131.86W	-59.	.073		
4/14/77	1710	7:11	370	42.32N	130.91W	-59.	.072		
4/14/77	1715	7:16	370	41.99N	129.97W	-59.	.066		
4/14/77	1725	7:26	370	41.22N	128.18W	-59.	.074		
4/14/77	1735	7:36	370	40.45N	126.43W	-59.	.059		
4/14/77	1745	7:46	370	39.68N	124.71W	-59.	.050		
4/14/77	1755	7:56	370	38.66N	123.26W	-59.	.060		
4/14/77	1800	8:01	370	38.05N	122.66W	-60.	.044		
4/14/77	1805	8:06	370	37.47N	122.03W	-60.	.045		
4/14/77	1810	8:11	370	36.90N	121.38W	-60.	.061		
4/14/77	1815	8:16	370	36.29N	120.79W	-60.	.061		
4/14/77	1825	8:26	318	35.12N	119.60W	-48.	.046		


LAX TO HND DEPARTURE 14 APR 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0
ELAPSED TIME IN HOURS

LAX TO HNU (PAGE 1 OF 1) DEPARTURE: 14 APR 77 AIRCRAFT: PANAM -N733PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .794 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 84
DATA SOURCE: GASP TAPE VL010, FILE 2

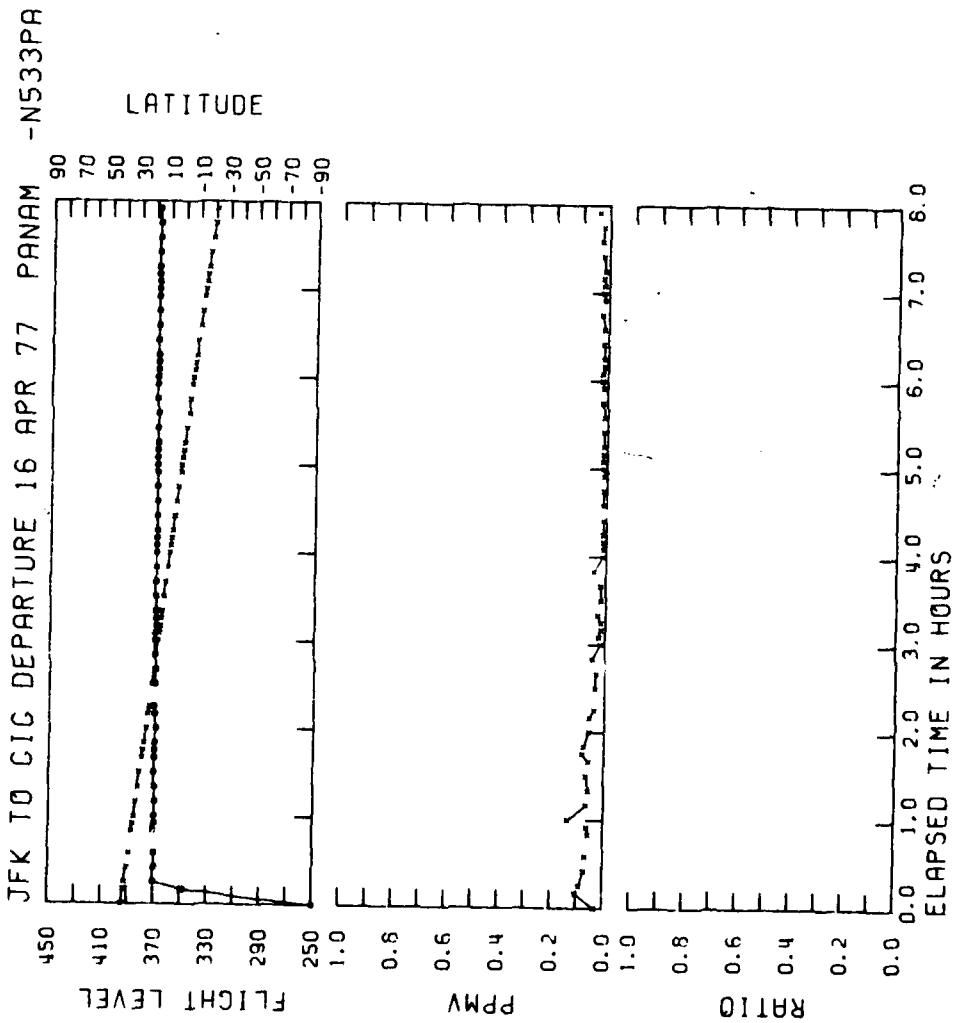
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/14/77	2219	0:00	215	34.31N	119.24W	-23.	.023		
4/14/77	2229	0:10	342	35.15N	120.10W	-53.	.034		
4/14/77	2239	0:20	389	36.14N	120.79W	-63.	.067		
4/14/77	2249	0:30	390	37.12N	121.49W	-64.	.045		
4/14/77	2259	0:40	389	38.12N	122.23W	-63.	.068		
4/14/77	2304	0:45	390	38.61N	122.60W	-63.	.055		
4/14/77	2309	0:50	389	39.10N	122.98W	-64.	.033		
4/14/77	2314	0:55	390	39.58N	123.36W	-63.	.069		
4/14/77	2319	1:00	389	40.07N	123.74W	-64.	.050		
4/14/77	2329	1:10	390	41.03N	124.56W	-64.	.055		
4/14/77	2339	1:20	390	41.98N	125.42W	-64.	.031		
4/14/77	2349	1:30	390	42.92N	126.31W	-64.	.057		
4/14/77	2359	1:40	390	43.82N	127.28W	-65.	.065		
4/15/77	0004	1:45	389	44.24N	127.78W	-65.	.053		
4/15/77	0009	1:50	389	44.66N	128.30W	-64.	.092		
4/15/77	0014	1:55	390	45.07N	128.80W	-64.	.065		
4/15/77	0019	2:00	389	45.48N	129.33W	-63.	.099		
4/15/77	0029	2:10	389	46.29N	130.41W	-63.	.124		
4/15/77	0039	2:20	389	47.11N	131.58W	-55.	.186		
4/15/77	0049	2:30	389	47.96N	132.87W	-52.	.329		
4/15/77	0059	2:40	389	48.83N	134.24W	-50.	.165		
4/15/77	0104	2:45	389	49.27N	134.96W	-49.	.306		
4/15/77	0109	2:50	389	49.71N	135.71W	-48.	.358		
4/15/77	0114	2:55	389	50.15N	136.49W	-47.	.554		
4/15/77	0119	3:00	389	50.59N	137.28W	-47.	.645		
4/15/77	0129	3:10	390	51.46N	138.92W	-46.	.711		
4/15/77	0139	3:20	390	52.25N	140.71W	-44.	.609		
4/15/77	0149	3:30	389	52.91N	142.63W	-44.	.494		
4/15/77	0159	3:40	390	53.55N	144.64W	-44.	.556		
4/15/77	0204	3:45	390	53.85N	145.66W	-45.	.526		
4/15/77	0209	3:50	389	54.14N	146.69W	-44.	.655		
4/15/77	0214	3:55	390	54.43N	147.74W	-45.	.794		
4/15/77	0219	4:00	390	54.70N	148.80W	-46.	.564		
4/15/77	0229	4:10	390	55.04N	151.03W	-47.	.713		
4/15/77	0239	4:20	390	55.09N	153.35W	-48.	.655		
4/15/77	0249	4:30	389	55.10N	155.66W	-48.	.600		
4/15/77	0259	4:40	390	55.07N	157.95W	-50.	.678		
4/15/77	0304	4:45	390	55.03N	159.11W	-51.	.644		
4/15/77	0309	4:50	390	54.98N	160.26W	-54.	.521		
4/15/77	0314	4:55	390	54.91N	161.42W	-51.	.534		
4/15/77	0319	5:00	390	54.82N	162.58W	-54.	.614		
4/15/77	0329	5:10	390	54.62N	164.86W	-57.	.577		
4/15/77	0339	5:20	390	54.38N	167.06W	-59.	.460		
4/15/77	0349	5:30	390	54.10N	169.26W	-61.	.355		
4/15/77	0359	5:40	389	53.78N	171.39W	-60.	.271		
4/15/77	0404	5:45	389	53.60N	172.44W	-60.	.297		
4/15/77	0409	5:50	390	53.42N	173.49W	-62.	.287		
4/15/77	0414	5:55	390	53.22N	174.54W	-61.	.320		
4/15/77	0419	6:00	390	53.01N	175.58W	-62.	.313		
4/15/77	0429	6:10	390	52.57N	177.61W	-62.	.151		
4/15/77	0439	6:20	390	52.09N	179.63W	-61.	.110		
4/15/77	0449	6:30	390	51.48N	178.47E	-62.	.100		
4/15/77	0459	6:40	390	50.81N	176.62E	-63.	.140		
4/15/77	0504	6:45	390	50.47N	175.71E	-63.	.156		
4/15/77	0509	6:50	390	50.12N	174.81E	-63.	.171		
4/15/77	0514	6:55	390	49.76N	173.93E	-64.	.163		
4/15/77	0519	7:00	390	49.39N	173.07E	-65.	.166		
4/15/77	0524	7:05	390	49.03N	172.23E	-65.	.195		
4/15/77	0534	7:15	390	48.30N	170.63E	-66.	.099		
4/15/77	0549	7:30	389	47.39N	168.21E	-66.	.123		
4/15/77	0559	7:40	389	46.81N	166.63E	-64.	.117		
4/15/77	0604	7:45	389	46.51N	165.84E	-64.	.121		
4/15/77	0609	7:50	390	46.21N	165.07E	-64.	.132		
4/15/77	0619	8:00	390	45.57N	163.52E	-64.	.139		
4/15/77	0629	8:10	390	44.91N	161.98E	-61.	.152		
4/15/77	0639	8:20	390	44.24N	160.52E	-63.	.152		
4/15/77	0649	8:30	390	43.60N	159.07E	-64.	.[illegible]		
4/15/77	0659	8:40	390	42.97N	157.65E	-66.	.080		
4/15/77	0704	8:45	389	42.65N	156.96E	-66.	.029		
4/15/77	0709	8:50	390	42.33N	156.28E	-67.	.021		
4/15/77	0714	8:55	390	42.00N	155.61E	-66.	.028		
4/15/77	0719	9:00	389	41.67N	154.94E	-66.	.030		
4/15/77	0729	9:10	389	41.01N	153.63E	-65.	.037		
4/15/77	0749	9:30	389	39.57N	150.99E	-64.	.030		
4/15/77	0759	9:40	389	38.87N	149.68E	-64.	.033		
4/15/77	0804	9:45	390	38.57N	148.98E	-64.	.057		
4/15/77	0809	9:50	390	38.28N	148.28E	-64.	.024		
4/15/77	0814	9:55	390	37.97N	147.59E	-63.	.016		
4/15/77	0819	10:00	389	37.67N	146.91E	-63.	.024		
4/15/77	0829	10:10	389	37.05N	145.56E	-63.	.023		
4/15/77	0839	10:20	390	36.41N	144.23E	-63.	.037		
4/15/77	0849	10:30	390	35.82N	142.88E	-62.	.048		


LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
HND TØ JFK DEPARTURE 15 APR 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
12.0
ELAPSED TIME IN HØURS

HND TO JFK (PAGE 1 OF 1) DEPARTURE: 15 APR 77 AIRCRAFT: PANAM -N 33PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .539 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 88
DATA SOURCE: GASP TAPE VL010, FILE 2

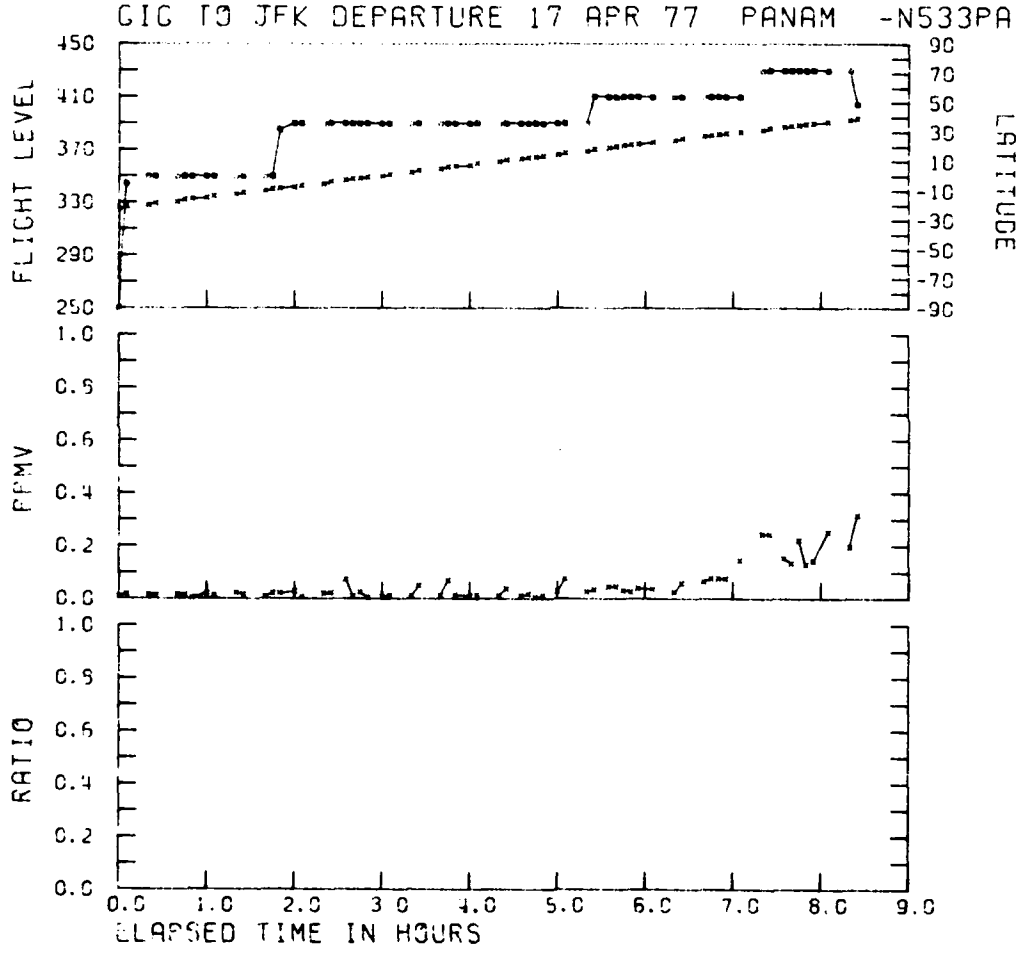
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/15/77	1407	0:00	208	35.78N	140.98E	-16.	.024		
4/15/77	1417	0:10	313	36.37N	142.41E	-40.	.062		
4/15/77	1427	0:20	349	37.00N	144.01E	-51.	.045		
4/15/77	1437	0:30	350	38.03N	145.27E	-51.	.030		
4/15/77	1447	0:40	350	39.05N	146.57E	-52.	.051		
4/15/77	1452	0:45	350	39.56N	147.26E	-52.	.040		
4/15/77	1457	0:50	350	40.06N	147.95E	-52.	.044		
4/15/77	1502	0:55	350	40.55N	148.65E	-52.	.037		
4/15/77	1507	1:00	350	41.06N	149.37E	-53.	.033		
4/15/77	1517	1:10	350	42.01N	150.86E	-54.	.060		
4/15/77	1527	1:20	350	42.91N	152.42E	-54.	.035		
4/15/77	1537	1:30	350	43.81N	154.06E	-54.	.018		
4/15/77	1547	1:40	350	44.68N	155.74E	-55.	.043		
4/15/77	1552	1:45	350	45.10N	156.59E	-55.	.031		
4/15/77	1557	1:50	350	45.51N	157.44E	-56.	.023		
4/15/77	1602	1:55	350	45.91N	158.31E	-56.	.039		
4/15/77	1607	2:00	350	46.32N	159.22E	-56.	.033		
4/15/77	1617	2:10	350	47.15N	161.01E	-58.	.120		
4/15/77	1627	2:20	350	47.98N	162.80E	-61.	.140		
4/15/77	1637	2:30	350	48.78N	164.63E	-62.	.081		
4/15/77	1647	2:40	350	49.55N	166.51E	-64.	.073		
4/15/77	1652	2:45	350	49.91N	167.46E	-64.	.041		
4/15/77	1657	2:50	350	50.27N	168.41E	-65.	.062		
4/15/77	1702	2:55	350	50.62N	169.38E	-65.	.060		
4/15/77	1707	3:00	350	50.99N	170.33E	-65.	.060		
4/15/77	1717	3:10	350	51.83N	172.08E	-65.	.053		
4/15/77	1727	3:20	350	52.64N	173.89E	-66.	.053		
4/15/77	1737	3:32	352	53.50N	176.23E	-67.	.071		
4/15/77	1747	3:42	370	54.17N	178.23E	-68.	.056		
4/15/77	1757	3:52	370	54.81N	179.74W	-69.	.118		
4/15/77	1802	4:02	370	55.40N	177.73W	-68.	.203		
4/15/77	1812	4:07	370	55.68N	176.70W	-68.	.178		
4/15/77	1817	4:12	370	55.96N	175.64W	-67.	.151		
4/15/77	1822	4:17	370	56.23N	174.56W	-67.	.196		
4/15/77	1827	4:22	370	56.49N	173.47W	-66.	.245		
4/15/77	1837	4:32	370	56.99N	171.20W	-66.	.396		
4/15/77	1847	4:42	370	57.48N	168.85W	-62.	.346		
4/15/77	1857	4:52	370	57.96N	166.40W	-59.	.360		
4/15/77	1907	5:02	370	58.40N	163.89W	-57.	.446		
4/15/77	1712	5:07	370	58.60N	162.61W	-54.	.539		
4/15/77	1717	5:12	370	58.72N	161.29W	-54.	.501		
4/15/77	1722	5:17	370	58.75N	159.90W	-53.	.170		
4/15/77	1727	5:22	370	58.77N	158.51W	-53.	.110		
4/15/77	1737	5:32	370	58.85N	155.81W	-51.	.106		
4/15/77	1742	5:42	370	59.11N	153.17W	-51.	.102		
4/15/77	1752	5:52	370	59.32N	150.46W	-52.	.123		
4/15/77	1802	6:02	370	59.46N	147.78W	-51.	.111		
4/15/77	1812	6:07	370	59.51N	146.42W	-50.	.090		
4/15/77	1817	6:12	370	59.55N	145.06W	-51.	.093		
4/15/77	1822	6:17	390	59.58N	143.71W	-50.	.441		
4/15/77	1827	6:22	390	59.59N	142.34W	-48.	.526		
4/15/77	1832	6:32	390	59.57N	139.60W	-49.	.065		
4/15/77	1842	6:42	390	59.60N	136.88W	-48.	.057		
4/15/77	1852	6:52	390	59.59N	134.19W	-49.	.068		
4/15/77	1902	6:57	390	59.56N	132.85W	-48.	.061		
4/15/77	1912	7:07	390	59.47N	130.13W	-48.	.047		
4/15/77	1917	7:12	390	59.41N	128.76W	-48.	.070		
4/15/77	1922	7:17	390	59.33N	127.39W	-48.	.058		
4/15/77	1927	7:22	389	59.24N	126.01W	-48.	.059		
4/15/77	1932	7:27	389	59.13N	124.64W	-48.	.074		
4/15/77	1942	7:37	390	58.88N	121.95W	-48.	.076		
4/15/77	1952	7:47	390	58.50N	119.31W	-48.	.054		
4/15/77	2002	7:57	390	58.08N	116.71W	-48.	.048		
4/15/77	2012	8:07	390	57.62N	114.18W	-47.	.033		
4/15/77	2017	8:12	403	57.37N	112.95W	-50.	.151		
4/15/77	2022	8:17	410	57.10N	111.71W	-50.	.114		
4/15/77	2027	8:22	410	56.83N	110.50W	-49.	.048		
4/15/77	2032	8:27	410	56.54N	109.30W	-48.	.033		
4/15/77	2042	8:37	410	55.93N	106.93W	-49.	.043		
4/15/77	2052	8:47	410	55.28N	104.67W	-49.	.030		
4/15/77	2102	8:57	410	54.59N	102.49W	-51.	.037		
4/15/77	2112	9:07	410	53.86N	100.37W	-52.	.054		
4/15/77	2117	9:12	410	53.51N	99.33W	-53.	.058		
4/15/77	2122	9:17	410	53.15N	98.30W	-53.	.076		
4/15/77	2127	9:22	410	52.79N	97.29W	-54.	.078		
4/15/77	2132	9:27	410	52.41N	96.29W	-54.	.068		
4/15/77	2142	9:37	410	51.63N	94.34W	-55.	.094		
4/15/77	2152	9:47	410	50.82N	92.45W	-57.	.097		
4/15/77	2202	9:57	410	49.98N	90.62W	-58.	.040		
4/15/77	2212	10:07	410	49.10N	88.83W	-60.	.085		
4/15/77	2217	10:12	410	48.65N	87.96W	-64.	.105		
4/15/77	2222	10:22	410	47.74N	86.27W	-60.	.080		
4/15/77	2232	10:32	410	46.75N	84.69W	-60.	.048		
4/15/77	2302	10:55	410	45.05N	81.33W	-59.	.131		
4/15/77	2312	11:05	410	44.24N	79.60W	-57.	.134		
4/15/77	2322	11:15	410	43.40N	77.91W	-56.	.168		
4/15/77	2332	11:25	410	42.55N	76.27W	-57.	.177		
4/15/77	2337	11:30	392	42.08N	75.47W	-56.	.374		


JFK TO CIC DEPARTURE 16 APR 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0
ELAPSED TIME IN HOURS

JFK TO GIG (PAGE 1 OF 1) DEPARTURE: 16 APR 77 AIRCRAFT: PANAM -N433PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .138 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 60
DATA SOURCE: GASP TAPE VL010, FILE 2

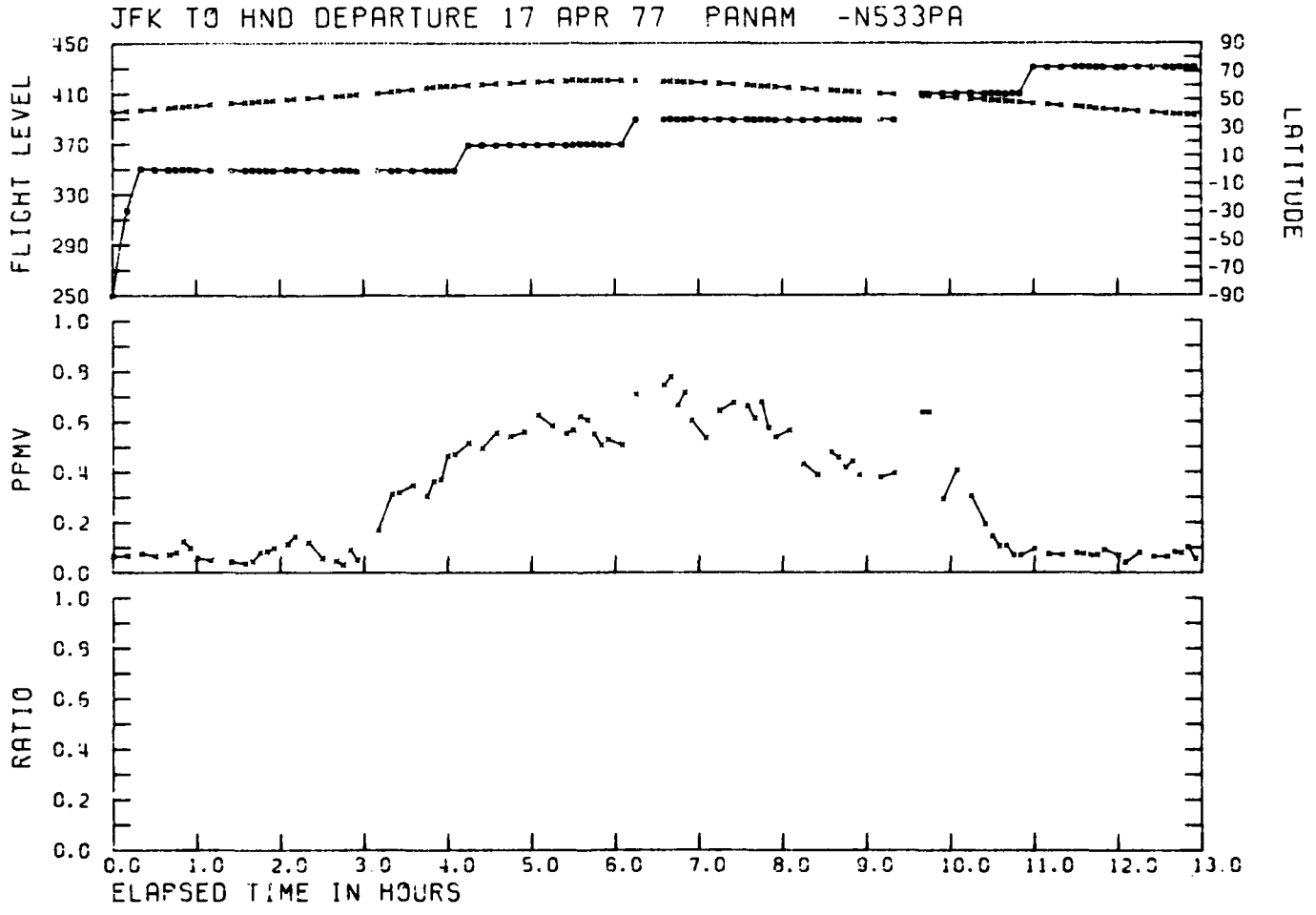
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/16/77	0254	0:00	217	39.73N	72.90W	-26.	.032		
4/16/77	0304	0:10	348	38.51N	71.86W	-55.	.103		
4/16/77	0309	0:15	370	37.84N	71.46W	-60.	.090		
4/16/77	0319	0:25	370	36.53N	70.70W	-61.	.072		
4/16/77	0329	0:35	370	35.22N	69.95W	-60.	.070		
4/16/77	0344	0:50	371	33.25N	68.90W	-60.	.057		
4/16/77	0349	0:55	370	32.60N	68.56W	-60.	.062		
4/16/77	0354	1:00	370	31.97N	68.23W	-60.	.138		
4/16/77	0404	1:10	370	30.69N	67.60W	-59.	.067		
4/16/77	0414	1:20	370	29.41N	66.98W	-58.	.061		
4/16/77	0424	1:30	370	28.12N	66.38W	-57.	.066		
4/16/77	0434	1:40	370	26.82N	65.79W	-57.	.060		
4/16/77	0439	1:45	370	26.18N	65.49W	-57.	.083		
4/16/77	0445	1:51	370	25.36N	65.12W	-55.	.078		
4/16/77	0454	2:00	370	24.22N	64.62W	-55.	.060		
4/16/77	0504	2:10	370	22.90N	64.05W	-54.	.057		
4/16/77	0512	2:18	371	21.81N	63.59W	-53.	.040		
4/16/77	0524	2:30	370	20.12N	62.92W	-53.	.037		
4/16/77	0534	2:40	370	18.81N	62.41W	-52.	.033		
4/16/77	0544	2:50	370	17.48N	61.91W	-51.	.047		
4/16/77	0554	3:00	370	16.23N	61.26W	-51.	.017		
4/16/77	0559	3:05	370	15.62N	60.91W	-50.	.024		
4/16/77	0604	3:10	370	15.02N	60.57W	-50.	.017		
4/16/77	0609	3:15	370	14.42N	60.23W	-50.	.019		
4/16/77	0614	3:20	370	13.82N	59.90W	-50.	.031		
4/16/77	0624	3:30	370	12.61N	59.21W	-50.	.019		
4/16/77	0634	3:40	370	11.43N	58.49W	-50.	.019		
4/16/77	0644	3:50	370	10.23N	57.78W	-49.	.047		
4/16/77	0654	4:00	370	9.03N	57.06W	-49.	.013		
4/16/77	0659	4:05	370	8.41N	56.73W	-49.	.012		
4/16/77	0704	4:10	370	7.81N	56.41W	-49.	.012		
4/16/77	0710	4:16	370	7.17N	56.08W	-49.	.013		
4/16/77	0720	4:26	370	5.98N	55.46W	-48.	.014		
4/16/77	0730	4:36	370	4.74N	54.91W	-49.	.014		
4/16/77	0740	4:46	370	3.48N	54.41W	-49.	.012		
4/16/77	0750	4:56	370	2.19N	53.91W	-49.	.012		
4/16/77	0755	5:01	370	1.56N	53.64W	-49.	.012		
4/16/77	0800	5:06	370	.92N	53.37W	-49.	.017		
4/16/77	0805	5:11	370	.28N	53.10W	-49.	.015		
4/16/77	0810	5:16	370	.34S	52.83W	-49.	.014		
4/16/77	0820	5:26	370	1.62S	52.40W	-49.	.014		
4/16/77	0830	5:36	370	2.89S	51.86W	-49.	.015		
4/16/77	0840	5:46	370	4.16S	51.32W	-49.	.018		
4/16/77	0850	5:56	370	5.44S	50.78W	-49.	.015		
4/16/77	0855	6:01	370	6.08S	50.51W	-49.	.020		
4/16/77	0900	6:06	370	6.72S	50.24W	-49.	.020		
4/16/77	0905	6:11	370	7.35S	49.97W	-49.	.015		
4/16/77	0910	6:16	370	7.99S	49.70W	-49.	.018		
4/16/77	0920	6:26	370	9.29S	49.14W	-50.	.018		
4/16/77	0930	6:36	370	10.59S	48.58W	-50.	.018		
4/16/77	0940	6:46	370	11.72S	47.93W	-51.	.025		
4/16/77	0950	6:56	370	12.99S	47.34W	-51.	.018		
4/16/77	0955	7:01	370	13.63S	47.03W	-51.	.021		
4/16/77	1000	7:06	370	14.27S	46.73W	-51.	.019		
4/16/77	1005	7:11	370	14.90S	46.43W	-51.	.022		
4/16/77	1010	7:16	370	15.52S	46.13W	-51.	.017		
4/16/77	1020	7:26	370	16.77S	45.52W	-52.	.022		
4/16/77	1030	7:36	370	18.03S	44.90W	-52.	.027		
4/16/77	1040	7:46	370	19.32S	44.26W	-52.	.025		
4/16/77	1050	7:56	370	20.66S	43.93W	-53.	.039		


GIC TO JFK DEPARTURE 17 APR 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
ELAPSED TIME IN HOURS

GIG TO JFK (PAGE 1 OF 1) DEPARTURE: 17 APR 77 AIRCRAFT: PANAM -N433PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .315 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 64
DATA SOURCE: GASP TAPE VL010, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/17/77	0401	0:00	212	22.23S	43.15W	-12.	.008		
4/17/77	0410	0:09	344	21.00S	43.59W	-46.	.017		
4/17/77	0421	0:20	350	19.75S	44.04W	-47.	.017		
4/17/77	0430	0:29	350	18.57S	44.63W	-47.	.013		
4/17/77	0441	0:40	350	17.38S	45.22W	-46.	.018		
4/17/77	0450	0:49	350	16.16S	45.81W	-46.	.016		
4/17/77	0455	0:54	350	15.56S	46.11W	-46.	.005		
4/17/77	0501	1:00	350	14.95S	46.40W	-46.	.022		
4/17/77	0510	1:09	350	13.73S	46.98W	-45.	.015		
4/17/77	0521	1:20	350	12.50S	47.56W	-44.	.023		
4/17/77	0530	1:29	350	11.28S	48.13W	-44.	.017		
4/17/77	0541	1:40	350	10.05S	48.68W	-44.	.010		
4/17/77	0550	1:49	350	8.79S	49.22W	-43.	.021		
4/17/77	0555	1:54	385	8.17S	49.49W	-52.	.022		
4/17/77	0601	2:00	390	7.56S	49.75W	-54.	.029		
4/17/77	0610	2:09	390	6.35S	50.26W	-54.	.007		
4/17/77	0621	2:20	390	5.14S	50.78W	-54.	.021		
4/17/77	0630	2:29	390	3.94S	51.29W	-54.	.023		
4/17/77	0640	2:39	390	2.70S	51.82W	-54.	.074		
4/17/77	0645	2:44	390	2.06S	52.09W	-54.	.010		
4/17/77	0650	2:49	390	1.42S	52.36W	-54.	.025		
4/17/77	0655	2:54	390	.78S	52.63W	-54.	.005		
4/17/77	0701	3:00	390	.14S	52.90W	-54.	.008		
4/17/77	0710	3:09	390	1.13N	53.44W	-54.	.013		
4/17/77	0721	3:20	390	2.44N	53.99W	-53.	.012		
4/17/77	0730	3:29	390	3.75N	54.49W	-54.	.050		
4/17/77	0741	3:40	390	5.03N	54.99W	-54.	.013		
4/17/77	0750	3:49	390	6.26N	55.58W	-54.	.070		
4/17/77	0755	3:54	390	6.86N	55.89W	-54.	.015		
4/17/77	0801	4:00	390	7.46N	56.20W	-55.	.011		
4/17/77	0810	4:09	390	8.66N	56.84W	-55.	.017		
4/17/77	0821	4:20	390	9.84N	57.51W	-55.	.013		
4/17/77	0830	4:29	390	10.98N	58.19W	-55.	.038		
4/17/77	0840	4:39	390	12.13N	58.88W	-56.	.013		
4/17/77	0845	4:44	390	12.70N	59.22W	-56.	.018		
4/17/77	0850	4:49	390	13.29N	59.57W	-55.	.007		
4/17/77	0855	4:54	390	13.89N	59.90W	-55.	.013		
4/17/77	0901	5:00	390	14.49N	60.23W	-55.	.028		
4/17/77	0910	5:09	390	15.67N	60.90W	-55.	.076		
4/17/77	0921	5:20	390	16.85N	61.57W	-55.	.027		
4/17/77	0930	5:29	410	18.11N	62.11W	-60.	.035		
4/17/77	0940	5:39	410	19.40N	62.60W	-62.	.046		
4/17/77	0945	5:44	410	20.04N	62.85W	-63.	.046		
4/17/77	0950	5:49	410	20.68N	63.10W	-63.	.032		
4/17/77	0955	5:54	410	21.31N	63.35W	-63.	.026		
4/17/77	1000	5:59	410	21.93N	63.59W	-64.	.041		
4/17/77	1010	6:09	410	23.15N	64.11W	-65.	.036		
4/17/77	1021	6:20	410	24.34N	64.62W	-66.	.025		
4/17/77	1030	6:29	410	25.52N	65.14W	-65.	.059		
4/17/77	0845	6:44	410	27.26N	65.93W	-65.	.066		
4/17/77	0850	6:49	410	27.84N	66.20W	-63.	.078		
4/17/77	0855	6:54	410	28.42N	66.47W	-64.	.078		
4/17/77	0900	6:59	410	28.99N	66.73W	-63.	.076		
4/17/77	0910	7:09	410	30.14N	67.28W	-62.	.146		
4/17/77	0921	7:20	430	31.32N	67.85W	-62.	.245		
4/17/77	0930	7:29	430	32.47N	68.43W	-57.	.245		
4/17/77	0940	7:39	430	33.63N	69.04W	-58.	.154		
4/17/77	0945	7:44	430	34.20N	69.34W	-58.	.135		
4/17/77	0950	7:49	430	34.77N	69.64W	-59.	.222		
4/17/77	0955	7:54	430	35.33N	69.95W	-58.	.129		
4/17/77	1000	7:59	430	35.89N	70.27W	-60.	.144		
4/17/77	1010	8:09	430	37.03N	70.92W	-56.	.252		
4/17/77	1021	8:20	430	38.14N	71.58W	-56.	.196		
4/17/77	1030	8:29	404	39.20N	72.42W	-56.	.315		


JFK TO HND DEPARTURE 17 APR 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
12.0
13.0
ELAPSED TIME IN HOURS

JFK TO HNO (PAGE 1 OF 2) DEPARTURE: 17 APR 77 AIRCRAFT: PANAM -N433PA

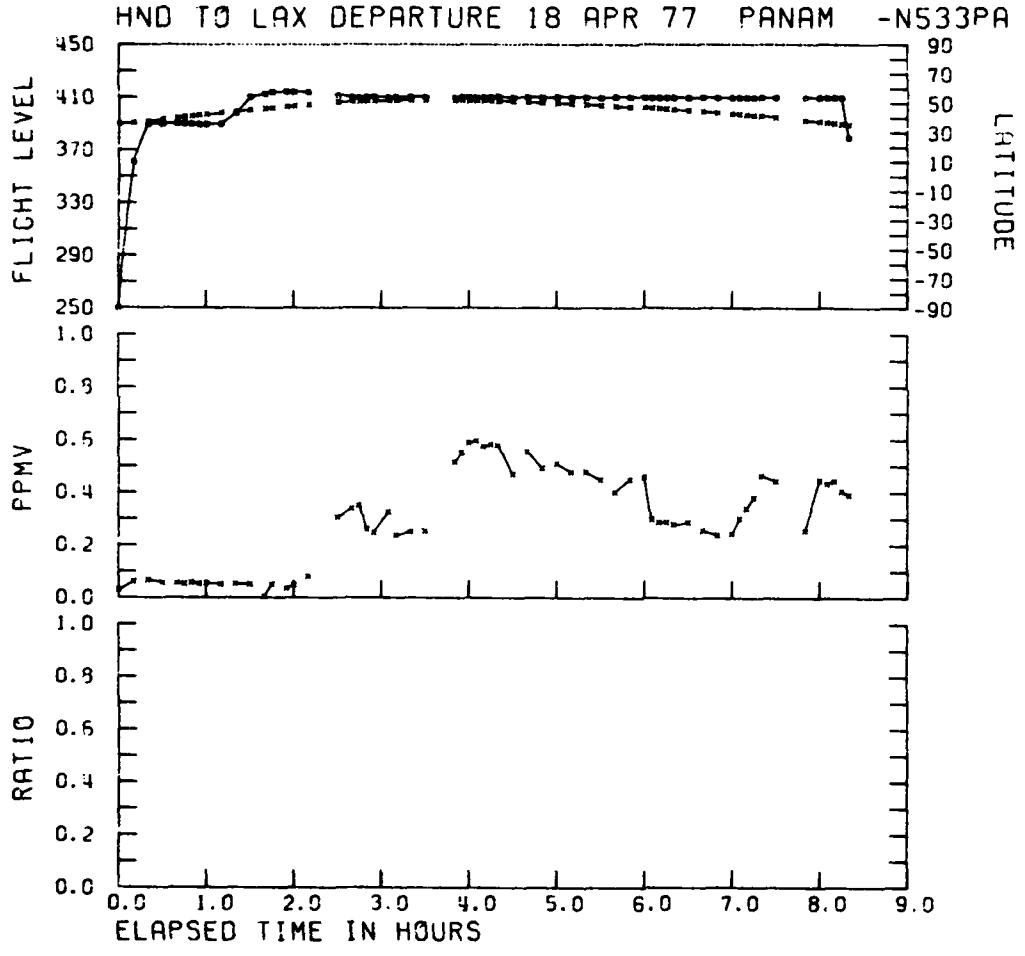
MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .776 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN:100
DATA SOURCE: GASP TAPE VL010, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/17/77	1734	0:00	211	41.18N	74.42W	-30.	.066		
4/17/77	1744	0:10	317	41.81N	75.54W	-52.	.068		
4/17/77	1754	0:20	351	42.48N	76.75W	-59.	.076		
4/17/77	1804	0:30	350	43.24N	77.89W	-59.	.065		
4/17/77	1814	0:40	350	43.96N	79.03W	-59.	.071		
4/17/77	1819	0:45	350	44.32N	79.61W	-59.	.079		
4/17/77	1824	0:50	350	44.68N	80.21W	-58.	.124		
4/17/77	1829	0:55	350	45.04N	80.82W	-58.	.097		
4/17/77	1834	1:00	349	45.40N	81.44W	-58.	.057		
4/17/77	1844	1:10	349	46.10N	82.69W	-58.	.049		
4/17/77	1859	1:25	349	47.13N	84.65W	-59.	.043		
4/17/77	1909	1:35	350	47.82N	86.04W	-59.	.037		
4/17/77	1914	1:40	350	48.17N	86.77W	-59.	.045		
4/17/77	1919	1:45	350	48.52N	87.51W	-59.	.080		
4/17/77	1924	1:50	350	48.86N	88.27W	-58.	.085		
4/17/77	1929	1:55	349	49.20N	89.05W	-57.	.098		
4/17/77	1939	2:05	350	49.91N	90.73W	-57.	.113		
4/17/77	1944	2:10	350	50.26N	91.60W	-57.	.143		
4/17/77	1954	2:20	350	50.91N	93.32W	-57.	.120		
4/17/77	2004	2:30	350	51.60N	94.95W	-56.	.056		
4/17/77	2014	2:40	350	52.32N	96.65W	-57.	.047		
4/17/77	2019	2:45	350	52.67N	97.54W	-58.	.031		
4/17/77	2024	2:50	350	53.02N	98.44W	-57.	.090		
4/17/77	2029	2:55	349	53.34N	99.32W	-56.	.050		
4/17/77	2044	3:10	350	54.56N	101.77W	-50.	.169		
4/17/77	2054	3:20	349	55.72N	103.14W	-47.	.312		
4/17/77	2059	3:25	350	56.29N	103.85W	-46.	.317		
4/17/77	2109	3:35	350	57.44N	105.38W	-45.	.348		
4/17/77	2119	3:45	350	58.56N	106.98W	-48.	.305		
4/17/77	2124	3:50	349	59.12N	107.83W	-49.	.364		
4/17/77	2129	3:55	349	59.62N	108.77W	-49.	.370		
4/17/77	2134	4:00	350	59.78N	110.08W	-48.	.465		
4/17/77	2139	4:05	350	59.92N	111.40W	-49.	.470		
4/17/77	2149	4:15	370	60.42N	113.95W	-45.	.515		
4/17/77	2159	4:25	370	60.93N	116.56W	-46.	.495		
4/17/77	2209	4:35	369	61.44N	119.21W	-47.	.555		
4/17/77	2219	4:45	370	61.89N	121.94W	-48.	.542		
4/17/77	2229	4:55	370	62.37N	124.73W	-48.	.559		
4/17/77	2239	5:05	370	62.78N	127.58W	-49.	.626		
4/17/77	2249	5:15	370	63.15N	130.56W	-49.	.583		
4/17/77	2259	5:25	369	63.45N	133.59W	-49.	.553		
4/17/77	2304	5:30	370	63.57N	135.13W	-49.	.567		
4/17/77	2309	5:35	370	63.68N	136.68W	-50.	.620		
4/17/77	2314	5:40	370	63.71N	138.27W	-50.	.605		
4/17/77	2319	5:45	370	63.73N	139.85W	-49.	.551		
4/17/77	2324	5:50	370	63.73N	141.41W	-50.	.507		
4/17/77	2331	5:57	370	63.70N	143.53W	-50.	.529		
4/17/77	2341	6:07	370	63.61N	146.55W	-50.	.507		
4/17/77	2351	6:17	389	63.46N	149.56W	-50.	.708		
4/18/77	0011	6:37	390	62.96N	155.38W	-49.	.744		
4/18/77	0016	6:42	390	62.80N	156.82W	-50.	.776		
4/18/77	0021	6:47	390	62.63N	158.25W	-49.	.665		
4/18/77	0026	6:52	389	62.44N	159.65W	-50.	.714		
4/18/77	0031	6:57	390	62.23N	161.04W	-50.	.604		
4/18/77	0041	7:07	389	61.78N	163.74W	-48.	.534		
4/18/77	0051	7:17	389	61.30N	166.30W	-49.	.642		
4/18/77	0101	7:27	389	60.77N	168.75W	-48.	.674		
4/18/77	0111	7:37	389	60.22N	171.05W	-49.	.661		
4/18/77	0116	7:42	389	59.93N	172.17W	-48.	.613		
4/18/77	0121	7:47	390	59.63N	173.27W	-48.	.679		
4/18/77	0126	7:52	389	59.32N	174.34W	-49.	.574		
4/18/77	0131	7:57	389	59.01N	175.39W	-47.	.539		
4/18/77	0141	8:07	389	58.36N	177.42W	-48.	.565		
4/18/77	0151	8:17	389	57.68N	179.37W	-51.	.432		
4/18/77	0201	8:27	389	57.04N	178.76E	-52.	.388		
4/18/77	0211	8:37	389	56.40N	176.93E	-53.	.478		
4/18/77	0216	8:42	389	56.08N	176.05E	-54.	.457		
4/18/77	0221	8:47	389	55.75N	175.19E	-54.	.417		
4/18/77	0226	8:52	389	55.42N	174.37E	-55.	.442		
4/18/77	0231	8:57	389	55.10N	173.58E	-57.	.387		
4/18/77	0246	9:12	389	54.06N	171.20E	-59.	.378		
4/18/77	0256	9:22	389	53.38N	169.60E	-59.	.393		
4/18/77	0316	9:42	410	52.31N	166.13E	-57.	.637		
4/18/77	0321	9:47	410	52.02N	165.29E	-57.	.636		
4/18/77	0331	9:57	410	51.43N	163.63E	-58.	.292		
4/18/77	0341	10:07	410	50.79N	161.95E	-56.	.407		
4/18/77	0351	10:17	410	50.17N	160.41E	-62.	.305		
4/18/77	0401	10:27	410	49.49N	159.00E	-63.	.192		
4/18/77	0406	10:32	410	49.15N	158.34E	-65.	.145		
4/18/77	0411	10:37	410	48.81N	157.70E	-64.	.105		
4/18/77	0416	10:42	410	48.47N	157.08E	-63.	.108		
4/18/77	0421	10:47	410	48.13N	156.47E	-62.	.069		
4/18/77	0428	10:54	410	47.67N	155.67E	-65.	.069		
4/18/77	0438	11:04	431	46.98N	154.51E	-60.	.094		
4/18/77	0448	11:14	431	46.25N	153.33E	-58.	.074		
4/18/77	0458	11:24	431	45.51N	152.20E	-57.	.070		
4/18/77	0508	11:34	431	44.77N	151.09E	-57.	.078		
4/18/77	0513	11:39	431	44.39N	150.55E	-58.	.074		
4/18/77	0518	11:44	431	44.02N	150.03E	-59.	.070		
4/18/77	0523	11:49	431	43.65N	149.50E	-59.	.071		
4/18/77	0528	11:54	431	43.29N	148.98E	-59.	.092		
4/18/77	0538	12:04	431	42.56N	147.98E	-59.	.069		

JFK TO HNO (PAGE 2 OF 2) DEPARTURE: 17 APR 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .776 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN:100
DATA SOURCE: GASP TAPE VL010, FILE 2

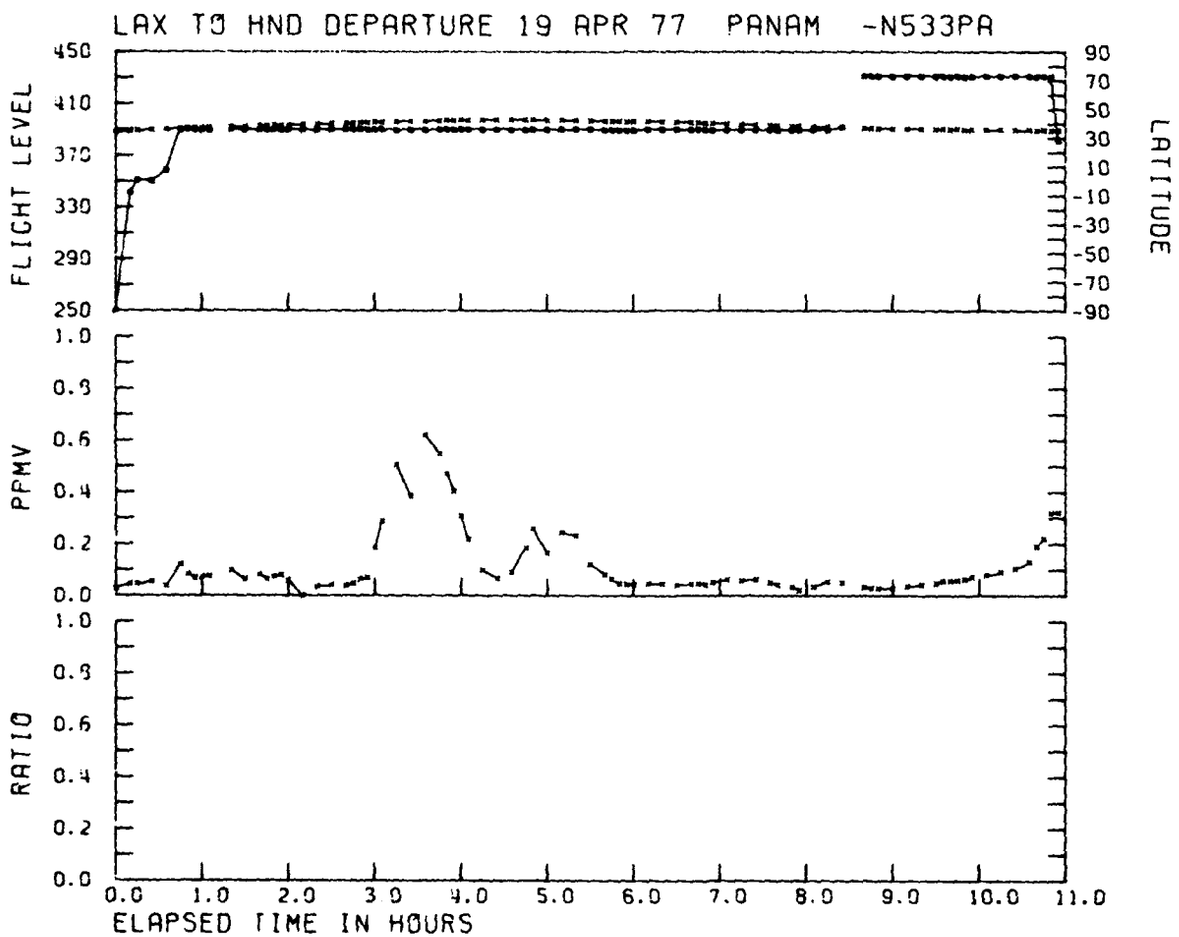
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/18/77	0543	12:09	431	42.20N	147.50E	-59.	.042		
4/18/77	0553	12:19	431	41.48N	146.54E	-58.	.081		
4/18/77	0603	12:29	431	40.75N	145.61E	-58.	.064		
4/18/77	0613	12:39	431	40.00N	144.68E	-57.	.064		
4/18/77	0618	12:44	431	39.64N	144.22E	-57.	.083		
4/18/77	0623	12:49	431	39.28N	143.78E	-57.	.080		
4/18/77	0628	12:54	431	38.92N	143.34E	-58.	.103		
4/18/77	0633	12:59	431	38.56N	142.90E	-57.	.056		


HND TO LAX DEPARTURE 18 APR 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
ELAPSED TIME IN HOURS

HND TO LAX (PAGE 1 OF 1) DEPARTURE: 18 APR 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .596 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 62
DATA SOURCE: GASP TAPE VL010, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/18/77	1611	0:00	217	36.03N	141.05E	-19.	.029		
4/18/77	1621	0:10	361	36.67N	142.96E	-48.	.062		
4/18/77	1631	0:20	390	37.62N	144.74E	-52.	.067		
4/18/77	1641	0:30	390	38.86N	146.31E	-53.	.057		
4/18/77	1651	0:40	390	40.08N	147.96E	-54.	.057		
4/18/77	1656	0:45	390	40.68N	148.81E	-54.	.053		
4/18/77	1701	0:50	390	41.28N	149.67E	-54.	.058		
4/18/77	1706	0:55	389	41.83N	150.55E	-54.	.053		
4/18/77	1711	1:00	390	42.37N	151.46E	-55.	.056		
4/18/77	1721	1:10	390	43.41N	153.31E	-58.	.052		
4/18/77	1731	1:20	398	44.41N	155.21E	-60.	.054		
4/18/77	1741	1:30	410	45.36N	157.12E	-61.	.052		
4/18/77	1751	1:40	413	46.26N	159.07E	-66.	.006		
4/18/77	1756	1:45	414	46.70N	160.07E	-63.	.052		
4/18/77	1806	1:55	414	47.64N	162.02E	-63.	.037		
4/18/77	1811	2:00	414	48.09N	163.02E	-64.	.049		
4/18/77	1821	2:10	414	48.96N	165.04E	-63.	.082		
4/18/77	1841	2:30	411	50.55N	169.19E	-64.	.306		
4/18/77	1851	2:40	410	51.07N	171.50E	-63.	.339		
4/18/77	1856	2:45	410	51.24N	172.71E	-63.	.352		
4/18/77	1901	2:50	410	51.40N	173.94E	-58.	.260		
4/18/77	1906	2:55	410	51.55N	175.20E	-56.	.248		
4/18/77	1916	3:05	410	51.81N	177.66E	-55.	.326		
4/18/77	1923	3:12	410	51.96N	179.53E	-54.	.238		
4/18/77	1933	3:22	410	52.07N	177.89W	-56.	.251		
4/18/77	1943	3:32	410	52.10N	175.35W	-57.	.254		
4/18/77	2003	3:52	410	52.01N	170.33W	-57.	.517		
4/18/77	2008	3:57	410	51.95N	169.13W	-58.	.552		
4/18/77	2013	4:02	410	51.87N	167.94W	-59.	.589		
4/18/77	2018	4:07	410	51.77N	166.76W	-60.	.596		
4/18/77	2023	4:12	410	51.67N	165.60W	-62.	.574		
4/18/77	2028	4:17	410	51.55N	164.42W	-62.	.582		
4/18/77	2033	4:22	410	51.42N	163.24W	-62.	.579		
4/18/77	2043	4:32	410	51.13N	160.92W	-62.	.469		
4/18/77	2053	4:42	410	50.79N	158.65W	-62.	.555		
4/18/77	2103	4:52	410	50.40N	156.40W	-62.	.493		
4/18/77	2113	5:02	410	49.97N	154.24W	-62.	.510		
4/18/77	2123	5:12	410	49.52N	152.14W	-62.	.478		
4/18/77	2133	5:22	410	49.02N	150.08W	-61.	.478		
4/18/77	2143	5:32	410	48.51N	148.07W	-60.	.449		
4/18/77	2153	5:42	410	48.00N	146.07W	-64.	.402		
4/18/77	2203	5:52	410	47.59N	144.06W	-66.	.450		
4/18/77	2213	6:02	410	47.01N	142.14W	-66.	.460		
4/18/77	2218	6:07	410	46.69N	141.18W	-70.	.298		
4/18/77	2223	6:12	410	46.36N	140.23W	-71.	.288		
4/18/77	2228	6:17	410	46.03N	139.28W	-71.	.288		
4/18/77	2233	6:22	410	45.70N	138.32W	-71.	.280		
4/18/77	2243	6:32	410	45.00N	136.41W	-71.	.287		
4/18/77	2253	6:42	410	44.28N	134.54W	-71.	.257		
4/18/77	2303	6:52	410	43.54N	132.73W	-71.	.240		
4/18/77	2313	7:02	410	42.78N	130.96W	-70.	.245		
4/18/77	2318	7:07	410	42.39N	130.09W	-69.	.301		
4/18/77	2323	7:12	410	42.00N	129.22W	-67.	.340		
4/18/77	2328	7:17	410	41.63N	128.35W	-64.	.381		
4/18/77	2333	7:22	410	41.25N	127.49W	-62.	.465		
4/18/77	2343	7:32	410	40.40N	125.82W	-61.	.444		
4/19/77	0003	7:52	410	38.36N	122.89W	-62.	.256		
4/19/77	0013	8:02	410	37.35N	121.52W	-61.	.448		
4/19/77	0018	8:07	410	36.85N	120.86W	-61.	.434		
4/19/77	0023	8:12	410	36.34N	120.21W	-62.	.444		
4/19/77	0028	8:17	410	35.82N	119.61W	-62.	.406		
4/19/77	0033	8:22	380	35.24N	119.11W	-64.	.391		


LAX TO HND DEPARTURE 19 APR 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
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RATIO
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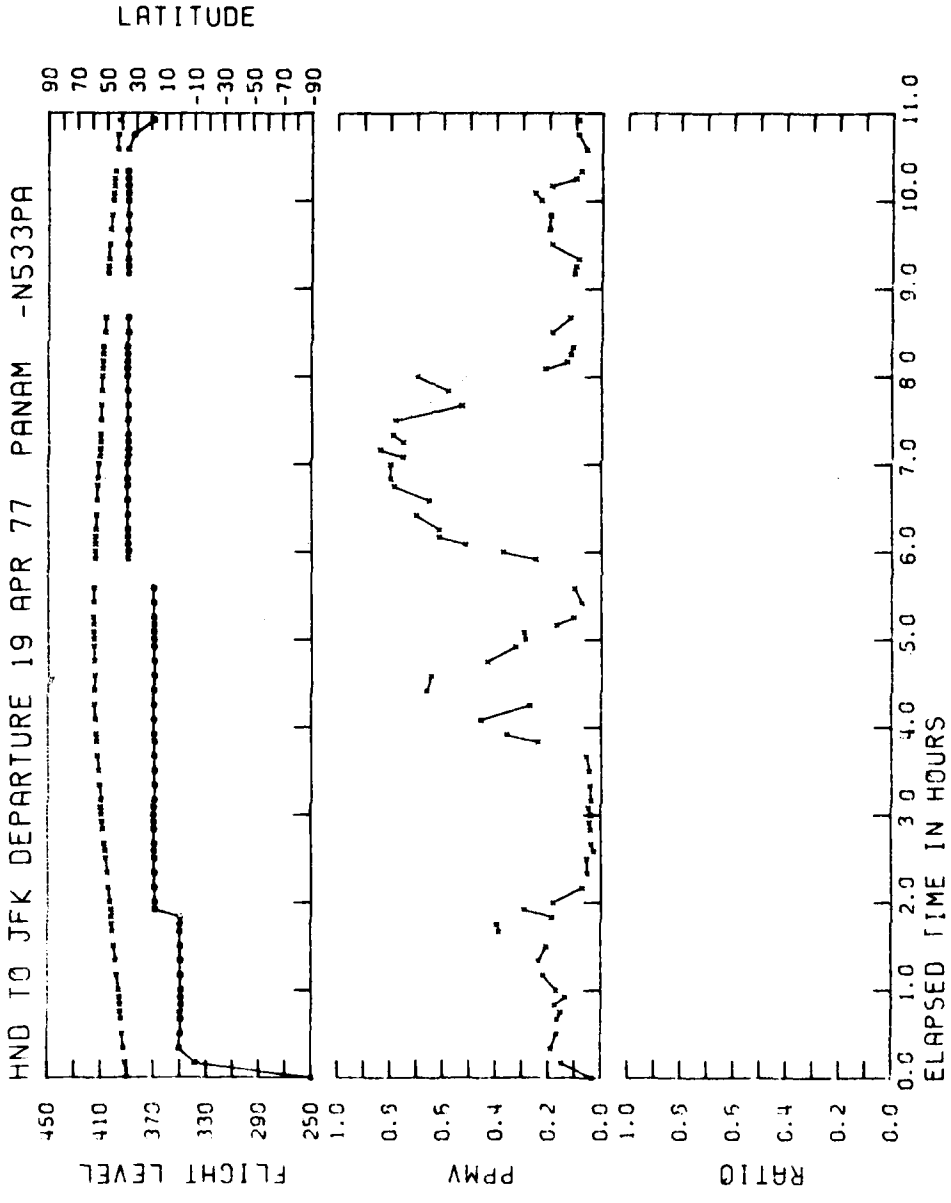
11.0
ELAPSED TIME IN HOURS

LAX TO HNO (PAGE 1 OF 1) DEPARTURE: 19 APR 77 AIRCRAFT: PANAM -N-33PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .620 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 85
DATA SOURCE: GASP TAPE VL010, FILE 2 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

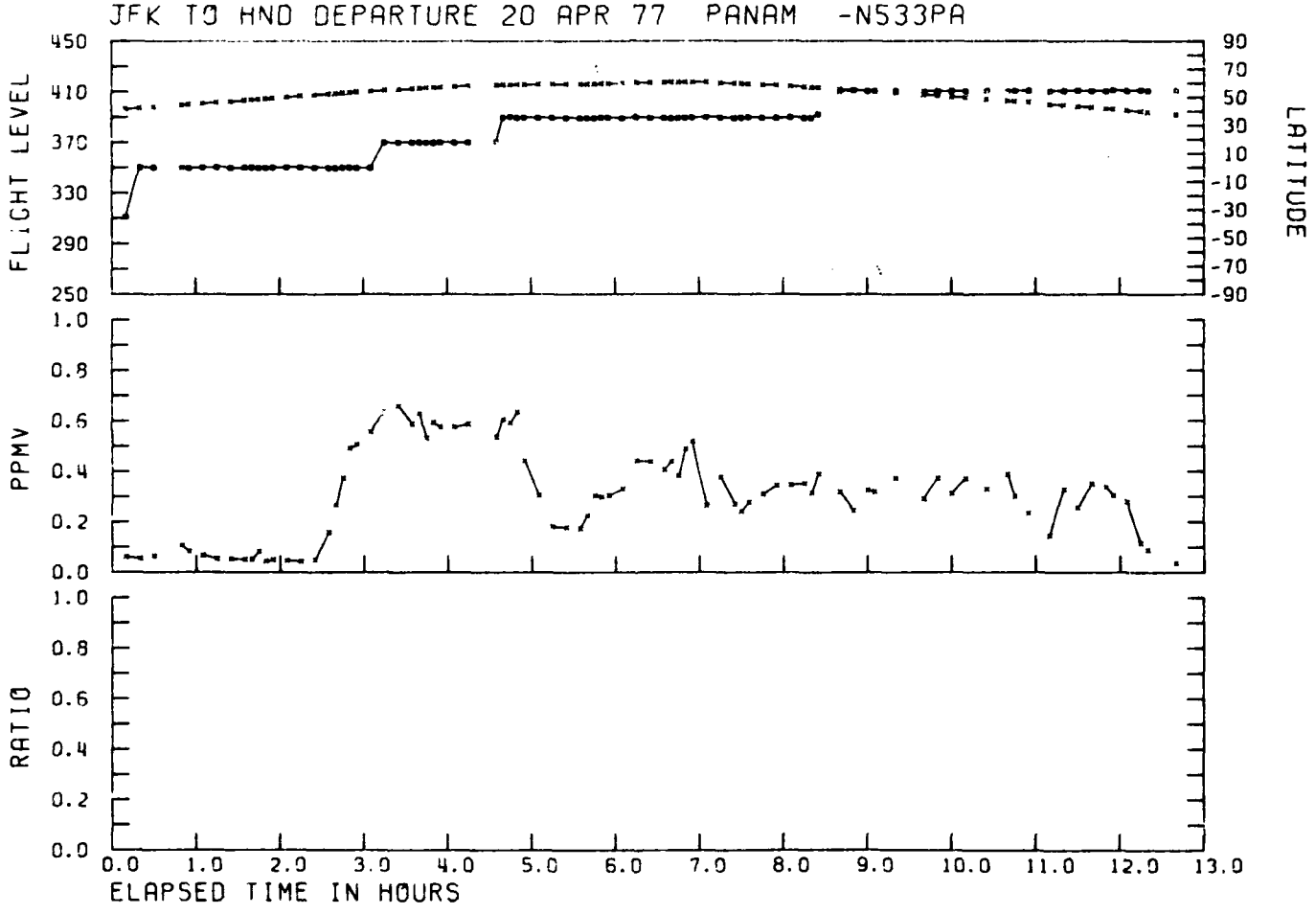
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/19/77	0328	0:00	217	34.28N	119.20W	-24.	.028		
4/19/77	0338	0:10	341	35.18N	120.08W	-57.	.046		
4/19/77	0343A	0:15	351	35.57N	120.57W	-60.	.046		
4/19/77	0353	0:25	350	35.97N	121.92W	-60.	.055		
4/19/77	0403	0:35	358	36.35N	123.27W	-61.	.038		
4/19/77	0413	0:45	390	36.71N	124.58W	-67.	.122		
4/19/77	0418	0:50	390	36.89N	125.26W	-68.	.084		
4/19/77	0423	0:55	390	37.06N	125.94W	-68.	.069		
4/19/77	0428	1:00	390	37.23N	126.62W	-67.	.074		
4/19/77	0433	1:05	390	37.39N	127.30W	-67.	.076		
4/19/77	0448	1:20	390	37.87N	129.40W	-67.	.098		
4/19/77	0458	1:30	390	38.20N	130.81W	-68.	.065		
4/19/77	0508	1:40	390	38.53N	132.23W	-68.	.082		
4/19/77	0513	1:45	390	38.69N	132.96W	-68.	.065		
4/19/77	0518	1:50	390	38.85N	133.69W	-68.	.073		
4/19/77	0523	1:55	390	39.01N	134.43W	-68.	.080		
4/19/77	0528	2:00	390	39.16N	135.18W	-68.	.059		
4/19/77	0538	2:10	390	39.45N	136.70W	-68.	.000		
4/19/77	0548	2:20	390	39.71N	138.23W	-68.	.035		
4/19/77	0558	2:30	390	39.97N	139.79W	-67.	.041		
4/19/77	0608	2:40	390	40.32N	141.32W	-68.	.039		
4/19/77	0613	2:45	390	40.50N	142.09W	-68.	.048		
4/19/77	0618	2:50	390	40.67N	142.87W	-68.	.064		
4/19/77	0623	2:55	390	40.84N	143.65W	-67.	.069		
4/19/77	0628	3:00	390	41.00N	144.42W	-65.	.184		
4/19/77	0633	3:05	390	41.16N	145.21W	-60.	.289		
4/19/77	0643	3:15	389	41.51N	146.85W	-55.	.505		
4/19/77	0653	3:25	390	41.78N	148.53W	-53.	.383		
4/19/77	0703	3:35	390	42.04N	150.28W	-51.	.620		
4/19/77	0713	3:45	390	42.28N	152.04W	-54.	.548		
4/19/77	0718	3:50	390	42.38N	152.89W	-59.	.471		
4/19/77	0723	3:55	390	42.48N	153.74W	-60.	.403		
4/19/77	0728	4:00	390	42.57N	154.56W	-65.	.307		
4/19/77	0733	4:05	390	42.65N	155.38W	-65.	.218		
4/19/77	0743	4:15	390	42.79N	156.98W	-67.	.099		
4/19/77	0753	4:25	390	42.91N	158.59W	-67.	.067		
4/19/77	0803	4:35	390	42.99N	159.91W	-66.	.091		
4/19/77	0813	4:45	390	42.88N	161.81W	-66.	.165		
4/19/77	0818	4:50	390	42.82N	162.62W	-64.	.258		
4/19/77	0828	5:00	390	42.68N	164.30W	-65.	.165		
4/19/77	0838	5:10	390	42.51N	165.97W	-63.	.243		
4/19/77	0848	5:20	390	42.31N	167.67W	-63.	.231		
4/19/77	0858	5:30	390	42.08N	169.43W	-64.	.121		
4/19/77	0908	5:40	390	42.02N	169.87W	-64.	.082		
4/19/77	0913	5:45	390	42.02N	169.87W	-63.	.065		
4/19/77	0918	5:50	390	41.80N	172.90W	-63.	.047		
4/19/77	0923	5:55	389	41.73N	173.75W	-64.	.046		
4/19/77	0928	6:00	389	41.65N	174.62W	-64.	.044		
4/19/77	0938	6:10	390	41.47N	176.35W	-64.	.047		
4/19/77	0948	6:20	390	41.26N	178.09W	-63.	.047		
4/19/77	0958	6:30	390	41.02N	179.83W	-63.	.041		
4/19/77	1008	6:40	390	40.75N	178.45E	-63.	.044		
4/19/77	1013	6:45	390	40.60N	177.58E	-63.	.046		
4/19/77	1018	6:50	390	40.45N	176.73E	-62.	.041		
4/19/77	1023	6:55	389	40.30N	175.90E	-60.	.052		
4/19/77	1033	7:05	390	39.96N	174.22E	-60.	.064		
4/19/77	1043	7:15	390	39.60N	172.55E	-58.	.059		
4/19/77	1053	7:25	390	39.22N	170.91E	-58.	.063		
4/19/77	1103	7:35	390	38.89N	169.29E	-57.	.051		
4/19/77	1108	7:40	390	38.76N	168.48E	-57.	.042		
4/19/77	1118	7:50	390	38.48N	166.91E	-57.	.034		
4/19/77	1123	7:55	389	38.34N	166.13E	-56.	.022		
4/19/77	1133	8:05	390	38.03N	164.58E	-57.	.035		
4/19/77	1143	8:15	390	37.72N	163.08E	-56.	.054		
4/19/77	1153	8:25	392	37.38N	161.60E	-55.	.051		
4/19/77	1208	8:40	431	36.97N	159.44E	-62.	.033		
4/19/77	1213	8:45	431	36.92N	158.73E	-62.	.029		
4/19/77	1218	8:50	431	36.87N	158.05E	-63.	.029		
4/19/77	1228	9:00	431	36.76N	156.68E	-62.	.030		
4/19/77	1238	9:10	431	36.64N	155.37E	-62.	.037		
4/19/77	1248	9:20	431	36.51N	154.06E	-60.	.043		
4/19/77	1258	9:30	431	36.36N	152.77E	-59.	.049		
4/19/77	1303	9:35	431	36.29N	152.13E	-60.	.057		
4/19/77	1308	9:40	431	36.21N	151.51E	-60.	.059		
4/19/77	1313	9:45	431	36.13N	150.89E	-61.	.058		
4/19/77	1318	9:50	431	36.04N	150.28E	-59.	.064		
4/19/77	1325	9:57	431	35.97N	149.34E	-58.	.072		
4/19/77	1335	10:07	431	35.89N	148.05E	-57.	.080		
4/19/77	1345	10:17	431	35.81N	146.77E	-56.	.091		
4/19/77	1355	10:27	431	35.71N	145.49E	-55.	.104		
4/19/77	1405	10:37	431	35.59N	144.18E	-55.	.130		
4/19/77	1410	10:42	431	35.53N	143.52E	-55.	.192		
4/19/77	1415	10:47	431	35.47N	142.88E	-54.	.220		
4/19/77	1420	10:52	431	35.39N	142.21E	-54.	.320		
4/19/77	1425	10:57	381	35.33N	141.56E	-50.	.322		


LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
HND TO JFK DEPARTURE 19 APR 77 PANAM -N533PA
450
410
370
330
290
250
FLIGHT LEVEL
1.0
0.8
0.6
0.4
0.2
0.0
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
ELAPSED TIME IN HOURS

HND TO JFK (PAGE 1 OF 1) DEPARTURE: 19 APR 77 AIRCRAFT: PANAM -N-33PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .840 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 82
DATA SOURCE: GASP TAPE VL010, FILE 2 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/19/77	1630	0:00	214	36.27N	141.01E	-29.	.035		
4/19/77	1640	0:10	338	37.26N	142.53E	-49.	.150		
4/19/77	1650	0:20	350	38.28N	144.17E	-50.	.189		
4/19/77	1700	0:30	349	39.28N	145.87E	-51.	.167		
4/19/77	1710	0:40	350	40.24N	147.60E	-52.	.166		
4/19/77	1715	0:45	350	40.71N	148.48E	-52.	.153		
4/19/77	1720	0:50	350	41.19N	149.39E	-51.	.177		
4/19/77	1725	0:55	350	41.66N	150.29E	-49.	.137		
4/19/77	1730	1:00	349	42.18N	151.16E	-49.	.172		
4/19/77	1740	1:10	350	43.17N	152.92E	-48.	.219		
4/19/77	1750	1:20	350	44.17N	154.78E	-46.	.236		
4/19/77	1800	1:30	350	45.16N	156.77E	-46.	.207		
4/19/77	1810	1:40	350	46.13N	158.83E	-47.	.386		
4/19/77	1815	1:45	350	46.60N	159.91E	-49.	.393		
4/19/77	1820	1:50	350	47.12N	160.99E	-52.	.188		
4/19/77	1825	1:55	370	47.63N	162.09E	-50.	.293		
4/19/77	1830	2:00	370	48.13N	163.20E	-53.	.183		
4/19/77	1840	2:10	370	49.08N	165.45E	-59.	.072		
4/19/77	1850	2:20	370	49.97N	167.78E	-58.	.053		
4/19/77	1900	2:30	370	50.79N	170.09E	-59.	.054		
4/19/77	1905	2:35	370	51.22N	171.19E	-59.	.028		
4/19/77	1910	2:40	369	51.79N	172.13E	-59.	.037		
4/19/77	1920	2:50	370	52.74N	174.36E	-59.	.040		
4/19/77	1925	2:55	370	53.16N	175.52E	-59.	.043		
4/19/77	1930	3:00	370	53.58N	176.72E	-59.	.039		
4/19/77	1935	3:05	370	53.98N	177.94E	-59.	.046		
4/19/77	1940	3:10	370	54.38N	179.16E	-59.	.041		
4/19/77	1950	3:20	370	55.13N	178.32W	-60.	.043		
4/19/77	2000	3:30	370	55.82N	175.71W	-60.	.046		
4/19/77	2011	3:41	370	56.55N	172.52W	-60.	.057		
4/19/77	2020A	3:50	369	57.05N	170.07W	-54.	.239		
4/19/77	2026	3:56	370	57.33N	168.78W	-55.	.358		
4/19/77	2036	4:06	370	57.82N	166.24W	-52.	.457		
4/19/77	2047	4:17	370	58.32N	163.28W	-49.	.269		
4/19/77	2057	4:27	370	58.54N	160.60W	-49.	.662		
4/19/77	2107	4:37	370	58.56N	157.87W	-51.	.647		
4/19/77	2117	4:47	370	58.76N	155.22W	-53.	.433		
4/19/77	2127	4:57	370	58.97N	152.56W	-56.	.325		
4/19/77	2132	5:02	370	59.06N	151.21W	-56.	.289		
4/19/77	2137	5:07	370	59.13N	149.86W	-62.	.294		
4/19/77	2142	5:12	370	59.19N	148.48W	-62.	.170		
4/19/77	2147	5:17	370	59.23N	147.09W	-62.	.103		
4/19/77	2157	5:27	370	59.02N	144.40W	-63.	.074		
4/19/77	2207	5:37	370	58.75N	141.75W	-64.	.100		
4/19/77	2227	5:57	390	58.11N	136.45W	-64.	.249		
4/19/77	2232	6:02	389	58.20N	135.11W	-60.	.373		
4/19/77	2237	6:07	390	58.01N	133.88W	-59.	.516		
4/19/77	2242	6:12	390	57.84N	132.61W	-60.	.616		
4/19/77	2247	6:17	390	57.63N	131.33W	-58.	.616		
4/19/77	2257	6:27	390	57.18N	128.81W	-55.	.701		
4/19/77	2307	6:37	390	56.68N	126.36W	-53.	.652		
4/19/77	2317	6:47	390	56.15N	124.00W	-51.	.784		
4/19/77	2322	6:52	390	55.87N	122.84W	-52.	.798		
4/19/77	2332	7:02	390	55.32N	120.53W	-50.	.797		
4/19/77	2337	7:07	390	55.09N	119.38W	-48.	.754		
4/19/77	2342	7:12	390	54.85N	118.25W	-48.	.840		
4/19/77	2347	7:17	390	54.66N	117.12W	-48.	.753		
4/19/77	2352	7:22	390	54.52N	115.93W	-48.	.790		
4/20/77	0002	7:32	390	54.23N	113.65W	-50.	.783		
4/20/77	0012	7:42	390	53.88N	111.35W	-48.	.530		
4/20/77	0022	7:52	390	53.48N	109.08W	-49.	.581		
4/20/77	0032	8:02	390	53.05N	106.86W	-49.	.697		
4/20/77	0037	8:07	390	52.82N	105.77W	-48.	.213		
4/20/77	0042	8:12	390	52.58N	104.70W	-48.	.129		
4/20/77	0047	8:17	390	52.33N	103.63W	-50.	.116		
4/20/77	0052	8:22	390	52.08N	102.58W	-50.	.107		
4/20/77	0102	8:32	390	51.54N	100.52W	-52.	.190		
4/20/77	0112	8:42	390	50.97N	98.51W	-56.	.121		
4/20/77	0142	9:12	390	49.60N	92.39W	-65.	.106		
4/20/77	0147	9:17	390	49.32N	91.42W	-64.	.100		
4/20/77	0152	9:22	390	49.00N	90.50W	-65.	.090		
4/20/77	0202	9:32	390	48.34N	88.73W	-64.	.190		
4/20/77	0212	9:42	390	47.67N	87.04W	-65.	.202		
4/20/77	0222	9:52	390	46.99N	85.40W	-63.	.197		
4/20/77	0232	10:02	390	46.14N	83.77W	-61.	.232		
4/20/77	0237	10:07	390	45.75N	83.03W	-63.	.255		
4/20/77	0242	10:12	390	45.38N	82.27W	-64.	.192		
4/20/77	0247	10:17	390	45.01N	81.53W	-65.	.100		
4/20/77	0252	10:22	390	44.62N	80.79W	-66.	.080		
4/20/77	0307	10:37	390	43.19N	78.88W	-66.	.062		
4/20/77	0317	10:47	385	42.64N	77.21W	-65.	.091		
4/20/77	0327	10:57	370	42.05N	75.53W	-62.	.090		


JFK TO HND DEPARTURE 20 APR 77 PANAM -N533PA
FLIGHT LEVEL
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290
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LATITUDE
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30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
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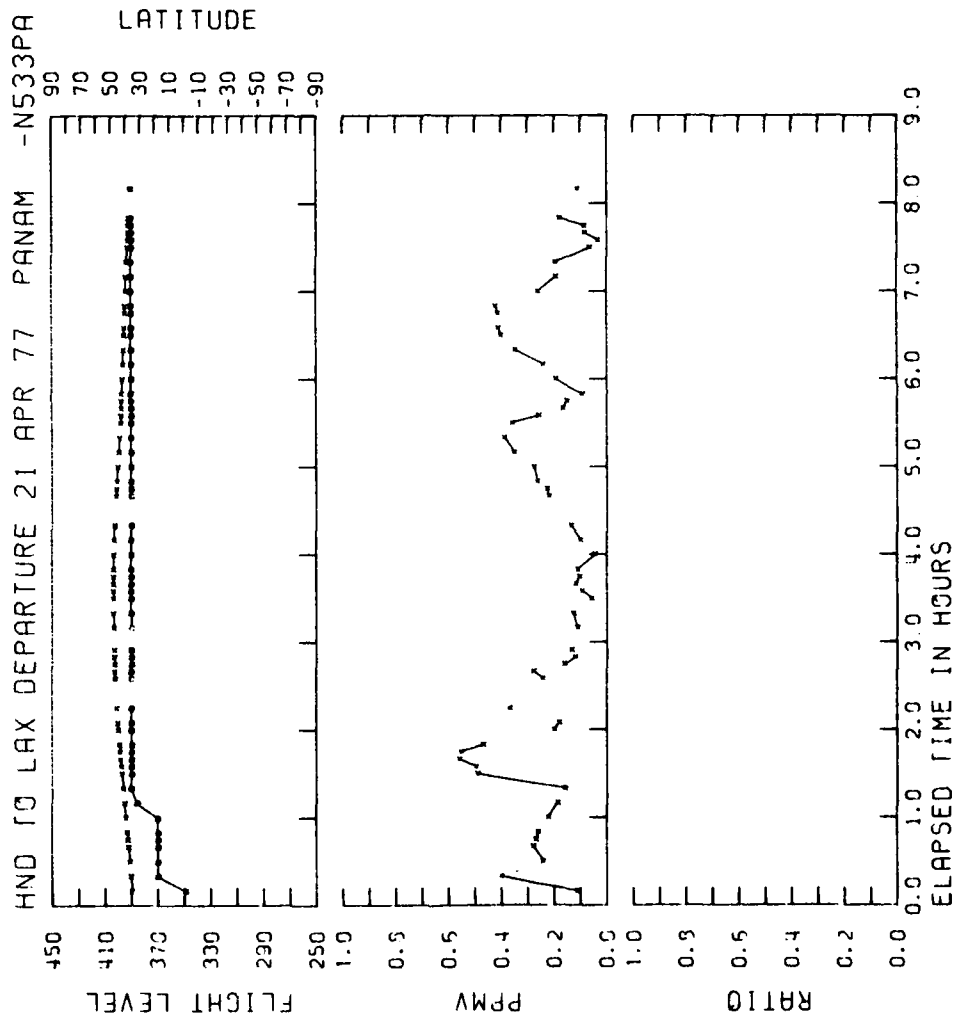
12.0
13.0
ELAPSED TIME IN HOURS

JFK TO HND (PAGE 1 OF 1) DEPARTURE: 20 APR 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .658 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 86
DATA SOURCE: GASP TAPE VL010, FILE 2 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

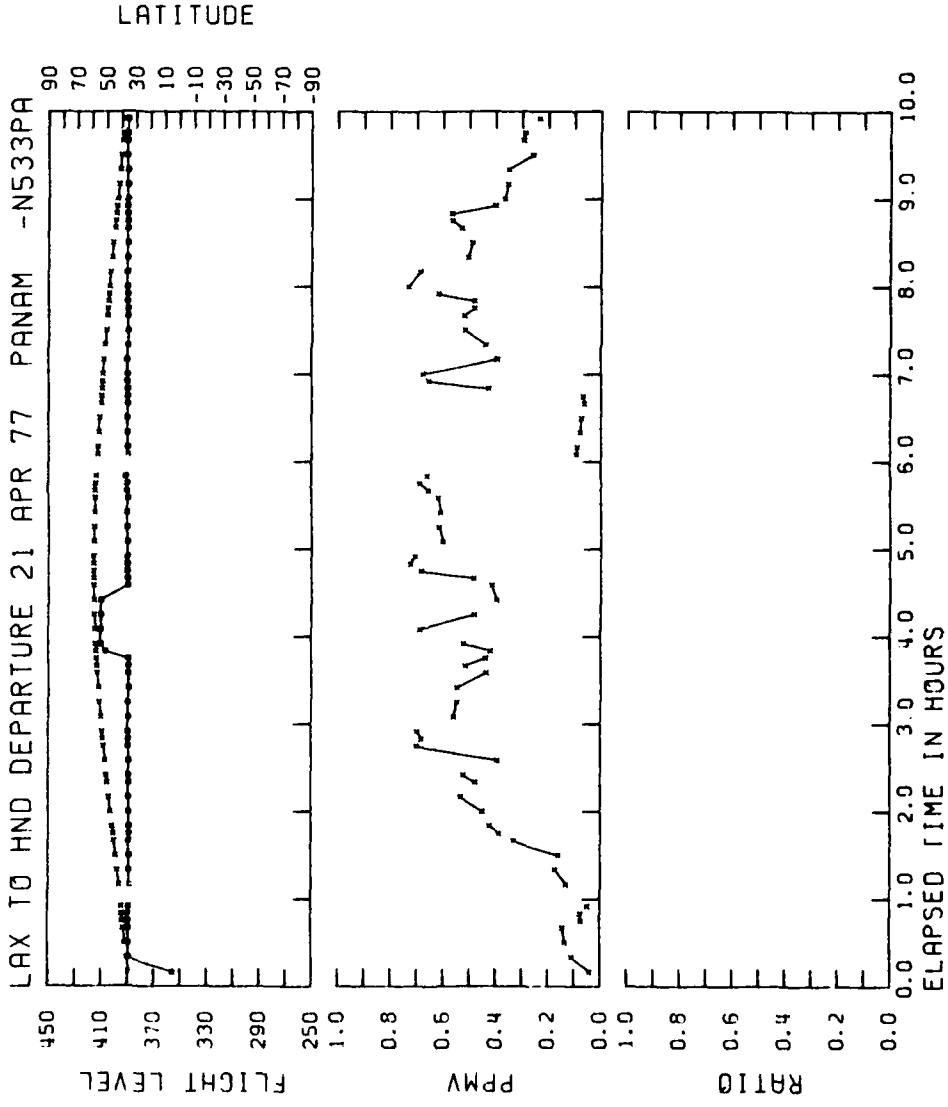
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	OZONE(PPMV) AMB.	RATIO
4/20/77	1810	0:10	311	41.92N	75.62W	-49.	.061		
4/20/77	1820	0:20	350	42.61N	77.02W	-59.	.055		
4/20/77	1830	0:30	350	43.38N	78.46W	-58.	.065		
4/20/77	1850	0:50	350	44.87N	81.39W	-58.	.108		
4/20/77	1855	0:55	350	45.22N	82.13W	-57.	.083		
4/20/77	1905	1:05	350	45.91N	83.62W	-56.	.068		
4/20/77	1915	1:15	350	46.58N	85.17W	-56.	.054		
4/20/77	1925	1:25	350	47.28N	86.65W	-55.	.055		
4/20/77	1935	1:35	350	48.08N	88.01W	-56.	.051		
4/20/77	1940	1:40	350	48.49N	88.72W	-57.	.053		
4/20/77	1945	1:45	350	48.88N	89.43W	-57.	.084		
4/20/77	1950	1:50	350	49.27N	90.15W	-57.	.045		
4/20/77	1955	1:55	350	49.66N	90.89W	-57.	.050		
4/20/77	2005	2:05	350	50.43N	92.41W	-57.	.047		
4/20/77	2015	2:15	350	51.17N	93.98W	-57.	.043		
4/20/77	2025	2:25	350	51.90N	95.59W	-57.	.050		
4/20/77	2035	2:35	350	52.59N	97.23W	-53.	.158		
4/20/77	2040	2:40	350	52.92N	98.05W	-55.	.267		
4/20/77	2045	2:45	350	53.25N	98.92W	-51.	.373		
4/20/77	2050	2:50	350	53.60N	99.85W	-49.	.492		
4/20/77	2055	2:55	350	53.94N	100.80W	-47.	.507		
4/20/77	2105	3:05	350	54.63N	102.81W	-48.	.557		
4/20/77	2115	3:15	370	55.27N	104.87W	-47.	.639		
4/20/77	2125	3:25	370	55.87N	106.99W	-47.	.658		
4/20/77	2135	3:35	370	56.45N	109.23W	-48.	.587		
4/20/77	2140	3:40	370	56.73N	110.38W	-48.	.628		
4/20/77	2145	3:45	370	56.99N	111.53W	-48.	.531		
4/20/77	2150	3:50	370	57.24N	112.70W	-48.	.594		
4/20/77	2155	3:55	370	57.48N	113.89W	-48.	.575		
4/20/77	2205	4:05	370	57.93N	116.31W	-49.	.577		
4/20/77	2215	4:15	370	58.33N	118.78W	-51.	.587		
4/20/77	2235	4:35	371	58.97N	123.82W	-54.	.536		
4/20/77	2240	4:40	390	59.08N	125.02W	-55.	.606		
4/20/77	2245	4:45	390	59.18N	126.30W	-57.	.593		
4/20/77	2250	4:50	389	59.27N	127.60W	-56.	.635		
4/20/77	2255	4:55	390	59.34N	128.91W	-60.	.442		
4/20/77	2305	5:05	390	59.46N	131.43W	-62.	.305		
4/20/77	2315	5:15	390	59.53N	133.95W	-62.	.182		
4/20/77	2325	5:25	390	59.55N	136.47W	-63.	.178		
4/20/77	2335	5:35	389	59.53N	138.91W	-63.	.174		
4/20/77	2340	5:40	389	59.58N	140.14W	-62.	.226		
4/20/77	2345	5:45	389	59.75N	141.37W	-58.	.305		
4/20/77	2350	5:50	390	59.91N	142.63W	-58.	.299		
4/20/77	2355	5:55	390	60.05N	143.90W	-58.	.305		
4/21/77	0005	6:05	389	60.31N	146.46W	-60.	.331		
4/21/77	0015	6:15	390	60.52N	149.10W	-56.	.442		
4/21/77	0025	6:25	389	60.68N	151.82W	-55.	.438		
4/21/77	0035	6:35	389	60.78N	154.54W	-51.	.407		
4/21/77	0040	6:40	389	60.81N	155.90W	-51.	.439		
4/21/77	0045	6:45	389	60.83N	157.25W	-51.	.383		
4/21/77	0050	6:50	389	60.83N	158.61W	-49.	.488		
4/21/77	0055	6:55	390	60.82N	159.97W	-47.	.519		
4/21/77	0105	7:05	390	60.69N	162.67W	-47.	.263		
4/21/77	0115	7:15	390	60.38N	165.28W	-46.	.378		
4/21/77	0125	7:25	389	60.03N	167.75W	-46.	.270		
4/21/77	0133	7:33	389	59.74N	169.55W	-44.	.242		
4/21/77	0138	7:38	390	59.50N	170.95W	-45.	.278		
4/21/77	0148	7:48	389	59.05N	173.29W	-44.	.311		
4/21/77	0158	7:58	389	58.57N	175.54W	-43.	.345		
4/21/77	0208	8:08	390	58.05N	177.72W	-45.	.347		
4/21/77	0218	8:18	389	57.49N	179.84W	-44.	.353		
4/21/77	0223	8:23	389	57.21N	179.14E	-44.	.316		
4/21/77	0229	8:29	392	56.90N	178.11E	-44.	.389		
4/21/77	0243	8:43	410	55.99N	175.24E	-45.	.320		
4/21/77	0253	8:53	411	55.33N	173.38E	-47.	.245		
4/21/77	0303	9:03	411	54.66N	171.63E	-48.	.327		
4/21/77	0309	9:09	411	54.25N	170.60E	-46.	.318		
4/21/77	0322	9:22	411	53.46N	168.41E	-47.	.372		
4/21/77	0343	9:43	410	52.06N	164.67E	-47.	.291		
4/21/77	0353	9:53	411	51.36N	162.99E	-47.	.372		
4/21/77	0404	10:04	411	50.53N	161.13E	-46.	.312		
4/21/77	0414	10:14	411	49.78N	159.57E	-43.	.371		
4/21/77	0426	10:26	411	48.93N	157.91E	-42.	.330		
4/21/77	0441	10:41	410	47.71N	155.74E	-46.	.388		
4/21/77	0449	10:49	411	47.11N	154.72E	-48.	.300		
4/21/77	0455	10:55	411	46.63N	153.94E	-47.	.234		
4/21/77	0513	11:13	411	45.13N	151.63E	-45.	.145		
4/21/77	0523	11:23	411	44.26N	150.36E	-46.	.327		
4/21/77	0530	11:30	411	43.69N	149.43E	-46.	.257		
4/21/77	0540	11:40	411	42.91N	148.07E	-47.	.350		
4/21/77	0550A	11:50	411	42.04N	146.63E	-46.	.337		
4/21/77	0556	11:56	411	41.62N	145.95E	-48.	.305		
4/21/77	0606	12:06	411	40.83N	144.72E	-52.	.280		
4/21/77	0616	12:16	411	40.02N	143.51E	-55.	.116		
4/21/77	0621	12:21	411	39.62N	142.93E	-55.	.089		
4/21/77	0641	12:41	411	37.90N	140.77E	-55.	.037		


HND TO LAX DEPARTURE 21 APR 77 PANAM -N533PA
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
FLIGHT LEVEL
450
410
370
330
290
250
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
ELAPSED TIME IN HOURS

HND TO LAX (PAGE 1 OF 1) DEPARTURE: 21 APR 77 AIRCRAFT: PANAM -N 33PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .559 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 59
DATA SOURCE: GASP TAPE VL010, FILE 2

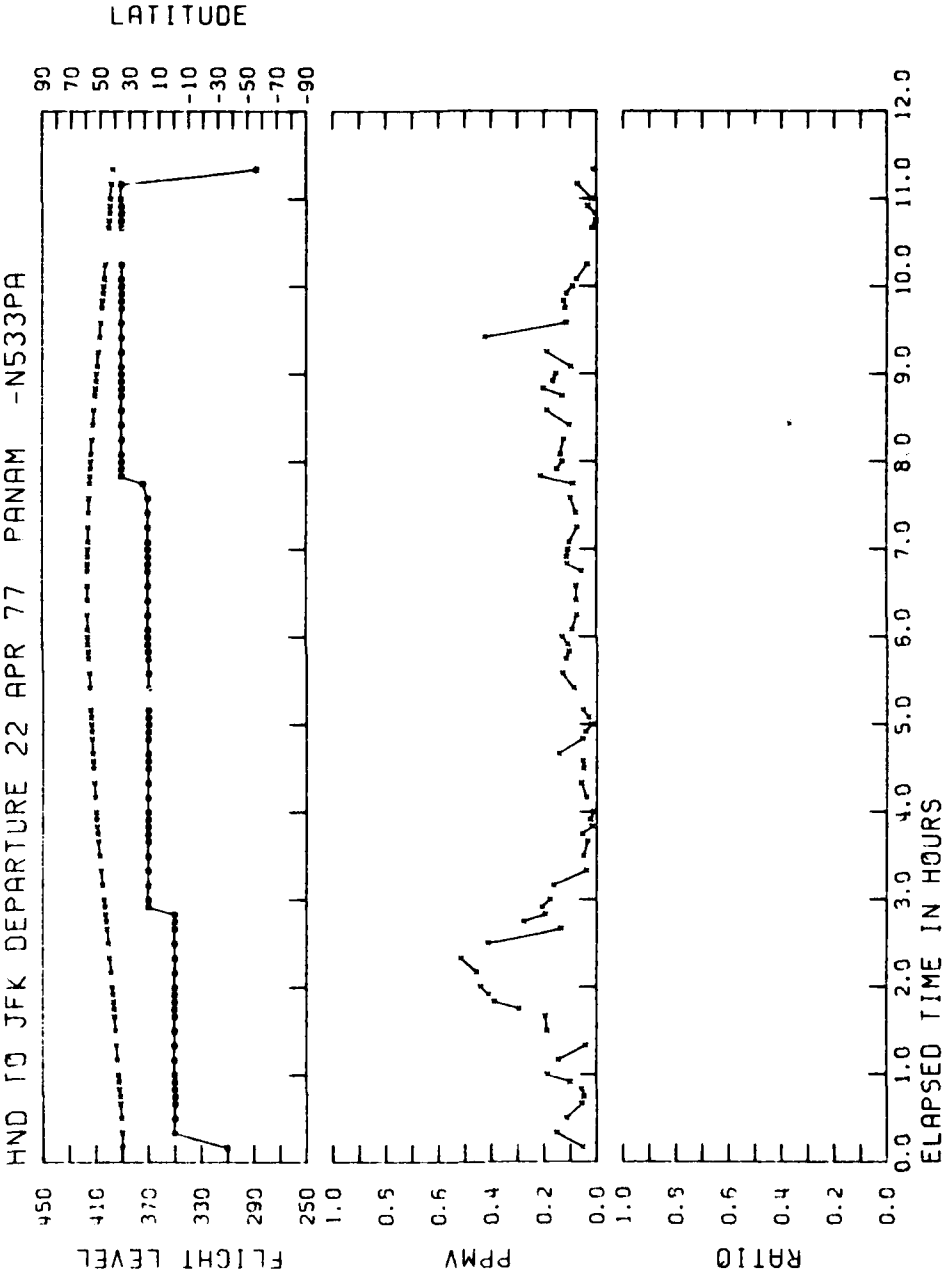
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/21/77	1039	0:10	349	35.58N	142.63E	-54.	.111		
4/21/77	1049	0:20	370	36.38N	144.20E	-54.	.401		
4/21/77	1059	0:30	370	37.17N	145.84E	-55.	.242		
4/21/77	1109	0:40	370	37.95N	147.53E	-54.	.278		
4/21/77	1114	0:45	370	38.33N	148.39E	-52.	.268		
4/21/77	1121	0:52	370	38.84N	149.58E	-53.	.259		
4/21/77	1131	1:02	370	39.76N	151.28E	-51.	.221		
4/21/77	1141	1:12	386	40.69N	152.97E	-52.	.187		
4/21/77	1151	1:22	390	41.63N	154.76E	-52.	.157		
4/21/77	1201	1:32	390	42.54N	156.61E	-50.	.490		
4/21/77	1206	1:37	390	42.98N	157.55E	-49.	.495		
4/21/77	1211	1:42	390	43.41N	158.50E	-50.	.559		
4/21/77	1216	1:47	390	43.83N	159.45E	-49.	.553		
4/21/77	1221	1:52	390	44.23N	160.43E	-52.	.468		
4/21/77	1231	2:02	390	44.95N	162.52E	-52.	.199		
4/21/77	1236	2:07	390	45.29N	163.59E	-52.	.179		
4/21/77	1246	2:17	390	45.95N	165.73E	-54.	.367		
4/21/77	1306	2:37	390	47.14N	170.19E	-57.	.242		
4/21/77	1311	2:42	390	47.31N	171.38E	-58.	.276		
4/21/77	1316	2:47	390	47.46N	172.57E	-59.	.161		
4/21/77	1321	2:52	390	47.61N	173.75E	-59.	.120		
4/21/77	1326	2:57	390	47.74N	174.93E	-62.	.132		
4/21/77	1341	3:12	390	48.06N	178.49E	-58.	.111		
4/21/77	1351	3:22	390	48.20N	179.05W	-61.	.126		
4/21/77	1401	3:32	390	48.27N	176.58W	-63.	.058		
4/21/77	1406	3:37	390	48.28N	175.35W	-63.	.093		
4/21/77	1411	3:42	390	48.29N	174.11W	-62.	.117		
4/21/77	1416	3:47	390	48.27N	172.87W	-62.	.102		
4/21/77	1421	3:52	390	48.25N	171.64W	-62.	.109		
4/21/77	1431	4:02	390	48.11N	169.21W	-61.	.044		
4/21/77	1441	4:12	390	47.73N	166.86W	-60.	.099		
4/21/77	1451	4:22	390	47.30N	164.54W	-59.	.136		
4/21/77	1511	4:42	390	46.30N	159.98W	-59.	.219		
4/21/77	1516	4:47	390	46.02N	158.85W	-58.	.226		
4/21/77	1521	4:52	390	45.74N	157.74W	-58.	.264		
4/21/77	1531	5:02	390	45.14N	155.57W	-57.	.275		
4/21/77	1541	5:12	390	44.51N	153.46W	-56.	.351		
4/21/77	1551	5:22	390	43.85N	151.39W	-55.	.387		
4/21/77	1601	5:32	390	43.19N	149.39W	-55.	.358		
4/21/77	1606	5:37	390	43.04N	148.37W	-56.	.256		
4/21/77	1611	5:42	390	42.88N	147.36W	-56.	.166		
4/21/77	1616	5:47	390	42.70N	146.37W	-55.	.150		
4/21/77	1621	5:52	390	42.51N	145.33W	-54.	.094		
4/21/77	1631	6:02	390	42.10N	143.26W	-53.	.192		
4/21/77	1641	6:12	390	41.66N	141.29W	-53.	.241		
4/21/77	1651	6:22	390	41.21N	139.38W	-55.	.347		
4/21/77	1701	6:32	390	40.89N	137.44W	-54.	.401		
4/21/77	1706	6:37	390	40.72N	136.48W	-53.	.410		
4/21/77	1716	6:47	390	40.36N	134.60W	-55.	.412		
4/21/77	1721	6:52	390	40.17N	133.69W	-55.	.421		
4/21/77	1731	7:02	390	39.78N	131.90W	-58.	.259		
4/21/77	1741	7:12	390	39.37N	130.13W	-62.	.191		
4/21/77	1751	7:22	390	38.92N	128.37W	-64.	.193		
4/21/77	1801	7:32	390	38.44N	126.68W	-67.	.065		
4/21/77	1806	7:37	390	38.20N	125.86W	-67.	.034		
4/21/77	1811	7:42	390	38.05N	124.99W	-67.	.083		
4/21/77	1816	7:47	390	37.92N	124.15W	-66.	.085		
4/21/77	1821	7:52	390	37.63N	123.37W	-66.	.179		
4/21/77	1841	8:12	390	36.30N	120.43W	-67.	.111		


LAX TO HND DEPARTURE 21 APR 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0
ELAPSED TIME IN HOURS

LAX TO HNO (PAGE 1 OF 1) DEPARTURE: 21 APR 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .732 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 75
DATA SOURCE: GASP TAPE VL010, FILE 2

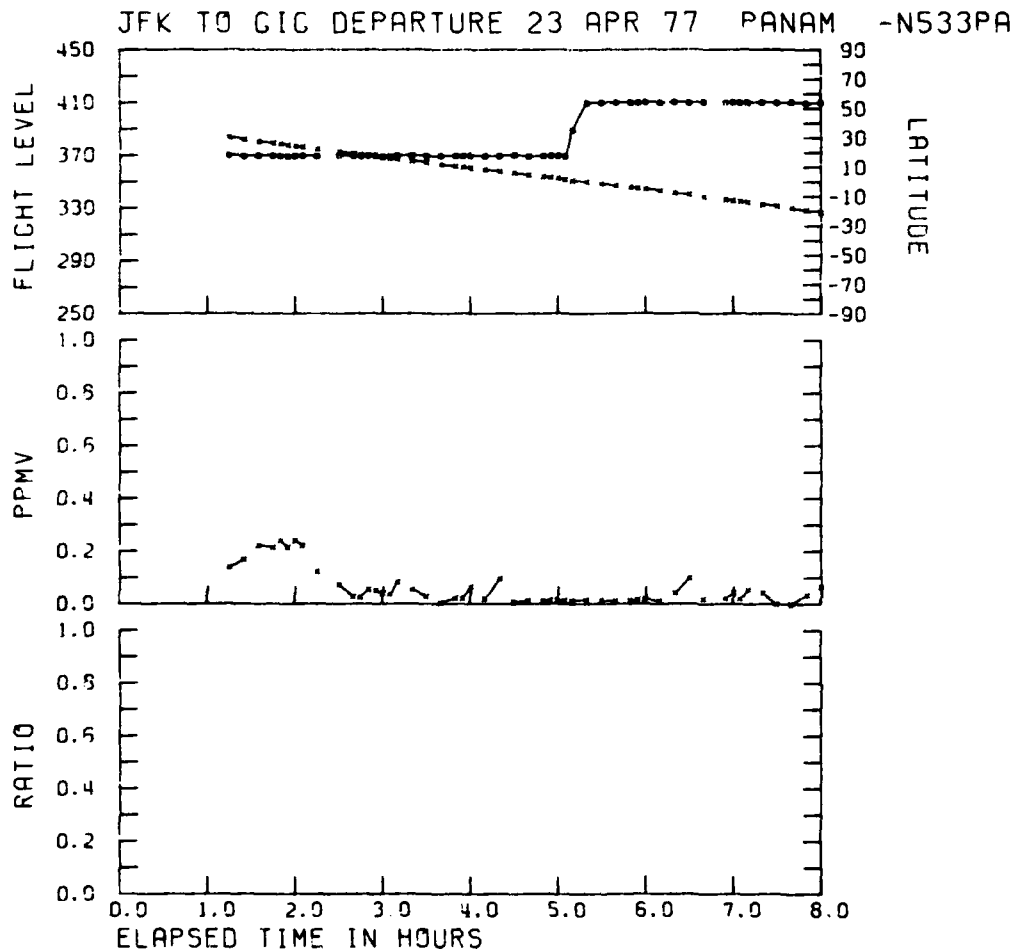
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/21/77	2231	0:10	356	35.30N	120.34W	-59.	.041		
4/21/77	2241	0:20	389	36.42N	121.14W	-66.	.109		
4/21/77	2251	0:30	389	37.54N	122.02W	-66.	.134		
4/21/77	2301	0:40	389	38.65N	122.93W	-65.	.142		
4/21/77	2306	0:45	389	39.21N	123.40W	-66.	.073		
4/21/77	2311	0:50	390	39.77N	123.88W	-67.	.076		
4/21/77	2316	0:55	389	40.33N	124.38W	-67.	.050		
4/21/77	2331	1:10	389	42.03N	125.93W	-66.	.132		
4/21/77	2341	1:20	389	43.15N	127.01W	-63.	.172		
4/21/77	2351	1:30	389	44.29N	128.16W	-60.	.160		
4/22/77	0001	1:40	389	45.42N	129.36W	-57.	.331		
4/22/77	0006	1:45	389	45.98N	129.98W	-56.	.387		
4/22/77	0012	1:51	389	46.65N	130.77W	-56.	.423		
4/22/77	0022	2:01	389	47.73N	132.11W	-53.	.449		
4/22/77	0032	2:11	389	48.82N	133.55W	-50.	.531		
4/22/77	0042	2:21	389	49.88N	135.02W	-51.	.476		
4/22/77	0047	2:26	389	50.40N	135.80W	-49.	.520		
4/22/77	0057	2:36	389	51.44N	137.39W	-49.	.393		
4/22/77	0107	2:46	390	52.45N	139.05W	-50.	.699		
4/22/77	0112	2:51	389	52.95N	139.91W	-52.	.681		
4/22/77	0117	2:56	390	53.40N	140.83W	-51.	.696		
4/22/77	0127	3:06	389	54.26N	142.74W	-53.	.559		
4/22/77	0137	3:16	390	55.09N	144.73W	-54.	.545		
4/22/77	0147	3:26	389	55.88N	146.75W	-54.	.546		
4/22/77	0157	3:36	389	56.62N	148.85W	-55.	.435		
4/22/77	0202	3:41	389	56.98N	149.93W	-54.	.514		
4/22/77	0207	3:46	389	57.26N	151.06W	-53.	.437		
4/22/77	0212	3:51	407	57.53N	152.20W	-52.	.418		
4/22/77	0217	3:56	410	57.78N	153.36W	-50.	.521		
4/22/77	0227	4:06	410	58.26N	155.70W	-50.	.686		
4/22/77	0237	4:16	410	58.69N	158.06W	-50.	.480		
4/22/77	0247	4:26	410	59.02N	160.50W	-48.	.397		
4/22/77	0257	4:36	390	59.08N	163.03W	-48.	.414		
4/22/77	0302	4:41	390	59.09N	164.26W	-48.	.483		
4/22/77	0307	4:46	390	59.09N	165.48W	-47.	.682		
4/22/77	0312	4:51	390	59.08N	166.70W	-47.	.723		
4/22/77	0317	4:56	390	59.06N	167.92W	-48.	.707		
4/22/77	0327	5:06	390	58.96N	170.37W	-48.	.602		
4/22/77	0337	5:16	390	58.67N	172.71W	-52.	.615		
4/22/77	0347	5:26	390	58.35N	174.93W	-51.	.610		
4/22/77	0357	5:36	390	57.98N	177.19W	-48.	.618		
4/22/77	0402	5:41	390	57.78N	178.30W	-49.	.656		
4/22/77	0407	5:46	390	57.57N	179.41W	-47.	.688		
4/22/77	0412	5:51	391	57.31N	179.52E	-48.	.660		
4/22/77	0427	6:06	390	56.40N	176.50E	-45.	.095		
4/22/77	0432	6:11	390	56.08N	175.52E	-44.	.091		
4/22/77	0442	6:21	390	55.41N	173.62E	-43.	.079		
4/22/77	0452	6:31	390	54.72N	171.78E	-43.	.073		
4/22/77	0502	6:41	390	54.00N	169.99E	-43.	.065		
4/22/77	0507	6:46	390	53.68N	169.05E	-42.	.069		
4/22/77	0512	6:51	390	53.36N	168.11E	-43.	.426		
4/22/77	0517	6:56	390	53.03N	167.20E	-43.	.654		
4/22/77	0522	7:01	390	52.70N	166.30E	-44.	.676		
4/22/77	0532	7:11	390	52.01N	164.54E	-44.	.392		
4/22/77	0542	7:21	390	51.30N	162.85E	-45.	.439		
4/22/77	0552	7:31	390	50.56N	161.20E	-45.	.517		
4/22/77	0602	7:41	390	49.79N	159.58E	-45.	.520		
4/22/77	0607	7:46	390	49.39N	158.80E	-43.	.481		
4/22/77	0612	7:51	390	48.99N	158.03E	-45.	.481		
4/22/77	0617	7:56	390	48.57N	157.27E	-46.	.618		
4/22/77	0622	8:01	390	48.16N	156.51E	-46.	.732		
4/22/77	0632	8:11	390	47.30N	155.04E	-46.	.687		
4/22/77	0642	8:21	390	46.44N	153.64E	-48.	.505		
4/22/77	0652	8:31	390	45.57N	152.28E	-48.	.488		
4/22/77	0702	8:41	390	44.67N	150.96E	-49.	.531		
4/22/77	0707	8:46	390	44.22N	150.31E	-51.	.566		
4/22/77	0712	8:51	390	43.77N	149.66E	-52.	.568		
4/22/77	0717	8:56	390	43.31N	149.02E	-51.	.401		
4/22/77	0722	9:01	390	42.86N	148.38E	-53.	.369		
4/22/77	0732	9:11	390	41.95N	147.16E	-55.	.355		
4/22/77	0742	9:21	390	41.04N	145.99E	-57.	.353		
4/22/77	0752	9:31	390	40.13N	144.84E	-55.	.258		
4/22/77	0802	9:41	390	39.22N	143.70E	-54.	.295		
4/22/77	0807	9:46	390	38.76N	143.13E	-53.	.288		
4/22/77	0820	9:59	390	37.55N	141.78E	-54.	.235		


HND TO JFK DEPARTURE 22 APR 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0
ELAPSED TIME IN HOURS

HND TO JFK (PAGE 1 OF 1) DEPARTURE: 22 APR 77 AIRCRAFT: PANAM -N633PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .516 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 89
DATA SOURCE: GASP TAPE VL010, FILE 2

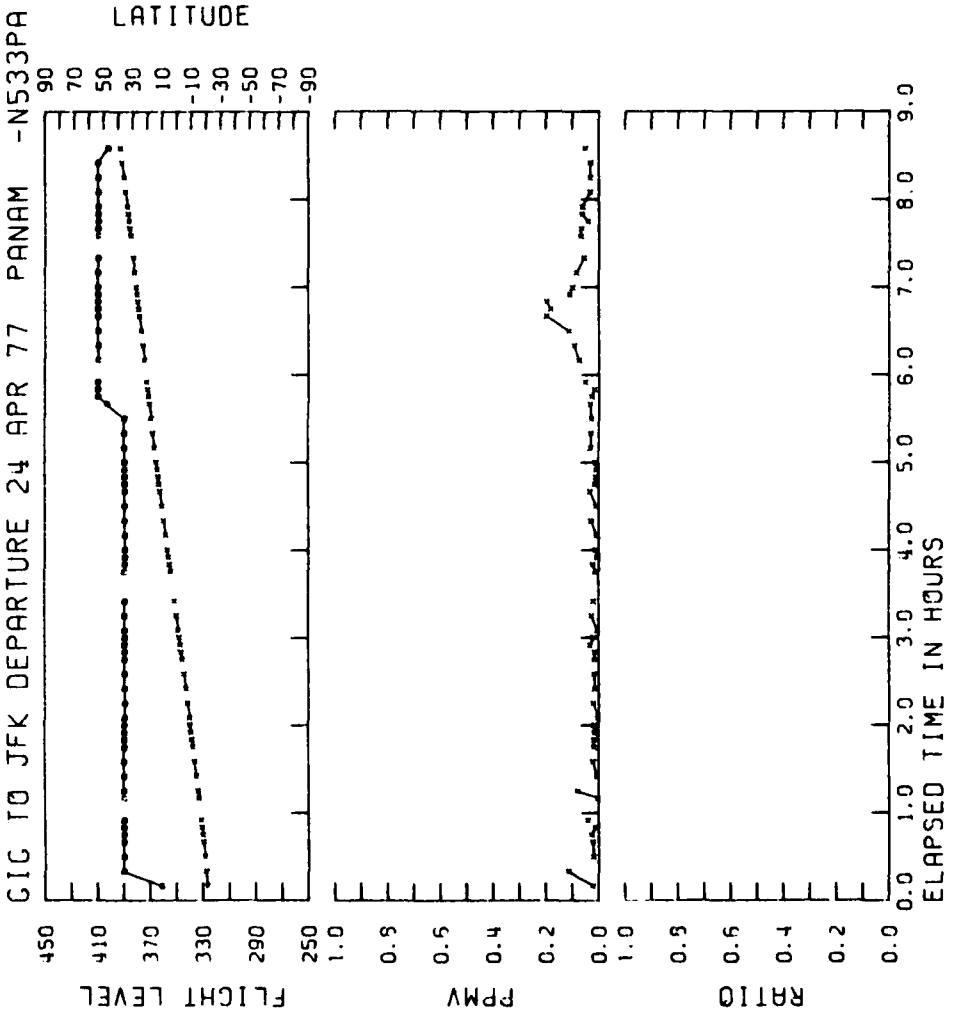
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/22/77	1223	0:10	310	35.92N	142.44E	-51.	.054		
4/22/77	1233	0:20	350	36.13N	144.17E	-55.	.153		
4/22/77	1243	0:30	350	36.73N	145.90E	-61.	.116		
4/22/77	1253	0:40	350	37.28N	147.59E	-61.	.058		
4/22/77	1258	0:45	350	37.55N	148.46E	-62.	.051		
4/22/77	1303	0:50	350	37.81N	149.33E	-61.	.058		
4/22/77	1308	0:55	350	38.09N	150.17E	-62.	.102		
4/22/77	1313	1:00	350	38.45N	150.96E	-61.	.187		
4/22/77	1323	1:10	350	39.17N	152.58E	-57.	.146		
4/22/77	1333	1:20	350	39.87N	154.23E	-57.	.043		
4/22/77	1343	1:30	350	40.55N	155.93E	-52.	.169		
4/22/77	1353	1:40	350	41.21N	157.70E	-51.	.196		
4/22/77	1358	1:45	350	41.54N	158.61E	-50.	.296		
4/22/77	1403	1:50	350	41.86N	159.55E	-48.	.390		
4/22/77	1408	1:55	350	42.27N	160.41E	-49.	.412		
4/22/77	1413	2:00	350	42.74N	161.23E	-47.	.441		
4/22/77	1423	2:10	350	43.67N	162.94E	-46.	.457		
4/22/77	1433	2:20	350	44.58N	164.71E	-46.	.516		
4/22/77	1443	2:30	350	45.47N	166.52E	-46.	.413		
4/22/77	1453	2:40	350	46.34N	168.44E	-47.	.136		
4/22/77	1458	2:45	350	46.76N	169.40E	-48.	.278		
4/22/77	1503	2:50	350	47.25N	170.36E	-50.	.195		
4/22/77	1508	2:55	370	47.79N	171.30E	-47.	.207		
4/22/77	1513	3:00	370	48.31N	172.23E	-48.	.178		
4/22/77	1523	3:10	370	49.32N	174.13E	-48.	.164		
4/22/77	1533	3:20	370	50.31N	176.15E	-49.	.039		
4/22/77	1543	3:30	370	51.26N	178.25E	-50.	.050		
4/22/77	1553	3:40	370	52.15N	179.56W	-49.	.034		
4/22/77	1558	3:45	370	52.54N	178.44W	-49.	.056		
4/22/77	1603	3:50	370	52.92N	177.30W	-49.	.017		
4/22/77	1608	3:55	370	53.29N	176.15W	-50.	.025		
4/22/77	1613	4:00	370	53.65N	174.96W	-52.	.011		
4/22/77	1623	4:10	370	54.33N	172.55W	-54.	.040		
4/22/77	1633	4:20	370	54.95N	170.14W	-55.	.059		
4/22/77	1643	4:30	370	55.54N	167.67W	-57.	.051		
4/22/77	1648	4:35	370	55.81N	166.42W	-57.	.054		
4/22/77	1653	4:40	370	56.06N	165.17W	-56.	.143		
4/22/77	1703	4:50	370	56.53N	162.65W	-58.	.054		
4/22/77	1708	4:55	370	56.80N	161.42W	-58.	.043		
4/22/77	1713	5:00	370	57.06N	160.18W	-57.	.019		
4/22/77	1718	5:05	370	57.31N	158.94W	-57.	.032		
4/22/77	1723	5:10	370	57.54N	157.73W	-57.	.053		
4/22/77	1738	5:25	370	58.17N	153.96W	-55.	.089		
4/22/77	1748	5:35	370	58.52N	151.41W	-55.	.131		
4/22/77	1758	5:45	370	58.82N	148.85W	-56.	.119		
4/22/77	1803	5:50	370	58.95N	147.55W	-58.	.107		
4/22/77	1808	5:55	370	59.07N	146.22W	-58.	.112		
4/22/77	1813	6:00	370	59.17N	144.89W	-59.	.130		
4/22/77	1818	6:05	370	59.26N	143.57W	-60.	.093		
4/22/77	1826	6:15	370	59.39N	140.91W	-61.	.074		
4/22/77	1838	6:25	370	59.43N	138.23W	-60.	.078		
4/22/77	1848	6:35	370	59.40N	135.61W	-60.	.078		
4/22/77	1858	6:45	370	59.32N	133.01W	-61.	.058		
4/22/77	1903	6:50	370	59.26N	131.71W	-60.	.112		
4/22/77	1908	6:55	370	59.19N	130.41W	-61.	.114		
4/22/77	1913	7:00	370	59.11N	129.11W	-61.	.109		
4/22/77	1918	7:05	370	59.02N	127.81W	-60.	.103		
4/22/77	1928	7:15	370	58.78N	125.17W	-61.	.074		
4/22/77	1938	7:25	370	58.48N	122.52W	-60.	.080		
4/22/77	1948	7:35	370	58.12N	119.88W	-59.	.100		
4/22/77	1958	7:45	374	57.70N	117.30W	-58.	.091		
4/22/77	2003	7:50	390	57.47N	116.03W	-59.	.213		
4/22/77	2008	7:55	390	57.23N	114.79W	-58.	.152		
4/22/77	2013	8:00	390	56.98N	113.57W	-57.	.131		
4/22/77	2018	8:05	390	56.72N	112.36W	-55.	.139		
4/22/77	2028	8:15	390	56.16N	110.00W	-55.	.126		
4/22/77	2038	8:25	390	55.55N	107.67W	-52.	.105		
4/22/77	2048	8:35	390	54.88N	105.38W	-51.	.189		
4/22/77	2058	8:45	390	54.17N	103.17W	-51.	.132		
4/22/77	2103	8:50	390	53.79N	102.07W	-51.	.204		
4/22/77	2108	8:55	390	53.40N	101.01W	-50.	.167		
4/22/77	2113	9:00	390	53.00N	99.96W	-51.	.155		
4/22/77	2118	9:05	390	52.59N	98.92W	-54.	.099		
4/22/77	2128	9:15	390	51.75N	96.90W	-53.	.189		
4/22/77	2138	9:25	390	50.98N	94.85W	-53.	.425		
4/22/77	2148	9:35	390	50.23N	92.82W	-57.	.115		
4/22/77	2158	9:45	390	49.45N	90.86W	-58.	.121		
4/22/77	2203	9:50	390	49.05N	89.90W	-57.	.126		
4/22/77	2208	9:55	390	48.63N	88.95W	-58.	.116		
4/22/77	2213	10:00	390	48.22N	88.03W	-59.	.093		
4/22/77	2218	10:05	390	47.81N	87.15W	-63.	.077		
4/22/77	2228	10:15	390	46.97N	85.45W	-64.	.037		
4/22/77	2253	10:40	390	44.88N	81.41W	-65.	.019		
4/22/77	2258	10:45	390	44.51N	80.59W	-65.	.005		
4/22/77	2303	10:50	390	44.14N	79.76W	-65.	.008		
4/22/77	2308	10:55	390	43.75N	78.94W	-64.	.035		
4/22/77	2313	11:00	390	43.36N	78.12W	-63.	.019		
4/22/77	2323	11:10	390	42.48N	76.62W	-63.	.073		
4/22/77	2333	11:20	288	41.71N	74.96W	-36.	.012		


JFK TO GIC DEPARTURE 23 APR 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
ELAPSED TIME IN HOURS

JFK TO GIG (PAGE 1 OF 1) DEPARTURE: 23 APR 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .241 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 51
DATA SOURCE: GASP TAPE VL010, FILE 2

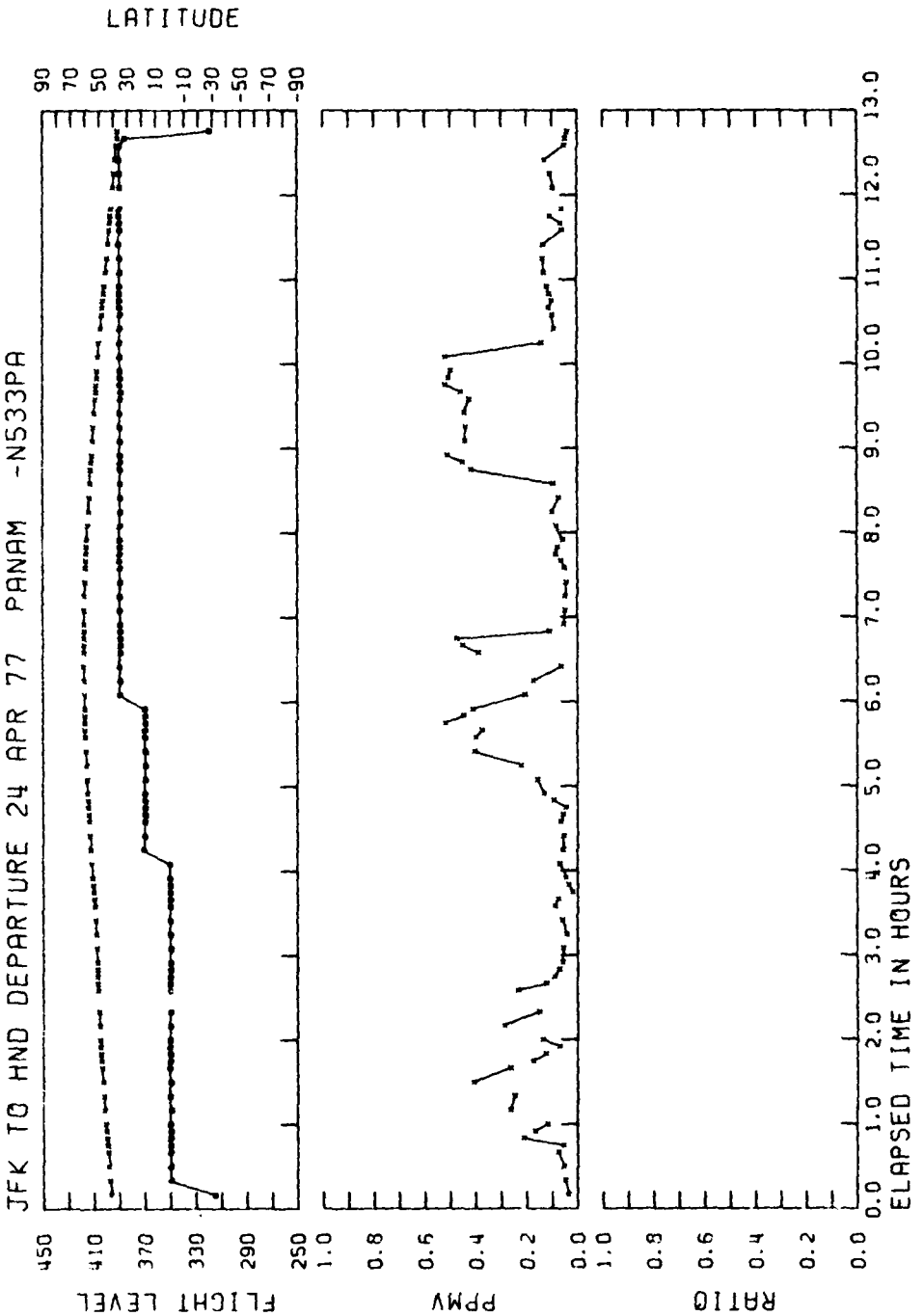
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/23/77	0408	1:15	370	30.33N	67.46W	-57.	.139		
4/23/77	0418	1:25	369	29.04N	66.84W	-59.	.169		
4/23/77	0428	1:35	370	27.76N	66.25W	-58.	.222		
4/23/77	0438	1:45	370	26.46N	65.66W	-57.	.215		
4/23/77	0443	1:50	369	25.82N	65.37W	-56.	.240		
4/23/77	0448	1:55	370	25.17N	65.08W	-55.	.215		
4/23/77	0453	2:00	370	24.51N	64.80W	-54.	.241		
4/23/77	0458	2:05	370	23.83N	64.50W	-53.	.222		
4/23/77	0508	2:15	370	22.50N	63.94W	-52.	.122		
4/23/77	0523	2:30	370	20.54N	63.13W	-55.	.072		
4/23/77	0533	2:40	370	19.23N	62.61W	-54.	.028		
4/23/77	0538	2:45	370	18.59N	62.35W	-54.	.026		
4/23/77	0543	2:50	370	17.94N	62.09W	-53.	.055		
4/23/77	0548	2:55	370	17.29N	61.84W	-50.	.051		
4/23/77	0553	3:00	369	16.67N	61.51W	-50.	.041		
4/23/77	0558	3:05	370	16.06N	61.16W	-51.	.037		
4/23/77	0603	3:10	370	15.45N	60.81W	-51.	.083		
4/23/77	0613	3:20	370	14.23N	60.13W	-51.	.054		
4/23/77	0623	3:30	370	13.17N	59.39W	-50.	.028		
4/23/77	0633	3:40	370	11.83N	58.73W	-49.	.005		
4/23/77	0643	3:50	370	10.65N	58.02W	-49.	.022		
4/23/77	0648	3:55	370	10.06N	57.68W	-49.	.022		
4/23/77	0653	4:00	370	9.48N	57.33W	-49.	.066		
4/23/77	0703	4:10	369	8.34N	56.70W	-49.	.020		
4/23/77	0713	4:20	370	7.18N	56.10W	-50.	.096		
4/23/77	0723	4:30	370	6.01N	55.50W	-50.	.009		
4/23/77	0733	4:40	369	4.80N	54.96W	-49.	.014		
4/23/77	0743	4:50	370	3.57N	54.46W	-49.	.013		
4/23/77	0748	4:55	370	2.94N	54.21W	-49.	.014		
4/23/77	0753	5:00	370	2.30N	53.96W	-49.	.013		
4/23/77	0758	5:05	369	1.68N	53.69W	-48.	.014		
4/23/77	0803	5:10	389	1.05N	53.43W	-54.	.015		
4/23/77	0813	5:20	410	.15S	52.91W	-60.	.015		
4/23/77	0823	5:30	410	1.35S	52.40W	-60.	.015		
4/23/77	0833	5:40	410	2.58S	51.88W	-60.	.012		
4/23/77	0843	5:50	410	3.81S	51.36W	-60.	.012		
4/23/77	0848	5:55	410	4.43S	51.10W	-60.	.016		
4/23/77	0853	6:00	410	5.05S	50.83W	-60.	.019		
4/23/77	0903	6:10	410	6.31S	50.30W	-60.	.010		
4/23/77	0913	6:20	410	7.60S	49.75W	-60.	.042		
4/23/77	0923	6:30	410	8.88S	49.20W	-60.	.098		
4/23/77	0933	6:40	410	10.17S	48.64W	-60.	.019		
4/23/77	0948	6:55	410	12.09S	47.76W	-60.	.022		
4/23/77	0953	7:00	410	12.74S	47.46W	-61.	.043		
4/23/77	0958	7:05	410	13.39S	47.15W	-61.	.021		
4/23/77	1003	7:10	410	14.05S	46.84W	-61.	.054		
4/23/77	1013	7:20	410	15.38S	46.20W	-60.	.043		
4/23/77	1023	7:30	410	16.71S	45.56W	-60.	.000		
4/23/77	1033	7:40	410	18.08S	44.88W	-61.	.000		
4/23/77	1043	7:50	410	19.47S	44.19W	-60.	.033		
4/23/77	1053	8:00	410	20.95S	43.93W	-61.	.066		


GIC TO JFK DEPARTURE 24 APR 77 PANAM -N533PA
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
FLIGHT LEVEL
450
410
370
330
290
250
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
ELAPSED TIME IN HOURS

GIG TO JFK (PAGE 1 OF 1) DEPARTURE: 24 APR 77 AIRCRAFT: PANAM -N433PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .198 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 64
DATA SOURCE: GASP TAPE VL010, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/24/77	0231	0:10	361	21.12S	43.54W	-48.	.021		
4/24/77	0241	0:20	390	20.01S	43.94W	-54.	.116		
4/24/77	0251	0:30	390	18.98S	44.43W	-54.	.021		
4/24/77	0301	0:40	390	17.96S	44.94W	-55.	.023		
4/24/77	0306	0:45	390	17.43S	45.20W	-55.	.028		
4/24/77	0311	0:50	390	16.88S	45.47W	-54.	.013		
4/24/77	0316	0:55	390	16.34S	45.74W	-55.	.042		
4/24/77	0331	1:10	390	14.74S	46.50W	-55.	.004		
4/24/77	0336	1:15	390	14.17S	46.77W	-55.	.081		
4/24/77	0346	1:25	390	12.99S	47.33W	-55.	.008		
4/24/77	0356	1:35	390	11.80S	47.89W	-55.	.021		
4/24/77	0406	1:45	390	10.62S	48.43W	-55.	.019		
4/24/77	0411	1:50	390	10.00S	48.70W	-55.	.017		
4/24/77	0416	1:55	390	9.38S	48.97W	-55.	.016		
4/24/77	0421	2:00	390	8.76S	49.24W	-55.	.015		
4/24/77	0426	2:05	390	8.13S	49.51W	-55.	.005		
4/24/77	0436	2:15	390	6.90S	50.04W	-55.	.021		
4/24/77	0446	2:25	390	5.65S	50.57W	-55.	.016		
4/24/77	0456	2:35	390	4.38S	51.11W	-55.	.018		
4/24/77	0506	2:45	390	3.12S	51.64W	-55.	.017		
4/24/77	0511	2:50	390	2.48S	51.90W	-55.	.015		
4/24/77	0516	2:55	390	1.84S	52.17W	-55.	.033		
4/24/77	0521	3:00	390	1.21S	52.44W	-55.	.019		
4/24/77	0526	3:05	390	.59S	52.70W	-56.	.005		
4/24/77	0536	3:15	390	.66N	53.24W	-56.	.027		
4/24/77	0546	3:25	390	1.93N	53.78W	-55.	.021		
4/24/77	0606	3:45	390	4.50N	54.85W	-55.	.013		
4/24/77	0614	3:53	390	5.54N	55.24W	-56.	.024		
4/24/77	0619	3:58	390	6.21N	55.55W	-56.	.007		
4/24/77	0624	4:03	390	6.84N	55.88W	-56.	.012		
4/24/77	0634	4:13	390	8.13N	56.55W	-55.	.010		
4/24/77	0644	4:23	390	9.42N	57.25W	-55.	.029		
4/24/77	0654	4:33	390	10.65N	57.94W	-54.	.010		
4/24/77	0704	4:43	390	11.86N	58.64W	-55.	.033		
4/24/77	0709	4:48	390	12.46N	58.98W	-54.	.015		
4/24/77	0714	4:53	390	13.05N	59.32W	-55.	.010		
4/24/77	0719	4:58	390	13.63N	59.66W	-55.	.008		
4/24/77	0724	5:03	390	14.20N	60.00W	-55.	.011		
4/24/77	0734	5:13	390	15.34N	60.67W	-55.	.031		
4/24/77	0744	5:23	390	16.46N	61.33W	-56.	.030		
4/24/77	0754	5:33	390	17.62N	61.91W	-55.	.030		
4/24/77	0804	5:43	403	18.79N	62.37W	-59.	.033		
4/24/77	0809	5:48	410	19.38N	62.60W	-61.	.028		
4/24/77	0814	5:53	410	19.96N	62.83W	-62.	.017		
4/24/77	0819	5:58	410	20.54N	63.07W	-61.	.052		
4/24/77	0834	6:13	410	22.22N	63.76W	-62.	.075		
4/24/77	0844	6:23	410	23.33N	64.23W	-61.	.093		
4/24/77	0854	6:33	410	24.44N	64.71W	-58.	.114		
4/24/77	0904	6:43	410	25.59N	65.21W	-58.	.198		
4/24/77	0909	6:48	410	26.16N	65.47W	-59.	.182		
4/24/77	0914	6:53	410	26.73N	65.72W	-61.	.197		
4/24/77	0919	6:58	410	27.27N	65.97W	-64.	.110		
4/24/77	0924	7:03	410	27.81N	66.21W	-64.	.099		
4/24/77	0934	7:13	410	28.91N	66.73W	-63.	.084		
4/24/77	0944	7:23	410	30.02N	67.26W	-66.	.057		
4/24/77	0959	7:38	410	31.74N	68.11W	-66.	.069		
4/24/77	1004	7:43	410	32.30N	68.39W	-66.	.066		
4/24/77	1009	7:48	410	32.87N	68.69W	-66.	.042		
4/24/77	1014	7:53	410	33.41N	68.97W	-67.	.064		
4/24/77	1019	7:58	410	33.98N	69.27W	-67.	.063		
4/24/77	1029	8:08	410	35.13N	69.90W	-67.	.033		
4/24/77	1039	8:18	410	36.29N	70.55W	-68.	.033		
4/24/77	1049	8:28	410	37.47N	71.23W	-66.	.031		
4/24/77	1059	8:38	402	38.64N	71.97W	-66.	.051		


JFK TO HND DEPARTURE 24 APR 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0 13.0
ELAPSED TIME IN HOURS

JFK TO HND (PAGE 1 OF 2) DEPARTURE: 24 APR 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .520 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 99
DATA SOURCE: GASP TAPE VL010, FILE 2

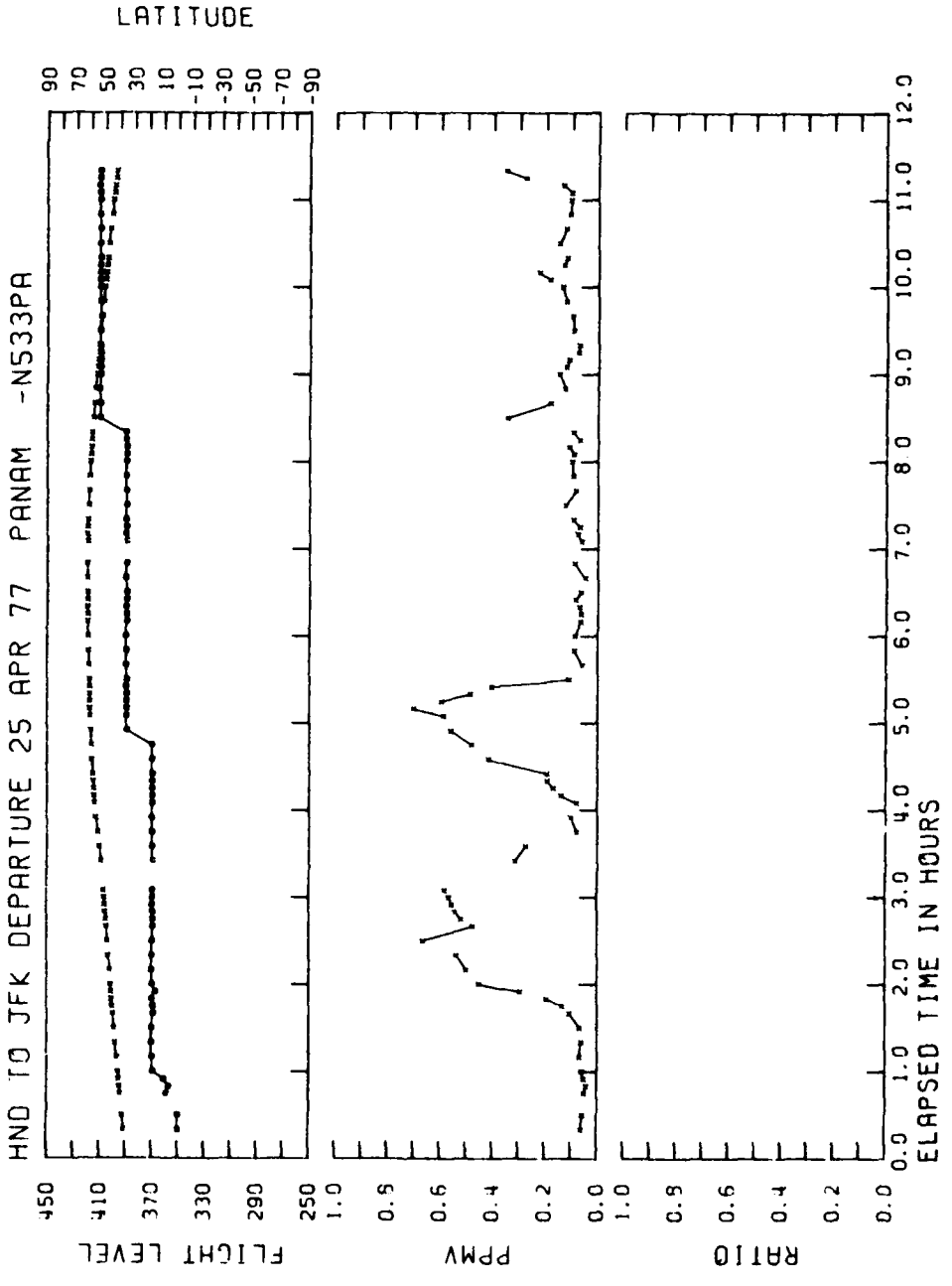
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/24/77	1645	0:10	315	41.98N	75.24W	-46.	.037		
4/24/77	1655	0:20	349	42.72N	76.62W	-56.	.048		
4/24/77	1705	0:30	350	43.47N	78.11W	-57.	.056		
4/24/77	1715	0:40	350	44.26N	79.68W	-57.	.077		
4/24/77	1720	0:45	350	44.66N	80.48W	-57.	.056		
4/24/77	1725	0:50	350	45.05N	81.29W	-56.	.213		
4/24/77	1730	0:55	350	45.43N	82.09W	-56.	.168		
4/24/77	1735	1:00	350	45.79N	82.89W	-55.	.119		
4/24/77	1745	1:10	349	46.50N	84.54W	-53.	.264		
4/24/77	1755	1:20	351	47.17N	86.25W	-52.	.249		
4/24/77	1805	1:30	350	47.84N	88.07W	-52.	.410		
4/24/77	1815	1:40	351	48.46N	89.90W	-55.	.263		
4/24/77	1820	1:45	350	48.76N	90.81W	-57.	.175		
4/24/77	1825	1:50	350	49.04N	91.72W	-60.	.123		
4/24/77	1830	1:55	350	49.31N	92.61W	-60.	.070		
4/24/77	1835	2:00	350	49.57N	93.52W	-60.	.137		
4/24/77	1845	2:10	350	50.07N	95.35W	-59.	.288		
4/24/77	1855	2:20	350	50.54N	97.19W	-58.	.149		
4/24/77	1910	2:35	350	51.19N	100.04W	-59.	.235		
4/24/77	1915	2:40	350	51.38N	100.99W	-59.	.120		
4/24/77	1920	2:45	350	51.57N	101.94W	-60.	.091		
4/24/77	1925	2:50	350	51.75N	102.89W	-61.	.073		
4/24/77	1930	2:55	350	51.92N	103.84W	-61.	.060		
4/24/77	1940	3:05	350	52.23N	105.78W	-61.	.056		
4/24/77	1950	3:15	350	52.52N	107.77W	-61.	.043		
4/24/77	2000	3:25	350	52.86N	109.76W	-59.	.059		
4/24/77	2010	3:35	350	53.51N	111.50W	-59.	.090		
4/24/77	2015	3:40	350	53.88N	112.36W	-59.	.077		
4/24/77	2020	3:45	350	54.24N	113.24W	-59.	.020		
4/24/77	2025	3:50	350	54.59N	114.13W	-59.	.036		
4/24/77	2030	3:55	350	54.94N	115.05W	-59.	.046		
4/24/77	2040	4:05	350	55.61N	116.93W	-59.	.069		
4/24/77	2050	4:15	370	56.24N	118.82W	-65.	.057		
4/24/77	2100	4:25	370	56.83N	120.76W	-64.	.055		
4/24/77	2110	4:35	370	57.40N	122.78W	-64.	.066		
4/24/77	2115	4:40	370	57.68N	123.82W	-64.	.057		
4/24/77	2120	4:45	370	57.94N	124.88W	-64.	.046		
4/24/77	2125	4:50	370	58.20N	125.96W	-63.	.093		
4/24/77	2130	4:55	370	58.45N	127.06W	-62.	.131		
4/24/77	2140	5:05	370	58.92N	129.29W	-58.	.159		
4/24/77	2150	5:15	369	59.36N	131.66W	-57.	.223		
4/24/77	2200	5:25	370	59.77N	134.14W	-52.	.404		
4/24/77	2210	5:35	370	60.13N	136.75W	-50.	.399		
4/24/77	2215	5:40	370	60.30N	138.06W	-51.	.373		
4/24/77	2220	5:45	369	60.44N	139.37W	-49.	.519		
4/24/77	2225	5:50	370	60.58N	140.68W	-50.	.446		
4/24/77	2230	5:55	370	60.70N	142.02W	-50.	.413		
4/24/77	2240	6:05	390	60.91N	144.76W	-51.	.206		
4/24/77	2250	6:15	389	61.06N	147.45W	-50.	.173		
4/24/77	2300	6:25	390	61.15N	150.20W	-48.	.062		
4/24/77	2310	6:35	389	61.15N	152.95W	-48.	.390		
4/24/77	2315	6:40	389	61.14N	154.30W	-48.	.452		
4/24/77	2320	6:45	389	61.10N	155.64W	-48.	.475		
4/24/77	2325	6:50	389	61.06N	157.00W	-47.	.110		
4/24/77	2330	6:55	389	61.00N	158.36W	-47.	.054		
4/24/77	2340	7:05	390	60.84N	161.06W	-46.	.048		
4/24/77	2350	7:15	389	60.58N	163.71W	-46.	.048		
4/25/77	0000	7:25	389	60.24N	166.32W	-47.	.045		
4/25/77	0010	7:35	389	59.85N	168.89W	-47.	.052		
4/25/77	0015	7:40	390	59.64N	170.14W	-48.	.064		
4/25/77	0020	7:45	390	59.42N	171.36W	-49.	.087		
4/25/77	0025	7:50	389	59.20N	172.56W	-49.	.077		
4/25/77	0030	7:55	390	58.96N	173.74W	-49.	.057		
4/25/77	0040	8:05	390	58.46N	176.03W	-50.	.086		
4/25/77	0050	8:15	389	57.92N	178.21W	-52.	.100		
4/25/77	0100	8:25	389	57.36N	179.68E	-52.	.074		
4/25/77	0110	8:35	389	56.76N	177.64E	-52.	.094		
4/25/77	0120	8:45	389	56.16N	175.75E	-56.	.418		
4/25/77	0125	8:50	389	55.85N	174.83E	-57.	.452		
4/25/77	0130	8:55	390	55.52N	173.92E	-58.	.512		
4/25/77	0140	9:05	389	54.85N	172.11E	-56.	.442		
4/25/77	0150	9:15	389	54.15N	170.37E	-58.	.439		
4/25/77	0200	9:25	389	53.52N	168.58E	-58.	.444		
4/25/77	0210	9:35	389	52.88N	166.79E	-54.	.426		
4/25/77	0215	9:40	389	52.56N	165.93E	-53.	.460		
4/25/77	0220	9:45	389	52.22N	165.05E	-52.	.520		
4/25/77	0225	9:50	389	51.86N	164.17E	-51.	.508		
4/25/77	0230	9:55	389	51.49N	163.29E	-49.	.497		
4/25/77	0240	10:05	389	50.73N	161.56E	-47.	.519		
4/25/77	0250	10:15	389	49.91N	159.83E	-46.	.139		
4/25/77	0300	10:25	390	49.06N	158.16E	-47.	.093		
4/25/77	0310	10:35	389	48.16N	156.52E	-47.	.099		
4/25/77	0315	10:40	389	47.71N	155.73E	-48.	.111		
4/25/77	0320	10:45	390	47.25N	154.95E	-49.	.100		
4/25/77	0325	10:50	390	46.79N	154.19E	-49.	.109		
4/25/77	0330	10:55	390	46.32N	153.45E	-52.	.117		
4/25/77	0340	11:05	389	45.43N	152.07E	-58.	.132		
4/25/77	0350	11:15	390	44.50N	150.71E	-60.	.135		
4/25/77	0400	11:25	390	43.62N	149.45E	-61.	.133		
4/25/77	0410	11:35	389	42.78N	148.28E	-59.	.058		
4/25/77	0415	11:40	390	42.36N	147.70E	-61.	.065		
4/25/77	0420	11:45	390	41.93N	147.13E	-63.	.106		

JFK TO HNU (PAGE 2 OF 2) DEPARTURE: 24 APR 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .520 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 99
DATA SOURCE: GASP TAPE VL010, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/25/77	0425	11:50	390	41.49N	146.56E	-63.	.062		
4/25/77	0440	12:05	389	40.18N	144.92E	-59.	.095		
4/25/77	0450	12:15	389	39.35N	143.86E	-59.	.106		

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/25/77	0500	12:25	390	38.51N	142.83E	-58.	.127		
4/25/77	0510	12:35	389	37.71N	141.82E	-60.	.052		
4/25/77	0515	12:40	386	37.38N	141.29E	-60.	.048		
4/25/77	0520	12:45	319	37.05N	140.75E	-42.	.040		

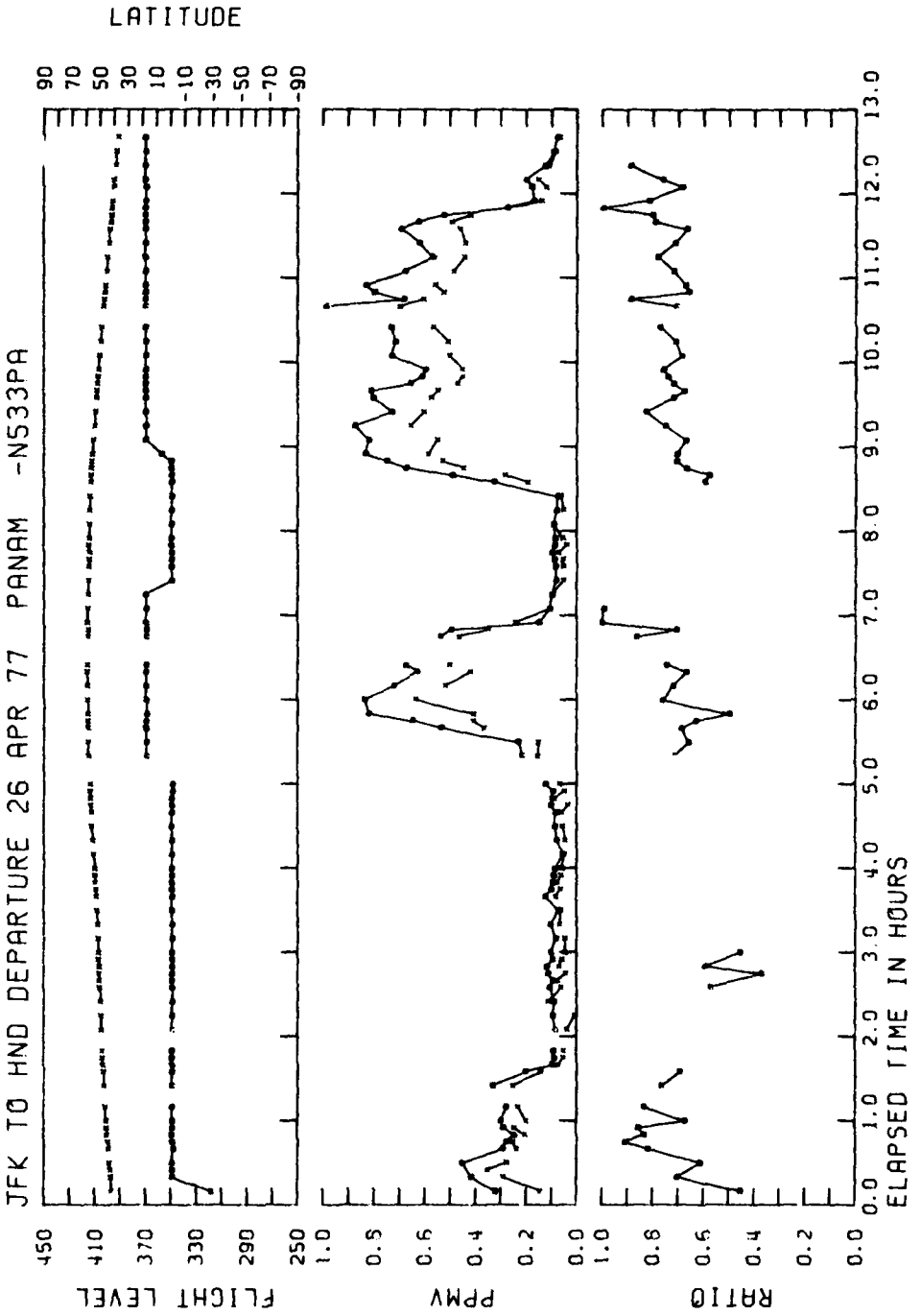

LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
HND TO JFK DEPARTURE 25 APR 77 PANAM -N533PA
450 410 370 330 290 250
FLIGHT LEVEL
1.0 0.8 0.6 0.4 0.2 0.0
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0
ELAPSED TIME IN HOURS

DEPARTURE: 25 APR 77 AIRCRAFT: PANAM -N533PA

[illegible] AMBIENT OZONE=***** CABIN OZONE= .700 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 87

[illegible] TAPE VL03, FILE 2

[illegible]	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
[illegible]	1053	0:20	350	37.22N	144.29E	-51.	.060		
[illegible]	1053	0:30	350	38.31N	145.63E	-52.	.055		
[illegible]	1058	0:45	359	39.87N	147.72E	-56.	.050		
[illegible]	1103	0:50	357	40.40N	148.37E	-56.	.041		
[illegible]	1108	0:55	361	40.87N	149.14E	-56.	.052		
[illegible]	1113	1:00	370	41.37N	149.84E	-58.	.060		
[illegible]	1123	1:10	370	42.28N	151.39E	-59.	.069		
[illegible]	1133	1:20	370	43.18N	152.98E	-60.	.059		
[illegible]	1143	1:30	370	44.05N	154.62E	-58.	.067		
[illegible]	1153	1:40	369	44.88N	156.20E	-57.	.106		
[illegible]	1158	1:45	369	45.24N	156.98E	-57.	.135		
[illegible]	1203	1:50	370	45.61N	157.82E	-49.	.192		
[illegible]	1208	1:55	367	45.98N	158.65E	-49.	.293		
[illegible]	1213	2:00	370	46.35N	159.48E	-48.	.450		
[illegible]	1223	2:10	370	47.12N	161.13E	-45.	.501		
[illegible]	1233	2:20	370	47.90N	162.85E	-41.	.536		
[illegible]	1243	2:30	370	48.65N	164.57E	-41.	.664		
[illegible]	1253	2:40	369	49.38N	166.35E	-43.	.474		
[illegible]	1258	2:45	369	49.73N	167.26E	-44.	.520		
[illegible]	1303	2:50	369	50.06N	168.15E	-45.	.542		
[illegible]	1308	2:55	370	50.39N	169.07E	-46.	.554		
[illegible]	1313	3:00	369	50.72N	170.02E	-47.	.565		
[illegible]	1318	3:05	370	51.14N	170.88E	-49.	.582		
[illegible]	1338	3:25	370	52.97N	174.43E	-63.	.313		
[illegible]	1348	3:35	370	54.21N	175.74E	-63.	.273		
[illegible]	1358	3:45	370	55.40N	177.15E	-67.	.081		
[illegible]	1408	3:55	370	56.56N	178.71E	-65.	.102		
[illegible]	1418	4:05	370	57.58N	179.52W	-66.	.080		
[illegible]	1423	4:10	370	57.89N	178.33W	-65.	.139		
[illegible]	1428	4:15	370	58.19N	177.13W	-65.	.169		
[illegible]	1433	4:20	370	58.48N	175.91W	-65.	.192		
[illegible]	1438	4:25	370	58.76N	174.66W	-66.	.194		
[illegible]	1448	4:35	370	59.30N	172.04W	-59.	.415		
[illegible]	1458	4:45	370	59.79N	169.29W	-53.	.781		
[illegible]	1508	4:55	389	60.22N	166.49W	-50.	.961		
[illegible]	1518	5:05	390	60.58N	163.66W	-49.	.587		
[illegible]	1523	5:10	389	60.74N	162.21W	-48.	.700		
[illegible]	1528	5:15	390	60.86N	160.73W	-49.	.595		
[illegible]	1533	5:20	389	60.95N	159.26W	-48.	.485		
[illegible]	1538	5:25	390	61.03N	157.78W	-48.	.406		
[illegible]	1543	5:30	389	61.08N	156.32W	-48.	.109		
[illegible]	1553	5:40	390	61.35N	153.45W	-50.	.058		
[illegible]	1603	5:50	390	61.71N	150.56W	-51.	.088		
[illegible]	1613	6:00	390	62.00N	147.68W	-50.	.086		
[illegible]	1623	6:10	389	62.23N	144.59W	-52.	.066		
[illegible]	1628	6:15	390	62.32N	143.06W	-50.	.064		
[illegible]	1633	6:20	390	62.40N	141.52W	-52.	.070		
[illegible]	1638	6:25	389	62.45N	140.01W	-52.	.085		
[illegible]	1643	6:30	390	62.49N	138.49W	-53.	.065		
[illegible]	1653	6:40	390	62.52N	135.38W	-52.	.048		
[illegible]	1703	6:50	389	62.48N	132.33W	-52.	.088		
[illegible]	1718	7:05	390	62.30N	127.81W	-52.	.063		
[illegible]	1723	7:10	390	62.21N	126.29W	-53.	.077		
[illegible]	1728	7:15	389	62.09N	124.76W	-52.	.068		
[illegible]	1733	7:20	390	61.96N	123.23W	-56.	.092		
[illegible]	1743	7:30	390	61.62N	120.20W	-57.	.193		
[illegible]	1753	7:40	390	61.21N	117.18W	-59.	.085		
[illegible]	1803	7:50	390	60.74N	114.28W	-60.	.094		
[illegible]	1813	8:00	389	60.21N	111.45W	-60.	.098		
[illegible]	1818	8:05	389	59.93N	110.08W	-62.	.093		
[illegible]	1823	8:10	389	59.63N	108.74W	-63.	.110		
[illegible]	1828	8:15	390	59.32N	107.41W	-62.	.071		
[illegible]	1833	8:20	390	58.99N	106.11W	-63.	.092		
[illegible]	1843	8:30	410	58.30N	103.61W	-59.	.345		
[illegible]	1853	8:40	410	57.58N	101.23W	-59.	.181		
[illegible]	1903	8:50	410	56.82N	98.96W	-58.	.125		
[illegible]	1913	9:00	410	56.00N	96.75W	-57.	.149		
[illegible]	1918	9:05	410	55.59N	95.70W	-58.	.123		
[illegible]	1923	9:10	410	55.17N	94.67W	-58.	.112		
[illegible]	1928	9:15	410	54.74N	93.66W	-57.	.078		
[illegible]	1933	9:20	410	54.30N	92.68W	-57.	.073		
[illegible]	1943	9:30	410	53.39N	90.76W	-56.	.094		
[illegible]	1953	9:40	409	52.46N	88.93W	-55.	.099		
[illegible]	2003	9:50	410	51.53N	87.23W	-55.	.123		
[illegible]	2013	10:00	410	50.57N	85.59W	-55.	.126		
[illegible]	2018	10:05	410	50.09N	84.80W	-56.	.185		
[illegible]	2023	10:10	410	49.60N	84.03W	-55.	.225		
[illegible]	2028	10:15	410	49.10N	83.27W	-54.	.132		
[illegible]	2033	10:20	410	48.61N	82.53W	-54.	.120		
[illegible]	2043	10:30	410	47.59N	81.13W	-54.	.149		
[illegible]	2053	10:40	410	46.52N	79.85W	-54.	.123		
[illegible]	2103	10:50	410	45.45N	78.62W	-54.	.109		
[illegible]	2113	11:00	410	44.42N	77.50W	-55.	.104		
[illegible]	2118	11:05	410	43.90N	76.96W	-56.	.102		
[illegible]	2123	11:10	410	43.37N	76.48W	-55.	.133		
[illegible]	2128	11:15	410	42.84N	76.00W	-55.	.277		
[illegible]	2133	11:20	410	42.31N	75.53W	-56.	.352		


JFK TO HND DEPARTURE 26 APR 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0 13.0
ELAPSED TIME IN HOURS

JFK TO HNO (PAGE 1 OF 2) DEPARTURE: 26 APR 77 AIRCRAFT: PANAM -N533PA

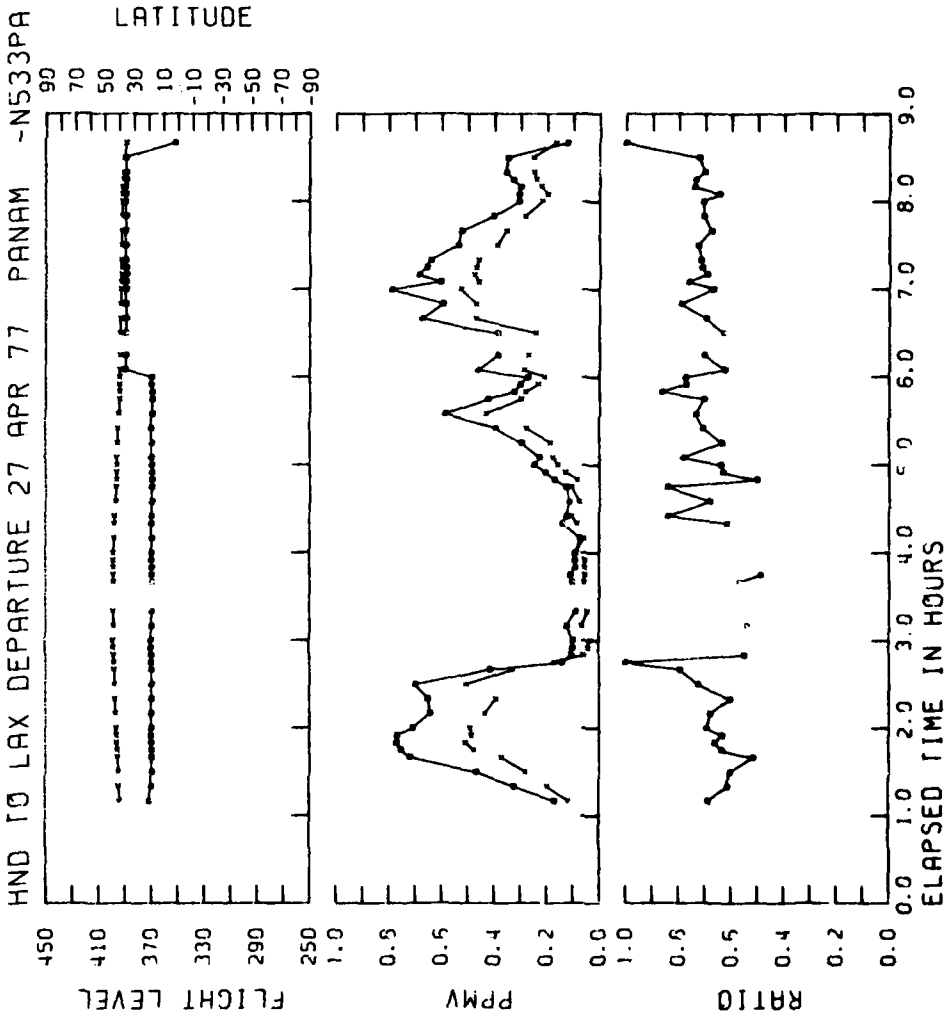
MAXIMUM VALUES: AMBIENT OZONE= .985 CABIN OZONE= .696 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.62 TOTAL OBS IN CABIN: 96
DATA SOURCE: GASP TAPE VL010, FILE 2 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/26/77	1705	0:10	318	42.14N	75.49W	-50.	.146	.322	.45
4/26/77	1715	0:20	349	42.82N	77.08W	-52.	.292	.416	.70
4/26/77	1722A	0:27	349	43.37N	78.33W	-52.	.354		
4/26/77	1728	0:33	349	43.72N	79.16W	-54.	.277	.452	.61
4/26/77	1738	0:43	349	44.52N	80.66W	-55.	.239	.292	.82
4/26/77	1743	0:48	349	44.92N	81.40W	-58.	.254	.279	.91
4/26/77	1748	0:53	349	45.32N	82.14W	-58.	.205	.246	.83
4/26/77	1753	0:58	349	45.69N	82.87W	-58.	.246	.288	.85
4/26/77	1758	1:03	349	46.07N	83.61W	-57.	.201	.299	.67
4/26/77	1808	1:13	349	46.75N	85.18W	-58.	.231	.277	.83
4/26/77	1823	1:28	349	47.63N	87.58W	-60.	.253	.331	.76
4/26/77	1833	1:38	349	48.18N	89.23W	-61.	.140	.202	.69
4/26/77	1838	1:43	349	48.43N	90.05W	-61.	.074	.097	
4/26/77	1843	1:48	349	48.66N	90.87W	-61.	.052	.088	
4/26/77	1848	1:53	349	48.88N	91.70W	-61.	.051	.090	
4/26/77	1903	2:08	349	49.52N	94.22W	-59.	.039	.084	
4/26/77	1913	2:18	349	49.89N	95.95W	-59.	.008	.094	
4/26/77	1923	2:28	349	50.23N	97.69W	-59.	.112	.088	
4/26/77	1933	2:38	349	50.60N	99.45W	-58.	.060	.105	.57
4/26/77	1938	2:43	349	50.80N	100.33W	-58.	.075	.093	
4/26/77	1943	2:48	349	51.00N	101.23W	-58.	.041	.111	.37
4/26/77	1948	2:53	349	51.19N	102.13W	-58.	.069	.117	.59
4/26/77	1953	2:58	349	51.40N	103.04W	-57.	.058	.095	
4/26/77	1958	3:03	349	51.60N	103.94W	-57.	.046	.101	.46
4/26/77	2008	3:13	349	51.99N	105.80W	-57.	.046	.082	
4/26/77	2018	3:23	349	52.35N	107.71W	-57.	.067	.103	.65
4/26/77	2028	3:33	349	52.66N	109.71W	-57.	.060	.071	
4/26/77	2038	3:43	349	53.18N	111.62W	-57.	.082	.122	.67
4/26/77	2043	3:48	349	53.52N	112.52W	-57.	.063	.099	
4/26/77	2048	3:53	349	53.85N	113.44W	-57.	.078	.093	
4/26/77	2053	3:58	349	54.17N	114.40W	-57.	.061	.090	
4/26/77	2058	4:03	349	54.50N	115.38W	-58.	.058	.084	
4/26/77	2108	4:13	349	55.13N	117.43W	-59.	.049	.055	
4/26/77	2118	4:23	349	55.73N	119.55W	-59.	.045	.077	
4/26/77	2128	4:33	349	56.30N	121.76W	-59.	.056	.086	
4/26/77	2138	4:43	349	56.84N	124.05W	-60.	.058	.083	
4/26/77	2143	4:48	349	57.09N	125.22W	-61.	.035	.102	.34
4/26/77	2148	4:53	349	57.33N	126.40W	-61.	.089	.096	
4/26/77	2153	4:58	349	57.55N	127.58W	-62.	.048	.093	
4/26/77	2158	5:03	349	57.76N	128.74W	-60.	.068	.123	.55
4/26/77	2218	5:23	369	58.49N	133.64W	-59.	.153	.215	.71
4/26/77	2228	5:33	369	58.79N	136.15W	-58.	.150	.228	.66
4/26/77	2238	5:43	370	59.01N	138.64W	-52.	.366	.534	.69
4/26/77	2243	5:48	369	59.10N	139.91W	-50.	.407	.645	.63
4/26/77	2248	5:53	369	59.18N	141.16W	-50.	.406	.818	.50
4/26/77	2258	6:03	369	59.29N	143.74W	-47.	.637	.837	.76
4/26/77	2308	6:13	369	59.36N	146.32W	-46.	.516	.719	.72
4/26/77	2315	6:20	369	59.38N	148.39W	-45.	.419	.628	.67
4/26/77	2321	6:26	369	59.37N	149.84W	-48.	.500	.672	.74
4/26/77	2341	6:46	369	59.23N	154.71W	-60.	.463	.537	.86
4/26/77	2346	6:51	369	59.16N	155.93W	-61.	.350	.496	.71
4/26/77	2351	6:56	370	59.09N	157.14W	-64.	.241	.149	1.62
4/27/77	0001	7:06	369	58.91N	159.50W	-66.	.104	.106	.99
4/27/77	0011	7:16	370	58.68N	161.85W	-67.	.100	.097	
4/27/77	0021	7:26	369	58.52N	164.27W	-62.	.051	.081	
4/27/77	0031	7:36	369	58.34N	166.68W	-62.	.054	.085	
4/27/77	0036	7:41	370	58.22N	167.89W	-62.	.053	.087	
4/27/77	0041	7:46	369	58.10N	169.10W	-62.	.072	.098	
4/27/77	0046	7:51	369	57.99N	170.34W	-62.	.039	.084	
4/27/77	0051	7:56	369	57.96N	171.60W	-62.	.054	.084	
4/27/77	0101	8:06	369	57.87N	174.16W	-61.	.091	.090	
4/27/77	0111	8:16	369	57.72N	176.75W	-61.	.052	.079	
4/27/77	0121	8:26	369	57.51N	179.35W	-61.	.063	.075	
4/27/77	0131	8:36	369	56.99N	178.39E	-58.	.194	.326	.60
4/27/77	0136	8:41	369	56.66N	177.33E	-56.	.282	.488	.58
4/27/77	0141	8:46	350	56.32N	176.24E	-52.	.447	.671	.67
4/27/77	0146	8:51	369	55.96N	175.17E	-48.	.527	.746	.71
4/27/77	0151	8:56	357	55.60N	174.13E	-47.	.584	.831	.70
4/27/77	0201	9:06	370	54.86N	172.13E	-46.	.550	.820	.67
4/27/77	0211	9:16	370	54.09N	170.21E	-44.	.655	.874	.75
4/27/77	0221	9:26	370	53.41N	168.26E	-45.	.603	.729	.83
4/27/77	0231	9:36	370	52.72N	166.36E	-44.	.573	.800	.72
4/27/77	0236	9:41	370	52.38N	165.46E	-42.	.547	.811	.68
4/27/77	0241	9:46	370	52.01N	164.55E	-42.	.469	.653	.72
4/27/77	0246	9:51	370	51.65N	163.66E	-43.	.450	.600	.74
4/27/77	0251	9:56	370	51.27N	162.78E	-43.	.452	.596	.76
4/27/77	0301	10:06	370	50.50N	161.06E	-44.	.501	.729	.69
4/27/77	0311	10:16	370	49.69N	159.39E	-45.	.509	.715	.71
4/27/77	0321	10:26	370	48.87N	157.80E	-45.	.563	.730	.77
4/27/77	0336	10:41	370	47.62N	155.58E	-45.	.696	.985	.71
4/27/77	0341	10:46	370	47.19N	154.85E	-45.	.603	.681	.89
4/27/77	0346	10:51	370	46.75N	154.13E	-45.	.524	.797	.66
4/27/77	0351	10:56	370	46.31N	153.43E	-45.	.559	.831	.67
4/27/77	0401	11:06	370	45.45N	152.10E	-46.	.485	.676	.72
4/27/77	0411	11:16	370	44.59N	150.83E	-50.	.444	.568	.78
4/27/77	0421	11:26	370	43.73N	149.62E	-50.	.439	.618	.71
4/27/77	0431	11:36	370	42.90N	148.45E	-52.	.459	.690	.67
4/27/77	0436	11:41	370	42.49N	147.88E	-53.	.492	.623	.79
4/27/77	0441	11:46	370	42.07N	147.32E	-57.	.419	.524	.80
4/27/77	0446	11:51	370	41.67N	146.79E	-59.	.273	.274	1.00
4/27/77	0451	11:56	370	41.26N	146.26E	-58.	.138	.169	.82
4/27/77	0501	12:06	370	40.41N	145.20E	-57.	.122	.178	.69

JFK TO HNO (PAGE 2 OF 2) DEPARTURE: 26 APR 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .985 CABIN OZONE= .696 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.62 TOTAL OBS IN CABIN: 96
DATA SOURCE: GASP TAPE VL010. FILE 2 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

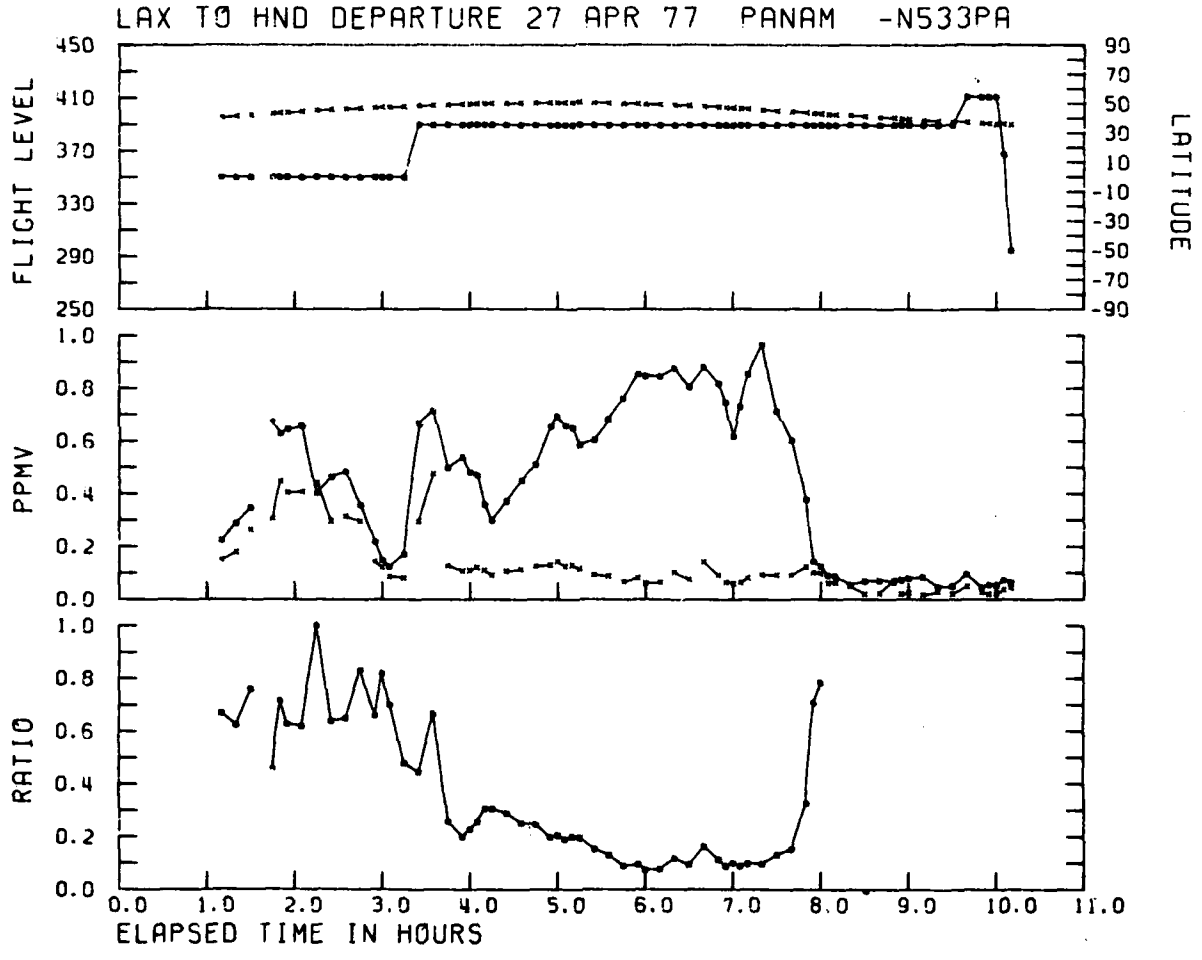
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/27/77	0507A	12:12	370	39.88N	144.53E	-57.	.151	.199	.76
4/27/77	0518	12:23	370	38.96N	143.38E	-58.	.109	.123	.89
4/27/77	0528	12:33	369	38.07N	142.32E	-58.	.084	.090	
4/27/77	0538	12:43	370	37.28N	141.19E	-58.	.067	.076	


HND TO LAX DEPARTURE 27 APR 77 PANAM -N533PA
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
FLIGHT LEVEL
450
410
370
330
290
250
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
ELAPSED TIME IN HOURS

HND TO LAX (PAGE 1 OF 1) DEPARTURE: 27 APR 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .789 CABIN OZONE= .526 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.35 TOTAL OBS IN CABIN: 59
DATA SOURCE: GASP TAPE VL010, FILE 2

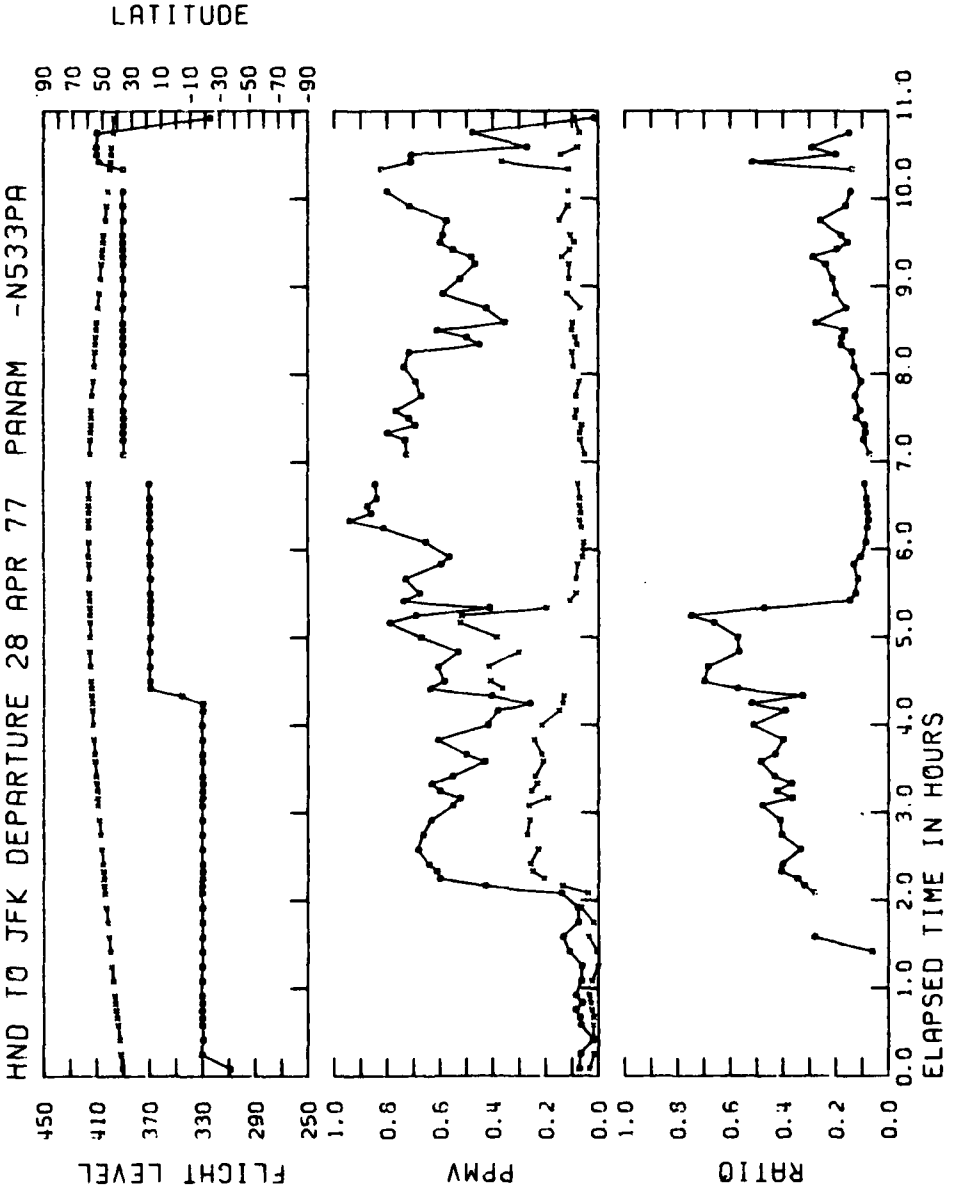
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/27/77	0935	1:14	371	39.43N	154.33E	-58.	.116	.169	.69
4/27/77	0945	1:24	369	40.01N	156.29E	-56.	.196	.321	.61
4/27/77	0955	1:34	370	40.58N	158.34E	-54.	.283	.468	.60
4/27/77	1005	1:44	370	41.10N	160.41E	-51.	.371	.719	.52
4/27/77	1010	1:49	370	41.34N	161.41E	-50.	.477	.752	.63
4/27/77	1015	1:54	370	41.58N	162.44E	-50.	.508	.769	.66
4/27/77	1020	1:59	370	41.81N	163.47E	-50.	.484	.766	.63
4/27/77	1025	2:04	370	42.02N	164.51E	-50.	.491	.709	.69
4/27/77	1035	2:14	370	42.43N	166.60E	-51.	.435	.642	.68
4/27/77	1045	2:24	370	42.80N	168.71E	-52.	.391	.650	.60
4/27/77	1055	2:34	370	43.12N	170.85E	-53.	.507	.699	.73
4/27/77	1105	2:44	370	43.40N	173.04E	-56.	.329	.415	.79
4/27/77	1110	2:49	370	43.53N	174.17E	-58.	.169	.141	1.20
4/27/77	1115	2:54	370	43.64N	175.29E	-58.	.057	.104	.55
4/27/77	1120	2:59	370	43.74N	176.40E	-59.	.040	.098	
4/27/77	1125	3:04	370	43.83N	177.51E	-60.	.033	.098	
4/27/77	1135	3:14	370	43.98N	179.72E	-60.	.067	.124	.54
4/27/77	1145	3:24	370	44.07N	178.09W	-59.	.045	.089	
4/27/77	1205	3:44	370	44.10N	173.73W	-60.	.058	.102	.57
4/27/77	1210	3:49	370	44.08N	172.65W	-60.	.053	.109	.49
4/27/77	1215	3:54	370	44.06N	171.58W	-60.	.055	.091	
4/27/77	1220	3:59	370	44.02N	170.51W	-61.	.053	.091	
4/27/77	1225	4:04	370	43.92N	169.47W	-61.	.093	.089	
4/27/77	1235	4:14	370	43.58N	167.41W	-61.	.058	.072	
4/27/77	1245	4:24	370	43.20N	165.40W	-62.	.084	.137	.61
4/27/77	1250	4:29	370	43.01N	164.43W	-62.	.103	.123	.84
4/27/77	1300	4:39	370	42.60N	162.52W	-63.	.079	.116	.68
4/27/77	1310	4:49	370	42.15N	160.60W	-64.	.106	.126	.84
4/27/77	1315	4:54	370	41.94N	159.64W	-64.	.085	.170	.50
4/27/77	1320	4:59	370	41.79N	158.67W	-63.	.129	.205	.63
4/27/77	1325	5:04	370	41.63N	157.69W	-62.	.158	.248	.64
4/27/77	1330	5:09	370	41.45N	156.72W	-62.	.177	.227	.78
4/27/77	1340	5:19	370	41.09N	154.85W	-62.	.186	.294	.63
4/27/77	1350	5:29	370	40.70N	152.99W	-60.	.276	.392	.70
4/27/77	1400	5:39	369	40.28N	151.17W	-57.	.431	.587	.73
4/27/77	1410	5:49	369	39.95N	149.35W	-51.	.297	.423	.70
4/27/77	1415	5:54	370	39.89N	148.42W	-50.	.280	.325	.86
4/27/77	1420	5:59	370	39.82N	147.48W	-50.	.232	.301	.77
4/27/77	1425	6:04	370	39.74N	146.54W	-49.	.210	.272	.77
4/27/77	1430	6:09	390	39.66N	145.60W	-47.	.287	.460	.62
4/27/77	1440	6:19	390	39.47N	143.74W	-46.	.271	.386	.70
4/27/77	1452	6:31	389	39.21N	141.52W	-46.	.242	.385	.63
4/27/77	1502	6:41	389	38.98N	139.70W	-46.	.469	.674	.70
4/27/77	1512	6:51	389	38.86N	137.87W	-46.	.469	.594	.79
4/27/77	1522	7:01	389	38.71N	136.06W	-49.	.526	.789	.67
4/27/77	1527	7:06	390	38.63N	135.16W	-48.	.460	.604	.76
4/27/77	1532	7:11	389	38.53N	134.24W	-49.	.478	.684	.69
4/27/77	1537	7:16	390	38.43N	133.34W	-52.	.470	.659	.71
4/27/77	1542	7:21	390	38.32N	132.44W	-52.	.458	.641	.71
4/27/77	1552	7:31	389	38.09N	130.67W	-52.	.388	.536	.73
4/27/77	1602	7:41	390	37.97N	128.85W	-54.	.354	.524	.68
4/27/77	1612	7:51	389	37.90N	127.03W	-55.	.283	.402	.70
4/27/77	1622	8:01	390	37.62N	125.25W	-57.	.215	.305	.70
4/27/77	1627	8:06	389	37.46N	124.37W	-56.	.196	.305	.64
4/27/77	1632	8:11	390	37.30N	123.50W	-56.	.222	.300	.74
4/27/77	1637	8:16	389	36.94N	122.78W	-56.	.241	.328	.73
4/27/77	1642	8:21	389	36.52N	122.10W	-54.	.249	.355	.70
4/27/77	1652	8:31	389	35.64N	120.76W	-54.	.250	.347	.72
4/27/77	1702	8:41	352	34.74N	119.52W	-55.	.166	.123	1.35


LAX TO HND DEPARTURE 27 APR 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
ELAPSED TIME IN HOURS

LAX TO HND (PAGE 1 OF 1) DEPARTURE: 27 APR 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .966 CABIN OZONE= .477 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.10 TOTAL OBS IN CABIN: 68
DATA SOURCE: GASP TAPE VL010, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/27/77	2131	1:10	350	40.97N	127.63W	-56.	.151	.225	.67
4/27/77	2141	1:20	350	41.66N	129.18W	-54.	.180	.288	.63
4/27/77	2151	1:30	350	42.37N	130.76W	-54.	.264	.347	.76
4/27/77	2206	1:45	350	43.45N	133.22W	-49.	.307	.671	.46
4/27/77	2211	1:50	350	43.81N	134.07W	-51.	.449	.628	.71
4/27/77	2216	1:55	350	44.16N	134.93W	-51.	.406	.646	.63
4/27/77	2226	2:05	350	44.85N	136.69W	-52.	.408	.658	.62
4/27/77	2236	2:15	350	45.54N	138.60W	-49.	.441	.402	1.10
4/27/77	2246	2:25	350	46.13N	140.43W	-53.	.296	.463	.64
4/27/77	2256	2:35	350	46.59N	142.37W	-52.	.314	.483	.65
4/27/77	2306	2:45	350	47.01N	144.33W	-59.	.297	.357	.83
4/27/77	2316	2:55	350	47.39N	146.27W	-61.	.144	.218	.66
4/27/77	2321	3:00	350	47.56N	147.24W	-62.	.122	.149	.82
4/27/77	2326	3:05	350	47.73N	148.20W	-62.	.087	.124	.70
4/27/77	2336	3:15	350	48.04N	150.11W	-61.	.082	.171	.48
4/27/77	2346	3:25	389	48.49N	151.93W	-58.	.296	.664	.45
4/27/77	2356	3:35	389	48.90N	153.79W	-59.	.477	.714	.67
4/28/77	0006	3:45	390	49.28N	155.65W	-60.	.129	.499	.26
4/28/77	0016	3:55	390	49.61N	157.46W	-59.	.108	.539	.20
4/28/77	0021	4:00	390	49.77N	158.36W	-63.	.111	.483	.23
4/28/77	0026	4:05	390	49.91N	159.25W	-62.	.121	.470	.26
4/28/77	0031	4:10	390	50.04N	160.13W	-64.	.110	.359	.31
4/28/77	0036	4:15	390	50.17N	161.02W	-65.	.092	.300	.31
4/28/77	0046	4:25	390	50.39N	162.82W	-64.	.108	.373	.29
4/28/77	0056	4:35	390	50.60N	164.63W	-63.	.114	.451	.25
4/28/77	0106	4:45	390	50.77N	166.44W	-61.	.127	.511	.25
4/28/77	0116	4:55	390	50.92N	168.30W	-56.	.131	.656	.20
4/28/77	0121	5:00	390	50.98N	169.23W	-57.	.144	.694	.21
4/28/77	0126	5:05	390	51.02N	170.20W	-55.	.126	.660	.19
4/28/77	0131	5:10	390	50.96N	171.13W	-55.	.131	.652	.20
4/28/77	0136	5:15	390	50.90N	172.09W	-54.	.116	.585	.20
4/28/77	0146	5:25	390	50.73N	174.08W	-50.	.093	.605	.15
4/28/77	0156	5:35	389	50.53N	176.05W	-48.	.089	.682	.13
4/28/77	0206	5:45	390	50.29N	178.06W	-46.	.066	.760	.09
4/28/77	0216	5:55	390	50.02N	179.93E	-44.	.081	.853	.09
4/28/77	0221	6:00	389	49.86N	178.94E	-44.	.063	.847	.07
4/28/77	0231	6:10	390	49.54N	176.99E	-44.	.065	.846	.08
4/28/77	0241	6:20	390	49.17N	175.04E	-44.	.103	.876	.12
4/28/77	0251	6:30	390	48.77N	173.10E	-44.	.076	.805	.09
4/28/77	0301	6:40	390	48.33N	171.18E	-43.	.143	.881	.16
4/28/77	0311	6:50	389	47.82N	169.34E	-44.	.092	.819	.11
4/28/77	0316	6:55	390	47.52N	168.47E	-45.	.066	.747	.09
4/28/77	0321	7:00	389	47.21N	167.61E	-44.	.062	.619	.10
4/28/77	0326	7:05	390	46.90N	166.77E	-45.	.065	.730	.09
4/28/77	0331	7:10	390	46.59N	165.95E	-45.	.083	.854	.10
4/28/77	0341	7:20	390	45.95N	164.33E	-45.	.093	.966	.10
4/28/77	0351	7:30	390	45.29N	162.77E	-47.	.093	.713	.13
4/28/77	0401	7:40	390	44.62N	161.24E	-50.	.092	.602	.15
4/28/77	0411	7:50	390	43.95N	159.79E	-59.	.123	.378	.33
4/28/77	0416	7:55	390	43.67N	159.13E	-61.	.102	.144	.71
4/28/77	0421	8:00	390	43.38N	158.46E	-61.	.099	.126	.79
4/28/77	0426	8:05	389	43.07N	157.79E	-61.	.062	.091	
4/28/77	0431	8:10	390	42.78N	157.14E	-60.	.064	.089	
4/28/77	0441	8:20	390	42.17N	155.86E	-61.	.051	.056	
4/28/77	0451	8:30	389	41.55N	154.62E	-61.	.021	.369	
4/28/77	0501	8:40	390	40.93N	153.41E	-61.	.023	.071	
4/28/77	0511	8:50	389	40.29N	152.22E	-61.	.074	.067	
4/28/77	0516	8:55	390	39.96N	151.62E	-61.	.021	.074	
4/28/77	0521	9:00	390	39.63N	151.03E	-61.	.025	.080	
4/28/77	0531	9:10	390	38.96N	149.83E	-60.	.018	.085	
4/28/77	0541	9:20	390	38.42N	148.54E	-60.	.029	.049	
4/28/77	0551	9:30	390	37.88N	147.30E	-60.	.022	.050	
4/28/77	0601	9:40	411	37.33N	146.08E	-65.	.049	.095	
4/28/77	0611	9:50	411	36.79N	144.93E	-65.	.028	.046	
4/28/77	0616	9:55	411	36.51N	144.35E	-65.	.020	.055	
4/28/77	0621	10:00	411	36.23N	143.78E	-64.	.024	.053	
4/28/77	0626	10:05	367	36.01N	143.16E	-53.	.036	.073	
4/28/77	0631	10:10	295	35.80N	142.51E	-36.	.044	.065	

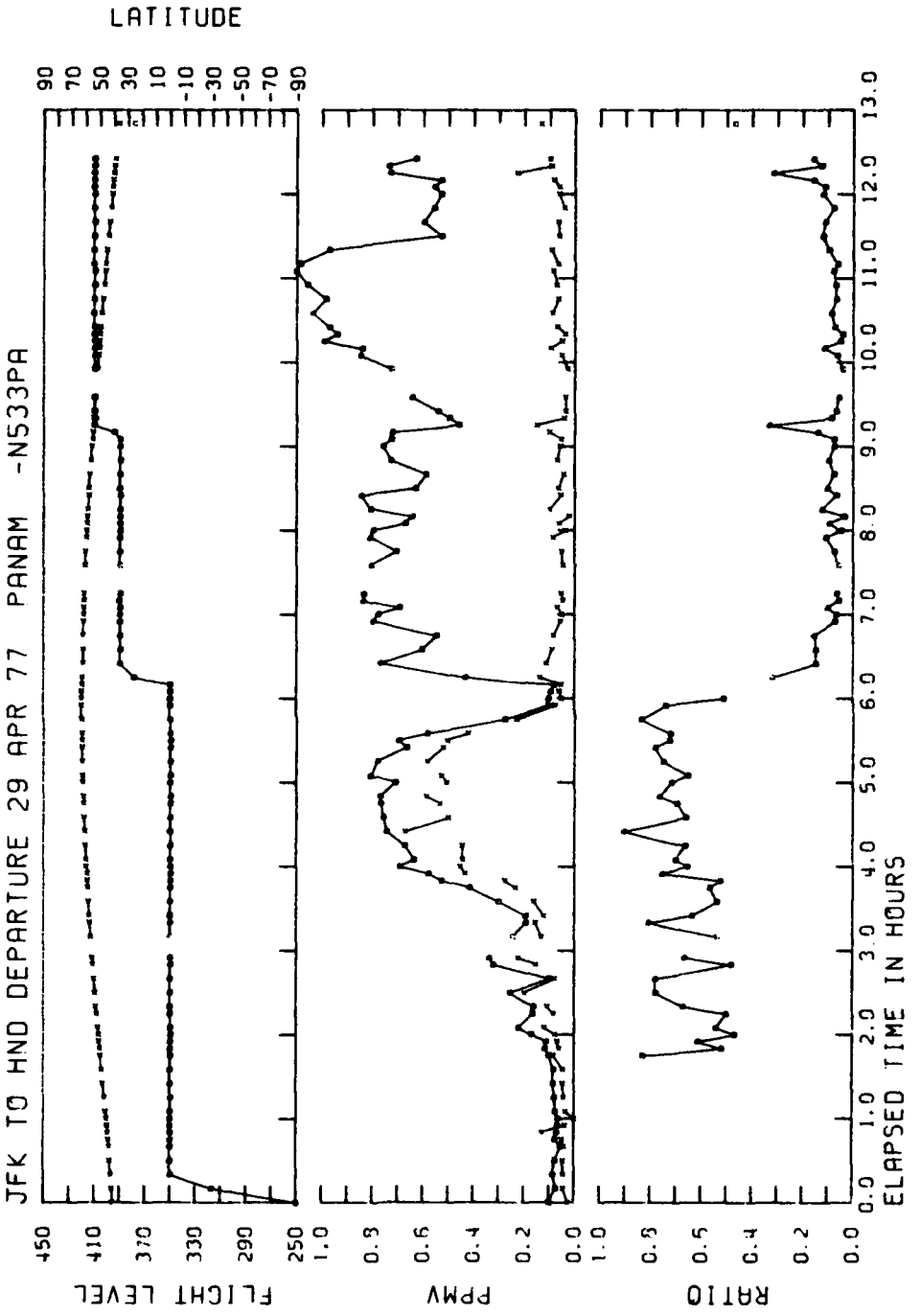

HND TO JFK DEPARTURE 28 APR 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0
ELAPSED TIME IN HOURS

HND TO JFK (PAGE 1 OF 1) DEPARTURE: 28 APR 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .441 CABIN OZONE= .525 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .75 TOTAL OBS IN CABIN: 85
DATA SOURCE: GASP TAPE VL010, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/28/77	1040	0:05	309	36.64N	143.02E	-40.	.033	.072	
4/28/77	1050	0:15	330	37.49N	144.58E	-46.	.017	.067	
4/28/77	1100	0:25	330	38.61N	145.97E	-46.	.022	.019	
4/28/77	1110	0:35	330	39.70N	147.43E	-47.	.021	.067	
4/28/77	1115	0:40	330	40.24N	148.18E	-46.	.020	.071	
4/28/77	1120	0:45	330	40.79N	148.95E	-47.	.026	.086	
4/28/77	1125	0:50	330	41.32N	149.72E	-47.	.029	.061	
4/28/77	1130	0:55	330	41.82N	150.52E	-47.	.035	.085	
4/28/77	1140	1:05	330	42.79N	152.19E	-48.	.025	.064	
4/28/77	1150	1:15	330	43.77N	153.95E	-48.	.000	.062	
4/28/77	1201	1:26	330	44.86N	156.07E	-49.	.007	.111	.06
4/28/77	1211	1:36	330	45.76N	157.95E	-49.	.038	.135	.28
4/28/77	1221	1:46	330	46.63N	159.87E	-49.	.020	.076	
4/28/77	1231	1:56	330	47.51N	161.72E	-48.	.066	.078	
4/28/77	1241	2:06	330	48.37N	163.63E	-48.	.039	.139	.28
4/28/77	1246	2:11	330	48.78N	164.59E	-46.	.135	.426	.32
4/28/77	1251	2:16	330	49.19N	165.58E	-44.	.208	.600	.35
4/28/77	1256	2:21	330	49.58N	166.55E	-44.	.250	.613	.41
4/28/77	1301	2:26	330	49.95N	167.53E	-44.	.259	.643	.40
4/28/77	1311	2:36	330	50.68N	169.53E	-43.	.228	.683	.33
4/28/77	1321	2:46	330	51.51N	171.40E	-43.	.270	.665	.41
4/28/77	1331	2:56	330	52.37N	173.25E	-44.	.260	.633	.41
4/28/77	1341	3:06	330	53.14N	175.18E	-46.	.263	.551	.48
4/28/77	1346	3:11	330	53.50N	176.19E	-46.	.192	.524	.37
4/28/77	1351	3:16	330	53.85N	177.23E	-45.	.256	.606	.43
4/28/77	1356	3:21	330	54.18N	178.27E	-46.	.233	.633	.37
4/28/77	1401	3:26	330	54.52N	179.31E	-44.	.240	.553	.43
4/28/77	1411	3:36	330	55.16N	178.54W	-44.	.209	.431	.48
4/28/77	1416	3:41	330	55.47N	177.44W	-43.	.216	.501	.43
4/28/77	1426	3:51	330	56.04N	175.20W	-43.	.243	.608	.40
4/28/77	1436	4:01	330	56.57N	172.95W	-47.	.214	.418	.51
4/28/77	1446	4:11	330	57.06N	170.64W	-52.	.150	.382	.39
4/28/77	1451	4:16	330	57.30N	169.48W	-55.	.136	.261	.52
4/28/77	1456	4:21	345	57.55N	168.32W	-56.	.132	.405	.33
4/28/77	1501	4:26	370	57.79N	167.11W	-55.	.365	.637	.57
4/28/77	1506	4:31	370	58.02N	165.86W	-55.	.409	.585	.70
4/28/77	1516	4:41	370	58.45N	163.25W	-55.	.416	.608	.68
4/28/77	1526	4:51	370	58.68N	160.52W	-55.	.301	.531	.57
4/28/77	1536	5:01	370	58.70N	157.68W	-54.	.385	.672	.57
4/28/77	1546	5:11	370	58.86N	154.91W	-53.	.525	.792	.66
4/28/77	1551	5:16	370	58.99N	153.52W	-51.	.520	.693	.75
4/28/77	1556	5:21	370	59.10N	152.11W	-50.	.196	.414	.47
4/28/77	1601	5:26	370	59.20N	150.67W	-48.	.109	.734	.15
4/28/77	1606	5:31	370	59.28N	149.23W	-48.	.085	.674	.13
4/28/77	1616	5:41	370	59.40N	146.39W	-47.	.085	.731	.12
4/28/77	1626	5:51	370	59.46N	143.52W	-47.	.079	.597	.13
4/28/77	1631	5:56	370	59.47N	142.06W	-46.	.061	.565	.11
4/28/77	1641	6:06	370	59.45N	139.14W	-45.	.056	.654	.09
4/28/77	1651	6:16	370	59.47N	136.18W	-45.	.065	.814	.08
4/28/77	1656	6:21	370	59.46N	134.72W	-44.	.071	.941	.08
4/28/77	1701	6:26	370	59.43N	133.26W	-45.	.067	.860	.08
4/28/77	1706	6:31	370	59.38N	131.81W	-45.	.070	.874	.08
4/28/77	1711	6:36	370	59.32N	130.38W	-46.	.070	.834	.08
4/28/77	1721	6:46	370	59.16N	127.53W	-47.	.077	.845	.09
4/28/77	1741	7:06	390	58.76N	122.02W	-46.	.053	.728	.07
4/28/77	1751	7:16	390	58.41N	119.38W	-48.	.069	.732	.09
4/28/77	1756	7:21	390	58.21N	118.09W	-51.	.070	.798	.09
4/28/77	1801	7:26	390	57.99N	116.78W	-45.	.062	.693	.09
4/28/77	1806	7:31	390	57.77N	115.53W	-50.	.088	.718	.12
4/28/77	1811	7:36	390	57.53N	114.28W	-52.	.082	.767	.11
4/28/77	1821	7:46	390	57.01N	111.79W	-50.	.084	.670	.13
4/28/77	1831	7:56	390	56.44N	109.39W	-52.	.073	.693	.11
4/28/77	1841	8:06	390	55.84N	107.06W	-53.	.096	.736	.13
4/28/77	1851	8:16	390	55.19N	104.82W	-54.	.099	.717	.14
4/28/77	1856	8:21	390	54.86N	103.73W	-54.	.081	.450	.18
4/28/77	1901	8:26	390	54.52N	102.67W	-54.	.088	.498	.18
4/28/77	1906	8:31	390	54.17N	101.63W	-57.	.101	.611	.17
4/28/77	1911	8:36	390	53.81N	100.62W	-57.	.097	.353	.27
4/28/77	1921	8:46	390	53.07N	98.63W	-58.	.068	.424	.16
4/28/77	1931	8:56	390	52.29N	96.68W	-58.	.119	.590	.20
4/28/77	1941	9:06	390	51.47N	94.80W	-59.	.112	.525	.21
4/28/77	1951	9:16	390	50.66N	92.90W	-60.	.111	.467	.24
4/28/77	1956	9:21	390	50.26N	91.92W	-59.	.138	.481	.29
4/28/77	2001	9:26	390	49.85N	90.96W	-57.	.108	.551	.20
4/28/77	2006	9:31	390	49.45N	90.05W	-56.	.092	.599	.15
4/28/77	2011	9:36	390	49.03N	89.11W	-57.	.105	.589	.18
4/28/77	2021	9:46	390	48.15N	87.27W	-55.	.149	.576	.26
4/28/77	2031	9:56	390	47.25N	85.49W	-53.	.116	.716	.16
4/28/77	2041	10:06	390	46.29N	83.73W	-51.	.115	.801	.14
4/28/77	2056	10:21	390	44.82N	81.22W	-50.	.113	.821	.14
4/28/77	2101	10:26	408	44.35N	80.40W	-52.	.366	.710	.52
4/28/77	2106	10:31	410	43.95N	79.47W	-52.	.141	.709	.20
4/28/77	2111	10:36	410	43.56N	78.58W	-53.	.078	.264	.29
4/28/77	2121	10:46	410	42.74N	76.83W	-54.	.072	.478	.15
4/28/77	2131	10:56	324	42.05N	75.02W	-54.	.092	.015	

A81


JFK TO HND DEPARTURE 29 APR 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0 13.0
ELAPSED TIME IN HOURS

JFK TO HND (PAGE 1 OF 2) DEPARTURE: 29 APR 77 AIRCRAFT: PANAM -N533PA

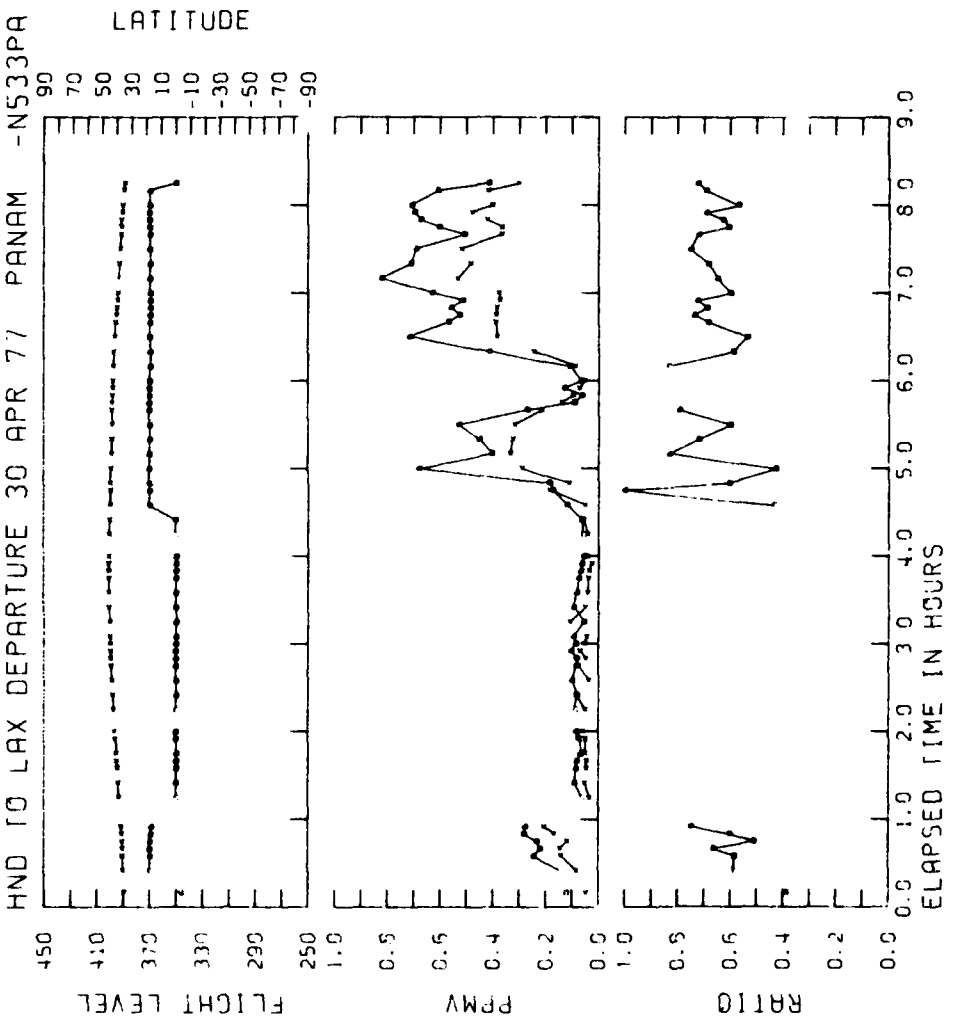
MAXIMUM VALUES: AMBIENT OZONE=1.104 CABIN OZONE= .671 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .90 TOTAL OBS IN CABIN: 98
DATA SOURCE: GASP TAPE VL010, FILE 2 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	AMB.	RATIO
4/29/77	1629	0:00	211	41.13N	74.00W	-28.	.025	.099	
4/29/77	1639	0:10	317	41.68N	75.08W	-55.	.044	.073	
4/29/77	1649	0:20	350	42.28N	76.33W	-61.	.045	.085	
4/29/77	1659	0:30	350	42.70N	77.79W	-61.	.044	.075	
4/29/77	1709	0:40	350	43.40N	79.01W	-61.	.041	.054	
4/29/77	1714	0:45	350	43.86N	79.51W	-61.	.049	.075	
4/29/77	1719	0:50	350	44.33N	80.02W	-61.	.029	.069	
4/29/77	1724	0:55	350	44.79N	80.54W	-61.	.036	.067	
4/29/77	1729	1:00	350	45.27N	81.08W	-62.	.001	.065	
4/29/77	1736	1:07	350	45.94N	81.86W	-62.	.035	.075	
4/29/77	1746	1:17	350	46.85N	82.97W	-62.	.043	.080	
4/29/77	1756	1:27	350	47.78N	84.15W	-62.	.045	.083	
4/29/77	1806	1:37	350	48.71N	85.40W	-62.	.045	.081	
4/29/77	1816	1:47	350	49.63N	86.70W	-62.	.083	.100	
4/29/77	1821	1:52	350	50.09N	87.37W	-61.	.060	.116	.52
4/29/77	1826	1:57	350	50.54N	88.05W	-62.	.068	.111	.61
4/29/77	1831	2:02	350	50.99N	88.74W	-61.	.079	.169	.47
4/29/77	1836	2:07	350	51.43N	89.45W	-59.	.120	.222	.54
4/29/77	1846	2:17	350	52.31N	90.92W	-60.	.082	.164	.50
4/29/77	1851	2:22	350	52.74N	91.67W	-61.	.107	.160	.67
4/29/77	1901	2:32	350	53.60N	93.24W	-61.	.197	.253	.78
4/29/77	1911	2:42	350	54.42N	94.84W	-62.	.078	.100	
4/29/77	1921	2:52	350	55.22N	96.52W	-60.	.154	.321	.48
4/29/77	1926	2:57	350	55.61N	97.38W	-59.	.224	.337	.66
4/29/77	1940	3:11	350	56.80N	100.21W	-61.	.130	.243	.53
4/29/77	1950	3:21	350	57.24N	102.12W	-61.	.154	.191	.81
4/29/77	1955	3:26	350	57.57N	103.06W	-61.	.122	.192	.64
4/29/77	2005	3:36	350	58.19N	104.98W	-56.	.161	.300	.54
4/29/77	2015	3:46	350	58.78N	106.96W	-55.	.235	.415	.57
4/29/77	2020	3:51	350	59.07N	107.99W	-54.	.276	.526	.52
4/29/77	2025	3:56	350	59.35N	109.04W	-53.	.435	.578	.75
4/29/77	2030	4:01	350	59.63N	110.10W	-49.	.452	.690	.66
4/29/77	2035	4:06	350	59.89N	111.21W	-48.	.443	.633	.70
4/29/77	2045	4:16	350	60.41N	113.52W	-48.	.443	.670	.66
4/29/77	2055	4:26	350	60.89N	115.92W	-46.	.671	.742	.90
4/29/77	2105	4:36	350	61.33N	118.41W	-46.	.499	.756	.66
4/29/77	2115	4:46	350	61.73N	121.02W	-44.	.533	.767	.69
4/29/77	2120	4:51	350	61.91N	122.35W	-43.	.587	.768	.76
4/29/77	2130	5:01	350	62.22N	125.04W	-43.	.506	.707	.72
4/29/77	2135	5:06	350	62.36N	126.41W	-44.	.525	.807	.65
4/29/77	2145	5:16	350	62.59N	129.15W	-46.	.582	.778	.75
4/29/77	2155	5:26	350	62.77N	131.87W	-47.	.519	.664	.78
4/29/77	2200	5:31	350	62.83N	133.21W	-50.	.504	.695	.73
4/29/77	2205A	5:36	350	62.88N	134.40W	-52.	.421	.584	.72
4/29/77	2215	5:46	350	62.95N	136.93W	-56.	.231	.276	.84
4/29/77	2225	5:56	350	62.97N	139.31W	-57.	.076	.103	.74
4/29/77	2230	6:01	350	62.97N	140.48W	-57.	.052	.102	.51
4/29/77	2235	6:06	350	62.95N	141.64W	-58.	.060	.093	
4/29/77	2240	6:11	350	62.79N	142.76W	-58.	.053	.079	
4/29/77	2245	6:16	378	62.59N	143.87W	-58.	.137	.430	.32
4/29/77	2255	6:26	390	62.18N	146.34W	-56.	.112	.767	.15
4/29/77	2305	6:36	390	62.07N	148.97W	-56.	.089	.604	.15
4/29/77	2315	6:46	389	61.91N	151.60W	-56.	.083	.544	.15
4/29/77	2325	6:56	390	61.69N	154.33W	-48.	.056	.796	.07
4/29/77	2330	7:01	390	61.56N	155.70W	-48.	.051	.776	.07
4/29/77	2335	7:06	390	61.42N	157.05W	-49.	.069	.692	.10
4/29/77	2340	7:11	390	61.25N	158.44W	-46.	.047	.836	.06
4/29/77	2345	7:16	389	61.08N	159.79W	-45.	.054	.835	.06
4/30/77	0005	7:36	390	60.38N	165.15W	-46.	.047	.805	.06
4/30/77	0015	7:46	390	60.01N	167.85W	-45.	.051	.70	.07
4/30/77	0025	7:56	390	59.58N	170.47W	-45.	.086	.809	.11
4/30/77	0030	8:01	389	59.35N	171.77W	-44.	.037	.[illegible]97	.05
4/30/77	0035	8:06	390	59.10N	173.04W	-43.	.063	.671	.09
4/30/77	0040	8:11	390	58.84N	174.31W	-43.	.022	.643	.03
4/30/77	0045	8:16	390	58.57N	175.54W	-43.	.099	.806	.12
4/30/77	0055	8:26	390	57.99N	177.95W	-44.	.056	.845	.07
4/30/77	0100	8:31	390	57.69N	179.11W	-43.	.064	.629	.10
4/30/77	0110	8:41	390	57.06N	178.64E	-43.	.044	.587	.07
4/30/77	0120	8:51	389	56.40N	176.48E	-44.	.069	.727	.09
4/30/77	0130	9:01	390	55.70N	174.43E	-44.	.057	.756	.08
4/30/77	0135	9:06	390	55.35N	173.43E	-44.	.054	.726	.07
4/30/77	0140	9:11	394	54.98N	172.46E	-44.	.101	.723	.14
4/30/77	0145	9:16	410	54.61N	171.51E	-45.	.152	.458	.33
4/30/77	0150	9:21	410	54.24N	170.57E	-44.	.043	.496	.09
4/30/77	0155	9:26	410	53.88N	169.63E	-42.	.036	.534	.07
4/30/77	0205	9:36	410	53.22N	167.72E	-43.	.036	.643	.06
4/30/77	0225	9:56	410	51.83N	164.10E	-44.	.030	.725	.04
4/30/77	0235	10:06	410	51.10N	162.40E	-43.	.053	.848	.06
4/30/77	0240	10:11	410	50.73N	161.56E	-44.	.096	.842	.11
4/30/77	0245	10:16	410	50.34N	160.72E	-43.	.051	.991	.05
4/30/77	0250	10:21	410	49.96N	159.91E	-44.	.038	.940	.04
4/30/77	0255	10:26	410	49.55N	159.12E	-44.	.069	.970	.07
4/30/77	0305	10:36	410	48.71N	157.52E	-45.	.089	1.037	.09
4/30/77	0315	10:46	410	47.84N	155.97E	-44.	.066	.985	.07
4/30/77	0325	10:56	410	46.98N	154.51E	-45.	.074	1.054	.07
4/30/77	0335	11:06	410	46.12N	153.13E	-46.	.087	1.104	.08
4/30/77	0340	11:11	410	45.69N	152.46E	-46.	.068	1.084	.06
4/30/77	0350	11:21	410	44.80N	151.14E	-46.	.092	.971	.09
4/30/77	0400	11:31	410	43.92N	149.88E	-47.	.063	.527	.12
4/30/77	0410	11:41	410	43.07N	148.65E	-46.	.066	.594	.11
4/30/77	0420	11:51	410	42.20N	147.43E	-47.	.043	.554	.08
4/30/77	0430	12:01	410	41.32N	146.27E	-46.	.064	.524	.12

JFK TO HNU (PAGE 2 OF 2) DEPARTURE: 29 APR 77 AIRCRAFT: PANAM -N533PA

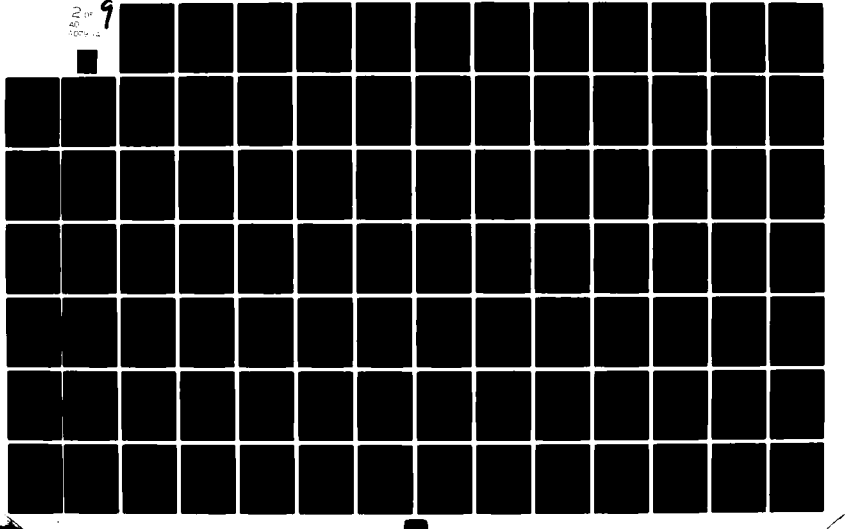
MAXIMUM VALUES: AMBIENT OZONE=1.104 CABIN OZONE= .671 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .90 TOTAL OBS IN CABIN: 96
DATA SOURCE: GASP TAPE VL010, FILE 2 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/30/77	0435	12:06	410	40.88N	145.70E	-48.	.062	.554	.11
4/30/77	0440	12:11	410	40.43N	145.13E	-48.	.082	.528	.16
4/30/77	0445	12:16	410	39.98N	144.56E	-50.	.229	.729	.31
4/30/77	0450	12:21	410	39.52N	144.01E	-48.	.092	.736	.13
4/30/77	0455	12:26	410	39.06N	143.45E	-49.	.099	.629	.16
4/30/77	0520	12:51	379	36.93N	140.83E	-60.	.135	.288	.47


HND TO LAX DEPARTURE 30 APR 77 PANAM -N533PA
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
FLIGHT LEVEL
450
410
370
330
290
250
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
ELAPSED TIME IN HOURS

AD-A079 114 NATIONAL AERONAUTICS AND SPACE ADMINISTRATION CLEVEL--ETC F/G 4/1
SIMULTANEOUS CABIN AND AMBIENT OZONE MEASUREMENTS ON TWO BOEING--ETC(U)
JUL 79 P J PERKINS, J D HOLDEMAN, G D NASTROM

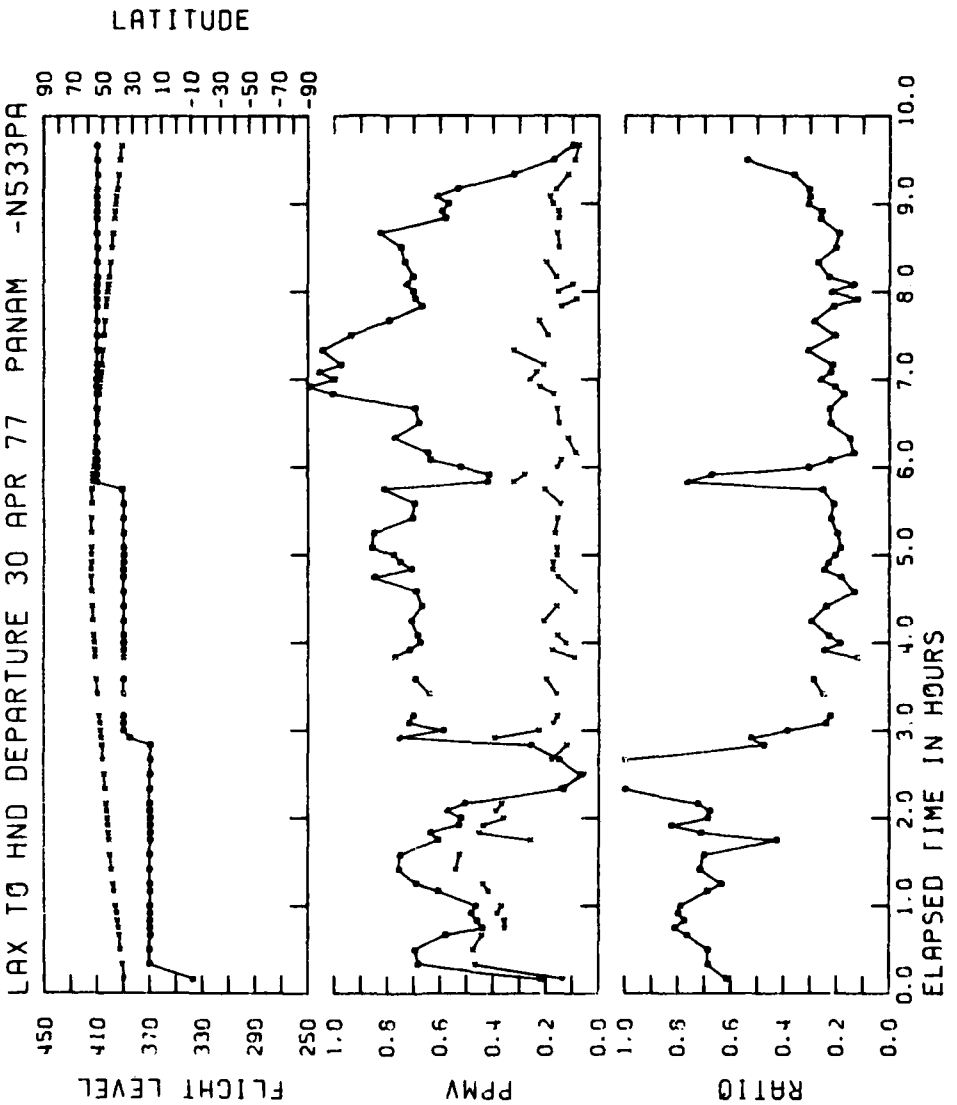
UNCLASSIFIED NASA TM-79166-VOL-1 FAA-AEE-79-05-VOL-1 NL



HND TO LAX (PAGE 1 OF 1) DEPARTURE: 30 APR 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .420 CABIN OZONE= .532 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.08 TOTAL OBS IN CABIN: 61
DATA SOURCE: GASP TAPE VL010, FILE 2

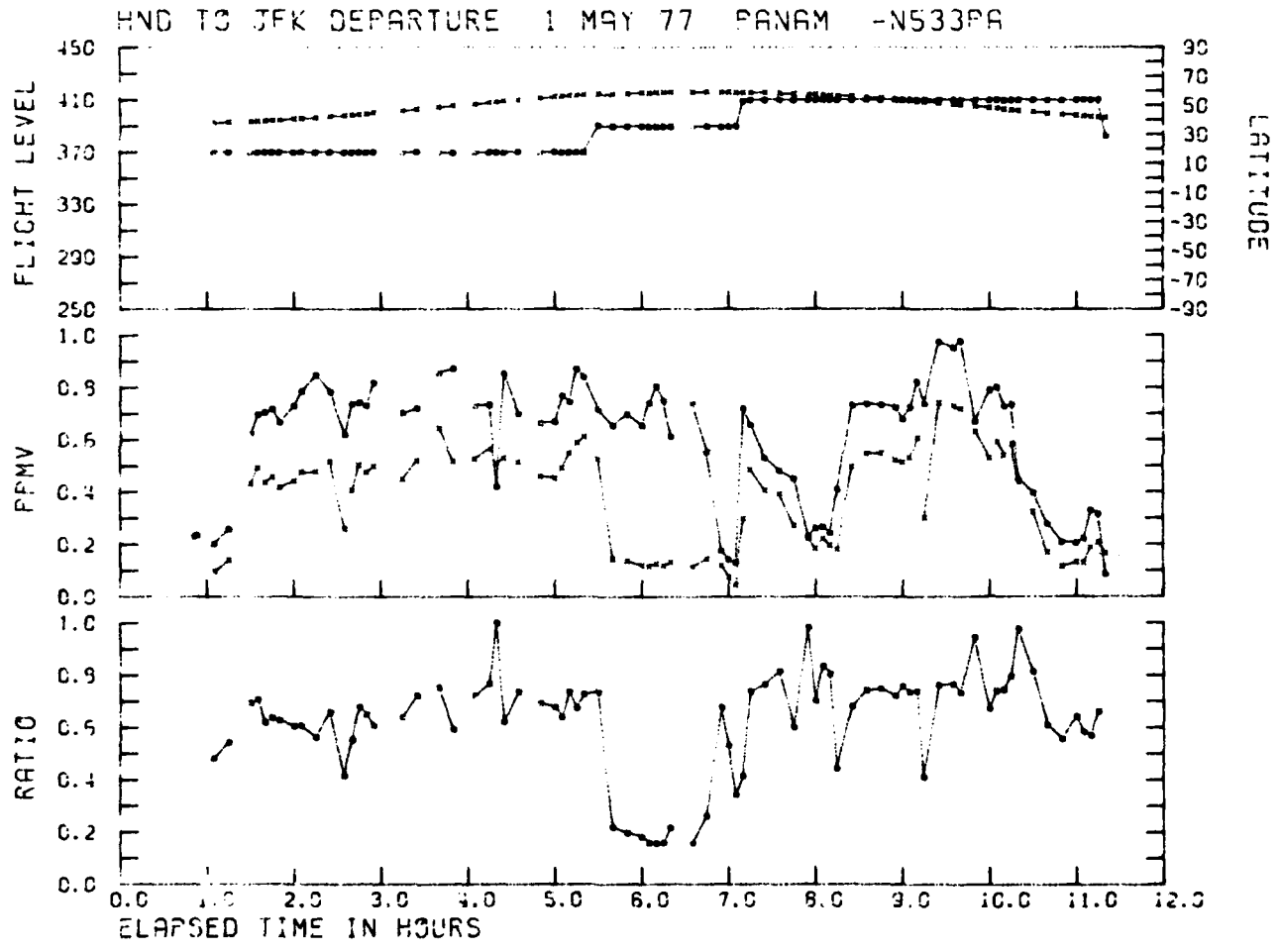
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/30/77	0840	0:10	346	35.56N	142.89E	-54.	.047	.121	.39
4/30/77	0855	0:25	369	36.21N	145.82E	-60.	.084	.144	.58
4/30/77	0905	0:35	370	36.62N	147.88E	-56.	.141	.242	.58
4/30/77	0910	0:40	370	36.81N	148.94E	-56.	.145	.219	.66
4/30/77	0915	0:45	370	36.98N	149.92E	-55.	.118	.232	.51
4/30/77	0920	0:50	369	37.35N	151.00E	-54.	.168	.280	.60
4/30/77	0925	0:55	369	37.68N	152.01E	-54.	.206	.276	.75
4/30/77	0947	1:17	350	39.14N	156.75E	-53.	.034	.061	
4/30/77	0957	1:27	350	39.73N	158.90E	-53.	.051	.089	
4/30/77	1007	1:37	350	40.38N	161.06E	-53.	.046	.084	
4/30/77	1012	1:42	350	40.74N	162.12E	-53.	.044	.081	
4/30/77	1017	1:47	350	41.09N	163.19E	-53.	.052	.066	
4/30/77	1025	1:55	350	41.59N	164.81E	-53.	.048	.073	
4/30/77	1034	2:04	350	42.19N	166.91E	-52.	.060	.083	
4/30/77	1047	2:17	350	42.92N	169.70E	-51.	.051	.087	
4/30/77	1057	2:27	350	43.46N	171.97E	-52.	.064	.080	
4/30/77	1107	2:37	350	43.96N	174.25E	-53.	.037	.099	
4/30/77	1117	2:47	350	44.41N	176.53E	-53.	.074	.082	
4/30/77	1122	2:52	350	44.61N	177.69E	-53.	.047	.080	
4/30/77	1127	2:57	350	44.81N	178.86E	-53.	.068	.102	.67
4/30/77	1132	3:02	350	44.99N	179.98W	-52.	.051	.084	
4/30/77	1137	3:07	350	45.15N	178.83W	-52.	.044	.093	
4/30/77	1147	3:17	350	45.43N	176.51W	-52.	.107	.054	
4/30/77	1157	3:27	350	45.67N	174.18W	-53.	.047	.091	
4/30/77	1207	3:37	350	45.85N	171.84W	-53.	.039	.080	
4/30/77	1217	3:47	350	45.94N	169.49W	-53.	.037	.073	
4/30/77	1222	3:52	350	45.86N	168.31W	-54.	.035	.066	
4/30/77	1227	3:57	350	45.77N	167.15W	-54.	.025	.063	
4/30/77	1232	4:02	350	45.67N	165.99W	-54.	.043	.053	
4/30/77	1247	4:17	350	45.29N	162.54W	-54.	.040	.057	
4/30/77	1257	4:27	350	44.98N	160.25W	-54.	.055	.062	
4/30/77	1307	4:37	370	44.80N	157.98W	-57.	.051	.116	.43
4/30/77	1317	4:47	370	44.61N	155.79W	-57.	.185	.172	1.08
4/30/77	1322	4:52	370	44.50N	154.71W	-57.	.112	.185	.61
4/30/77	1332	5:02	370	44.25N	152.58W	-55.	.289	.670	.43
4/30/77	1342	5:12	370	43.97N	150.51W	-52.	.334	.403	.83
4/30/77	1352	5:22	370	43.79N	148.50W	-50.	.325	.452	.72
4/30/77	1402	5:32	370	43.63N	146.55W	-54.	.319	.531	.60
4/30/77	1412	5:42	370	43.45N	144.66W	-60.	.213	.269	.79
4/30/77	1417	5:47	370	43.36N	143.76W	-61.	.139	.091	
4/30/77	1422	5:52	370	43.25N	142.88W	-63.	.094	.062	
4/30/77	1427	5:57	370	43.14N	141.97W	-63.	.072	.129	.56
4/30/77	1432	6:02	370	43.02N	141.07W	-64.	.053	.066	
4/30/77	1442	6:12	369	42.76N	139.30W	-63.	.090	.108	.83
4/30/77	1452	6:22	369	42.19N	137.69W	-59.	.242	.411	.59
4/30/77	1502	6:32	370	41.57N	136.02W	-51.	.382	.713	.54
4/30/77	1512	6:42	369	40.93N	134.40W	-48.	.388	.567	.68
4/30/77	1517	6:47	369	40.60N	133.60W	-48.	.387	.525	.74
4/30/77	1522	6:52	369	40.27N	132.82W	-47.	.384	.557	.69
4/30/77	1527	6:57	369	39.93N	132.05W	-46.	.373	.514	.73
4/30/77	1532	7:02	369	39.59N	131.29W	-46.	.378	.629	.60
4/30/77	1542	7:12	369	38.93N	129.75W	-46.	.532	.820	.65
4/30/77	1552	7:22	369	38.49N	128.11W	-48.	.483	.704	.68
4/30/77	1602	7:32	370	38.02N	126.48W	-49.	.518	.690	.75
4/30/77	1612	7:42	370	37.42N	124.95W	-51.	.366	.508	.72
4/30/77	1617	7:47	370	37.08N	124.21W	-52.	.366	.604	.61
4/30/77	1622	7:52	370	36.73N	123.48W	-50.	.420	.672	.63
4/30/77	1627	7:57	370	36.38N	122.75W	-53.	.478	.694	.69
4/30/77	1632	8:02	370	36.02N	122.03W	-52.	.400	.706	.57
4/30/77	1642	8:12	370	35.28N	120.63W	-54.	.418	.606	.69
4/30/77	1648	8:18	350	34.72N	119.77W	-57.	.299	.414	.72


LATITUDE
LAX TO HND DEPARTURE 30 APR 77 PANAM -N533PA
90 70 50 30 10 -10 -30 -50 -70 -90
450 410 370 330 290 250
FLIGHT LEVEL
1.0 0.8 0.6 0.4 0.2 0.0
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0
ELAPSED TIME IN HOURS

LAX TO HNL (PAGE 1 OF 1) DEPARTURE: 30 APR 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=1.091 CABIN OZONE= .541 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.20 TOTAL OBS IN CABIN: 76
DATA SOURCE: GASP TAPE VL010, FILE 2

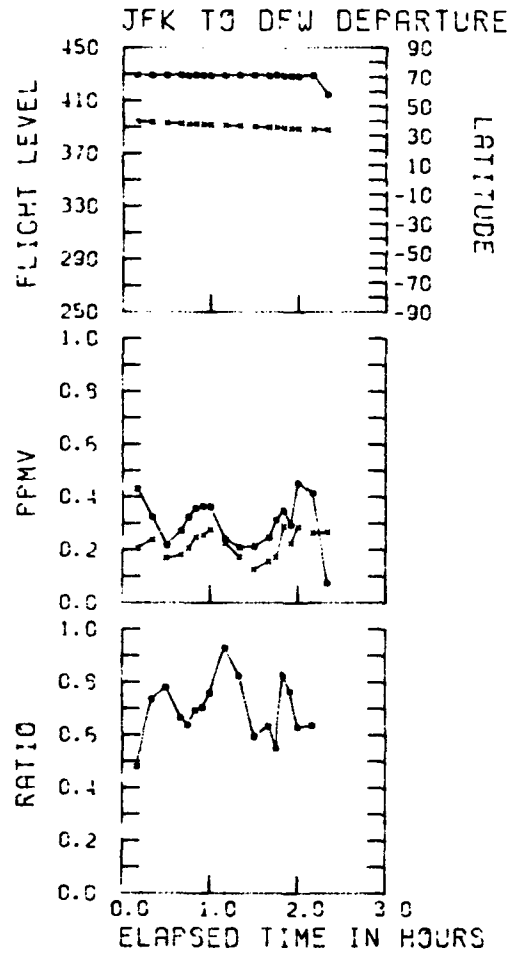
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/30/77	2027	0:10	337	35.52N	120.23W	-57.	.135	.219	.62
4/30/77	2037	0:20	370	36.66N	121.23W	-53.	.467	.681	.69
4/30/77	2047	0:30	370	37.85N	122.16W	-53.	.475	.693	.69
4/30/77	2057	0:40	370	38.99N	123.27W	-50.	.444	.580	.77
4/30/77	2102	0:45	370	39.56N	123.83W	-51.	.357	.440	.81
4/30/77	2107	0:50	370	40.13N	124.41W	-51.	.358	.461	.78
4/30/77	2112	0:55	370	40.69N	125.00W	-50.	.385	.482	.80
4/30/77	2117	1:00	370	41.25N	125.59W	-51.	.368	.466	.79
4/30/77	2127	1:10	370	42.36N	126.82W	-47.	.418	.608	.69
4/30/77	2132	1:15	370	42.90N	127.43W	-48.	.438	.690	.63
4/30/77	2142	1:25	370	43.97N	128.70W	-48.	.541	.756	.72
4/30/77	2152	1:35	370	45.03N	130.02W	-49.	.526	.751	.70
4/30/77	2202	1:45	370	45.82N	131.73W	-48.	.259	.608	.43
4/30/77	2207	1:50	370	46.21N	132.60W	-48.	.454	.637	.71
4/30/77	2212	1:55	370	46.58N	133.47W	-49.	.438	.531	.82
4/30/77	2217	2:00	370	46.95N	134.36W	-51.	.359	.522	.69
4/30/77	2222	2:05	370	47.32N	135.26W	-53.	.389	.572	.68
4/30/77	2227	2:10	370	47.67N	136.18W	-57.	.367	.507	.72
4/30/77	2237	2:20	370	48.36N	138.03W	-61.	.142	.134	1.06
4/30/77	2247	2:30	370	49.01N	139.93W	-62.	.055	.067	
4/30/77	2257	2:40	370	49.95N	141.60W	-60.	.178	.148	1.20
4/30/77	2307	2:50	370	50.86N	143.25W	-59.	.122	.257	.47
4/30/77	2312	2:55	385	51.30N	144.09W	-52.	.395	.754	.52
4/30/77	2317	3:00	390	51.73N	144.93W	-52.	.227	.588	.39
4/30/77	2322	3:05	390	52.16N	145.80W	-51.	.172	.719	.24
4/30/77	2327	3:10	390	52.57N	146.66W	-49.	.157	.703	.22
4/30/77	2342	3:25	390	53.75N	149.31W	-48.	.160	.641	.25
4/30/77	2352	3:35	390	54.47N	151.19W	-46.	.198	.693	.29
5/ 1/77	0007	3:50	390	55.46N	154.21W	-44.	.094	.773	.12
5/ 1/77	0012	3:55	390	55.77N	155.24W	-44.	.177	.717	.25
5/ 1/77	0017	4:00	390	56.08N	156.31W	-43.	.126	.677	.19
5/ 1/77	0022	4:05	390	56.38N	157.39W	-43.	.157	.687	.23
5/ 1/77	0032	4:15	390	56.95N	159.62W	-42.	.209	.709	.29
5/ 1/77	0042	4:25	390	57.33N	162.00W	-41.	.160	.670	.24
5/ 1/77	0052	4:35	390	57.61N	164.46W	-40.	.091	.691	.13
5/ 1/77	0102	4:45	390	57.85N	167.00W	-41.	.154	.850	.18
5/ 1/77	0107	4:50	390	57.96N	168.29W	-41.	.174	.707	.25
5/ 1/77	0112	4:55	390	58.05N	169.58W	-41.	.175	.753	.23
5/ 1/77	0117	5:00	390	58.07N	170.88W	-41.	.161	.778	.21
5/ 1/77	0122	5:05	390	58.03N	172.18W	-41.	.160	.859	.19
5/ 1/77	0132	5:15	390	57.93N	174.76W	-42.	.168	.852	.20
5/ 1/77	0142	5:25	390	57.77N	177.33W	-42.	.156	.705	.22
5/ 1/77	0152	5:35	390	57.55N	179.86W	-43.	.147	.698	.21
5/ 1/77	0202	5:45	390	56.95N	177.69E	-43.	.205	.813	.25
5/ 1/77	0207	5:50	410	56.62N	176.80E	-44.	.323	.422	.77
5/ 1/77	0212	5:55	410	56.27N	175.74E	-43.	.281	.416	.68
5/ 1/77	0217	6:00	410	55.92N	174.71E	-43.	.161	.524	.31
5/ 1/77	0222	6:05	410	55.56N	173.70E	-44.	.144	.637	.23
5/ 1/77	0227	6:10	410	55.19N	172.70E	-44.	.088	.647	.14
5/ 1/77	0237	6:20	410	54.44N	170.76E	-44.	.116	.772	.15
5/ 1/77	0247	6:30	410	53.71N	168.79E	-46.	.150	.679	.22
5/ 1/77	0257	6:40	410	53.00N	166.79E	-46.	.156	.694	.22
5/ 1/77	0307	6:50	410	52.27N	164.89E	-46.	.170	1.004	.17
5/ 1/77	0312	6:55	410	51.90N	163.97E	-46.	.222	1.091	.20
5/ 1/77	0317	7:00	410	51.51N	163.07E	-47.	.259	1.000	.26
5/ 1/77	0322	7:05	410	51.12N	162.17E	-45.	.236	1.054	.22
5/ 1/77	0327	7:10	410	50.73N	161.31E	-45.	.210	.975	.22
5/ 1/77	0337	7:20	410	49.94N	159.65E	-46.	.322	1.045	.31
5/ 1/77	0347	7:30	410	49.13N	158.07E	-45.	.193	.938	.21
5/ 1/77	0357	7:40	410	48.28N	156.53E	-46.	.225	.792	.28
5/ 1/77	0407	7:50	410	47.42N	155.04E	-46.	.141	.668	.21
5/ 1/77	0412	7:55	410	46.98N	154.32E	-46.	.084	.693	.12
5/ 1/77	0417	8:00	410	46.54N	153.61E	-47.	.153	.701	.22
5/ 1/77	0422	8:05	410	46.09N	152.90E	-46.	.099	.726	.14
5/ 1/77	0427	8:10	410	45.63N	152.21E	-48.	.162	.704	.23
5/ 1/77	0437	8:20	410	44.71N	150.85E	-49.	.199	.734	.27
5/ 1/77	0447	8:30	410	43.77N	149.51E	-50.	.152	.748	.20
5/ 1/77	0457	8:40	410	42.85N	148.23E	-53.	.157	.826	.19
5/ 1/77	0507	8:50	410	41.92N	146.99E	-55.	.151	.579	.26
5/ 1/77	0512	8:55	410	41.43N	146.37E	-57.	.152	.593	.26
5/ 1/77	0517	9:00	410	40.96N	145.78E	-58.	.174	.560	.31
5/ 1/77	0522	9:05	410	40.50N	145.20E	-61.	.184	.611	.30
5/ 1/77	0527	9:10	410	40.04N	144.61E	-61.	.163	.534	.31
5/ 1/77	0537	9:20	410	39.09N	143.43E	-65.	.117	.323	.36
5/ 1/77	0547	9:30	410	38.15N	142.31E	-68.	.093	.172	.54
5/ 1/77	0557	9:40	410	36.99N	141.58E	-69.	.077	.099	


HND TO JFK DEPARTURE 1 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
2.0
3.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
12.0
ELAPSED TIME IN HOURS

HND TO JFK (PAGE 1 OF 1) DEPARTURE: 1 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .978 CABIN OZONE= .741 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.22 TOTAL OBS IN CABIN: 79
DATA SOURCE: GASP TAPE VL010, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/ 1/77	1055	1:05	370	38.39N	151.54E	-59.	.098	.203	.48
5/ 1/77	1105	1:15	370	38.78N	153.23E	-58.	.140	.258	.54
5/ 1/77	1120	1:30	370	39.33N	155.89E	-53.	.434	.625	.69
5/ 1/77	1125	1:35	370	39.51N	156.82E	-51.	.494	.697	.71
5/ 1/77	1130	1:40	370	39.68N	157.77E	-51.	.438	.705	.62
5/ 1/77	1135	1:45	370	39.84N	158.69E	-49.	.458	.718	.64
5/ 1/77	1140	1:50	370	39.99N	159.64E	-49.	.419	.667	.63
5/ 1/77	1150	2:00	370	40.66N	161.35E	-49.	.443	.730	.61
5/ 1/77	1155	2:05	370	41.05N	162.22E	-49.	.477	.785	.61
5/ 1/77	1205	2:15	370	41.82N	164.02E	-48.	.479	.848	.56
5/ 1/77	1215	2:25	370	42.57N	165.89E	-49.	.518	.784	.66
5/ 1/77	1225	2:35	370	43.30N	167.82E	-50.	.260	.622	.42
5/ 1/77	1230	2:40	370	43.65N	168.80E	-49.	.408	.738	.55
5/ 1/77	1235	2:45	370	44.01N	169.81E	-51.	.505	.743	.68
5/ 1/77	1240	2:50	370	44.44N	170.79E	-52.	.477	.732	.65
5/ 1/77	1245	2:55	370	44.89N	171.77E	-52.	.498	.817	.61
5/ 1/77	1305	3:15	370	46.56N	175.96E	-49.	.451	.703	.64
5/ 1/77	1315	3:25	370	47.36N	178.14E	-49.	.520	.720	.72
5/ 1/77	1333	3:43	370	48.94N	177.98W	-47.	.645	.856	.75
5/ 1/77	1343	3:53	370	49.82N	175.92W	-47.	.519	.873	.59
5/ 1/77	1358	4:08	370	51.08N	172.67W	-45.	.529	.731	.72
5/ 1/77	1408	4:18	370	52.06N	170.67W	-43.	.565	.735	.77
5/ 1/77	1413	4:23	370	52.52N	169.67W	-43.	.512	.421	1.22
5/ 1/77	1418	4:28	369	52.98N	168.65W	-42.	.530	.851	.62
5/ 1/77	1428	4:38	370	53.86N	166.55W	-42.	.516	.700	.74
5/ 1/77	1443	4:53	370	55.09N	163.29W	-40.	.460	.664	.69
5/ 1/77	1453	5:03	370	55.94N	161.71W	-41.	.454	.668	.68
5/ 1/77	1458	5:08	370	56.47N	160.83W	-40.	.493	.768	.64
5/ 1/77	1503	5:13	370	56.95N	159.85W	-40.	.550	.746	.74
5/ 1/77	1508	5:18	370	57.12N	158.54W	-40.	.589	.871	.68
5/ 1/77	1513	5:23	370	57.29N	157.23W	-39.	.613	.842	.73
5/ 1/77	1523	5:33	390	57.58N	154.59W	-40.	.526	.714	.74
5/ 1/77	1533	5:43	390	57.85N	151.92W	-39.	.144	.656	.22
5/ 1/77	1543	5:53	390	58.33N	149.31W	-42.	.138	.698	.20
5/ 1/77	1553	6:03	389	58.74N	146.62W	-43.	.120	.655	.18
5/ 1/77	1558	6:08	390	58.92N	145.27W	-45.	.119	.741	.16
5/ 1/77	1603	6:13	390	59.09N	143.89W	-46.	.127	.804	.16
5/ 1/77	1608	6:18	389	59.25N	142.49W	-46.	.120	.751	.16
5/ 1/77	1613	6:23	390	59.32N	141.08W	-46.	.133	.614	.22
5/ 1/77	1628	6:38	390	59.42N	136.89W	-52.	.116	.734	.16
5/ 1/77	1638	6:48	390	59.41N	134.10W	-61.	.145	.554	.26
5/ 1/77	1648	6:58	389	59.35N	131.32W	-64.	.120	.177	.68
5/ 1/77	1653	7:03	389	59.30N	129.95W	-64.	.076	.147	.54
5/ 1/77	1658	7:08	390	59.24N	128.61W	-64.	.046	.133	.35
5/ 1/77	1703	7:13	409	59.16N	127.26W	-56.	.300	.720	.42
5/ 1/77	1708	7:18	410	59.06N	125.90W	-59.	.486	.658	.74
5/ 1/77	1718	7:28	410	58.84N	123.25W	-60.	.406	.531	.76
5/ 1/77	1728	7:38	410	58.55N	120.63W	-63.	.394	.483	.82
5/ 1/77	1738	7:48	410	58.20N	117.98W	-63.	.273	.452	.60
5/ 1/77	1748	7:58	410	57.80N	115.41W	-65.	.226	.230	.98
5/ 1/77	1753	8:03	410	57.58N	114.13W	-65.	.184	.261	.70
5/ 1/77	1758	8:08	410	57.34N	112.85W	-64.	.224	.268	.84
5/ 1/77	1803	8:13	410	57.09N	111.60W	-63.	.198	.245	.81
5/ 1/77	1808	8:18	410	56.83N	110.35W	-62.	.182	.410	.44
5/ 1/77	1818	8:28	410	56.27N	107.90W	-59.	.498	.731	.68
5/ 1/77	1828	8:38	410	55.67N	105.52W	-55.	.549	.738	.74
5/ 1/77	1838	8:48	410	55.01N	103.17W	-55.	.550	.734	.75
5/ 1/77	1848	8:58	410	54.28N	100.83W	-53.	.524	.725	.72
5/ 1/77	1853	9:03	410	53.91N	99.74W	-51.	.516	.681	.76
5/ 1/77	1858	9:08	410	53.52N	98.64W	-51.	.534	.724	.74
5/ 1/77	1903	9:13	410	53.12N	97.55W	-51.	.608	.822	.74
5/ 1/77	1908	9:18	410	52.71N	96.48W	-50.	.304	.739	.41
5/ 1/77	1918	9:28	410	51.86N	94.41W	-49.	.741	.974	.76
5/ 1/77	1928	9:38	410	50.98N	92.42W	-49.	.729	.952	.77
5/ 1/77	1933	9:43	410	50.53N	91.46W	-50.	.718	.978	.73
5/ 1/77	1943	9:53	410	49.61N	89.59W	-49.	.633	.670	.94
5/ 1/77	1953	10:03	410	48.65N	87.78W	-51.	.531	.790	.67
5/ 1/77	1958	10:08	410	48.16N	86.89W	-52.	.592	.800	.74
5/ 1/77	2003	10:13	410	47.69N	86.05W	-55.	.543	.730	.74
5/ 1/77	2008	10:18	410	47.17N	85.27W	-55.	.586	.737	.80
5/ 1/77	2013	10:23	410	46.63N	84.54W	-60.	.441	.452	.98
5/ 1/77	2023	10:33	410	45.69N	82.92W	-62.	.325	.399	.81
5/ 1/77	2033	10:43	410	44.84N	81.22W	-65.	.171	.280	.61
5/ 1/77	2043	10:53	410	44.11N	79.44W	-67.	.117	.210	.56
5/ 1/77	2053	11:03	410	43.27N	77.83W	-68.	.132	.206	.64
5/ 1/77	2058	11:08	410	42.89N	76.96W	-68.	.130	.222	.59
5/ 1/77	2103	11:13	410	42.48N	76.16W	-67.	.189	.331	.57
5/ 1/77	2108	11:18	410	42.13N	75.32W	-68.	.211	.319	.66
5/ 1/77	2113	11:23	383	41.81N	74.45W	-65.	.165	.088	

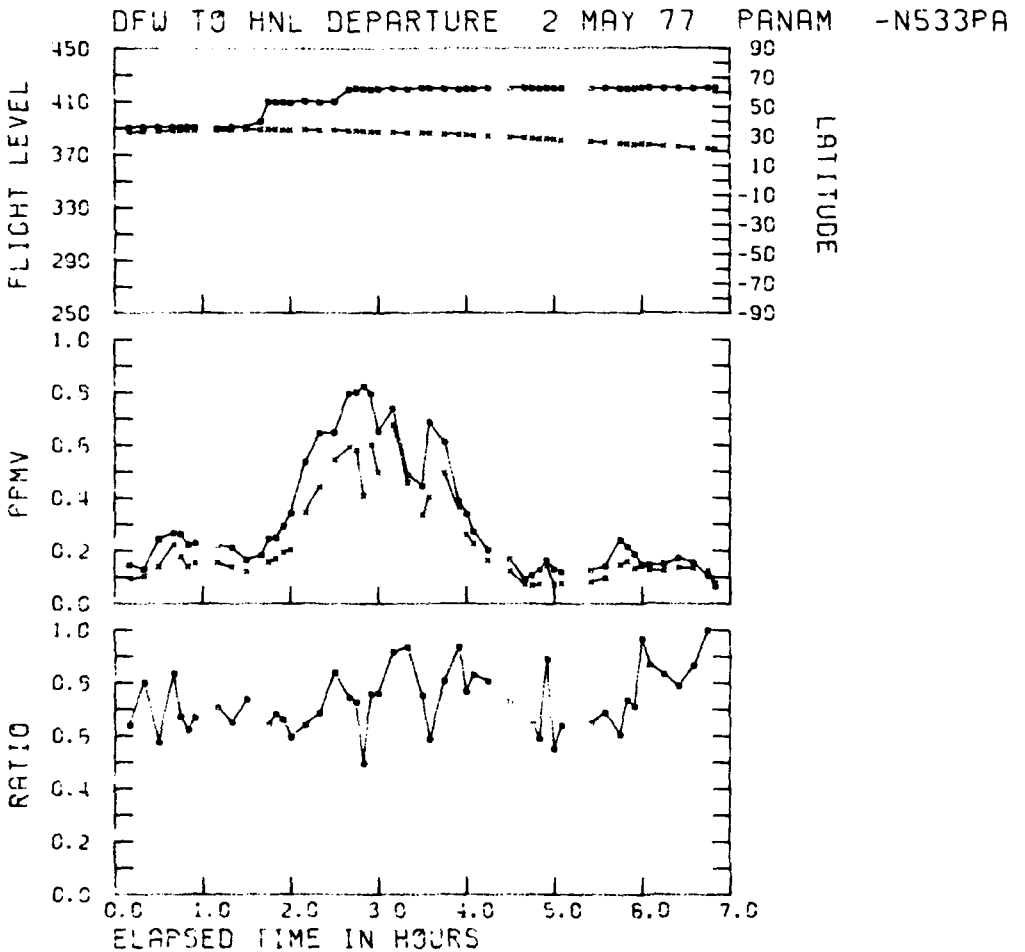

JFK TO DFW DEPARTURE 2 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

JFK TO DFW (PAGE 1 OF 1) DEPARTURE: 2 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .453 CABIN OZONE= .289 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .93 TOTAL OBS IN CABIN: 18
DATA SOURCE: GASP TAPE VL010, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/ 2/77	1522	0:13	429	39.91N	76.05W	-68.	.208	.432	.48	5/ 2/77	1632	1:23	429	36.85N	85.93W	-70.	.174	.211	.82
5/ 2/77	1532	0:23	429	39.36N	77.44W	-69.	.239	.325	.74	5/ 2/77	1642	1:33	429	36.42N	87.36W	-67.	.127	.214	.59
5/ 2/77	1542	0:33	429	38.80N	78.79W	-70.	.170	.218	.78	5/ 2/77	1652	1:43	429	35.97N	88.77W	-66.	.156	.244	.64
5/ 2/77	1552	0:43	429	38.37N	80.21W	-71.	.181	.272	.67	5/ 2/77	1657	1:48	430	35.74N	89.47W	-66.	.173	.314	.55
5/ 2/77	1557	0:48	429	38.19N	80.94W	-70.	.208	.325	.64	5/ 2/77	1702	1:53	429	35.50N	90.18W	-64.	.289	.350	.83
5/ 2/77	1602	0:53	429	38.02N	81.67W	-68.	.248	.358	.69	5/ 2/77	1707	1:58	429	35.25N	90.92W	-64.	.226	.294	.77
5/ 2/77	1607	0:58	429	37.83N	82.39W	-68.	.257	.365	.70	5/ 2/77	1712	2:03	429	34.99N	91.65W	-61.	.286	.453	.63
5/ 2/77	1612	1:03	429	37.65N	83.10W	-68.	.276	.364	.76	5/ 2/77	1722	2:13	429	34.47N	93.06W	-66.	.264	.415	.64
5/ 2/77	1622	1:13	429	37.26N	84.53W	-70.	.226	.243	.93	5/ 2/77	1732	2:23	415	33.95N	94.53W	-68.	.266	.074	

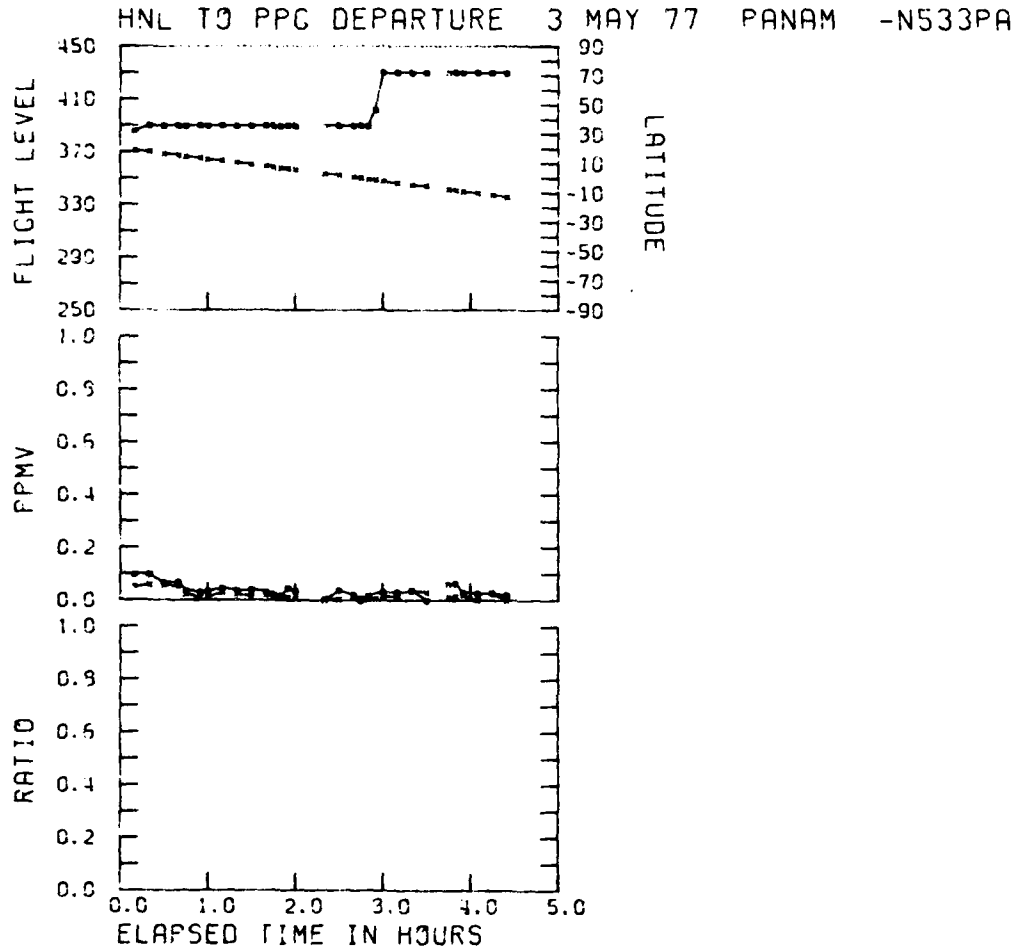
A-83


DFW TO HNL DEPARTURE 2 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
ELAPSED TIME IN HOURS

DFW TO HNL (PAGE 1 OF 1) DEPARTURE: 2 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .821 CABIN OZONE= .677 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.18 TOTAL OBS IN CABIN: 50
DATA SOURCE: GASP TAPE VL010, FILE 2

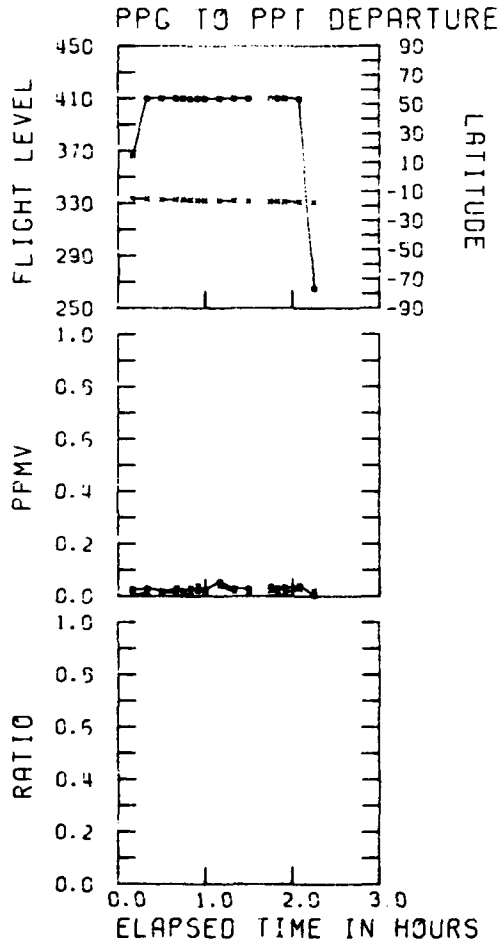
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/ 2/77	1951	0:13	391	33.39N	99.57W	-62.	.094	.147	.64
5/ 2/77	2001	0:23	391	33.76N	101.02W	-62.	.105	.131	.80
5/ 2/77	2011	0:33	391	34.12N	102.48W	-61.	.140	.244	.57
5/ 2/77	2021	0:43	391	34.45N	103.93W	-61.	.224	.268	.84
5/ 2/77	2026	0:48	391	34.60N	104.65W	-61.	.177	.263	.67
5/ 2/77	2031	0:53	391	34.75N	105.36W	-62.	.138	.222	.62
5/ 2/77	2036	0:58	391	34.90N	106.07W	-62.	.153	.229	.67
5/ 2/77	2049	1:11	391	35.05N	107.99W	-61.	.155	.219	.71
5/ 2/77	2059	1:21	391	35.05N	109.44W	-62.	.138	.212	.65
5/ 2/77	2109	1:31	391	35.23N	110.83W	-63.	.120	.163	.74
5/ 2/77	2119	1:41	395	35.13N	112.17W	-63.		.183	
5/ 2/77	2124	1:46	410	35.10N	112.85W	-63.	.158	.245	.64
5/ 2/77	2129	1:51	410	35.05N	113.54W	-63.	.168	.247	.68
5/ 2/77	2134	1:56	410	35.00N	114.23W	-62.	.194	.293	.66
5/ 2/77	2139	2:01	410	34.94N	114.93W	-61.	.204	.343	.59
5/ 2/77	2149	2:11	410	34.81N	116.34W	-59.	.343	.535	.64
5/ 2/77	2159	2:21	410	34.65N	117.77W	-58.	.441	.645	.68
5/ 2/77	2209	2:31	410	34.54N	119.30W	-56.	.543	.648	.84
5/ 2/77	2219	2:41	419	34.18N	120.75W	-54.	.592	.795	.74
5/ 2/77	2224	2:46	420	33.92N	121.44W	-54.	.582	.800	.73
5/ 2/77	2229	2:51	420	33.65N	122.15W	-55.	.407	.821	.50
5/ 2/77	2234	2:56	419	33.42N	122.88W	-54.	.601	.795	.76
5/ 2/77	2239	3:01	420	33.26N	123.66W	-55.	.496	.652	.76
5/ 2/77	2249	3:11	420	32.92N	125.15W	-54.	.677	.738	.92
5/ 2/77	2259	3:21	419	32.56N	126.69W	-55.	.457	.489	.93
5/ 2/77	2309	3:31	420	32.18N	128.24W	-57.	.335	.446	.75
5/ 2/77	2314	3:36	420	31.98N	129.00W	-58.	.401	.683	.59
5/ 2/77	2324	3:46	420	31.55N	130.57W	-59.	.493	.611	.81
5/ 2/77	2334	3:56	419	31.10N	132.16W	-64.	.362	.387	.94
5/ 2/77	2339	4:01	419	30.85N	132.92W	-66.	.260	.339	.77
5/ 2/77	2344	4:06	419	30.63N	133.68W	-68.	.226	.272	.83
5/ 2/77	2354	4:16	420	30.15N	135.19W	-69.	.164	.203	.81
5/ 3/77	0009	4:31	420	29.40N	137.44W	-68.	.122	.167	.73
5/ 3/77	0019	4:41	420	28.94N	138.76W	-69.	.072	.091	
5/ 3/77	0024	4:46	420	28.62N	139.64W	-69.	.069	.107	.64
5/ 3/77	0029	4:51	420	28.35N	140.36W	-69.	.075	.127	.59
5/ 3/77	0034	4:56	420	28.08N	141.09W	-69.	.145	.163	.89
5/ 3/77	0039	5:01	420	27.81N	141.79W	-69.	.071	.129	.55
5/ 3/77	0044	5:06	420	27.53N	142.48W	-69.	.076	.119	.64
5/ 3/77	0104	5:26	420	26.43N	145.18W	-70.	.081	.125	.65
5/ 3/77	0114	5:36	420	25.86N	146.51W	-70.	.097	.141	.69
5/ 3/77	0124	5:46	419	25.26N	147.85W	-66.	.145	.240	.60
5/ 3/77	0129	5:51	419	24.96N	148.52W	-67.	.159	.216	.74
5/ 3/77	0134	5:56	420	24.67N	149.16W	-68.	.134	.188	.71
5/ 3/77	0139	6:01	420	24.37N	149.79W	-67.	.145	.150	.97
5/ 3/77	0144	6:06	420	24.07N	150.42W	-67.	.126	.145	.87
5/ 3/77	0154	6:16	420	23.48N	151.66W	-67.	.125	.150	.83
5/ 3/77	0204	6:26	420	22.86N	152.90W	-65.	.135	.171	.79
5/ 3/77	0214	6:36	420	22.21N	154.09W	-65.	.134	.155	.86
5/ 3/77	0224	6:46	420	21.56N	155.26W	-63.	.126	.107	1.18
5/ 3/77	0229	6:51	420	21.24N	155.82W	-64.	.077	.065	


HNL TO PPC DEPARTURE 3 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

HNL TO PPG (PAGE 1 OF 1) DEPARTURE: 3 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .098 CABIN OZONE= .058 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 31
DATA SOURCE: GASP TAPE VL010, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/ 3/77	0512	0:10	386	19.26N	158.34W	-55.	.052	.098	
5/ 3/77	0522	0:20	390	18.04N	158.79W	-56.	.058	.097	
5/ 3/77	0532	0:30	390	16.83N	159.23W	-56.	.057	.065	
5/ 3/77	0542	0:40	390	15.59N	159.67W	-56.	.053	.068	
5/ 3/77	0547	0:45	390	14.98N	159.89W	-57.	.023	.036	
5/ 3/77	0557	0:55	390	13.78N	160.35W	-55.	.010	.031	
5/ 3/77	0602	1:00	390	13.19N	160.57W	-55.	.012	.033	
5/ 3/77	0612	1:10	390	11.97N	161.03W	-55.	.031	.046	
5/ 3/77	0622	1:20	390	10.74N	161.50W	-55.	.023	.036	
5/ 3/77	0632	1:30	390	9.54N	161.94W	-55.	.017	.040	
5/ 3/77	0642	1:40	390	8.33N	162.39W	-54.	.021	.032	
5/ 3/77	0647	1:45	390	7.71N	162.62W	-54.	.017	.023	
5/ 3/77	0652	1:50	390	7.11N	162.84W	-55.	.013	.017	
5/ 3/77	0657	1:55	390	6.50N	163.07W	-55.	.010	.046	
5/ 3/77	0702	2:00	390	5.88N	163.29W	-55.	.008	.035	
5/ 3/77	0722	2:20	390	3.32N	164.22W	-55.	.006	0.000	
5/ 3/77	0732	2:30	390	2.01N	164.69W	-55.	.004	.038	
5/ 3/77	0742	2:40	390	.69N	165.16W	-54.	.018	.019	
5/ 3/77	0747	2:45	390	.03N	165.40W	-55.	.008	0.000	
5/ 3/77	0752	2:50	390	.63S	165.64W	-55.	.005	.018	
5/ 3/77	0757	2:55	402	1.28S	165.87W	-58.	.005		
5/ 3/77	0802	3:00	430	1.90S	166.10W	-65.	.019	.032	
5/ 3/77	0812	3:10	430	3.16S	166.55W	-65.	.014	.031	
5/ 3/77	0822	3:20	430	4.41S	167.01W	-65.	.037	.038	
5/ 3/77	0832	3:30	430	5.23S	167.30W	-66.	.030	0.000	
5/ 3/77	0847	3:45	430	7.62S	168.18W	-65.	.013	.062	
5/ 3/77	0852	3:50	430	8.28S	168.42W	-65.	.016	.065	
5/ 3/77	0857	3:55	430	8.93S	168.66W	-65.	.020	.030	
5/ 3/77	0907	4:05	430	10.20S	169.13W	-65.	.001	.027	
5/ 3/77	0917	4:15	430	11.47S	169.61W	-65.	.028	.027	
5/ 3/77	0927	4:25	430	12.77S	170.10W	-65.	.000	.021	


PPG TO PPT DEPARTURE 3 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

PPG TO PPT (PAGE 1 OF 1) DEPARTURE: 3 MAY 77 AIRCRAFT: PANAM -N533PA

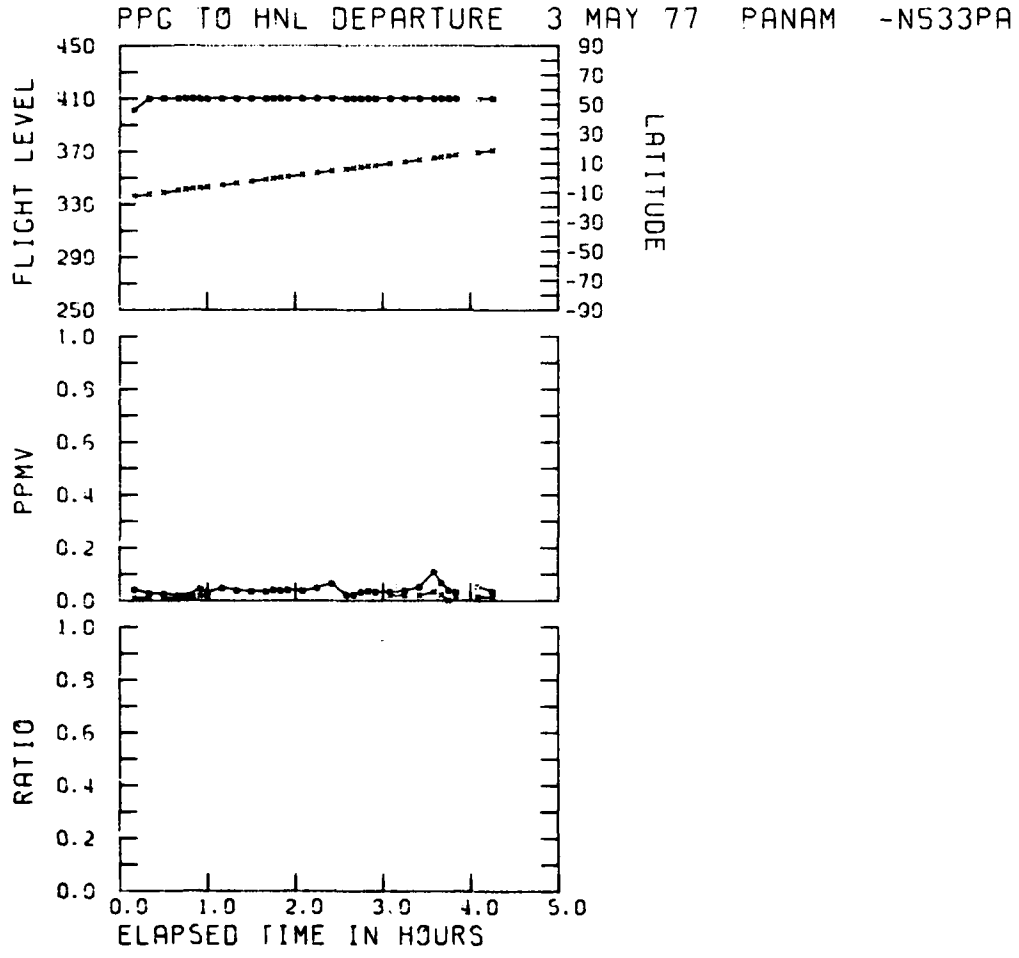
MAXIMUM VALUES: AMBIENT OZONE= .054 CABIN OZONE= .041 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)=***** TOTAL OBS IN CABIN: 16
DATA SOURCE: GASP TAPE VL010, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/ 3/77	1115	0:10	366	14.70S	168.62W	-48.	.006	.026	
5/ 3/77	1125	0:20	410	14.98S	167.25W	-59.	.015	.030	
5/ 3/77	1135	0:30	410	15.24S	165.87W	-60.	.017	.018	
5/ 3/77	1145	0:40	410	15.48S	164.48W	-60.	.011	.028	
5/ 3/77	1150	0:45	410	15.60S	163.78W	-60.	.004	.018	
5/ 3/77	1155	0:50	410	15.71S	163.08W	-60.	.005	.030	
5/ 3/77	1200	0:55	410	15.82S	162.38W	-60.	.041	.022	
5/ 3/77	1205	1:00	410	15.93S	161.68W	-60.	.015	.024	
5/ 3/77	1215	1:10	410	16.14S	160.27W	-59.	.040	.054	
5/ 3/77	1225	1:20	410	16.34S	158.85W	-59.	.019	.029	
5/ 3/77	1235	1:30	410	16.54S	157.41W	-60.	.016	.028	
5/ 3/77	1250	1:45	410	16.81S	155.25W	-60.	.021	.036	
5/ 3/77	1255	1:50	410	16.92S	154.52W	-61.	.015	.029	
5/ 3/77	1300	1:55	410	16.99S	153.79W	-61.	.017	.032	
5/ 3/77	1310	2:05	410	17.17S	152.33W	-60.	.028	.040	
5/ 3/77	1320	2:15	265	17.36S	150.84W	-23.	.021	.003	

PPT TO PPG (PAGE 1 OF 1) DEPARTURE: 3 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .047 CABIN OZONE= .023 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)=***** TOTAL OBS IN CABIN: 17
DATA SOURCE: GASP TAPE VL010, FILE 2

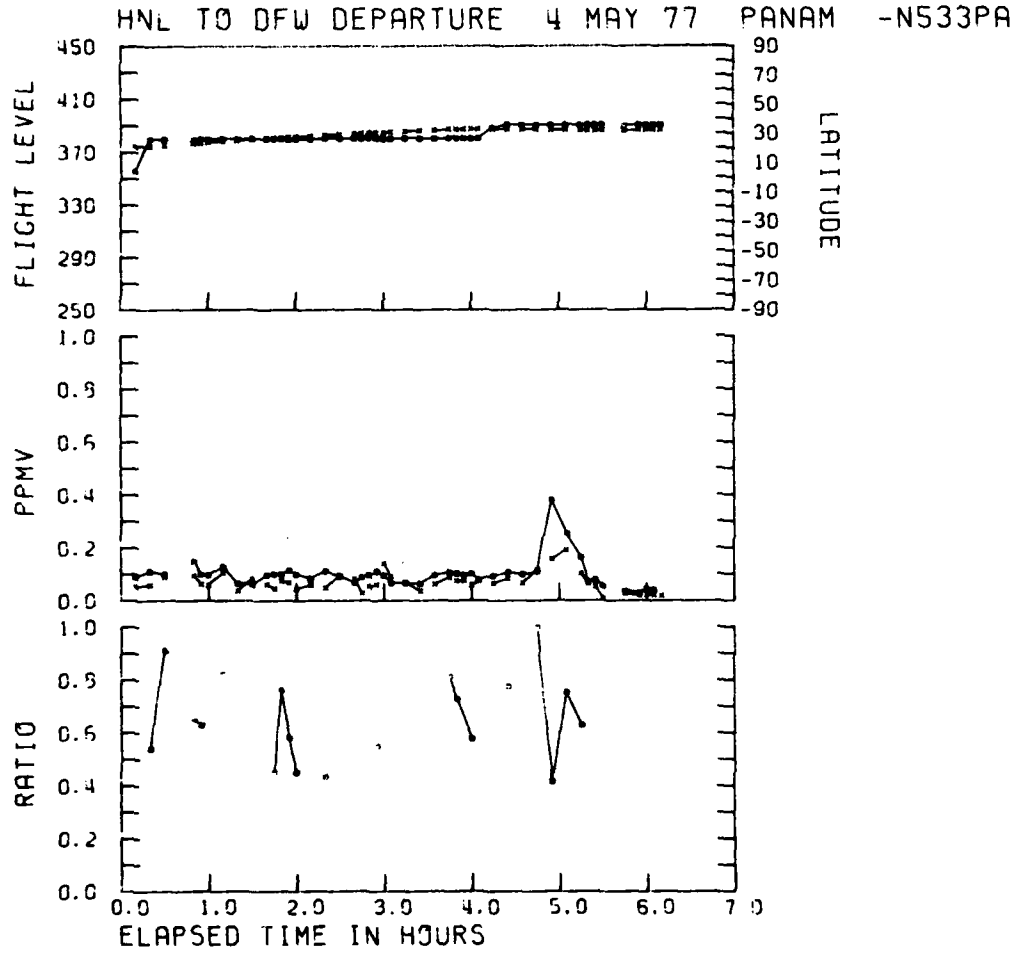
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/ 3/77	1823	0:05	402	17.33S	151.41W	-58.	.010	.024	
5/ 3/77	1833	0:15	430	17.18S	152.68W	-65.	.019	.047	
5/ 3/77	1843	0:25	430	17.02S	153.94W	-65.	.019	.040	
5/ 3/77	1853	0:35	430	16.86S	155.24W	-65.	.014	.025	
5/ 3/77	1858	0:40	430	16.78S	155.90W	-64.	.014	.029	
5/ 3/77	1903	0:45	430	16.69S	156.55W	-65.	.015	.031	
5/ 3/77	1908	0:50	430	16.61S	157.19W	-65.	.020	.025	
5/ 3/77	1913	0:55	430	16.52S	157.83W	-65.	.018	.029	
5/ 3/77	1928	1:10	430	16.24S	159.79W	-65.	.023	.035	
5/ 3/77	1938	1:20	430	16.04S	161.09W	-65.	.021	.043	
5/ 3/77	1948	1:30	430	15.84S	162.39W	-65.	.020	.047	
5/ 3/77	1953	1:35	430	15.73S	163.03W	-65.	.019	.041	
5/ 3/77	1958	1:40	430	15.63S	163.68W	-65.	.019	.037	
5/ 3/77	2003	1:45	430	15.51S	164.34W	-65.	.015	.032	
5/ 3/77	2013	1:55	430	15.28S	165.68W	-65.	.018	.036	
5/ 3/77	2023	2:05	430	15.04S	167.01W	-65.	.015	.034	
5/ 3/77	2033	2:15	430	14.79S	168.34W	-65.	.021	.034	


PPC TO HNL DEPARTURE 3 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

PPG TO HNL (PAGE 1 OF 1) DEPARTURE: 3 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .108 CABIN OZONE= .033 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .31 TOTAL OBS IN CABIN: 17
DATA SOURCE: GASP TAPE VL010, FILE 2

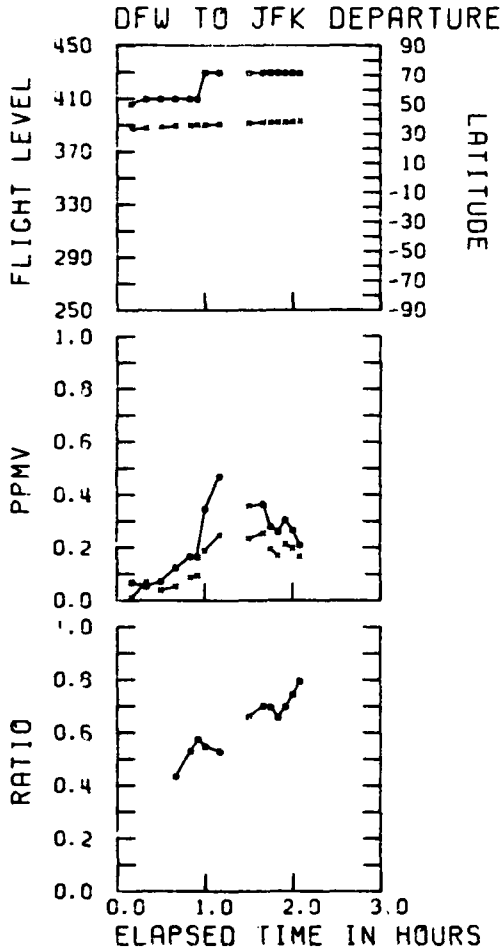
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/ 3/77	2234	0:10	401	12.32S	169.93W	-57.	.011	.042	
5/ 3/77	2244	0:20	410	11.03S	169.45W	-60.	.012	.028	
5/ 3/77	2254	0:30	410	9.76S	168.97W	-60.	.010	.025	
5/ 3/77	2304	0:40	410	8.50S	168.51W	-59.	.011	.019	
5/ 3/77	2309	0:45	410	7.89S	168.28W	-60.	.011	.015	
5/ 3/77	2314	0:50	410	7.28S	168.06W	-60.	.014		
5/ 3/77	2319	0:55	410	6.65S	167.83W	-60.	.019	.045	
5/ 3/77	2324	1:00	410	6.03S	167.60W	-60.	.016	.030	
5/ 3/77	2334	1:10	410	4.76S	167.15W	-60.		.048	
5/ 3/77	2344	1:20	410	3.49S	166.69W	-60.		.038	
5/ 3/77	2354	1:30	410	2.21S	166.23W	-60.		.034	
5/ 4/77	0004	1:40	410	.92S	165.77W	-59.		.034	
5/ 4/77	0009	1:45	410	.28S	165.54W	-59.		.040	
5/ 4/77	0014	1:50	410	.35N	165.31W	-59.		.038	
5/ 4/77	0019	1:55	410	.98N	165.09W	-59.		.040	
5/ 4/77	0029	2:05	410	2.23N	164.65W	-59.		.037	
5/ 4/77	0039	2:15	410	3.49N	164.19W	-59.		.048	
5/ 4/77	0049	2:25	410	4.75N	163.75W	-60.		.064	
5/ 4/77	0059	2:35	410	6.02N	163.29W	-60.		.022	
5/ 4/77	0104	2:40	410	6.62N	163.08W	-60.		.021	
5/ 4/77	0109	2:45	410	7.24N	162.85W	-60.		.032	
5/ 4/77	0114	2:50	410	7.86N	162.63W	-61.		.036	
5/ 4/77	0119	2:55	410	8.49N	162.40W	-61.		.032	
5/ 4/77	0129	3:05	410	9.75N	161.94W	-61.	.021	.033	
5/ 4/77	0139	3:15	410	11.01N	161.47W	-61.	.020	.038	
5/ 4/77	0149	3:25	410	12.29N	161.00W	-61.	.020	.051	
5/ 4/77	0159	3:35	410	13.57N	160.52W	-61.	.033	.108	.31
5/ 4/77	0204	3:40	410	14.22N	160.28W	-61.	.022	.067	
5/ 4/77	0209	3:45	410	14.87N	160.03W	-61.	.000	.038	
5/ 4/77	0214	3:50	410	15.52N	159.79W	-61.	.016	.032	
5/ 4/77	0229	4:05	410	17.44N	159.04W	-61.	.016	.054	
5/ 4/77	0239	4:15	410	18.74N	158.53W	-61.	.011	.036	


HNL TO DFW DEPARTURE 4 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
ELAPSED TIME IN HOURS

HNL TO DFW (PAGE 1 OF 1) DEPARTURE: 4 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .380 CABIN OZONE= .192 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.04 TOTAL OBS IN CABIN: 46
DATA SOURCE: GASP TAPE VL010, FILE 2 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

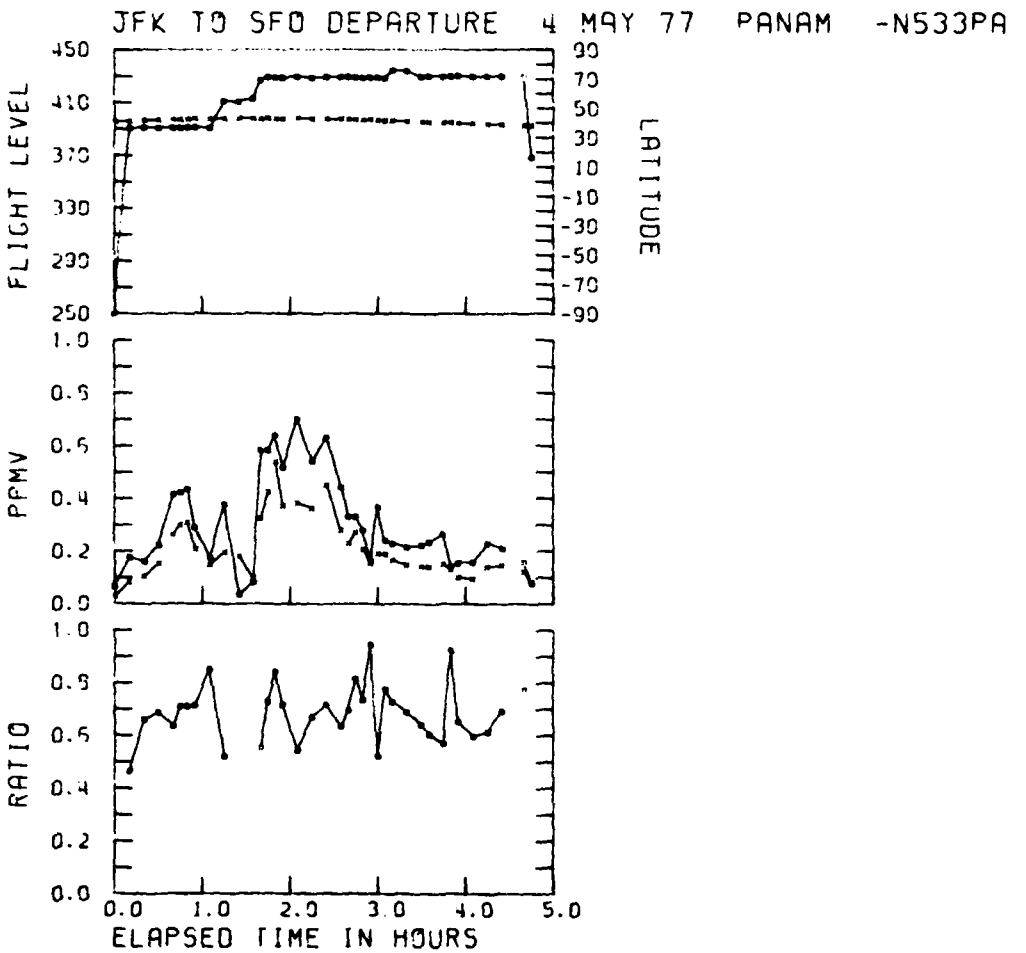
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/ 4/77	0536	0:10	356	21.87N	155.63W	-50.	.054	.089		5/ 4/77	0841	3:15	380	31.85N	129.40W	-59.	.069	.065	
5/ 4/77	0546	0:20	380	22.30N	154.08W	-56.	.060	.111	.54	5/ 4/77	0851	3:25	380	32.25N	127.89W	-59.	.036	.064	
5/ 4/77	0556	0:30	380	22.97N	152.66W	-55.	.091	.100		5/ 4/77	0901	3:35	380	32.63N	126.38W	-59.	.062	.097	
5/ 4/77	0616	0:50	380	24.31N	149.88W	-57.	.096	.149	.64	5/ 4/77	0911	3:45	380	32.98N	124.87W	-59.	.087	.107	.81
5/ 4/77	0621	0:55	380	24.63N	149.22W	-59.	.063	.100		5/ 4/77	0916	3:50	380	33.15N	124.10W	-59.	.075	.103	.73
5/ 4/77	0626	1:00	380	24.93N	148.55W	-59.	.060	.097		5/ 4/77	0921	3:55	380	33.32N	123.33W	-59.	.076	.097	
5/ 4/77	0636	1:10	380	25.53N	147.22W	-60.	.106	.129	.82	5/ 4/77	0926	4:00	380	33.47N	122.54W	-60.	.059	.102	.58
5/ 4/77	0646	1:20	380	26.12N	145.87W	-60.	.038	.065		5/ 4/77	0931	4:05	380	33.44N	121.72W	-60.	.075	.078	
5/ 4/77	0656	1:30	380	26.70N	144.49W	-60.	.062	.061		5/ 4/77	0941	4:15	388	33.36N	120.08W	-62.	.066	.094	
5/ 4/77	0706	1:40	380	27.26N	143.11W	-59.	.062	.097		5/ 4/77	0951	4:25	391	33.25N	118.40W	-61.	.083	.107	.78
5/ 4/77	0711	1:45	380	27.54N	142.41W	-59.	.045	.100		5/ 4/77	1002	4:36	390	33.11N	116.60W	-60.	.066	.099	
5/ 4/77	0716	1:50	380	27.82N	141.70W	-59.	.076	.100		5/ 4/77	1012	4:46	390	32.96N	114.94W	-60.	.115	.111	1.04
5/ 4/77	0721	1:55	379	28.09N	141.00W	-59.	.067	.115	.58	5/ 4/77	1022	4:56	390	32.81N	113.29W	-60.	.158	.380	.42
5/ 4/77	0726	2:00	379	28.36N	140.31W	-59.	.045	.100		5/ 4/77	1032	5:06	390	32.64N	111.59W	-60.	.192	.255	.75
5/ 4/77	0736	2:10	380	28.87N	138.91W	-59.	.060	.084		5/ 4/77	1042	5:16	390	32.45N	109.84W	-60.	.104	.165	.63
5/ 4/77	0746	2:20	380	29.37N	137.50W	-59.	.048	.111	.43	5/ 4/77	1047	5:21	390	32.34N	108.96W	-60.	.063	.072	
5/ 4/77	0756	2:30	380	29.85N	136.06W	-59.	.094	.092		5/ 4/77	1052	5:26	390	32.22N	106.03W	-60.	.052	.078	
5/ 4/77	0806	2:40	380	30.32N	134.62W	-59.	.082	.067		5/ 4/77	1057	5:31	390	32.09N	107.12W	-61.	.007	.055	
5/ 4/77	0811	2:45	380	30.55N	133.89W	-58.	.027	.087		5/ 4/77	1112	5:46	390	32.22N	104.27W	-62.	.027	.038	
5/ 4/77	0816	2:50	380	30.78N	133.16W	-59.	.053	.095		5/ 4/77	1122	5:56	390	32.45N	102.38W	-62.	.019	.029	
5/ 4/77	0821	2:55	380	31.00N	132.42W	-58.	.061	.111	.55	5/ 4/77	1128A	6:02	390	32.57N	101.21W	-62.	.025	.045	
5/ 4/77	0826	3:00	380	31.22N	131.67W	-58.	.142	.097		5/ 4/77	1133	6:07	390	32.67N	100.27W	-62.	.021	.040	
5/ 4/77	0831	3:05	380	31.43N	130.92W	-59.	.092	.067		5/ 4/77	1138	6:12	390	32.75N	99.34W	-62.	.019		


DFW TO JFK DEPARTURE 4 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

DFW TO JFK (PAGE 1 OF 1) DEPARTURE: 4 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .469 CABIN OZONE= .255 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .80 TOTAL OBS IN CABIN: 15
DATA SOURCE: GASP TAPE VL010, FILE 2

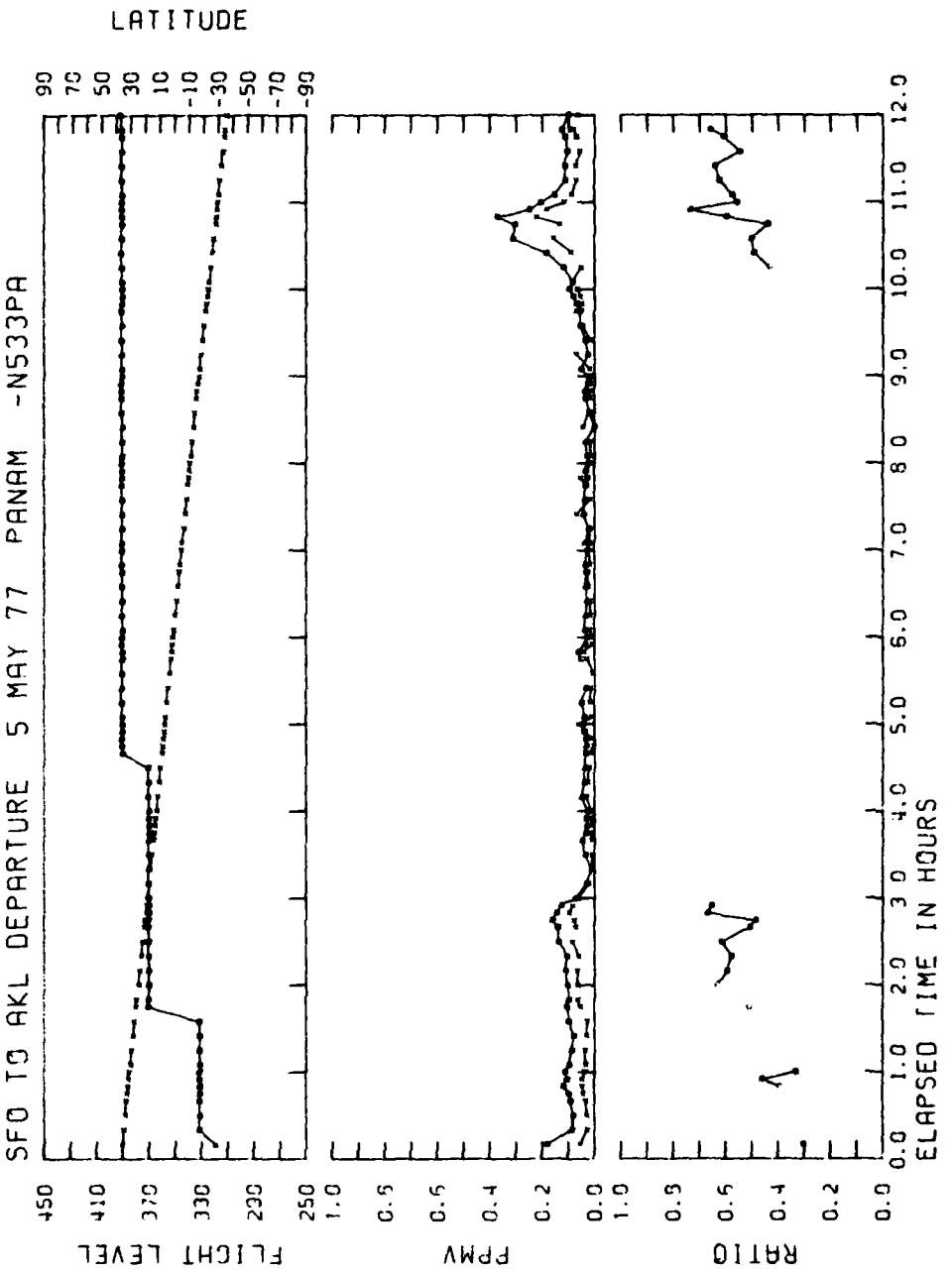
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/ 4/77	1343	0:10	406	33.46N	94.79W	-65.	.012	.068	
5/ 4/77	1353	0:20	409	34.18N	93.26W	-66.	.071	.053	
5/ 4/77	1403	0:30	410	34.89N	91.67W	-66.	.040	.072	
5/ 4/77	1413	0:40	410	35.55N	90.07W	-65.	.054	.124	.44
5/ 4/77	1423	0:50	410	36.17N	88.49W	-66.	.088	.166	.53
5/ 4/77	1428	0:55	410	36.46N	87.73W	-67.	.095	.165	.58
5/ 4/77	1433	1:00	430	36.42N	86.91W	-70.	.189	.345	.55
5/ 4/77	1443	1:10	430	36.79N	85.24W	-69.	.248	.464	.53
5/ 4/77	1503	1:30	430	37.71N	81.91W	-64.	.235	.356	.66
5/ 4/77	1513	1:40	430	38.01N	80.20W	-67.	.255	.364	.70
5/ 4/77	1518	1:45	430	38.01N	79.30W	-66.	.194	.279	.70
5/ 4/77	1523	1:50	430	38.01N	78.40W	-69.	.170	.259	.66
5/ 4/77	1528	1:55	430	38.26N	77.60W	-68.	.213	.305	.70
5/ 4/77	1533	2:00	430	38.58N	76.81W	-69.	.198	.266	.74
5/ 4/77	1538	2:05	430	38.88N	76.01W	-70.	.167	.210	.80


JFK TO SFO DEPARTURE 4 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

JFK TO SFO (PAGE 1 OF 1) DEPARTURE: 4 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .702 CABIN OZONE= .539 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .94 TOTAL OBS IN CABIN: 38
DATA SOURCE: GASP TAPE VL010, FILE 2 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/ 4/77	2232	0:00	225	41.24N	74.17W	-24.	.030	.065	
5/ 4/77	2242	0:10	391	41.65N	75.63W	-64.	.082	.176	.47
5/ 4/77	2252	0:20	391	42.01N	77.13W	-65.	.107	.162	.66
5/ 4/77	2302	0:30	391	42.37N	78.71W	-63.	.153	.223	.69
5/ 4/77	2312	0:40	391	42.54N	80.35W	-62.	.264	.415	.64
5/ 4/77	2317	0:45	391	42.57N	81.17W	-62.	.300	.422	.71
5/ 4/77	2322	0:50	391	42.67N	81.95W	-62.	.310	.436	.71
5/ 4/77	2327	0:55	391	42.80N	82.74W	-64.	.209	.292	.72
5/ 4/77	2337	1:05	391	43.02N	84.31W	-64.	.148	.174	.85
5/ 4/77	2347	1:15	411	43.14N	85.88W	-66.	.197	.378	.52
5/ 4/77	2357	1:25	411	43.13N	87.46W	-68.	.179	.035	
5/ 5/77	0007	1:35	413	43.11N	89.01W	-67.	.096	.081	
5/ 5/77	0012	1:40	427	43.09N	89.81W	-65.	.323	.581	.56
5/ 5/77	0017	1:45	429	43.06N	90.65W	-62.	.425	.583	.73
5/ 5/77	0022	1:50	429	43.02N	91.50W	-60.	.539	.639	.84
5/ 5/77	0027	1:55	429	42.98N	92.34W	-60.	.371	.517	.72
5/ 5/77	0037	2:05	429	43.20N	94.01W	-57.	.382	.702	.54
5/ 5/77	0047	2:15	429	43.05N	95.73W	-58.	.362	.541	.67
5/ 5/77	0057	2:25	429	42.89N	97.37W	-54.	.452	.630	.72
5/ 5/77	0107	2:35	429	42.69N	99.06W	-55.	.281	.442	.64
5/ 5/77	0112	2:40	429	42.58N	99.91W	-53.	.230	.331	.69
5/ 5/77	0117	2:45	429	42.46N	100.77W	-52.	.270	.331	.82
5/ 5/77	0122	2:50	429	42.34N	101.63W	-53.	.206	.280	.74
5/ 5/77	0127	2:55	429	42.21N	102.49W	-53.	.154	.163	.94
5/ 5/77	0132	3:00	429	42.07N	103.34W	-50.	.192	.364	.52
5/ 5/77	0141A	3:09	429	41.80N	104.90W	-52.	.188	.242	.78
5/ 5/77	0146	3:14	434	41.65N	105.70W	-52.	.167	.229	.73
5/ 5/77	0156	3:24	434	41.34N	107.31W	-53.	.150	.217	.69
5/ 5/77	0206	3:34	430	41.01N	108.87W	-54.	.143	.223	.64
5/ 5/77	0211	3:39	431	40.83N	109.66W	-53.	.143	.236	.61
5/ 5/77	0221	3:49	430	40.47N	111.19W	-53.	.150	.263	.57
5/ 5/77	0226	3:54	430	40.28N	111.97W	-55.	.132	.143	.92
5/ 5/77	0231	3:59	431	40.09N	112.73W	-54.	.102	.156	.65
5/ 5/77	0237	4:05	430	39.89N	113.50W	-54.	.095	.159	.60
5/ 5/77	0251	4:19	430	39.29N	115.64W	-56.	.141	.229	.62
5/ 5/77	0301	4:29	430	38.87N	117.04W	-57.	.147	.212	.69
5/ 5/77	0312	4:40	430	38.43N	118.46W	-58.	.123	.159	.77
5/ 5/77	0321	4:49	368	38.01N	119.79W	-56.	.084	.079	


LATITUDE
SFO TO AKL DEPARTURE 5 MAY 77 PANAM -N533PA
FLIGHT LEVEL
PPMV
RATIO
ELAPSED TIME IN HOURS

SFO TO AKL (PAGE 1 OF 2) DEPARTURE: 5 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .371 CABIN OZONE= .221 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .73 TOTAL OBS IN CABIN: 93
DATA SOURCE: GASP TAPE VL010, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/ 5/77	0559	0:10	320	36.43N	124.38W	-47.	.055	.181	.30
5/ 5/77	0604	0:20	332	35.57N	125.38W	-49.	.028	.086	
5/ 5/77	0609	0:30	332	34.63N	126.35W	-49.	.030	.081	
5/ 5/77	0614	0:40	331	33.64N	127.33W	-48.	.035	.092	
5/ 5/77	0619	0:45	331	33.14N	127.82W	-48.	.044	.098	
5/ 5/77	0624	0:50	331	32.64N	128.30W	-47.	.046	.117	.39
5/ 5/77	0629	0:55	331	32.14N	128.78W	-47.	.048	.104	.46
5/ 5/77	0634	1:00	332	31.64N	129.24W	-47.	.038	.114	.33
5/ 5/77	0639	1:05	332	31.14N	129.70W	-47.	.035	.097	
5/ 5/77	0644	1:15	332	30.12N	130.62W	-47.	.037	.087	
5/ 5/77	0649	1:25	331	29.10N	131.55W	-47.	.030	.078	
5/ 5/77	0654	1:35	332	28.06N	132.47W	-47.	.026	.098	
5/ 5/77	0659	1:45	371	27.01N	133.39W	-57.	.053	.104	.51
5/ 5/77	0704	1:50	370	26.48N	133.84W	-57.	.064	.097	
5/ 5/77	0709	2:00	370	25.40N	134.74W	-57.	.065	.103	.63
5/ 5/77	0714	2:10	370	24.32N	135.62W	-56.	.066	.111	.59
5/ 5/77	0719	2:20	370	23.24N	136.49W	-56.	.060	.104	.58
5/ 5/77	0724	2:30	370	22.17N	137.34W	-55.	.084	.137	.61
5/ 5/77	0729	2:40	370	21.11N	138.16W	-54.	.070	.138	.51
5/ 5/77	0734	2:45	370	20.58N	138.56W	-53.	.079	.162	.49
5/ 5/77	0739	2:50	370	20.06N	138.95W	-52.	.097	.145	.67
5/ 5/77	0744	2:55	370	19.56N	139.36W	-51.	.083	.127	.65
5/ 5/77	0749	3:00	370	19.05N	139.76W	-51.	.063	.073	
5/ 5/77	0754	3:10	371	18.06N	140.55W	-51.	.022	.030	
5/ 5/77	0759	3:20	370	17.08N	141.32W	-51.	.013	.011	
5/ 5/77	0804	3:30	370	16.06N	142.11W	-51.	.005	.033	
5/ 5/77	0809	3:40	370	15.04N	142.88W	-51.	.011	.048	
5/ 5/77	0814	3:45	370	14.53N	143.27W	-51.	.016	.033	
5/ 5/77	0819	3:50	370	14.01N	143.66W	-51.	.012	.028	
5/ 5/77	0824	3:55	370	13.48N	144.05W	-51.	.016	.032	
5/ 5/77	0829	4:00	370	12.95N	144.45W	-51.	.013	.025	
5/ 5/77	0834	4:10	371	11.94N	145.26W	-51.	.031	.048	
5/ 5/77	0839	4:20	370	11.02N	146.19W	-50.	.024	.037	
5/ 5/77	0844	4:30	370	10.08N	147.12W	-50.	.021	.037	
5/ 5/77	0849	4:40	390	9.13N	148.05W	-55.	.016	.034	
5/ 5/77	0854	4:45	391	8.66N	148.51W	-55.	.004	.032	
5/ 5/77	0859	4:50	391	8.19N	148.96W	-55.	.011	.034	
5/ 5/77	0904	4:55	391	7.72N	149.42W	-55.	.042	.037	
5/ 5/77	0909	5:00	391	7.24N	149.89W	-55.	.059	.042	
5/ 5/77	0914	5:05	390	6.75N	150.36W	-55.	.011	.039	
5/ 5/77	0919	5:15	391	5.81N	151.26W	-55.	.016	.048	
5/ 5/77	0924	5:25	391	4.86N	152.17W	-55.	.017	.033	
5/ 5/77	0929	5:35	391	3.89N	153.09W	-56.	.007		
5/ 5/77	0934	5:45	390	2.92N	154.01W	-56.	.029	.052	
5/ 5/77	0939	5:50	390	2.42N	154.47W	-55.	.041	.062	
5/ 5/77	0944	5:55	391	1.94N	154.93W	-55.	.008	.036	

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/ 5/77	1149	6:00	390	1.46N	155.39W	-55.	.015	.027	
5/ 5/77	1154	6:05	390	.97N	155.85W	-55.	.018	.036	
5/ 5/77	1204	6:15	391	.01N	156.76W	-55.	.018	.034	
5/ 5/77	1214	6:25	391	.95S	157.67W	-55.	.017	.028	
5/ 5/77	1224	6:35	391	1.92S	158.59W	-55.	.025	.036	
5/ 5/77	1234	6:45	391	2.89S	159.51W	-55.	.027	.024	
5/ 5/77	1239	6:50	391	3.37S	159.97W	-55.	.019	.035	
5/ 5/77	1249	7:00	391	4.33S	160.88W	-55.	.024	.027	
5/ 5/77	1254	7:05	390	4.82S	161.35W	-55.	.037	.020	
5/ 5/77	1304	7:15	391	5.80S	162.26W	-55.	.022	.021	
5/ 5/77	1314	7:25	390	6.89S	163.07W	-55.	.069	.042	
5/ 5/77	1324	7:35	391	7.88S	163.99W	-55.	.017	.037	
5/ 5/77	1334	7:45	391	8.75S	165.05W	-55.	.031	.035	
5/ 5/77	1339	7:50	391	9.24S	165.53W	-55.	.053	.027	
5/ 5/77	1344	7:55	391	9.71S	166.00W	-55.	.029	.033	
5/ 5/77	1349	8:00	391	10.19S	166.48W	-55.	.013	.024	
5/ 5/77	1354	8:05	391	10.67S	166.95W	-55.	.017	.029	
5/ 5/77	1404	8:15	391	11.61S	167.90W	-55.	.016	.035	
5/ 5/77	1414	8:25	390	12.54S	168.84W	-55.	.044	0.000	
5/ 5/77	1424	8:35	391	13.45S	169.78W	-56.	.022	.018	
5/ 5/77	1436	8:47	391	14.55S	170.84W	-55.	.018	.033	
5/ 5/77	1441	8:52	391	15.12S	171.20W	-56.	.017	.035	
5/ 5/77	1446	8:57	391	15.66S	171.55W	-55.	.018	.027	
5/ 5/77	1451	9:02	391	16.21S	171.90W	-56.	.017	.023	
5/ 5/77	1456	9:07	391	16.76S	172.26W	-55.	.019	.051	
5/ 5/77	1506	9:17	391	17.87S	172.98W	-56.	.070	.026	
5/ 5/77	1516	9:27	391	18.93S	173.69W	-56.	.017	.033	
5/ 5/77	1526	9:37	391	20.00S	174.41W	-55.	.045	.053	
5/ 5/77	1536	9:47	391	21.08S	175.14W	-55.	.069	.054	
5/ 5/77	1541	9:52	391	21.66S	175.47W	-56.	.051	.070	
5/ 5/77	1546	9:57	390	22.25S	175.79W	-55.	.054	.081	
5/ 5/77	1551	10:02	391	22.85S	176.12W	-57.	.065	.095	
5/ 5/77	1556	10:07	390	23.43S	176.44W	-56.	.086	.085	
5/ 5/77	1606	10:17	391	24.55S	177.07W	-57.	.051	.118	.43
5/ 5/77	1616	10:27	391	25.63S	177.69W	-56.	.090	.183	.49
5/ 5/77	1626	10:37	391	26.71S	178.32W	-54.	.155	.309	.50
5/ 5/77	1636	10:47	391	27.79S	178.96W	-53.	.134	.305	.44
5/ 5/77	1641	10:52	391	28.31S	179.28W	-53.	.221	.371	.60
5/ 5/77	1646	10:57	391	28.83S	179.59W	-55.	.183	.249	.73
5/ 5/77	1651	11:02	391	29.35S	179.92W	-55.	.115	.206	.56
5/ 5/77	1656	11:07	391	29.87S	179.75E	-55.	.088	.153	.58
5/ 5/77	1706	11:17	391	30.91S	179.09E	-56.	.070	.112	.63
5/ 5/77	1716	11:27	391	31.94S	178.41E	-57.	.071	.111	.64
5/ 5/77	1726	11:37	390	32.98S	177.71E	-58.	.058	.106	.55
5/ 5/77	1736	11:47	391	34.01S	177.00E	-58.	.068	.112	.61
5/ 5/77	1741	11:52	391	34.52S	176.64E	-57.	.083	.126	.66

SFO TO AKL (PAGE 2 OF 2) DEPARTURE: 5 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .371 CABIN OZONE= .221 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .73 TOTAL OBS IN CABIN: 93
DATA SOURCE: GASP TAPE VL010, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/ 5/77	1751	12:02	392	35.52S	175.91E	-58.	.065	.099											

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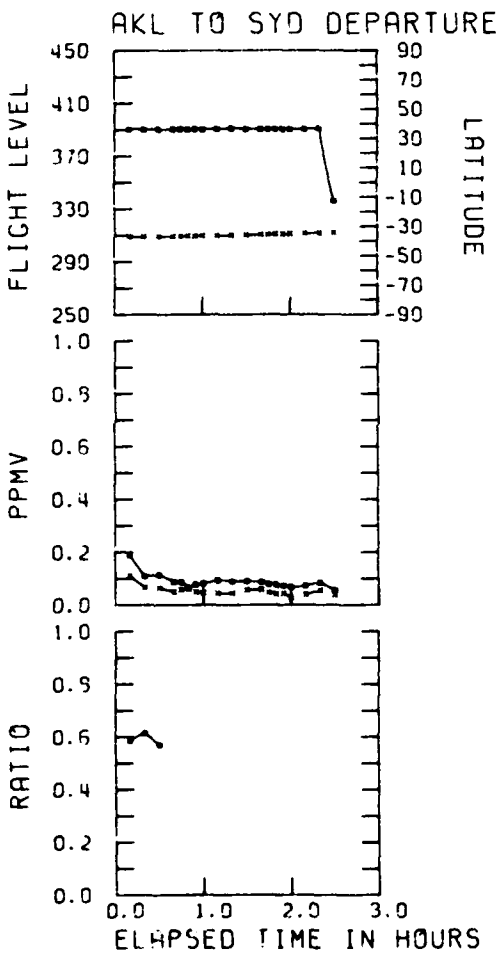
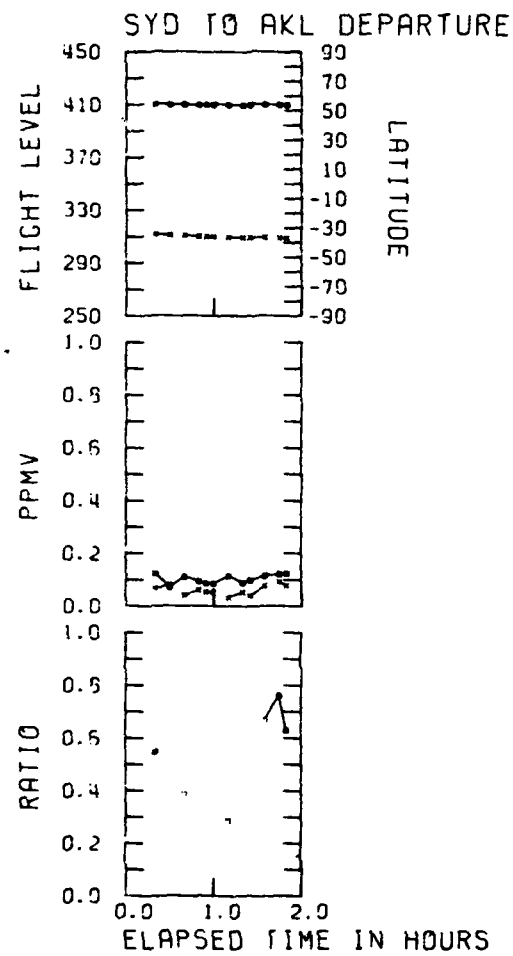

AKL TO SYD DEPARTURE 5 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

AKL TO SYD (PAGE 1 OF 1) DEPARTURE: 5 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .189 CABIN OZONE= .111 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .61 TOTAL OBS IN CABIN: 19
DATA SOURCE: GASP TAPE VL010, FILE 2

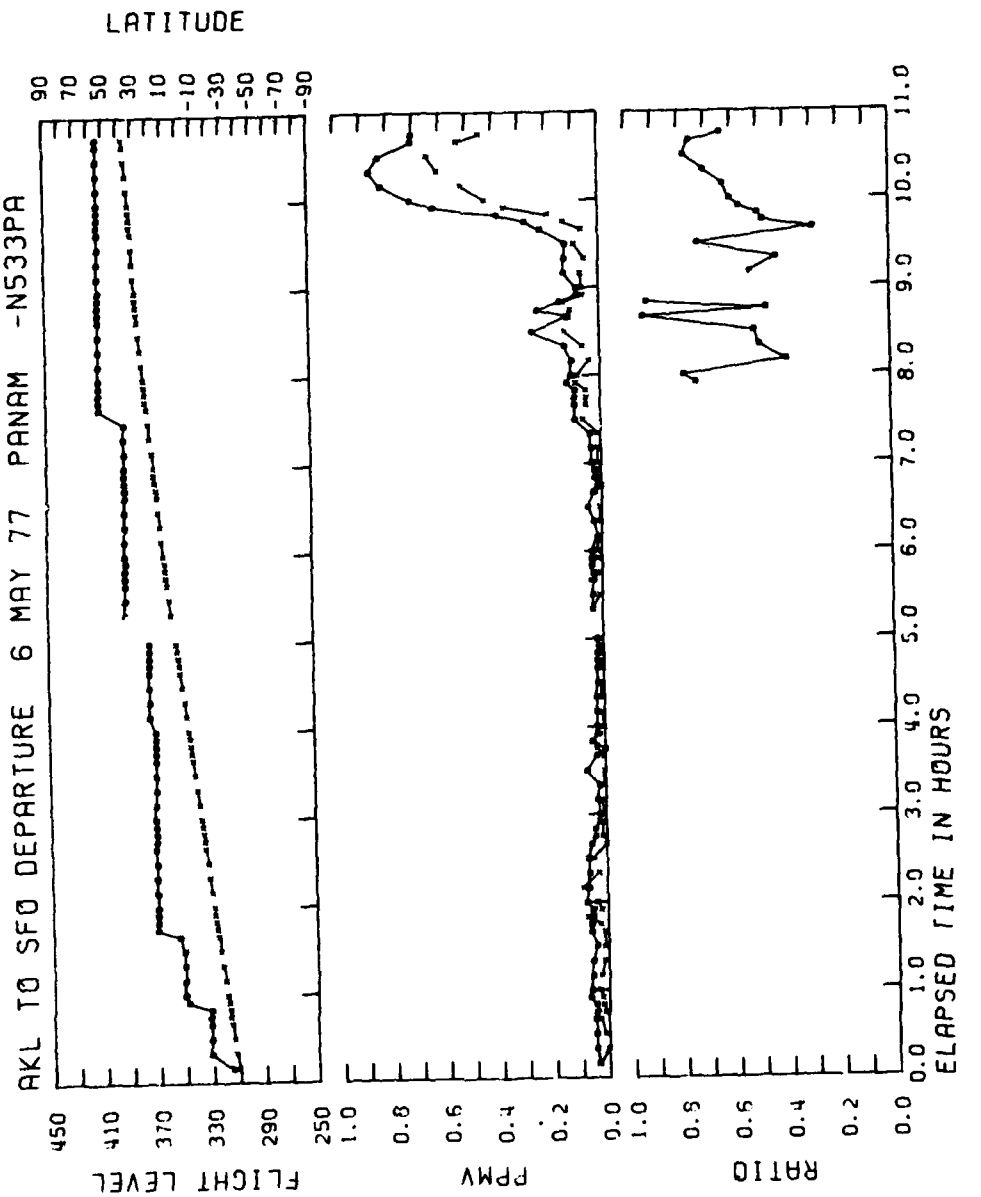
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/ 5/77	2018	0:10	391	36.86S	172.58E	-59.	.111	.189	.59
5/ 5/77	2028	0:20	390	36.80S	171.10E	-59.	.067	.109	.61
5/ 5/77	2038	0:30	390	36.68S	169.63E	-60.	.065	.114	.57
5/ 5/77	2048	0:40	391	36.55S	168.19E	-62.	.050	.088	
5/ 5/77	2053	0:45	391	36.48S	167.48E	-62.	.059	.087	
5/ 5/77	2058	0:50	390	36.40S	166.77E	-64.	.060	.067	
5/ 5/77	2103	0:55	391	36.32S	166.06E	-63.	.050	.078	
5/ 5/77	2108	1:00	391	36.24S	165.36E	-64.	.046	.082	
5/ 5/77	2118	1:10	391	36.06S	163.94E	-64.	.046	.094	
5/ 5/77	2128	1:20	391	35.85S	162.52E	-63.	.044	.089	
5/ 5/77	2138	1:30	391	35.65S	161.12E	-63.	.058	.090	
5/ 5/77	2148	1:40	391	35.42S	159.74E	-64.	.059	.087	
5/ 5/77	2153	1:45	391	35.30S	159.05E	-64.	.047	.079	
5/ 5/77	2158	1:50	391	35.17S	158.35E	-64.	.041	.076	
5/ 5/77	2203	1:55	391	35.04S	157.67E	-63.	.044	.073	
5/ 5/77	2208	2:00	391	34.91S	157.00E	-63.	.027	.068	
5/ 5/77	2218	2:10	391	34.64S	155.66E	-63.	.040	.073	
5/ 5/77	2228	2:20	391	34.36S	154.34E	-62.	.056	.085	
5/ 5/77	2238	2:30	336	34.17S	152.96E	-52.	.039	.056	


SYD TO AKL DEPARTURE 6 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
ELAPSED TIME IN HOURS

SYD TO AKL (PAGE 1 OF 1) DEPARTURE: 6 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .124 CABIN OZONE= .092 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .76 TOTAL OBS IN CABIN: 12
DATA SOURCE: GASP TAPE VL010, FILE 2

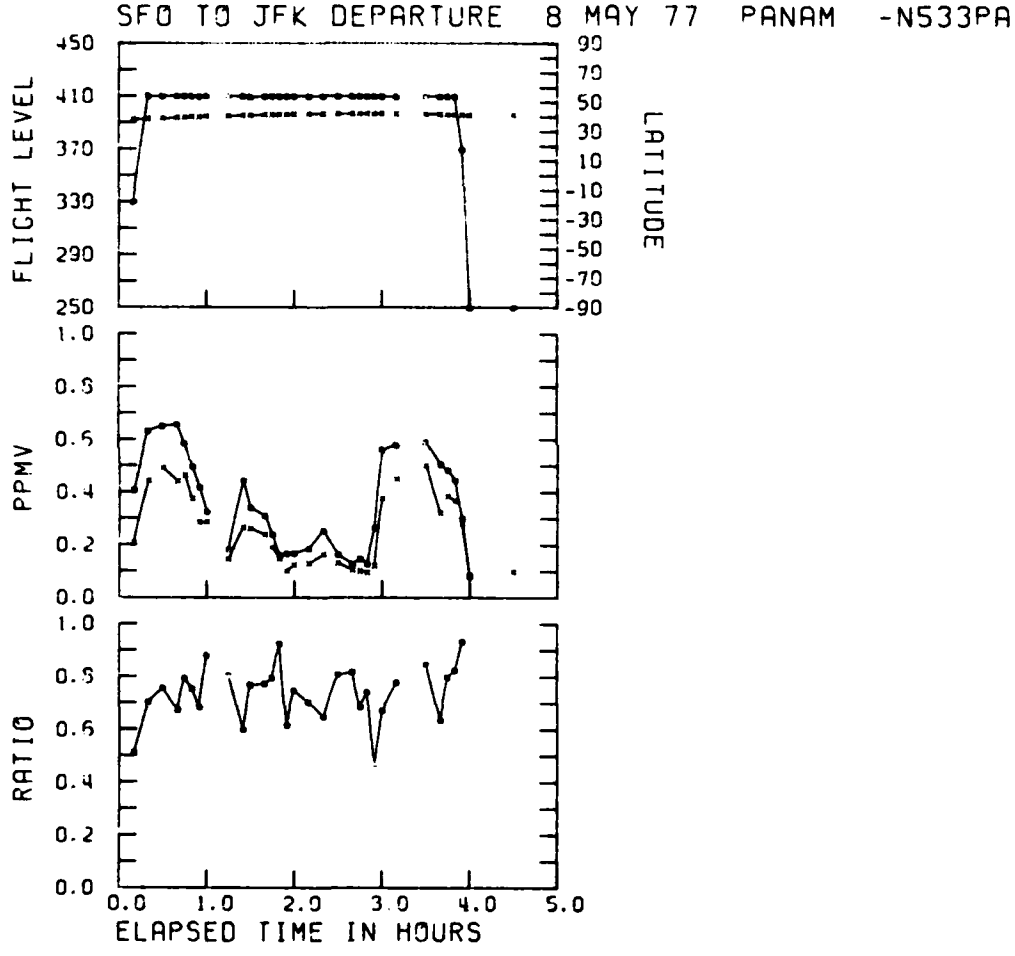
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/ 6/77	0527	0:20	410	34.46S	155.39E	-59.	.068	.124	.55
5/ 6/77	0537	0:30	410	34.87S	157.14E	-62.	.080	.070	
5/ 6/77	0547	0:40	410	35.25S	158.91E	-63.	.043	.111	.39
5/ 6/77	0557	0:50	410	35.58S	160.69E	-62.	.061	.094	
5/ 6/77	0602	0:55	410	35.72S	161.59E	-63.	.054	.086	
5/ 6/77	0607	1:00	410	35.86S	162.49E	-65.	.052	.086	
5/ 6/77	0617	1:10	410	36.11S	164.27E	-64.	.033	.115	.29
5/ 6/77	0627	1:20	410	36.33S	166.03E	-65.	.053	.089	
5/ 6/77	0632	1:25	410	36.43S	166.93E	-66.	.040	.098	
5/ 6/77	0642	1:35	410	36.61S	168.73E	-63.	.077	.115	.67
5/ 6/77	0652	1:45	410	36.77S	170.61E	-59.	.092	.121	.76
5/ 6/77	0657	1:50	410	36.84S	171.54E	-60.	.078	.124	.63


AKL TO SFO DEPARTURE 6 MAY 77 PANAM -N533PA
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
FLIGHT LEVEL
450
410
370
330
290
250
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
ELAPSED TIME IN HOURS

AKL TO SFO (PAGE 1 OF 1) DEPARTURE: 6 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .865 CABIN OZONE= .645 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .94 TOTAL OBS IN CABIN: 83
DATA SOURCE: GASP TAPE VL010, FILE 2

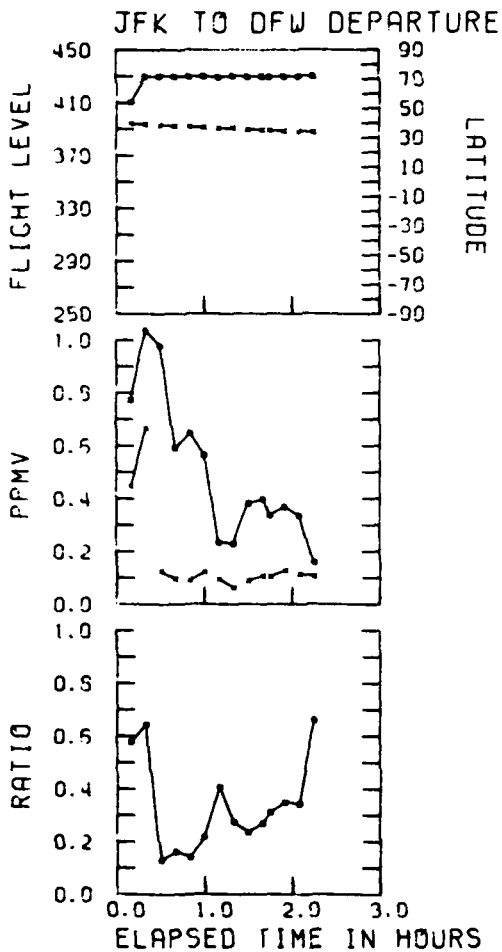
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/ 6/77	0937	0:10	316	35.01S	176.29E	-49.	.036	.041	
5/ 6/77	0947	0:20	332	33.62S	177.28E	-53.	.003	.046	
5/ 6/77	0957	0:30	331	32.21S	178.23E	-52.	.017	.049	
5/ 6/77	1007	0:40	332	30.82S	179.15E	-52.	.031	.050	
5/ 6/77	1012	0:45	331	30.16S	179.57E	-51.	.017	.047	
5/ 6/77	1017	0:50	332	29.42S	179.96W	-52.	.022	.050	
5/ 6/77	1022	0:55	349	28.72S	179.53W	-54.	.026	.071	
5/ 6/77	1027	1:00	351	28.01S	179.10W	-54.	.036	.066	
5/ 6/77	1037	1:10	351	26.61S	178.26W	-51.	.030	.063	
5/ 6/77	1047	1:20	351	25.27S	177.48W	-51.	.015	.059	
5/ 6/77	1057	1:30	351	23.81S	176.65W	-51.	.014	.044	
5/ 6/77	1107	1:40	355	22.42S	175.89W	-51.	.013	.063	
5/ 6/77	1112	1:45	371	21.73S	175.51W	-54.	.030	.063	
5/ 6/77	1117	1:50	371	21.03S	175.11W	-54.	.076	.057	
5/ 6/77	1122	1:55	371	20.36S	174.65W	-54.	.025	.057	
5/ 6/77	1127	2:00	371	19.71S	174.21W	-53.	.041	.081	
5/ 6/77	1137	2:10	371	18.42S	173.35W	-53.	.091	.069	
5/ 6/77	1147	2:20	371	17.17S	172.52W	-51.	.034	.069	
5/ 6/77	1157	2:30	371	15.97S	171.75W	-50.	.051	.071	
5/ 6/77	1207	2:40	371	14.78S	170.99W	-51.	.000	.057	
5/ 6/77	1212	2:45	371	14.18S	170.64W	-50.	.017	.044	
5/ 6/77	1217	2:50	371	13.54S	170.40W	-51.		.044	
5/ 6/77	1222	2:55	371	12.91S	170.14W	-50.	.014	.027	
5/ 6/77	1227	3:00	371	12.28S	169.88W	-50.	.008	.022	
5/ 6/77	1237	3:10	371	11.00S	169.40W	-50.	.018	.032	
5/ 6/77	1247	3:20	370	9.70S	168.92W	-50.	.006	.025	
5/ 6/77	1257	3:30	370	8.41S	168.44W	-50.	.005	.071	
5/ 6/77	1307	3:40	370	7.07S	167.94W	-50.	.007	.034	
5/ 6/77	1312	3:45	370	6.40S	167.69W	-49.	.032	0.000	
5/ 6/77	1317	3:50	370	5.74S	167.45W	-49.	.050	.047	
5/ 6/77	1322	3:55	370	5.09S	167.21W	-49.	.019	.030	
5/ 6/77	1327	4:00	370	4.44S	166.97W	-49.	.004	.028	
5/ 6/77	1337	4:10	374	3.13S	166.50W	-50.	.008	.029	
5/ 6/77	1347	4:20	374	1.78S	166.01W	-51.	.012	.032	
5/ 6/77	1357	4:30	374	.45S	165.54W	-51.	.009	.023	
5/ 6/77	1407	4:40	374	.88N	165.06W	-50.	.009	.028	
5/ 6/77	1412	4:45	375	1.55N	164.82W	-50.	.012	.027	
5/ 6/77	1417	4:50	375	2.21N	164.58W	-50.	.011	.025	
5/ 6/77	1422	4:55	374	2.89N	164.37W	-50.	.017	.019	
5/ 6/77	1427	5:00	374	3.54N	164.18W	-50.	.014	.024	
5/ 6/77	1447	5:20	391	6.20N	163.36W	-55.	.038	.036	
5/ 6/77	1457	5:30	391	7.47N	162.82W	-55.	.012	.038	
5/ 6/77	1507	5:40	391	8.75N	162.27W	-55.	.044	.033	
5/ 6/77	1512	5:45	391	9.39N	161.99W	-56.	.007	.034	
5/ 6/77	1517	5:50	391	10.03N	161.70W	-55.	.044	.042	
5/ 6/77	1522	5:55	391	10.56N	161.19W	-56.	.017	.040	
5/ 6/77	1527	6:00	391	11.09N	160.68W	-56.	.018	.038	
5/ 6/77	1537	6:10	391	12.13N	159.67W	-57.	.007	.017	
5/ 6/77	1547	6:20	391	13.18N	158.64W	-57.	.007	.031	
5/ 6/77	1557	6:30	391	14.29N	157.63W	-57.	.007	.052	
5/ 6/77	1607	6:40	391	15.32N	156.47W	-57.	.027	.034	
5/ 6/77	1612	6:45	391	15.84N	155.90W	-57.	.000	.014	
5/ 6/77	1617	6:50	391	16.36N	155.33W	-57.	.015	.025	
5/ 6/77	1622	6:55	391	16.88N	154.75W	-57.	.017	.026	
5/ 6/77	1627	7:00	391	17.40N	154.17W	-57.	.017	.038	
5/ 6/77	1637	7:10	391	18.45N	152.97W	-57.	.013	.038	
5/ 6/77	1647	7:20	391	19.51N	151.74W	-57.	.013	.040	
5/ 6/77	1657	7:30	391	20.56N	150.50W	-57.	.068	.099	
5/ 6/77	1707	7:40	410	21.60N	149.21W	-61.	.054	.097	
5/ 6/77	1712	7:45	410	22.11N	148.57W	-61.	.053	.098	
5/ 6/77	1717	7:50	410	22.61N	147.92W	-61.	.057	.097	
5/ 6/77	1722	7:55	410	23.11N	147.26W	-62.	.094	.127	.74
5/ 6/77	1727	8:00	410	23.62N	146.59W	-62.	.087	.111	.78
5/ 6/77	1737	8:10	410	24.56N	145.31W	-62.	.043	.109	.39
5/ 6/77	1747	8:20	410	25.50N	144.01W	-62.	.066	.133	.50
5/ 6/77	1757	8:30	410	26.42N	142.70W	-61.	.132	.256	.52
5/ 6/77	1807	8:40	410	27.29N	141.43W	-64.	.116	.124	.94
5/ 6/77	1812	8:45	410	27.68N	140.84W	-65.	.110	.235	.47
5/ 6/77	1817	8:50	410	28.09N	140.22W	-65.	.138	.150	.92
5/ 6/77	1822	8:55	410	28.50N	139.59W	-66.	.064	.087	
5/ 6/77	1827	9:00	410	28.89N	138.98W	-66.	.065	.085	
5/ 6/77	1837	9:10	410	29.56N	137.67W	-65.	.069	.131	.53
5/ 6/77	1847	9:20	410	30.21N	136.35W	-68.	.056	.130	.43
5/ 6/77	1857	9:30	410	30.85N	135.01W	-67.	.093	.128	.73
5/ 6/77	1907	9:40	410	31.47N	133.63W	-65.	.063	.218	.29
5/ 6/77	1912	9:45	410	31.80N	132.91W	-64.	.133	.274	.48
5/ 6/77	1917	9:50	410	32.11N	132.19W	-58.	.191	.383	.50
5/ 6/77	1922	9:55	410	32.43N	131.45W	-55.	.355	.624	.57
5/ 6/77	1927	10:00	410	32.74N	130.70W	-52.	.429	.712	.60
5/ 6/77	1937	10:10	410	33.46N	129.32W	-51.	.517	.821	.63
5/ 6/77	1947	10:20	410	34.29N	127.98W	-49.	.607	.865	.70
5/ 6/77	1957	10:30	410	35.11N	126.60W	-47.	.645	.830	.78
5/ 6/77	2007	10:40	410	35.90N	125.19W	-46.	.532	.705	.75
5/ 6/77	2012	10:45	410	36.29N	124.47W	-46.	.447	.702	.64


SFO TO JFK DEPARTURE 8 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

SFO TO JFK (PAGE 1 OF 1) DEPARTURE: 8 MAY '77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .656 CABIN OZONE= .501 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .93 TOTAL OBS IN CABIN: 32
DATA SOURCE: GASP TAPE VL010, FILE 2

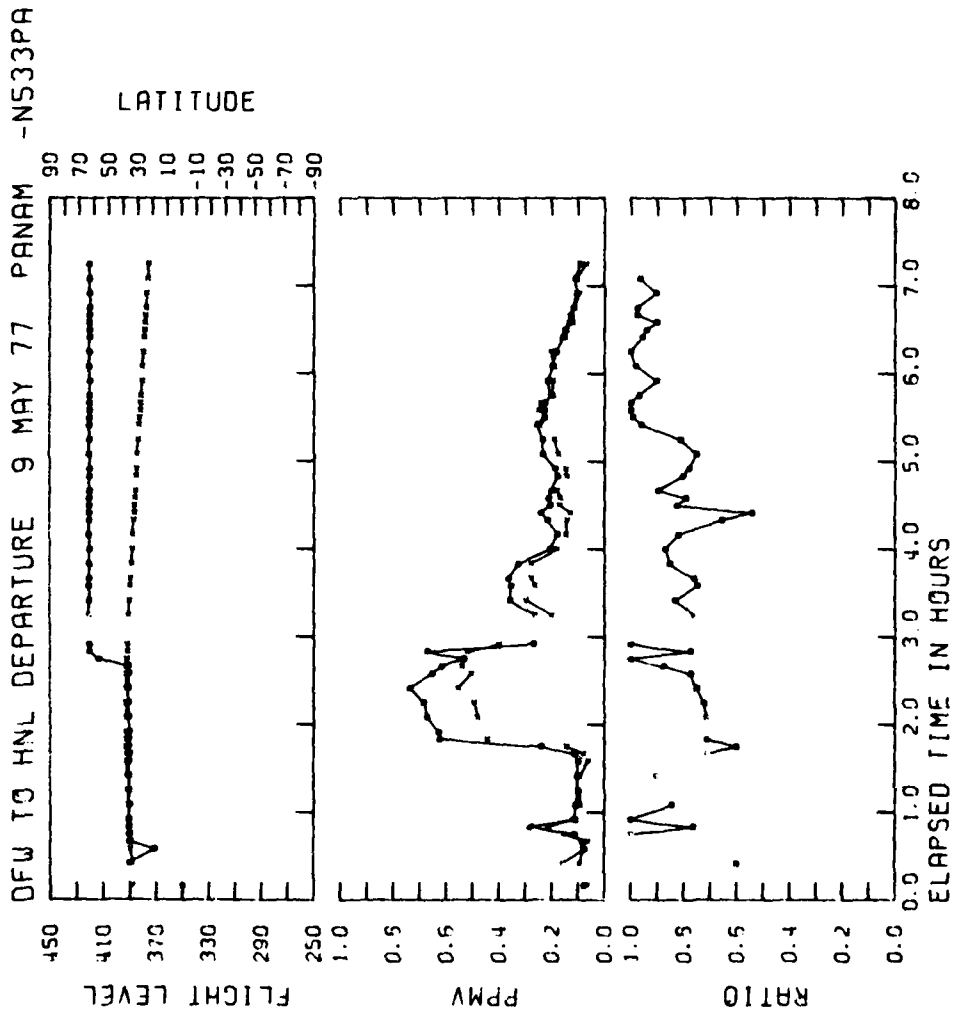
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/ 8/77	1959	0:10	330	38.21N	120.11W	-49.	.208	.406	.51
5/ 8/77	2009	0:20	410	38.51N	118.40W	-49.	.443	.631	.70
5/ 8/77	2019	0:30	410	38.95N	116.65W	-52.	.491	.650	.76
5/ 8/77	2029	0:40	410	39.38N	114.84W	-54.	.441	.656	.67
5/ 8/77	2034	0:45	410	39.58N	113.92W	-55.	.464	.584	.79
5/ 8/77	2039	0:50	410	39.77N	113.02W	-59.	.374	.496	.75
5/ 8/77	2044	0:55	410	39.96N	112.10W	-60.	.286	.418	.68
5/ 8/77	2049	1:00	410	40.14N	111.19W	-62.	.286	.325	.88
5/ 8/77	2104	1:15	410	40.63N	108.44W	-66.	.147	.182	.81
5/ 8/77	2114	1:25	410	40.91N	106.60W	-59.	.266	.443	.60
5/ 8/77	2121	1:32	409	41.10N	105.25W	-63.	.262	.341	.77
5/ 8/77	2131	1:42	410	41.34N	103.39W	-63.	.239	.309	.77
5/ 8/77	2136	1:47	410	41.44N	102.49W	-63.	.191	.240	.80
5/ 8/77	2141	1:52	410	41.54N	101.56W	-65.	.148	.160	.93
5/ 8/77	2146	1:57	410	41.63N	100.63W	-65.	.103	.167	.62
5/ 8/77	2151	2:02	410	41.71N	99.68W	-66.	.125	.167	.75
5/ 8/77	2201	2:12	410	41.84N	97.84W	-66.	.130	.185	.70
5/ 8/77	2211	2:22	410	41.95N	95.93W	-62.	.164	.253	.65
5/ 8/77	2221	2:32	410	42.03N	94.07W	-63.	.131	.162	.81
5/ 8/77	2231	2:42	410	42.08N	92.11W	-65.	.104	.127	.82
5/ 8/77	2236	2:47	410	42.10N	91.14W	-65.	.101	.147	.69
5/ 8/77	2241	2:52	410	42.10N	90.13W	-65.	.095	.128	.74
5/ 8/77	2246	2:57	410	42.10N	89.15W	-61.	.121	.264	.46
5/ 8/77	2251	3:02	410	42.09N	88.15W	-58.	.376	.560	.67
5/ 8/77	2301	3:12	410	42.04N	86.20W	-57.	.451	.579	.78
5/ 8/77	2321	3:32	410	41.83N	82.19W	-50.	.501	.591	.85
5/ 8/77	2331	3:42	410	41.67N	80.14W	-50.	.321	.505	.64
5/ 8/77	2336	3:47	410	41.58N	79.15W	-49.	.385	.483	.80
5/ 8/77	2341	3:52	410	41.48N	78.15W	-48.	.367	.445	.82
5/ 8/77	2346	3:57	370	41.37N	77.15W	-48.	.280	.300	.93
5/ 8/77	2351	4:02	250	41.25N	76.14W	-38.	.085	.080	
5/ 9/77	0020	4:31	200	41.30N	74.71W	-26.	.098		


JFK TO DFW DEPARTURE 9 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

JFK TO DFW (PAGE 1 OF 1) DEPARTURE: 9 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=1.036 CABIN OZONE= .667 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .66 TOTAL OBS IN CABIN: 14
DATA SOURCE: GASP TAPE VL010, FILE 2

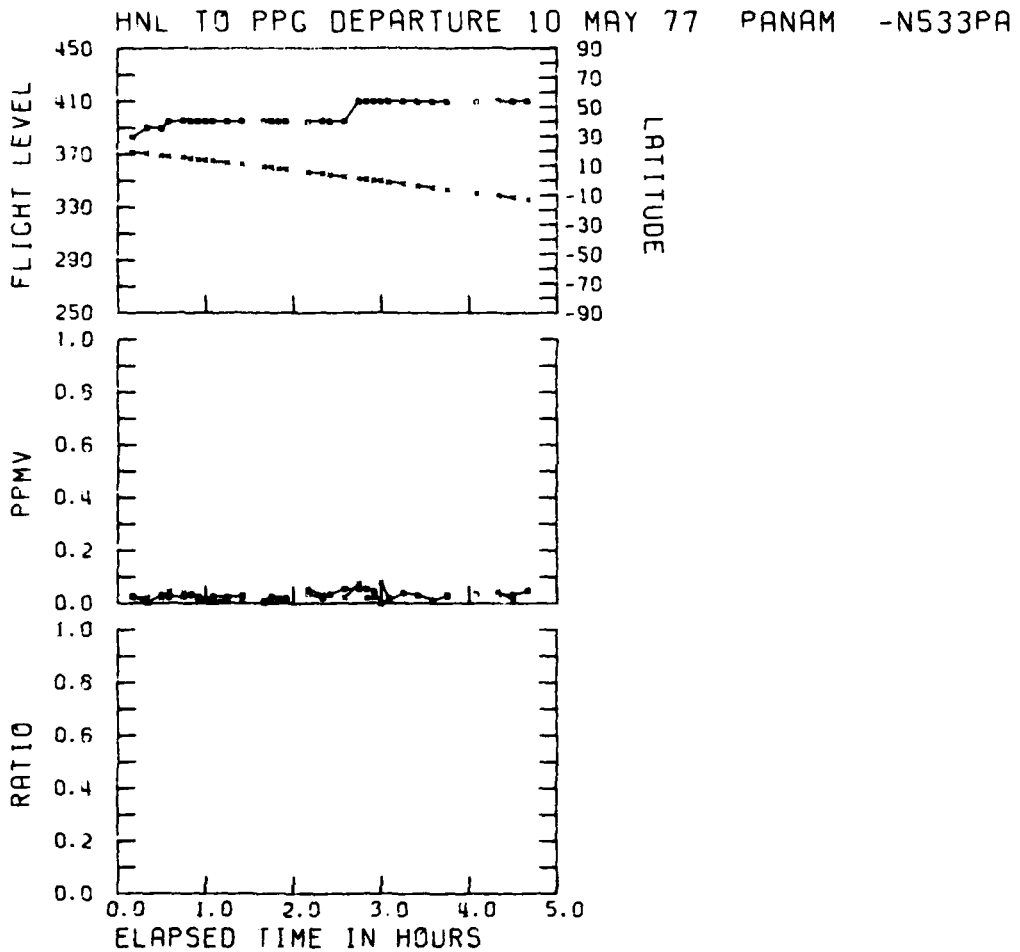
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/ 9/77	1755	0:10	411	39.98N	75.89W	-47.	.448	.774	.58
5/ 9/77	1805	0:20	430	39.38N	77.40W	-48.	.667	1.036	.64
5/ 9/77	1815	0:30	430	38.76N	78.89W	-51.	.126	.979	.13
5/ 9/77	1825	0:40	430	38.15N	80.30W	-51.	.096	.592	.16
5/ 9/77	1835	0:50	430	37.62N	81.72W	-54.	.092	.648	.14
5/ 9/77	1845	1:00	430	37.21N	83.16W	-57.	.123	.565	.22
5/ 9/77	1855	1:10	429	36.80N	84.60W	-59.	.095	.234	.41
5/ 9/77	1905	1:20	430	36.36N	86.03W	-56.	.063	.229	.28
5/ 9/77	1915	1:30	430	35.91N	87.46W	-61.	.090	.382	.24
5/ 9/77	1925	1:40	430	35.43N	88.91W	-62.	.107	.398	.27
5/ 9/77	1930	1:45	430	35.18N	89.62W	-65.	.105	.337	.31
5/ 9/77	1940	1:55	430	34.68N	91.03W	-64.	.128	.368	.35
5/ 9/77	1950	2:05	430	34.15N	92.43W	-66.	.115	.336	.34
5/ 9/77	2000	2:15	430	33.75N	93.80W	-69.	.105	.159	.66


DFW TO HNL DEPARTURE 9 MAY 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0
ELAPSED TIME IN HOURS

DFW TO HNL (PAGE 1 OF 1) DEPARTURE: 9 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .734 CABIN OZONE= .551 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.49 TOTAL OBS IN CABIN: 54
DATA SOURCE: GASP TAPE VL010, FILE 2 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

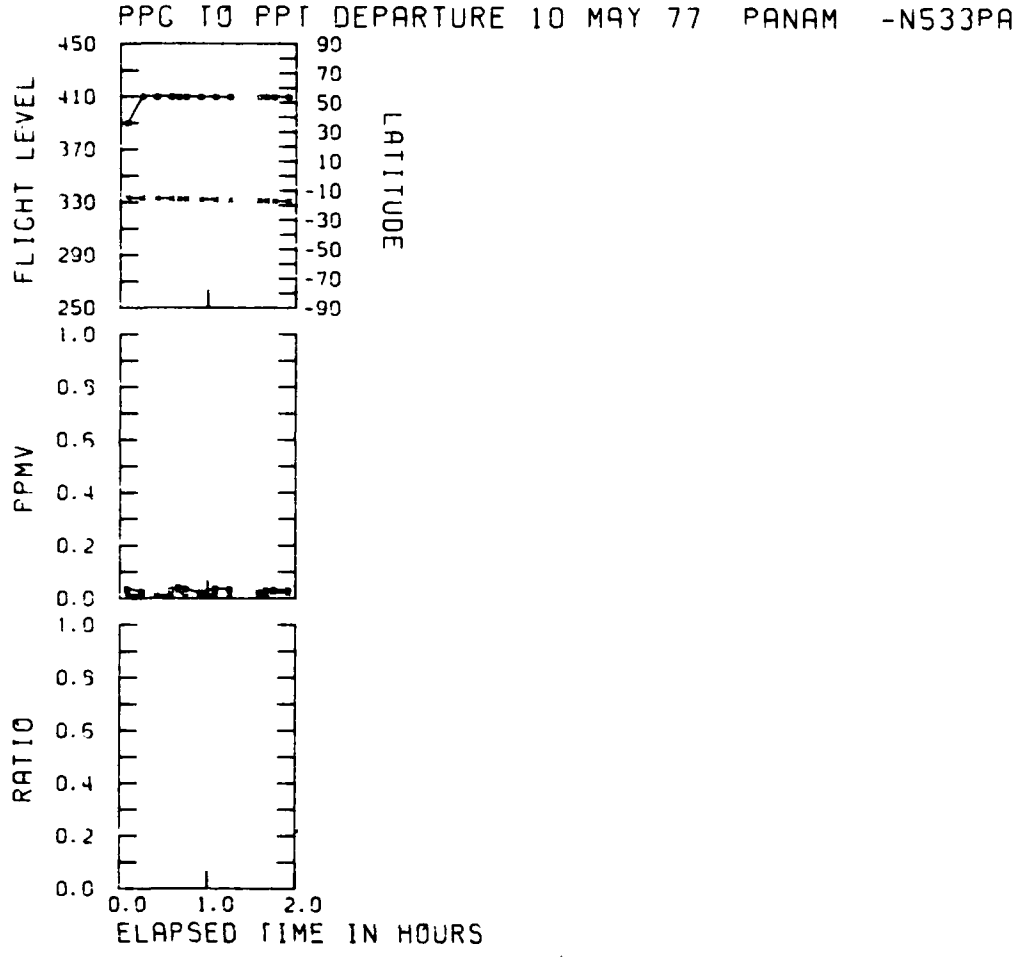
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/ 9/77	2244	0:10	350	33.99N	98.62W	-52.	.065	.079	
5/ 9/77	2259	0:25	390	34.37N	100.97W	-62.	.093	.155	.60
5/ 9/77	2309	0:35	371	35.37N	102.10W	-58.	.080	.076	
5/ 9/77	2314	0:40	390	35.65N	102.88W	-63.	.062	.083	
5/ 9/77	2319	0:45	390	35.88N	103.69W	-63.	.154	.113	1.36
5/ 9/77	2324	0:50	390	36.10N	104.49W	-62.	.214	.280	.76
5/ 9/77	2329	0:55	391	36.31N	105.29W	-60.	.116	.111	1.05
5/ 9/77	2339	1:05	390	36.71N	106.89W	-60.	.093	.110	.85
5/ 9/77	2349A	1:15	390	37.02N	108.71W	-62.	.099	.099	
5/10/77	0000	1:26	390	37.43N	110.44W	-62.	.093	.103	.90
5/10/77	0010	1:36	391	37.78N	112.08W	-61.	.060	.098	
5/10/77	0015	1:41	390	37.88N	112.88W	-60.	.079	.111	.71
5/10/77	0020	1:46	390	37.95N	113.68W	-51.	.144	.240	.60
5/10/77	0025	1:51	391	37.97N	114.47W	-49.	.443	.622	.71
5/10/77	0030	1:56	390	37.98N	115.31W	-47.		.627	
5/10/77	0040	2:06	390	37.96N	117.02W	-46.	.481	.672	.72
5/10/77	0050	2:16	390	37.91N	118.73W	-47.	.492	.682	.72
5/10/77	0100	2:26	390	37.84N	120.44W	-49.	.551	.734	.75
5/10/77	0110	2:36	390	37.74N	122.11W	-51.	.503	.651	.77
5/10/77	0115	2:41	390	37.66N	122.91W	-53.	.540	.617	.88
5/10/77	0120	2:46	413	37.36N	123.69W	-55.	.532	.531	1.00
5/10/77	0125	2:51	420	37.15N	124.46W	-57.	.518	.670	.77
5/10/77	0130	2:56	420	36.94N	125.23W	-61.	.399	.268	1.49
5/10/77	0150	3:16	420	36.09N	128.22W	-60.	.200	.263	.76
5/10/77	0200	3:26	420	35.63N	129.70W	-60.	.296	.356	.83
5/10/77	0210	3:36	420	35.16N	131.14W	-62.	.265	.354	.75
5/10/77	0215	3:41	420	34.92N	131.84W	-62.	.276	.363	.76
5/10/77	0228	3:54	420	34.27N	133.70W	-64.	.279	.327	.85
5/10/77	0238	4:04	420	33.77N	135.04W	-67.	.180	.207	.87
5/10/77	0248	4:14	420	33.27N	136.34W	-68.	.146	.174	.84
5/10/77	0258	4:24	420	32.76N	137.62W	-69.	.140	.214	.65
5/10/77	0303	4:29	420	32.50N	138.25W	-70.	.130	.240	.54
5/10/77	0308	4:34	420	32.24N	138.87W	-70.	.171	.207	.83
5/10/77	0313	4:39	420	31.98N	139.48W	-70.	.167	.211	.79
5/10/77	0318	4:44	420	31.72N	140.09W	-70.	.180	.201	.90
5/10/77	0328	4:54	420	31.19N	141.29W	-70.	.144	.174	.80
5/10/77	0333	4:59	420	30.92N	141.89W	-70.	.146	.187	.78
5/10/77	0343	5:09	420	30.36N	143.09W	-68.	.176	.234	.75
5/10/77	0353	5:19	420	29.80N	144.27W	-68.	.189	.233	.81
5/10/77	0403	5:29	420	29.22N	145.43W	-66.	.246	.256	.96
5/10/77	0408	5:34	420	28.93N	146.00W	-65.	.225	.227	.99
5/10/77	0413	5:39	420	28.65N	146.55W	-65.	.248	.224	1.09
5/10/77	0418	5:44	420	28.36N	147.10W	-65.	.240	.227	1.06
5/10/77	0423	5:49	420	28.08N	147.63W	-66.	.197	.203	.97
5/10/77	0433	5:59	420	27.52N	148.68W	-64.	.196	.217	.90
5/10/77	0443	6:09	420	26.97N	149.69W	-64.	.191	.195	.98
5/10/77	0453	6:19	420	26.40N	150.71W	-65.	.201	.182	1.10
5/10/77	0503	6:29	420	25.82N	151.73W	-66.	.150	.157	.96
5/10/77	0508	6:34	420	25.52N	152.23W	-66.	.141	.150	.94
5/10/77	0513	6:39	420	25.23N	152.73W	-66.	.121	.134	.90
5/10/77	0518	6:44	420	24.94N	153.22W	-66.	.125	.128	.98
5/10/77	0523	6:49	420	24.64N	153.71W	-65.	.115	.118	.97
5/10/77	0533	6:59	420	24.05N	154.66W	-66.	.097	.107	.91
5/10/77	0543	7:09	420	23.30N	155.47W	-64.	.105	.109	.96
5/10/77	0553	7:19	420	22.57N	156.24W	-65.	.070	.093	


HNL TO PPG DEPARTURE 10 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

HNL TO PPG (PAGE 1 OF 1) DEPARTURE: 10 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .055 CABIN OZONE= .079 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)=***** TOTAL OBS IN CABIN: 27
DATA SOURCE: GASP TAPE VL010, FILE 2 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

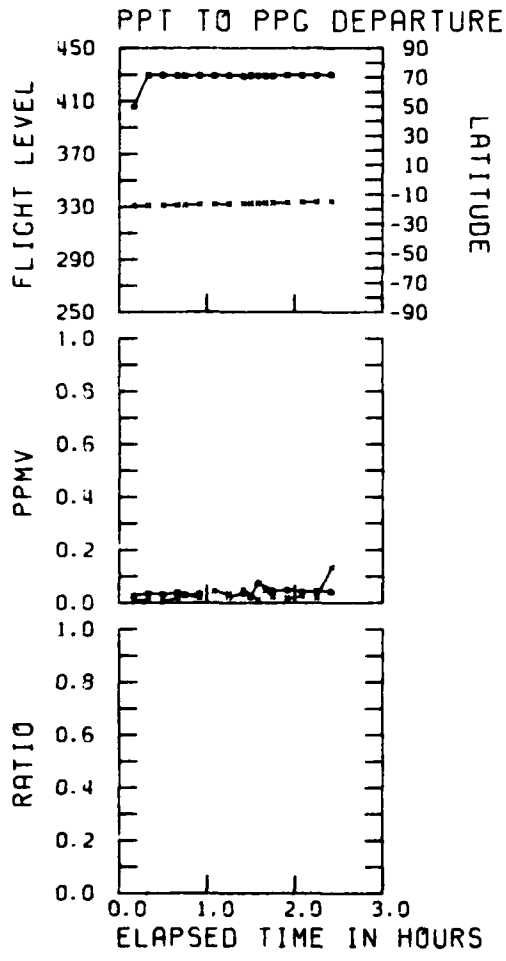
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
5/10/77	0817	0:10	383	19.57N	158.36W	-55.	.022	.029	
5/10/77	0827	0:20	390	18.50N	158.72W	-56.	.021	.002	
5/10/77	0837A	0:30	389	17.43N	159.08W	-56.	.023	.031	
5/10/77	0842	0:35	395	16.87N	159.26W	-57.	.044	.023	
5/10/77	0852	0:45	395	15.70N	159.50W	-56.	.041	.027	
5/10/77	0857	0:50	395	15.18N	159.71W	-57.	.032	.034	
5/10/77	0902	0:55	395	14.62N	159.94W	-56.	.010	.025	
5/10/77	0907	1:00	395	14.09N	160.16W	-56.	.012	.014	
5/10/77	0912	1:05	395	13.55N	160.38W	-56.	.009	.027	
5/10/77	0922	1:15	395	12.44N	160.82W	-56.	.016	.023	
5/10/77	0932	1:25	395	11.29N	161.27W	-56.	.012	.031	
5/10/77	0947	1:40	395	9.57N	161.93W	-56.	.002	.012	
5/10/77	0952	1:45	395	9.01N	162.14W	-55.	.017	.027	
5/10/77	0957	1:50	395	8.40N	162.36W	-55.	.016	.018	
5/10/77	1002	1:55	395	7.82N	162.57W	-55.	.011	.019	
5/10/77	1017	2:10	395	6.17N	163.43W	-55.	.055	.035	
5/10/77	1027A	2:20	395	4.95N	163.88W	-57.	.032	.020	
5/10/77	1034	2:27	395	4.12N	163.96W	-56.		.034	
5/10/77	1044	2:37	395	2.85N	164.27W	-56.	.022	.054	
5/10/77	1054	2:47	410	1.60N	164.77W	-60.	.074	.055	
5/10/77	1059	2:52	410	.98N	165.01W	-60.	.021	.054	
5/10/77	1104	2:57	410	.35N	165.26W	-60.	.023	.045	
5/10/77	1109	3:02	410	.27S	165.50W	-60.	.079	.001	
5/10/77	1114	3:07	410	.90S	165.72W	-60.	.019	.010	
5/10/77	1124	3:17	410	2.13S	166.16W	-59.		.039	
5/10/77	1134	3:27	410	3.36S	166.61W	-60.		.031	
5/10/77	1144	3:37	410	4.59S	167.05W	-60.		.012	
5/10/77	1154	3:47	410	5.84S	167.51W	-60.	.033	.028	
5/10/77	1214	4:07	410	8.34S	168.42W	-60.		.036	
5/10/77	1229	4:22	410	10.19S	169.10W	-60.	.043	.036	
5/10/77	1239	4:32	410	11.41S	169.56W	-60.	.015	.032	
5/10/77	1249	4:42	410	12.63S	170.02W	-61.	.051	.047	


PPG TO PPT DEPARTURE 10 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
ELAPSED TIME IN HOURS

PPG TO PPT (PAGE 1 OF 1) DEPARTURE: 10 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .041 CABIN OZONE= .031 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 13
DATA SOURCE: GASP TAPE VL010, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/10/77	1440	0:05	390	14.80S	168.27W	-55.	.014	.036	
5/10/77	1450	0:15	410	15.06S	166.82W	-61.	.014	.025	
5/10/77	1500	0:25	410	15.32S	165.38W	-61.	.011		
5/10/77	1510	0:35	410	15.56S	163.93W	-62.	.014	.032	
5/10/77	1515	0:40	410	15.68S	163.22W	-61.	.031	.041	
5/10/77	1520	0:45	410	15.80S	162.47W	-62.	.006	.036	
5/10/77	1530	0:55	410	16.03S	161.02W	-62.	.014	.021	
5/10/77	1540	1:05	410	16.25S	159.56W	-62.	.012	.036	
5/10/77	1550	1:15	410	16.46S	158.09W	-61.	.014	.035	
5/10/77	1610	1:35	410	16.83S	155.19W	-63.	.014	.025	
5/10/77	1615	1:40	410	16.92S	154.49W	-62.	.014	.029	
5/10/77	1620	1:45	410	17.01S	153.76W	-62.	.026	.032	
5/10/77	1630	1:55	410	17.19S	152.35W	-62.	.020	.031	


PPT TO PPG DEPARTURE 10 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

PPT TO PPG (PAGE 1 OF 1)

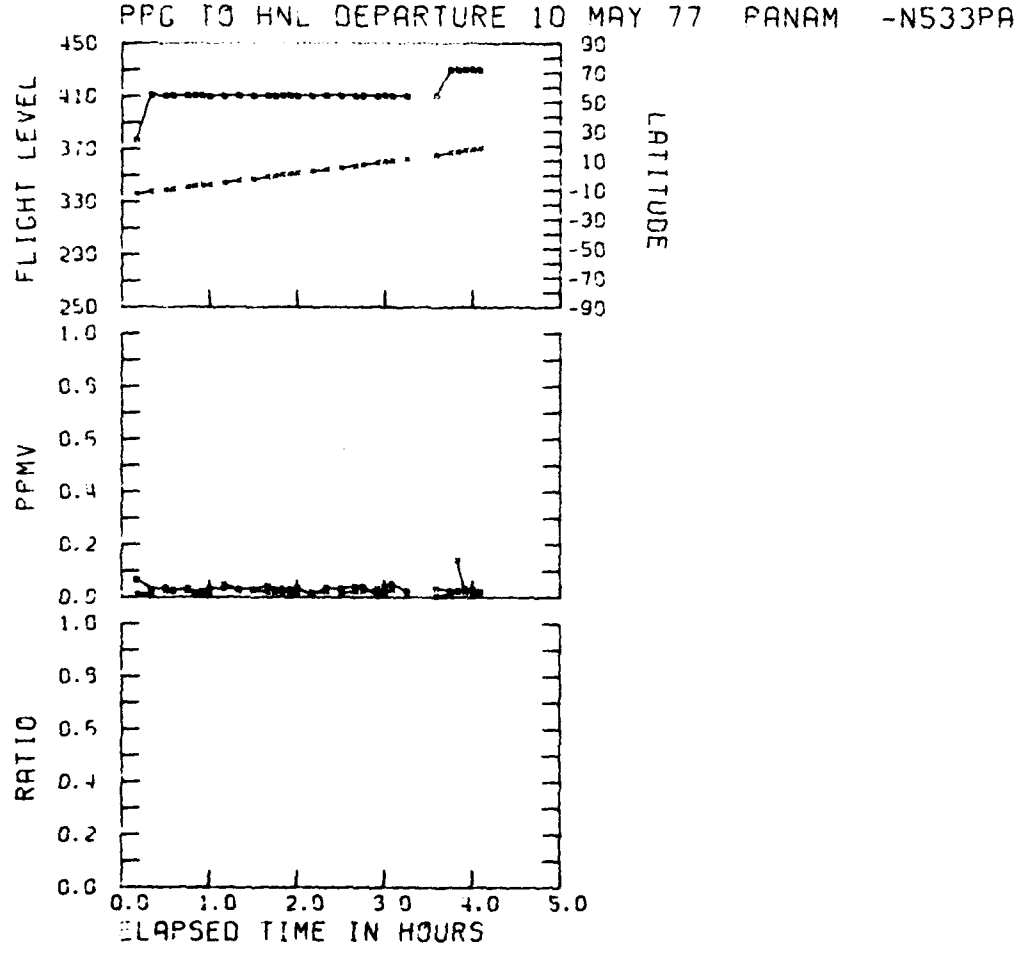
DEPARTURE: 10 MAY 77

AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .075 CABIN OZONE= .134 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 16

DATA SOURCE: GASP TAPE VL010, FILE 2

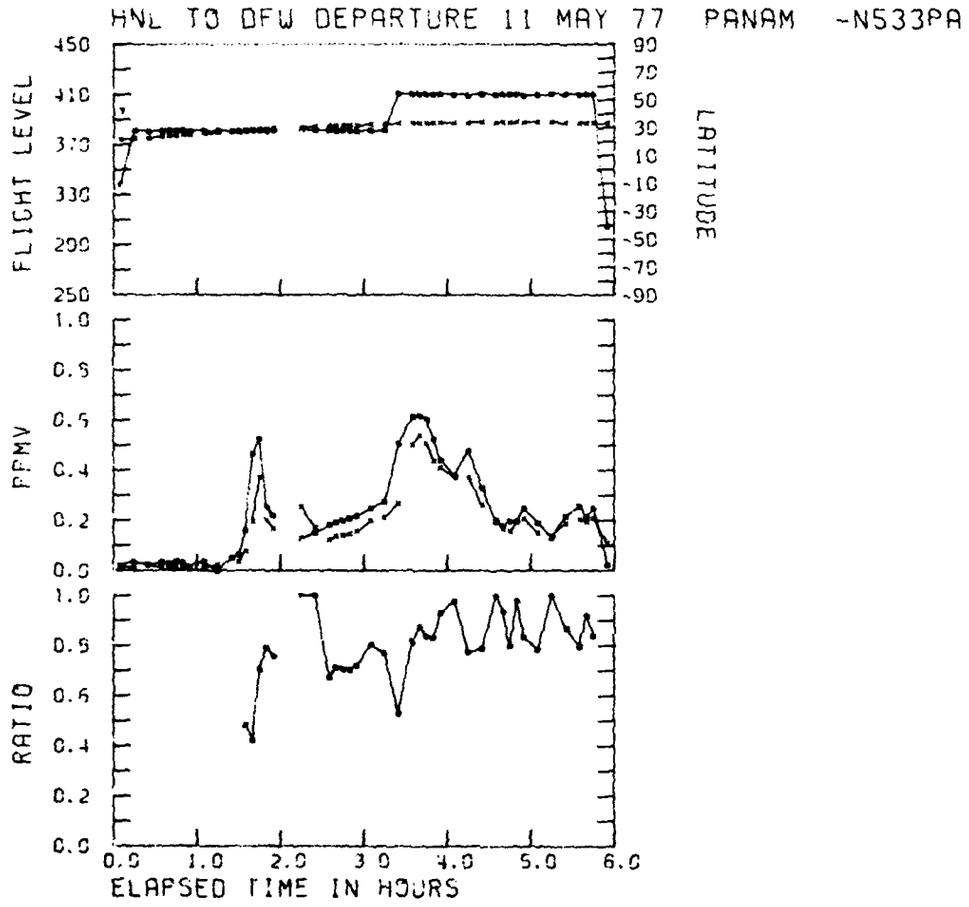
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/10/77	1852	0:10	406	17.26S	151.57W	-61.	.011	.027	
5/10/77	1902	0:20	430	17.13S	152.88W	-67.	.010	.035	
5/10/77	1912	0:30	430	16.99S	154.17W	-67.	.006	.031	
5/10/77	1922	0:40	429	16.83S	155.47W	-66.	.019	.038	
5/10/77	1927	0:45	429	16.75S	156.12W	-67.	.029	.030	
5/10/77	1938	0:56	429	16.55S	157.62W	-67.	.020	.034	
5/10/77	1948	1:06	429	16.37S	158.89W	-66.	.045		
5/10/77	1958	1:16	430	16.19S	160.13W	-66.	.033	.022	
5/10/77	2008	1:26	429	16.00S	161.39W	-66.	.050	.037	
5/10/77	2013	1:31	429	15.90S	162.03W	-67.		.023	
5/10/77	2018	1:36	429	15.79S	162.66W	-66.	.011	.075	
5/10/77	2023	1:41	429	15.69S	163.30W	-67.	.049		
5/10/77	2028	1:46	429	15.58S	163.93W	-67.	.023	.046	
5/10/77	2038	1:56	430	15.37S	165.19W	-66.	.018	.049	
5/10/77	2048	2:06	430	15.15S	166.44W	-65.	.026	.041	
5/10/77	2058	2:16	429	14.92S	167.68W	-66.	.020	.044	
5/10/77	2108	2:26	430	14.69S	168.92W	-66.	.134	.042	


PPG TO HNL DEPARTURE 10 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

PPG TO HNL (PAGE 1 OF 1) DEPARTURE: 10 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .067 CABIN OZONE= .143 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)=***** TOTAL OBS IN CABIN: 31
DATA SOURCE: GASP TAPE VL010, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/10/77	2253	0:10	377	12.39S	169.92W	-51.	.014	.067	
5/10/77	2303	0:20	410	11.07S	169.45W	-60.	.009	.032	
5/10/77	2313	0:30	410	9.78S	168.99W	-60.	.026	.036	
5/10/77	2318	0:35	410	9.13S	168.75W	-60.	.024	.027	
5/10/77	2328	0:45	410	7.84S	168.27W	-60.	.025	.033	
5/10/77	2333	0:50	410	7.21S	168.04W	-60.	.017	.017	
5/10/77	2338	0:55	410	6.59S	167.81W	-60.	.012	.022	
5/10/77	2343	1:00	410	5.97S	167.58W	-60.	.019	.033	
5/10/77	2353	1:10	410	4.72S	167.12W	-60.	.051	.037	
5/11/77	0003	1:20	410	3.42S	166.65W	-60.	.026	.032	
5/11/77	0013	1:30	410	2.13S	166.19W	-60.	.028	.032	
5/11/77	0023	1:40	410	.82S	165.72W	-60.	.021	.044	
5/11/77	0028	1:45	410	.17S	165.49W	-61.	.020	.029	
5/11/77	0033	1:50	410	.47N	165.26W	-60.	.017	.031	
5/11/77	0038	1:55	410	1.11N	165.03W	-60.	.014	.031	
5/11/77	0043	2:00	410	1.75N	164.79W	-60.	.019	.035	
5/11/77	0053	2:10	410	3.05N	164.32W	-60.	.019	.010	
5/11/77	0103	2:20	410	4.32N	163.86W	-60.	.021	.035	
5/11/77	0113	2:30	411	5.55N	163.30W	-59.	.017	.034	
5/11/77	0123	2:40	410	6.87N	162.83W	-60.	.024	.041	
5/11/77	0128	2:45	410	7.53N	162.59W	-60.	.024	.040	
5/11/77	0138	2:55	410	8.87N	162.12W	-61.	.033	.007	
5/11/77	0143	3:00	410	9.55N	161.87W	-61.	.021	.042	
5/11/77	0148	3:05	410	10.24N	161.62W	-61.	.030	.051	
5/11/77	0158	3:15	410	11.63N	161.12W	-61.	.014	.026	
5/11/77	0218	3:35	411	14.43N	160.08W	-61.	.007	.034	
5/11/77	0228	3:45	430	15.84N	159.53W	-65.	.015	.024	
5/11/77	0233	3:50	430	16.53N	159.26W	-66.	.143	.025	
5/11/77	0238	3:55	430	17.21N	158.98W	-66.	.021	.031	
5/11/77	0243	4:00	430	17.93N	158.70W	-66.	.014	.031	
5/11/77	0248	4:05	430	18.64N	158.41W	-67.	.019	.021	


HNL TO DFW DEPARTURE 11 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
ELAPSED TIME IN HOURS

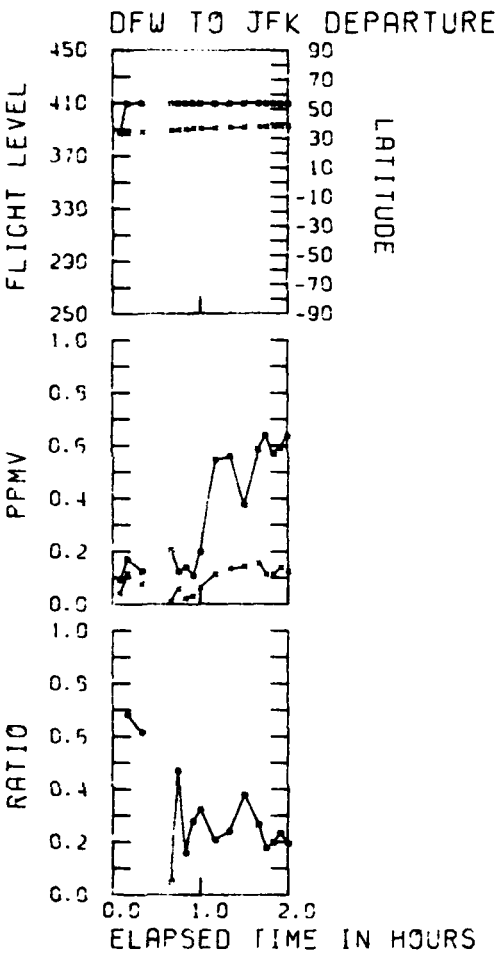
DEPARTURE: 11 MAY 77

AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .619 CABIN OZONE= .541 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.98 TOTAL OBS IN CABIN: 46

DATA SOURCE: GASP TAPE VL010, FILE 2 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

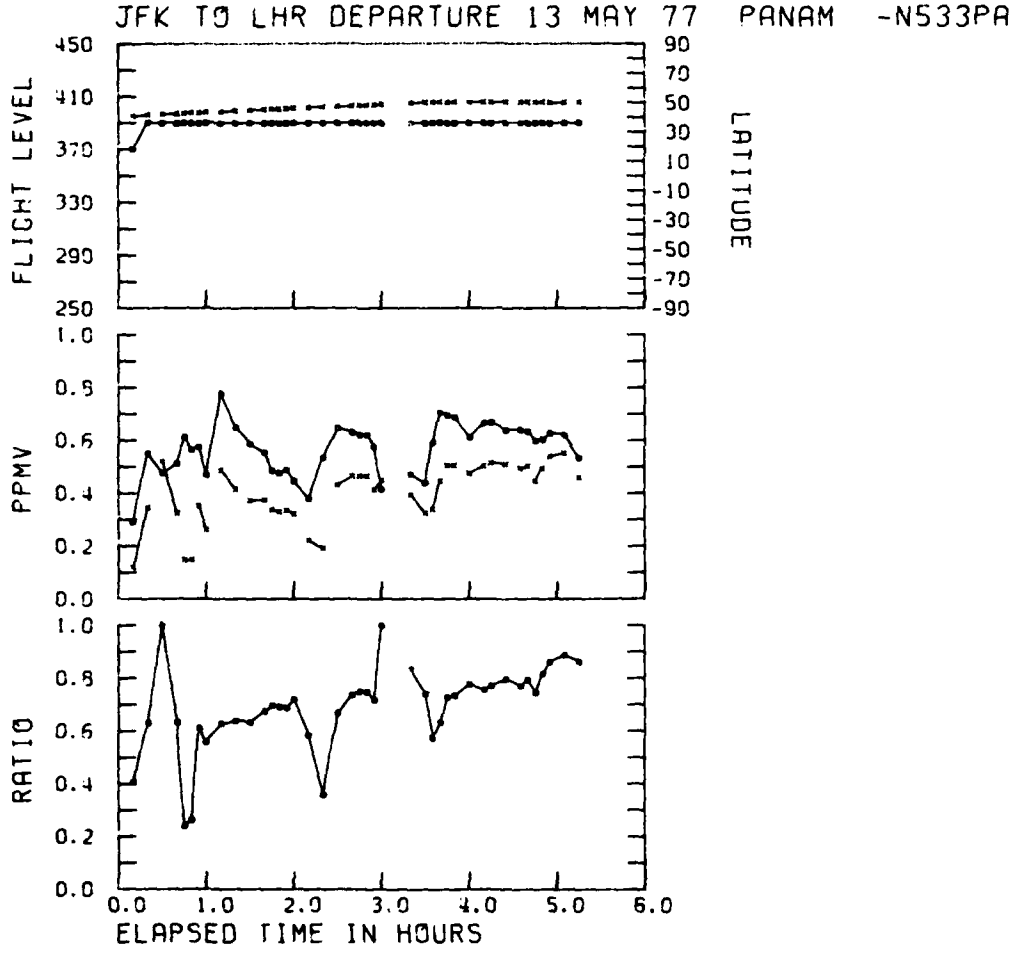
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/11/77	0553	0:05	339	21.83N	155.58W	-43.	.017	.020	
5/11/77	0603	0:15	381	22.36N	153.88W	-54.	.011	.035	
5/11/77	0613	0:25	381	23.16N	152.29W	-54.	.022	.023	
5/11/77	0623	0:35	381	23.95N	150.68W	-55.	.012	.034	
5/11/77	0628	0:40	381	24.33N	149.88W	-55.	.016	.027	
5/11/77	0633	0:45	381	24.71N	149.07W	-55.	.016	.038	
5/11/77	0638	0:50	381	25.08N	148.25W	-54.	.017	.031	
5/11/77	0643	0:55	381	25.45N	147.42W	-54.	.011	.018	
5/11/77	0653	1:05	381	26.18N	145.77W	-55.	.014	.037	
5/11/77	0703	1:15	381	26.88N	144.10W	-55.	.025	0.000	
5/11/77	0713	1:25	381	27.57N	142.39W	-55.		.052	
5/11/77	0721A	1:33	381	28.13N	140.96W	-56.	.037	.065	
5/11/77	0726	1:38	381	28.44N	140.12W	-56.	.076	.161	.48
5/11/77	0731	1:43	382	28.73N	139.33W	-56.	.196	.465	.42
5/11/77	0736	1:48	381	29.01N	138.57W	-58.	.370	.525	.70
5/11/77	0741	1:53	381	29.27N	137.82W	-59.	.202	.255	.79
5/11/77	0746	1:58	381	29.53N	137.09W	-60.	.168	.221	.76
5/11/77	0806	2:18	382	30.45N	134.27W	-63.	.254	.128	1.98
5/11/77	0816	2:28	381	30.89N	132.86W	-62.	.168	.150	1.12
5/11/77	0826	2:38	381	31.31N	131.41W	-62.	.121	.180	.67
5/11/77	0831	2:43	381	31.52N	130.66W	-62.	.137	.192	.71
5/11/77	0836	2:48	381	31.73N	129.91W	-62.	.142	.201	.71
5/11/77	0841	2:53	381	31.94N	129.15W	-62.	.148	.210	.70
5/11/77	0846	2:58	381	32.14N	128.38W	-62.	.157	.218	.72
5/11/77	0856	3:08	381	32.53N	126.83W	-64.	.199	.248	.80
5/11/77	0906	3:18	382	32.90N	125.27W	-61.	.212	.275	.77
5/11/77	0916	3:28	410	33.20N	123.65W	-59.	.267	.505	.53
5/11/77	0926	3:38	410	33.46N	121.97W	-58.	.502	.615	.82
5/11/77	0931	3:43	411	33.58N	121.13W	-58.	.541	.614	.87
5/11/77	0936	3:48	411	33.70N	120.28W	-59.	.508	.606	.84
5/11/77	0941	3:53	410	33.81N	119.42W	-58.	.438	.526	.83
5/11/77	0946	3:58	411	33.91N	118.55W	-58.	.413	.443	.93
5/11/77	0956	4:08	410	34.05N	116.81W	-58.	.371	.379	.98
5/11/77	1006	4:18	410	34.12N	115.02W	-61.	.371	.478	.78
5/11/77	1016	4:28	410	34.11N	113.27W	-64.	.260	.330	.79
5/11/77	1026	4:38	410	34.15N	111.48W	-66.	.206	.198	1.04
5/11/77	1031	4:43	410	34.20N	110.61W	-67.	.166	.177	.94
5/11/77	1036	4:48	411	34.24N	109.74W	-67.	.160	.200	.80
5/11/77	1041	4:53	410	34.27N	108.88W	-68.	.193	.197	.98
5/11/77	1046	4:58	409	34.31N	108.01W	-65.	.208	.249	.84
5/11/77	1056	5:08	410	34.17N	106.33W	-67.	.150	.191	.79
5/11/77	1106	5:18	410	34.00N	104.69W	-65.	.140	.131	1.07
5/11/77	1116	5:28	411	33.81N	103.07W	-64.	.189	.217	.87
5/11/77	1126	5:38	410	33.59N	101.40W	-60.	.204	.256	.80
5/11/77	1131	5:43	410	33.47N	100.57W	-62.	.195	.212	.92
5/11/77	1136	5:48	410	33.35N	99.75W	-62.	.209	.249	.84
5/11/77	1143A	5:55	305	33.19N	98.61W	-42.	.109	.022	


DFW TO JFK DEPARTURE 11 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
ELAPSED TIME IN HOURS

DFW TO JFK (PAGE 1 OF 1) DEPARTURE: 11 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .640 CABIN OZONE= .156 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .68 TOTAL OBS IN CABIN: 16
DATA SOURCE: GASP TAPE VL010, FILE 2 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

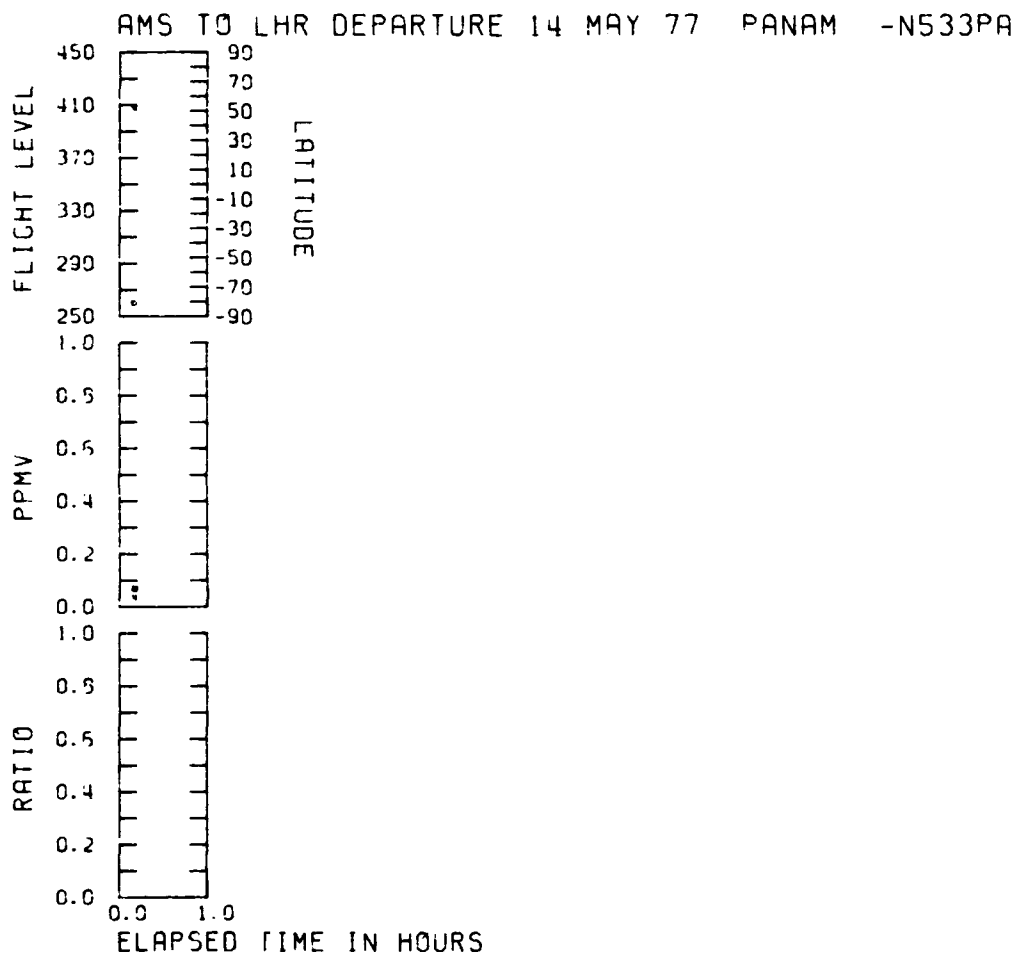
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/11/77	1327A	0:08	388	33.42N	95.09W	-63.	.041	.093	
5/11/77	1333	0:14	410	33.77N	94.30W	-65.	.116	.170	.68
5/11/77	1343	0:24	410	34.42N	92.80W	-67.	.077	.125	.62
5/11/77	1403	0:44	410	35.65N	89.81W	-66.	.010	.205	.05
5/11/77	1408	0:49	410	35.95N	89.06W	-66.	.058	.124	.47
5/11/77	1413	0:54	410	36.24N	88.31W	-65.	.022	.140	.16
5/11/77	1418	0:59	410	36.53N	87.53W	-65.	.030	.108	.28
5/11/77	1423	1:04	410	36.82N	86.73W	-63.	.064	.198	.32
5/11/77	1433	1:14	410	37.17N	85.03W	-58.	.114	.548	.21
5/11/77	1443	1:24	410	37.46N	83.27W	-58.	.134	.560	.24
5/11/77	1453	1:34	410	37.73N	81.47W	-55.	.143	.378	.38
5/11/77	1503	1:44	410	37.90N	79.68W	-51.	.156	.586	.27
5/11/77	1508	1:49	410	38.05N	78.80W	-52.	.113	.640	.18
5/11/77	1513	1:54	410	38.28N	77.95W	-51.	.113	.570	.20
5/11/77	1518	1:59	410	38.51N	77.10W	-51.	.139	.593	.23
5/11/77	1523	2:04	410	38.73N	76.24W	-51.	.125	.638	.20


JFK TO LHR DEPARTURE 13 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
ELAPSED TIME IN HOURS

JFK TO LHR (PAGE 1 OF 1) DEPARTURE: 13 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .777 CABIN OZONE= .552 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.09 TOTAL OBS IN CABIN: 41
DATA SOURCE: GASP TAPE VL010, FILE 2

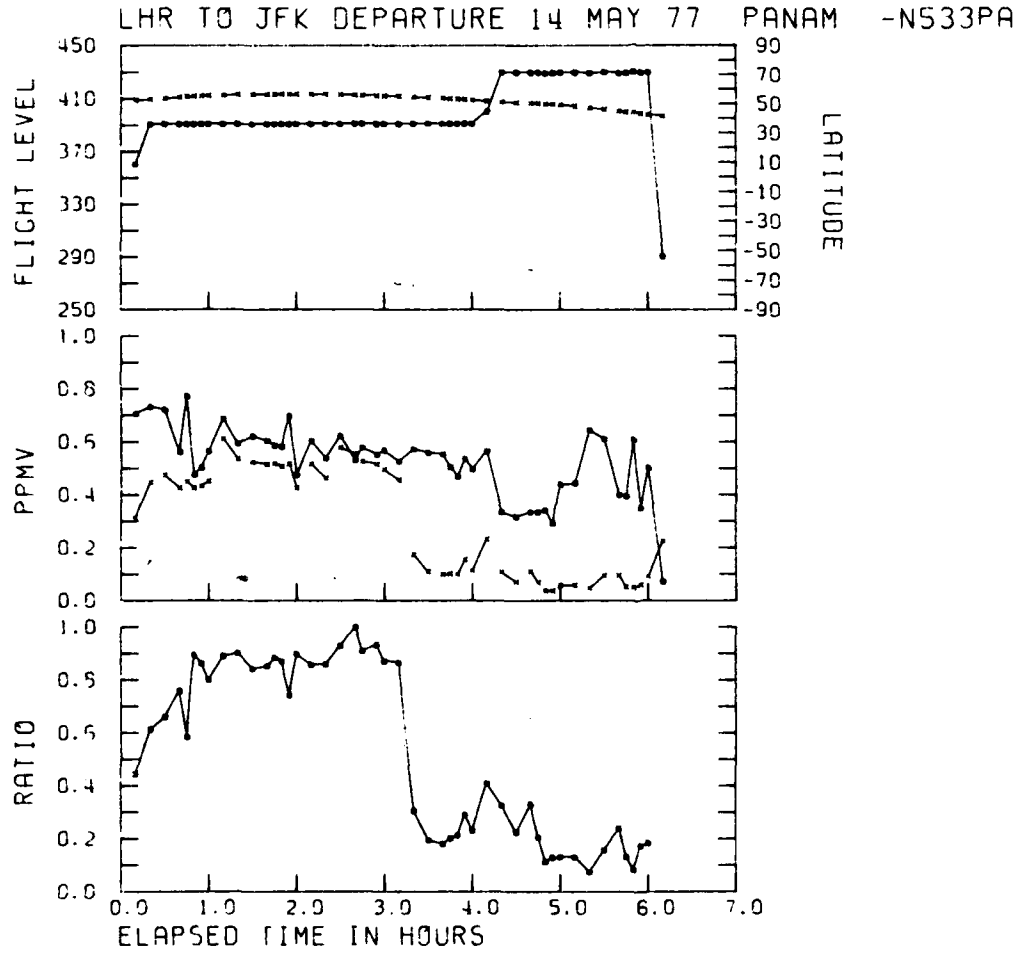
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/13/77	2350	0:10	370	40.94N	71.25W	-56.	.119	.292	.41
5/14/77	0000	0:20	390	41.50N	69.46W	-49.	.347	.550	.63
5/14/77	0010	0:30	390	42.04N	67.65W	-46.	.520	.475	1.09
5/14/77	0020	0:40	390	42.55N	65.80W	-45.	.324	.512	.63
5/14/77	0025	0:45	390	42.79N	64.88W	-46.	.148	.613	.24
5/14/77	0030	0:50	390	43.02N	63.94W	-45.	.149	.566	.26
5/14/77	0035	0:55	390	43.25N	63.00W	-44.	.352	.576	.61
5/14/77	0040	1:00	390	43.47N	62.04W	-44.	.263	.470	.56
5/14/77	0050	1:10	390	43.89N	60.10W	-46.	.488	.777	.63
5/14/77	0100	1:20	390	44.37N	58.17W	-47.	.416	.650	.64
5/14/77	0110	1:30	390	44.82N	56.20W	-50.	.373	.588	.63
5/14/77	0120	1:40	390	45.24N	54.21W	-50.	.374	.554	.68
5/14/77	0125	1:45	390	45.43N	53.22W	-51.	.340	.487	.70
5/14/77	0130	1:50	390	45.62N	52.20W	-52.	.330	.477	.69
5/14/77	0135	1:55	390	45.80N	51.15W	-53.	.336	.488	.69
5/14/77	0140	2:00	390	45.98N	50.07W	-54.	.323	.448	.72
5/14/77	0150	2:10	390	46.48N	47.96W	-56.	.221	.378	.58
5/14/77	0200	2:20	390	46.95N	45.82W	-55.	.191	.533	.36
5/14/77	0210	2:30	390	47.38N	43.65W	-55.	.433	.648	.67
5/14/77	0220	2:40	390	47.77N	41.43W	-55.	.465	.630	.74
5/14/77	0225	2:45	390	47.96N	40.31W	-56.	.467	.622	.75
5/14/77	0230	2:50	390	48.21N	39.20W	-56.	.464	.620	.75
5/14/77	0235	2:55	390	48.47N	38.09W	-54.	.415	.577	.72
5/14/77	0240	3:00	390	48.73N	36.98W	-54.	.450	.416	1.08
5/14/77	0300	3:20	390	49.63N	32.47W	-53.	.393	.471	.83
5/14/77	0310	3:30	390	50.02N	30.13W	-51.	.325	.439	.74
5/14/77	0315	3:35	390	50.08N	28.92W	-50.	.338	.590	.57
5/14/77	0320	3:40	390	50.12N	27.69W	-49.	.447	.706	.63
5/14/77	0325	3:45	390	50.15N	26.47W	-49.	.505	.695	.73
5/14/77	0330	3:50	390	50.16N	25.24W	-48.	.504	.686	.73
5/14/77	0340	4:00	390	50.15N	22.79W	-49.	.475	.611	.78
5/14/77	0350	4:10	390	50.09N	20.34W	-50.	.504	.666	.76
5/14/77	0355	4:15	390	50.12N	19.12W	-50.	.515	.668	.77
5/14/77	0405	4:25	390	50.22N	16.71W	-50.	.510	.640	.80
5/14/77	0415	4:35	390	50.26N	14.30W	-50.	.494	.640	.77
5/14/77	0420	4:40	390	50.26N	13.10W	-51.	.504	.635	.79
5/14/77	0425	4:45	390	50.25N	11.89W	-52.	.446	.598	.75
5/14/77	0430	4:50	390	50.23N	10.69W	-50.	.494	.604	.82
5/14/77	0435	4:55	390	50.19N	9.48W	-50.	.541	.628	.86
5/14/77	0445	5:05	390	50.18N	7.14W	-50.	.552	.621	.89
5/14/77	0455	5:15	390	50.40N	4.87W	-48.	.459	.532	.86


AMS TO LHR DEPARTURE 14 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
ELAPSED TIME IN HOURS

AMS TO LHR (PAGE 1 OF 1) DEPARTURE: 14 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .071 CABIN OZONE= .036 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)=***** TOTAL OBS IN CABIN: 1
DATA SOURCE: GASP TAPE VL010, FILE 2

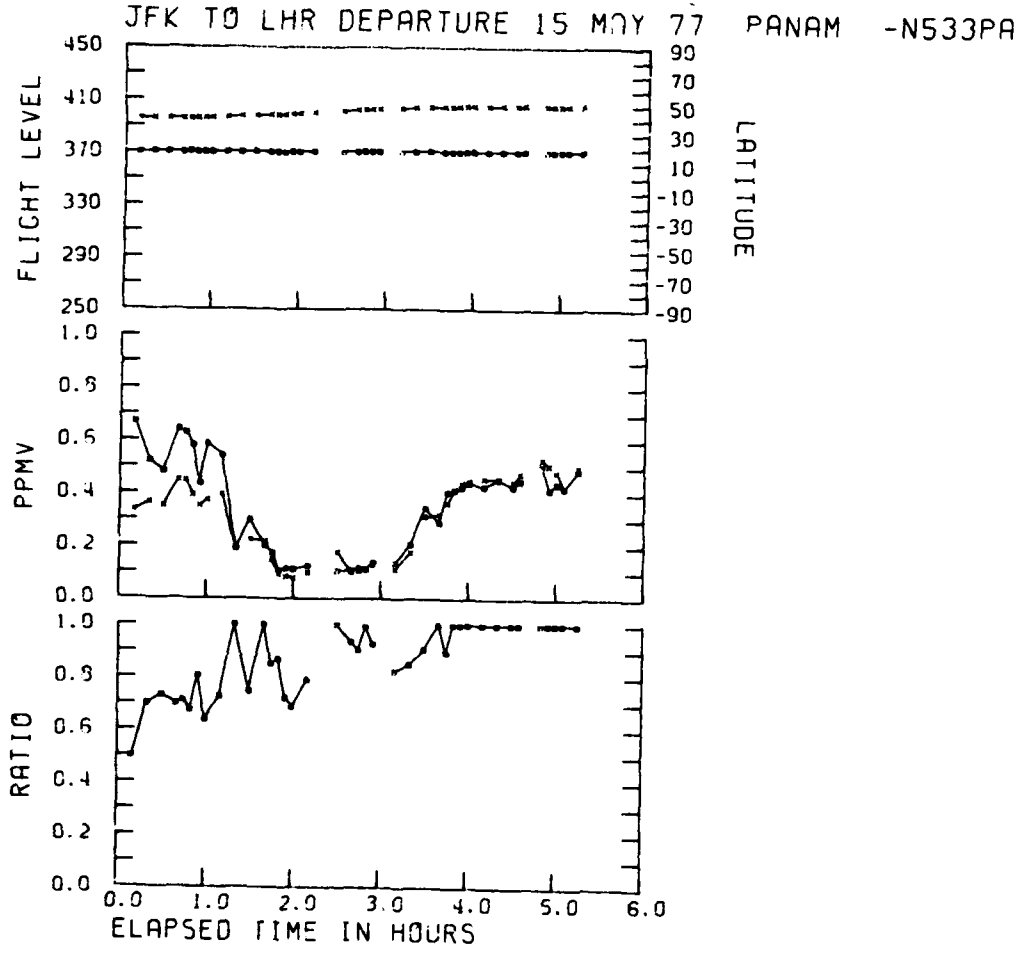
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
5/14/77	1014	0:10	260	51.79N	2.47E	-43.	.036	.071											


LHR TO JFK DEPARTURE 14 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
ELAPSED TIME IN HOURS

LHR TO JFK (PAGE 1 OF 1) DEPARTURE: 14 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .772 CABIN OZONE= .612 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.05 TOTAL OBS IN CABIN: 48
DATA SOURCE: GASP TAPE VL010, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/14/77	1305	0:10	360	52.93N	2.33W	-47.	.314	.707	.44
5/14/77	1315	0:20	391	53.76N	4.00W	-47.	.448	.731	.61
5/14/77	1325	0:30	391	54.48N	5.83W	-47.	.476	.721	.66
5/14/77	1335	0:40	391	55.20N	7.72W	-47.	.427	.563	.76
5/14/77	1340	0:45	391	55.55N	8.69W	-47.	.451	.772	.58
5/14/77	1345	0:50	391	55.89N	9.68W	-48.	.426	.477	.89
5/14/77	1350	0:55	391	56.11N	10.77W	-48.	.435	.504	.86
5/14/77	1355	1:00	391	56.26N	11.90W	-48.	.452	.565	.80
5/14/77	1405	1:10	391	56.53N	14.21W	-47.	.612	.687	.89
5/14/77	1415	1:20	391	56.76N	16.55W	-48.	.536	.594	.90
5/14/77	1425	1:30	391	56.94N	18.94W	-48.	.524	.622	.84
5/14/77	1435	1:40	391	57.05N	21.34W	-48.	.516	.605	.85
5/14/77	1440	1:45	391	57.08N	22.54W	-48.	.519	.587	.88
5/14/77	1445	1:50	391	57.10N	23.76W	-49.	.508	.583	.87
5/14/77	1450	1:55	391	57.10N	24.98W	-49.	.519	.699	.74
5/14/77	1455	2:00	391	57.10N	26.20W	-49.	.427	.476	.90
5/14/77	1505	2:10	391	57.05N	28.62W	-50.	.518	.604	.86
5/14/77	1515	2:20	391	56.94N	31.02W	-51.	.463	.539	.86
5/14/77	1525	2:30	391	56.77N	33.40W	-49.	.579	.623	.93
5/14/77	1535	2:40	391	56.54N	35.75W	-50.	.556	.532	1.05
5/14/77	1540	2:45	391	56.41N	36.91W	-51.	.527	.579	.91
5/14/77	1550	2:55	391	56.12N	39.21W	-49.	.517	.554	.93
5/14/77	1555	3:00	391	55.96N	40.33W	-50.	.496	.569	.87
5/14/77	1605	3:10	391	55.60N	42.55W	-51.	.456	.527	.87
5/14/77	1615	3:20	391	55.19N	44.75W	-50.	.175	.573	.318
5/14/77	1625	3:30	391	54.75N	46.89W	-51.	.109	.560	.198
5/14/77	1635	3:40	391	54.27N	48.97W	-51.	.100	.554	.188
5/14/77	1640	3:45	391	54.02N	49.99W	-52.	.102	.506	.208
5/14/77	1645	3:50	391	53.68N	50.93W	-54.	.100	.469	.218
5/14/77	1650	3:55	391	53.33N	51.84W	-51.	.156	.536	.298
5/14/77	1655	4:00	391	52.98N	52.71W	-52.	.115	.498	.238
5/14/77	1705	4:10	400	52.24N	54.46W	-49.	.232	.566	.41
5/14/77	1715	4:20	430	51.51N	56.21W	-50.	.109	.334	.338
5/14/77	1725	4:30	430	51.14N	58.30W	-47.	.071	.317	.228
5/14/77	1735	4:40	430	50.75N	60.35W	-48.	.111	.335	.338
5/14/77	1740	4:45	430	50.53N	61.37W	-48.	.069	.335	.218
5/14/77	1745	4:50	429	50.31N	62.40W	-48.	.039	.342	.118
5/14/77	1750	4:55	429	50.07N	63.43W	-48.	.038	.293	.138
5/14/77	1755	5:00	430	49.71N	64.31W	-48.	.056	.439	.138
5/14/77	1805	5:10	430	48.61N	65.55W	-48.	.058	.444	.138
5/14/77	1815	5:20	429	47.48N	66.76W	-47.	.048	.645	.078
5/14/77	1825	5:30	430	46.36N	67.90W	-48.	.096	.612	.168
5/14/77	1835	5:40	429	45.20N	69.01W	-49.	.096	.401	.248
5/14/77	1840	5:45	429	44.61N	69.56W	-48.	.052	.395	.138
5/14/77	1845	5:50	430	44.02N	70.08W	-49.	.051	.610	.088
5/14/77	1850	5:55	430	43.43N	70.61W	-49.	.061	.349	.178
5/14/77	1855	6:00	430	42.83N	71.06W	-50.	.093	.503	.188
5/14/77	1905	6:10	290	41.67N	71.91W	-42.	.225	.072	


JFK TO LHR DEPARTURE 15 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
ELAPSED TIME IN HOURS

JFK TO LHR (PAGE 1 OF 1)

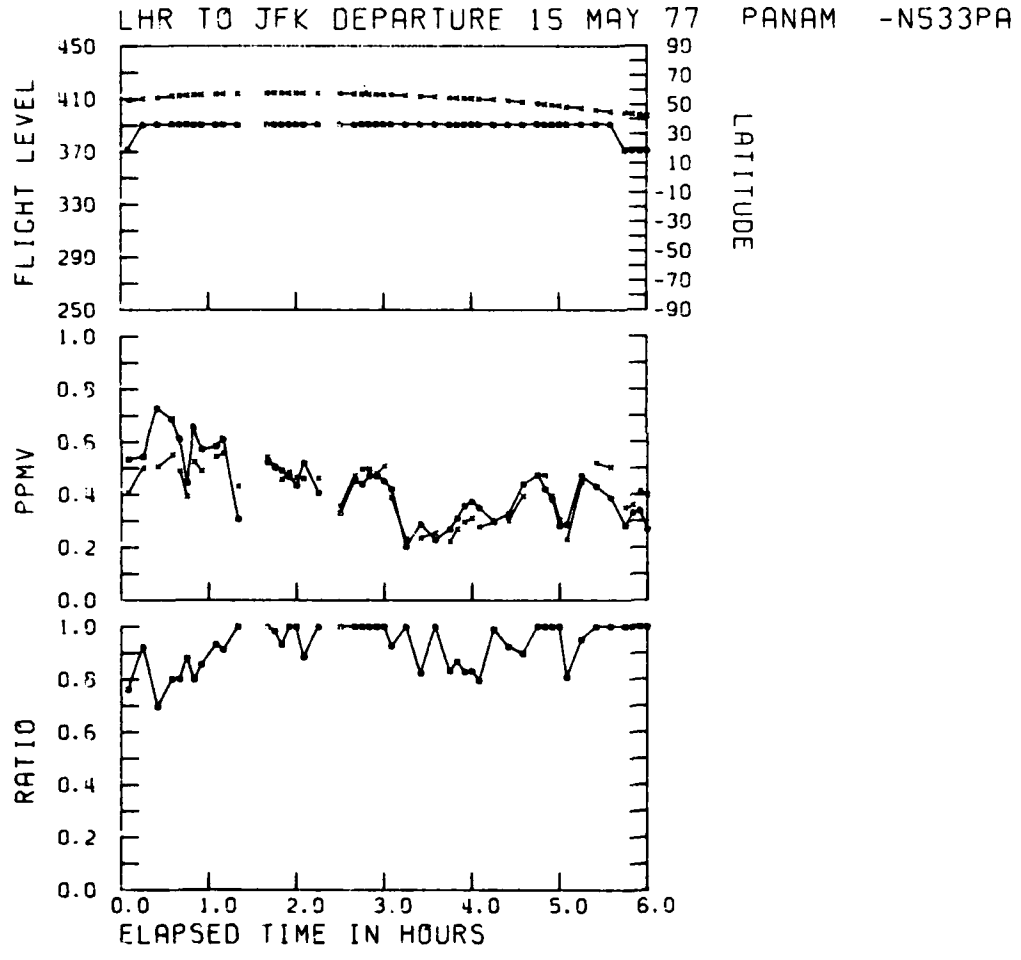
DEPARTURE: 15 MAY 77

AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .670 CABIN OZONE= .532 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.67 TOTAL OBS IN CABIN: 39

DATA SOURCE: GASP TAPE VL010, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/15/77	0026	0:13	370	41.08N	70.71W	-48.	.334	.670	.50
5/15/77	0036	0:23	371	41.28N	68.82W	-46.	.364	.522	.70
5/15/77	0046	0:33	370	41.27N	66.85W	-48.	.352	.482	.73
5/15/77	0056	0:43	370	41.24N	64.84W	-47.	.448	.642	.70
5/15/77	0101	0:48	371	41.32N	63.90W	-47.	.449	.631	.71
5/15/77	0106	0:53	370	41.51N	62.89W	-46.	.393	.582	.68
5/15/77	0111	0:58	370	41.69N	61.89W	-48.	.352	.437	.81
5/15/77	0116	1:03	370	41.86N	60.85W	-48.	.374	.587	.64
5/15/77	0126	1:13	370	42.29N	58.81W	-49.	.396	.545	.73
5/15/77	0136	1:23	370	42.76N	56.77W	-53.	.190	.189	1.01
5/15/77	0146	1:33	371	43.19N	54.69W	-54.	.224	.300	.75
5/15/77	0156	1:43	370	43.59N	52.51W	-58.	.217	.200	1.09
5/15/77	0201	1:48	370	43.77N	51.43W	-58.	.148	.174	.85
5/15/77	0206	1:53	370	43.94N	50.39W	-59.	.093	.107	.87
5/15/77	0211	1:58	370	44.25N	49.31W	-60.	.083	.115	.72
5/15/77	0216	2:03	370	44.60N	48.27W	-59.	.077	.112	.69
5/15/77	0226	2:13	371	45.27N	46.24W	-59.	.098	.124	.79
5/15/77	0246	2:33	370	46.48N	42.03W	-58.	.177	.106	1.67
5/15/77	0256	2:43	370	47.05N	39.78W	-58.	.100	.107	.93
5/15/77	0301	2:48	371	47.32N	38.68W	-59.	.104	.115	.90
5/15/77	0306	2:53	371	47.58N	37.56W	-60.	.111	.112	.99
5/15/77	0311	2:58	371	47.82N	36.47W	-60.	.126	.136	.93
5/15/77	0326	3:13	371	48.48N	33.15W	-60.	.112	.136	.82
5/15/77	0336	3:23	371	48.86N	30.91W	-59.	.175	.206	.85
5/15/77	0346	3:33	371	49.19N	28.61W	-57.	.313	.345	.91
5/15/77	0356	3:43	371	49.47N	26.35W	-52.	.321	.290	1.11
5/15/77	0401	3:48	370	49.59N	25.20W	-51.	.364	.406	.90
5/15/77	0406	3:53	371	49.70N	24.10W	-51.	.419	.414	1.01
5/15/77	0411	3:58	370	49.80N	22.96W	-50.	.440	.424	1.04
5/15/77	0416	4:03	371	49.88N	21.81W	-50.	.448	.440	1.02
5/15/77	0426	4:13	371	50.02N	19.54W	-49.	.458	.427	1.07
5/15/77	0436	4:23	371	50.11N	17.25W	-49.	.457	.455	1.00
5/15/77	0446	4:33	371	50.15N	14.97W	-47.	.446	.427	1.04
5/15/77	0451	4:38	371	50.15N	13.83W	-46.	.476	.450	1.06
5/15/77	0506	4:53	371	50.10N	10.39W	-46.	.532	.506	1.05
5/15/77	0511	4:58	370	50.06N	9.22W	-45.	.509	.416	1.22
5/15/77	0516	5:03	371	50.00N	8.11W	-46.	.483	.439	1.10
5/15/77	0521	5:08	371	50.05N	6.96W	-46.	.423	.422	1.00
5/15/77	0531	5:18	370	50.26N	4.74W	-48.	.503	.490	1.03


LHR TO JFK DEPARTURE 15 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
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LATITUDE
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50
30
10
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-30
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-70
-90
PPMV
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RATIO
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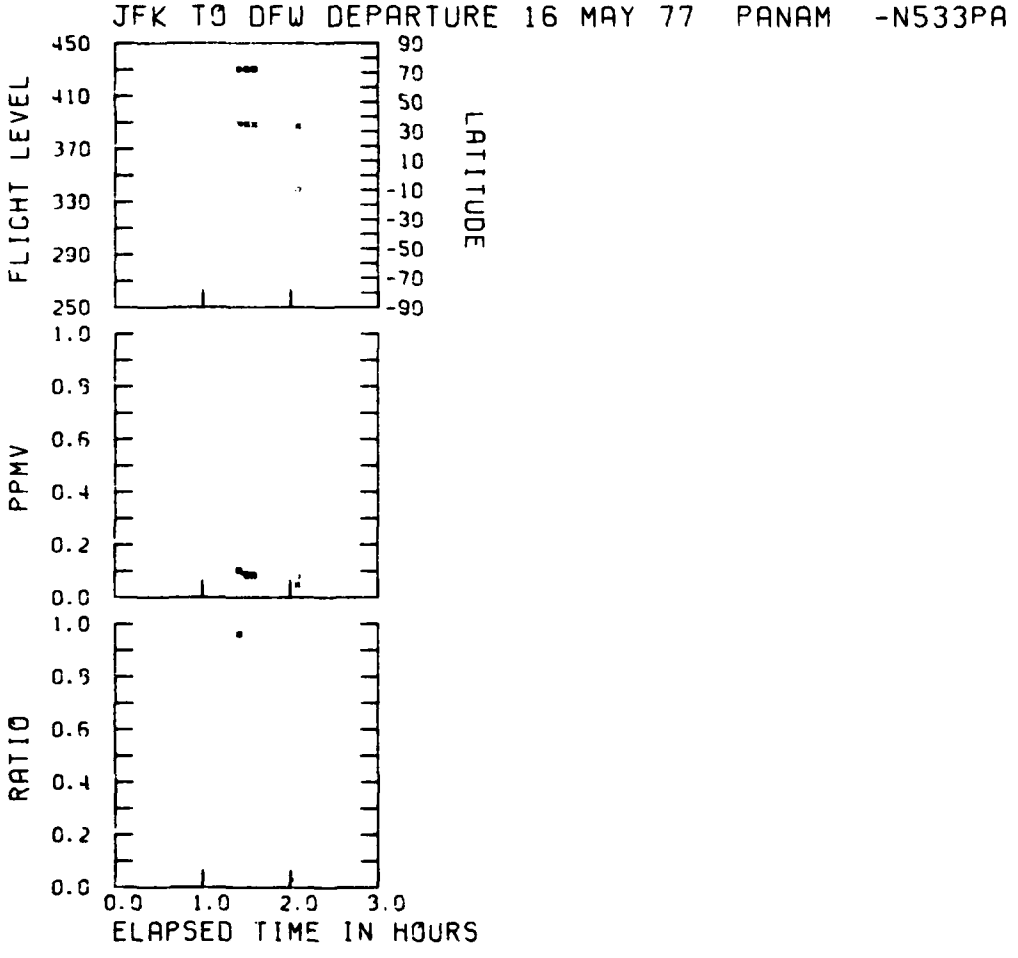
1.0
2.0
3.0
4.0
5.0
6.0
ELAPSED TIME IN HOURS

LHR TO JFK (PAGE 1 OF 1) DEPARTURE: 15 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .728 CABIN OZONE= .558 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.49 TOTAL OBS IN CABIN: 48
DATA SOURCE: GASP TAPE VL010, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/15/77	1231	0:05	372	53.19N	1.79W	-49.	.408	.535	.76	5/15/77	1531	3:05	391	56.75N	41.56W	-50.	.391	.422	.93
5/15/77	1241	0:15	390	54.38N	2.90W	-48.	.502	.544	.92	5/15/77	1541	3:15	391	56.37N	43.73W	-49.	.230	.203	1.13
5/15/77	1251	0:25	391	55.16N	4.75W	-48.	.507	.728	.70	5/15/77	1551	3:25	391	55.94N	45.89W	-49.	.237	.288	.82
5/15/77	1301	0:35	391	55.86N	6.77W	-48.	.551	.687	.80	5/15/77	1601	3:35	391	55.48N	48.00W	-48.	.255	.229	1.11
5/15/77	1306	0:40	391	56.23N	7.77W	-47.	.490	.612	.80	5/15/77	1611	3:45	391	54.97N	50.13W	-48.	.224	.269	.83
5/15/77	1311	0:45	391	56.59N	8.79W	-47.	.393	.446	.88	5/15/77	1616	3:50	391	54.76N	51.23W	-46.	.270	.311	.87
5/15/77	1316	0:50	391	56.94N	9.83W	-47.	.525	.656	.80	5/15/77	1621	3:55	391	54.53N	52.33W	-46.	.297	.358	.83
5/15/77	1321	0:55	391	57.14N	11.01W	-47.	.491	.573	.86	5/15/77	1626	4:00	391	54.29N	53.42W	-46.	.312	.375	.83
5/15/77	1331	1:05	391	57.44N	13.43W	-50.	.545	.584	.93	5/15/77	1631	4:05	391	54.04N	54.52W	-45.	.279	.351	.79
5/15/77	1336	1:10	391	57.57N	14.64W	-51.	.558	.611	.91	5/15/77	1641	4:15	391	53.73N	56.81W	-44.	.297	.300	.99
5/15/77	1346	1:20	390	57.79N	17.08W	-53.	.433	.308	1.41	5/15/77	1651	4:25	391	52.90N	58.62W	-45.	.302	.327	.92
5/15/77	1406	1:40	391	58.06N	21.95W	-53.	.543	.523	1.04	5/15/77	1701	4:35	391	51.97N	60.31W	-45.	.395	.440	.90
5/15/77	1411	1:45	391	58.08N	23.16W	-52.	.499	.508	.98	5/15/77	1711	4:45	391	50.99N	61.93W	-46.	.475	.475	1.00
5/15/77	1416	1:50	391	58.10N	24.38W	-52.	.458	.492	.93	5/15/77	1716	4:50	391	50.46N	62.66W	-46.	.473	.422	1.12
5/15/77	1421	1:55	391	58.10N	25.59W	-52.	.485	.467	1.04	5/15/77	1721	4:55	391	49.92N	63.38W	-48.	.397	.382	1.04
5/15/77	1426	2:00	391	58.08N	26.78W	-52.	.466	.435	1.07	5/15/77	1726	5:00	391	49.37N	64.08W	-47.	.306	.283	1.08
5/15/77	1431	2:05	391	58.06N	27.97W	-54.	.461	.521	.88	5/15/77	1731	5:05	391	48.81N	64.78W	-47.	.232	.287	.81
5/15/77	1441	2:15	391	57.98N	30.34W	-55.	.463	.407	1.14	5/15/77	1741	5:15	391	47.69N	66.12W	-48.	.449	.472	.95
5/15/77	1456	2:30	391	57.72N	33.78W	-56.	.357	.331	1.08	5/15/77	1751	5:25	391	46.55N	67.41W	-51.	.521	.431	1.21
5/15/77	1506	2:40	391	57.49N	36.05W	-55.	.472	.454	1.04	5/15/77	1801	5:35	391	45.39N	68.65W	-53.	.504	.388	1.30
5/15/77	1511	2:45	391	57.37N	37.17W	-55.	.498	.440	1.13	5/15/77	1811	5:45	371	44.19N	69.83W	-55.	.352	.283	1.24
5/15/77	1516	2:50	391	57.23N	38.28W	-54.	.497	.472	1.05	5/15/77	1816	5:50	371	43.56N	70.37W	-55.	.361	.330	1.09
5/15/77	1521	2:55	391	57.09N	39.38W	-53.	.481	.471	1.02	5/15/77	1821	5:55	371	42.92N	70.90W	-56.	.414	.334	1.24
5/15/77	1526	3:00	391	56.93N	40.47W	-52.	.509	.452	1.13	5/15/77	1826	6:00	371	42.28N	71.42W	-57.	.399	.268	1.49


JFK TO DFW DEPARTURE 16 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

JFK TO DFW (PAGE 1 OF 1)

DEPARTURE: 16 MAY 77

MAXIMUM VALUES: AMBIENT OZONE= .104 CABIN OZONE= .100 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .96

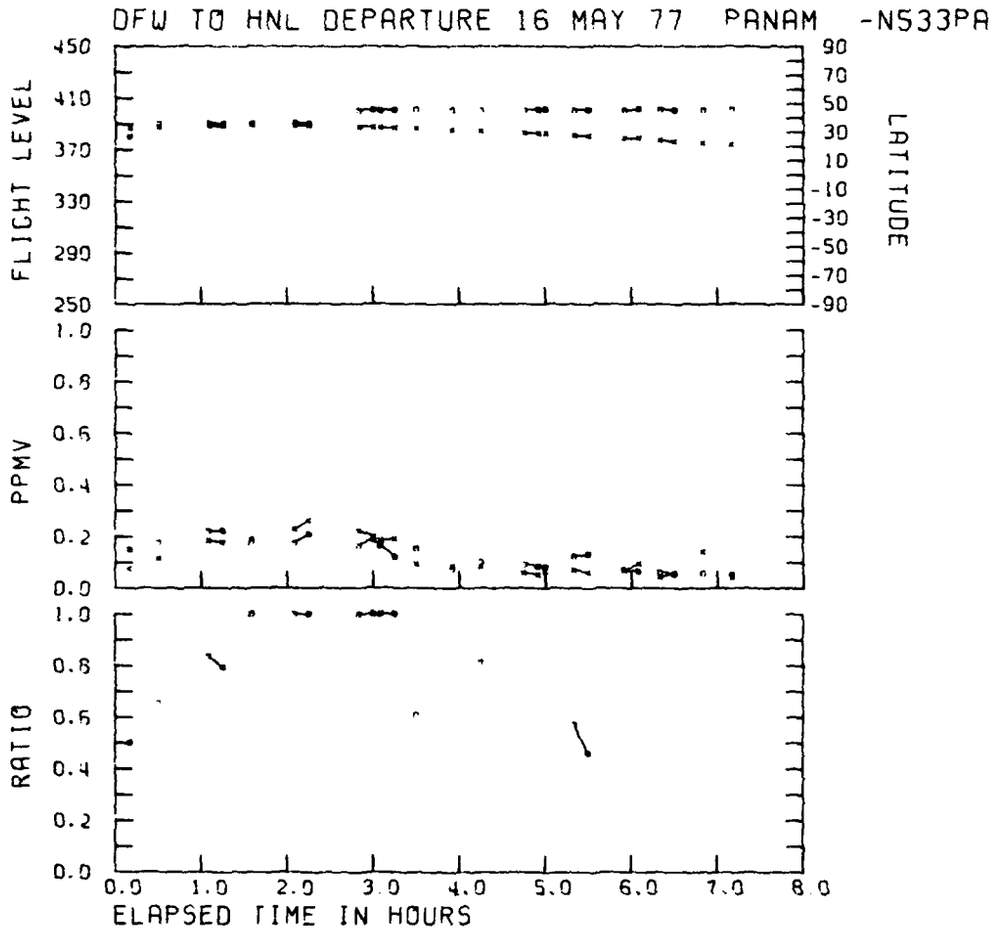
DATA SOURCE: GASP TAPE VL010, FILE 2

AIRCRAFT: PANAM -N533PA

TOTAL OBS IN CABIN: 4

MO/DA/YR	GMT	ETIM HH:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/16/77	1644								
5/16/77	1649	1:25	430	35.22N	89.29W	-63.	.100	.104	.96
		1:30	430	34.96N	89.97W	-63.	.081	.089	

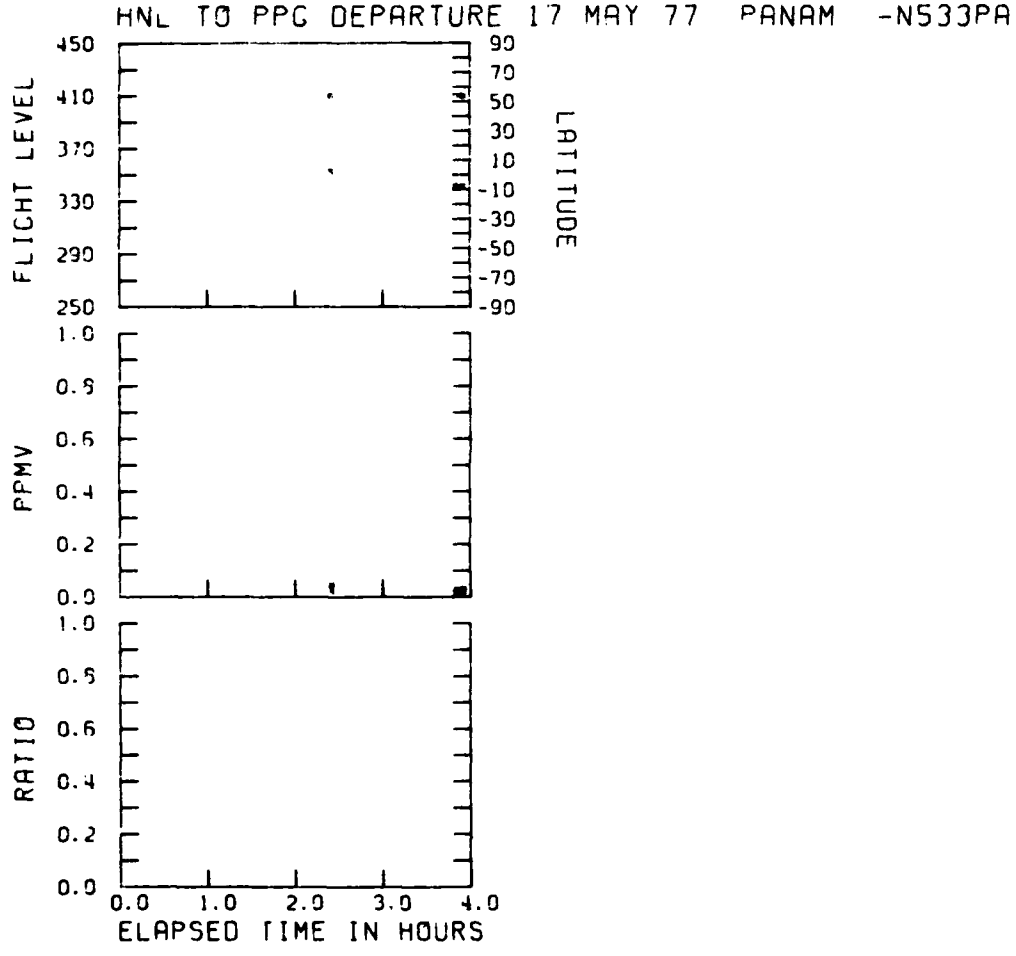
MO/DA/YR	GMT	ETIM HH:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/16/77	1654								
5/16/77	1724	1:35	431	34.74N	90.68W	-62.	.081	.086	
		2:05	339	33.61N	94.78W	-50.	.049	.081	


DFW TO HNL DEPARTURE 16 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
ELAPSED TIME IN HOURS

DFW TO HNL (PAGE 1 OF 1) DEPARTURE: 16 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .223 CABIN OZONE= .261 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.57 TOTAL OBS IN CABIN: 25
DATA SOURCE: GASP TAPE VL010, FILE 2

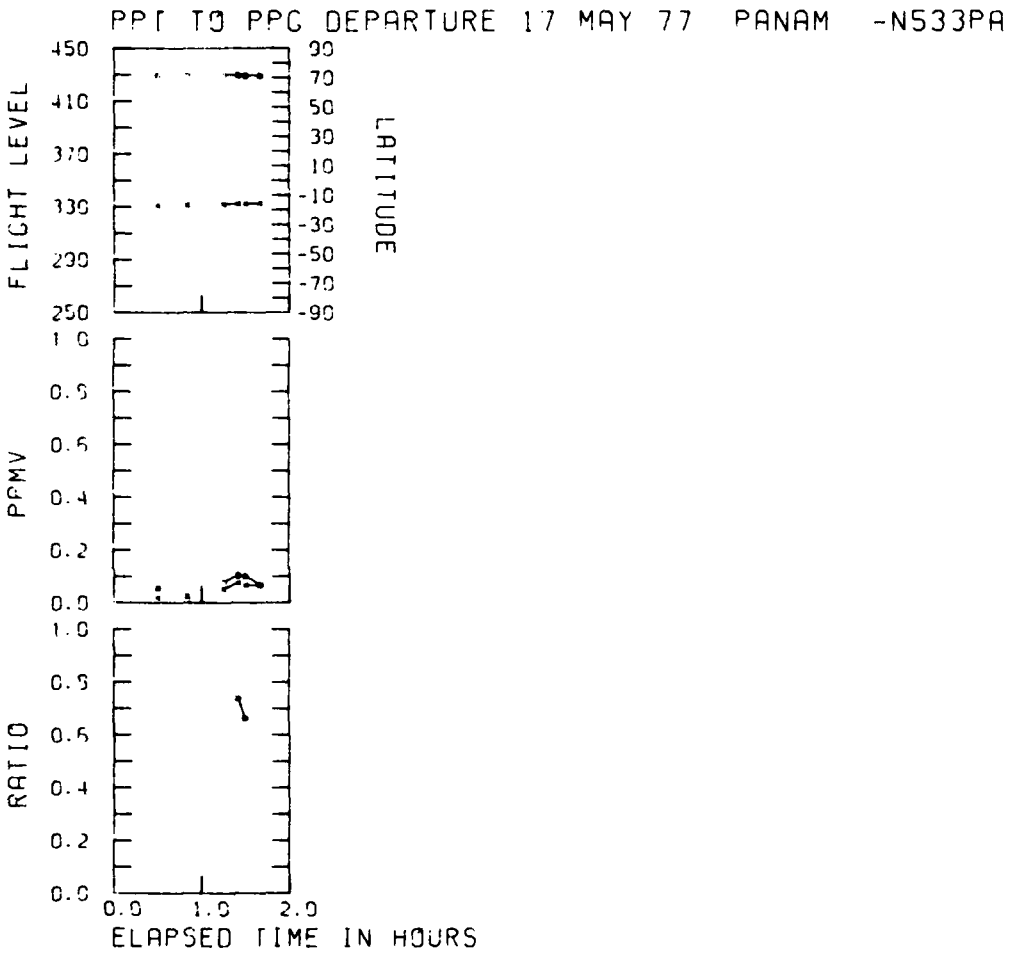
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
5/16/77	1944	0:10	381	33.38N	99.04W	-58.	.076	.151	.50
5/16/77	2004	0:30	391	33.88N	101.81W	-59.	.117	.178	.66
5/16/77	2039	1:05	391	34.62N	106.78W	-57.	.185	.221	.84
5/16/77	2050	1:16	390	34.81N	108.40W	-56.	.177	.223	.79
5/16/77	2110	1:36	390	35.05N	111.19W	-63.	.190	.178	1.07
5/16/77	2140	2:06	391	34.86N	115.52W	-59.	.229	.175	1.31
5/16/77	2150	2:16	390	34.75N	116.89W	-57.	.261	.208	1.25
5/16/77	2225	2:51	401	33.85N	121.59W	-62.	.224	.167	1.34
5/16/77	2235	3:01	401	33.42N	122.90W	-62.	.199	.188	1.06
5/16/77	2240	3:06	401	33.28N	123.56W	-64.	.185	.166	1.11
5/16/77	2250	3:16	401	32.97N	124.94W	-65.	.191	.122	1.57
5/16/77	2305	3:31	401	32.50N	126.94W	-65.	.094	.154	.61
5/16/77	2330	3:56	401	31.63N	130.30W	-65.	.087	.074	
5/16/77	2350	4:16	401	30.86N	132.94W	-64.	.083	.102	.81
5/17/77	0020	4:46	401	29.59N	136.91W	-64.	.059	.092	
5/17/77	0030	4:56	401	29.12N	138.25W	-64.	.053	.086	
5/17/77	0035	5:01	401	28.88N	138.93W	-65.	.066	.083	
5/17/77	0055	5:21	401	27.85N	141.67W	-64.	.071	.124	.57
5/17/77	0105	5:31	401	27.30N	143.06W	-64.	.062	.134	.46
5/17/77	0130	5:56	401	25.84N	146.56W	-63.	.070	.070	
5/17/77	0140	6:06	401	25.22N	147.94W	-63.	.095	.066	
5/17/77	0155	6:21	401	24.30N	149.93W	-62.	.044	.064	
5/17/77	0205	6:31	401	23.68N	151.23W	-63.	.060	.054	
5/17/77	0225	6:51	401	22.42N	153.78W	-62.	.142	.059	
5/17/77	0245	7:11	401	21.11N	156.28W	-62.	.043	.054	


HNL TO PPC DEPARTURE 17 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
ELAPSED TIME IN HOURS

HNL TO PPG (PAGE 1 OF 1) DEPARTURE: 17 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .047 CABIN OZONE= .023 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)=***** TOTAL OBS IN CABIN: 3
DATA SOURCE: GASP TAPE VL010, FILE 2

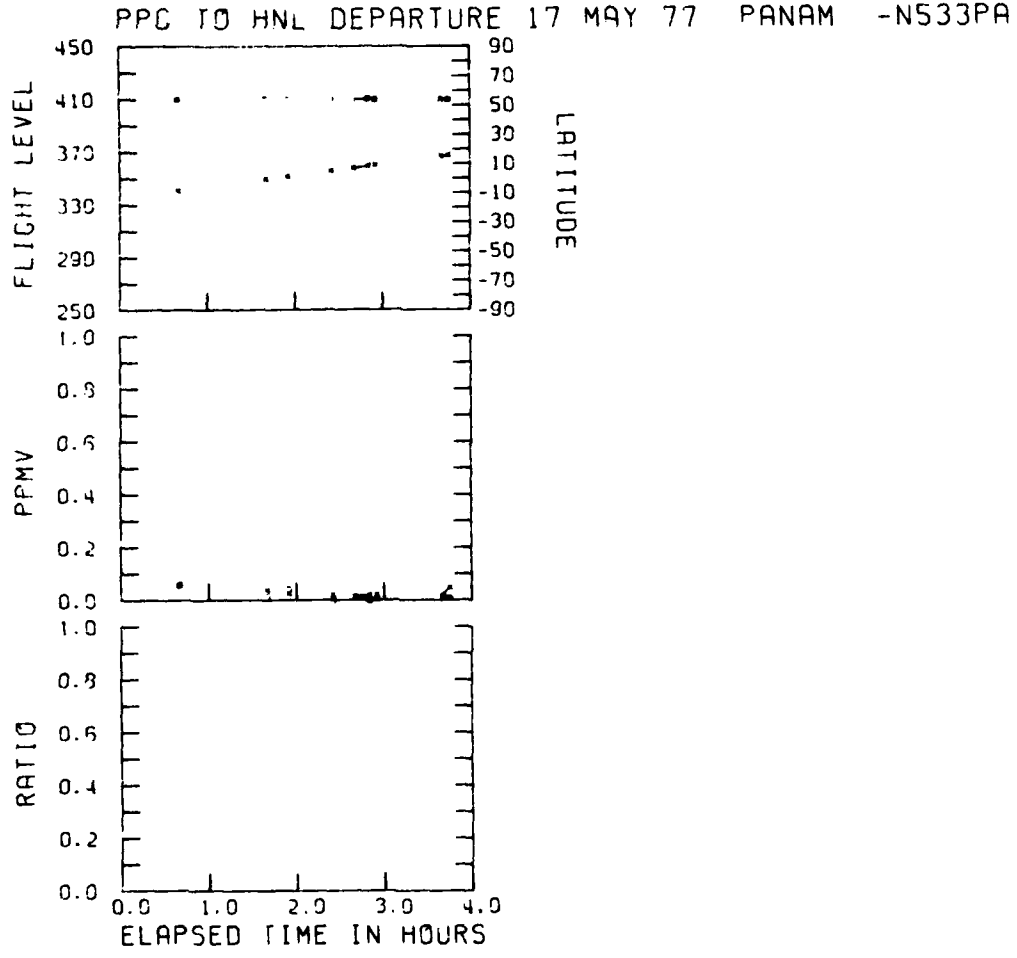
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/17/77	0731	2:25	410	2.62N	164.49W	-60.	.023	.047	
5/17/77	0856	3:50	410	7.21S	168.05W	-60.	.015	.028	
5/17/77	0901	3:55	410	7.77S	168.26W	-60.	.019	.030	


PPT TO PPG DEPARTURE 17 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
ELAPSED TIME IN HOURS

PPT TO PPB (PAGE 1 OF 1) DEPARTURE: 17 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .104 CABIN OZONE= .077 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .74 TOTAL OBS IN CABIN: 6
DATA SOURCE: GASP TAPE VL010, FILE 2

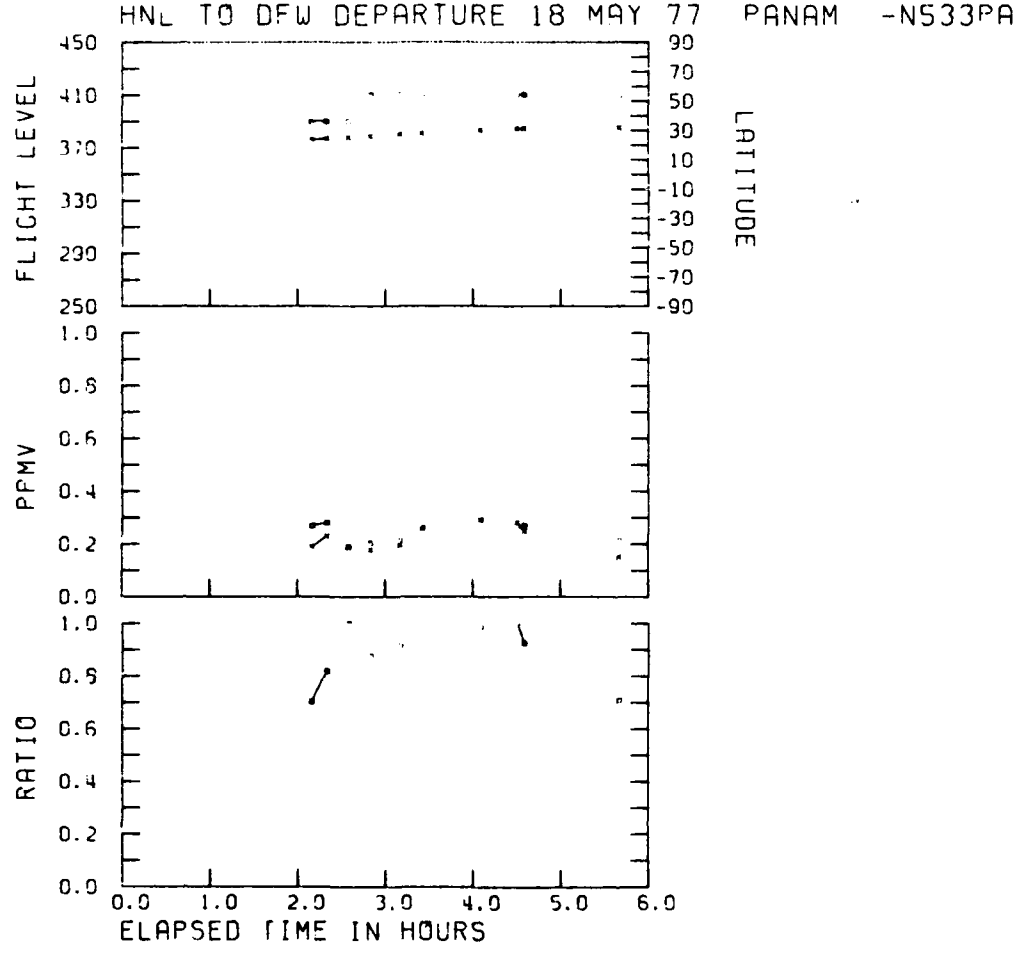
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/17/77	1859	0:33	430	16.83S	155.52W	-66.	.019	.057	
5/17/77	1919	0:53	430	16.48S	158.13W	-67.	.029	.010	
5/17/77	1944	1:18	430	16.01S	161.33W	-66.	.053	.080	
5/17/77	1954	1:28	430	15.80S	162.63W	-64.	.077	.104	.74
5/17/77	1959	1:33	429	15.69S	163.30W	-64.	.067	.101	.66
5/17/77	2009	1:43	429	15.45S	164.70W	-65.	.066	.088	


PPC TO HNL DEPARTURE 17 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
ELAPSED TIME IN HOURS

PPG TO HNL (PAGE 1 OF 1) DEPARTURE: 17 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .058 CABIN OZONE= .063 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)=***** TOTAL OBS IN CABIN: 9
DATA SOURCE: GASP TAPE VL010, FILE 2

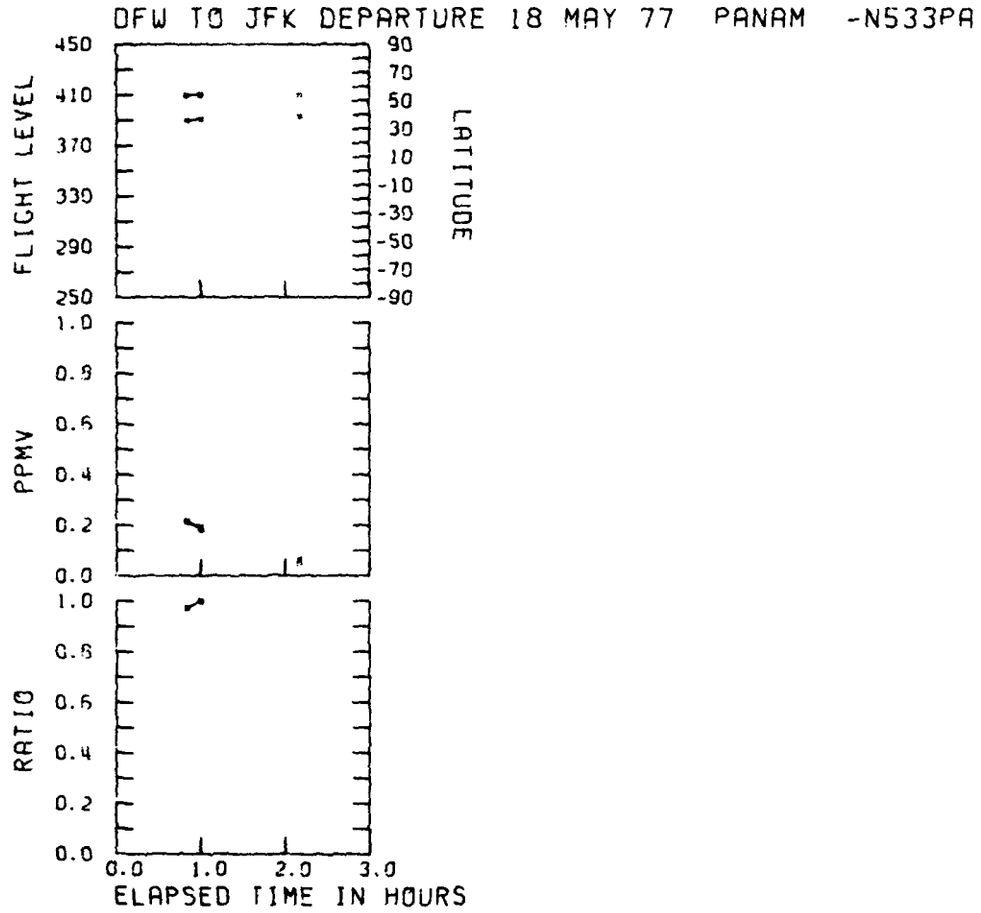
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/17/77	2348	0:40	410	8.19S	168.38W	-60.	.063	.058	
5/18/77	0048	1:40	410	.17S	165.46W	-60.	.040	.017	
5/18/77	0103	1:55	410	1.75N	164.77W	-60.	.026	.043	
5/18/77	0133	2:25	411	5.29N	163.03W	-60.	.022	0.000	
5/18/77	0148	2:40	410	7.31N	162.46W	-60.	.014	.012	
5/18/77	0158	2:50	410	8.65N	162.24W	-59.	.020	0.000	
5/18/77	0203	2:55	410	9.31N	161.98W	-59.	.022	.005	
5/18/77	0248	3:40	410	15.31N	159.67W	-59.	.020	.019	
5/18/77	0253	3:45	410	15.96N	159.41W	-59.	.049	.010	


HNL TO DFW DEPARTURE 18 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
ELAPSED TIME IN HOURS

HNL TO OF# (PAGE 1 OF 1) DEPARTURE: 18 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .296 CABIN OZONE= .292 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.06 TOTAL OBS IN CABIN: 10
DATA SOURCE: GASP TAPE VL010, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
5/18/77	0906	2:10	390	24.04N	134.97W	-58.	.191	.271	.70
5/18/77	0916	2:20	390	24.56N	133.64W	-59.	.230	.281	.82
5/18/77	0931	2:35	390	25.33N	131.60W	-61.	.191	.189	1.01
5/18/77	0946	2:50	411	26.15N	129.48W	-63.	.179	.204	.88
5/18/77	1006	3:10	410	27.38N	126.56W	-63.	.197	.215	.92
5/18/77	1021	3:25	411	28.27N	124.32W	-61.	.260	.264	.98
5/18/77	1101	4:05	411	30.36N	117.83W	-60.	.292	.296	.99
5/18/77	1126	4:30	411	31.29N	113.41W	-56.	.282	.267	1.06
5/18/77	1131	4:35	411	31.56N	112.56W	-56.	.250	.270	.93
5/18/77	1236	5:40	410	32.14N	100.81W	-63.	.153	.215	.71


DFW TO JFK DEPARTURE 18 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

DFW TO JFK (PAGE 1 OF 1)

DEPARTURE: 18 MAY 77

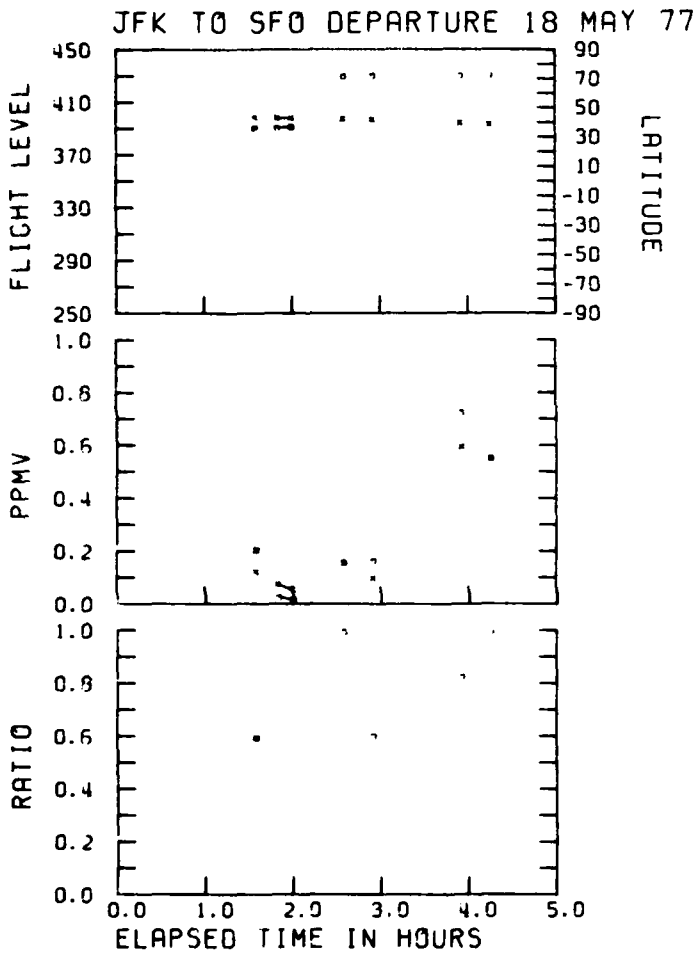
AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .216 CABIN OZONE= .210 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.07

DATA SOURCE: GASP TAPE VL010, FILE 2

TOTAL OBS IN CABIN: 3

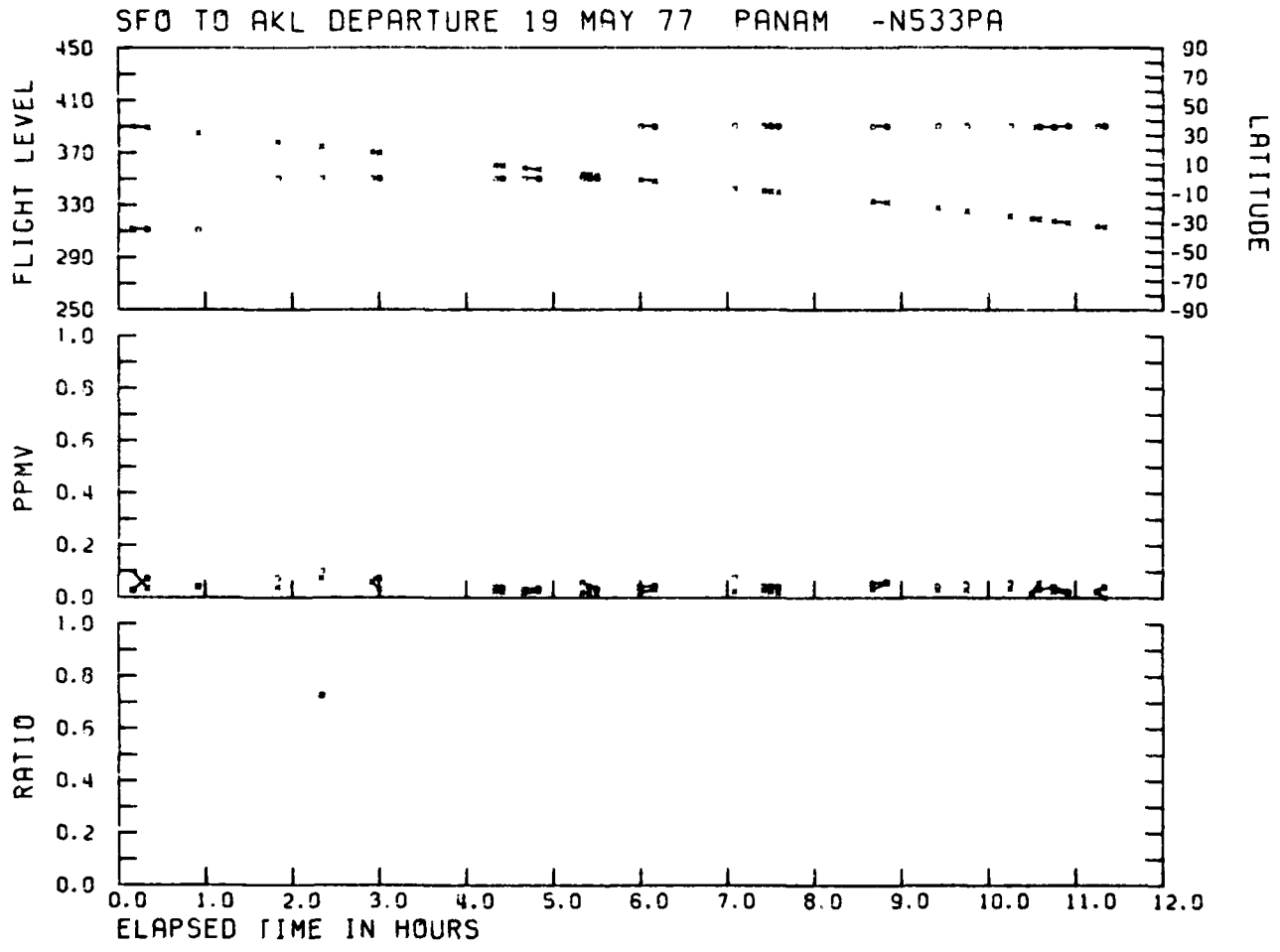
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
5/18/77	1522	0:50	410	36.09N	88.64W	-61.	.210	.216	.97
5/18/77	1532	1:00	410	36.67N	87.09W	-62.	.195	.183	1.07
5/18/77	1642	2:10	410	38.82N	75.78W	-67.	.066	.050	


JFK TO SFO DEPARTURE 18 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

JFK TO SFO (PAGE 1 OF 1) DEPARTURE: 18 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .723 CABIN OZONE= .596 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .99 TOTAL OBS IN CABIN: 7
DATA SOURCE: GASP TAPE VL010, FILE 2

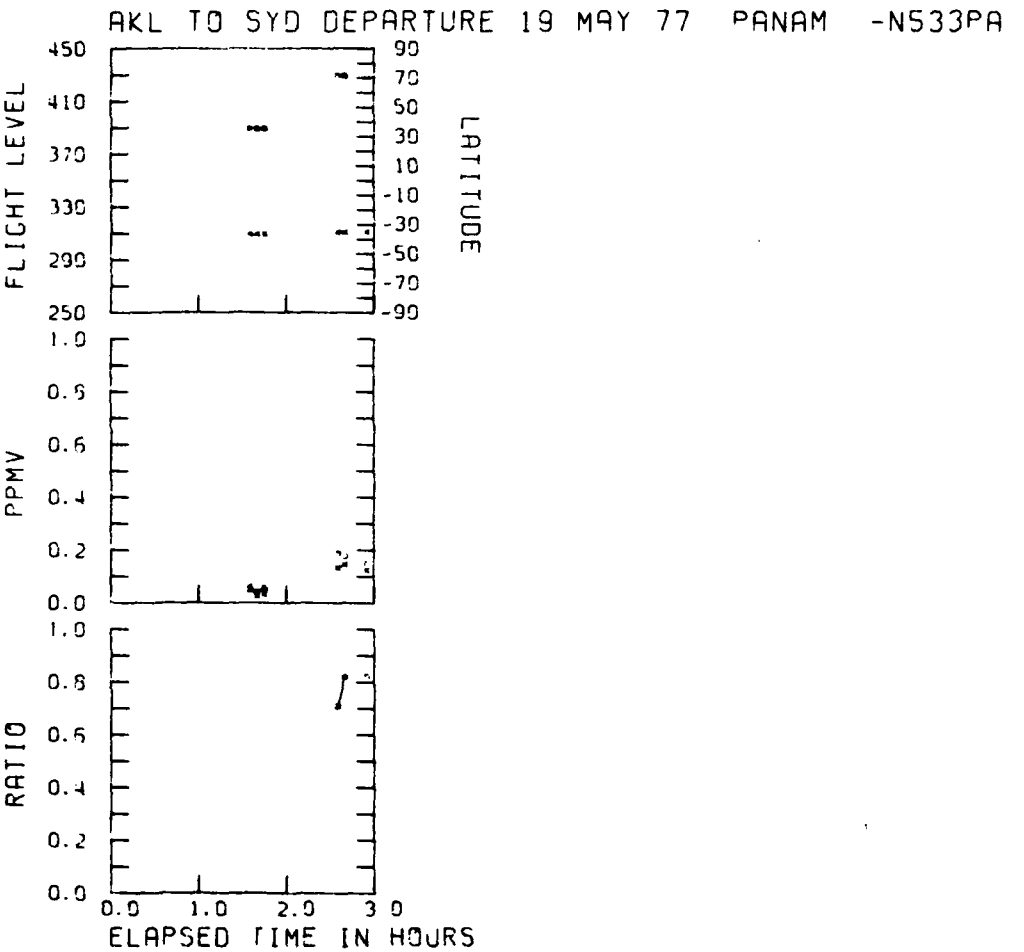
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/19/77	0030	1:36	390	43.20N	90.58W	-63.	.121	.204	.59
5/19/77	0045	1:51	390	43.12N	93.27W	-63.	.075	.025	
5/19/77	0055	2:01	391	43.03N	95.03W	-63.	.054	.014	
5/19/77	0130	2:36	429	42.44N	101.04W	-56.	.155	.156	.99
5/19/77	0150	2:56	430	41.97N	104.54W	-54.	.098	.163	.60
5/19/77	0250	3:56	430	39.68N	114.62W	-48.	.596	.723	.82
5/19/77	0310	4:16	430	38.66N	117.82W	-51.	.549	.552	.99


SFO TO AKL DEPARTURE 19 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0
ELAPSED TIME IN HOURS

SFO TO AKL (PAGE 1 OF 1) DEPARTURE: 19 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .103 CABIN OZONE= .098 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .73 TOTAL OBS IN CABIN: 31
DATA SOURCE: GASP TAPE VL010, FILE 2

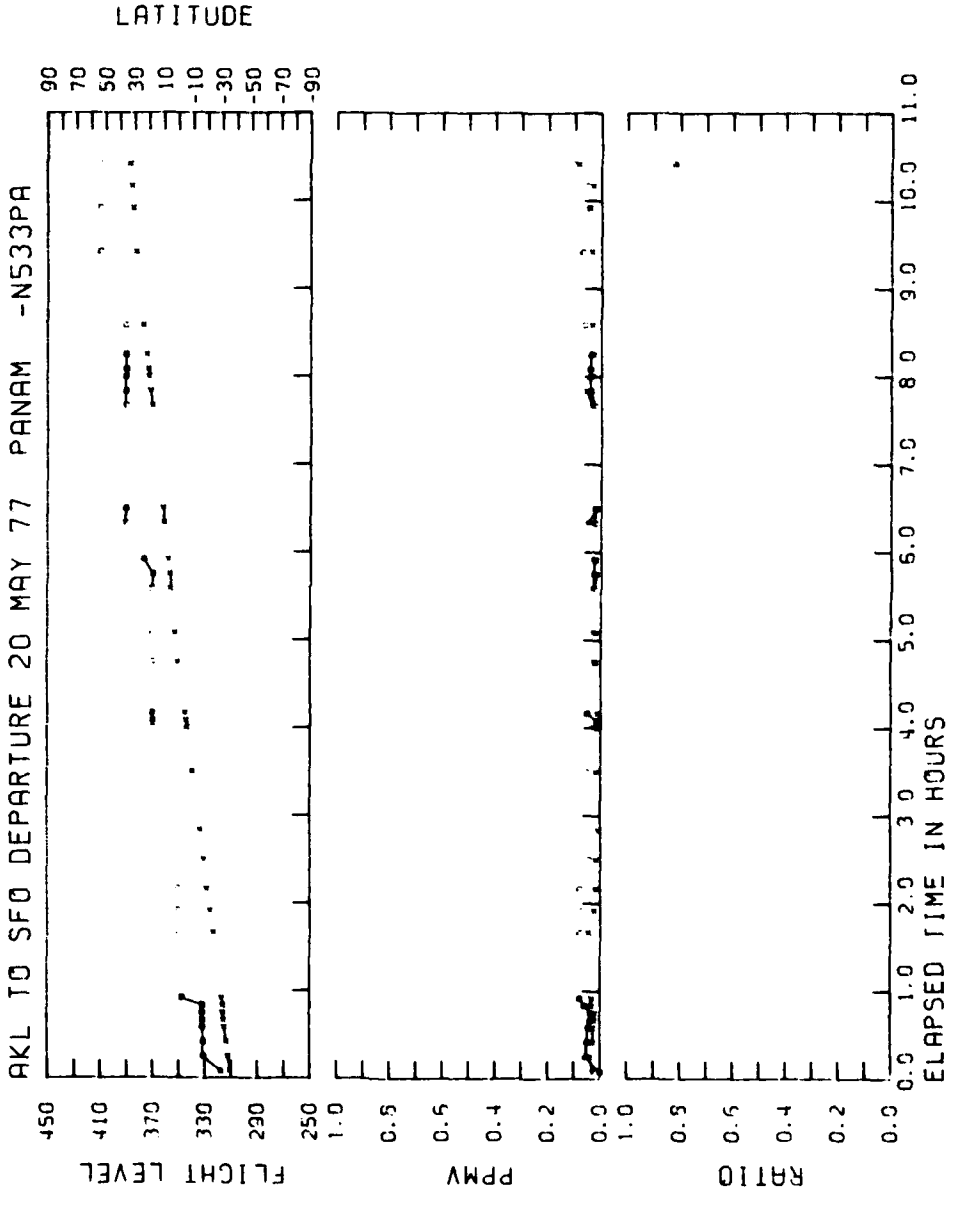
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/19/77	0611	0:10	312	36.34N	124.33W	-44.	.098	.028	
5/19/77	0621	0:20	311	35.40N	125.55W	-44.	.035	.074	
5/19/77	0656	0:55	311	31.72N	129.17W	-44.	.040	.045	
5/19/77	0751	1:50	351	25.68N	134.50W	-52.	.041	.076	
5/19/77	0821	2:20	351	22.28N	137.25W	-51.	.075	.103	.73
5/19/77	0856	2:55	350	18.48N	140.22W	-49.	.059	.072	
5/19/77	0901	3:00	350	17.95N	140.64W	-49.	.031	.074	
5/19/77	1025	4:24	350	9.55N	147.64W	-44.	.026	.041	
5/19/77	1030	4:29	350	9.05N	148.13W	-44.	.022	.038	
5/19/77	1045	4:44	350	7.52N	149.61W	-44.	.020	.033	
5/19/77	1055	4:54	350	6.50N	150.60W	-45.	.025	.036	
5/19/77	1125	5:24	350	3.48N	153.48W	-44.	.020	.059	
5/19/77	1130	5:29	350	2.95N	153.97W	-45.	.017	.043	
5/19/77	1135	5:34	351	2.43N	154.47W	-45.	.016	.034	
5/19/77	1205	6:04	390	.59S	157.33W	-54.	.022	.042	
5/19/77	1215	6:14	390	1.56S	158.25W	-53.	.031	.045	
5/19/77	1307	7:06	391	6.49S	162.83W	-55.	.025	.079	
5/19/77	1328	7:27	390	8.05S	164.93W	-55.	.029	.044	
5/19/77	1333	7:32	390	8.56S	165.27W	-55.	.025	.043	
5/19/77	1338	7:37	390	9.08S	165.59W	-56.	.019	.041	
5/19/77	1443	8:42	390	15.11S	171.20W	-56.	.034	.056	
5/19/77	1453	8:52	390	16.18S	171.88W	-55.	.056	.061	
5/19/77	1528	9:27	390	19.95S	174.38W	-55.	.030	.044	
5/19/77	1548	9:47	390	22.12S	175.72W	-53.	.030	.052	
5/19/77	1618	10:17	391	25.40S	177.56W	-52.	.035	.058	
5/19/77	1633	10:32	390	27.06S	178.53W	-59.	.016	.026	
5/19/77	1638	10:37	390	27.65S	178.88W	-58.	.057	.034	
5/19/77	1648	10:47	390	28.83S	179.60W	-57.	.025	.042	
5/19/77	1658	10:57	390	30.01S	179.66E	-59.	.018	.026	
5/19/77	1718	11:17	390	32.45S	178.07E	-61.	.023	.026	
5/19/77	1723	11:22	390	33.06S	177.66E	-61.	.000	.041	


AKL TO SYD DEPARTURE 19 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

AKL TO SYD (PAGE 1 OF 1) DEPARTURE: 19 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .190 CABIN OZONE= .146 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .82 TOTAL OBS IN CABIN: 6
DATA SOURCE: GASP TAPE VL010, FILE 2

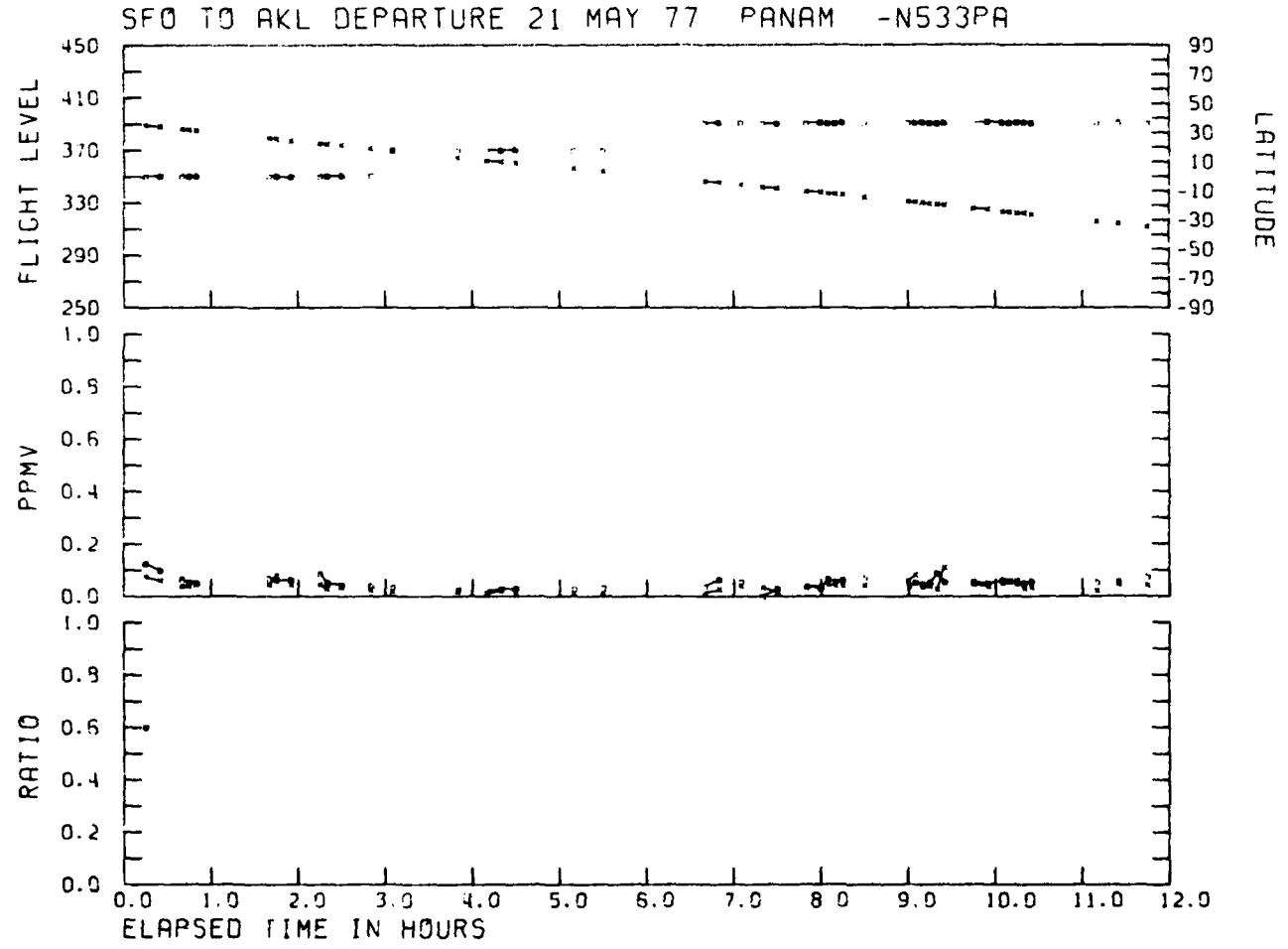
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
5/19/77	2117	1:35	390	36.52S	167.74E	-65.	.062	.050	
5/19/77	2122	1:40	390	36.43S	166.93E	-65.	.027	.042	
5/19/77	2127	1:45	390	36.35S	166.16E	-64.	.033	.056	
5/19/77	2217	2:35	430	35.26S	158.79E	-56.	.135	.190	.71
5/19/77	2222	2:40	430	35.14S	158.11E	-57.	.146	.178	.82
5/19/77	2237	2:55	430	34.75S	156.10E	-57.	.125	.152	.82


AKL TO SFO DEPARTURE 20 MAY 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0
ELAPSED TIME IN HOURS

AKL TO SFO (PAGE 1 OF 1) DEPARTURE: 20 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .107 CABIN OZONE= .088 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .82 TOTAL OBS IN CABIN: 33
DATA SOURCE: GASP TAPE VL010, FILE 2 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

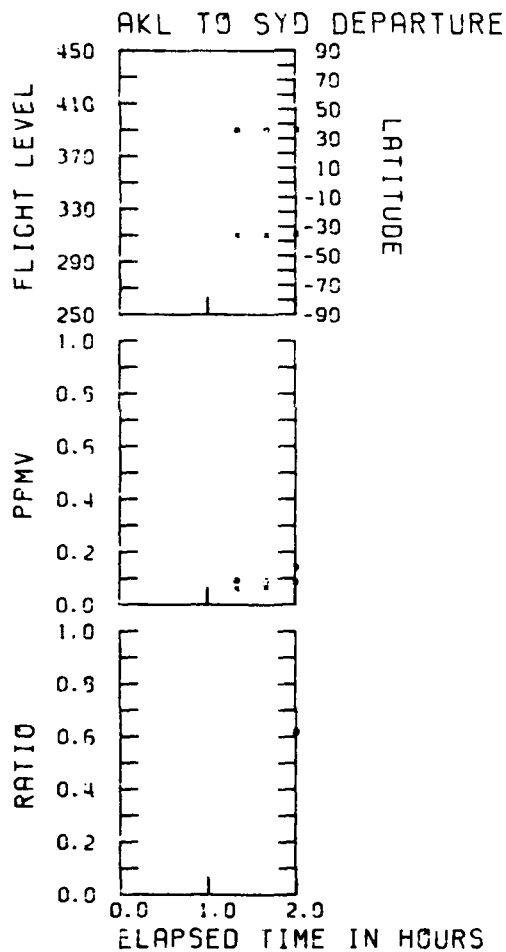
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
5/20/77	0932	0:05	318	34.97S	176.35E	-45.	.029	.002	
5/20/77	0942	0:15	331	33.79S	177.18E	-49.	.040	.054	
5/20/77	0952	0:25	331	32.62S	177.98E	-50.	.028	.050	
5/20/77	1002	0:35	332	31.43S	178.78E	-49.	.027	.043	
5/20/77	1007	0:40	331	31.02S	179.45E	-49.	.022	.037	
5/20/77	1012	0:45	332	30.63S	179.90W	-49.	.020	.034	
5/20/77	1017	0:50	332	30.22S	179.25W	-49.	.034	.060	
5/20/77	1022	0:55	348	29.69S	178.81W	-50.	.032	.078	
5/20/77	1107	1:40	350	23.59S	176.59W	-45.	.046	.080	
5/20/77	1122	1:55	350	21.50S	176.55W	-45.	.024	.077	
5/20/77	1140	2:13	350	19.44S	174.74W	-45.	.017	.078	
5/20/77	1200	2:33	350	17.18S	172.77W	-46.	.017	.042	
5/20/77	1220	2:53	350	14.85S	170.98W	-46.	.007	.041	
5/20/77	1300	3:33	350	9.71S	168.90W	-46.	.011	.052	
5/20/77	1330	4:03	370	5.71S	167.41W	-51.	.012	.027	
5/20/77	1335	4:08	370	5.04S	167.16W	-51.	.018	.012	
5/20/77	1340	4:13	370	4.40S	166.92W	-51.	.014	.052	
5/20/77	1415	4:48	370	.21N	165.05W	-49.	.018	.023	
5/20/77	1435	5:08	370	2.26N	163.12W	-49.	.017	.026	
5/20/77	1505	5:38	370	5.35N	160.12W	-51.	.032	.029	
5/20/77	1515	5:48	370	6.35N	159.11W	-51.	.018	.027	
5/20/77	1523A	5:56	377	7.22N	158.24W	-51.	.021	.026	
5/20/77	1549	6:22	390	9.79N	155.67W	-55.	.048	.022	
5/20/77	1559	6:32	390	10.75N	154.60W	-57.	.017	.022	
5/20/77	1709	7:42	390	17.96N	147.56W	-58.	.034	.024	
5/20/77	1719	7:52	390	19.14N	146.68W	-58.	.054	.039	
5/20/77	1729	8:02	390	20.26N	145.83W	-59.	.033	.042	
5/20/77	1734	8:07	390	20.81N	145.40W	-59.		.042	
5/20/77	1744	8:17	390	21.93N	144.53W	-60.	.028	.039	
5/20/77	1802	8:35	390	23.89N	142.94W	-61.	.033	.061	
5/20/77	1852	9:25	410	29.08N	138.02W	-66.	.037	.072	
5/20/77	1922	9:55	410	31.07N	133.83W	-67.	.047	.047	
5/20/77	1937	10:10	410	32.02N	131.65W	-67.	.031	.055	
5/20/77	1952	10:25	410	33.03N	129.48W	-66.	.088	.107	.82


SFO TO AKL DEPARTURE 21 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
12.0
ELAPSED TIME IN HOURS

DEPARTURE: 21 MAY 77 AIRCRAFT: PANAM -N533PA

[illegible] ZONE= .125 CABIN OZONE= .110 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .60 TOTAL OBS IN CABIN: 40
[illegible] FILE 2

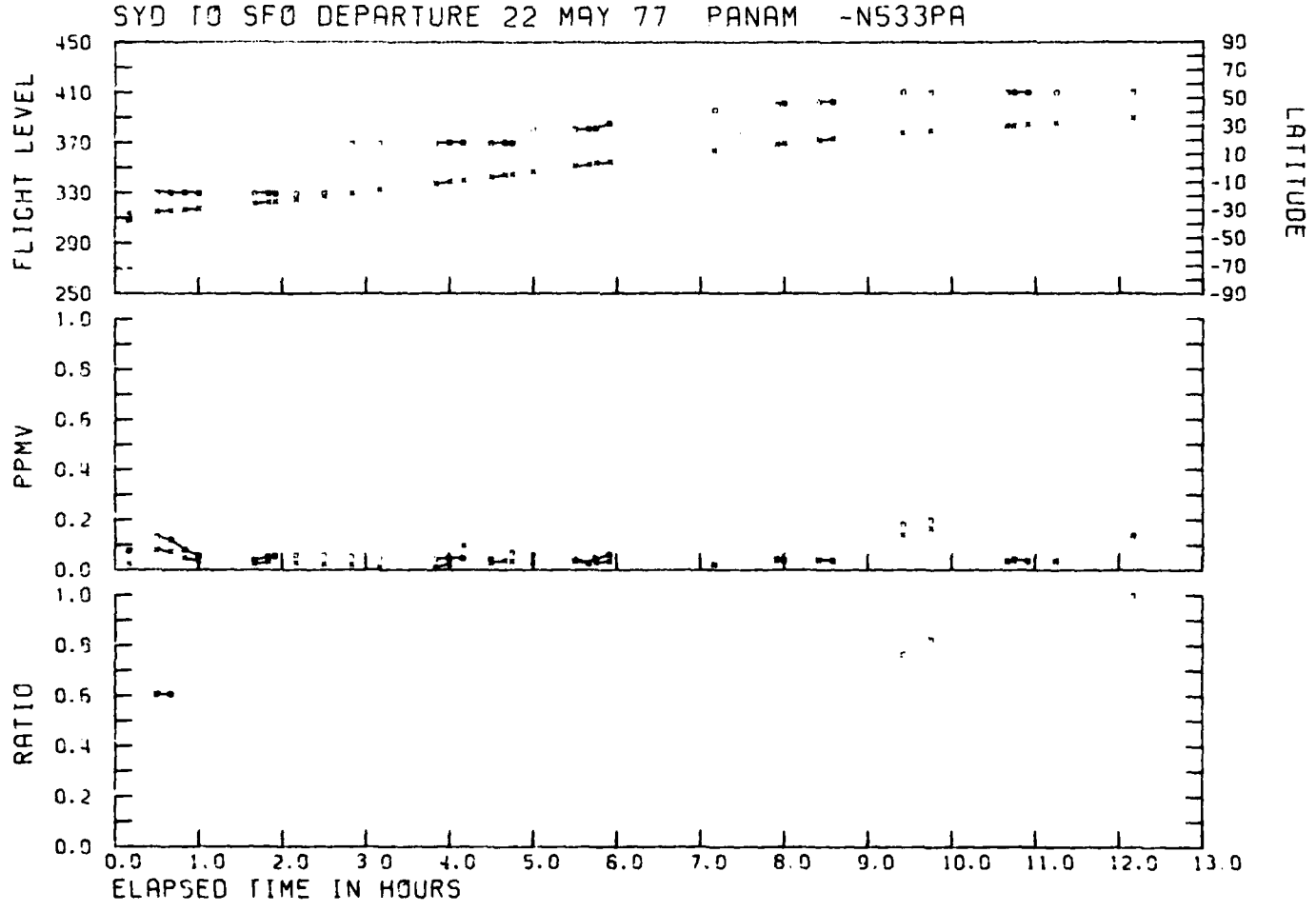
[illegible]									MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
[illegible]	[illegible]	350	35.38N	125.57W	-54.	.075	.125	.60	5/21/77	1441	7:30	390	8.11S	164.62W	-57.	.015	.026	
[illegible]	[illegible]	350	34.33N	126.64W	-53.	.059	.098		5/21/77	1501	7:50	390	10.14S	166.43W	-57.	.040	.035	
[illegible]	[illegible]	350	32.78N	128.17W	-53.	.038	.064		5/21/77	1511	8:00	391	11.03S	167.44W	-56.	.036	.030	
[illegible]	[illegible]	350	32.25N	128.67W	-52.	.040	.053		5/21/77	1516	8:05	390	11.44S	167.99W	-55.	.047	.065	
[illegible]	[illegible]	350	31.71N	129.18W	-53.	.044	.049		5/21/77	1521	8:10	390	11.81S	168.56W	-56.	.040	.056	
[illegible]	[illegible]	350	26.48N	133.83W	-52.	.044	.068		5/21/77	1526	8:15	391	12.36S	168.94W	-56.	.040	.060	
[illegible]	[illegible]	350	25.95N	134.28W	-52.	.081	.068		5/21/77	1541	8:30	391	13.85S	170.20W	-55.	.044	.070	
[illegible]	[illegible]	350	24.87N	135.17W	-52.	.045	.063		5/21/77	1611	9:00	391	17.00S	172.41W	-57.	.059	.037	
[illegible]	[illegible]	350	22.77N	136.87W	-49.	.045	.087		5/21/77	1616	9:05	391	17.52S	172.75W	-57.	.082	.051	
[illegible]	[illegible]	350	22.33N	137.21W	-49.	.029	.050		5/21/77	1621	9:10	391	18.06S	173.11W	-57.	.037	.046	
[illegible]	[illegible]	350	21.25N	138.05W	-49.	.035	.042		5/21/77	1626	9:15	391	18.53S	173.50W	-57.	.039	.052	
[illegible]	[illegible]	350	19.15N	139.68W	-48.	.023	.038		5/21/77	1631	9:20	390	19.04S	173.88W	-57.	.027	.087	
[illegible]	[illegible]	370	17.61N	140.90W	-53.	.019	.033		5/21/77	1636	9:25	391	19.59S	174.22W	-56.	.110	.053	
[illegible]	[illegible]	370	12.96N	144.45W	-51.	.018	.025		5/21/77	1656	9:45	391	21.77S	175.53W	-55.	.046	.054	
[illegible]	[illegible]	370	10.97N	146.24W	-51.	.013	.021		5/21/77	1706	9:55	391	22.85S	176.12W	-55.	.037	.047	
[illegible]	[illegible]	370	10.04N	147.16W	-51.	.022	.026		5/21/77	1716	10:05	391	23.93S	176.72W	-54.	.051	.062	
[illegible]	[illegible]	370	9.09N	148.09W	-51.	.013	.029		5/21/77	1721	10:10	391	24.47S	177.02W	-54.	.057	.058	
[illegible]	[illegible]	370	5.74N	152.21W	-50.	.011	.030		5/21/77	1726	10:15	391	25.00S	177.32W	-54.	.060	.051	
[illegible]	[illegible]	370	3.82N	154.02W	-50.	.012	.034		5/21/77	1731	10:20	391	25.53S	177.63W	-54.	.031	.051	
[illegible]	[illegible]	391	3.28S	159.89W	-56.	.011	.037		5/21/77	1736	10:25	390	26.06S	177.94W	-53.	.034	.057	
[illegible]	[illegible]	391	4.25S	160.81W	-57.	.027	.064		5/21/77	1821	11:10	391	30.78S	179.17E	-53.	.022	.054	
[illegible]	[illegible]	391	5.72S	162.20W	-57.	.039	.055		5/21/77	1836	11:25	391	32.38S	178.12E	-54.	.045	.054	
[illegible]	[illegible]	390	7.10S	163.70W	-58.	.035	0.000		5/21/77	1856	11:45	390	34.54S	176.63E	-54.	.042	.072	


AKL TO SYD DEPARTURE 21 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
ELAPSED TIME IN HOURS

AKL TO SYD (PAGE 1 OF 1) DEPARTURE: 21 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .142 CABIN OZONE= .088 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .62 TOTAL OBS IN CABIN: 3
DATA SOURCE: GASP TAPE VL010, FILE 2

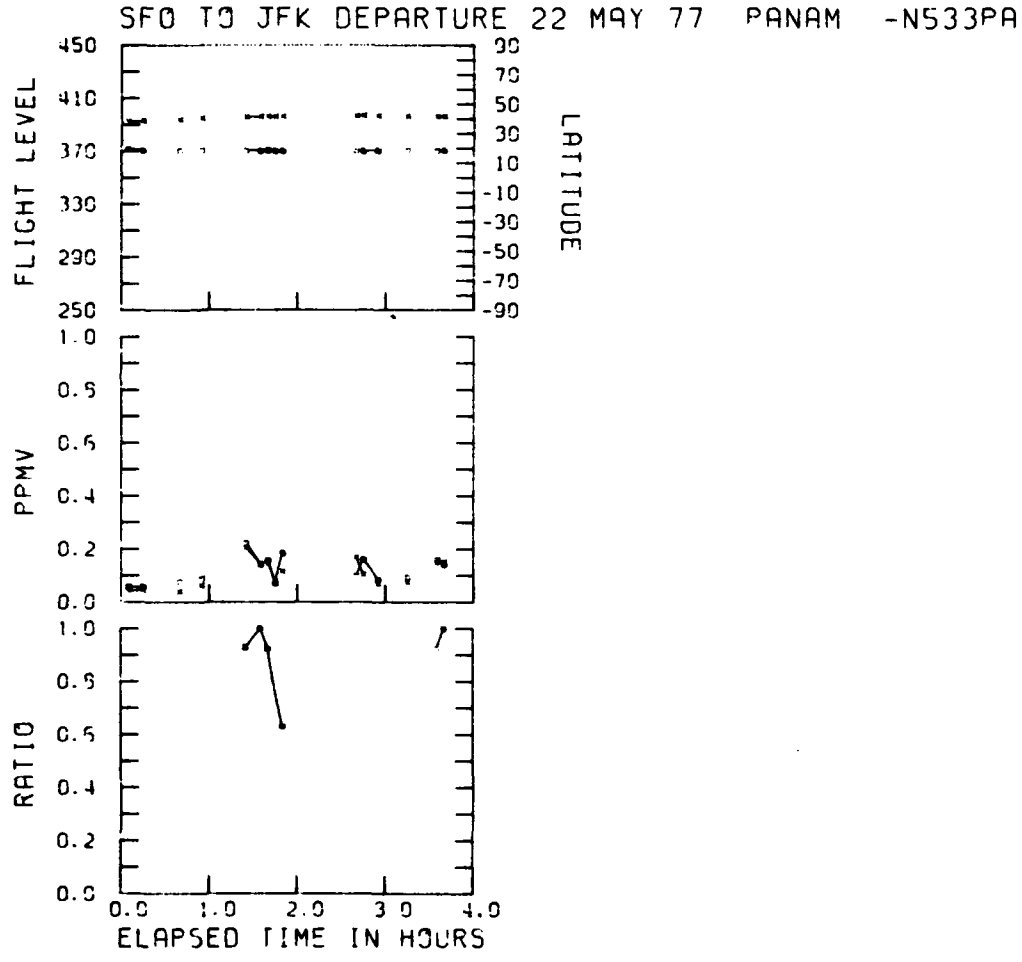
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/21/77	2246	1:20	390	35.83S	162.32E	-51.	.062	.095	
5/21/77	2306	1:40	390	35.39S	159.56E	-48.	.068	.095	
5/21/77	2326	2:00	390	34.89S	156.88E	-48.	.088	.142	.62


SYD TO SFO DEPARTURE 22 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0 13.0
ELAPSED TIME IN HOURS

SYD TO SFO (PAGE 1 OF 1) DEPARTURE: 22 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .201 CABIN OZONE= .166 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.04 TOTAL OBS IN CABIN: 35
DATA SOURCE: GASP TAPE VL010, FILE 2

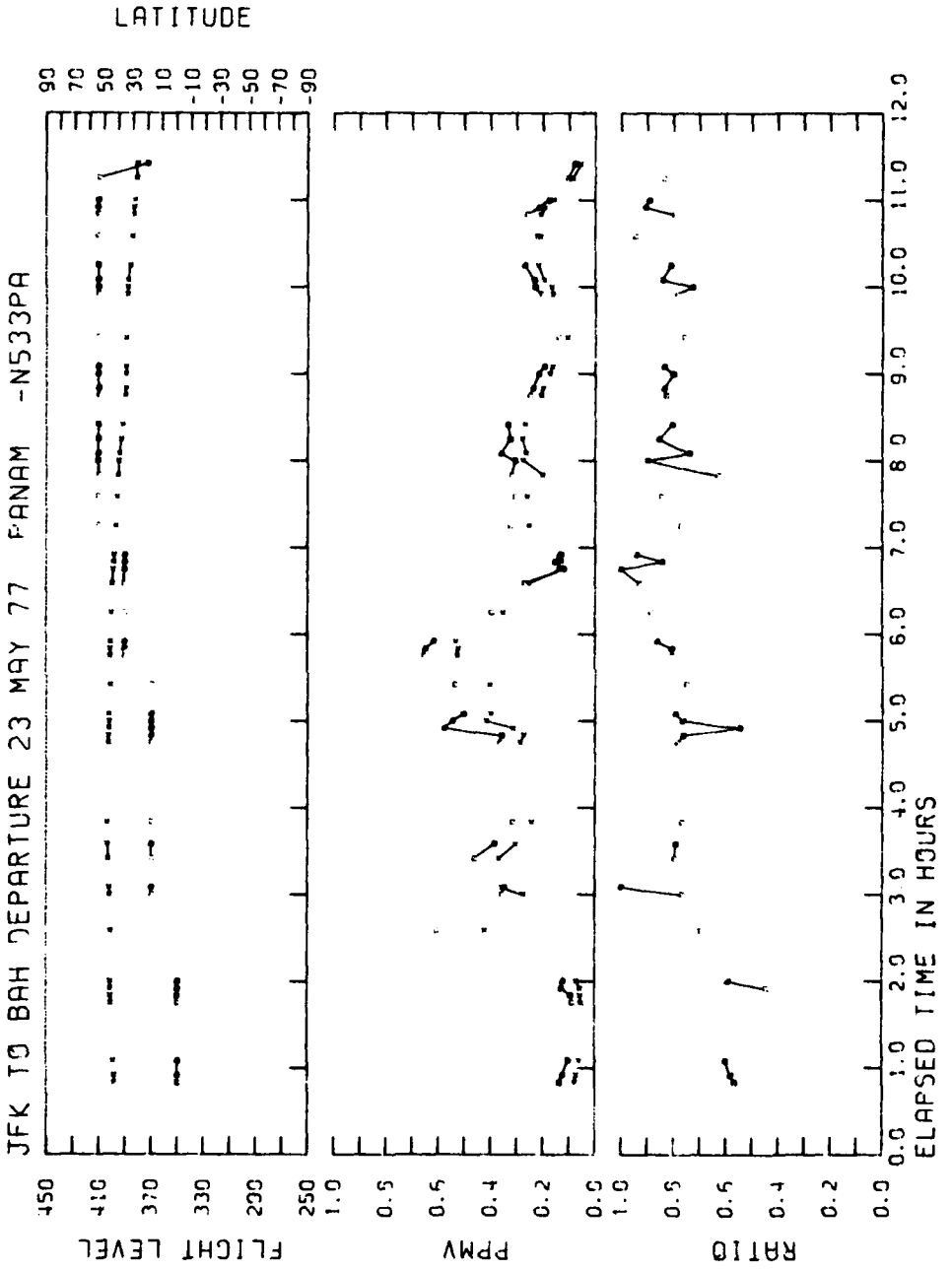
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/22/77	0605	0:10	308	32.85S	153.98E	-46.	.025	.077	
5/22/77	0625	0:30	330	31.38S	157.45E	-42.	.080	.132	.61
5/22/77	0635	0:40	330	30.59S	159.18E	-40.	.074	.122	.61
5/22/77	0645	0:50	330	29.80S	160.84E	-38.	.048	.080	
5/22/77	0655	1:00	330	28.98S	162.48E	-38.	.037	.059	
5/22/77	0735	1:40	330	25.19S	168.42E	-42.	.026	.039	
5/22/77	0745	1:50	330	24.17S	169.76E	-43.	.033	.054	
5/22/77	0750	1:55	330	23.65S	170.43E	-43.	.056	.056	
5/22/77	0805	2:10	330	22.11S	172.36E	-41.	.029	.060	
5/22/77	0825	2:30	330	20.11S	174.76E	-41.	.024	.060	
5/22/77	0845	2:50	370	18.06S	177.00E	-50.	.021	.053	
5/22/77	0905	3:10	370	15.81S	178.94E	-51.	.012	.050	
5/22/77	0945	3:50	370	11.27S	177.52W	-50.	.012	.045	
5/22/77	0955	4:00	370	10.02S	176.78W	-50.	.024	.048	
5/22/77	1005	4:10	370	8.88S	175.97W	-50.	.098	.047	
5/22/77	1025	4:30	370	6.53S	174.31W	-49.	.030	.043	
5/22/77	1035	4:40	370	5.35S	173.48W	-51.	.038		
5/22/77	1040	4:45	370	4.73S	173.06W	-51.	.035	.069	
5/22/77	1056	5:01	381	2.82S	171.73W	-53.	.031	.062	
5/22/77	1126	5:31	380	.98N	169.51W	-53.	.035	.046	
5/22/77	1136	5:41	381	2.22N	168.76W	-53.	.028	.026	
5/22/77	1141	5:46	381	2.85N	168.41W	-52.	.030	.045	
5/22/77	1151	5:56	385	4.12N	167.67W	-54.	.035	.062	
5/22/77	1306	7:11	396	12.06N	159.79W	-59.	.022	.022	
5/22/77	1351	7:56	401	16.79N	154.90W	-61.	.039	.044	
5/22/77	1356	8:01	401	17.29N	154.33W	-61.	.034	.040	
5/22/77	1421	8:26	403	19.74N	151.51W	-63.	.040	.042	
5/22/77	1431	8:36	403	20.69N	150.37W	-62.	.037	.037	
5/22/77	1521	9:26	411	25.07N	144.63W	-65.	.139	.182	.76
5/22/77	1541	9:46	410	26.62N	142.41W	-65.	.166	.201	.83
5/22/77	1636	10:41	410	30.19N	136.33W	-66.	.036	.037	
5/22/77	1641	10:46	410	30.47N	135.74W	-67.	.037	.043	
5/22/77	1651	10:56	410	31.05N	134.50W	-67.	.038	.036	
5/22/77	1711	11:16	410	32.19N	131.94W	-67.	.040	.037	
5/22/77	1806	12:11	410	36.11N	124.79W	-66.	.141	.135	1.04


SFO TO JFK DEPARTURE 22 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
ELAPSED TIME IN HOURS

SFO TO JFK (PAGE 1 OF 1) DEPARTURE: 22 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .223 CABIN OZONE= .207 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.06 TOTAL OBS IN CABIN: 15
DATA SOURCE: GASP TAPE VL010, FILE 2

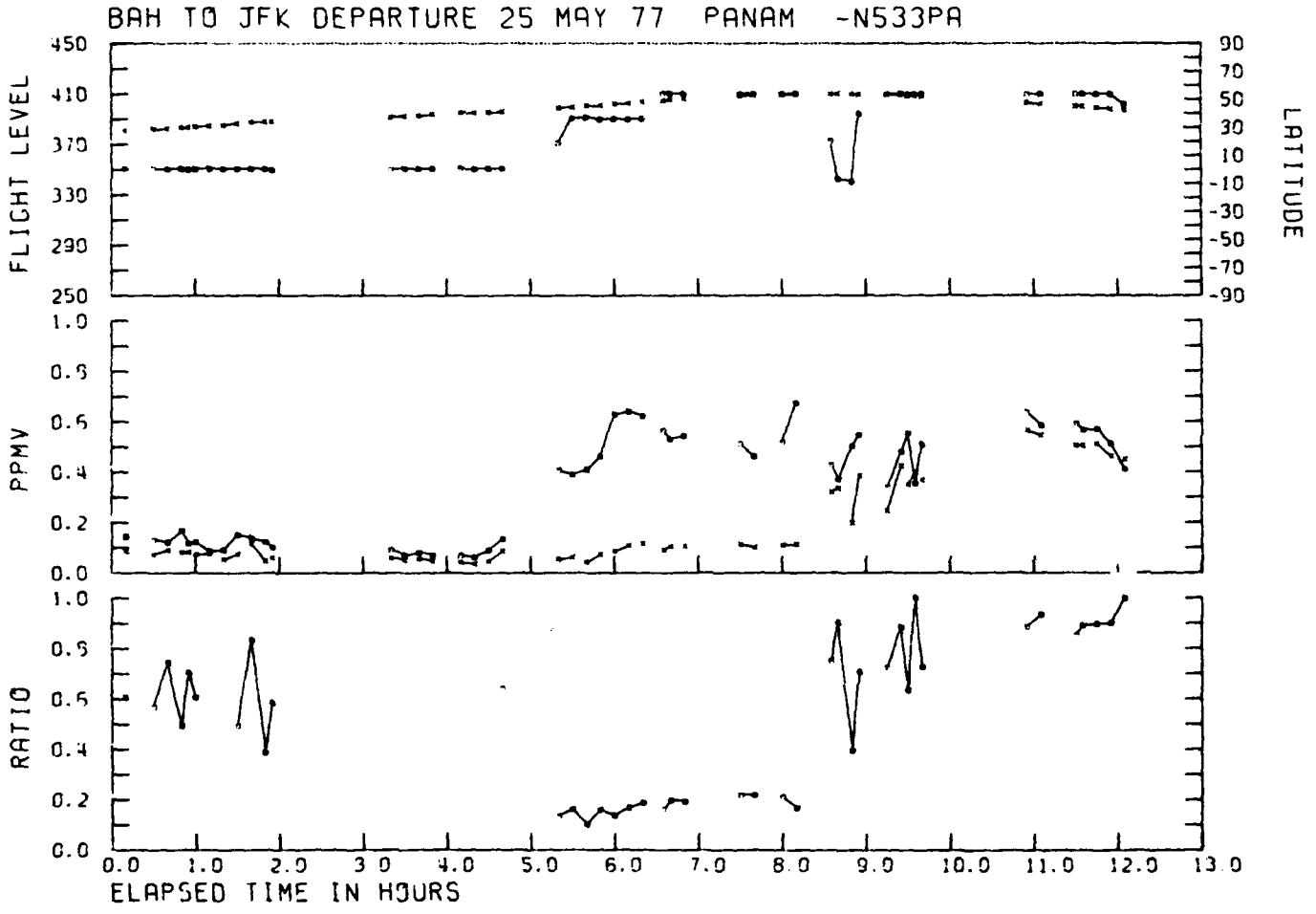
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/22/77	2101	0:05	372	38.27N	119.93W	-60.	.045	.057	
5/22/77	2111	0:15	370	38.72N	118.08W	-61.	.046	.058	
5/22/77	2136	0:40	371	39.80N	113.49W	-61.	.041	.078	
5/22/77	2151	0:55	371	40.37N	110.65W	-62.	.064	.088	
5/22/77	2221	1:25	371	41.26N	105.01W	-60.	.207	.223	.93
5/22/77	2231	1:35	370	41.50N	103.10W	-61.	.142	.141	1.01
5/22/77	2236	1:40	371	41.61N	102.13W	-60.	.145	.157	.92
5/22/77	2241	1:45	370	41.70N	101.19W	-60.	.077	.070	
5/22/77	2246	1:50	370	41.79N	100.23W	-59.	.116	.184	.63
5/22/77	2337	2:41	370	42.22N	90.39W	-56.	.169	.099	
5/22/77	2342	2:46	370	42.21N	89.43W	-57.	.104	.161	.65
5/22/77	2352	2:56	371	42.18N	87.56W	-58.	.070	.084	
5/23/77	0012	3:16	371	42.01N	85.82W	-58.	.077	.096	
5/23/77	0032	3:36	371	41.73N	80.19W	-58.	.149	.161	.93
5/23/77	0037	3:41	371	41.65N	79.32W	-57.	.151	.142	1.06


LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
JFK TO BAH DEPARTURE 23 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0
ELAPSED TIME IN HOURS

JFK TO BAH (PAGE 1 OF 1) DEPARTURE: 23 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .455 CABIN OZONE= .533 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.13 TOTAL OBS IN CABIN: 49
DATA SOURCE: GASP TAPE VL010, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/24/77	0008	0:54	350	43.31N	62.81W	-54.	.077	.136	.57
5/24/77	0013	0:59	350	43.52N	61.88W	-54.	.072	.124	.58
5/24/77	0023	1:09	350	43.93N	60.01W	-53.	.062	.103	.60
5/24/77	0103	1:49	350	45.58N	52.51W	-53.	.053	.088	
5/24/77	0108	1:54	350	45.76N	51.51W	-54.	.055	.091	
5/24/77	0113	1:59	350	45.92N	50.56W	-54.	.057	.128	.45
5/24/77	0118	2:04	350	46.03N	49.54W	-53.	.072	.122	.59
5/24/77	0153	2:39	350	46.11N	42.48W	-48.	.423	.607	.70
5/24/77	0218	3:04	370	46.62N	37.54W	-45.	.274	.357	.77
5/24/77	0223	3:09	370	46.84N	36.55W	-46.	.356	.347	1.03
5/24/77	0243	3:29	370	47.64N	32.51W	-51.	.367	.461	.80
5/24/77	0253	3:39	370	47.97N	30.46W	-55.	.305	.385	.79
5/24/77	0308	3:54	370	48.14N	27.20W	-59.	.243	.316	.77
5/24/77	0403	4:49	370	47.33N	16.03W	-56.	.266	.365	.78
5/24/77	0408	4:54	370	47.13N	15.08W	-56.	.272	.357	.76
5/24/77	0413	4:59	370	46.99N	14.10W	-54.	.314	.576	.55
5/24/77	0418	5:04	370	46.88N	13.16W	-53.	.417	.546	.76
5/24/77	0423	5:09	370	46.75N	12.20W	-51.	.399	.503	.79
5/24/77	0443	5:29	370	46.18N	8.48W	-51.	.404	.538	.75
5/24/77	0503	5:49	390	46.00N	4.59W	-50.	.526	.655	.80
5/24/77	0508	5:54	390	45.96N	3.59W	-50.	.523	.649	.81
5/24/77	0513	5:59	390	45.91N	2.65W	-51.	.533	.618	.86
5/24/77	0533	6:19	390	45.30N	.93E	-55.	.352	.397	.89
5/24/77	0553	6:39	390	44.54N	4.59E	-56.	.251	.270	.93
5/24/77	0603	6:49	390	44.02N	6.39E	-61.	.135	.114	1.13
5/24/77	0608	6:54	390	43.73N	7.24E	-61.	.129	.153	.84
5/24/77	0613	6:59	390	43.45N	8.14E	-62.	.128	.136	.94
5/24/77	0633	7:19	410	42.17N	11.58E	-59.	.252	.326	.77
5/24/77	0653	7:39	410	41.09N	15.06E	-60.	.260	.307	.85
5/24/77	0708	7:54	410	40.55N	17.79E	-60.	.202	.321	.63
5/24/77	0718	8:04	410	39.91N	19.25E	-59.	.275	.306	.90
5/24/77	0723	8:09	410	39.47N	20.00E	-58.	.265	.359	.74
5/24/77	0733	8:19	410	38.36N	21.16E	-58.	.278	.325	.86
5/24/77	0743	8:29	410	37.37N	22.49E	-58.	.270	.335	.81
5/24/77	0803	8:49	410	35.68N	25.35E	-61.	.208	.251	.83
5/24/77	0808	8:54	410	35.18N	26.02E	-61.	.200	.239	.84
5/24/77	0818	9:04	410	34.99N	27.74E	-63.	.173	.216	.80
5/24/77	0823	9:09	410	34.97N	28.64E	-63.	.163	.195	.84
5/24/77	0843	9:29	410	34.86N	32.13E	-64.	.108	.142	.76
5/24/77	0913	9:59	410	34.06N	37.09E	-64.	.163	.207	.79
5/24/77	0918	10:04	410	33.84N	38.00E	-61.	.168	.231	.73
5/24/77	0923	10:09	410	33.42N	38.67E	-60.	.196	.233	.84
5/24/77	0933	10:19	410	32.05N	38.67E	-59.	.218	.269	.81
5/24/77	0953	10:39	410	30.70N	41.44E	-57.	.209	.221	.95
5/24/77	1008	10:54	410	29.55N	43.54E	-57.	.209	.262	.80
5/24/77	1013	10:59	410	29.20N	44.26E	-55.	.194	.214	.91
5/24/77	1018	11:04	410	28.83N	44.99E	-56.	.158	.177	.89
5/24/77	1033	11:19	410	27.76N	47.19E	-55.	.088	.105	.84
5/24/77	1043	11:29	372	27.10N	48.71E	-52.	.056	.078	

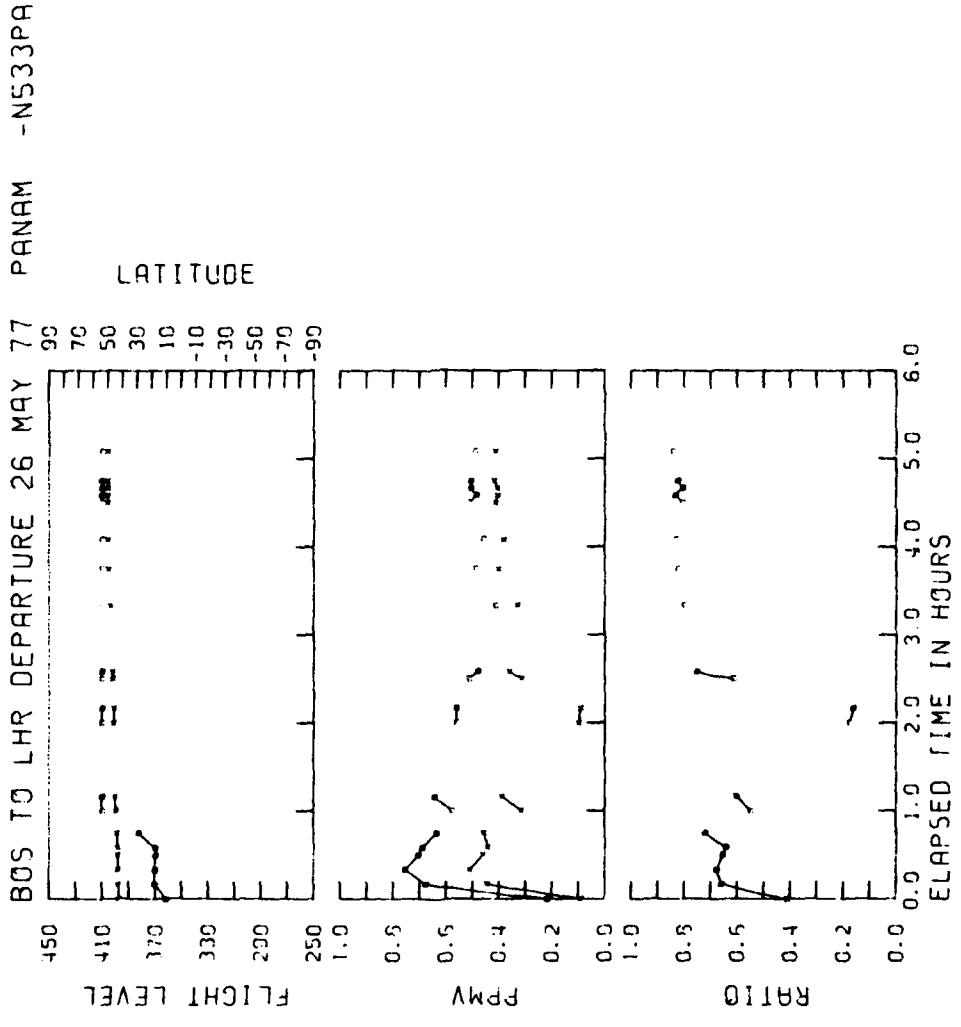

BAH TO JFK DEPARTURE 25 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
12.0
13.0
ELAPSED TIME IN HOURS

BAH TO JFK (PAGE 1 OF 1) DEPARTURE: 25 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .673 CABIN OZONE= .566 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.13 TOTAL OBS IN CABIN: 50
DATA SOURCE: GASP TAPE VL010, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/25/77	2141	0:12	351	27.69N	47.53E	-47.	.088	.145	.61
5/25/77	2201	0:32	351	28.89N	45.01E	-49.	.075	.132	.57
5/25/77	2211	0:42	350	29.50N	43.75E	-49.	.090	.121	.74
5/25/77	2221	0:52	351	30.16N	42.51E	-50.	.083	.168	.49
5/25/77	2226	0:57	350	30.49N	41.90E	-51.	.083	.118	.70
5/25/77	2231	1:02	350	30.81N	41.28E	-52.	.074	.122	.61
5/25/77	2241	1:12	351	31.29N	39.97E	-53.	.077	.086	
5/25/77	2251	1:22	351	31.72N	38.64E	-54.	.055	.091	
5/25/77	2301	1:32	351	33.10N	38.66E	-53.	.075	.152	.49
5/25/77	2311	1:42	351	33.95N	37.78E	-54.	.116	.139	.83
5/25/77	2321	1:52	351	34.27N	36.48E	-54.	.048	.124	.39
5/25/77	2326	1:57	350	34.30N	35.75E	-52.	.059	.101	.58
5/26/77	0051	3:22	351	37.68N	24.17E	-55.	.059	.093	
5/26/77	0101	3:32	351	38.04N	22.72E	-55.	.051	.070	
5/26/77	0111	3:42	351	38.74N	21.42E	-56.	.056	.081	
5/26/77	0121	3:52	351	39.44N	20.08E	-56.	.047	.071	
5/26/77	0141	4:12	351	40.61N	17.30E	-57.	.043	.070	
5/26/77	0151	4:22	351	40.60N	15.67E	-57.	.036	.063	
5/26/77	0201	4:32	351	40.66N	14.00E	-58.	.047	.091	
5/26/77	0213	4:44	351	41.40N	12.29E	-58.	.086	.134	.64
5/26/77	0253	5:24	371	44.12N	6.13E	-61.	.055	.407	.14
5/26/77	0303	5:34	391	44.69N	4.40E	-55.	.063	.390	.168
5/26/77	0313	5:44	391	45.28N	2.64E	-54.	.042	.408	.108
5/26/77	0323	5:54	390	45.97N	.91E	-54.	.074	.462	.168
5/26/77	0333	6:04	390	46.79N	.70W	-52.	.087	.629	.148
5/26/77	0343	6:14	390	47.45N	2.51W	-54.	.108	.640	.178
5/26/77	0353	6:24	390	48.07N	4.38W	-52.	.117	.622	.198
5/26/77	0408	6:39	410	49.28N	6.88W	-51.	.093	.564	.168
5/26/77	0413	6:44	410	49.79N	7.65W	-52.	.105	.532	.208
5/26/77	0423	6:54	410	50.49N	9.48W	-53.	.105	.542	.198
5/26/77	0503	7:34	410	52.60N	17.70W	-54.	.113	.512	.228
5/26/77	0513	7:44	410	53.01N	19.89W	-55.	.101	.462	.228
5/26/77	0533	8:04	410	53.60N	24.50W	-51.	.110	.518	.218
5/26/77	0543	8:14	410	53.81N	26.79W	-50.	.113	.673	.178
5/26/77	0608	8:39	373	54.09N	32.59W	-47.	.320	.426	.75
5/26/77	0613	8:44	342	54.11N	33.76W	-48.	.333	.370	.90
5/26/77	0623	8:54	340	54.10N	36.23W	-46.	.199	.503	.40
5/26/77	0628	8:59	394	54.08N	37.42W	-46.	.385	.546	.71
5/26/77	0648	9:19	410	53.66N	42.13W	-47.	.244	.338	.72
5/26/77	0658	9:29	410	53.25N	44.38W	-47.	.424	.479	.89
5/26/77	0703	9:34	410	53.03N	45.47W	-48.	.351	.553	.63
5/26/77	0708	9:39	410	52.81N	46.53W	-50.	.399	.354	1.13
5/26/77	0713	9:44	410	52.58N	47.59W	-49.	.370	.509	.73
5/26/77	0828	10:59	410	47.76N	61.16W	-49.	.566	.638	.89
5/26/77	0838	11:09	410	47.10N	62.81W	-49.	.546	.585	.93
5/26/77	0903	11:34	410	45.35N	66.78W	-49.	.505	.592	.85
5/26/77	0908	11:39	410	44.98N	67.56W	-51.	.504	.566	.89
5/26/77	0918	11:49	410	44.25N	69.05W	-50.	.511	.570	.90
5/26/77	0928	11:59	410	43.25N	70.26W	-53.	.462	.513	.90
5/26/77	0938	12:09	402	42.22N	71.44W	-59.	.450	.410	1.10

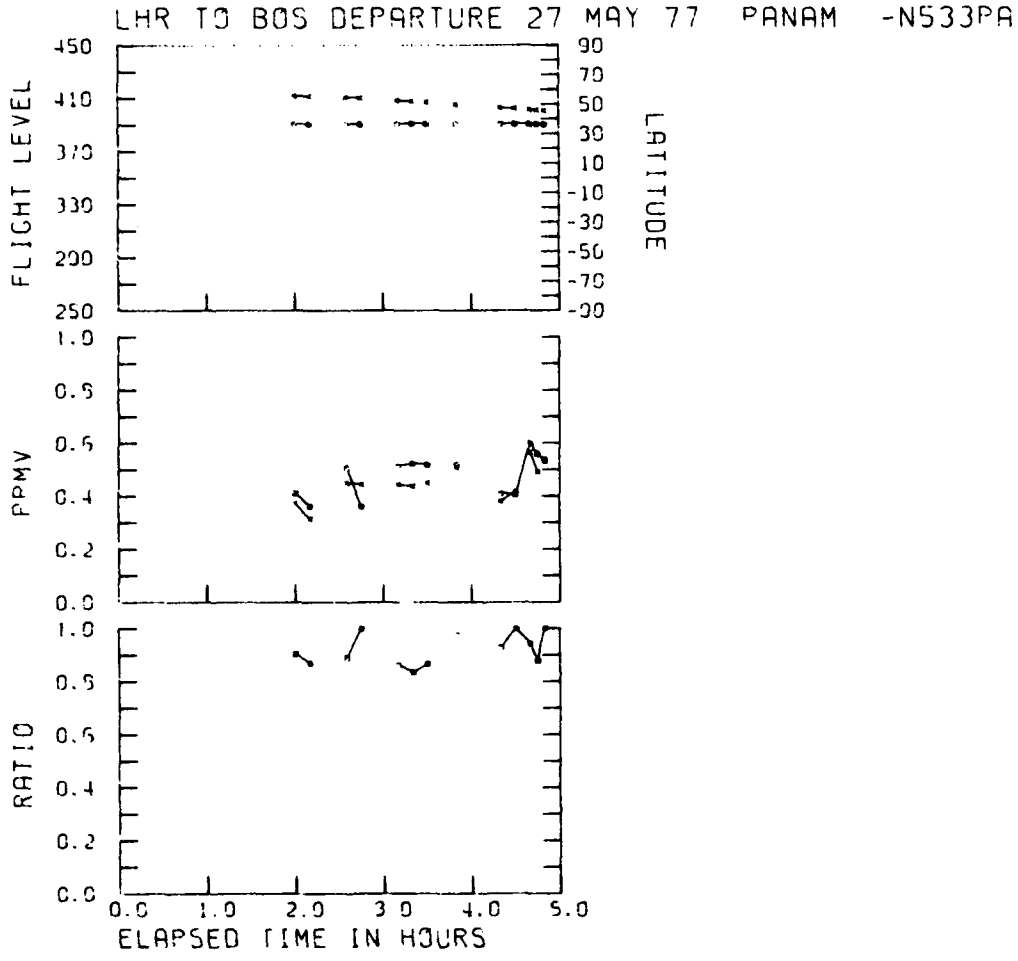
A-181


BOS TO LHR DEPARTURE 26 MAY 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
FPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0
ELAPSED TIME IN HOURS

BOS TO LHR (PAGE 1 OF 1) DEPARTURE: 26 MAY 77 AIRCRAFT: PANAM -N533PA

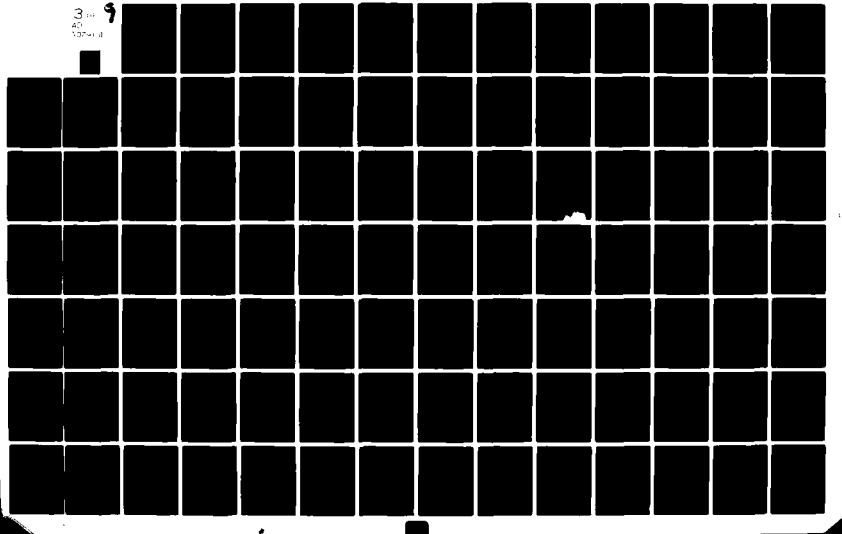
MAXIMUM VALUES: AMBIENT OZONE= .753 CABIN OZONE= .509 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .84 TOTAL OBS IN CABIN: 20
DATA SOURCE: GASP TAPE VL010, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
5/27/77	0138	0:00	362	42.59N	68.38W	-60.	.089	.217	.41
5/27/77	0148	0:10	370	42.96N	66.43W	-50.	.445	.676	.66
5/27/77	0158	0:20	370	43.30N	64.44W	-45.	.509	.753	.68
5/27/77	0208	0:30	370	43.60N	62.43W	-41.	.481	.705	.65
5/27/77	0213	0:35	370	43.73N	61.43W	-41.	.443	.691	.64
5/27/77	0223	0:45	383	44.06N	59.41W	-42.	.456	.636	.72
5/27/77	0238	1:00	410	44.74N	56.47W	-44.	.317	.578	.55
5/27/77	0248	1:10	410	45.16N	54.47W	-48.	.387	.643	.60
5/27/77	0338	2:00	410	46.03N	44.03W	-57.	.099	.561	.188
5/27/77	0348	2:10	410	45.98N	41.92W	-57.	.090	.560	.168
5/27/77	0406	2:30	410	46.45N	37.81W	-54.	.314	.512	.61
5/27/77	0413	2:35	410	46.68N	36.78W	-54.	.358	.477	.75
5/27/77	0458	3:20	410	48.50N	27.60W	-51.	.329	.412	.80
5/27/77	0523	3:45	410	49.54N	22.36W	-52.	.401	.487	.82
5/27/77	0543	4:05	410	49.99N	18.06W	-52.	.381	.458	.83
5/27/77	0608	4:30	410	50.06N	12.75W	-53.	.411	.511	.80
5/27/77	0613	4:35	410	50.05N	11.69W	-54.	.403	.484	.83
5/27/77	0618	4:40	410	50.02N	10.60W	-54.	.406	.505	.80
5/27/77	0623	4:45	410	49.99N	9.57W	-54.	.418	.507	.82
5/27/77	0643	5:05	410	50.23N	5.39W	-56.	.414	.491	.84


LHR TO BOS DEPARTURE 27 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

AD-A079 114 NATIONAL AERONAUTICS AND SPACE ADMINISTRATION CLEVEL--ETC F/G 9/1
SIMULTANEOUS CABIN AND AMBIENT OZONE MEASUREMENTS ON TWO BOEING--ETC(U)
JUL 79 P J PERKINS, J D HOLDEMAN, B D NASTROM

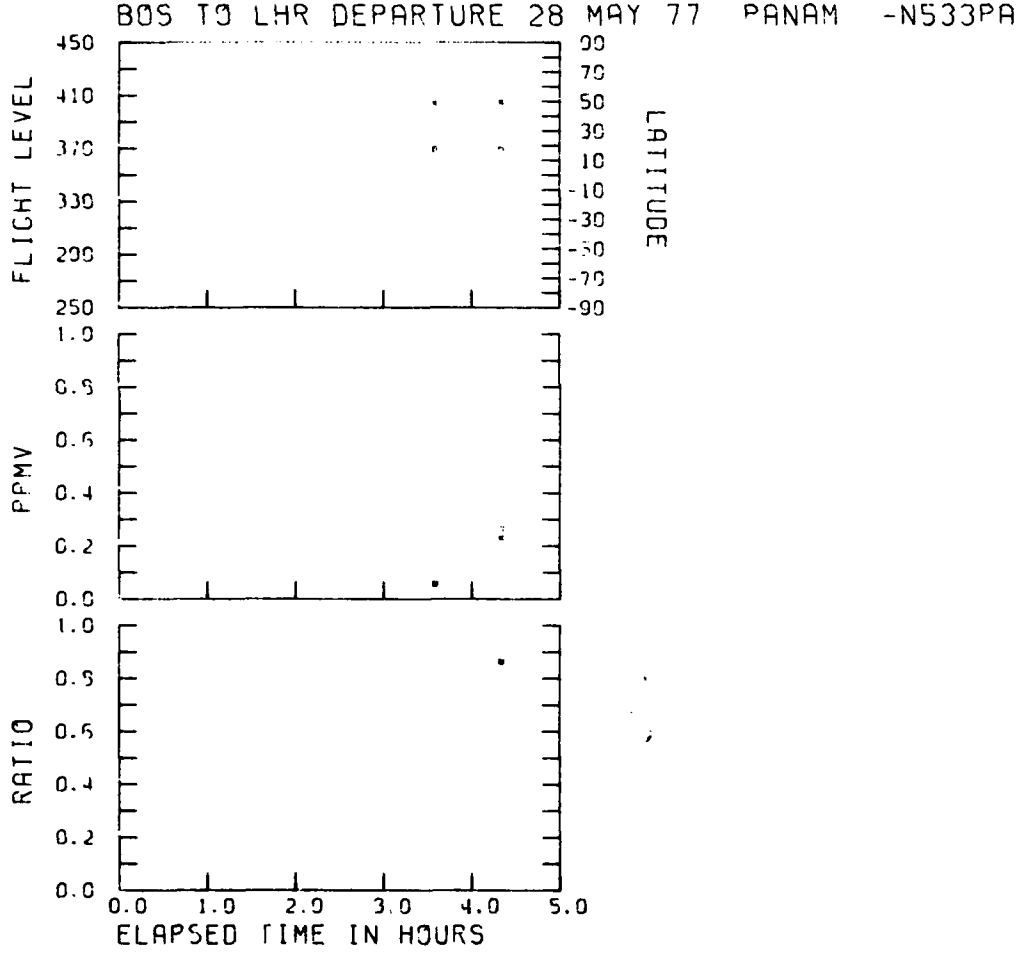
UNCLASSIFIED NASA TM-79166-VOL-1 FAA-AEE-79-05-VOL-1 NL



LHR TO BOS (PAGE 1 OF 1) DEPARTURE: 27 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .599 CABIN OZONE= .565 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.23 TOTAL OBS IN CABIN: 18
DATA SOURCE: GASP TAPE VL010, FILE 2

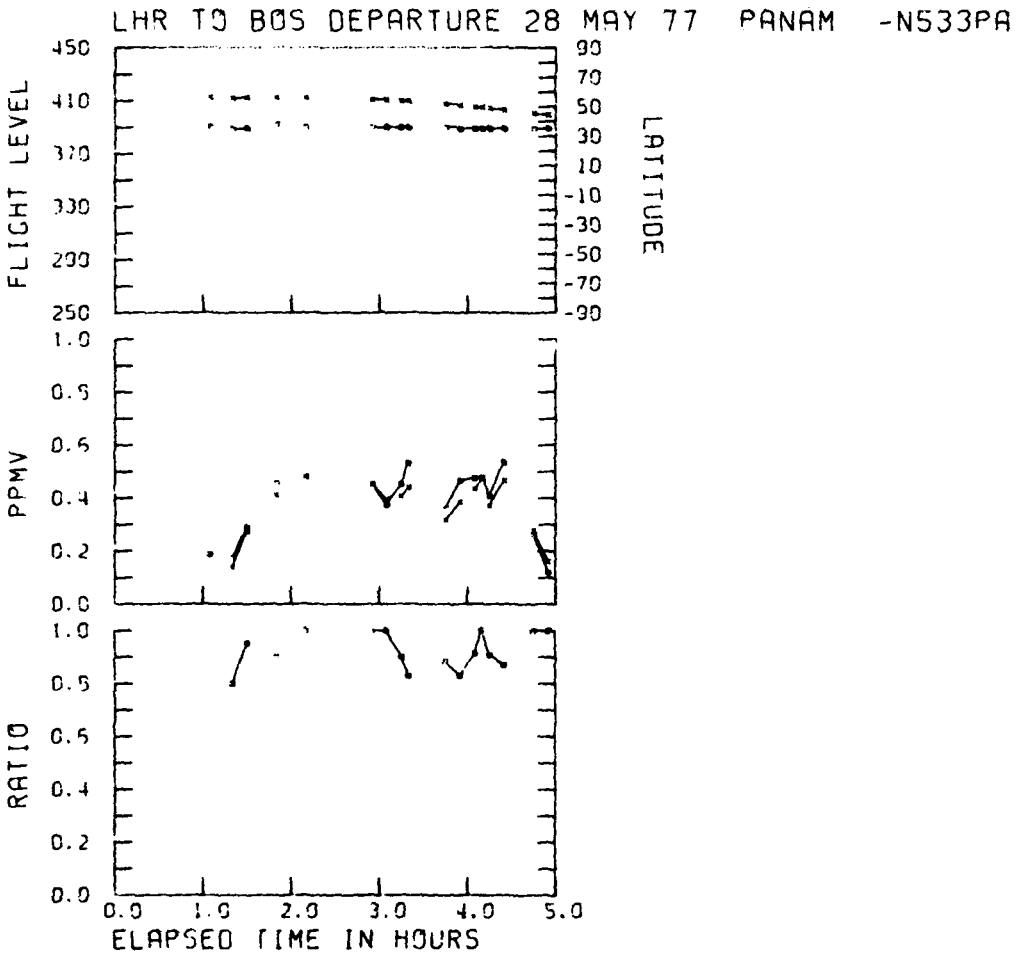
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/27/77	1218	2:00	391	55.88N	31.88W	-45.	.374	.413	.91
5/27/77	1228	2:10	391	55.67N	34.34W	-44.	.315	.362	.87
5/27/77	1253	2:35	390	54.91N	40.38W	-44.	.450	.506	.89
5/27/77	1303	2:45	391	54.35N	42.57W	-47.	.445	.361	1.23
5/27/77	1328	3:10	391	52.82N	47.64W	-50.	.444	.514	.86
5/27/77	1338	3:20	391	52.15N	49.59W	-48.	.437	.523	.84
5/27/77	1348	3:30	391	51.44N	51.52W	-46.	.450	.519	.87
5/27/77	1408	3:50	391	49.90N	55.26W	-42.	.508	.520	.98
5/27/77	1438	4:20	391	47.63N	60.93W	-43.	.381	.410	.93
5/27/77	1448	4:30	391	47.10N	62.79W	-44.	.419	.406	1.03
5/27/77	1456	4:40	390	46.37N	64.53W	-45.	.565	.599	.94
5/27/77	1503	4:45	391	45.99N	65.40W	-45.	.491	.559	.88
5/27/77	1508	4:50	390	45.59N	66.27W	-47.	.540	.533	1.01


BOS TO LHR DEPARTURE 28 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

BOS TO LHR (PAGE 1 OF 1) DEPARTURE: 28 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .267 CABIN OZONE= .231 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .87 TOTAL OBS IN CABIN: 6
DATA SOURCE: GASP TAPE VL010, FILE 2

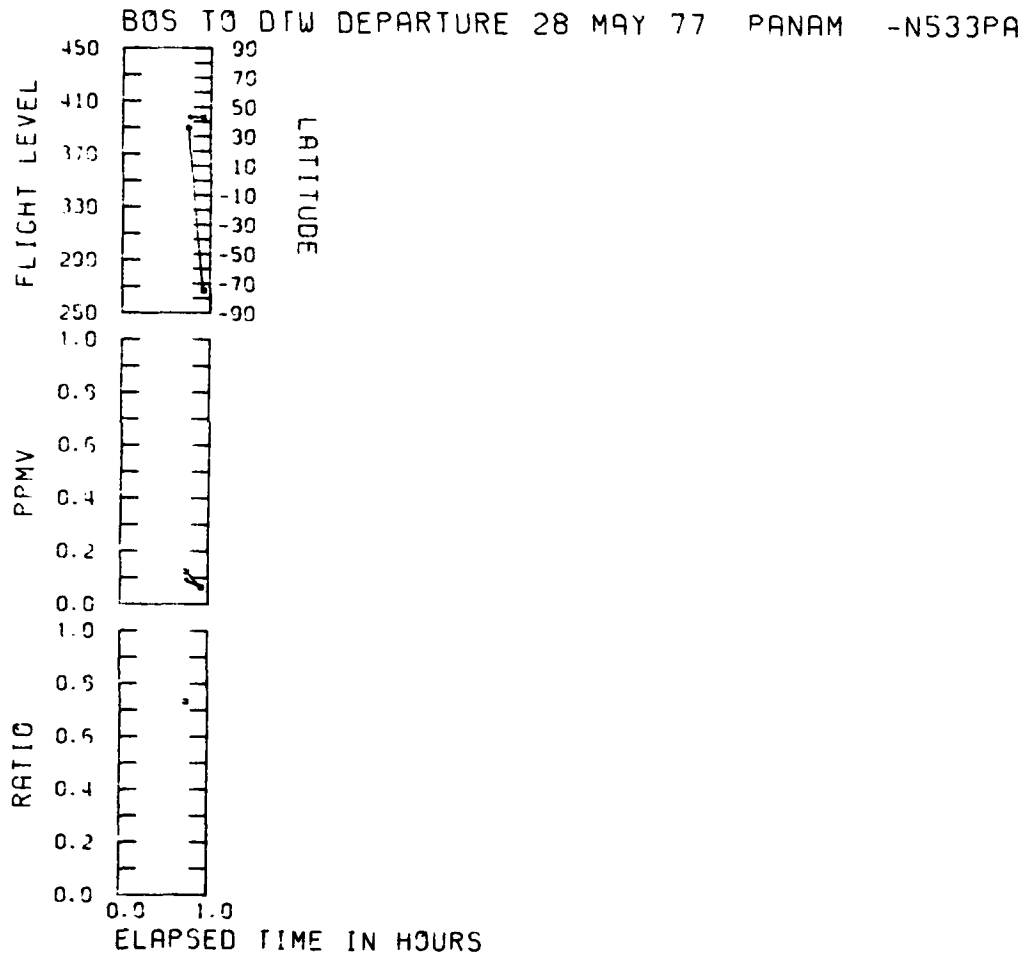
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/28/77	0436	3:35	370	48.68N	23.79W	-58.	.054	.058		5/28/77	0521	4:20	370	49.56N	14.40W	-59.	.231	.267	.87


LHR TO BOS DEPARTURE 28 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

LHR TO BOS (PAGE 1 OF 1) DEPARTURE: 28 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .536 CABIN OZONE= .482 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.34 TOTAL OBS IN CABIN: 16
DATA SOURCE: GASP TAPE VL010, FILE 2

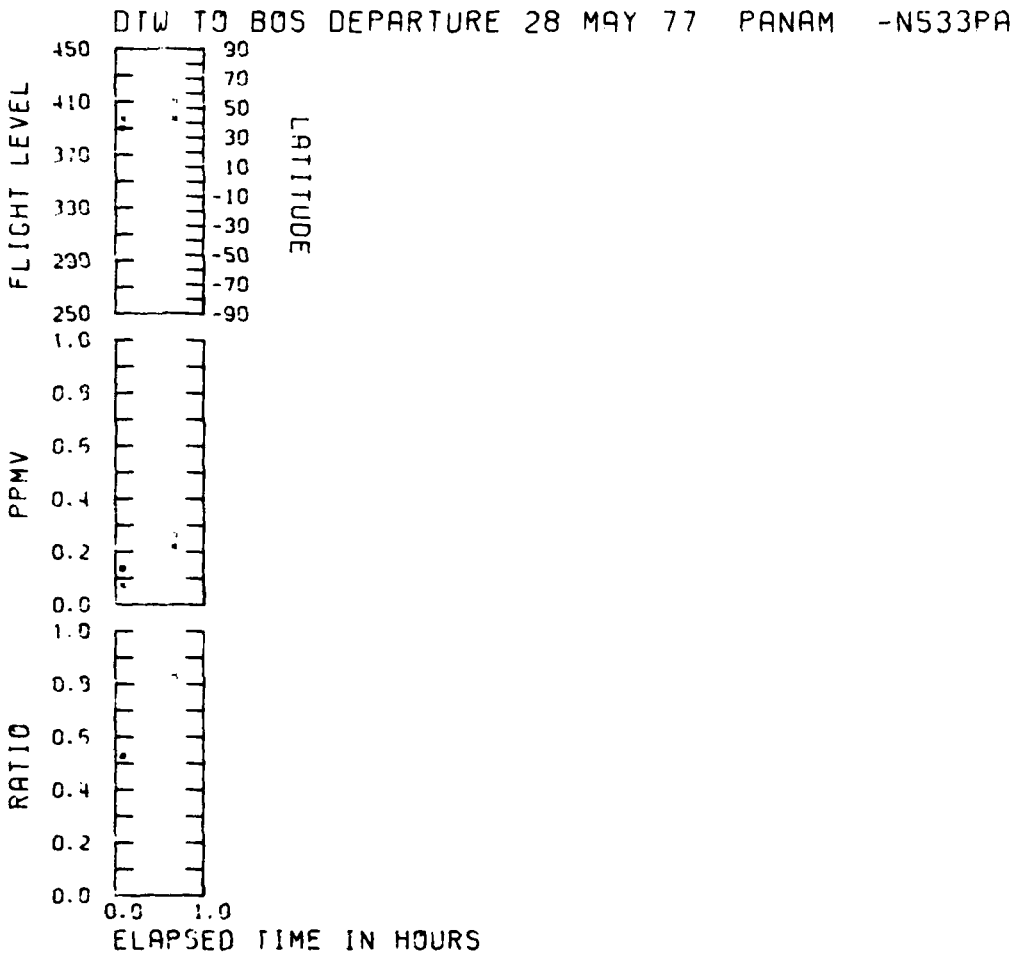
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/28/77	1400	1:05	391	56.11N	24.03W	-58.		.188	
5/28/77	1415	1:20	389	56.09N	27.29W	-59.	.140	.175	.80
5/28/77	1425	1:30	389	56.03N	29.52W	-61.	.276	.290	.95
5/28/77	1445	1:50	392	56.11N	34.12W	-56.	.411	.456	.90
5/28/77	1505	2:10	390	56.06N	38.82W	-48.	.482	.478	1.01
5/28/77	1550	2:55	390	55.06N	49.72W	-41.	.453	.454	1.00
5/28/77	1400	3:05	390	54.60N	52.11W	-39.	.395	.375	1.05
5/28/77	1410	3:15	390	54.08N	54.41W	-39.	.408	.453	.90
5/28/77	1415	3:20	390	53.88N	55.61W	-40.	.440	.531	.83
5/28/77	1440	3:45	390	51.99N	60.56W	-48.	.318	.360	.88
5/28/77	1450	3:55	389	51.04N	62.28W	-45.	.387	.467	.83
5/28/77	1500	4:05	389	49.96N	63.66W	-46.	.436	.477	.91
5/28/77	1505	4:10	389	49.42N	64.33W	-46.	.475	.475	1.00
5/28/77	1510	4:15	389	48.86N	64.99W	-48.	.372	.410	.91
5/28/77	1520	4:25	389	47.77N	66.23W	-49.	.466	.536	.87
5/28/77	1540	4:45	389	45.59N	68.52W	-57.	.279	.264	1.06
5/28/77	1550	4:55	389	44.53N	69.55W	-61.	.161	.120	1.34


BOS TO DTW DEPARTURE 28 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
ELAPSED TIME IN HOURS

BOS TO DTW (PAGE 1 OF 1) DEPARTURE: 26 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .124 CABIN OZONE= .091 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .73 TOTAL OBS IN CABIN: 2
DATA SOURCE: GASP TAPE VL010. FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/28/77	1931	0:45	390	43.13N	79.61W	-61.	.091	.124	.73	5/28/77	1941	0:55	267	42.99N	81.29W	-31.	.066	.064	

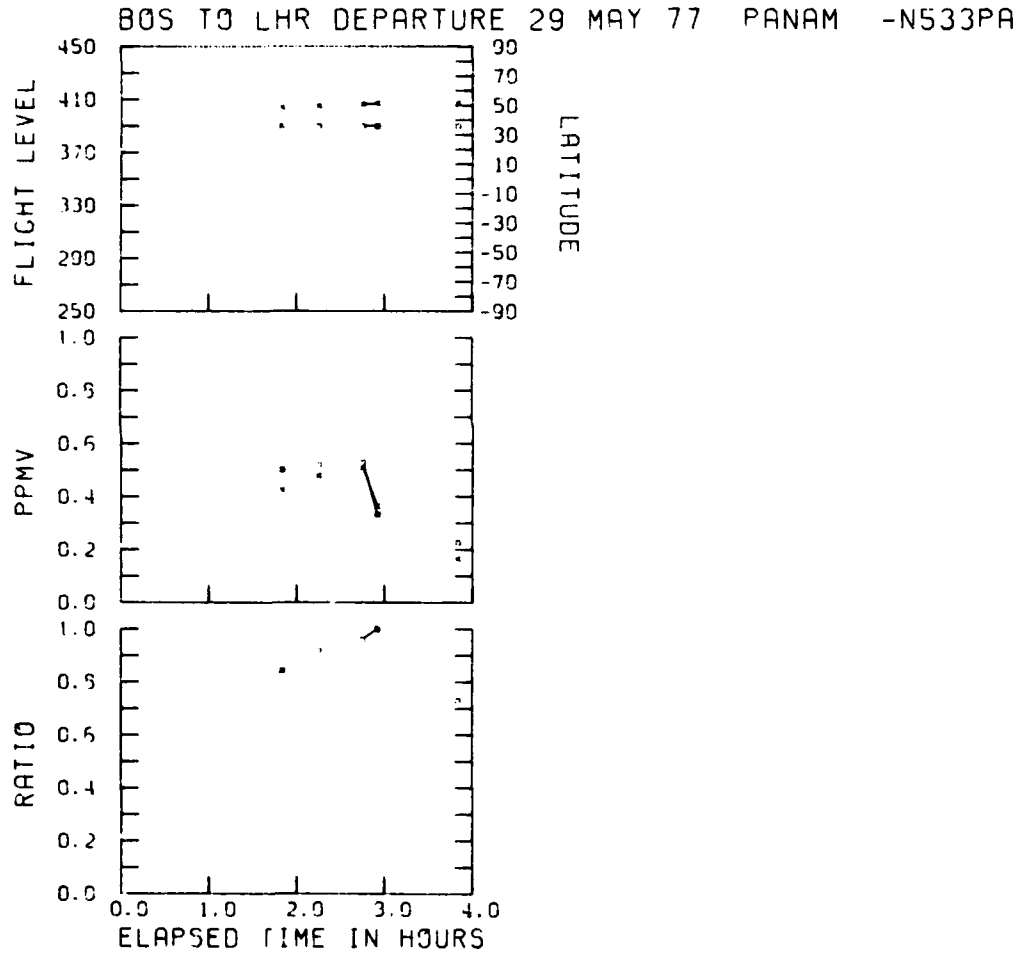

DTW TO BOS DEPARTURE 28 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
ELAPSED TIME IN HOURS

DTW TO BOS (PAGE 1 OF 1) DEPARTURE: 28 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .263 CABIN OZONE= .218 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .83 TOTAL OBS IN CABIN: 2
DATA SOURCE: GASP TAPE VL010, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
5/28/77	2212	0:05	390	42.26N	80.47W	-63.	.073	.138	.53	5/28/77	2247	0:40	410	42.54N	73.63W	-63.	.218	.263	.83

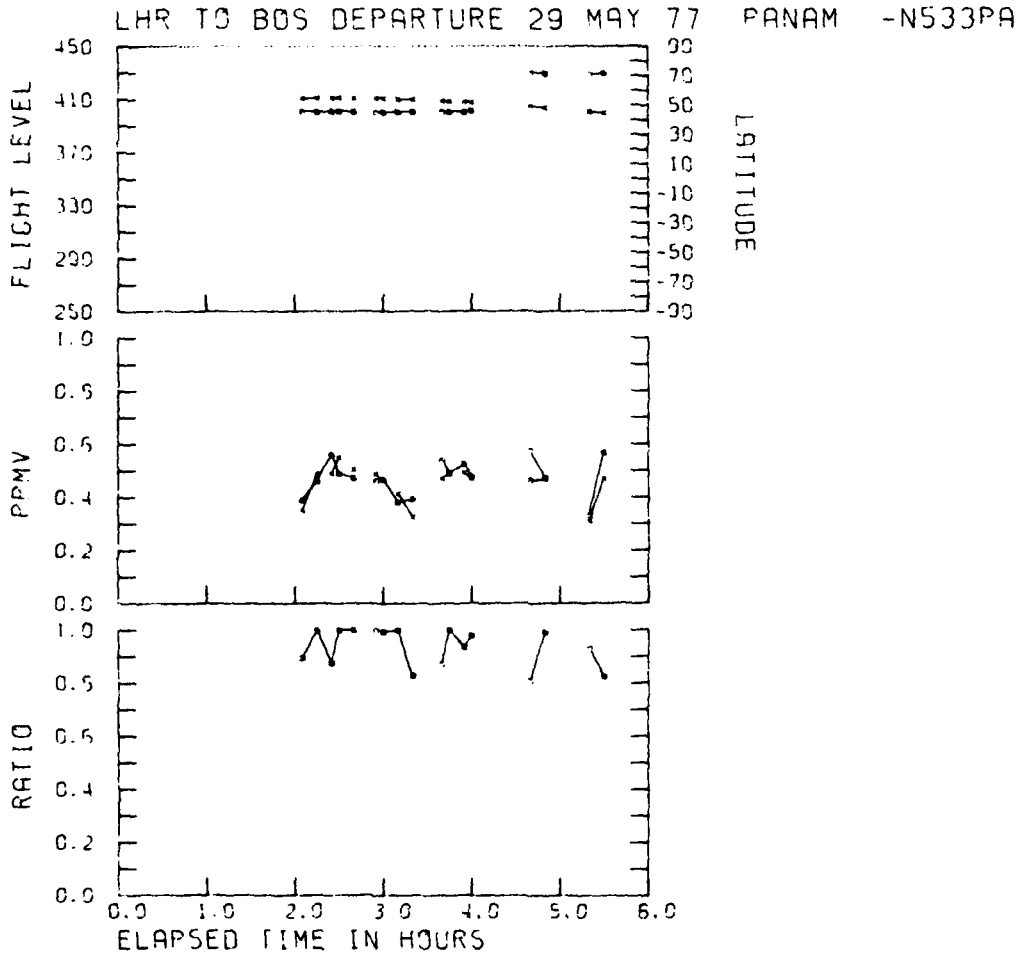
A-193


BOS TO LHR DEPARTURE 29 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
ELAPSED TIME IN HOURS

BOS TO LHR (PAGE 1 OF 1) DEPARTURE: 29 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .529 CABIN OZONE= .509 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.09 TOTAL OBS IN CABIN: 5
DATA SOURCE: GASP TAPE VL010, FILE 2

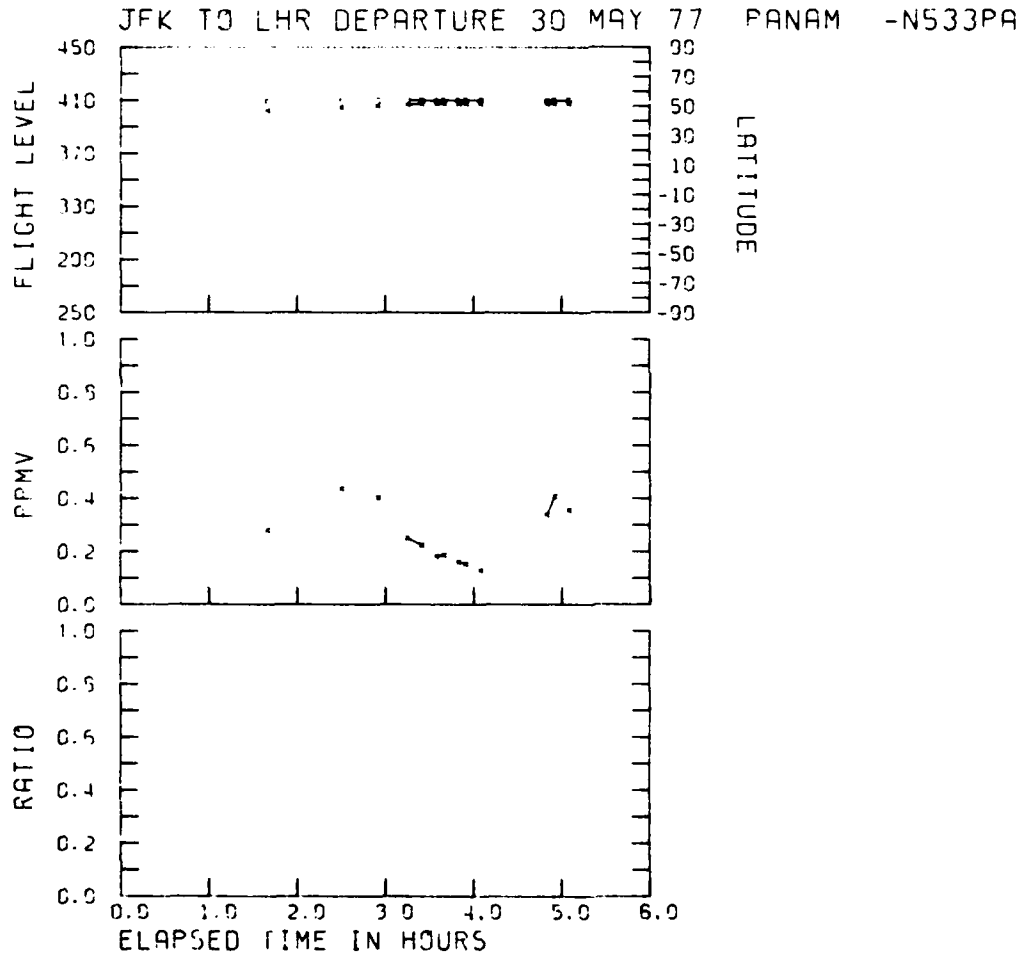
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
5/29/77	0243	1:51	390	48.73N	46.84W	-43.	.425	.503	.84
5/29/77	0308	2:16	390	49.77N	41.37W	-48.	.479	.520	.92
5/29/77	0338	2:46	390	51.15N	34.78W	-57.	.509	.529	.96
5/29/77	0348	2:56	390	51.58N	32.51W	-62.	.364	.333	1.09
5/29/77	0443	3:51	390	51.98N	19.99W	-64.	.166	.227	.73


LHR TO BOS DEPARTURE 29 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
ELAPSED TIME IN HOURS

LHR TO BOS (PAGE 1 OF 1) DEPARTURE: 29 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .574 CABIN OZONE= .551 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.12 TOTAL OBS IN CABIN: 17
DATA SOURCE: GASP TAPE VL010, FILE 2

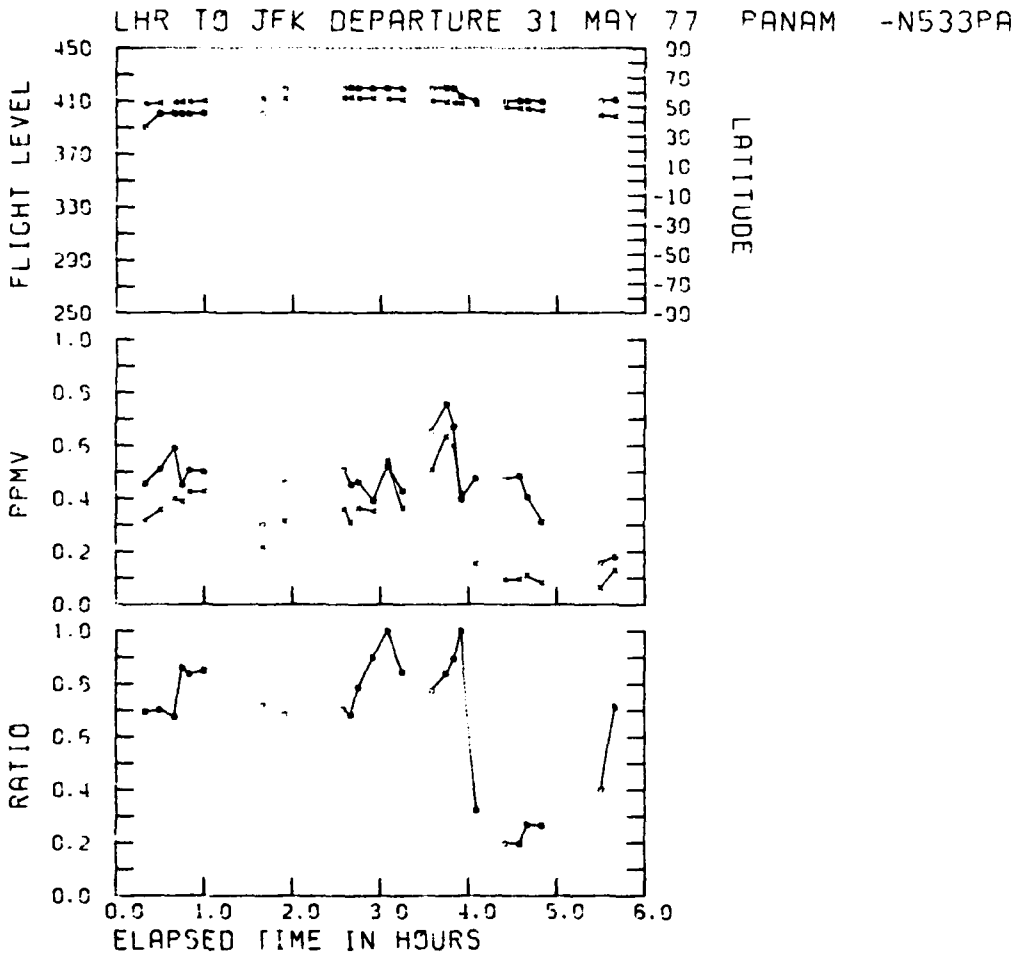
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/29/77	1213	2:05	401	55.06N	28.34W	-60.	.350	.391	.90
5/29/77	1223	2:15	401	55.02N	30.61W	-55.	.490	.461	1.06
5/29/77	1233	2:25	401	55.11N	32.92W	-53.	.490	.559	.88
5/29/77	1238	2:30	401	55.10N	34.06W	-52.	.551	.491	1.12
5/29/77	1248	2:40	401	55.09N	36.43W	-50.	.504	.472	1.07
5/29/77	1303	2:55	401	55.00N	39.93W	-45.	.487	.461	1.06
5/29/77	1308	3:00	401	54.83N	41.08W	-44.	.465	.467	1.00
5/29/77	1318	3:10	401	54.45N	43.33W	-42.	.414	.381	1.09
5/29/77	1328	3:20	401	54.03N	45.48W	-41.	.327	.394	.83
5/29/77	1348	3:40	400	53.06N	49.77W	-40.	.471	.539	.87
5/29/77	1353	3:45	401	52.83N	50.80W	-40.	.492	.489	1.01
5/29/77	1403	3:55	400	52.34N	52.87W	-40.	.492	.525	.94
5/29/77	1408	4:00	402	52.07N	53.95W	-40.	.468	.478	.98
5/29/77	1448	4:40	430	49.18N	61.10W	-47.	.465	.574	.81
5/29/77	1458	4:50	430	48.37N	62.65W	-47.	.467	.471	.99
5/29/77	1528	5:20	429	45.77N	67.13W	-52.	.310	.333	.93
5/29/77	1538	5:30	430	44.77N	68.34W	-51.	.468	.567	.83


JFK TO LHR DEPARTURE 30 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
ELAPSED TIME IN HOURS

JFK TO LHR (PAGE 1 OF 1) DEPARTURE: 30 MAY 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .437 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 13
DATA SOURCE: GASP TAPE VL010, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/30/77	1611	1:40	410	47.15N	54.30W	-48.	.280		
5/30/77	1701	2:30	410	49.41N	43.54W	-48.	.437		
5/30/77	1726	2:55	410	50.50N	37.92W	-53.	.404		
5/30/77	1746	3:15	410	51.44N	33.34W	-60.	.251		
5/30/77	1756	3:25	410	51.84N	31.01W	-63.	.224		
5/30/77	1806	3:35	410	52.05N	28.68W	-64.	.182		
5/30/77	1811	3:40	410	52.08N	27.49W	-65.	.187		
5/30/77	1821	3:50	410	52.10N	25.13W	-65.	.161		
5/30/77	1826	3:55	410	52.10N	23.94W	-64.	.153		
5/30/77	1836	4:05	410	52.06N	21.64W	-65.	.130		
5/30/77	1921	4:50	410	52.09N	11.80W	-55.	.340		
5/30/77	1926	4:55	410	52.10N	10.68W	-56.	.408		
5/30/77	1936	5:05	410	52.09N	8.54W	-54.	.357		


LHR TO JFK DEPARTURE 31 MAY 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
ELAPSED TIME IN HOURS

LHR TO JFK (PAGE 1 OF 1)

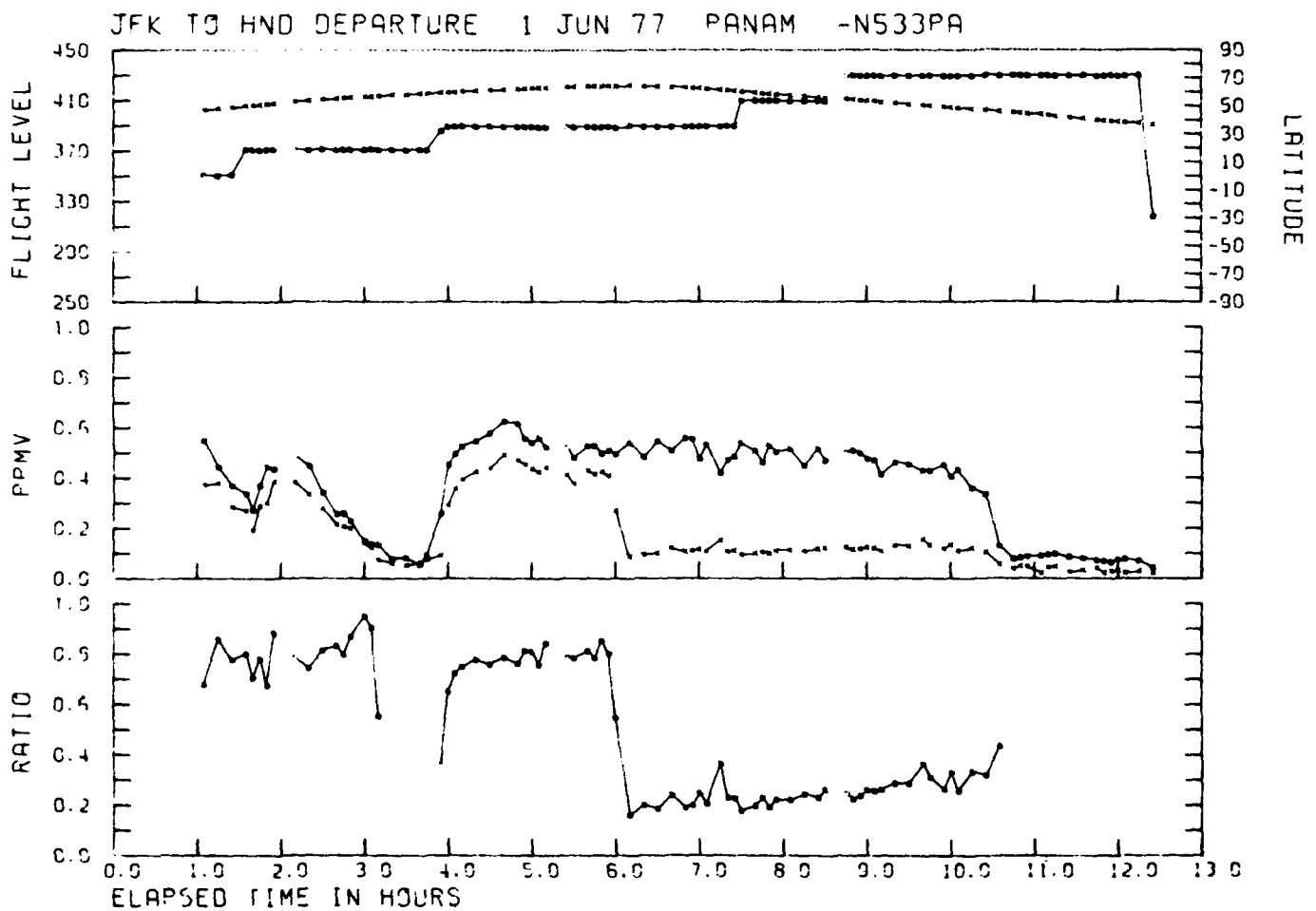
DEPARTURE: 31 MAY 77

AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .756 CABIN OZONE= .634 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.05 TOTAL OBS IN CABIN: 25

DATA SOURCE: GASP TAPE VL010, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/31/77	1056	0:20	391	52.23N	6.24W	-55.	.317	.456	.70
5/31/77	1106	0:30	400	52.73N	8.41W	-55.	.357	.509	.70
5/31/77	1116	0:40	401	53.19N	10.56W	-57.	.399	.590	.68
5/31/77	1121	0:45	401	53.41N	11.65W	-58.	.388	.451	.86
5/31/77	1126	0:50	400	53.62N	12.76W	-57.	.425	.507	.84
5/31/77	1136	1:00	401	53.98N	14.90W	-61.	.425	.500	.85
5/31/77	1216	1:40	401	55.45N	23.56W	-62.	.217	.301	.72
5/31/77	1231	1:55	419	55.78N	26.88W	-54.	.315	.460	.68
5/31/77	1311	2:35	419	56.21N	36.35W	-44.	.358	.508	.70
5/31/77	1316	2:40	420	56.15N	37.55W	-44.	.309	.452	.68
5/31/77	1321	2:45	420	56.08N	38.77W	-44.	.364	.463	.79
5/31/77	1331	2:55	420	55.82N	41.14W	-42.	.352	.391	.90
5/31/77	1341	3:05	420	55.43N	43.43W	-43.	.543	.520	1.04
5/31/77	1351	3:15	419	54.99N	45.67W	-44.	.362	.429	.84
5/31/77	1411	3:35	420	54.01N	49.95W	-45.	.507	.654	.78
5/31/77	1421	3:45	420	53.28N	51.89W	-45.	.634	.756	.84
5/31/77	1426	3:50	420	52.90N	52.82W	-46.	.600	.671	.89
5/31/77	1431	3:55	414	52.51N	53.75W	-47.	.415	.396	1.05
5/31/77	1441	4:05	410	51.70N	55.59W	-48.	.153	.475	.328
5/31/77	1501	4:25	410	49.92N	58.95W	-50.	.094	.473	.208
5/31/77	1511	4:35	410	49.00N	60.53W	-51.	.095	.485	.208
5/31/77	1516	4:40	410	48.57N	61.35W	-53.	.109	.404	.278
5/31/77	1526	4:50	410	47.76N	63.02W	-58.	.083	.312	.278
5/31/77	1606	5:30	410	44.22N	68.86W	-65.	.063	.157	.408
5/31/77	1616	5:40	411	43.20N	70.10W	-65.	.127	.178	.718


JFK TO HND DEPARTURE 1 JUN 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
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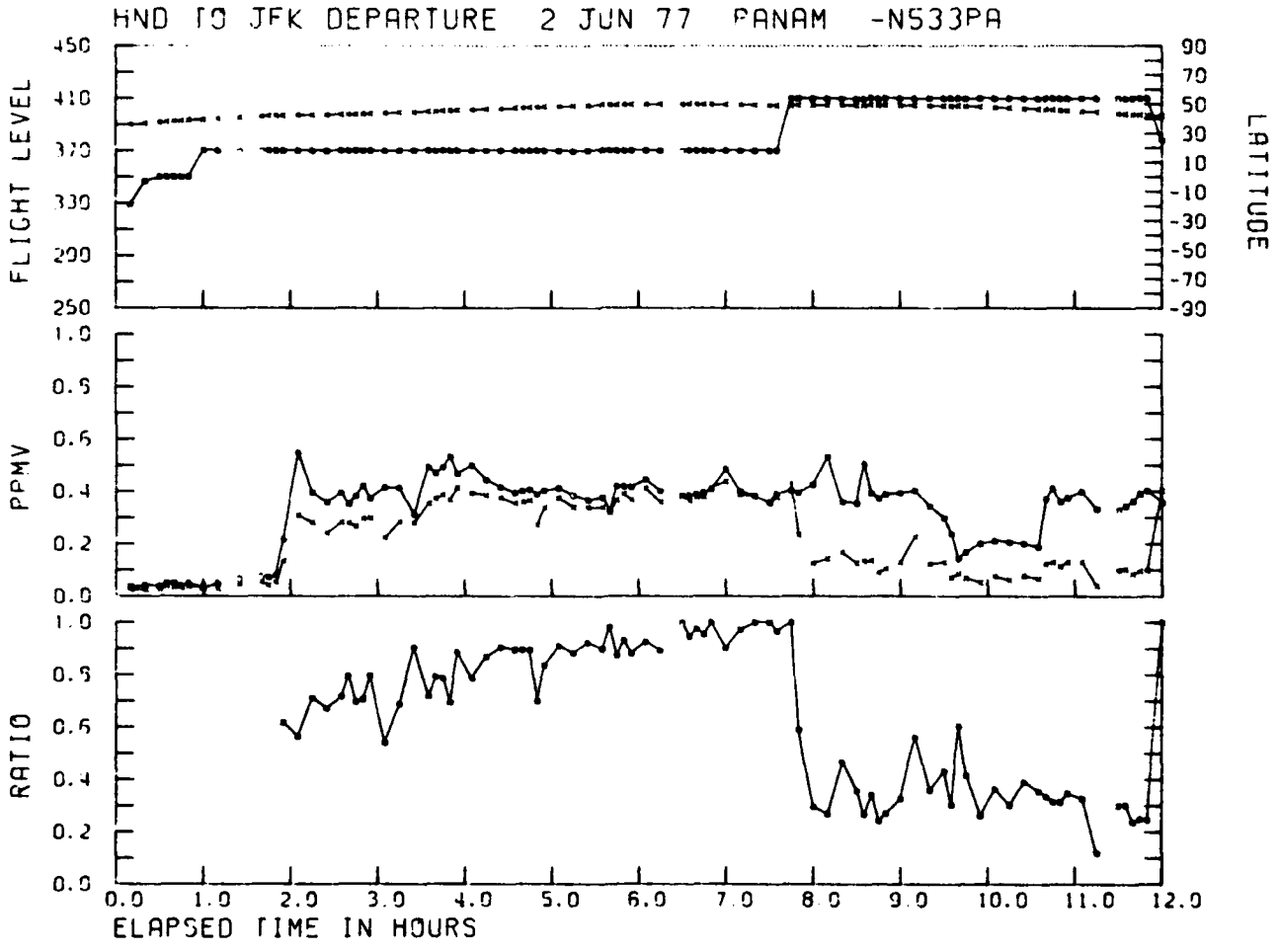
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
12.0
13.0
ELAPSED TIME IN HOURS

JFK TO HNO (PAGE 1 OF 1) DEPARTURE: 1 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .625 CABIN OZONE= .491 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .95 TOTAL OBS IN CABIN: 91
DATA SOURCE: GASP TAPE VL010, FILE 3 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

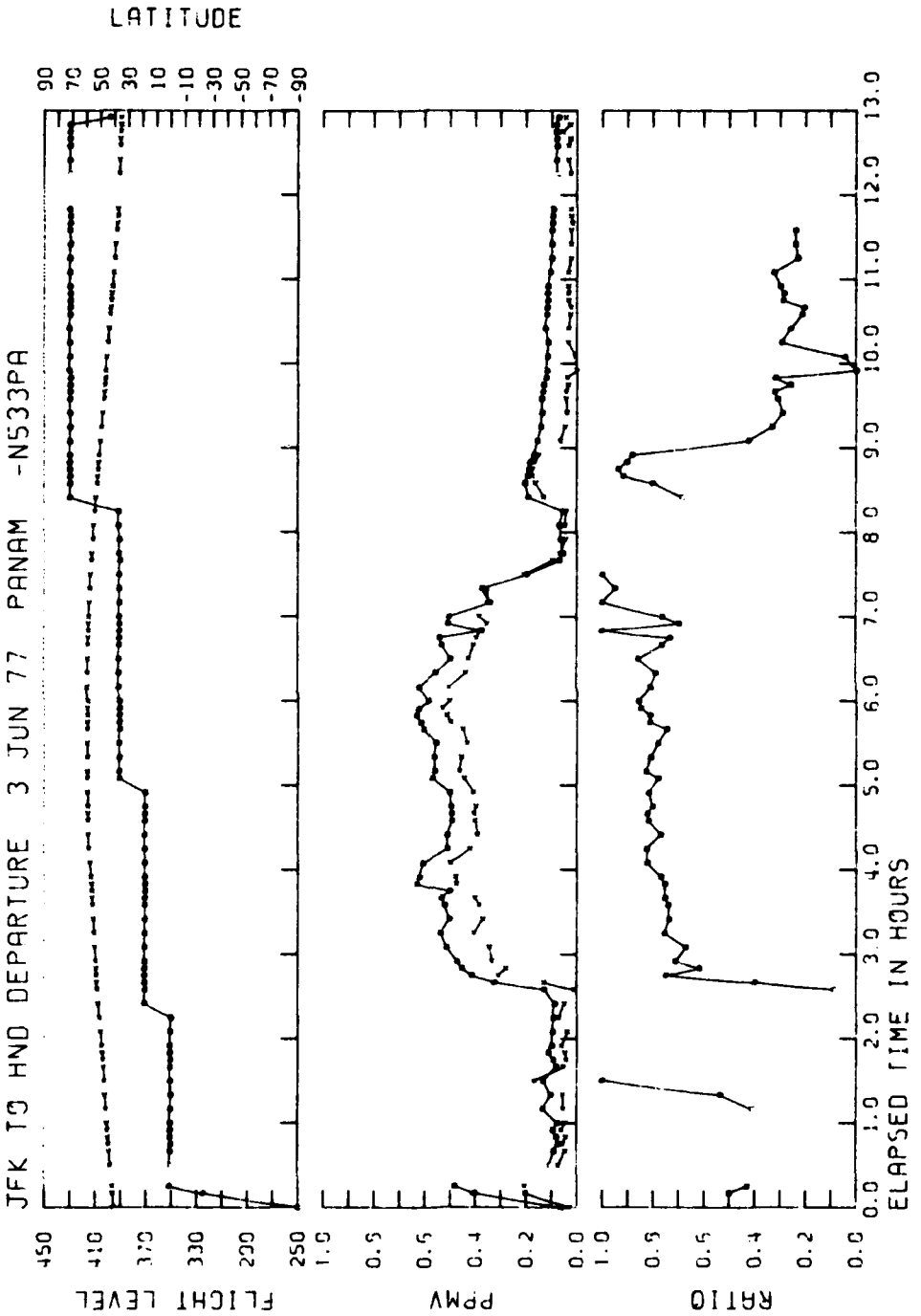
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/ 1/77	1739A	1:06	351	47.24N	82.52W	-47.	.373	.548	.68
6/ 1/77	1750A	1:17	350	48.38N	84.12W	-53.	.380	.443	.86
6/ 1/77	1759A	1:26	351	49.30N	85.50W	-55.	.285	.368	.78
6/ 1/77	1809A	1:36	371	50.26N	87.01W	-55.	.271	.338	.80
6/ 1/77	1814A	1:41	371	50.74N	87.81W	-57.	.191	.271	.71
6/ 1/77	1819	1:46	371	51.16N	88.52W	-57.	.289	.370	.78
6/ 1/77	1824A	1:51	371	51.59N	89.27W	-55.	.302	.446	.68
6/ 1/77	1829A	1:56	371	52.00N	90.02W	-53.	.385	.436	.88
6/ 1/77	1843A	2:10	371	53.21N	92.35W	-54.	.384	.488	.79
6/ 1/77	1854A	2:21	371	54.04N	94.07W	-55.	.333	.448	.74
6/ 1/77	1904A	2:31	371	54.74N	95.64W	-53.	.277	.339	.82
6/ 1/77	1917	2:44	371	55.57N	97.61W	-58.	.214	.257	.83
6/ 1/77	1922	2:49	371	55.90N	98.46W	-59.	.207	.259	.80
6/ 1/77	1927A	2:54	371	56.23N	99.32W	-59.	.198	.228	.87
6/ 1/77	1933A	3:00	371	56.57N	100.25W	-59.	.142	.150	.95
6/ 1/77	1938A	3:05	371	56.90N	101.16W	-59.	.122	.135	.90
6/ 1/77	1947A	3:14	371	57.42N	102.62W	-60.	.074	.134	.55
6/ 1/77	1957A	3:24	371	58.01N	104.41W	-60.	.061	.078	
6/ 1/77	2007A	3:34	371	58.55N	106.17W	-60.	.054	.082	
6/ 1/77	2017	3:44	371	59.10N	108.12W	-60.	.063	.055	
6/ 1/77	2022A	3:49	371	59.38N	109.14W	-60.	.074	.092	
6/ 1/77	2028A	3:55	386	59.69N	110.37W	-56.	.093	.257	.36
6/ 1/77	2033A	4:00	389	59.95N	111.44W	-55.	.292	.450	.65
6/ 1/77	2038A	4:05	390	60.21N	112.59W	-54.	.359	.496	.72
6/ 1/77	2047A	4:14	390	60.65N	114.70W	-53.	.394	.525	.75
6/ 1/77	2057A	4:24	389	61.13N	117.21W	-51.	.424	.545	.78
6/ 1/77	2107A	4:34	390	61.56N	119.84W	-50.	.437	.576	.76
6/ 1/77	2117A	4:44	390	62.04N	122.51W	-48.	.491	.625	.79
6/ 1/77	2123A	4:50	389	62.40N	124.23W	-48.	.469	.615	.76
6/ 1/77	2129A	4:56	390	62.73N	125.94W	-46.	.453	.557	.81
6/ 1/77	2134A	5:01	389	62.96N	127.24W	-48.	.438	.540	.81
6/ 1/77	2139	5:06	389	63.23N	128.90W	-47.	.422	.557	.76
6/ 1/77	2147A	5:14	389	63.60N	131.42W	-47.	.440	.523	.84
6/ 1/77	2158A	5:25	390	63.99N	134.62W	-47.	.411	.522	.79
6/ 1/77	2207A	5:34	389	64.29N	137.68W	-46.	.376	.479	.78
6/ 1/77	2217A	5:44	389	64.53N	141.00W	-46.	.428	.526	.81
6/ 1/77	2222A	5:49	389	64.58N	142.60W	-46.	.414	.527	.78
6/ 1/77	2227A	5:54	389	64.61N	144.34W	-46.	.425	.498	.85
6/ 1/77	2232A	5:59	389	64.62N	145.92W	-46.	.408	.508	.80
6/ 1/77	2237A	6:04	389	64.61N	147.55W	-45.	.271	.495	.55B
6/ 1/77	2247A	6:14	390	64.55N	150.76W	-45.	.087	.540	.16B
6/ 1/77	2257A	6:24	389	64.40N	154.19W	-46.	.096	.482	.20B
6/ 1/77	2307A	6:34	389	64.08N	157.31W	-47.	.102	.545	.19B
6/ 1/77	2317	6:44	389	63.60N	160.21W	-48.	.121	.507	.24B
6/ 1/77	2323A	6:50	389	63.28N	161.89W	-48.	.106	.556	.19B
6/ 1/77	2328A	6:55	389	63.00N	163.30W	-48.	.110	.554	.20B
6/ 1/77	2333A	7:00	389	62.72N	164.58W	-48.	.117	.476	.25B
6/ 1/77	2338A	7:05	389	62.39N	166.01W	-48.	.109	.531	.21B
6/ 1/77	2348	7:15	389	61.81N	168.32W	-46.	.152	.419	.36B
6/ 1/77	2356	7:23	390	61.21N	170.45W	-46.	.108	.471	.23B
6/ 2/77	0001	7:28	390	60.90N	171.39W	-45.	.110	.483	.23B
6/ 2/77	0007	7:34	410	60.43N	172.77W	-46.	.095	.538	.18B
6/ 2/77	0017	7:44	410	59.58N	175.07W	-46.	.100	.506	.20B
6/ 2/77	0022A	7:49	410	59.16N	176.12W	-46.	.105	.461	.23B
6/ 2/77	0027	7:54	410	58.74N	177.13W	-46.	.101	.528	.19B
6/ 2/77	0032A	7:59	410	58.35N	178.05W	-48.	.112	.503	.22B
6/ 2/77	0038A	8:05	410	57.76N	179.34W	-49.	.114	.514	.22B
6/ 2/77	0048A	8:15	409	57.03N	178.53E	-51.	.109	.447	.24B
6/ 2/77	0058	8:25	410	56.38N	176.42E	-53.	.119	.516	.23B
6/ 2/77	0107A	8:34	409	55.74N	174.54E	-56.	.123	.468	.26B
6/ 2/77	0118A	8:45	429	54.93N	172.33E	-56.	.125	.502	.25B
6/ 2/77	0123A	8:50	430	54.55N	171.36E	-56.	.114	.507	.22B
6/ 2/77	0128A	8:55	429	54.18N	170.42E	-56.	.118	.498	.24B
6/ 2/77	0133A	9:00	429	53.81N	169.44E	-57.	.124	.476	.26B
6/ 2/77	0138A	9:05	430	53.48N	168.45E	-57.	.121	.470	.26B
6/ 2/77	0147A	9:14	430	52.85N	166.71E	-58.	.109	.413	.26B
6/ 2/77	0157A	9:24	430	52.16N	164.90E	-58.	.133	.462	.29B
6/ 2/77	0207A	9:34	430	51.40N	163.08E	-58.	.130	.453	.29B
6/ 2/77	0217A	9:44	430	50.64N	161.36E	-60.	.156	.429	.36B
6/ 2/77	0222A	9:49	430	50.24N	160.50E	-58.	.133	.428	.31B
6/ 2/77	0231	9:58	429	49.52N	159.05E	-59.	.120	.453	.26B
6/ 2/77	0236A	10:03	430	49.17N	158.37E	-59.	.134	.405	.33B
6/ 2/77	0241A	10:08	430	48.74N	157.57E	-58.	.111	.433	.26B
6/ 2/77	0252	10:19	430	47.83N	155.95E	-61.	.120	.359	.33B
6/ 2/77	0302	10:29	430	46.96N	154.47E	-59.	.107	.335	.32B
6/ 2/77	0312	10:39	430	46.10N	153.10E	-63.	.056	.129	.43B
6/ 2/77	0321	10:48	430	45.32N	151.91E	-63.	.040	.079	B
6/ 2/77	0326	10:53	430	44.97N	151.38E	-64.	.049	.083	B
6/ 2/77	0331	10:58	430	44.55N	150.77E	-63.	.047	.088	B
6/ 2/77	0338A	11:05	430	43.88N	149.83E	-63.	.024	.092	B
6/ 2/77	0343A	11:10	430	43.46N	149.23E	-62.	.045	.094	B
6/ 2/77	0352A	11:19	430	42.70N	148.16E	-62.	.048	.099	B
6/ 2/77	0402A	11:29	430	41.80N	146.96E	-63.	.027	.086	B
6/ 2/77	0412A	11:39	430	40.96N	145.88E	-62.	.034	.081	B
6/ 2/77	0422A	11:49	429	40.10N	144.80E	-64.	.041	.072	B
6/ 2/77	0427A	11:54	430	39.67N	144.26E	-64.	.023	.070	B
6/ 2/77	0432A	11:59	430	39.24N	143.73E	-64.	.030	.065	B
6/ 2/77	0437A	12:04	430	38.80N	143.19E	-64.	.033	.075	B
6/ 2/77	0442A	12:09	430	38.42N	142.73E	-63.	.024	.077	B
6/ 2/77	0452A	12:19	430	37.54N	141.60E	-64.	.029	.071	
6/ 2/77	0502A	12:29	316	36.88N	140.52E	-33.	.022	.045	


HND TO JFK DEPARTURE 2 JUN 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
12.0
ELAPSED TIME IN HOURS

HND TO JFK (PAGE 1 OF 1) DEPARTURE: 2 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .547 CABIN OZONE= .437 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.13 TOTAL OBS IN CABIN: 92
DATA SOURCE: GASP TAPE VL010, FILE 3 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/ 2/77	1012A	0:11	329	36.18N	143.76E	-36.	.027	.037	
6/ 2/77	1022A	0:21	347	36.87N	145.17E	-41.	.026	.041	
6/ 2/77	1031	0:30	350	37.54N	146.60E	-42.	.028	.038	
6/ 2/77	1036A	0:35	350	37.88N	147.35E	-43.	.039	.050	
6/ 2/77	1042	0:41	350	38.34N	148.40E	-43.	.035	.049	
6/ 2/77	1047A	0:46	350	38.71N	149.27E	-44.	.031	.039	
6/ 2/77	1052	0:51	350	39.04N	150.08E	-44.	.038	.049	
6/ 2/77	1102	1:01	370	39.61N	151.71E	-50.	.040	.030	
6/ 2/77	1114	1:13	370	40.31N	153.84E	-51.	.028	.050	
6/ 2/77	1127	1:26	370	41.03N	156.24E	-52.	.048	.068	
6/ 2/77	1143	1:42	370	41.78N	158.94E	-53.	.054	.076	
6/ 2/77	1148A	1:47	370	42.01N	159.83E	-53.	.042	.073	
6/ 2/77	1154A	1:53	370	42.17N	160.82E	-54.	.053	.079	
6/ 2/77	1159A	1:58	370	42.31N	161.88E	-54.	.134	.216	.62
6/ 2/77	1208A	2:07	370	42.50N	163.40E	-52.	.308	.547	.56
6/ 2/77	1217A	2:16	370	42.68N	164.97E	-56.	.281	.396	.71
6/ 2/77	1228A	2:27	370	42.86N	167.00E	-57.	.242	.360	.67
6/ 2/77	1237A	2:36	370	42.99N	168.63E	-56.	.262	.394	.72
6/ 2/77	1243	2:42	370	43.06N	169.62E	-56.	.280	.352	.80
6/ 2/77	1248A	2:47	370	43.23N	170.66E	-58.	.267	.383	.70
6/ 2/77	1253A	2:52	370	43.45N	171.54E	-57.	.298	.421	.71
6/ 2/77	1258	2:57	370	43.65N	172.39E	-59.	.298	.374	.80
6/ 2/77	1310A	3:09	370	44.14N	174.64E	-58.	.225	.416	.54
6/ 2/77	1317A	3:16	370	44.40N	175.94E	-58.	.284	.414	.69
6/ 2/77	1327A	3:26	370	44.76N	177.88E	-57.	.282	.312	.90
6/ 2/77	1337A	3:36	370	45.08N	179.89E	-54.	.354	.493	.72
6/ 2/77	1342A	3:41	370	45.30N	179.13W	-54.	.373	.470	.79
6/ 2/77	1347A	3:46	370	45.49N	178.33W	-54.	.387	.492	.79
6/ 2/77	1352A	3:51	370	45.74N	177.23W	-53.	.370	.532	.70
6/ 2/77	1357A	3:56	370	45.96N	176.24W	-53.	.414	.468	.89
6/ 2/77	1407	4:06	370	46.36N	174.26W	-52.	.393	.499	.79
6/ 2/77	1417A	4:16	370	46.71N	172.32W	-51.	.385	.444	.87
6/ 2/77	1428A	4:27	370	47.05N	170.24W	-52.	.377	.417	.90
6/ 2/77	1437A	4:36	370	47.46N	168.43W	-53.	.354	.395	.90
6/ 2/77	1442	4:41	370	47.67N	167.53W	-52.	.361	.403	.90
6/ 2/77	1447A	4:46	370	47.90N	166.46W	-54.	.364	.407	.89
6/ 2/77	1453A	4:52	370	48.15N	165.27W	-54.	.272	.389	.70
6/ 2/77	1458A	4:57	370	48.32N	164.36W	-54.	.338	.404	.84
6/ 2/77	1507	5:06	370	48.66N	162.47W	-54.	.376	.413	.91
6/ 2/77	1518A	5:17	370	49.02N	160.22W	-55.	.340	.385	.88
6/ 2/77	1527A	5:26	370	49.27N	158.40W	-54.	.340	.368	.92
6/ 2/77	1537	5:36	370	49.51N	156.41W	-52.	.340	.378	.90
6/ 2/77	1542A	5:41	370	49.63N	155.26W	-52.	.319	.325	.98
6/ 2/77	1547A	5:46	370	49.73N	154.30W	-50.	.366	.420	.87
6/ 2/77	1552	5:51	370	49.82N	153.27W	-49.	.390	.419	.93
6/ 2/77	1558A	5:57	370	49.91N	152.01W	-49.	.368	.417	.88
6/ 2/77	1607A	6:06	370	50.04N	149.89W	-48.	.412	.445	.93
6/ 2/77	1617	6:16	370	50.11N	147.68W	-47.	.359	.402	.89
6/ 2/77	1632A	6:31	370	50.12N	144.32W	-47.	.384	.383	1.00
6/ 2/77	1637A	6:36	370	50.10N	143.16W	-47.	.365	.386	.95
6/ 2/77	1642A	6:41	370	50.07N	142.01W	-48.	.379	.389	.97
6/ 2/77	1647A	6:46	370	50.03N	140.88W	-48.	.378	.396	.95
6/ 2/77	1653A	6:52	370	49.98N	139.68W	-49.	.414	.408	1.02
6/ 2/77	1702A	7:01	370	49.91N	137.54W	-49.	.437	.485	.90
6/ 2/77	1711	7:10	370	49.80N	135.50W	-51.	.388	.399	.97
6/ 2/77	1723	7:22	370	49.59N	132.84W	-50.	.383	.383	1.00
6/ 2/77	1732	7:31	370	49.41N	131.00W	-51.	.362	.356	1.02
6/ 2/77	1738	7:37	370	49.26N	129.55W	-51.	.378	.391	.97
6/ 2/77	1747A	7:46	410	49.30N	127.41W	-50.	.432	.404	1.07
6/ 2/77	1752A	7:51	410	49.36N	126.26W	-49.	.234	.396	.598
6/ 2/77	1802A	8:01	410	49.44N	124.04W	-48.	.127	.426	.308
6/ 2/77	1812A	8:11	410	49.48N	121.84W	-49.	.143	.531	.278
6/ 2/77	1822A	8:21	410	49.47N	119.48W	-46.	.168	.360	.478
6/ 2/77	1832	8:31	410	49.43N	117.36W	-48.	.127	.355	.368
6/ 2/77	1837	8:36	410	49.39N	116.16W	-48.	.135	.504	.278
6/ 2/77	1843A	8:42	410	49.38N	114.88W	-48.	.135	.393	.348
6/ 2/77	1848	8:47	410	49.37N	113.73W	-55.	.091	.374	.248
6/ 2/77	1854A	8:53	410	49.34N	112.38W	-53.	.106	.390	.278
6/ 2/77	1903	9:02	410	49.26N	110.24W	-51.	.129	.394	.338
6/ 2/77	1912	9:11	410	49.15N	108.22W	-55.	.227	.404	.568
6/ 2/77	1922A	9:21	410	49.01N	106.18W	-58.	.124	.344	.368
6/ 2/77	1932A	9:31	410	48.83N	104.18W	-60.	.130	.300	.438
6/ 2/77	1937A	9:36	410	48.71N	102.99W	-59.	.073	.240	.308
6/ 2/77	1943	9:42	410	48.57N	101.77W	-62.	.087	.144	.608
6/ 2/77	1948	9:47	410	48.45N	100.81W	-60.	.070	.168	.428
6/ 2/77	1958A	9:57	410	48.14N	98.54W	-59.	.053	.202	.268
6/ 2/77	2007A	10:06	410	47.86N	96.77W	-63.	.077	.212	.368
6/ 2/77	2020A	10:19	410	47.36N	93.96W	-60.	.063	.207	.308
6/ 2/77	2028	10:27	410	47.03N	92.35W	-60.	.079	.202	.398
6/ 2/77	2038A	10:37	410	46.60N	90.40W	-60.	.067	.189	.368
6/ 2/77	2043A	10:42	410	46.33N	89.27W	-57.	.125	.372	.348
6/ 2/77	2048A	10:47	410	46.10N	88.32W	-54.	.130	.412	.328
6/ 2/77	2053A	10:52	410	45.87N	87.43W	-53.	.114	.362	.318
6/ 2/77	2058A	10:57	410	45.62N	86.49W	-52.	.131	.376	.358
6/ 2/77	2108A	11:07	410	45.06N	84.52W	-50.	.131	.400	.338
6/ 2/77	2117	11:16	410	44.57N	82.89W	-49.	.040	.333	.128
6/ 2/77	2133	11:32	410	43.61N	80.01W	-47.	.100	.331	.308
6/ 2/77	2138	11:37	410	43.29N	79.08W	-48.	.104	.344	.308
6/ 2/77	2144	11:43	410	42.93N	78.12W	-48.	.087	.364	.248
6/ 2/77	2149A	11:48	410	42.56N	77.12W	-51.	.097	.391	.258
6/ 2/77	2154A	11:53	410	42.25N	76.28W	-52.	.100	.404	.258
6/ 2/77	2202A	12:01	378	41.84N	74.63W	-52.	.405	.359	1.13


JFK TO HND DEPARTURE 3 JUN 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0 13.0
ELAPSED TIME IN HOURS

JFK TO HNO (PAGE 1 OF 2) DEPARTURE: 3 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .633 CABIN OZONE= .531 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.27 TOTAL OBS IN CABIN: 99
DATA SOURCE: GASP TAPE VL010, FILE 4 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/ 3/77	1624	0:00	211	41.25N	74.18W	-27.	.028	.062	
6/ 3/77	1634	0:10	325	41.78N	75.49W	-46.	.204	.406	.50
6/ 3/77	1640A	0:16	352	42.12N	76.46W	-44.	.208	.482	.43
6/ 3/77	1658	0:34	351	43.25N	78.86W	-55.	.073	.107	.68
6/ 3/77	1708	0:44	351	44.01N	80.09W	-55.	.046	.090	
6/ 3/77	1713	0:49	350	44.40N	80.73W	-55.	.055	.074	
6/ 3/77	1718	0:54	351	44.79N	81.39W	-55.	.043	.080	
6/ 3/77	1723	0:59	351	45.17N	82.06W	-55.	.062	.094	
6/ 3/77	1728	1:04	351	45.56N	82.73W	-55.	.046	.076	
6/ 3/77	1738	1:14	351	46.23N	84.21W	-55.	.055	.134	.41
6/ 3/77	1748	1:24	350	46.87N	85.76W	-55.	.055	.103	.53
6/ 3/77	1758	1:34	351	47.48N	87.33W	-55.	.168	.132	1.27
6/ 3/77	1808	1:44	351	48.06N	88.88W	-54.	.051	.081	
6/ 3/77	1813	1:49	351	48.37N	89.60W	-54.	.043	.093	
6/ 3/77	1818	1:54	351	48.79N	90.21W	-54.	.047	.113	.42
6/ 3/77	1823	1:59	351	49.21N	90.83W	-55.	.061	.099	
6/ 3/77	1833	2:09	351	50.05N	92.10W	-55.	.038	.096	
6/ 3/77	1843	2:19	350	50.88N	93.43W	-55.	.072	.094	
6/ 3/77	1853	2:29	371	51.58N	94.91W	-61.	.048	.086	
6/ 3/77	1903	2:39	371	52.25N	96.48W	-61.	.011	.127	.09
6/ 3/77	1908	2:44	371	52.57N	97.28W	-57.	.129	.324	.40
6/ 3/77	1913	2:49	371	52.88N	98.07W	-55.	.309	.413	.75
6/ 3/77	1918	2:54	371	53.19N	98.91W	-54.	.279	.452	.62
6/ 3/77	1923	2:59	371	53.51N	99.78W	-50.	.335	.471	.71
6/ 3/77	1933	3:09	371	54.13N	101.63W	-48.	.344	.513	.67
6/ 3/77	1943	3:19	371	54.66N	103.61W	-47.	.405	.537	.75
6/ 3/77	1953	3:29	371	55.18N	105.65W	-47.	.370	.502	.74
6/ 3/77	2003	3:39	371	55.76N	107.72W	-46.	.386	.521	.74
6/ 3/77	2008	3:44	371	56.05N	108.80W	-46.	.402	.534	.75
6/ 3/77	2013	3:49	371	56.32N	109.93W	-47.		.500	
6/ 3/77	2018	3:54	371	56.59N	111.07W	-47.	.475	.630	.75
6/ 3/77	2023	3:59	371	56.95N	112.15W	-47.	.477	.620	.77
6/ 3/77	2033	4:09	371	57.69N	114.30W	-45.	.500	.607	.82
6/ 3/77	2043	4:19	371	58.41N	116.61W	-47.	.419	.509	.82
6/ 3/77	2053	4:29	371	58.71N	119.26W	-48.	.391	.509	.77
6/ 3/77	2103	4:39	371	58.85N	122.00W	-49.	.401	.491	.82
6/ 3/77	2108	4:44	371	58.93N	123.41W	-49.	.405	.493	.82
6/ 3/77	2113	4:49	370	59.06N	124.84W	-48.	.396	.495	.80
6/ 3/77	2123	4:59	370	59.28N	127.71W	-48.	.408	.500	.82
6/ 3/77	2133	5:09	391	59.43N	130.57W	-47.	.443	.569	.78
6/ 3/77	2138	5:14	391	59.48N	132.05W	-48.	.463	.560	.83
6/ 3/77	2148	5:24	391	59.55N	135.00W	-50.	.455	.562	.81
6/ 3/77	2158	5:34	391	59.54N	137.88W	-48.	.433	.555	.78
6/ 3/77	2208	5:44	391	59.53N	140.77W	-49.	.450	.604	.75
6/ 3/77	2213	5:49	391	59.53N	142.21W	-49.	.500	.615	.81
6/ 3/77	2218	5:54	391	59.52N	143.64W	-49.	.514	.633	.81
6/ 3/77	2223	5:59	391	59.50N	145.08W	-49.	.531	.625	.85
6/ 3/77	2228	6:04	391	59.46N	146.48W	-48.	.503	.586	.86
6/ 3/77	2236	6:14	391	59.34N	149.27W	-49.	.502	.620	.81
6/ 3/77	2246	6:24	391	59.22N	152.03W	-47.	.437	.555	.79
6/ 3/77	2256	6:34	391	59.11N	154.73W	-49.	.426	.497	.86
6/ 3/77	2308	6:44	391	58.92N	157.40W	-48.	.407	.533	.76
6/ 3/77	2313	6:49	391	58.81N	158.72W	-49.	.396	.541	.73
6/ 3/77	2318	6:54	391	58.68N	160.03W	-50.	.381	.375	1.02
6/ 3/77	2323	6:59	391	58.53N	161.33W	-52.	.354	.508	.70
6/ 3/77	2328	7:04	391	58.38N	162.59W	-52.	.384	.503	.76
6/ 3/77	2336	7:14	391	58.05N	165.03W	-56.	.352	.342	1.03
6/ 3/77	2348	7:24	391	57.67N	167.40W	-57.	.355	.374	.95
6/ 3/77	2358	7:34	391	57.28N	169.58W	-60.	.207	.197	1.05
6/ 4/77	0008	7:44	390	56.68N	171.57W	-62.	.095	.070	
6/ 4/77	0013	7:49	391	56.33N	172.50W	-62.	.068	.056	
6/ 4/77	0023	7:59	391	55.62N	174.30W	-62.	.045	.064	
6/ 4/77	0033	8:09	391	54.89N	176.04W	-62.	.046	.068	
6/ 4/77	0043	8:19	391	54.12N	177.72W	-62.	.041	.052	
6/ 4/77	0053	8:29	430	53.34N	179.33W	-64.	.131	.191	.69
6/ 4/77	0103	8:39	430	52.59N	179.01E	-64.	.163	.204	.80
6/ 4/77	0108	8:44	430	52.23N	178.18E	-64.	.177	.193	.92
6/ 4/77	0113	8:49	430	51.86N	177.36E	-64.	.176	.188	.94
6/ 4/77	0118	8:54	430	51.49N	176.56E	-63.	.167	.185	.90
6/ 4/77	0123	8:59	430	51.12N	175.77E	-64.	.150	.170	.88
6/ 4/77	0133	9:09	430	50.35N	174.22E	-63.	.066	.156	.42B
6/ 4/77	0143	9:19	430	49.52N	172.66E	-61.	.047	.142	.33B
6/ 4/77	0153	9:29	430	48.66N	171.11E	-61.	.040	.138	.29B
6/ 4/77	0203	9:39	430	47.80N	169.52E	-59.	.043	.139	.31B
6/ 4/77	0208	9:44	430	47.43N	168.67E	-59.	.043	.134	.32B
6/ 4/77	0213	9:49	430	47.06N	167.83E	-58.	.034	.131	.26B
6/ 4/77	0218	9:54	429	46.68N	167.00E	-59.	.039	.122	.32B
6/ 4/77	0223	9:59	430	46.30N	166.18E	-56.	.000	.118	.00B
6/ 4/77	0233	10:09	430	45.51N	164.59E	-56.	.005	.115	.04B
6/ 4/77	0243	10:19	430	44.72N	163.07E	-55.	.033	.113	.29B
6/ 4/77	0253	10:29	430	43.94N	161.63E	-56.	.032	.124	.26B
6/ 4/77	0303	10:39	430	43.13N	160.21E	-56.	.025	.118	.21B
6/ 4/77	0308	10:44	430	42.74N	159.49E	-55.	.024	.117	.21B
6/ 4/77	0313	10:49	429	42.36N	158.76E	-55.	.033	.115	.29B
6/ 4/77	0318	10:54	429	41.97N	158.04E	-55.	.033	.116	.28B
6/ 4/77	0323	10:59	430	41.59N	157.34E	-56.	.034	.114	.30B
6/ 4/77	0333	11:09	430	40.83N	156.00E	-57.	.034	.105	.32B
6/ 4/77	0343	11:19	430	40.08N	154.74E	-57.	.023	.100	B
6/ 4/77	0353	11:29	430	39.35N	153.55E	-58.	.024	.100	B
6/ 4/77	0403	11:39	430	38.60N	152.38E	-60.	.024	.100	B
6/ 4/77	0408	11:44	430	38.23N	151.82E	-60.	.020	.098	B
6/ 4/77	0413	11:49	430	37.86N	151.26E	-60.	.024	.097	B

JFK TO HNO (PAGE 2 OF 2) DEPARTURE: 3 JUN 77 AIRCRAFT: PANAM -N533PA

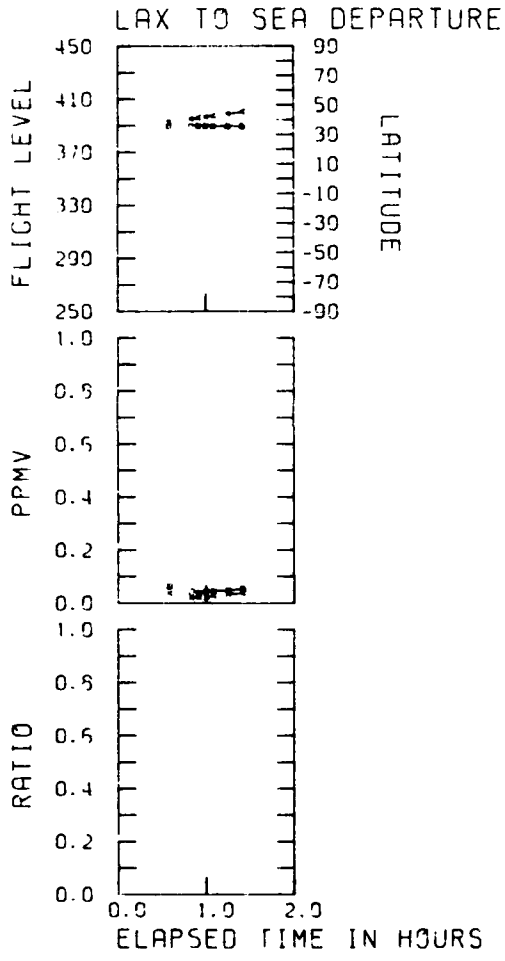
MAXIMUM VALUES: AMBIENT OZONE= .633 CABIN OZONE= .531 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.27 TOTAL OBS IN CABIN: 99
DATA SOURCE: GASP TAPE VL010, FILE 4 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO		MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO	
6/ 4/77	0418	11:54	430	37.48N	150.70E	-61.	.025	.094		B	6/ 4/77	0508	12:44	430	35.84N	144.13E	-61.	.026	.081		B
6/ 4/77	0443	12:19	430	36.53N	147.43E	-62.	.025	.078		B	6/ 4/77	0513	12:49	430	35.69N	143.48E	-61.	.057	.082		B
6/ 4/77	0453	12:29	430	36.27N	146.10E	-62.	.033	.082		B	6/ 4/77	0518	12:54	430	35.54N	142.83E	-62.	.027	.082		
6/ 4/77	0503	12:39	430	35.99N	144.78E	-62.	.033	.078		B	6/ 4/77	0523	12:59	398	35.39N	142.19E	-55.	.045	.073		

HND TO LAX (PAGE 1 OF 1) DEPARTURE: 4 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .459 CABIN OZONE= .447 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.18 TOTAL OBS IN CABIN: 62
DATA SOURCE: GASP TAPE VL010, FILE 4

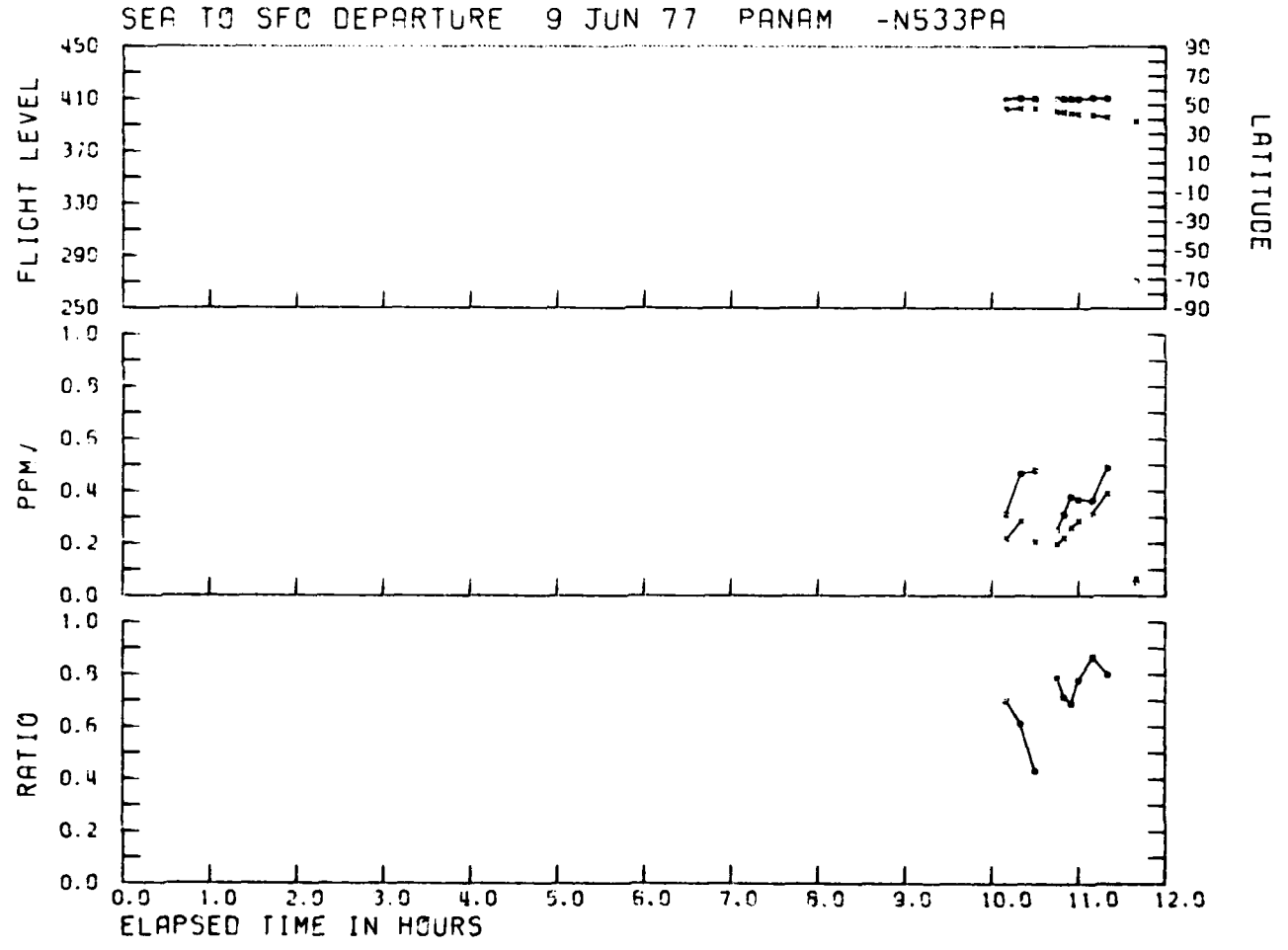
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/ 4/77	0825	0:10	329	35.74N	142.98E	-40.	.045	.096	
6/ 4/77	0835	0:20	370	36.59N	144.67E	-51.	.051	.058	
6/ 4/77	0840	0:25	370	37.01N	145.54E	-51.	.051	.090	
6/ 4/77	0855	0:40	370	38.22N	148.19E	-52.	.053	.104	.51
6/ 4/77	0900	0:45	370	38.60N	149.08E	-53.	.069	.100	
6/ 4/77	0905	0:50	370	38.98N	149.99E	-53.	.058	.090	
6/ 4/77	0910	0:55	370	39.22N	150.97E	-52.	.064	.102	.63
6/ 4/77	0915	1:00	370	39.55N	151.90E	-53.	.066	.086	
6/ 4/77	0925	1:10	369	39.99N	153.91E	-52.	.060	.097	
6/ 4/77	0935	1:20	369	40.37N	155.97E	-52.	.064	.100	
6/ 4/77	0945	1:30	369	40.70N	158.00E	-53.	.067	.083	
6/ 4/77	0955	1:40	369	40.98N	160.01E	-53.	.056	.088	
6/ 4/77	1005	1:50	369	41.25N	161.98E	-53.	.067	.116	.58
6/ 4/77	1010	1:55	369	41.37N	162.97E	-53.	.077	.126	.61
6/ 4/77	1015	2:00	369	41.48N	163.96E	-52.	.112	.158	.71
6/ 4/77	1025	2:10	369	41.66N	165.84E	-51.	.197	.316	.62
6/ 4/77	1035	2:20	369	41.82N	167.68E	-50.	.305	.527	.58
6/ 4/77	1055	2:40	369	42.02N	171.29E	-51.	.364	.474	.77
6/ 4/77	1100	2:45	369	42.04N	172.16E	-54.	.367	.312	1.18
6/ 4/77	1105	2:50	369	42.06N	172.99E	-55.	.149	.077	
6/ 4/77	1110	2:55	369	42.07N	173.78E	-56.	.057	.052	
6/ 4/77	1140	3:25	396	41.92N	178.99E	-62.	.033	.055	
6/ 4/77	1150	3:35	396	41.90N	179.18W	-61.	.027	.078	
6/ 4/77	1155	3:40	396	41.84N	178.27W	-61.	.033	.059	
6/ 4/77	1200	3:45	396	41.77N	177.35W	-61.	.038	.051	
6/ 4/77	1205	3:50	396	41.69N	176.41W	-61.	.040	.041	
6/ 4/77	1210	3:55	396	41.60N	175.45W	-61.	.035	.036	
6/ 4/77	1220	4:05	396	41.40N	173.52W	-60.	.041	.065	
6/ 4/77	1230	4:15	396	41.16N	171.57W	-59.	.062	.090	
6/ 4/77	1240	4:25	396	40.88N	169.59W	-61.	.041	.064	
6/ 4/77	1250	4:35	396	40.55N	167.61W	-61.	.050	.054	
6/ 4/77	1255	4:40	396	40.38N	166.62W	-61.	.071	.113	.63
6/ 4/77	1300	4:45	396	40.19N	165.65W	-61.	.111	.241	.46
6/ 4/77	1305	4:50	396	40.00N	164.70W	-61.	.180	.219	.82
6/ 4/77	1310	4:55	396	39.80N	163.75W	-63.	.134	.145	.92
6/ 4/77	1320	5:05	396	39.37N	161.82W	-62.	.129	.178	.72
6/ 4/77	1330	5:15	396	38.93N	159.90W	-60.	.190	.256	.74
6/ 4/77	1340	5:25	402	38.81N	157.98W	-57.	.349	.485	.72
6/ 4/77	1350	5:35	408	38.66N	156.11W	-54.	.412	.484	.85
6/ 4/77	1355	5:40	410	38.57N	155.18W	-53.	.447	.559	.80
6/ 4/77	1400	5:45	410	38.47N	154.25W	-51.	.441	.556	.79
6/ 4/77	1405	5:50	410	38.37N	153.31W	-51.	.440	.507	.87
6/ 4/77	1410	5:55	410	38.26N	152.38W	-50.	.434	.514	.84
6/ 4/77	1450	6:35	411	38.06N	144.88W	-48.	.279	.531	.538
6/ 4/77	1455	6:40	410	38.05N	143.93W	-49.	.129	.496	.268
6/ 4/77	1500	6:45	410	38.04N	142.97W	-50.	.121	.497	.248
6/ 4/77	1505	6:50	410	38.02N	142.02W	-51.	.125	.508	.258
6/ 4/77	1510	6:55	410	37.99N	141.08W	-55.	.122	.457	.278
6/ 4/77	1520	7:05	410	38.00N	139.09W	-59.	.096	.143	.678
6/ 4/77	1530	7:15	410	38.06N	137.11W	-61.	.037	.102	.368
6/ 4/77	1535	7:20	410	38.07N	136.12W	-63.	.028	.070	B
6/ 4/77	1545	7:30	410	38.08N	134.14W	-62.	.014	.082	B
6/ 4/77	1555	7:40	410	38.05N	132.23W	-63.	.038	.082	B
6/ 4/77	1600	7:45	410	38.03N	131.30W	-63.	.030	.072	B
6/ 4/77	1605	7:50	410	37.99N	130.37W	-64.	.030	.050	B
6/ 4/77	1610	7:55	410	37.97N	129.44W	-64.	.015	.056	B
6/ 4/77	1625	8:10	410	37.87N	126.76W	-65.	.015	.044	B
6/ 4/77	1645	8:30	410	36.63N	123.75W	-64.	.025	.061	B
6/ 4/77	1655	8:40	410	36.19N	122.17W	-65.	.016	.052	B
6/ 4/77	1700	8:45	410	35.83N	121.51W	-65.	.028	.048	B
6/ 4/77	1705	8:50	410	35.41N	120.88W	-65.	.015	.048	B
6/ 4/77	1710	8:55	410	34.96N	120.27W	-65.	.015	.033	


LAX TO SEA DEPARTURE 4 JUN 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
ELAPSED TIME IN HOURS

LAX TO SEA (PAGE 1 OF 1) DEPARTURE: 4 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .064 CABIN OZONE= .038 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)=***** TOTAL OBS IN CABIN: 7
DATA SOURCE: GASP TAPE VL010, FILE 4

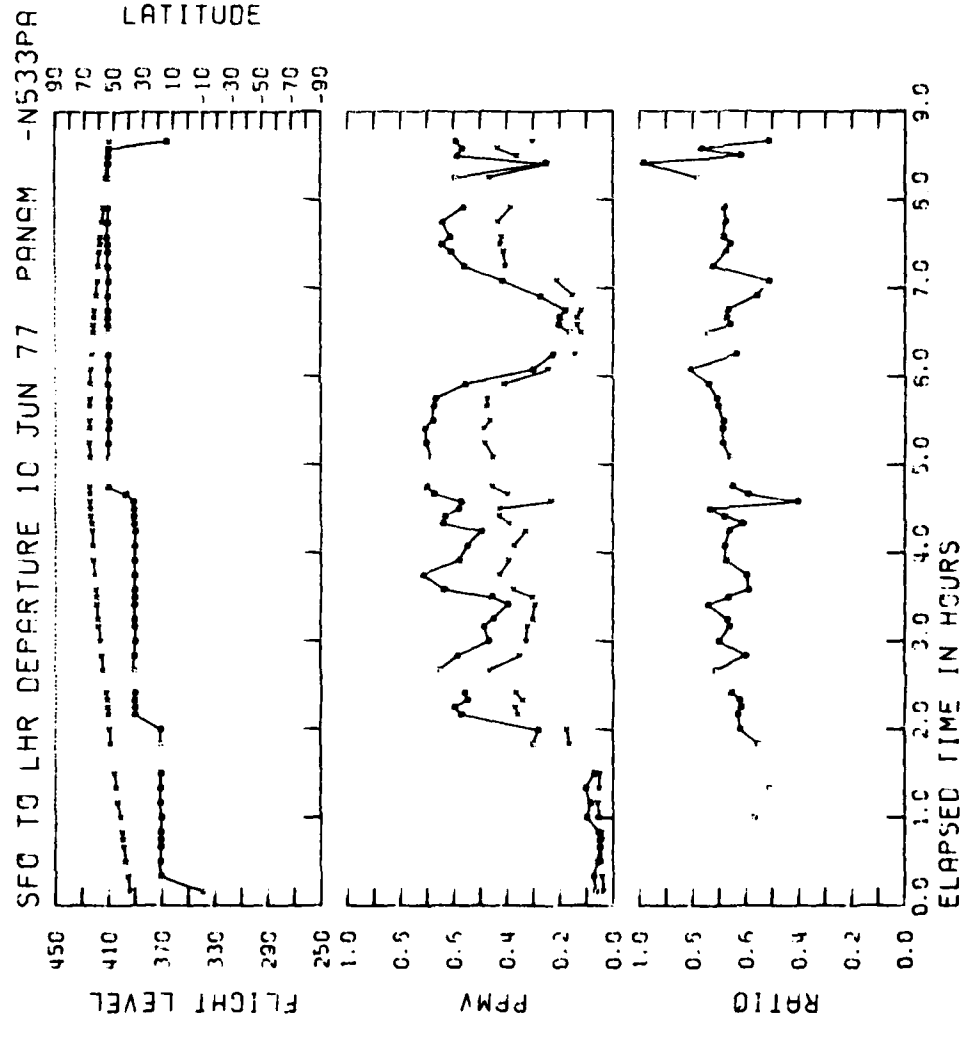
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/ 4/77	2031	0:35	390	38.83N	119.77W	-60.	.038	.064	
6/ 4/77	2046	0:50	390	40.82N	120.29W	-60.	.022	.044	
6/ 4/77	2051	0:55	390	41.48N	120.47W	-59.	.023	.038	
6/ 4/77	2056	1:00	390	42.14N	120.66W	-59.	.024	.045	
6/ 4/77	2101	1:05	390	42.82N	120.85W	-59.	.028	.045	
6/ 4/77	2111	1:15	390	44.18N	121.25W	-59.	.036	.048	
6/ 4/77	2121	1:25	390	45.54N	121.68W	-59.	.038	.054	


SEA TO SFO DEPARTURE 9 JUN 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPM/
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0
ELAPSED TIME IN HOURS

SEA TO SFO (PAGE 1 OF 1) DEPARTURE: 9 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .489 CABIN OZONE= .391 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .87 TOTAL OBS IN CABIN: 10
DATA SOURCE: GASP TAPE VL010, FILE 4

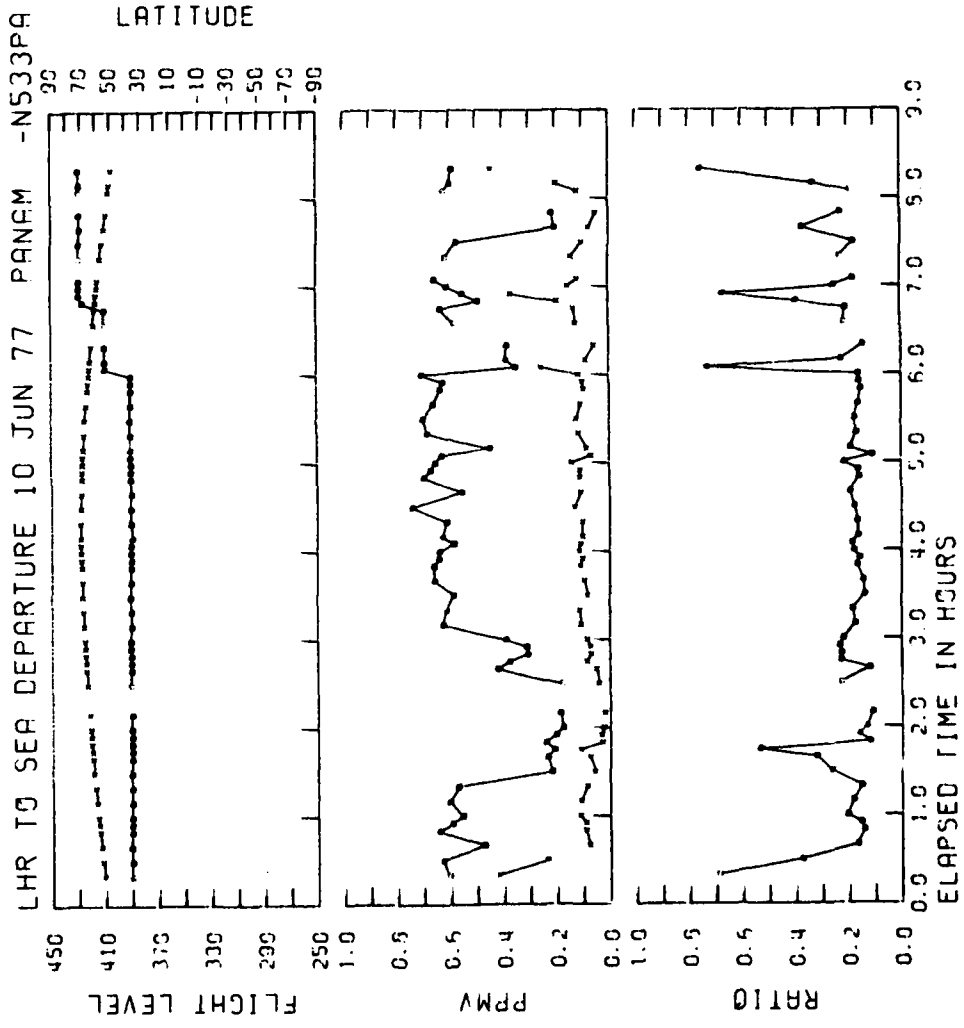
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/ 9/77	1859	0:10	410	47.39N	119.49W	-57.	.220	.314	.70	6/ 9/77	1944	0:55	410	44.28N	122.76W	-57.	.261	.379	.69
6/ 9/77	1909	0:20	411	47.40N	120.64W	-55.	.286	.467	.61	6/ 9/77	1949	1:00	410	43.67N	122.81W	-55.	.287	.369	.78
6/ 9/77	1919	0:30	410	47.36N	122.50W	-55.	.207	.480	.438	6/ 9/77	1959	1:10	410	42.43N	122.89W	-56.	.315	.364	.87
6/ 9/77	1934	0:45	410	45.53N	122.60W	-57.	.199	.253	.79	6/ 9/77	2009	1:20	410	41.19N	122.80W	-58.	.391	.489	.80
6/ 9/77	1939	0:50	410	44.90N	122.66W	-59.	.222	.311	.71	6/ 9/77	2029	1:40	271	38.69N	122.85W	-33.	.067	.052	


SFO TO LHR DEPARTURE 10 JUN 77 PANAM -N533PA
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
FLIGHT LEVEL
450
410
370
330
290
250
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
ELAPSED TIME IN HOURS

SFO TO LHR (PAGE 1 OF 1) DEPARTURE: 10 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .714 CABIN OZONE= .486 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .98 TOTAL OBS IN CABIN: 60
DATA SOURCE: GASP TAPE VL010, FILE 4

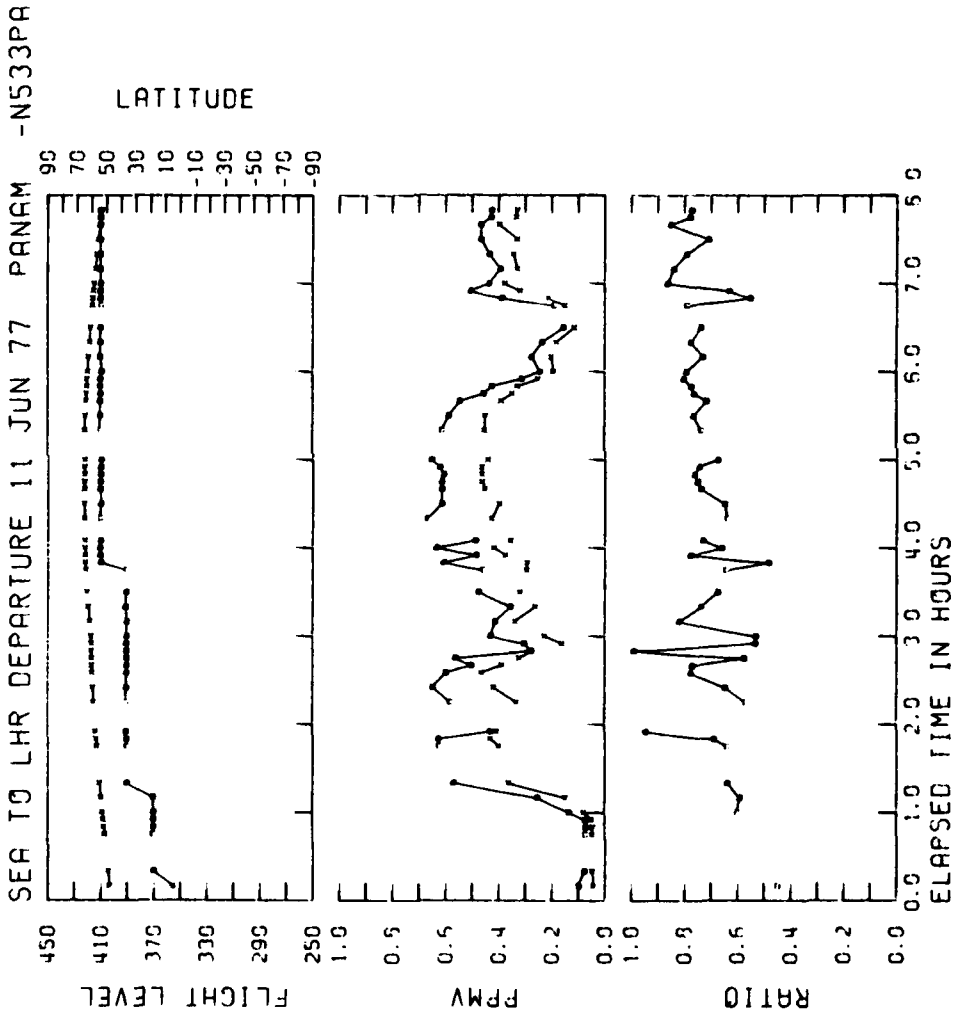
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/10/77	0139	0:10	339	39.68N	122.30W	-50.	.036	.066	
6/10/77	0149	0:20	371	41.00N	121.75W	-59.	.043	.074	
6/10/77	0159	0:30	371	42.28N	121.03W	-59.	.044	.055	
6/10/77	0209	0:40	371	43.55N	120.26W	-59.	.046	.048	
6/10/77	0214	0:45	371	44.20N	119.87W	-59.	.042	.050	
6/10/77	0219	0:50	371	44.87N	119.44W	-59.	.045	.053	
6/10/77	0229	1:00	371	46.18N	118.59W	-58.	.057	.100	
6/10/77	0239	1:10	371	47.51N	117.67W	-58.	.057	.085	
6/10/77	0249	1:20	371	48.84N	116.65W	-56.	.052	.102	.51
6/10/77	0300	1:31	371	50.21N	115.09W	-54.	.050	.071	
6/10/77	0320	1:51	371	52.39N	111.41W	-51.	.167	.301	.55
6/10/77	0330	2:01	371	53.39N	109.36W	-48.	.174	.280	.62
6/10/77	0340	2:11	390	54.32N	107.28W	-46.	.360	.571	.63
6/10/77	0345	2:16	390	54.77N	106.20W	-47.	.370	.598	.62
6/10/77	0350	2:21	391	55.22N	105.12W	-48.	.343	.549	.62
6/10/77	0355	2:26	391	55.80N	104.24W	-49.	.368	.560	.66
6/10/77	0410	2:41	391	57.53N	101.40W	-43.	.464	.650	.71
6/10/77	0420	2:51	391	58.63N	99.38W	-46.	.349	.583	.60
6/10/77	0430	3:01	390	59.71N	97.21W	-47.	.327	.467	.70
6/10/77	0440	3:11	390	60.73N	94.96W	-48.	.322	.496	.66
6/10/77	0445	3:16	391	61.21N	93.78W	-49.	.301	.449	.67
6/10/77	0455	3:26	391	62.04N	91.23W	-49.	.293	.395	.74
6/10/77	0500	3:31	391	62.44N	89.91W	-48.	.303	.455	.67
6/10/77	0505	3:36	391	62.84N	88.59W	-46.	.375	.635	.59
6/10/77	0515	3:46	391	63.58N	85.86W	-46.	.426	.714	.60
6/10/77	0525	3:56	390	64.28N	82.89W	-45.	.390	.577	.68
6/10/77	0535	4:06	391	64.84N	79.76W	-45.	.372	.546	.68
6/10/77	0545	4:16	390	65.34N	76.55W	-43.	.369	.496	.66
6/10/77	0550	4:21	391	65.57N	74.88W	-44.	.390	.638	.61
6/10/77	0555	4:26	391	65.77N	73.25W	-44.	.426	.629	.68
6/10/77	0600	4:31	391	65.96N	71.58W	-44.	.425	.579	.73
6/10/77	0605	4:36	391	66.13N	69.87W	-43.	.229	.569	.40
6/10/77	0610	4:41	397	66.27N	68.21W	-43.	.394	.671	.59
6/10/77	0615	4:46	410	66.40N	66.49W	-44.	.453	.700	.65
6/10/77	0635	5:06	410	66.75N	59.46W	-43.	.452	.686	.66
6/10/77	0645	5:16	410	66.90N	55.85W	-44.	.484	.705	.69
6/10/77	0655	5:26	410	66.96N	52.22W	-43.	.486	.708	.69
6/10/77	0700	5:31	410	66.98N	50.44W	-46.	.464	.679	.68
6/10/77	0710	5:41	410	66.76N	46.88W	-45.	.475	.676	.70
6/10/77	0715	5:46	410	66.60N	45.12W	-46.	.473	.668	.71
6/10/77	0725	5:56	410	66.22N	41.70W	-49.	.414	.559	.74
6/10/77	0735	6:06	410	65.73N	38.36W	-53.	.243	.301	.81
6/10/77	0745	6:16	410	65.16N	35.21W	-58.	.144	.227	.63
6/10/77	0800	6:31	410	64.17N	30.68W	-59.	.121	.163	.74
6/10/77	0805	6:36	410	63.82N	29.25W	-62.	.135	.205	.66
6/10/77	0810	6:41	410	63.45N	27.81W	-62.	.135	.201	.67
6/10/77	0815	6:46	410	63.08N	26.43W	-61.	.119	.179	.66
6/10/77	0825	6:56	411	62.29N	23.77W	-61.	.153	.274	.56
6/10/77	0835	7:06	410	61.43N	21.20W	-58.	.214	.417	.51
6/10/77	0845	7:16	410	60.62N	18.84W	-53.	.406	.560	.73
6/10/77	0855	7:26	410	59.78N	16.49W	-50.	.411	.608	.68
6/10/77	0900	7:31	410	59.35N	15.36W	-48.	.424	.644	.66
6/10/77	0905	7:36	410	58.92N	14.28W	-47.	.418	.611	.68
6/10/77	0915	7:46	410	58.03N	12.20W	-46.	.433	.641	.68
6/10/77	0925	7:56	410	57.10N	10.21W	-45.	.385	.564	.68
6/10/77	0945	8:16	410	55.11N	6.82W	-46.	.463	.593	.78
6/10/77	0955	8:26	410	54.24N	5.05W	-46.	.247	.251	.98
6/10/77	1000	8:31	410	53.85N	4.11W	-46.	.362	.585	.62
6/10/77	1005	8:36	410	53.43N	3.21W	-47.	.435	.567	.77
6/10/77	1010	8:41	366	52.97N	2.41W	-49.	.304	.591	.51


LHR TO SEA DEPARTURE 10 JUN 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0
ELAPSED TIME IN HOURS

LHR TO SEA (PAGE 1 OF 1) DEPARTURE: 10 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .742 CABIN OZONE= .442 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .75 TOTAL OBS IN CABIN: 60
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/10/77	1424	0:20	390	54.65N	3.20W	-48.	.419	.607	.69
6/10/77	1434	0:30	390	55.89N	4.57W	-47.	.236	.629	.388
6/10/77	1444	0:40	390	56.91N	6.34W	-46.	.079	.473	.178
6/10/77	1454	0:50	390	57.93N	8.11W	-45.	.092	.642	.148
6/10/77	1459	0:55	390	58.45N	9.00W	-46.	.092	.595	.158
6/10/77	1504	1:00	390	58.95N	9.91W	-45.	.114	.555	.218
6/10/77	1514	1:10	390	59.91N	11.80W	-48.	.111	.604	.188
6/10/77	1524	1:20	390	60.81N	13.73W	-52.	.087	.572	.158
6/10/77	1534	1:30	390	61.66N	15.57W	-55.	.057	.217	.268
6/10/77	1544	1:40	390	62.51N	17.52W	-55.	.076	.236	.328
6/10/77	1549	1:45	390	62.91N	18.50W	-57.	.112	.210	.538
6/10/77	1554	1:50	390	63.25N	19.65W	-57.	.029	.242	.128
6/10/77	1559	1:55	390	63.55N	20.81W	-57.	.033	.204	.168
6/10/77	1604	2:00	390	63.85N	22.02W	-57.	.024	.178	.138
6/10/77	1614	2:10	390	64.51N	24.41W	-57.	.021	.188	.118
6/10/77	1634	2:30	390	65.84N	29.36W	-56.	.041	.180	.238
6/10/77	1644	2:40	390	66.49N	32.03W	-51.	.050	.420	.128
6/10/77	1649	2:45	390	66.81N	33.48W	-48.	.086	.377	.238
6/10/77	1654	2:50	390	67.11N	34.98W	-48.	.070	.309	.238
6/10/77	1659	2:55	391	67.40N	36.47W	-48.	.073	.312	.238
6/10/77	1704	3:00	391	67.67N	37.99W	-47.	.086	.391	.228
6/10/77	1717	3:13	390	68.30N	42.37W	-44.	.110	.627	.188
6/10/77	1727	3:23	390	68.67N	45.92W	-44.	.114	.615	.198
6/10/77	1737	3:33	391	68.98N	49.69W	-42.	.082	.586	.148
6/10/77	1747	3:43	390	69.24N	53.53W	-42.	.096	.660	.158
6/10/77	1757	3:53	390	69.71N	57.19W	-44.	.111	.661	.178
6/10/77	1802	3:58	390	69.91N	59.11W	-42.	.102	.642	.168
6/10/77	1807	4:03	390	70.08N	61.04W	-43.	.115	.640	.188
6/10/77	1812	4:08	390	70.21N	63.02W	-43.	.109	.585	.198
6/10/77	1817	4:13	389	70.33N	65.10W	-42.	.103	.629	.168
6/10/77	1827	4:23	390	70.44N	69.10W	-43.	.102	.612	.178
6/10/77	1837	4:33	390	70.10N	73.01W	-43.	.132	.742	.168
6/10/77	1847	4:43	390	69.70N	76.77W	-42.	.108	.556	.198
6/10/77	1857	4:53	390	69.22N	80.37W	-42.	.111	.697	.168
6/10/77	1902	4:58	390	68.97N	82.12W	-41.	.109	.672	.168
6/10/77	1907	5:03	390	68.70N	83.83W	-42.	.142	.655	.228
6/10/77	1912	5:08	390	68.42N	85.50W	-42.	.069	.632	.118
6/10/77	1917	5:13	390	68.12N	87.12W	-42.	.086	.449	.198
6/10/77	1927	5:23	390	67.49N	90.23W	-42.	.116	.684	.178
6/10/77	1937	5:33	390	66.83N	93.26W	-41.	.123	.700	.188
6/10/77	1947	5:43	390	66.11N	96.15W	-40.	.108	.661	.168
6/10/77	1957	5:53	390	65.34N	98.90W	-40.	.097	.635	.158
6/10/77	2002	5:58	390	64.93N	100.23W	-40.	.100	.625	.168
6/10/77	2007	6:03	390	64.49N	101.55W	-39.	.114	.704	.16
6/10/77	2012	6:08	409	64.06N	102.77W	-40.	.255	.350	.73
6/10/77	2017	6:13	410	63.61N	104.00W	-41.	.088	.388	.238
6/10/77	2027	6:23	410	62.68N	106.32W	-42.	.056	.384	.158
6/10/77	2042	6:38	410	61.21N	109.56W	-42.	.124	.583	.218
6/10/77	2052	6:48	410	60.18N	111.49W	-44.	.131	.632	.218
6/10/77	2057	6:53	426	59.66N	112.41W	-46.	.193	.490	.39
6/10/77	2102	6:58	429	59.14N	113.29W	-47.	.367	.549	.67
6/10/77	2107	7:03	429	58.61N	114.15W	-47.	.153	.609	.258
6/10/77	2112	7:08	429	58.07N	115.01W	-48.	.117	.654	.188
6/10/77	2127	7:23	429	56.49N	117.30W	-49.	.140	.614	.238
6/10/77	2137	7:33	429	55.41N	118.72W	-50.	.102	.573	.188
6/10/77	2147	7:43	429	54.15N	119.41W	-51.	.076	.204	.378
6/10/77	2157	7:53	429	52.82N	119.81W	-51.	.049	.215	.238
6/10/77	2212	8:08	429	50.84N	120.14W	-51.	.117	.620	.198
6/10/77	2217	8:13	429	50.18N	120.21W	-52.	.196	.597	.33
6/10/77	2227	8:23	429	48.97N	120.86W	-52.	.442	.588	.75

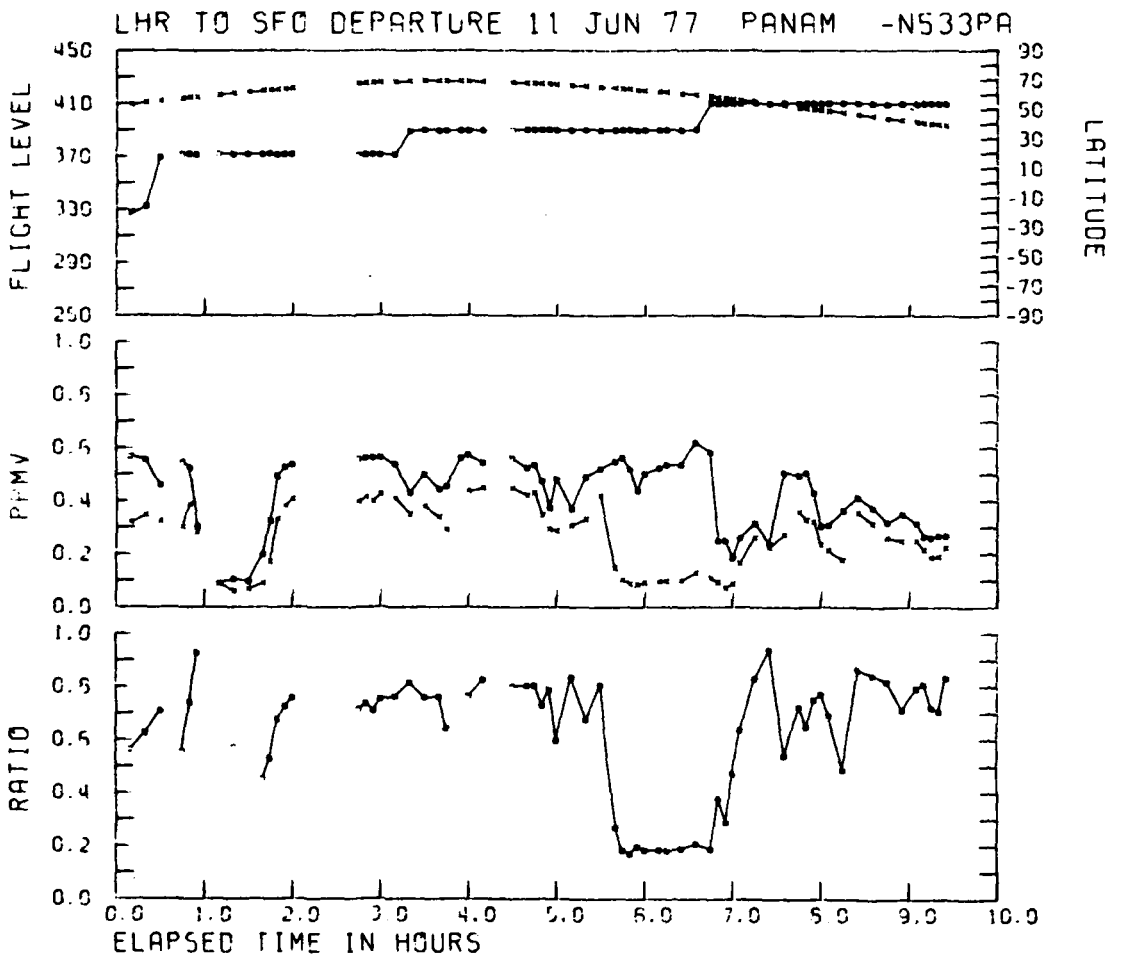

SEA TO LHR DEPARTURE 11 JUN 77 PANAM -N533PA
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
FLIGHT LEVEL
450
410
370
330
290
250
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
5.0
ELAPSED TIME IN HOURS

AIRCRAFT: PANAM -NERSA

MAX MUM VA...EST AMBIENT ... ... TO AMB. OZONE ABOVE 0.1)= .99 TOTAL OBS IN CABIN: 54
AIR ... DATA TAPE ...010. FILE ...

MO/ DA/YR	GMT	ELTM HR:MN	FL	LA	...	... (C)	CABIN	AMB.		MO/ DA/YR	GMT	ELTM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE CABIN	AMB.	RATIO
...	...	...	...	...	...	...	...	...		6/11/77	0544	4:20	410	65.08N	55.93W	-46.	.427	.667	.64
6/11/77	0149	0:20	370	48.93N	117.65W	-61.	.046	.077	
6/11/77	0154	0:25	370	49.35N	116.51W	-60.	.046	.074	
6/11/77	0159	0:30	370	49.88N	115.37W	-59.	.045	.071	
6/11/77	0204	0:35	370	50.42N	114.20W	-59.	.051	.073	
6/11/77	0209	0:40	370	50.94N	113.00W	-58.	.061	.135	.45
6/11/77	0214	0:45	370	51.48N	111.88W	-57.	.150	.258	.58
6/11/77	0219	0:50	370	52.02N	110.79W	-56.	.303	.469	.64
6/11/77	0224	0:55	370	52.42N	111.80W	-59.	.051	.073	
6/11/77	0229	1:00	370	52.94N	110.90W	-59.	.061	.135	.45
6/11/77	0234	1:10	370	53.88N	108.88W	-55.	.150	.258	.58
6/11/77	0249	1:20	390	54.78N	106.79W	-48.	.303	.469	.64
6/11/77	0314	1:45	391	56.34N	101.15W	-45.	.401	.626	.64
6/11/77	0319	1:50	391	57.19N	99.89W	-42.	.432	.627	.69
6/11/77	0324	1:55	391	57.45N	98.50W	-41.	.407	.431	.94
6/11/77	0344	2:15	391	58.99N	93.60W	-40.	.333	.583	.57
6/11/77	0354	2:25	391	59.37N	90.71W	-43.	.419	.648	.65
6/11/77	0404	2:35	391	59.78N	87.73W	-41.	.434	.595	.73
6/11/77	0409	2:40	391	...7N	86.28W	-43.	.387	.502	.77
6/11/77	0414	2:45	390	60.15N	84.76W	-41.	.323	.562	.57
6/11/77	0419	2:50	391	60.32N	83.23W	-42.	.275	.278	.99
6/11/77	0424	2:55	391	60.46N	81.70W	-44.	.162	.304	.53
6/11/77	0429	3:00	390	60.59N	80.15W	-44.	.228	.430	.53
6/11/77	0439	3:10	390	61.51N	77.09W	-45.	.338	.413	.82
6/11/77	0449	3:20	391	62.41N	74.98W	-45.	.262	.355	.74
6/11/77	0459	3:30	391	63.25N	72.89W	-47.	.320	.475	.67
6/11/77	0514	3:45	391	64.20N	69.56W	-51.	.295	.456	.64
6/11/77	0519	3:50	410	64.41N	68.47W	-48.	.292	.606	.48
6/11/77	0524	3:55	410	64.60N	67.31W	-46.	.275	.483	.78
6/11/77	0529	4:00	411	64.77N	66.68W	-49.	.418	.634	.66
6/11/77	0534	4:05	410	64.92N	61.01W	-47.	.358	.487	.73
6/11/77	0539	4:10	411	65.08N	59.93W	-46.	.427	.667	.64
6/11/77	0544	4:15	410	65.08N	58.81W	-45.	.398	.614	.65
6/11/77	0549	4:20	410	65.08N	57.69W	-45.	.453	.614	.74
6/11/77	0554	4:25	410	65.08N	56.57W	-44.	.463	.618	.75
6/11/77	0559	4:30	410	65.08N	55.45W	-44.	.464	.608	.76
6/11/77	0604	4:35	410	65.08N	54.33W	-44.	.464	.622	.75
6/11/77	0609	5:00	410	65.08N	53.20W	-43.	.442	.654	.68
6/11/77	0614	5:05	410	64.85N	52.08W	-44.	.452	.614	.74
6/11/77	0619	5:10	410	64.31N	50.96W	-45.	.440	.587	.75
6/11/77	0624	5:15	410	63.90N	49.84W	-46.	.390	.545	.72
6/11/77	0629	5:20	410	63.66N	48.72W	-47.	.348	.456	.76
6/11/77	0634	5:25	410	63.40N	47.60W	-48.	.329	.429	.77
6/11/77	0639	5:30	410	63.13N	46.48W	-49.	.251	.313	.80
6/11/77	0644	5:35	410	62.84N	45.36W	-51.	.194	.264	.74
6/11/77	0649	5:40	410	62.23N	44.24W	-50.	.201	.275	.73
6/11/77	0654	5:45	410	61.38N	43.12W	-51.	.183	.236	.78
6/11/77	0659	5:50	410	60.84N	42.00W	-52.	.115	.156	.74
6/11/77	0704	5:55	410	60.46N	40.88W	-53.	.151	.191	.79
6/11/77	0709	6:00	410	59.78N	39.76W	-54.	.213	.386	.55
6/11/77	0714	6:05	410	59.39N	38.64W	-55.	.319	.505	.63
6/11/77	0719	6:10	410	59.00N	37.52W	-56.	.377	.437	.86
6/11/77	0724	6:15	410	58.52N	36.40W	-57.	.330	.393	.84
6/11/77	0729	6:20	410	57.55N	35.28W	-58.	.344	.434	.79
6/11/77	0734	6:25	410	56.66N	34.16W	-59.	.334	.426	.78
6/11/77	0739	6:30	410	55.65N	33.04W	-60.	.330	.427	.77

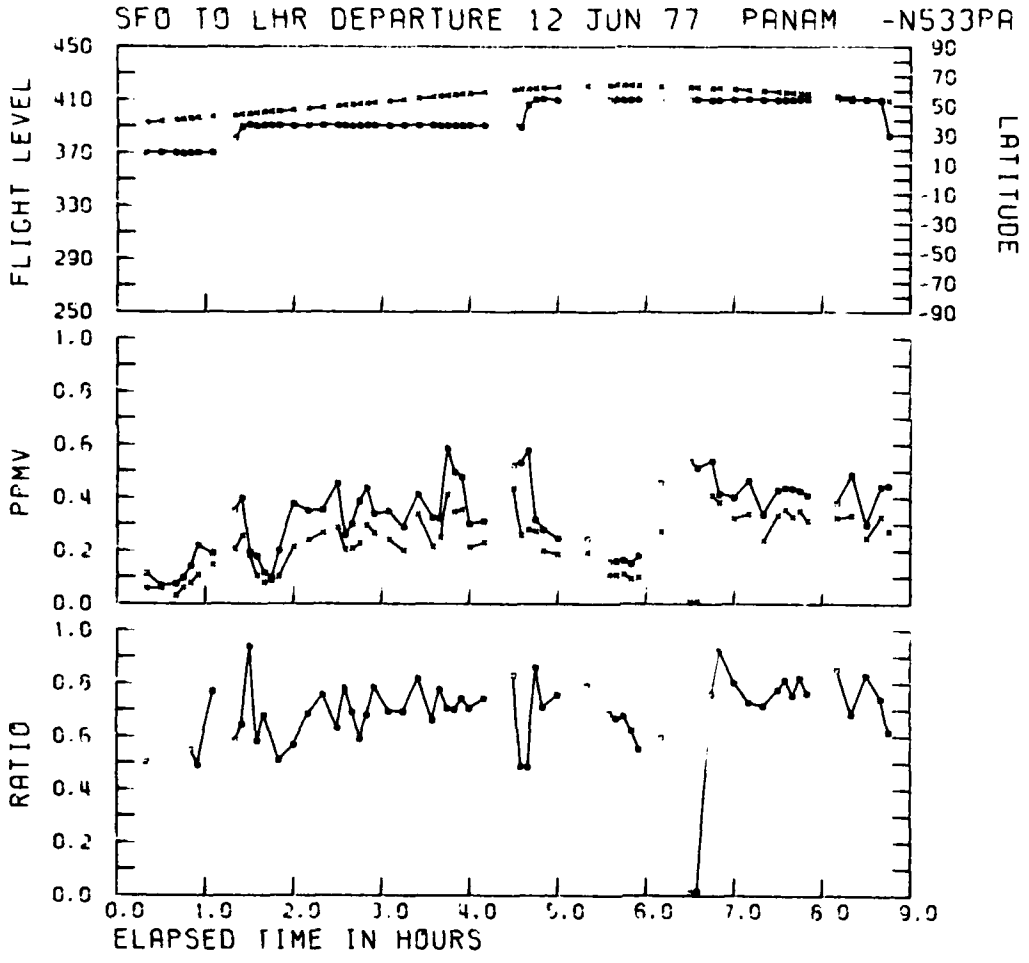
A-21


LHR TO SFO DEPARTURE 11 JUN 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PrMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
ELAPSED TIME IN HOURS

LHR TO SFO (PAGE 1 OF 1) DEPARTURE: 11 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .619 CABIN OZONE= .449 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .94 TOTAL OBS IN CABIN: 66
DATA SOURCE: GASP TAPE VL010, FILE 4

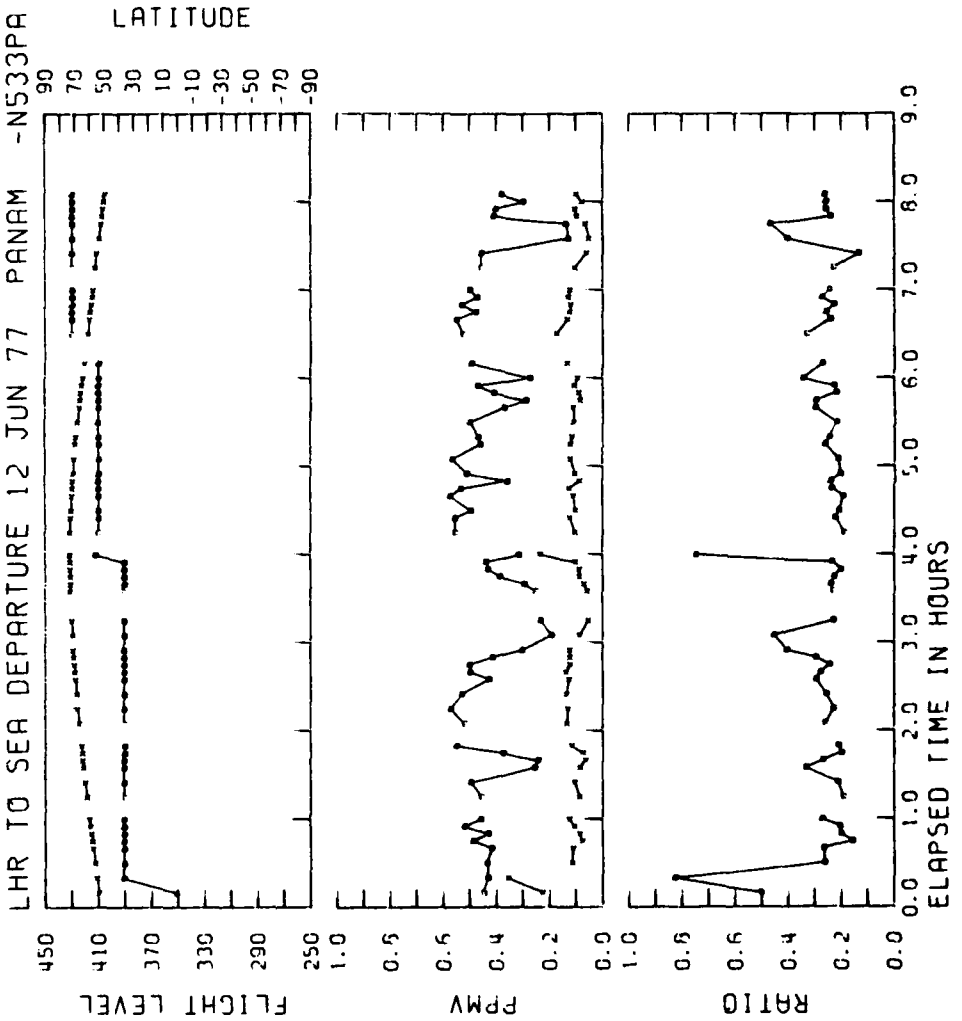
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/11/77	1355	0:10	327	53.34N	2.13W	-42.	.320	.568	.56
6/11/77	1405	0:20	332	54.65N	3.27W	-40.	.346	.554	.62
6/11/77	1415	0:30	369	55.86N	4.60W	-43.	.325	.459	.71
6/11/77	1430	0:45	371	57.42N	7.27W	-46.	.301	.544	.55
6/11/77	1435	0:50	372	57.94N	8.14W	-49.	.388	.525	.74
6/11/77	1440	0:55	372	58.47N	9.04W	-51.	.282	.304	.93
6/11/77	1455	1:10	372	59.92N	11.83W	-58.	.089	.089	
6/11/77	1505	1:20	371	60.88N	13.89W	-56.	.060	.105	.57
6/11/77	1515	1:30	372	61.75N	16.02W	-55.	.068	.096	
6/11/77	1525	1:40	371	62.61N	18.32W	-54.	.089	.197	.45
6/11/77	1530	1:45	372	63.01N	19.51W	-54.	.171	.324	.53
6/11/77	1535	1:50	371	63.42N	20.76W	-48.	.332	.492	.67
6/11/77	1540	1:55	372	63.82N	22.04W	-48.	.383	.528	.73
6/11/77	1545	2:00	372	64.21N	23.32W	-46.	.407	.537	.76
6/11/77	1630	2:45	371	67.38N	36.33W	-44.	.398	.557	.71
6/11/77	1635	2:50	371	67.67N	37.96W	-44.	.414	.562	.74
6/11/77	1640	2:55	371	67.94N	39.62W	-43.	.399	.563	.71
6/11/77	1645	3:00	371	68.17N	41.34W	-42.	.425	.564	.75
6/11/77	1655	3:10	371	68.57N	44.83W	-45.	.410	.538	.76
6/11/77	1705	3:20	389	68.88N	48.41W	-45.	.349	.429	.81
6/11/77	1715	3:30	390	69.15N	52.01W	-46.	.378	.499	.76
6/11/77	1725	3:40	389	69.18N	55.70W	-46.	.338	.444	.76
6/11/77	1730	3:45	389	69.12N	57.54W	-46.	.292	.455	.64
6/11/77	1740	3:55	389	68.91N	61.16W	-44.		.561	
6/11/77	1745	4:00	389	68.79N	62.95W	-45.	.438	.573	.76
6/11/77	1755	4:10	389	68.51N	66.43W	-42.	.448	.543	.83
6/11/77	1815	4:30	390	68.09N	73.54W	-40.	.449	.561	.80
6/11/77	1825	4:40	390	67.78N	77.05W	-38.	.421	.524	.80
6/11/77	1830	4:45	390	67.59N	78.81W	-38.	.430	.536	.80
6/11/77	1835	4:50	390	67.39N	80.45W	-38.	.346	.475	.73
6/11/77	1840	4:55	390	67.17N	82.12W	-38.	.294	.373	.79
6/11/77	1845	5:00	390	66.93N	83.79W	-38.	.287	.481	.60
6/11/77	1855	5:10	390	66.38N	87.05W	-38.	.309	.370	.84
6/11/77	1905	5:20	390	65.77N	90.13W	-38.	.331	.490	.68
6/11/77	1915	5:30	390	65.10N	93.08W	-40.	.420	.521	.81
6/11/77	1925	5:40	390	64.38N	95.89W	-41.	.147	.534	.278
6/11/77	1930	5:45	390	63.97N	97.19W	-42.	.102	.562	.188
6/11/77	1935	5:50	390	63.56N	98.44W	-42.	.089	.520	.178
6/11/77	1940	5:55	390	63.13N	99.65W	-43.	.086	.439	.208
6/11/77	1945	6:00	390	62.71N	100.86W	-44.	.092	.502	.188
6/11/77	1955	6:10	390	61.86N	103.18W	-44.	.096	.523	.188
6/11/77	2000	6:15	390	61.43N	104.29W	-44.	.097	.535	.188
6/11/77	2010	6:25	390	60.53N	106.41W	-45.	.101	.536	.198
6/11/77	2020	6:35	390	59.63N	108.36W	-46.	.128	.619	.218
6/11/77	2030	6:45	410	58.45N	109.66W	-47.	.109	.582	.198
6/11/77	2035	6:50	410	57.84N	110.26W	-49.	.094	.245	.388
6/11/77	2040	6:55	410	57.25N	110.80W	-49.	.072	.250	.298
6/11/77	2045	7:00	410	56.66N	111.33W	-49.	.087	.185	.47
6/11/77	2050	7:05	410	56.03N	111.82W	-50.	.166	.261	.64
6/11/77	2100	7:15	410	54.84N	112.71W	-48.	.261	.315	.83
6/11/77	2110	7:25	410	53.63N	113.56W	-50.	.225	.240	.94
6/11/77	2120	7:35	410	52.41N	114.37W	-51.	.271	.504	.54
6/11/77	2130	7:45	410	51.20N	115.12W	-53.	.358	.496	.72
6/11/77	2135	7:50	410	50.60N	115.48W	-51.	.328	.506	.65
6/11/77	2140	7:55	410	49.99N	115.84W	-52.	.322	.430	.75
6/11/77	2145	8:00	410	49.39N	116.22W	-54.	.235	.305	.77
6/11/77	2150	8:05	410	48.82N	116.67W	-53.	.213	.307	.69
6/11/77	2200	8:15	410	47.67N	117.54W	-51.	.177	.364	.49
6/11/77	2210	8:25	410	46.52N	118.38W	-52.	.356	.413	.86
6/11/77	2222	8:37	410	45.02N	119.36W	-52.	.314	.373	.84
6/11/77	2232	8:47	409	43.81N	120.12W	-53.	.261	.319	.82
6/11/77	2242	8:57	410	42.60N	120.83W	-55.	.249	.350	.71
6/11/77	2252	9:07	410	41.41N	121.51W	-59.	.251	.316	.79
6/11/77	2257	9:12	410	40.82N	121.82W	-60.	.216	.267	.81
6/11/77	2302	9:17	410	40.20N	122.02W	-61.	.188	.261	.72
6/11/77	2307	9:22	410	39.64N	122.37W	-61.	.190	.269	.71
6/11/77	2312	9:27	410	39.01N	122.51W	-62.	.224	.269	.83


SFO TO LHR DEPARTURE 12 JUN 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
ELAPSED TIME IN HOURS

SFO TO LHR (PAGE 1 OF 1) DEPARTURE: 12 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .584 CABIN OZONE= .435 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .94 TOTAL OBS IN CABIN: 63
DATA SOURCE: GASP TAPE VL010, FILE 4 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

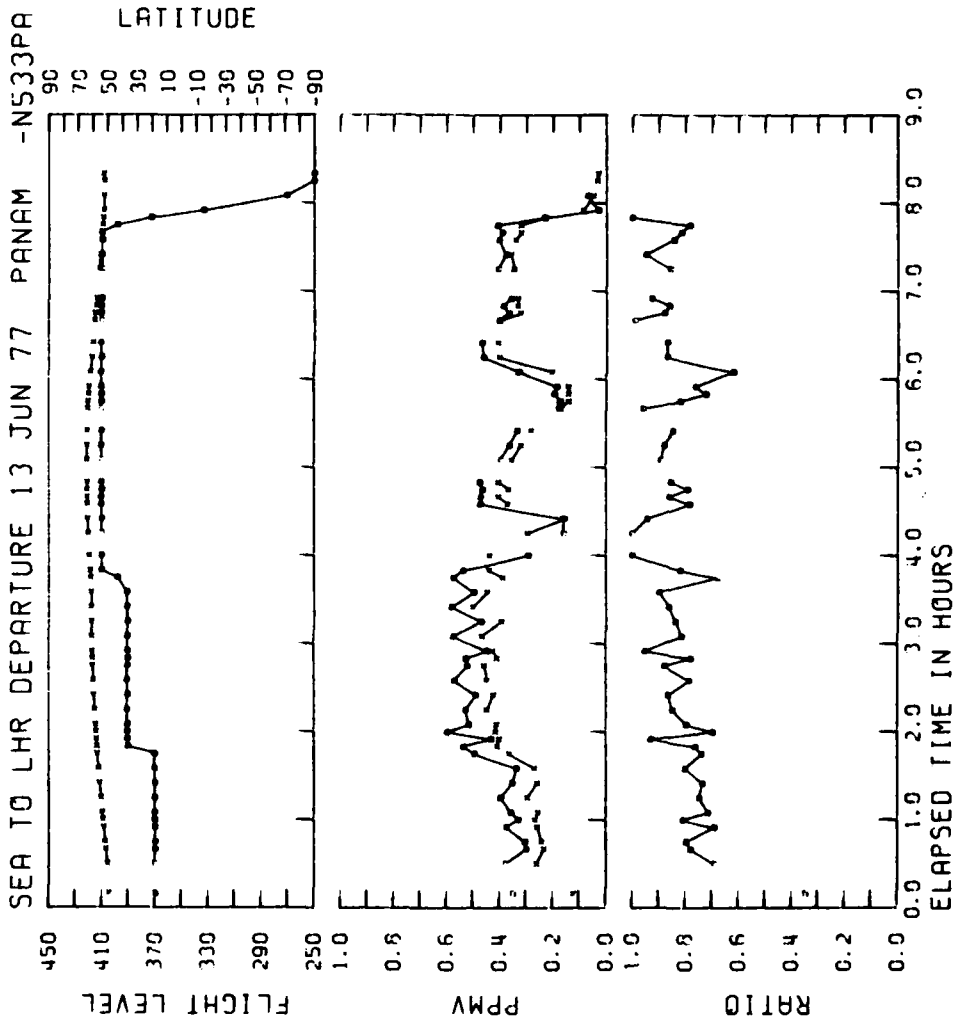
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/12/77	0411	0:20	370	38.58N	118.01W	-58.	.058	.115	.50
6/12/77	0421	0:30	370	39.54N	116.64W	-58.	.059	.068	
6/12/77	0431	0:40	370	40.47N	115.24W	-59.	.031	.075	
6/12/77	0436	0:45	370	40.93N	114.52W	-58.	.061	.098	
6/12/77	0441	0:50	370	41.39N	113.79W	-58.	.078	.142	.55
6/12/77	0446	0:55	370	41.84N	113.05W	-57.	.108	.220	.49
6/12/77	0456	1:05	370	42.53N	111.46W	-58.	.147	.191	.77
6/12/77	0511	1:20	381	43.35N	108.86W	-57.	.206	.352	.59
6/12/77	0518A	1:27	390	43.99N	107.73W	-56.	.256	.397	.64
6/12/77	0523	1:32	391	44.44N	106.90W	-59.	.183	.195	.94
6/12/77	0528	1:37	390	44.90N	106.03W	-59.	.104	.179	.58
6/12/77	0533	1:42	391	45.35N	105.16W	-60.	.080	.118	.68
6/12/77	0538	1:47	391	45.80N	104.25W	-61.	.085	.097	
6/12/77	0543	1:52	391	46.25N	103.30W	-58.	.102	.200	.51
6/12/77	0553	2:02	390	47.14N	101.36W	-55.	.214	.377	.57
6/12/77	0603	2:12	391	47.94N	99.48W	-55.	.240	.351	.68
6/12/77	0613	2:22	391	48.69N	97.58W	-51.	.267	.353	.76
6/12/77	0623	2:32	391	49.64N	95.98W	-52.	.286	.453	.63
6/12/77	0628	2:37	391	50.15N	95.21W	-53.	.202	.259	.78
6/12/77	0633	2:42	390	50.66N	94.41W	-52.	.208	.301	.69
6/12/77	0638	2:47	391	51.16N	93.59W	-52.	.227	.385	.59
6/12/77	0643	2:52	391	51.63N	92.73W	-53.	.296	.436	.68
6/12/77	0648	2:57	391	52.09N	91.85W	-53.	.266	.339	.78
6/12/77	0658	3:07	390	53.02N	89.99W	-52.	.242	.349	.69
6/12/77	0708	3:17	391	54.02N	88.21W	-50.	.200	.289	.69
6/12/77	0718	3:27	391	54.99N	86.35W	-46.	.337	.412	.82
6/12/77	0728	3:37	391	55.95N	84.36W	-42.	.214	.324	.66
6/12/77	0733	3:42	390	56.43N	83.32W	-42.	.250	.322	.78
6/12/77	0738	3:47	391	56.89N	82.24W	-43.	.412	.584	.71
6/12/77	0743	3:52	390	57.35N	81.13W	-42.	.347	.496	.70
6/12/77	0748	3:57	391	57.80N	80.00W	-41.	.355	.478	.74
6/12/77	0553	4:02	391	58.24N	78.84W	-41.	.213	.302	.71
6/12/77	0603	4:12	391	59.07N	76.45W	-39.	.231	.311	.74
6/12/77	0623	4:32	391	60.63N	71.24W	-40.	.435	.523	.83
6/12/77	0628	4:37	389	61.00N	69.83W	-43.	.258	.530	.49
6/12/77	0633	4:42	406	61.36N	68.35W	-40.	.280	.578	.48
6/12/77	0638	4:47	410	61.69N	66.91W	-42.	.272	.317	.86
6/12/77	0643	4:52	411	62.01N	65.43W	-43.	.199	.280	.71
6/12/77	0653	5:02	410	62.60N	62.36W	-46.	.187	.247	.76
6/12/77	0713	5:22	410	63.50N	55.95W	-49.	.193	.244	.79
6/12/77	0728	5:37	410	63.93N	51.05W	-53.	.110	.160	.69
6/12/77	0733	5:42	410	63.98N	49.34W	-52.	.109	.163	.67
6/12/77	0738	5:47	410	63.85N	47.63W	-54.	.111	.164	.68
6/12/77	0743	5:52	410	63.70N	46.00W	-54.	.094	.151	.62
6/12/77	0748	5:57	410	63.54N	44.35W	-52.	.100	.181	.55
6/12/77	0803	6:12	410	62.98N	39.67W	-53.	.272	.456	.60
6/12/77	0823	6:32	410	62.44N	33.48W	-48.	.007	.538	.01
6/12/77	0828	6:37	410	62.26N	32.00W	-48.	.009	.512	.02
6/12/77	0838	6:47	410	61.85N	29.03W	-47.	.409	.538	.76
6/12/77	0843	6:52	410	61.61N	27.63W	-47.	.382	.414	.92
6/12/77	0853	7:02	410	61.10N	24.88W	-47.	.322	.401	.80
6/12/77	0903	7:12	410	60.53N	22.22W	-48.	.338	.464	.73
6/12/77	0913	7:22	410	59.94N	19.75W	-49.	.240	.336	.71
6/12/77	0923	7:32	410	59.31N	1 .30W	-49.	.333	.429	.78
6/12/77	0928	7:37	410	58.98N	16.10W	-49.	.355	.437	.81
6/12/77	0933	7:42	410	58.64N	14.94W	-47.	.328	.435	.75
6/12/77	0938	7:47	410	58.30N	13.82W	-48.	.351	.427	.82
6/12/77	0943	7:52	410	57.95N	12.74W	-46.	.313	.410	.76
6/12/77	1003	8:12	410	56.31N	8.77W	-46.	.324	.380	.85
6/12/77	1013	8:22	410	55.29N	7.09W	-44.	.332	.486	.68
6/12/77	1023	8:32	410	54.37N	5.35W	-44.	.247	.298	.83
6/12/77	1033	8:42	410	53.60N	3.46W	-47.	.327	.441	.74
6/12/77	1038	8:47	383	53.14N	2.63W	-46.	.274	.445	.62


LHR TO SEA DEPARTURE 12 JUN 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0
ELAPSED TIME IN HOURS

LHR TO SEA (PAGE 1 OF 1) DEPARTURE: 12 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .572 CABIN OZONE= .353 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .82 TOTAL OBS IN CABIN: 61
DATA SOURCE: GASP TAPE VL010, FILE 4

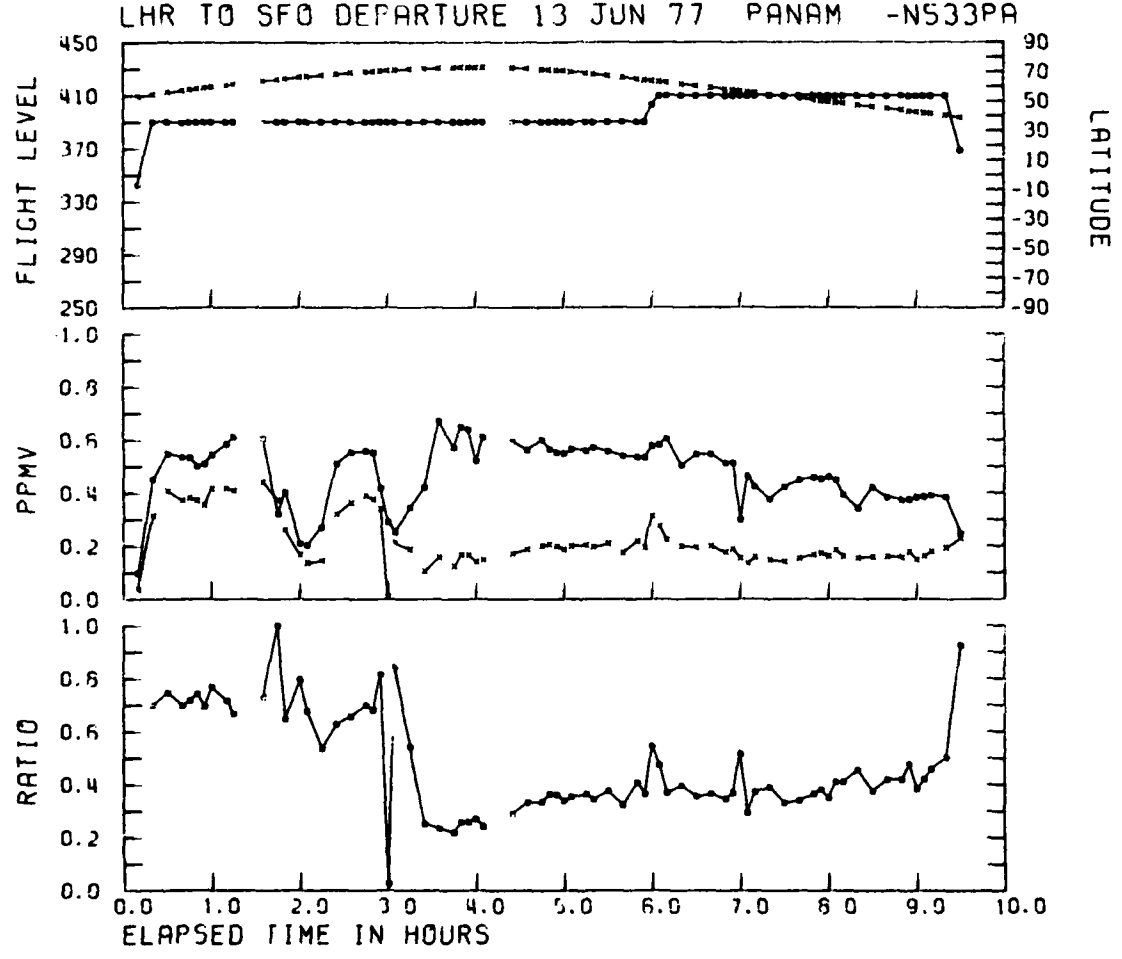
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/12/77	1401	0:10	351	53.48N	1.81W	-49.	.224	.447	.50
6/12/77	1411	0:20	390	54.80N	2.82W	-44.	.353	.429	.82
6/12/77	1421	0:30	390	56.10N	3.92W	-44.	.114	.435	.26B
6/12/77	1431	0:40	390	57.35N	5.21W	-44.	.110	.416	.26B
6/12/77	1436	0:45	390	57.97N	5.89W	-43.	.076	.486	.16B
6/12/77	1441	0:50	390	58.58N	6.63W	-43.	.085	.428	.20B
6/12/77	1446	0:55	390	59.18N	7.39W	-45.	.105	.518	.20B
6/12/77	1451	1:00	390	59.76N	8.19W	-44.	.124	.456	.27B
6/12/77	1506	1:15	390	61.50N	10.67W	-46.	.067	.456	.19B
6/12/77	1516	1:25	390	62.63N	12.35W	-47.	.104	.495	.21B
6/12/77	1526	1:35	390	63.76N	14.18W	-49.	.084	.254	.33B
6/12/77	1531	1:40	390	64.30N	15.15W	-48.	.065	.241	.27B
6/12/77	1536	1:45	390	64.86N	16.16W	-47.	.074	.373	.20B
6/12/77	1541	1:50	390	65.38N	17.18W	-46.	.115	.549	.21B
6/12/77	1556	2:05	390	66.82N	20.80W	-45.	.134	.518	.26B
6/12/77	1606	2:15	390	67.73N	23.47W	-44.	.130	.570	.23B
6/12/77	1616	2:25	390	68.57N	26.30W	-44.	.136	.531	.26B
6/12/77	1626	2:35	390	69.37N	29.34W	-46.	.125	.426	.29B
6/12/77	1631	2:40	390	69.72N	30.89W	-46.	.137	.497	.28B
6/12/77	1636	2:45	390	70.05N	32.53W	-48.	.121	.500	.24B
6/12/77	1641	2:50	390	70.37N	34.19W	-48.	.121	.412	.29B
6/12/77	1646	2:55	390	70.67N	35.89W	-48.	.122	.301	.41B
6/12/77	1656	3:05	390	71.20N	39.36W	-45.	.087	.192	.45B
6/12/77	1706	3:15	390	71.71N	43.12W	-43.	.053	.232	.23B
6/12/77	1726	3:35	390	72.53N	51.38W	-40.	.058	.251	.23B
6/12/77	1731	3:40	390	72.68N	53.62W	-40.	.070	.293	.24B
6/12/77	1736	3:45	390	72.81N	55.95W	-40.	.087	.385	.23B
6/12/77	1741	3:50	390	72.91N	58.34W	-39.	.086	.430	.20B
6/12/77	1746	3:55	390	72.99N	60.74W	-38.	.102	.438	23B
6/12/77	1755	4:04	412	73.06N	65.44W	-39.	.233	.313	.74
6/12/77	1806	4:15	410	73.01N	70.29W	-39.	.105	.554	.19B
6/12/77	1816	4:25	410	72.66N	74.94W	-40.	.123	.554	.22B
6/12/77	1825	4:34	410	72.21N	79.37W	-40.	.102	.494	.21B
6/12/77	1835	4:44	409	71.66N	83.59W	-41.	.109	.572	.19B
6/12/77	1840	4:49	410	71.35N	85.61W	-41.	.124	.531	.23B
6/12/77	1845	4:54	410	71.02N	87.57W	-43.	.085	.356	.24B
6/12/77	1850	4:59	409	70.67N	89.48W	-42.	.104	.509	.20B
6/12/77	1856	5:05	409	70.30N	91.36W	-43.	.120	.564	.21B
6/12/77	1906	5:15	409	69.51N	94.83W	-44.	.120	.45B	.26B
6/12/77	1915	5:24	409	68.86N	97.98W	-44.	.114	.466	.24B
6/12/77	1925	5:34	410	67.58N	100.39W	-45.	.109	.499	.22B
6/12/77	1935	5:44	409	66.47N	102.60W	-47.	.110	.370	.30B
6/12/77	1940	5:49	409	65.90N	103.64W	-46.	.085	.288	.30B
6/12/77	1945	5:54	410	65.33N	104.64W	-46.	.089	.408	.22B
6/12/77	1950	5:59	410	64.74N	105.59W	-46.	.106	.469	.23B
6/12/77	1955	6:04	409	64.16N	106.50W	-46.	.093	.272	.34B
6/12/77	2005	6:14	409	62.99N	108.20W	-46.	.134	.493	.27B
6/12/77	2025	6:34	429	60.60N	111.22W	-47.	.172	.523	.33B
6/12/77	2035	6:44	429	59.50N	112.80W	-46.	.131	.548	.24B
6/12/77	2040	6:49	430	58.98N	113.68W	-48.	.122	.475	.26B
6/12/77	2045	6:54	429	58.46N	114.52W	-48.	.120	.530	.23B
6/12/77	2050	6:59	429	57.93N	115.33W	-48.	.129	.472	.27B
6/12/77	2055	7:04	429	57.40N	116.11W	-49.	.122	.499	.24B
6/12/77	2110	7:19	429	55.79N	118.32W	-50.	.104	.455	.23B
6/12/77	2120	7:29	429	54.60N	119.22W	-49.	.061	.455	.13B
6/12/77	2130	7:39	430	53.27N	119.55W	-49.	.052	.129	.40B
6/12/77	2140	7:49	429	51.93N	119.87W	-50.	.064	.137	.47B
6/12/77	2145	7:54	430	51.25N	120.02W	-50.	.097	.408	.24B
6/12/77	2150	7:59	429	50.57N	120.17W	-51.	.103	.401	.26B
6/12/77	2155	8:04	429	49.90N	120.31W	-50.	.076	.296	.26B
6/12/77	2200	8:09	430	49.26N	120.54W	-50.	.100	.380	.26


SEA TO LHR DEPARTURE 13 JUN 77 PANAM -N533PA
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
FLIGHT LEVEL
450
410
370
330
290
250
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
ELAPSED TIME IN HOURS

SEA TO LHR (PAGE 1 OF 1) DEPARTURE: 13 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .595 CABIN OZONE= .500 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.86 TOTAL OBS IN CABIN: 58
DATA SOURCE: GASP TAPE VL010, FILE 4 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

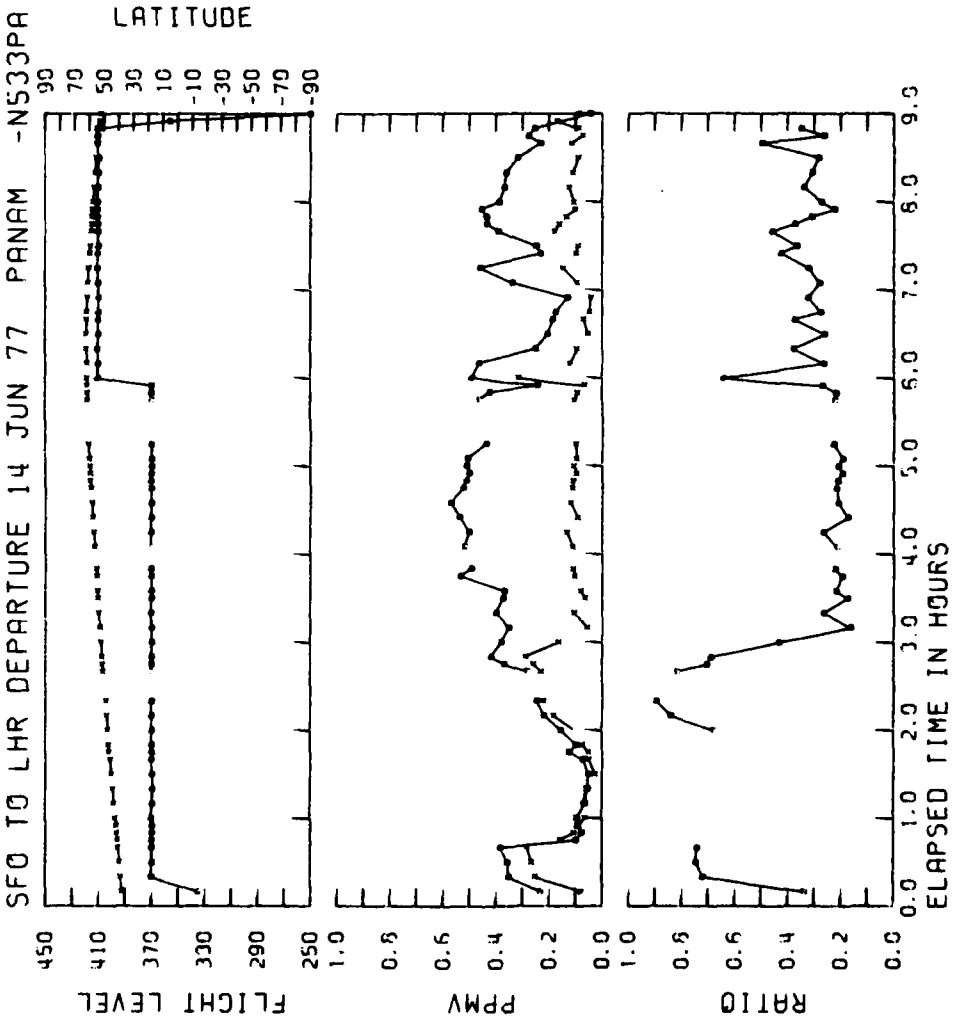
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
6/13/77	0132	0:10	369	48.65N	119.05W	-57.	.120	.348	.34
6/13/77	0152	0:30	370	50.13N	115.25W	-54.	.261	.378	.69
6/13/77	0202	0:40	370	51.20N	113.74W	-55.	.233	.299	.78
6/13/77	0207	0:45	370	51.69N	112.87W	-55.	.242	.304	.80
6/13/77	0217	0:55	370	52.63N	111.09W	-53.	.258	.374	.69
6/13/77	0222	1:00	370	53.09N	110.18W	-54.	.266	.329	.81
6/13/77	0227	1:05	370	53.54N	109.25W	-54.	.255	.357	.71
6/13/77	0237	1:15	370	54.44N	107.29W	-54.	.295	.395	.75
6/13/77	0247	1:25	370	55.29N	105.29W	-54.	.258	.351	.74
6/13/77	0257	1:35	370	56.12N	103.17W	-50.	.269	.336	.80
6/13/77	0307	1:45	370	56.90N	100.94W	-50.	.364	.493	.74
6/13/77	0312	1:50	390	57.24N	99.75W	-46.	.409	.536	.76
6/13/77	0317	1:55	391	57.58N	98.54W	-47.	.401	.432	.93
6/13/77	0322	2:00	391	57.91N	97.31W	-45.	.415	.595	.70
6/13/77	0327	2:05	391	58.22N	96.07W	-45.	.411	.516	.80
6/13/77	0337	2:15	391	58.80N	93.54W	-44.	.448	.528	.85
6/13/77	0347	2:25	391	59.31N	90.84W	-43.	.423	.489	.87
6/13/77	0357	2:35	391	59.74N	88.05W	-43.	.448	.570	.79
6/13/77	0407	2:45	391	60.10N	85.25W	-42.	.458	.521	.88
6/13/77	0412	2:50	390	60.26N	83.80W	-42.	.410	.526	.78
6/13/77	0417	2:55	390	60.41N	82.29W	-42.	.425	.447	.95
6/13/77	0427	3:05	391	60.65N	79.39W	-42.	.466	.573	.81
6/13/77	0437	3:15	391	60.84N	76.39W	-41.	.393	.469	.84
6/13/77	0447	3:25	391	60.97N	73.41W	-41.	.500	.580	.86
6/13/77	0457	3:35	391	61.03N	70.38W	-41.	.446	.496	.90
6/13/77	0507	3:45	398	61.59N	67.53W	-40.	.389	.573	.68
6/13/77	0512	3:50	410	61.89N	66.13W	-40.	.440	.537	.82
6/13/77	0522	4:00	410	62.47N	63.20W	-41.	.438	.292	1.50
6/13/77	0537	4:15	410	63.20N	58.52W	-43.	.296	.159	1.86
6/13/77	0547	4:25	410	63.57N	55.22W	-45.	.152	.161	.94
6/13/77	0557	4:35	410	63.86N	51.99W	-47.	.370	.472	.78
6/13/77	0602	4:40	410	63.97N	50.40W	-47.	.405	.471	.86
6/13/77	0607	4:45	410	64.04N	48.70W	-48.	.367	.464	.79
6/13/77	0612	4:50	410	64.07N	46.99W	-50.	.405	.474	.85
6/13/77	0627	5:05	410	64.05N	41.93W	-49.	.355	.398	.89
6/13/77	0637	5:15	410	63.90N	38.58W	-50.	.319	.363	.88
6/13/77	0647	5:25	410	63.68N	35.30W	-52.	.281	.332	.85
6/13/77	0702	5:40	410	63.39N	30.62W	-50.	.169	.176	.96
6/13/77	0707	5:45	410	63.01N	29.24W	-51.	.141	.172	.82
6/13/77	0712	5:50	410	62.64N	27.86W	-50.	.141	.195	.72
6/13/77	0717	5:55	410	62.25N	26.53W	-51.	.141	.185	.76
6/13/77	0727	6:05	410	61.46N	24.03W	-50.	.205	.330	.62
6/13/77	0737	6:15	410	60.63N	21.66W	-48.	.403	.463	.87
6/13/77	0747	6:25	411	59.80N	19.38W	-47.	.408	.469	.87
6/13/77	0802	6:40	410	58.60N	16.00W	-47.	.402	.405	.99
6/13/77	0807	6:45	410	58.18N	14.92W	-46.	.323	.367	.88
6/13/77	0812	6:50	410	57.75N	13.87W	-46.	.334	.388	.86
6/13/77	0817	6:55	410	57.32N	12.86W	-46.	.333	.359	.93
6/13/77	0837	7:15	410	55.63N	8.93W	-46.	.349	.407	.86
6/13/77	0847	7:25	410	54.93N	6.83W	-47.	.359	.378	.95
6/13/77	0857	7:35	410	54.23N	4.79W	-49.	.341	.404	.84
6/13/77	0902	7:40	410	53.82N	3.87W	-49.	.320	.392	.82
6/13/77	0907	7:45	398	53.43N	2.99W	-51.	.321	.409	.78
6/13/77	0912	7:50	373	52.98N	2.23W	-55.	.230	[illegible]	1.00
6/13/77	0917	7:55	333	52.57N	1.56W	-53.	.087	.025	
6/13/77	0927	8:05	271	52.44N	1.45W	-36.	.048	.070	
6/13/77	0937	8:15	231	52.39N	1.31W	-26.	.033		
6/13/77	0942A	8:20	211	52.56N	1.51W	-21.	.029		


LHR TO SFO DEPARTURE 13 JUN 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
ELAPSED TIME IN HOURS

LHR TO SFO (PAGE 1 OF 1) DEPARTURE: 13 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .671 CABIN OZONE= .442 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.16 TOTAL OBS IN CABIN: 73
DATA SOURCE: GASP TAPE VL010, FILE 4

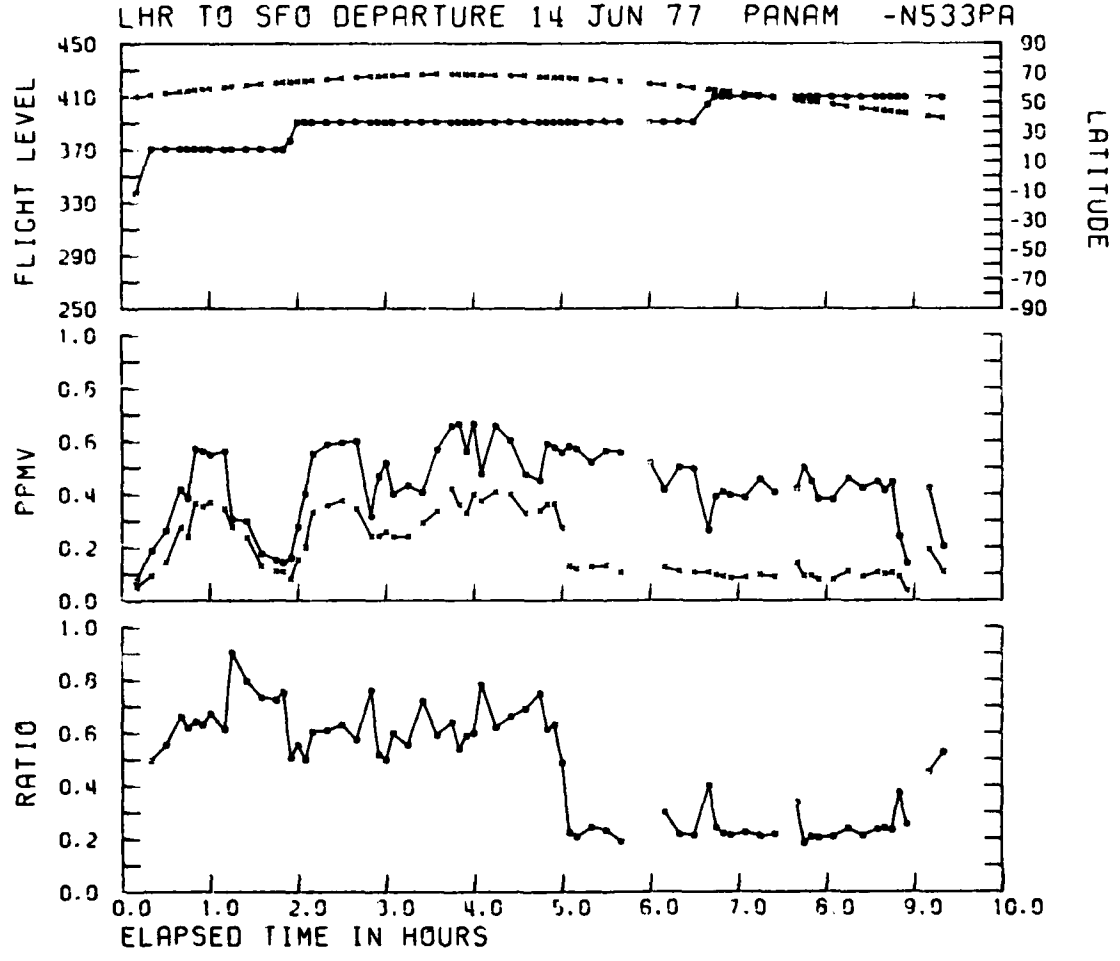
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/13/77	1315	0:10	343	53.54N	2.09W	-54.	.037	.098	
6/13/77	1325	0:20	390	54.88N	2.93W	-54.	.315	.450	.70
6/13/77	1335	0:30	390	56.19N	4.01W	-48.	.408	.547	.75
6/13/77	1345	0:40	390	57.43N	5.30W	-47.	.373	.535	.70
6/13/77	1350	0:45	390	58.05N	5.99W	-46.	.383	.534	.72
6/13/77	1355	0:50	390	58.67N	6.75W	-46.	.372	.502	.74
6/13/77	1400	0:55	390	59.27N	7.53W	-46.	.354	.510	.69
6/13/77	1405	1:00	390	59.86N	8.34W	-46.	.417	.543	.77
6/13/77	1415	1:10	390	60.99N	9.98W	-47.	.418	.584	.72
6/13/77	1420	1:15	390	61.56N	10.78W	-47.	.408	.612	.67
6/13/77	1440	1:35	390	63.81N	14.28W	-46.	.442	.606	.73
6/13/77	1450	1:45	390	64.88N	16.23W	-47.	.372	.321	1.16
6/13/77	1455	1:50	390	65.41N	17.25W	-48.	.261	.404	.65
6/13/77	1505	2:00	390	66.36N	19.56W	-47.	.167	.210	.80
6/13/77	1510	2:05	390	66.80N	20.78W	-47.	.138	.204	.68
6/13/77	1520	2:15	390	67.66N	23.30W	-46.	.145	.271	.54
6/13/77	1530	2:25	390	68.50N	26.10W	-47.	.320	.510	.63
6/13/77	1540	2:35	390	69.30N	29.12W	-45.	.363	.553	.66
6/13/77	1550	2:45	390	70.01N	32.35W	-44.	.390	.558	.70
6/13/77	1555	2:50	390	70.32N	34.00W	-45.	.375	.552	.68
6/13/77	1600	2:55	390	70.64N	35.77W	-42.	.341	.418	.82
6/13/77	1605	3:00	390	70.93N	37.56W	-41.	.008	.292	.03
6/13/77	1610	3:05	390	71.21N	39.48W	-41.	.213	.253	.84
6/13/77	1620	3:15	390	71.74N	43.34W	-40.	.187	.345	.548
6/13/77	1630	3:25	390	72.20N	47.56W	-40.	.106	.421	.258
6/13/77	1640	3:35	390	72.56N	51.92W	-37.	.158	.671	.248
6/13/77	1650	3:45	390	72.82N	56.49W	-36.	.125	.572	.228
6/13/77	1655	3:50	390	72.92N	58.85W	-38.	.168	.649	.268
6/13/77	1700	3:55	390	72.99N	61.23W	-37.	.166	.640	.268
6/13/77	1705	4:00	390	73.03N	63.62W	-38.	.141	.522	.278
6/13/77	1710	4:05	390	73.05N	66.03W	-39.	.149	.611	.248
6/13/77	1730	4:25	390	72.61N	75.45W	-40.	.172	.594	.298
6/13/77	1740	4:35	390	72.15N	79.84W	-43.	.187	.562	.338
6/13/77	1750	4:45	390	71.60N	84.00W	-42.	.202	.601	.348
6/13/77	1755	4:50	390	71.29N	85.99W	-43.	.206	.566	.368
6/13/77	1800	4:55	390	70.96N	87.92W	-45.	.200	.553	.368
6/13/77	1805	5:00	390	70.60N	89.79W	-45.	.187	.550	.348
6/13/77	1810	5:05	390	70.07N	91.17W	-44.	.201	.566	.368
6/13/77	1820	5:15	390	68.93N	93.62W	-46.	.204	.560	.368
6/13/77	1825	5:20	390	68.34N	94.75W	-46.	.197	.572	.348
6/13/77	1835	5:30	390	67.15N	96.85W	-45.	.209	.557	.388
6/13/77	1845	5:40	390	65.94N	98.74W	-46.	.174	.539	.328
6/13/77	1855	5:50	390	64.75N	100.58W	-47.	.218	.536	.418
6/13/77	1900	5:55	390	64.21N	101.59W	-49.	.195	.535	.368
6/13/77	1905	6:00	403	63.66N	102.56W	-46.	.314	.578	.54
6/13/77	1910	6:05	410	63.11N	103.50W	-47.	.276	.582	.478
6/13/77	1915	6:10	410	62.55N	104.39W	-46.	.223	.605	.378
6/13/77	1925	6:20	410	61.44N	106.08W	-46.	.199	.504	.398
6/13/77	1935	6:30	410	60.29N	107.66W	-48.	.194	.546	.368
6/13/77	1945	6:40	410	59.13N	109.05W	-50.	.199	.546	.368
6/13/77	1955	6:50	410	57.94N	110.23W	-50.	.177	.513	.358
6/13/77	2000	6:55	410	57.35N	110.79W	-48.	.189	.513	.378
6/13/77	2005	7:00	410	56.75N	111.33W	-49.	.155	.300	.528
6/13/77	2010	7:05	410	56.14N	111.82W	-49.	.136	.463	.298
6/13/77	2015	7:10	410	55.53N	112.28W	-49.	.158	.424	.378
6/13/77	2025	7:20	410	54.31N	113.17W	-49.	.147	.377	.398
6/13/77	2035	7:30	410	53.09N	114.00W	-51.	.140	.422	.338
6/13/77	2045	7:40	410	51.90N	114.77W	-51.	.153	.449	.348
6/13/77	2055	7:50	410	50.72N	115.49W	-51.	.168	.459	.378
6/13/77	2100	7:55	410	50.10N	115.85W	-50.	.173	.453	.388
6/13/77	2105	8:00	410	49.51N	116.20W	-51.	.162	.461	.358
6/13/77	2110	8:05	409	48.96N	116.65W	-51.	.185	.450	.418
6/13/77	2115	8:10	410	48.40N	117.08W	-54.	.162	.394	.418
6/13/77	2125	8:20	410	47.25N	117.92W	-54.	.156	.342	.468
6/13/77	2135	8:30	410	46.09N	118.72W	-51.	.158	.421	.388
6/13/77	2145	8:40	410	44.96N	119.46W	-53.	.161	.384	.428
6/13/77	2155	8:50	410	43.81N	120.18W	-52.	.157	.374	.428
6/13/77	2200	8:55	410	43.23N	120.53W	-53.	.179	.376	.488
6/13/77	2205	9:00	410	42.66N	120.88W	-53.	.148	.385	.388
6/13/77	2210	9:05	410	42.08N	121.21W	-54.	.163	.387	.428
6/13/77	2215	9:10	410	41.50N	121.55W	-54.	.179	.391	.468
6/13/77	2225	9:20	410	40.32N	122.20W	-53.	.192	.383	.508
6/13/77	2235	9:30	369	39.10N	122.64W	-56.	.229	.248	.92


SFO TO LHR DEPARTURE 14 JUN 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0
ELAPSED TIME IN HOURS

SFO TO LHR (PAGE 1 OF 1) DEPARTURE: 14 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .570 CABIN OZONE= .314 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .89 TOTAL OBS IN CABIN: 64
DATA SOURCE: GASP TAPE VL010, FILE 4 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

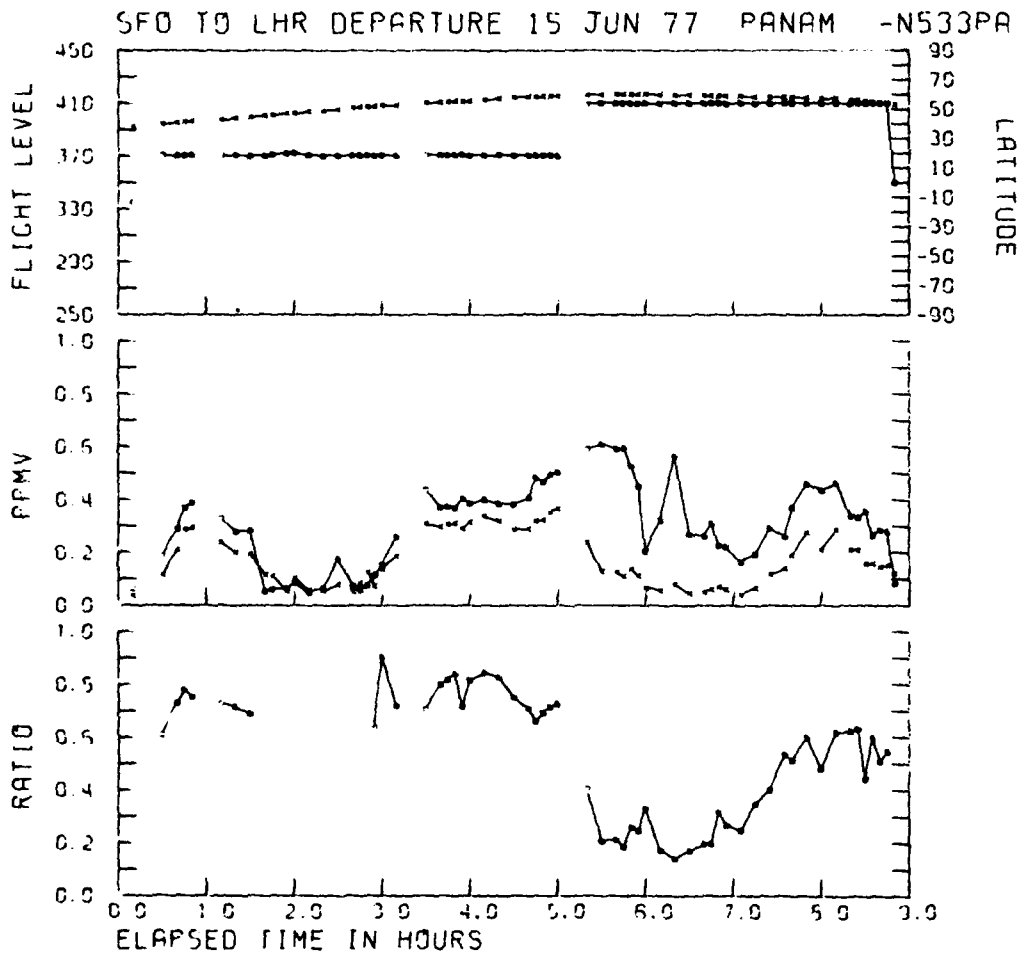
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/14/77	0138	0:10	335	38.26N	120.03W	-51.	.079	.234	.34
6/14/77	0148	0:20	370	38.86N	118.39W	-55.	.251	.350	.72
6/14/77	0158	0:30	370	39.82N	116.90W	-54.	.265	.356	.74
6/14/77	0208	0:40	370	40.76N	115.37W	-56.	.283	.382	.74
6/14/77	0213	0:45	370	41.23N	114.57W	-56.	.159	.098	
6/14/77	0218	0:50	370	41.70N	113.75W	-57.	.106	.077	
6/14/77	0223	0:55	370	42.17N	112.91W	-56.	.090	.093	
6/14/77	0228	1:00	370	42.63N	112.08W	-57.	.064	.096	
6/14/77	0238	1:10	369	43.50N	110.40W	-57.	.070	.063	
6/14/77	0248	1:20	369	44.37N	108.63W	-56.	.059	.053	
6/14/77	0258	1:30	370	45.19N	106.86W	-57.	.027	.052	
6/14/77	0308	1:40	370	46.16N	105.32W	-56.	.050	.072	
6/14/77	0313	1:45	370	46.70N	104.53W	-56.	.053	.124	.43
6/14/77	0318	1:50	370	47.09N	103.55W	-57.	.073	.096	
6/14/77	0328	2:00	370	47.72N	101.45W	-56.	.105	.155	.68
6/14/77	0338	2:10	370	48.30N	99.36W	-57.	.183	.218	.84
6/14/77	0348	2:20	370	48.84N	97.25W	-56.	.221	.247	.89
6/14/77	0408	2:40	370	50.81N	94.18W	-55.	.229	.281	.81
6/14/77	0413	2:45	370	51.24N	93.29W	-54.	.259	.368	.70
6/14/77	0418	2:50	370	51.59N	92.28W	-54.	.288	.418	.69
6/14/77	0428	3:00	370	52.27N	90.19W	-52.	.164	.380	.438
6/14/77	0438	3:10	370	52.92N	88.02W	-49.	.057	.352	.166
6/14/77	0448	3:20	370	53.53N	85.78W	-47.	.104	.398	.268
6/14/77	0458	3:30	370	54.11N	83.45W	-48.	.064	.372	.178
6/14/77	0503	3:35	370	54.39N	82.24W	-48.	.079	.367	.228
6/14/77	0513	3:45	370	54.90N	79.81W	-46.	.103	.533	.198
6/14/77	0518	3:50	370	55.14N	78.55W	-47.	.109	.493	.228
6/14/77	0533	4:05	370	56.23N	75.18W	-45.	.110	.517	.218
6/14/77	0543	4:15	370	56.93N	72.80W	-44.	.132	.500	.268
6/14/77	0553	4:25	370	57.58N	70.33W	-43.	.092	.536	.178
6/14/77	0603	4:35	370	58.25N	67.86W	-42.	.119	.570	.218
6/14/77	0613	4:45	370	58.89N	65.33W	-41.	.113	.523	.228
6/14/77	0618	4:50	370	59.18N	64.04W	-42.	.107	.510	.218
6/14/77	0623	4:55	370	59.47N	62.73W	-41.	.096	.499	.198
6/14/77	0628	5:00	370	59.74N	61.38W	-41.	.106	.509	.218
6/14/77	0633	5:05	370	60.00N	60.01W	-42.	.097	.506	.198
6/14/77	0643	5:15	370	60.38N	57.08W	-41.	.099	.437	.238
6/14/77	0713	5:45	370	61.24N	48.20W	-49.	.102	.460	.228
6/14/77	0718	5:50	370	61.42N	46.69W	-51.	.092	.423	.228
6/14/77	0723	5:55	370	61.58N	45.14W	-52.	.065	.242	.278
6/14/77	0728	6:00	410	61.73N	43.60W	-52.	.314	.490	.64
6/14/77	0738	6:10	410	61.97N	40.53W	-52.	.121	.463	.268
6/14/77	0748	6:20	410	62.07N	37.43W	-54.	.094	.249	.388
6/14/77	0758	6:30	410	62.09N	34.24W	-56.	.053	.205	.268
6/14/77	0808	6:40	410	62.03N	31.11W	-58.	.069	.185	.378
6/14/77	0813	6:45	410	61.94N	29.61W	-59.	.048	.175	.278
6/14/77	0823	6:55	410	61.46N	26.77W	-61.	.042	.130	.328
6/14/77	0833	7:05	410	60.91N	23.96W	-57.	.094	.337	.288
6/14/77	0843	7:15	411	60.33N	21.38W	-52.	.146	.457	.328
6/14/77	0853	7:25	410	59.74N	18.96W	-52.	.098	.231	.428
6/14/77	0858	7:30	410	59.43N	17.74W	-51.	.090	.247	.368
6/14/77	0903	7:40	410	58.77N	15.36W	-49.	.179	.391	.468
6/14/77	0913	7:45	410	58.42N	14.22W	-49.	.162	.435	.378
6/14/77	0918	7:50	410	58.07N	13.11W	-49.	.134	.435	.318
6/14/77	0923	7:55	410	57.71N	12.02W	-48.	.100	.452	.228
6/14/77	0928	8:00	410	57.34N	10.95W	-48.	.105	.386	.278
6/14/77	0938	8:10	410	56.68N	8.76W	-49.	.124	.367	.348
6/14/77	0946	8:20	410	56.05N	6.58W	-51.	.111	.361	.318
6/14/77	0958	8:30	410	55.51N	4.28W	-53.	.090	.318	.288
6/14/77	1008	8:40	410	54.38N	3.27W	-57.	.114	.230	.508
6/14/77	1013	8:45	410	53.81N	2.80W	-58.	.072	.276	.268
6/14/77	1018	8:50	410	53.24N	2.34W	-57.	.088	.253	.358
6/14/77	1023	8:55	356	52.66N	1.96W	-57.	.168		
6/14/77	1028A	9:00	231	52.12N	1.60W	-24.	.089	.043	


LHR TO SFO DEPARTURE 14 JUN 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
ELAPSED TIME IN HOURS

LHR TO SFO (PAGE 1 OF 1) DEPARTURE: 14 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .665 CABIN OZONE= .421 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .90 TOTAL OBS IN CABIN: 69
DATA SOURCE: GASP TAPE VL010, FILE 4

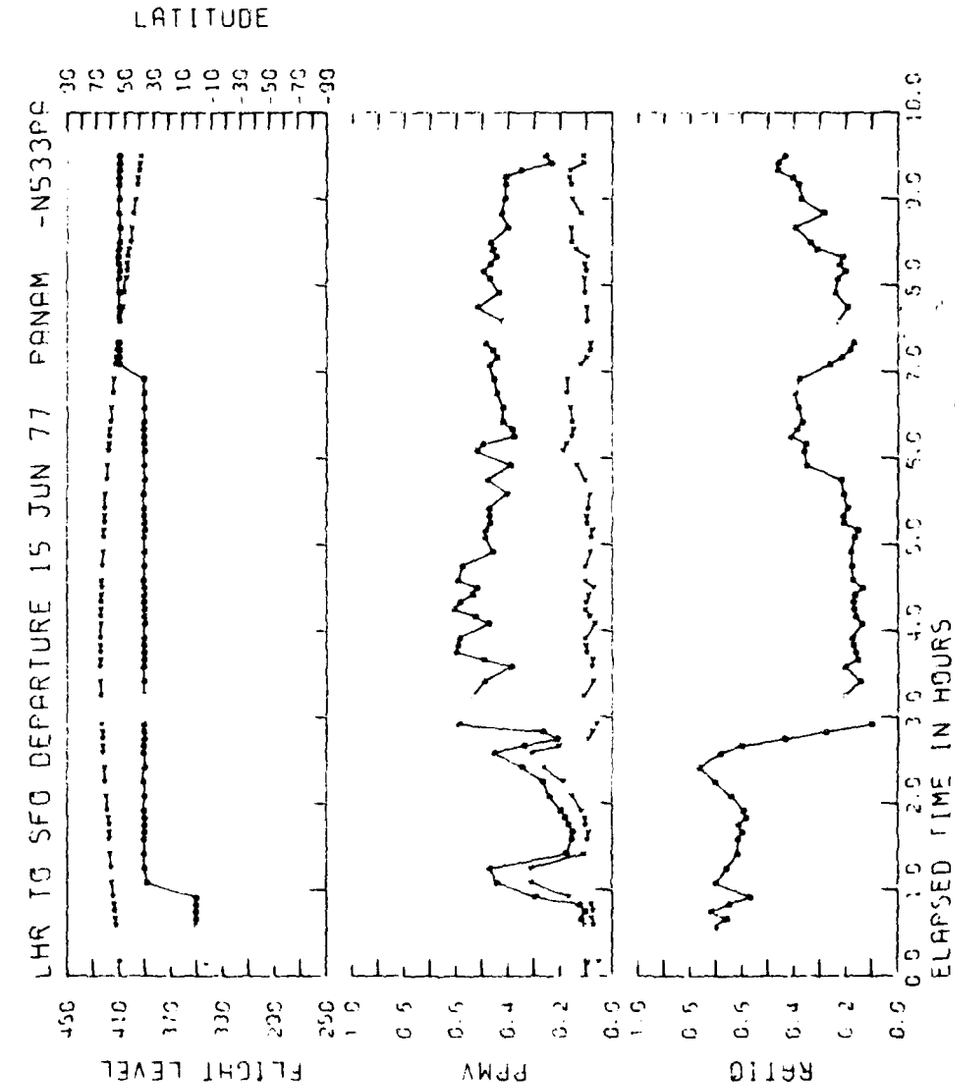
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/14/77	1400	0:10	338	54.09N	2.53W	-52.	.050	.075	
6/14/77	1410	0:20	370	55.26N	3.89W	-57.	.093	.187	.50
6/14/77	1420	0:30	370	56.34N	5.38W	-58.	.145	.262	.55
6/14/77	1430	0:40	370	57.36N	7.15W	-51.	.275	.417	.66
6/14/77	1435	0:45	370	57.89N	8.04W	-49.	.237	.384	.62
6/14/77	1440	0:50	371	58.42N	8.94W	-46.	.365	.569	.64
6/14/77	1445	0:55	370	58.92N	9.84W	-46.	.353	.561	.63
6/14/77	1450	1:00	371	59.40N	10.76W	-47.	.370	.550	.67
6/14/77	1500	1:10	370	60.33N	12.67W	-49.	.345	.563	.61
6/14/77	1505	1:15	370	60.78N	13.67W	-50.	.276	.306	.90
6/14/77	1515	1:25	370	61.65N	15.75W	-52.	.237	.298	.80
6/14/77	1525	1:35	370	62.46N	17.90W	-54.	.129	.176	.73
6/14/77	1535	1:45	370	63.20N	20.06W	-55.	.110	.152	.72
6/14/77	1540	1:50	370	63.56N	21.19W	-55.	.107	.142	.75
6/14/77	1545	1:55	377	63.91N	22.35W	-56.	.081	.160	.51
6/14/77	1550	2:00	391	64.27N	23.51W	-55.	.154	.278	.55
6/14/77	1555	2:05	391	64.63N	24.71W	-54.	.200	.401	.50
6/14/77	1600	2:10	391	64.99N	25.97W	-54.	.333	.551	.60
6/14/77	1610	2:20	391	65.68N	28.63W	-51.	.358	.587	.61
6/14/77	1620	2:30	391	66.34N	31.40W	-49.	.375	.595	.63
6/14/77	1630	2:40	391	66.96N	34.22W	-46.	.344	.600	.57
6/14/77	1640	2:50	391	67.54N	37.29W	-44.	.241	.317	.76
6/14/77	1645	2:55	391	67.82N	38.92W	-44.	.242	.467	.52
6/14/77	1650	3:00	391	68.07N	40.59W	-44.	.259	.519	.50
6/14/77	1655	3:05	391	68.29N	42.32W	-43.	.240	.401	.60
6/14/77	1705	3:15	391	68.67N	45.94W	-41.	.240	.433	.55
6/14/77	1715	3:25	391	68.97N	49.68W	-40.	.292	.406	.72
6/14/77	1725	3:35	391	69.24N	53.57W	-40.	.335	.567	.59
6/14/77	1735	3:45	391	69.13N	57.46W	-40.	.421	.657	.64
6/14/77	1740	3:50	391	69.04N	59.38W	-39.	.359	.665	.54
6/14/77	1745	3:55	391	68.91N	61.28W	-39.	.330	.561	.59
6/14/77	1750	4:00	391	68.78N	63.16W	-39.	.399	.665	.60
6/14/77	1755	4:05	391	68.64N	65.03W	-39.	.374	.477	.78
6/14/77	1805	4:15	391	68.38N	68.83W	-39.	.408	.657	.62
6/14/77	1815	4:25	391	68.15N	72.66W	-40.	.399	.603	.66
6/14/77	1825	4:35	391	67.83N	76.36W	-41.	.328	.475	.69
6/14/77	1835	4:45	391	67.44N	79.92W	-44.	.338	.451	.75
6/14/77	1840	4:50	391	67.22N	81.67W	-44.	.362	.590	.61
6/14/77	1845	4:55	391	66.98N	83.38W	-44.	.364	.576	.63
6/14/77	1850	5:00	391	66.72N	85.03W	-45.	.272	.557	.498
6/14/77	1855	5:05	391	66.45N	86.64W	-48.	.130	.580	.228
6/14/77	1900	5:10	391	66.15N	88.21W	-48.	.119	.571	.218
6/14/77	1910	5:20	391	65.51N	91.25W	-48.	.127	.520	.248
6/14/77	1920	5:30	391	64.82N	94.14W	-49.	.131	.562	.238
6/14/77	1930	5:40	391	64.08N	96.79W	-50.	.106	.557	.198
6/14/77	1950	6:00	391	62.44N	101.52W	-50.		.519	
6/14/77	2000	6:10	391	61.60N	103.77W	-50.	.125	.415	.308
6/14/77	2010	6:20	391	60.74N	105.86W	-50.	.109	.501	.228
6/14/77	2020	6:30	391	59.85N	107.82W	-50.	.106	.497	.218
6/14/77	2030	6:40	404	58.78N	109.28W	-48.	.106	.264	.408
6/14/77	2035	6:45	410	58.19N	109.86W	-48.	.095	.391	.248
6/14/77	2040	6:50	410	57.60N	110.42W	-48.	.090	.409	.228
6/14/77	2045	6:55	410	57.01N	110.96W	-48.	.085	.397	.218
6/14/77	2055	7:05	410	55.79N	111.95W	-49.	.087	.387	.228
6/14/77	2105	7:15	410	54.56N	112.84W	-48.	.096	.455	.218
6/14/77	2115	7:25	410	53.34N	113.68W	-48.	.089	.408	.228
6/14/77	2130	7:40	410	51.50N	114.86W	-48.	.142	.421	.348
6/14/77	2135	7:45	410	50.89N	115.23W	-52.	.092	.501	.188
6/14/77	2140	7:50	410	50.28N	115.58W	-49.	.093	.449	.218
6/14/77	2145	7:55	410	49.65N	115.94W	-48.	.078	.382	.208
6/14/77	2155	8:05	410	48.47N	116.83W	-50.	.079	.380	.218
6/14/77	2205	8:15	410	47.30N	117.68W	-50.	.110	.460	.248
6/14/77	2215	8:25	410	46.13N	118.48W	-51.	.090	.424	.218
6/14/77	2225	8:35	410	44.96N	119.25W	-49.	.106	.449	.248
6/14/77	2230	8:40	410	44.38N	119.62W	-49.	.100	.415	.248
6/14/77	2235	8:45	410	43.79N	119.99W	-50.	.104	.446	.238
6/14/77	2240	8:50	410	43.21N	120.34W	-49.	.090	.241	.378
6/14/77	2245	8:55	410	42.62N	120.69W	-50.	.036	.141	.208
6/14/77	2300	9:10	410	40.86N	121.70W	-52.	.193	.426	.45
6/14/77	2310	9:20	410	39.64N	122.26W	-51.	.108	.205	.53


SFO TO LHR DEPARTURE 15 JUN 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
ELAPSED TIME IN HOURS

SFO TO LHR (PAGE 1 OF 1) DEPARTURE: 15 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .609 CABIN OZONE= .366 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .90 TOTAL OBS IN CABIN: 64
DATA SOURCE: GASP TAPE VLC10, FILE 4 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

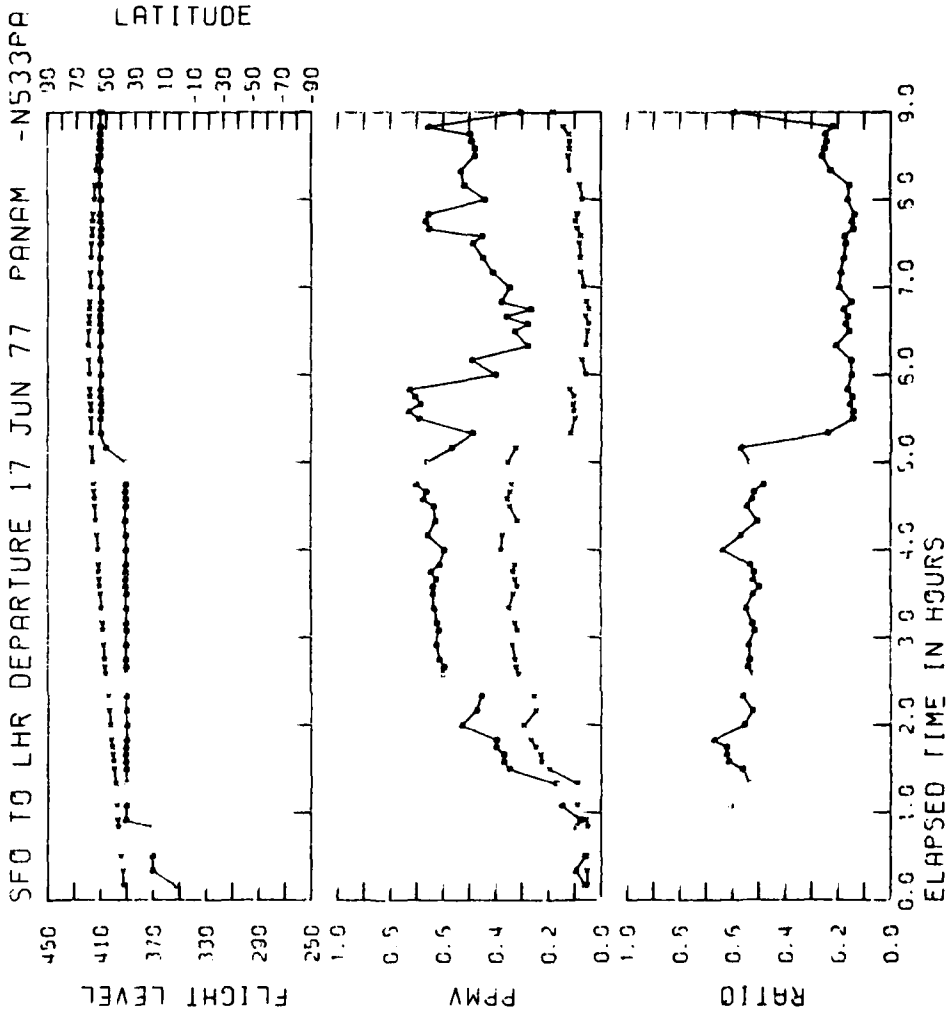
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/15/77	0148	0:10	336	38.33N	119.54W	-49.	.037	.064	
6/15/77	0208	0:30	370	39.81N	116.24W	-55.	.115	.188	.61
6/15/77	0218	0:40	370	40.84N	114.66W	-53.	.210	.288	.73
6/15/77	0223	0:45	370	41.33N	113.89W	-55.	.288	.369	.78
6/15/77	0228	0:50	371	41.81N	113.10W	-53.	.294	.390	.75
6/15/77	0248	1:10	371	43.14N	109.47W	-50.	.240	.329	.73
6/15/77	0258	1:20	371	43.69N	107.57W	-53.	.200	.279	.72
6/15/77	0308	1:30	370	44.50N	105.83W	-52.	.195	.283	.69
6/15/77	0318	1:40	370	45.58N	104.48W	-54.	.115	.052	
6/15/77	0323	1:45	371	46.10N	103.79W	-54.	.110	.061	
6/15/77	0333	1:55	372	47.09N	102.19W	-56.	.056	.066	
6/15/77	0338	2:00	373	47.47N	101.17W	-55.	.103	.085	
6/15/77	0348	2:10	371	48.20N	99.14W	-56.	.058	.049	
6/15/77	0358	2:20	371	48.88N	97.08W	-58.	.056	.065	
6/15/77	0408	2:30	371	49.99N	95.48W	-57.	.078	.175	.45
6/15/77	0418	2:40	371	50.98N	93.91W	-59.	.052	.075	
6/15/77	0423	2:45	371	51.40N	92.83W	-60.	.084	.058	
6/15/77	0428	2:50	371	51.76N	91.77W	-59.	.125	.075	
6/15/77	0433	2:55	371	52.12N	90.69W	-58.	.073	.115	.63
6/15/77	0438	3:00	371	52.46N	89.59W	-59.	.139	.154	.90
6/15/77	0448	3:10	371	53.09N	87.43W	-58.	.187	.260	.72
6/15/77	0508	3:30	371	54.21N	83.01W	-50.	.309	.437	.71
6/15/77	0518	3:40	371	54.71N	80.74W	-46.	.296	.370	.80
6/15/77	0523	3:45	371	54.94N	79.59W	-47.	.307	.375	.82
6/15/77	0528	3:50	371	55.16N	78.42W	-46.	.310	.369	.84
6/15/77	0533	3:55	371	55.43N	77.31W	-46.	.289	.403	.72
6/15/77	0538	4:00	371	55.80N	76.25W	-46.	.316	.387	.82
6/15/77	0548	4:10	371	56.51N	74.04W	-44.	.338	.400	.85
6/15/77	0558	4:20	371	57.19N	71.76W	-43.	.320	.386	.83
6/15/77	0608	4:30	371	57.85N	69.36W	-43.	.287	.382	.75
6/15/77	0618	4:40	371	58.33N	66.75W	-44.	.288	.406	.71
6/15/77	0623	4:45	371	58.49N	65.39W	-42.	.319	.483	.66
6/15/77	0628	4:50	371	58.64N	64.02W	-42.	.324	.468	.69
6/15/77	0633	4:55	371	58.78N	62.62W	-43.	.353	.494	.71
6/15/77	0638	5:00	370	58.91N	61.20W	-43.	.366	.504	.73
6/15/77	0658	5:20	409	59.54N	55.57W	-42.	.239	.592	.408
6/15/77	0708	5:30	410	59.81N	52.66W	-43.	.126	.609	.218
6/15/77	0718	5:40	410	60.01N	49.81W	-44.	.126	.593	.218
6/15/77	0723	5:45	410	60.05N	48.32W	-44.	.110	.595	.188
6/15/77	0728	5:50	410	60.08N	46.82W	-43.	.136	.527	.268
6/15/77	0733	5:55	410	60.09N	45.38W	-43.	.111	.451	.258
6/15/77	0738	6:00	410	60.09N	43.92W	-44.	.068	.207	.338
6/15/77	0748	6:10	410	60.03N	40.98W	-46.	.056	.323	.178
6/15/77	0758	6:20	410	59.87N	38.12W	-48.	.080	.564	.148
6/15/77	0808	6:30	410	59.64N	35.34W	-50.	.046	.270	.178
6/15/77	0818	6:40	410	59.34N	32.59W	-54.	.051	.261	.208
6/15/77	0823	6:45	410	59.17N	31.26W	-56.	.061	.310	.208
6/15/77	0828	6:50	410	59.00N	29.95W	-56.	.072	.228	.368
6/15/77	0833	6:55	410	58.91N	28.61W	-58.	.059	.221	.278
6/15/77	0843	7:05	410	58.70N	25.98W	-59.	.041	.166	.258
6/15/77	0853	7:15	410	58.44N	23.43W	-60.	.067	.193	.358
6/15/77	0903	7:25	410	58.24N	20.93W	-59.	.117	.291	.408
6/15/77	0913	7:35	410	58.07N	18.44W	-55.	.140	.261	.548
6/15/77	0918	7:40	410	57.99N	17.23W	-55.	.189	.369	.51
6/15/77	0928	7:50	410	57.77N	14.77W	-53.	.277	.461	.60
6/15/77	0938	8:00	410	57.51N	12.33W	-52.	.210	.436	.48
6/15/77	0948	8:10	410	57.19N	9.88W	-53.	.297	.463	.62
6/15/77	0958	8:20	410	56.34N	7.97W	-53.	.211	.339	.62
6/15/77	1003	8:25	410	55.81N	7.15W	-53.	.210	.332	.63
6/15/77	1008	8:30	410	55.29N	6.32W	-52.	.157	.355	.44
6/15/77	1013	8:35	410	54.76N	5.57W	-57.	.158	.265	.60
6/15/77	1018	8:40	410	54.31N	4.75W	-57.	.146	.286	.51
6/15/77	1023	8:45	410	53.92N	3.80W	-57.	.153	.280	.55
6/15/77	1031A	8:53	350	53.24N	2.29W	-55.	.121	.083	


LATITUDE
LHR TO SFO DEPARTURE 15 JUN 77 PANAM -N533PA
FLIGHT LEVEL
PPMV
RATIO
ELAPSED TIME IN HOURS

LHR TO SFO (PAGE 1 OF 1) DEPARTURE: 15 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .609 CABIN OZONE= .313 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .76 TOTAL OBS IN CABIN: 75
DATA SOURCE: GASP TAPE VL010, FILE 4 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

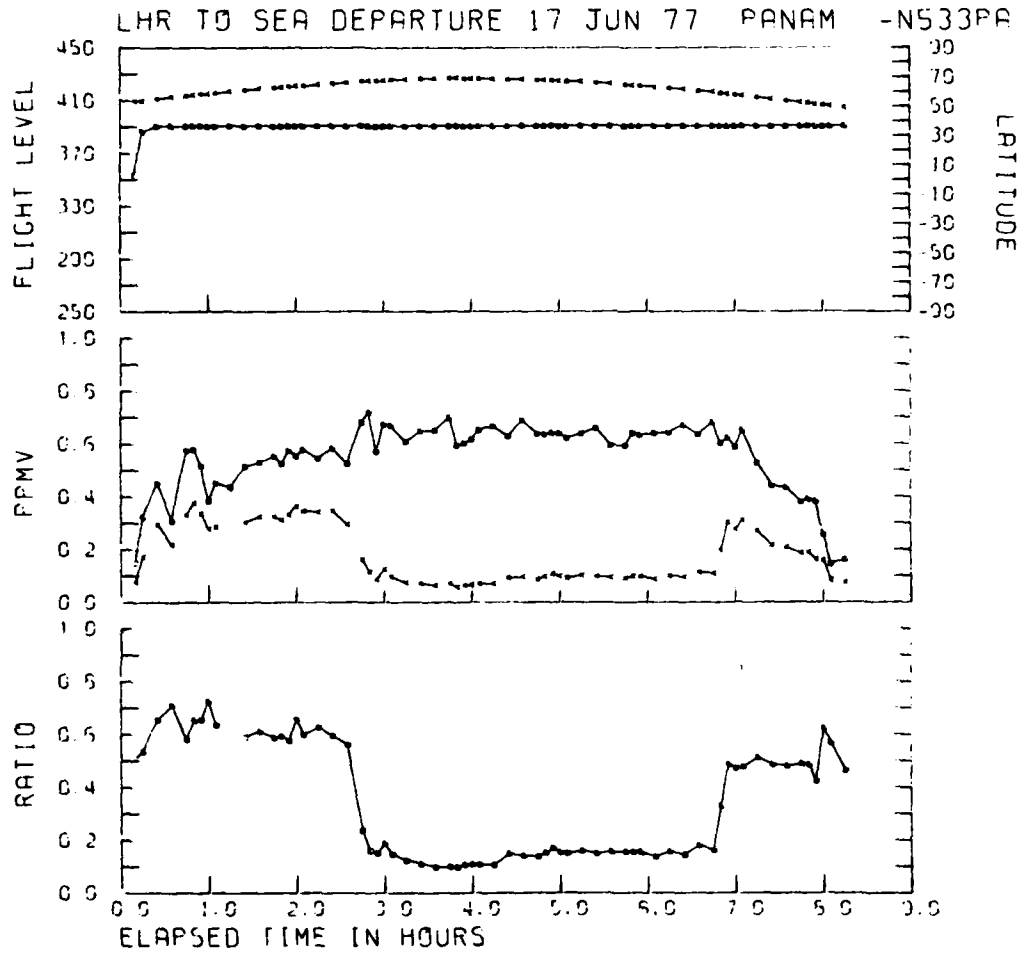
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/15/77	1403	0:10	343	53.45N	1.87W	-53.	.050	.097	
6/15/77	1428	0:35	351	56.23N	5.24W	-55.	.073	.103	.71
6/15/77	1433	0:40	351	56.75N	6.04W	-55.	.078	.119	.66
6/15/77	1438	0:45	351	57.23N	6.88W	-55.	.074	.103	.72
6/15/77	1443	0:50	351	57.69N	7.71W	-55.	.082	.126	.65
6/15/77	1448	0:55	350	58.18N	8.54W	-54.	.168	.295	.57
6/15/77	1458	1:05	388	59.10N	10.36W	-54.	.309	.442	.70
6/15/77	1508	1:15	391	59.67N	12.84W	-54.	.313	.473	.66
6/15/77	1518	1:25	391	60.20N	15.41W	-57.	.107	.174	.61
6/15/77	1528	1:35	391	60.68N	18.03W	-56.	.097	.157	.62
6/15/77	1533	1:40	391	60.90N	19.35W	-57.	.091	.152	.60
6/15/77	1538	1:45	391	61.21N	20.57W	-57.	.103	.168	.61
6/15/77	1543	1:50	391	61.61N	21.70W	-57.	.105	.180	.58
6/15/77	1548	1:55	391	62.00N	22.88W	-57.	.117	.197	.59
6/15/77	1558	2:05	390	62.75N	25.29W	-58.	.154	.241	.64
6/15/77	1608	2:15	391	63.45N	27.79W	-55.	.186	.265	.70
6/15/77	1618	2:25	390	64.10N	30.41W	-48.	.264	.346	.76
6/15/77	1628	2:35	391	64.75N	33.22W	-45.	.307	.451	.68
6/15/77	1633	2:40	391	65.05N	34.65W	-44.	.203	.338	.60
6/15/77	1638	2:45	391	65.34N	36.14W	-42.	.092	.211	.448
6/15/77	1643	2:50	391	65.61N	37.66W	-41.	.074	.267	.288
6/15/77	1648	2:55	391	65.88N	39.21W	-41.	.059	.588	.108
6/15/77	1708	3:15	391	66.66N	45.77W	-40.	.110	.537	.208
6/15/77	1718	3:25	391	66.95N	49.23W	-40.	.070	.491	.148
6/15/77	1728	3:35	391	66.96N	52.68W	-39.	.080	.389	.218
6/15/77	1733	3:40	391	66.93N	54.46W	-39.	.076	.494	.158
6/15/77	1738	3:45	391	66.89N	56.24W	-39.	.097	.600	.168
6/15/77	1743	3:50	391	66.82N	58.02W	-39.	.100	.591	.178
6/15/77	1748	3:55	391	66.74N	59.79W	-39.	.104	.587	.188
6/15/77	1758	4:05	390	66.58N	63.34W	-40.	.065	.474	.148
6/15/77	1803A	4:10	390	66.48N	65.27W	-40.	.085	.525	.168
6/15/77	1808A	4:15	390	66.36N	67.01W	-41.	.104	.609	.178
6/15/77	1813A	4:20	391	66.23N	68.72W	-40.	.101	.585	.178
6/15/77	1818A	4:25	390	66.08N	70.40W	-40.	.089	.538	.178
6/15/77	1823A	4:30	391	65.91N	72.02W	-41.	.070	.519	.148
6/15/77	1828A	4:35	391	65.75N	73.44W	-42.	.102	.592	.178
6/15/77	1838	4:45	390	65.33N	76.63W	-43.	.102	.575	.188
6/15/77	1848	4:55	390	64.85N	79.72W	-44.	.084	.460	.188
6/15/77	1858	5:05	391	64.33N	82.66W	-46.	.080	.488	.168
6/15/77	1903	5:10	390	64.12N	84.16W	-47.	.074	.484	.158
6/15/77	1908	5:15	390	63.97N	85.66W	-47.	.099	.471	.218
6/15/77	1913	5:20	391	63.80N	87.14W	-47.	.099	.473	.218
6/15/77	1918	5:25	391	63.62N	88.60W	-48.	.090	.472	.198
6/15/77	1928	5:35	391	63.19N	91.41W	-49.	.086	.406	.218
6/15/77	1938	5:45	390	62.61N	94.06W	-49.	.104	.479	.228
6/15/77	1948	5:55	391	61.98N	96.57W	-49.	.137	.391	.358
6/15/77	1958	6:05	390	61.31N	98.97W	-49.	.188	.520	.368
6/15/77	2003	6:10	391	60.96N	100.13W	-49.	.177	.499	.358
6/15/77	2008	6:15	391	60.61N	101.27W	-48.	.156	.378	.418
6/15/77	2013	6:20	391	60.25N	102.39W	-47.	.149	.384	.398
6/15/77	2018	6:25	391	59.88N	103.47W	-48.	.156	.423	.378
6/15/77	2028	6:35	390	59.11N	105.61W	-47.	.161	.420	.388
6/15/77	2038	6:45	391	58.30N	107.64W	-46.	.174	.442	.398
6/15/77	2048	6:55	391	57.46N	109.59W	-46.	.173	.456	.388
6/15/77	2058	7:05	410	56.57N	111.43W	-46.	.124	.474	.268
6/15/77	2103	7:10	410	55.95N	111.89W	-46.	.096	.442	.228
6/15/77	2108	7:15	410	55.33N	112.36W	-46.	.085	.459	.198
6/15/77	2113	7:20	410	54.71N	112.81W	-46.	.082	.487	.178
6/15/77	2128	7:35	410	52.85N	114.09W	-47.	.096	.418	.238
6/15/77	2138	7:45	410	51.60N	114.88W	-46.	.100	.519	.198
6/15/77	2148	7:55	410	50.37N	115.62W	-48.	.104	.434	.248
6/15/77	2158	8:05	410	49.15N	116.41W	-50.	.109	.472	.238
6/15/77	2203	8:10	410	48.57N	116.87W	-49.	.099	.494	.208
6/15/77	2208	8:15	410	47.99N	117.30W	-49.	.104	.467	.228
6/15/77	2213	8:20	410	47.42N	117.74W	-49.	.093	.443	.218
6/15/77	2218	8:25	410	46.83N	118.16W	-50.	.142	.459	.318
6/15/77	2223	8:30	410	46.24N	118.56W	-51.	.158	.469	.348
6/15/77	2233	8:40	409	45.05N	119.37W	-53.	.158	.402	.398
6/15/77	2243	8:50	410	43.82N	120.02W	-51.	.121	.427	.288
6/15/77	2253	9:00	410	42.54N	120.49W	-54.	.153	.412	.378
6/15/77	2303	9:10	410	41.38N	121.24W	-56.	.156	.410	.388
6/15/77	2308	9:15	410	40.81N	121.59W	-57.	.166	.410	.408
6/15/77	2313	9:20	410	40.30N	122.04W	-58.	.164	.353	.468
6/15/77	2318	9:25	410	39.71N	122.35W	-60.	.108	.235	.468
6/15/77	2323	9:30	410	39.08N	122.48W	-60.	.110	.254	.43


SFO TO LHR DEPARTURE 17 JUN 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0
ELAPSED TIME IN HOURS

SFO TO LHR (PAGE 1 OF 1) DEPARTURE: 17 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .730 CABIN OZONE= .378 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .67 TOTAL OBS IN CABIN: 67
DATA SOURCE: GASP TAPE VL010, FILE 4

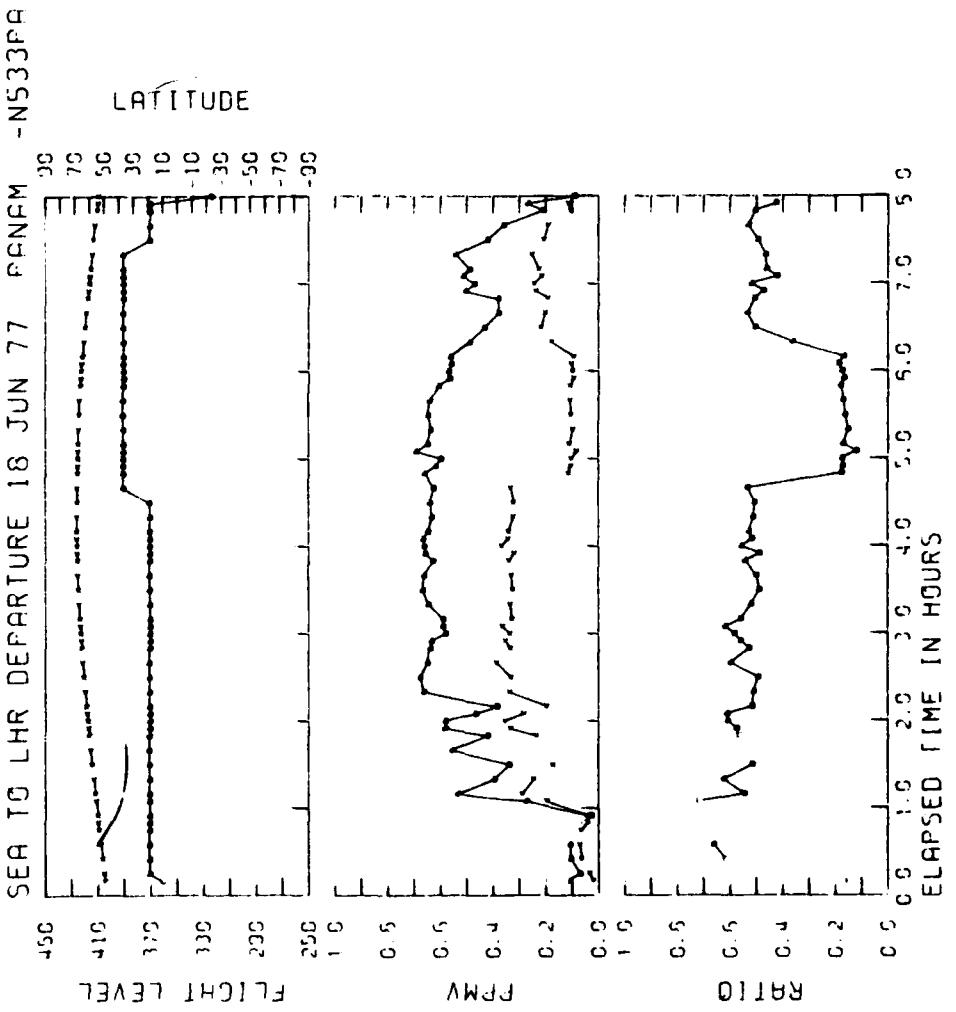
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/17/77	0237	0:12	353	38.38N	119.70W	-52.	.052	.061	
6/17/77	0247	0:22	370	38.63N	117.87W	-55.	.053	.095	
6/17/77	0257	0:32	370	39.65N	116.44W	-55.	.054	.059	
6/17/77	0317	0:52	370	41.57N	113.50W	-56.	.050	.093	
6/17/77	0322	0:57	391	42.04N	112.72W	-61.	.056	.077	
6/17/77	0332	1:07	390	42.73N	110.83W	-61.	.090	.148	.61
6/17/77	0347	1:22	390	43.60N	107.88W	-59.	.090	.168	.54
6/17/77	0357	1:32	390	44.28N	106.07W	-57.	.194	.346	.56
6/17/77	0402	1:37	391	44.83N	105.42W	-56.	.225	.367	.61
6/17/77	0407	1:42	391	45.38N	104.74W	-58.	.228	.367	.62
6/17/77	0412	1:47	390	45.91N	104.04W	-57.	.247	.397	.62
6/17/77	0417	1:52	390	46.47N	103.30W	-58.	.265	.396	.67
6/17/77	0427	2:02	390	47.33N	101.54W	-50.	.293	.528	.55
6/17/77	0437	2:12	391	48.04N	99.60W	-55.	.248	.472	.53
6/17/77	0447	2:22	390	48.70N	97.63W	-55.	.256	.455	.56
6/17/77	0502	2:37	390	50.14N	95.23W	-52.	.311	.599	.52
6/17/77	0507	2:42	390	50.66N	94.42W	-52.	.321	.594	.54
6/17/77	0512	2:47	390	51.14N	93.57W	-50.	.326	.611	.53
6/17/77	0522	2:57	390	51.83N	91.55W	-51.	.336	.624	.54
6/17/77	0532	3:07	390	52.51N	89.43W	-51.	.319	.616	.52
6/17/77	0537	3:12	391	52.82N	88.37W	-50.	.328	.623	.53
6/17/77	0547	3:22	390	53.43N	86.17W	-49.	.349	.634	.55
6/17/77	0557	3:32	390	54.01N	83.88W	-50.	.333	.637	.52
6/17/77	0602	3:37	390	54.28N	82.73W	-50.	.316	.636	.50
6/17/77	0607	3:42	391	54.53N	81.58W	-51.	.325	.623	.52
6/17/77	0612	3:47	391	54.78N	80.42W	-50.	.333	.643	.52
6/17/77	0617	3:52	390	55.01N	79.24W	-49.	.325	.611	.53
6/17/77	0627	4:02	390	55.56N	76.96W	-50.	.378	.594	.64
6/17/77	0637	4:12	391	56.29N	74.79W	-49.	.374	.657	.57
6/17/77	0647	4:22	391	56.95N	72.59W	-48.	.316	.626	.50
6/17/77	0657	4:32	390	57.52N	70.26W	-46.	.345	.633	.55
6/17/77	0702	4:37	390	57.81N	69.09W	-46.	.354	.674	.53
6/17/77	0707	4:42	391	58.24N	67.94W	-46.	.343	.662	.52
6/17/77	0712	4:47	390	58.53N	66.78W	-46.	.338	.701	.48
6/17/77	0727	5:02	391	59.38N	63.13W	-44.	.353	.660	.53
6/17/77	0737	5:12	406	59.89N	60.61W	-44.	.323	.566	.57
6/17/77	0747	5:22	410	60.28N	57.90W	-43.	.116	.487	.238
6/17/77	0757	5:32	410	60.59N	55.13W	-44.	.099	.690	.148
6/17/77	0802	5:37	410	60.72N	53.71W	-44.	.104	.730	.148
6/17/77	0807	5:42	410	60.84N	52.25W	-45.	.107	.686	.168
6/17/77	0812	5:47	410	60.95N	50.75W	-46.	.102	.705	.148
6/17/77	0817	5:52	410	61.10N	49.29W	-46.	.118	.726	.168
6/17/77	0827	6:02	410	61.46N	46.33W	-45.	.059	.399	.158
6/17/77	0837	6:12	410	61.75N	43.36W	-46.	.073	.489	.158
6/17/77	0847	6:22	410	61.98N	40.29W	-47.	.057	.276	.218
6/17/77	0857	6:32	409	61.80N	37.25W	-48.	.051	.326	.168
6/17/77	0902	6:37	410	61.67N	35.79W	-49.	.047	.277	.178
6/17/77	0907	6:42	410	61.53N	34.35W	-51.	.058	.359	.168
6/17/77	0912	6:47	410	61.37N	32.91W	-49.	.047	.265	.188
6/17/77	0917	6:52	410	61.20N	31.49W	-51.	.056	.377	.158
6/17/77	0927	7:02	410	60.91N	28.65W	-52.	.068	.347	.208
6/17/77	0937	7:12	410	60.68N	25.86W	-53.	.077	.409	.198
6/17/77	0947	7:22	410	60.40N	23.15W	-53.	.079	.447	.188
6/17/77	0957	7:32	410	60.07N	20.48W	-54.	.083	.486	.178
6/17/77	1002	7:37	410	59.81N	19.22W	-53.	.079	.451	.188
6/17/77	1007	7:42	410	59.50N	18.01W	-54.	.093	.653	.148
6/17/77	1012	7:47	410	59.18N	16.81W	-53.	.097	.665	.158
6/17/77	1017	7:52	410	58.85N	15.64W	-54.	.089	.655	.148
6/17/77	1027	8:02	410	58.15N	13.35W	-54.	.072	.441	.168
6/17/77	1037	8:12	410	57.44N	11.22W	-54.	.080	.517	.158
6/17/77	1047	8:22	410	56.63N	9.32W	-53.	.120	.531	.238
6/17/77	1057	8:32	410	55.65N	7.66W	-52.	.124	.479	.268
6/17/77	1102	8:37	410	55.16N	6.88W	-53.	.120	.479	.258
6/17/77	1107	8:42	410	54.64N	6.16W	-54.	.119	.491	.248
6/17/77	1112	8:47	410	54.23N	5.28W	-52.	.123	.497	.258
6/17/77	1117	8:52	410	53.91N	4.29W	-52.	.144	.656	.228
6/17/77	1127	9:02	410	52.95N	2.68W	-53.	.183	.307	.60


LHR TO SEA DEPARTURE 17 JUN 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
ELAPSED TIME IN HOURS

LHR TO SEA (PAGE 1 OF 1) DEPARTURE: 17 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .718 CABIN OZONE= .376 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .72 TOTAL OBS IN CABIN: 64
DATA SOURCE: GASP TAPE VL010, FILE 4

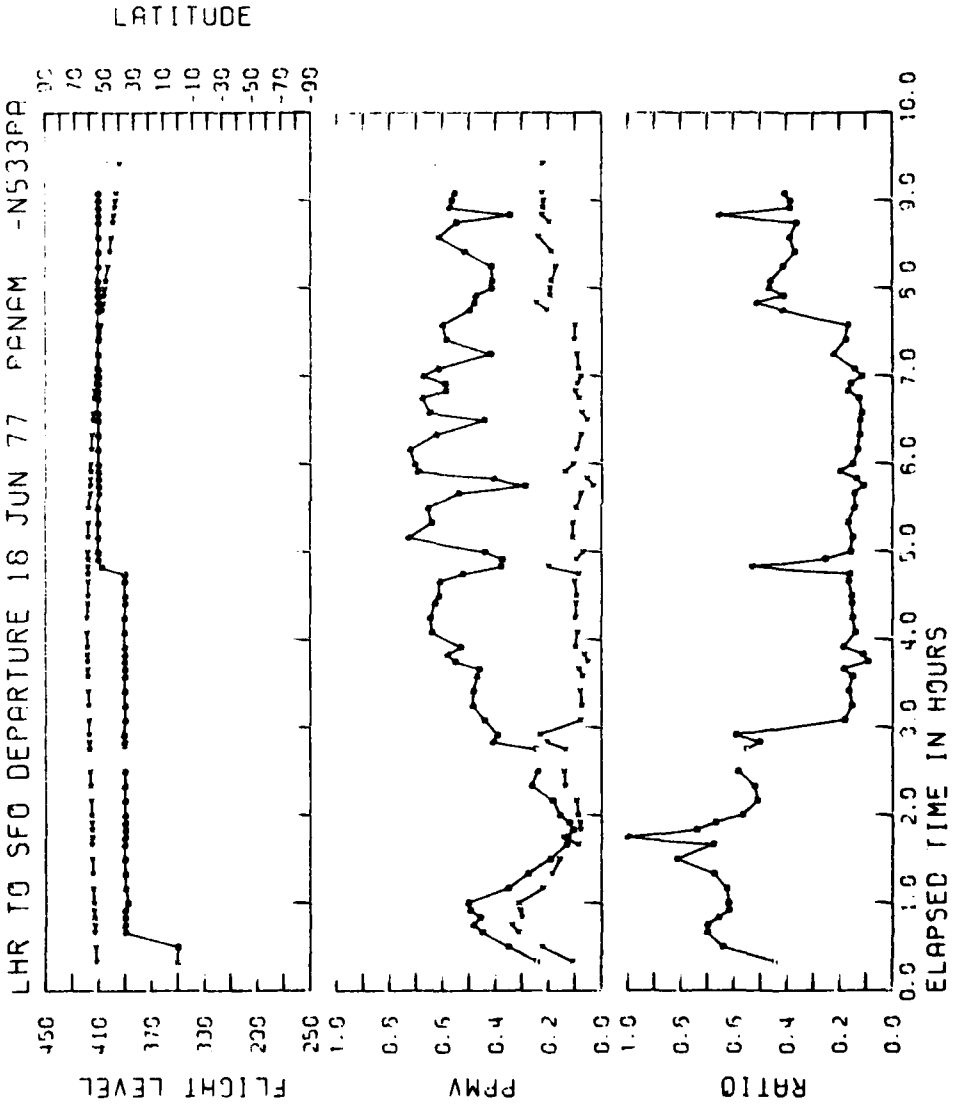
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/17/77	1422	0:10	354	53.51N	1.96W	-52.	.076	.149	.51
6/17/77	1427	0:15	386	54.10N	2.54W	-55.	.172	.322	.53
6/17/77	1437	0:25	390	55.26N	3.88W	-53.	.294	.450	.65
6/17/77	1447	0:35	390	56.33N	5.36W	-54.	.218	.308	.71
6/17/77	1457	0:45	391	57.30N	7.02W	-54.	.332	.573	.58
6/17/77	1502	0:50	391	57.79N	7.85W	-54.	.378	.577	.65
6/17/77	1507	0:55	391	58.28N	8.70W	-55.	.338	.516	.66
6/17/77	1512	1:00	391	58.77N	9.57W	-54.	.278	.384	.72
6/17/77	1517	1:05	391	59.24N	10.45W	-54.	.286	.461	.63
6/17/77	1527	1:15	391	60.16N	12.32W	-54.		.434	
6/17/77	1537	1:25	390	61.06N	14.30W	-54.	.302	.513	.59
6/17/77	1547	1:35	391	61.91N	16.41W	-54.	.322	.528	.61
6/17/77	1557	1:45	390	62.70N	18.57W	-54.	.324	.552	.59
6/17/77	1602	1:50	391	63.08N	19.68W	-53.	.310	.523	.59
6/17/77	1607	1:55	391	63.45N	20.81W	-51.	.329	.572	.58
6/17/77	1612	2:00	391	63.81N	21.98W	-51.	.363	.553	.66
6/17/77	1617	2:05	391	64.17N	23.15W	-49.	.345	.577	.60
6/17/77	1627	2:15	391	64.89N	25.60W	-46.	.340	.544	.63
6/17/77	1637	2:25	391	65.59N	28.23W	-47.	.346	.582	.59
6/17/77	1647	2:35	391	66.24N	30.95W	-46.	.293	.523	.56
6/17/77	1657	2:45	391	66.88N	33.80W	-44.	.160	.680	.248
6/17/77	1702	2:50	390	67.18N	35.29W	-43.	.115	.718	.168
6/17/77	1707	2:55	390	67.47N	36.81W	-45.	.086	.570	.158
6/17/77	1712	3:00	391	67.74N	38.37W	-43.	.126	.673	.198
6/17/77	1717	3:05	391	68.00N	39.97W	-43.	.098	.667	.158
6/17/77	1727	3:15	391	68.42N	43.34W	-42.	.074	.608	.128
6/17/77	1737	3:25	391	68.77N	46.88W	-41.	.071	.647	.118
6/17/77	1747	3:35	391	69.06N	50.55W	-42.	.063	.650	.108
6/17/77	1757	3:45	391	69.24N	54.33W	-42.	.070	.698	.108
6/17/77	1802	3:50	391	69.19N	56.23W	-41.	.058	.594	.108
6/17/77	1807	3:55	391	69.11N	58.13W	-42.	.064	.601	.118
6/17/77	1812	4:00	391	69.01N	60.02W	-42.	.067	.617	.118
6/17/77	1817	4:05	391	68.88N	61.89W	-43.	.070	.652	.118
6/17/77	1827	4:15	391	68.60N	65.58W	-44.	.071	.667	.118
6/17/77	1837	4:25	391	68.38N	69.23W	-45.	.093	.628	.158
6/17/77	1847	4:35	391	68.16N	72.82W	-46.	.097	.689	.148
6/17/77	1857	4:45	391	67.87N	76.30W	-48.	.087	.637	.148
6/17/77	1902	4:50	390	67.70N	78.01W	-46.	.096	.634	.158
6/17/77	1907	4:55	391	67.51N	79.68W	-47.	.109	.640	.178
6/17/77	1912	5:00	391	67.30N	81.33W	-46.	.098	.639	.158
6/17/77	1917	5:05	391	67.07N	82.96W	-46.	.093	.622	.158
6/17/77	1927	5:15	391	66.57N	86.13W	-46.	.102	.637	.168
6/17/77	1937	5:25	391	66.00N	89.16W	-46.	.098	.659	.158
6/17/77	1947	5:35	391	65.37N	92.06W	-46.	.093	.593	.168
6/17/77	1957	5:45	391	64.69N	94.85W	-46.	.092	.592	.168
6/17/77	2002	5:50	391	64.33N	96.18W	-46.	.099	.640	.158
6/17/77	2007	5:55	391	63.93N	97.43W	-46.	.098	.633	.158
6/17/77	2017	6:05	391	63.10N	99.82W	-46.	.088	.641	.148
6/17/77	2027	6:15	391	62.27N	102.18W	-46.	.100	.642	.168
6/17/77	2037	6:25	391	61.41N	104.45W	-46.	.096	.671	.148
6/17/77	2047	6:35	391	60.50N	106.58W	-47.	.114	.635	.188
6/17/77	2057	6:45	391	59.56N	108.62W	-48.	.110	.680	.168
6/17/77	2102	6:50	391	59.01N	109.46W	-49.	.197	.601	.33
6/17/77	2107	6:55	390	58.45N	110.27W	-50.	.302	.622	.49
6/17/77	2112	7:00	390	57.89N	111.06W	-51.	.277	.586	.47
6/17/77	2117	7:05	391	57.31N	111.82W	-51.	.311	.650	.48
6/17/77	2127	7:15	391	56.18N	113.27W	-55.	.270	.527	.51
6/17/77	2137	7:25	390	55.01N	114.65W	-59.	.214	.440	.49
6/17/77	2147	7:35	391	53.85N	115.94W	-60.	.208	.433	.48
6/17/77	2157	7:45	391	52.68N	117.15W	-62.	.185	.379	.49
6/17/77	2202	7:50	391	52.10N	117.73W	-61.	.189	.389	.49
6/17/77	2207	7:55	391	51.51N	118.29W	-62.	.161	.381	.42
6/17/77	2212	8:00	391	50.93N	118.83W	-62.	.158	.255	.62
6/17/77	2217	8:05	391	50.36N	119.42W	-63.	.081	.143	.57
6/17/77	2227	8:15	391	49.26N	120.62W	-63.	.075	.162	.46


SEA TO LHR DEPARTURE 18 JUN 77 PANAM -N533PA
LATITUDE
FLIGHT LEVEL
FPMV
RATIO
ELAPSED TIME IN HOURS

SEA TO LHR (PAGE 1 OF 1) DEPARTURE: 18 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .690 CABIN OZONE= .385 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .72 TOTAL OBS IN CABIN: 64
DATA SOURCE: GASP TAPE VL010, FILE 4

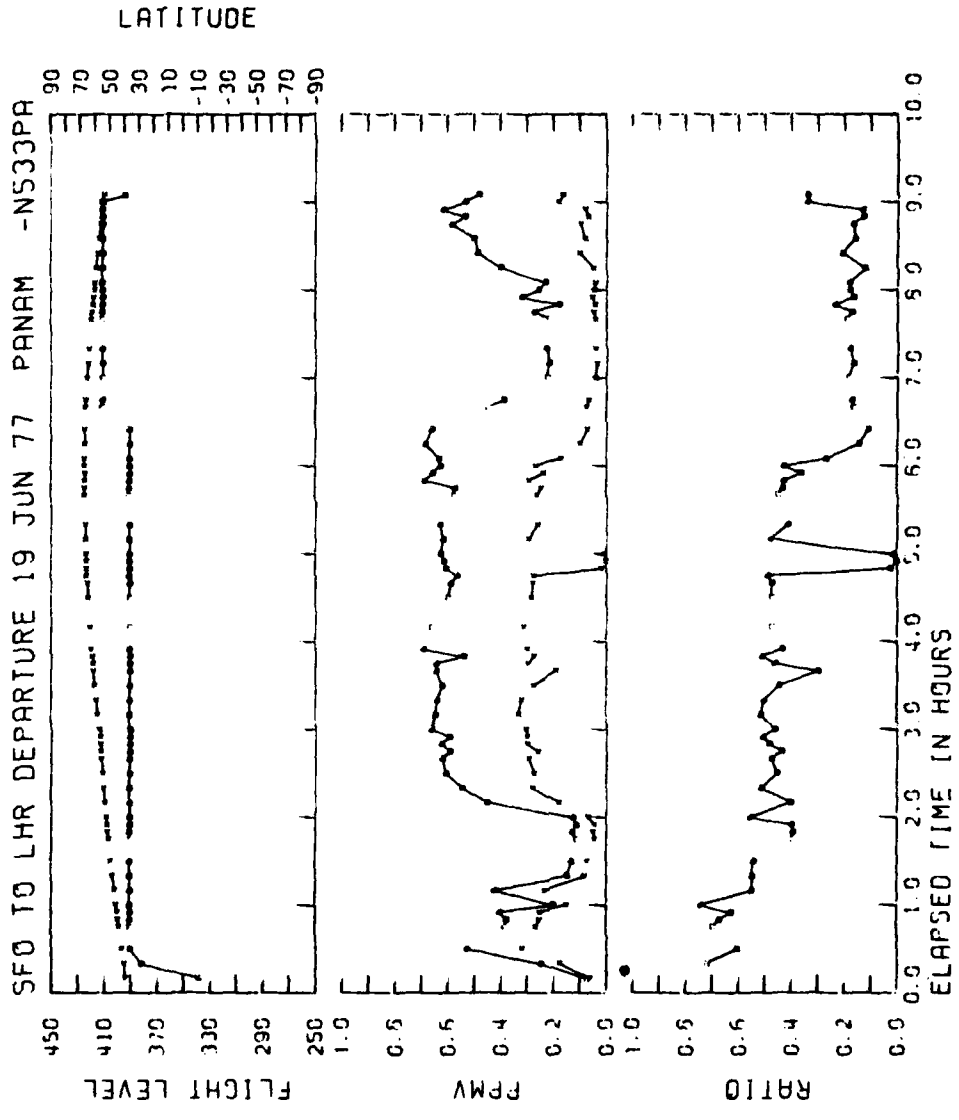
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/18/77	0146	0:10	361	49.13N	120.70W	-56.	.020	.120	.17
6/18/77	0151	0:15	370	49.66N	120.08W	-59.	.033	.069	
6/18/77	0201	0:25	371	50.73N	118.89W	-59.	.064	.104	.62
6/18/77	0211	0:35	371	51.85N	117.84W	-60.	.070	.106	.66
6/18/77	0221	0:45	370	52.97N	116.73W	-60.	.064		
6/18/77	0226	0:50	370	53.52N	116.17W	-61.	.039	.057	
6/18/77	0231	0:55	371	54.06N	115.59W	-61.	.045	.027	
6/18/77	0241	1:05	371	55.12N	114.41W	-59.	.196	.273	.72
6/18/77	0246	1:10	371	55.65N	113.80W	-54.	.289	.531	.54
6/18/77	0256	1:20	371	56.73N	112.48W	-55.	.245	.393	.62
6/18/77	0306	1:30	371	57.79N	111.08W	-56.	.173	.337	.51
6/18/77	0316	1:40	371	58.82N	109.62W	-50.		.553	
6/18/77	0326	1:50	371	59.83N	107.94W	-48.	.237	.419	.57
6/18/77	0331	1:55	370	60.29N	106.95W	-46.	.334	.581	.57
6/18/77	0336	2:00	370	60.75N	105.90W	-46.	.353	.580	.61
6/18/77	0341	2:05	370	61.20N	104.83W	-46.	.283	.464	.61
6/18/77	0346	2:10	371	61.65N	103.73W	-47.	.197	.383	.51
6/18/77	0356	2:20	371	62.51N	101.41W	-46.	.337	.661	.51
6/18/77	0406	2:30	371	63.36N	99.00W	-44.	.332	.675	.49
6/18/77	0416	2:40	371	64.19N	96.51W	-45.	.385	.647	.60
6/18/77	0426	2:50	370	64.94N	93.75W	-46.	.336	.638	.53
6/18/77	0431	2:55	370	65.29N	92.30W	-47.	.354	.633	.56
6/18/77	0436	3:00	370	65.63N	90.81W	-48.	.337	.579	.58
6/18/77	0441	3:05	370	65.95N	89.28W	-48.	.364	.589	.62
6/18/77	0446	3:10	370	66.26N	87.72W	-47.	.329	.589	.56
6/18/77	0456	3:20	370	66.82N	84.47W	-49.	.334	.644	.52
6/18/77	0506	3:30	371	67.31N	81.09W	-49.	.325	.666	.49
6/18/77	0516	3:40	371	67.72N	77.59W	-48.	.329	.660	.50
6/18/77	0526	3:50	371	68.06N	73.90W	-49.	.340	.627	.54
6/18/77	0531	3:55	371	68.20N	72.01W	-46.	.320	.657	.49
6/18/77	0536	4:00	371	68.32N	70.10W	-46.	.367	.661	.56
6/18/77	0541	4:05	370	68.42N	68.19W	-44.	.343	.665	.52
6/18/77	0546	4:10	371	68.44N	66.28W	-45.	.341	.646	.53
6/18/77	0556	4:20	370	68.19N	62.47W	-46.	.322	.631	.51
6/18/77	0606	4:30	371	68.03N	58.69W	-45.	.322	.638	.50
6/18/77	0616	4:40	390	68.07N	54.81W	-44.	.331	.623	.53
6/18/77	0626	4:50	391	68.02N	50.88W	-44.	.115	.659	.178
6/18/77	0631	4:55	391	67.93N	48.97W	-44.	.105	.617	.178
6/18/77	0636	5:00	391	67.78N	47.08W	-43.	.103	.596	.178
6/18/77	0641	5:05	391	67.61N	45.20W	-45.	.083	.690	.128
6/18/77	0646	5:10	391	67.41N	43.33W	-44.	.110	.646	.178
6/18/77	0656	5:20	391	66.98N	39.70W	-46.	.096	.635	.158
6/18/77	0706	5:30	391	66.68N	35.99W	-46.	.105	.645	.168
6/18/77	0716	5:40	391	66.30N	32.38W	-49.	.108	.638	.178
6/18/77	0726	5:50	391	65.77N	28.99W	-51.	.109	.607	.188
6/18/77	0731	5:55	390	65.54N	27.27W	-51.	.094	.565	.178
6/18/77	0736	6:00	390	65.15N	25.76W	-52.	.099	.569	.178
6/18/77	0741	6:05	390	64.74N	24.30W	-53.	.104	.558	.198
6/18/77	0746	6:10	391	64.32N	22.90W	-55.	.094	.561	.178
6/18/77	0756	6:20	391	63.47N	20.15W	-55.	.177	.488	.36
6/18/77	0806	6:30	391	62.60N	17.57W	-55.	.217	.431	.50
6/18/77	0816	6:40	391	61.69N	15.16W	-56.	.201	.377	.53
6/18/77	0826	6:50	391	60.75N	12.94W	-56.	.193	.381	.51
6/18/77	0831	6:55	391	60.27N	11.89W	-55.	.238	.503	.47
6/18/77	0836	7:00	391	59.78N	10.88W	-54.	.244	.470	.52
6/18/77	0841	7:05	391	59.28N	9.89W	-53.	.215	.512	.42
6/18/77	0846	7:10	391	58.77N	8.96W	-54.	.225	.488	.46
6/18/77	0856	7:20	391	57.75N	7.20W	-53.	.251	.541	.46
6/18/77	0906	7:30	370	56.69N	5.51W	-55.	.206	.419	.49
6/18/77	0916	7:40	370	55.67N	3.82W	-54.	.189	.357	.53
6/18/77	0926	7:50	370	54.50N	2.59W	-55.	.105	.208	.50
6/18/77	0931	7:55	371	53.88N	2.16W	-55.	.114	.268	.43
6/18/77	0936	8:00	324	53.24N	1.77W	-51.	.091	.089	


LATITUDE
LHR TO SFO DEPARTURE 18 JUN 77 PANAM -N533PA
FLIGHT LEVEL
PPMV
RATIO
ELAPSED TIME IN HOURS

LHR TO SFO (PAGE 1 OF 1) DEPARTURE: 18 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .724 CABIN OZONE= .339 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.11 TOTAL OBS IN CABIN: 72
DATA SOURCE: GASP TAPE VL010, FILE 4

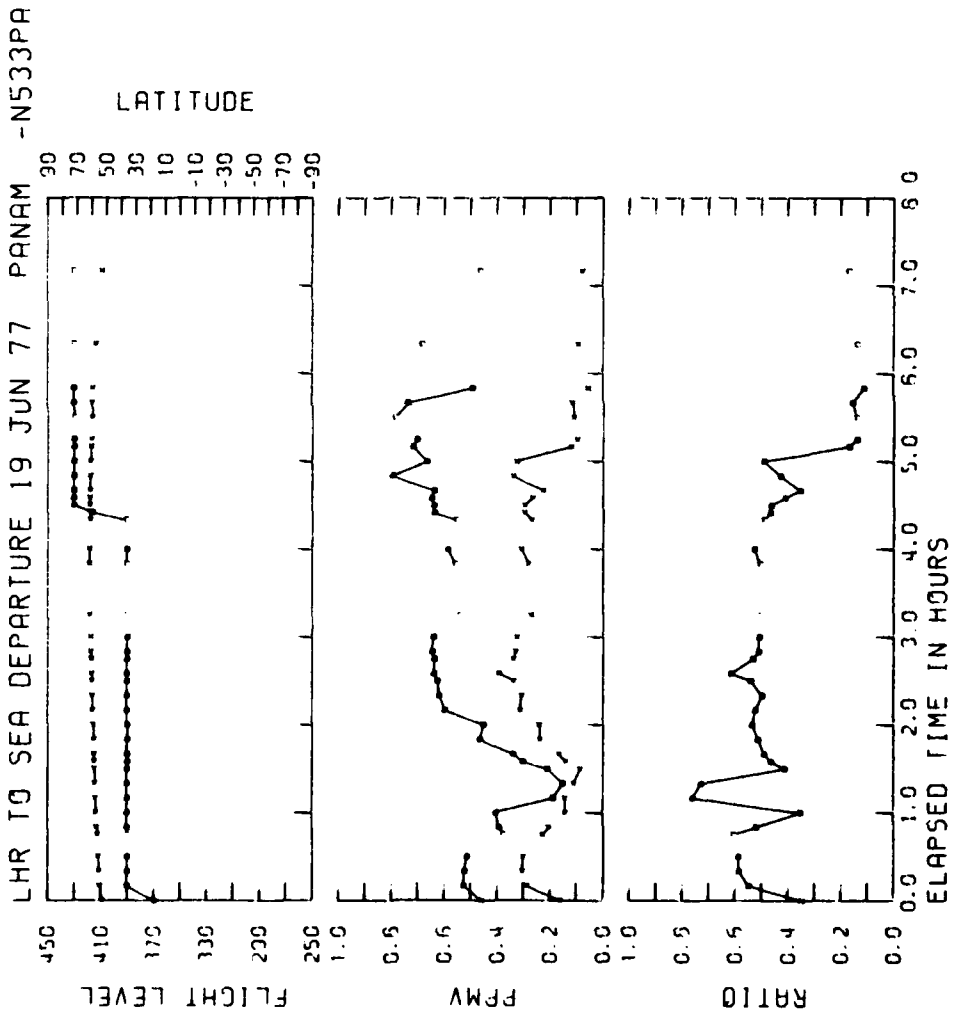
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
6/18/77	1307	0:20	350	54.96N	3.57W	-53.	.108	.243	.44
6/18/77	1317	0:30	350	55.92N	5.07W	-52.	.224	.350	.64
6/18/77	1327	0:40	389	56.45N	7.24W	-53.	.314	.448	.70
6/18/77	1332	0:45	390	56.69N	8.42W	-54.	.339	.484	.70
6/18/77	1337	0:50	390	56.92N	9.57W	-54.	.301	.458	.66
6/18/77	1342	0:55	390	57.11N	10.77W	-55.	.307	.496	.62
6/18/77	1347	1:00	388	57.27N	11.98W	-56.	.312	.503	.62
6/18/77	1357	1:10	389	57.55N	14.45W	-59.	.220	.351	.63
6/18/77	1407	1:20	390	57.78N	16.93W	-59.	.186	.276	.67
6/18/77	1417	1:30	390	57.97N	19.48W	-62.	.156	.192	.81
6/18/77	1427	1:40	390	58.27N	21.99W	-63.	.088	.130	.68
6/18/77	1432	1:45	390	58.41N	23.20W	-64.	.143	.129	1.11
6/18/77	1437	1:50	390	58.55N	24.48W	-64.	.080	.108	.74
6/18/77	1442	1:55	390	58.67N	25.72W	-64.	.081	.121	.67
6/18/77	1447	2:00	390	58.79N	27.00W	-63.	.089	.157	.57
6/18/77	1457	2:10	390	58.98N	29.54W	-62.	.094	.184	.51
6/18/77	1507	2:20	390	59.29N	32.15W	-61.	.137	.263	.52
6/18/77	1517	2:30	390	59.59N	34.78W	-62.	.140	.240	.58
6/18/77	1532	2:45	390	59.93N	38.77W	-60.	.135	.245	.55
6/18/77	1537	2:50	390	60.02N	40.08W	-59.	.204	.407	.50
6/18/77	1542	2:55	390	60.19N	41.39W	-59.	.231	.391	.598
6/18/77	1552	3:05	390	60.51N	44.08W	-55.	.080	.441	.188
6/18/77	1602	3:15	390	60.77N	46.76W	-57.	.075	.486	.158
6/18/77	1612	3:25	390	60.97N	49.48W	-55.	.080	.484	.178
6/18/77	1622	3:35	390	61.19N	52.25W	-57.	.071	.470	.158
6/18/77	1627	3:40	390	61.28N	53.68W	-58.	.085	.460	.188
6/18/77	1632	3:45	390	61.36N	55.14W	-54.	.051	.550	.098
6/18/77	1637	3:50	390	61.42N	56.59W	-52.	.064	.579	.118
6/18/77	1642	3:55	390	61.47N	58.03W	-54.	.098	.530	.188
6/18/77	1652	4:05	390	61.49N	60.87W	-50.	.089	.638	.148
6/18/77	1702	4:15	390	61.42N	63.72W	-49.	.098	.645	.158
6/18/77	1712	4:25	390	61.28N	66.58W	-49.	.097	.629	.158
6/18/77	1717	4:30	390	61.19N	67.99W	-50.	.095	.613	.158
6/18/77	1727	4:40	390	61.03N	70.81W	-48.	.102	.610	.178
6/18/77	1732	4:45	390	61.00N	72.23W	-49.	.085	.523	.168
6/18/77	1737	4:50	407	60.96N	73.66W	-47.	.200	.378	.53
6/18/77	1742	4:55	410	60.91N	75.13W	-47.	.094	.373	.258
6/18/77	1747	5:00	410	60.84N	76.54W	-48.	.069	.438	.168
6/18/77	1757	5:10	410	60.66N	79.30W	-48.	.108	.724	.158
6/18/77	1807	5:20	410	60.44N	82.05W	-49.	.106	.638	.178
6/18/77	1817	5:30	410	60.16N	84.77W	-49.	.094	.653	.148
6/18/77	1827	5:40	410	59.83N	87.42W	-48.	.079	.541	.158
6/18/77	1832	5:45	410	59.65N	88.69W	-49.	.032	.290	.118
6/18/77	1837	5:50	410	59.46N	89.96W	-48.	.056	.408	.148
6/18/77	1842	5:55	410	59.24N	91.20W	-49.	.138	.692	.208
6/18/77	1847	6:00	410	59.01N	92.43W	-48.	.106	.705	.158
6/18/77	1857	6:10	410	58.51N	94.84W	-48.	.095	.723	.138
6/18/77	1907	6:20	410	57.94N	97.17W	-48.	.077	.625	.128
6/18/77	1917	6:30	410	57.33N	99.44W	-46.	.054	.442	.128
6/18/77	1922	6:35	410	57.00N	100.55W	-46.	.074	.647	.118
6/18/77	1932	6:45	410	56.29N	102.71W	-46.	.084	.675	.128
6/18/77	1937	6:50	410	55.92N	103.77W	-47.	.099	.588	.178
6/18/77	1942	6:55	410	55.54N	104.81W	-47.	.093	.591	.168
6/18/77	1947	7:00	410	55.15N	105.82W	-47.	.078	.672	.128
6/18/77	1952	7:05	410	54.75N	106.82W	-49.	.088	.617	.148
6/18/77	2002	7:15	410	53.93N	108.76W	-49.	.093	.419	.228
6/18/77	2012	7:25	410	53.07N	110.64W	-54.	.103	.586	.188
6/18/77	2022	7:35	410	52.03N	112.16W	-56.	.100	.600	.178
6/18/77	2032	7:45	410	50.86N	113.33W	-62.	.206	.498	.41
6/18/77	2037	7:50	410	50.29N	113.88W	-62.	.245	.479	.51
6/18/77	2042	7:55	410	49.70N	114.42W	-63.	.194	.474	.41
6/18/77	2047	8:00	410	49.12N	114.96W	-60.	.193	.415	.47
6/18/77	2052	8:05	410	48.54N	115.46W	-59.	.189	.412	.46
6/18/77	2102	8:15	410	47.34N	116.48W	-58.	.173	.417	.41
6/18/77	2112	8:25	410	46.14N	117.43W	-58.	.190	.516	.37
6/18/77	2122	8:35	410	44.99N	118.31W	-57.	.238	.614	.39
6/18/77	2132	8:45	410	43.82N	119.16W	-56.	.198	.548	.36
6/18/77	2137	8:50	410	43.24N	119.56W	-55.	.225	.345	.65
6/18/77	2142	8:55	410	42.66N	119.96W	-55.	.221	.572	.39
6/18/77	2147	9:00	410	42.13N	120.45W	-55.	.217	.564	.38
6/18/77	2152	9:05	410	41.60N	120.93W	-56.	.224	.553	.41
6/18/77	2212	9:25	403	39.20N	122.37W	-55.	.222	.620	.36


LATITUDE
SFO TO LHR DEPARTURE 19 JUN 77 PANAM -N533PA
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0
ELAPSED TIME IN HOURS

SFO TO LHR (PAGE 1 OF 1) DEPARTURE: 19 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .690 CABIN OZONE= .330 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .74 TOTAL OBS IN CABIN: 65
DATA SOURCE: GASP TAPE VL010, FILE 4

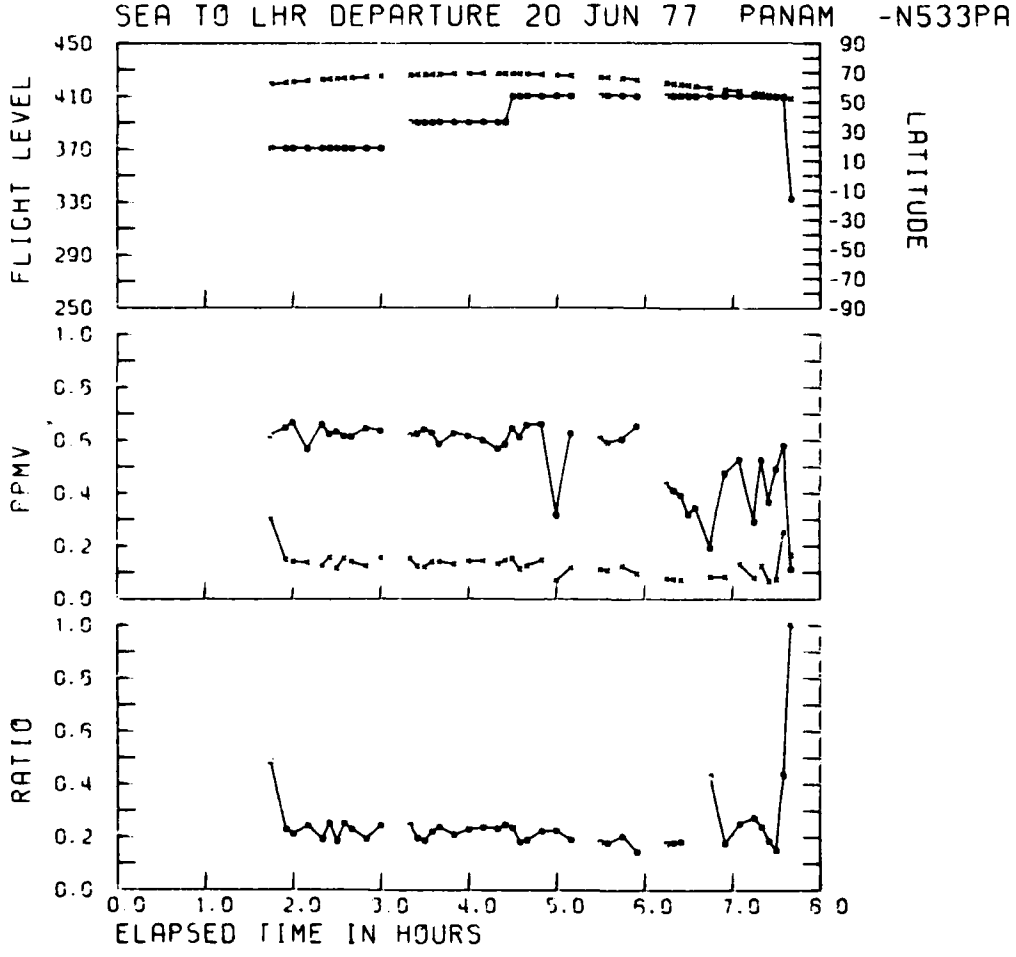
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/19/77	0148	0:10	339	39.61N	121.79W	-52.	.061	.074	
6/19/77	0158	0:20	382	40.82N	121.23W	-62.	.177	.246	.72
6/19/77	0208	0:30	391	42.07N	120.62W	-57.	.318	.526	.60
6/19/77	0223	0:45	391	43.97N	119.63W	-61.	.266	.383	.69
6/19/77	0228	0:50	391	44.61N	119.29W	-60.	.252	.376	.67
6/19/77	0233	0:55	391	45.25N	118.94W	-61.	.252	.403	.63
6/19/77	0238	1:00	391	45.89N	118.57W	-62.	.150	.202	.74
6/19/77	0248	1:10	391	47.16N	117.82W	-60.	.232	.423	.55
6/19/77	0258	1:20	391	48.40N	116.94W	-63.	.081	.148	.55
6/19/77	0308	1:30	391	49.59N	115.95W	-63.	.071	.131	.54
6/19/77	0323	1:45	391	51.06N	113.84W	-62.	.045	.114	.39
6/19/77	0328	1:50	391	51.53N	113.10W	-63.	.051	.130	.39
6/19/77	0333	1:55	390	51.99N	112.35W	-62.	.045	.113	.40
6/19/77	0338	2:00	391	52.44N	111.60W	-62.	.069	.125	.55
6/19/77	0348	2:10	391	53.26N	110.03W	-59.	.180	.449	.40
6/19/77	0358	2:20	391	54.04N	108.30W	-53.	.277	.541	.51
6/19/77	0408	2:30	391	54.80N	106.45W	-51.	.273	.605	.45
6/19/77	0418	2:40	391	55.58N	104.57W	-48.	.294	.620	.47
6/19/77	0423	2:45	390	55.96N	103.58W	-49.	.257	.590	.44
6/19/77	0428	2:50	390	56.33N	102.58W	-48.	.299	.622	.48
6/19/77	0433	2:55	391	56.70N	101.55W	-48.	.300	.592	.51
6/19/77	0438	3:00	390	57.15N	100.65W	-48.	.306	.662	.46
6/19/77	0448	3:10	390	58.22N	99.05W	-47.	.330	.643	.51
6/19/77	0458	3:20	391	59.27N	97.37W	-46.	.320	.638	.50
6/19/77	0508	3:30	390	60.31N	95.55W	-46.	.276	.620	.45
6/19/77	0518	3:40	390	61.30N	93.50W	-46.	.190	.642	.30
6/19/77	0523	3:45	391	61.70N	92.31W	-46.	.296	.643	.46
6/19/77	0528	3:50	390	62.09N	91.08W	-46.	.275	.539	.51
6/19/77	0533	3:55	390	62.47N	89.83W	-47.	.300	.690	.43
6/19/77	0548	4:10	390	63.56N	85.97W	-48.	.313	.661	.47
6/19/77	0608	4:30	390	64.75N	80.23W	-48.	.282	.597	.47
6/19/77	0618	4:40	391	65.25N	77.22W	-48.	.278	.588	.47
6/19/77	0623	4:45	391	65.47N	75.66W	-48.	.277	.565	.49
6/19/77	0628	4:50	390	65.68N	74.04W	-48.	.015	.603	.02
6/19/77	0633	4:55	391	65.87N	72.40W	-48.	.000	.612	.00
6/19/77	0638	5:00	391	66.04N	70.75W	-47.	.008	.624	.01
6/19/77	0648	5:10	390	66.34N	67.38W	-47.	.294	.617	.48
6/19/77	0658	5:20	391	66.55N	63.93W	-48.	.259	.628	.41
6/19/77	0718	5:40	391	66.88N	56.83W	-47.	.259	.574	.45
6/19/77	0723	5:45	391	66.93N	55.03W	-47.	.244	.569	.43
6/19/77	0728	5:50	390	66.96N	53.19W	-47.	.291	.684	.43
6/19/77	0733	5:55	390	66.97N	51.33W	-48.	.237	.656	.36
6/19/77	0738	6:00	390	67.02N	49.43W	-49.	.268	.627	.43
6/19/77	0743	6:05	390	67.06N	47.58W	-47.	.169	.630	.278
6/19/77	0753	6:15	390	67.07N	43.81W	-49.	.099	.683	.148
6/19/77	0803	6:25	390	67.00N	40.05W	-49.	.073	.660	.118
6/19/77	0818	6:40	411	66.55N	34.58W	-49.	.074	.450	.168
6/19/77	0823	6:45	411	66.36N	32.84W	-49.	.066	.386	.178
6/19/77	0838	7:00	411	65.51N	27.96W	-50.	.041	.223	.188
6/19/77	0848	7:10	411	64.73N	25.06W	-50.	.036	.217	.178
6/19/77	0858	7:20	411	63.91N	22.36W	-51.	.041	.227	.188
6/19/77	0918	7:40	411	62.23N	17.28W	-53.	.041	.216	.198
6/19/77	0923	7:45	411	61.78N	16.10W	-54.	.046	.270	.178
6/19/77	0928	7:50	411	61.33N	14.95W	-53.	.041	.176	.238
6/19/77	0933	7:55	411	60.86N	13.85W	-54.	.052	.317	.168
6/19/77	0938	8:00	411	60.38N	12.80W	-53.	.046	.257	.188
6/19/77	0943	8:05	411	59.89N	11.76W	-54.	.042	.231	.188
6/19/77	0953	8:15	411	58.92N	9.85W	-53.	.048	.396	.128
6/19/77	1003	8:25	411	57.91N	8.08W	-52.	.101	.486	.218
6/19/77	1013	8:35	411	56.86N	6.44W	-52.	.080	.499	.168
6/19/77	1023	8:45	411	55.86N	4.77W	-52.	.097	.583	.178
6/19/77	1028	8:50	411	55.32N	4.11W	-51.	.069	.534	.138
6/19/77	1033	8:55	411	54.72N	3.54W	-50.	.082	.617	.138
6/19/77	1038	9:00	411	54.10N	3.06W	-50.	.181	.531	.34
6/19/77	1043	9:05	394	53.47N	2.60W	-50.	.163	.480	.34


LHR TO SEA DEPARTURE 19 JUN 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0
ELAPSED TIME IN HOURS

LHR TO SEA (PAGE 1 OF 1) DEPARTURE: 19 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .795 CABIN OZONE= .392 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .76 TOTAL OBS IN CABIN: 38
DATA SOURCE: GASP TAPE VL010, FILE 4 AN "M" AFTER THE GMT BELOW DENOTES GMT MISSING ON THE ORIGINAL DATA TAPE

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/19/77	0000M	0:00	370	53.31N	1.73W	-52.	.160	.460	.35
6/19/77	0014M	0:14	390	54.84N	3.66W	-51.	.287	.525	.55
6/19/77	0024M	0:24	390	55.30N	5.94W	-51.	.305	.522	.58
6/19/77	0034M	0:34	390	55.72N	8.25W	-54.	.301	.513	.59
6/19/77	0049M	0:49	390	56.42N	11.70W	-57.	.229	.377	.61
6/19/77	0054M	0:54	390	56.69N	12.88W	-58.	.204	.392	.52
6/19/77	0104M	1:04	390	57.17N	15.16W	-61.	.142	.404	.35
6/19/77	0114M	1:14	390	57.61N	17.55W	-63.	.142	.187	.76
6/19/77	0124M	1:24	390	58.00N	19.94W	-63.	.110	.151	.73
6/19/77	0134M	1:34	390	58.33N	22.45W	-61.	.086	.209	.41
6/19/77	0139M	1:39	390	58.48N	23.69W	-58.	.140	.302	.46
6/19/77	0144M	1:44	390	58.61N	24.97W	-60.	.166	.339	.49
6/19/77	0154M	1:54	390	58.84N	27.51W	-58.	.239	.465	.51
6/19/77	0204M	2:04	390	59.03N	30.10W	-55.	.242	.451	.54
6/19/77	0214M	2:14	390	59.37N	32.70W	-55.	.312	.597	.52
6/19/77	0224M	2:24	390	59.66N	35.41W	-51.	.307	.618	.50
6/19/77	0234M	2:34	390	59.89N	38.13W	-49.	.337	.625	.54
6/19/77	0239M	2:39	390	59.99N	39.57W	-47.	.392	.638	.61
6/19/77	0249M	2:49	390	60.32N	42.35W	-46.	.338	.637	.53
6/19/77	0254M	2:54	390	60.49N	43.79W	-46.	.329	.645	.51
6/19/77	0304M	3:04	390	60.77N	46.67W	-44.	.325	.640	.51
6/19/77	0319M	3:19	390	61.11N	51.03W	-48.	.270	.539	.50
6/19/77	0354M	3:54	390	61.50N	61.14W	-53.	.281	.558	.50
6/19/77	0404M	4:04	390	61.42N	63.95W	-51.	.308	.586	.53
6/19/77	0424M	4:24	390	61.08N	69.46W	-52.	.270	.553	.49
6/19/77	0429M	4:29	416	61.05N	70.83W	-49.	.297	.638	.47
6/19/77	0434M	4:34	430	61.02N	72.29W	-49.	.294	.638	.46
6/19/77	0439M	4:39	430	60.98N	73.69W	-49.	.264	.647	.41
6/19/77	0444M	4:44	430	60.93N	75.09W	-49.	.224	.637	.35
6/19/77	0454M	4:54	430	60.78N	77.88W	-49.	.339	.795	.43
6/19/77	0504M	5:04	430	60.57N	80.70W	-49.	.326	.666	.49
6/19/77	0514M	5:14	430	60.33N	83.41W	-50.	.120	.718	.178
6/19/77	0519M	5:19	430	60.18N	84.78W	-50.	.097	.703	.148
6/19/77	0530M	5:30	430	59.80N	87.81W	-49.	.110	.785	.148
6/19/77	0540M	5:40	430	59.42N	90.37W	-49.	.115	.736	.168
6/19/77	0550M	5:50	430	58.95N	92.90W	-48.	.054	.492	.118
6/19/77	0624M	6:24	430	56.92N	101.01W	-51.	.093	.682	.148
6/19/77	0714M	7:14	430	52.89N	110.64W	-55.	.077	.463	.178

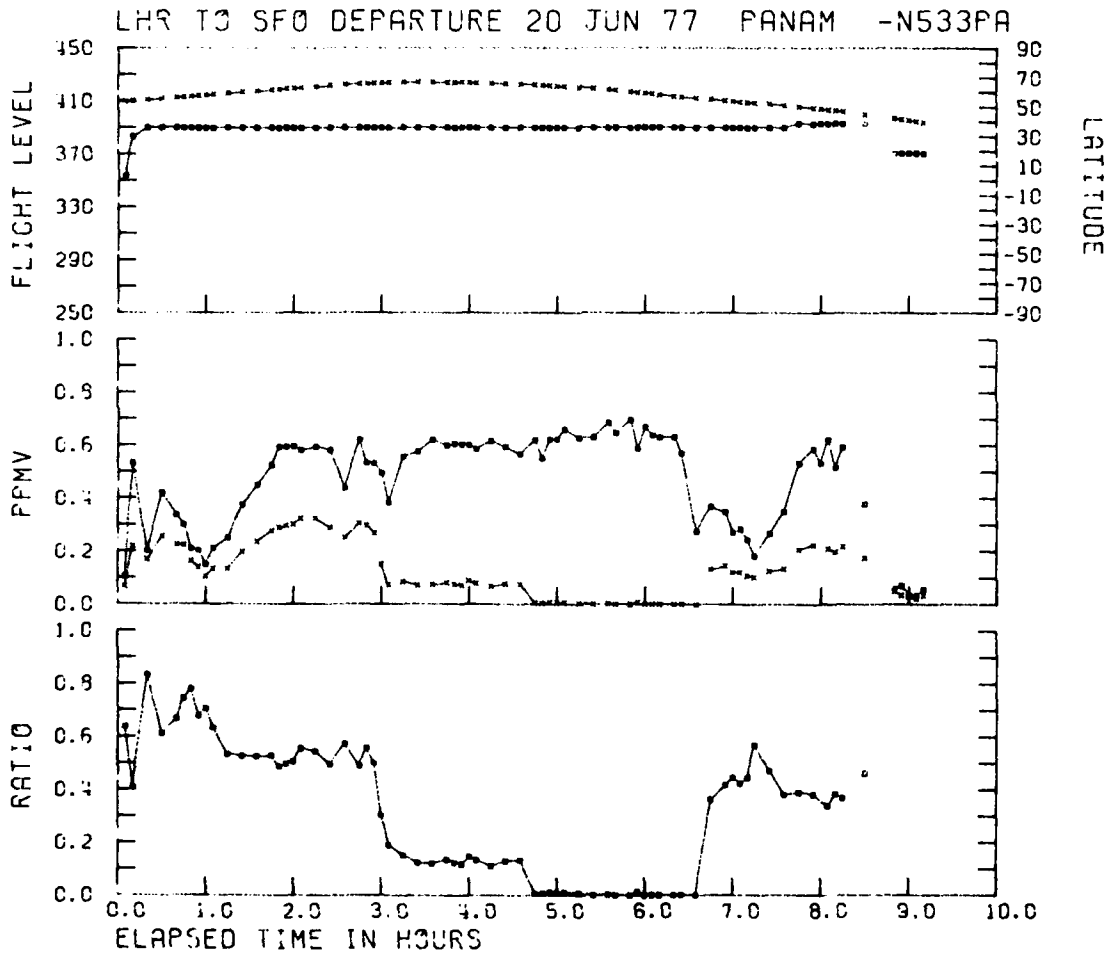

SEA TO LHR DEPARTURE 20 JUN 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
ELAPSED TIME IN HOURS

SEA TO LHR (PAGE 1 OF 1) DEPARTURE: 20 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .667 CABIN OZONE= .301 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.48 TOTAL OBS IN CABIN: 43
DATA SOURCE: GASP TAPE VL010, FILE 4 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/20/77	0345	1:45	371	62.44N	101.66W	-46.	.301	.619	.49
6/20/77	0355	1:55	370	63.26N	99.33W	-44.	.148	.646	.238
6/20/77	0400	2:00	371	63.69N	98.11W	-43.	.141	.667	.218
6/20/77	0410	2:10	371	64.50N	95.56W	-43.	.137	.565	.248
6/20/77	0420	2:20	371	65.21N	92.82W	-44.	.126	.659	.198
6/20/77	0425	2:25	371	65.54N	91.40W	-46.	.156	.622	.258
6/20/77	0430	2:30	371	65.85N	89.93W	-46.	.116	.632	.188
6/20/77	0435	2:35	371	66.16N	88.43W	-48.	.154	.615	.258
6/20/77	0440	2:40	371	66.45N	86.91W	-50.	.141	.613	.238
6/20/77	0450	2:50	370	66.98N	83.74W	-51.	.124	.644	.198
6/20/77	0500	3:00	371	67.44N	80.44W	-52.	.155	.636	.248
6/20/77	0520	3:20	390	68.16N	73.34W	-48.	.152	.617	.258
6/20/77	0525	3:25	390	68.29N	71.52W	-49.	.123	.624	.208
6/20/77	0530	3:30	390	68.40N	69.67W	-48.	.120	.640	.198
6/20/77	0535	3:35	390	68.49N	67.79W	-47.	.139	.628	.228
6/20/77	0540	3:40	390	68.60N	65.91W	-48.	.140	.585	.248
6/20/77	0550	3:50	390	68.90N	62.15W	-46.	.131	.625	.218
6/20/77	0600	4:00	390	69.14N	58.33W	-45.	.142	.615	.238
6/20/77	0610	4:10	390	69.28N	54.33W	-44.	.142	.599	.248
6/20/77	0620	4:20	390	69.10N	50.31W	-44.	.132	.567	.238
6/20/77	0625	4:25	390	69.02N	48.38W	-45.	.144	.583	.258
6/20/77	0630	4:30	410	68.95N	46.38W	-45.	.152	.644	.248
6/20/77	0635	4:35	410	68.85N	44.38W	-44.	.111	.610	.188
6/20/77	0640	4:40	410	68.73N	42.36W	-44.	.124	.656	.198
6/20/77	0650	4:50	410	68.44N	38.54W	-45.	.147	.660	.228
6/20/77	0700	5:00	410	68.04N	34.80W	-46.	.071	.316	.228
6/20/77	0710	5:10	410	67.58N	31.24W	-48.	.119	.624	.198
6/20/77	0730	5:30	410	66.44N	24.40W	-48.	.111	.608	.188
6/20/77	0735	5:35	410	66.11N	22.75W	-49.	.106	.590	.188
6/20/77	0745	5:45	410	65.44N	19.61W	-48.	.124	.605	.208
6/20/77	0755	5:55	410	64.71N	16.67W	-52.	.096	.655	.158
6/20/77	0815	6:15	410	62.68N	12.24W	-53.	.077	.435	.188
6/20/77	0820	6:20	410	62.10N	11.34W	-54.	.074	.411	.188
6/20/77	0825	6:25	410	61.52N	10.48W	-53.	.072	.392	.188
6/20/77	0830	6:30	410	60.94N	9.66W	-55.		.320	
6/20/77	0835	6:35	410	60.38N	8.83W	-56.		.345	
6/20/77	0845	6:45	410	59.23N	7.26W	-53.	.084	.194	.438
6/20/77	0855	6:55	410	58.06N	5.95W	-55.	.084	.474	.188
6/20/77	0905	7:05	410	56.87N	4.70W	-54.	.132	.528	.258
6/20/77	0915	7:15	410	55.72N	3.44W	-53.	.080	.292	.278
6/20/77	0920	7:20	410	55.10N	2.97W	-53.	.126	.526	.248
6/20/77	0925	7:25	410	54.48N	2.51W	-52.	.068	.367	.198
6/20/77	0930	7:30	410	53.83N	2.20W	-54.	.074	.491	.158
6/20/77	0935	7:35	410	53.17N	1.93W	-52.	.253	.581	.44
6/20/77	0941A	7:41	333	52.39N	1.60W	-54.	.167	.113	1.48

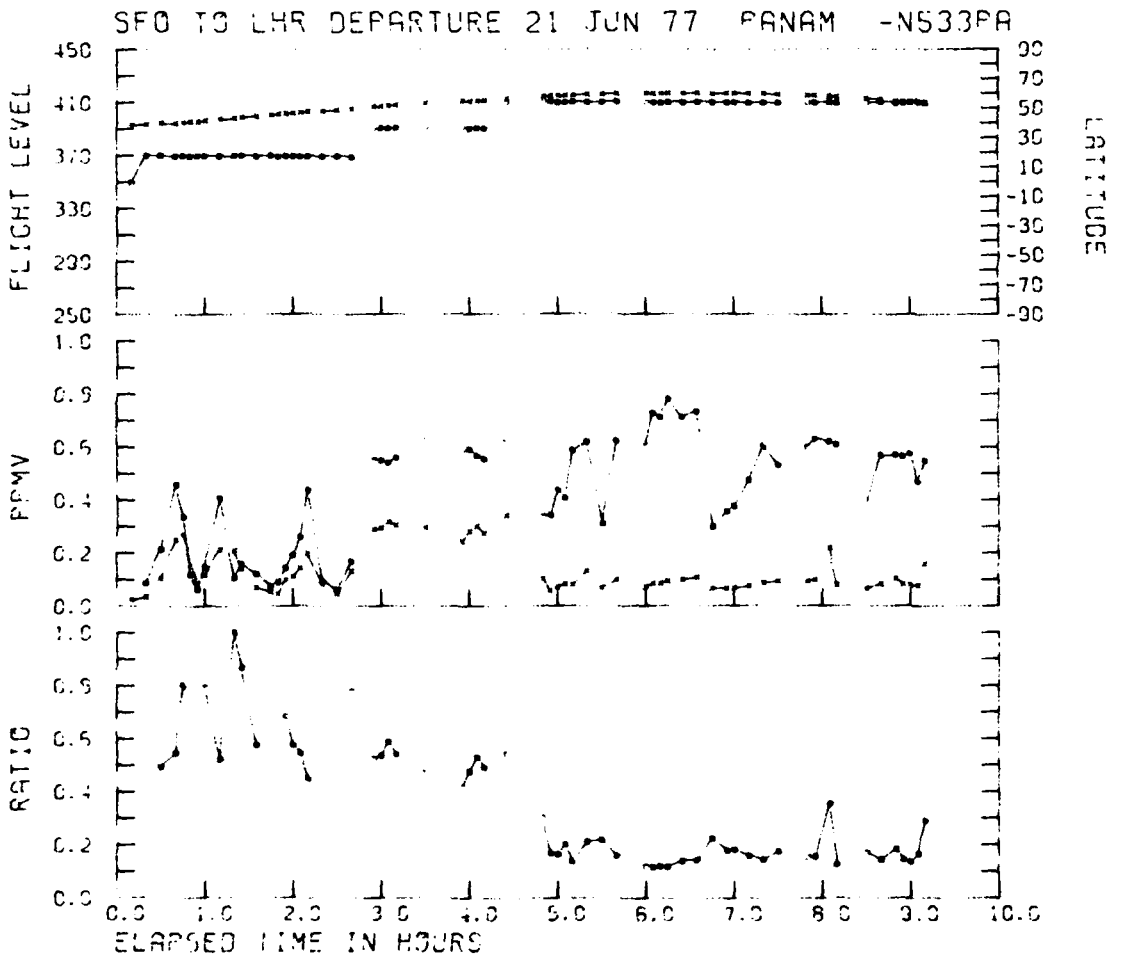
A-263


LHR TO SFO DEPARTURE 20 JUN 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
ELAPSED TIME IN HOURS

LHR TO SFO (PAGE 1 OF 1) DEPARTURE: 20 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .696 CABIN OZONE= .323 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .83 TOTAL OBS IN CABIN: 73
DATA SOURCE: GASP TAPE VL010, FILE 4

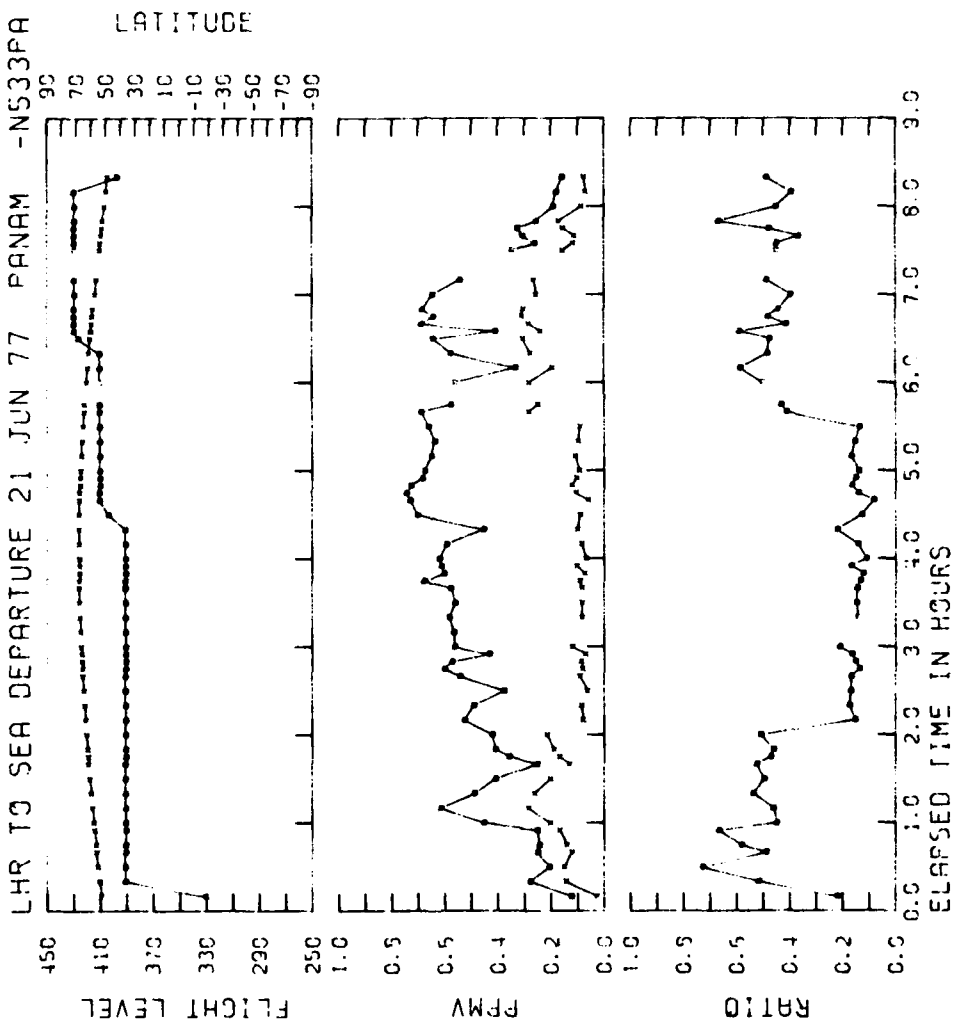
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/20/77	1255	0:05	353	53.72N	2.11W	-59.	.067	.105	.64
6/20/77	1300	0:10	383	54.28N	2.77W	-58.	.218	.531	.41
6/20/77	1310	0:20	390	55.12N	4.59W	-57.	.169	.203	.83
6/20/77	1320	0:30	390	55.82N	6.67W	-58.	.257	.420	.61
6/20/77	1330	0:40	390	56.58N	8.73W	-61.	.225	.337	.67
6/20/77	1335	0:45	390	56.90N	9.67W	-61.	.224	.301	.74
6/20/77	1340	0:50	390	57.37N	10.75W	-61.	.164	.210	.78
6/20/77	1345	0:55	390	57.81N	11.70W	-62.	.139	.205	.68
6/20/77	1350	1:00	390	58.25N	12.67W	-63.	.106	.150	.71
6/20/77	1355	1:05	390	58.67N	13.66W	-61.	.134	.211	.64
6/20/77	1405	1:15	390	59.48N	15.67W	-60.	.133	.249	.53
6/20/77	1415	1:25	390	60.25N	17.75W	-61.	.197	.374	.53
6/20/77	1425	1:35	390	60.88N	19.63W	-59.	.236	.449	.53
6/20/77	1435	1:45	390	61.79N	22.22W	-55.	.277	.524	.53
6/20/77	1440	1:50	390	62.18N	23.40W	-52.	.290	.593	.49
6/20/77	1445	1:55	390	62.56N	24.62W	-52.	.296	.593	.50
6/20/77	1450	2:00	390	62.93N	25.86W	-51.	.301	.595	.51
6/20/77	1455	2:05	390	63.28N	27.14W	-50.	.323	.582	.55
6/20/77	1505	2:15	390	63.97N	29.84W	-48.	.323	.593	.54
6/20/77	1515	2:25	390	64.63N	32.60W	-46.	.289	.582	.50
6/20/77	1525	2:35	390	65.24N	35.56W	-46.	.251	.438	.57
6/20/77	1535	2:45	390	65.78N	38.59W	-45.	.304	.619	.49
6/20/77	1540	2:50	390	66.02N	40.16W	-45.	.297	.534	.56
6/20/77	1545	2:55	390	66.23N	41.78W	-44.	.267	.532	.50
6/20/77	1550	3:00	390	66.42N	43.43W	-45.	.151	.495	.318
6/20/77	1555	3:05	390	66.60N	45.14W	-44.	.073	.384	.198
6/20/77	1605	3:15	390	66.89N	48.47W	-45.	.085	.556	.158
6/20/77	1615	3:25	390	66.97N	51.97W	-45.	.071	.575	.128
6/20/77	1625	3:35	390	66.92N	55.43W	-45.	.075	.620	.128
6/20/77	1635	3:45	390	66.79N	58.93W	-46.	.081	.600	.148
6/20/77	1640	3:50	390	66.71N	60.66W	-46.	.075	.605	.128
6/20/77	1645	3:55	390	66.63N	62.38W	-47.	.071	.603	.128
6/20/77	1650	4:00	390	66.55N	64.07W	-48.	.088	.601	.158
6/20/77	1655	4:05	390	66.45N	65.75W	-48.	.079	.587	.138
6/20/77	1705	4:15	390	66.19N	69.10W	-49.	.069	.616	.118
6/20/77	1715	4:25	390	65.86N	72.37W	-50.	.077	.594	.138
6/20/77	1725	4:35	390	65.47N	75.56W	-50.	.076	.568	.138
6/20/77	1735	4:45	390	65.02N	78.64W	-50.	.005	.619	.018
6/20/77	1740	4:50	390	64.77N	80.14W	-49.	.005	.551	.018
6/20/77	1745	4:55	390	64.52N	81.62W	-48.	.007	.621	.018
6/20/77	1750	5:00	390	64.25N	83.07W	-49.	.006	.623	.018
6/20/77	1755	5:05	390	63.93N	84.48W	-48.	.007	.660	.018
6/20/77	1805	5:15	390	63.24N	87.16W	-46.	.005	.629	.01
6/20/77	1815	5:25	390	62.49N	89.71W	-46.	.000	.630	.00
6/20/77	1825	5:35	390	61.73N	92.16W	-45.	.002	.685	.00
6/20/77	1830	5:40	390	61.34N	93.34W	-45.	.000	.647	.00
6/20/77	1840	5:50	390	60.38N	95.38W	-46.	.000	.696	.00
6/20/77	1845	5:55	390	59.85N	96.32W	-48.	.008	.590	.01
6/20/77	1850	6:00	390	59.32N	97.23W	-49.	.000	.667	.00
6/20/77	1855	6:05	390	58.78N	98.11W	-49.	.000	.638	.00
6/20/77	1900	6:10	390	58.22N	98.99W	-49.	.000	.630	.00
6/20/77	1910	6:20	390	57.13N	100.64W	-53.	.000	.631	.00
6/20/77	1915	6:25	390	56.69N	101.57W	-54.	.001	.570	.00
6/20/77	1925	6:35	390	55.98N	103.62W	-63.	.000	.274	.00
6/20/77	1935	6:45	390	55.25N	105.56W	-61.	.133	.368	.36
6/20/77	1945	6:55	390	54.50N	107.39W	-61.	.146	.349	.42
6/20/77	1950	7:00	390	54.08N	108.18W	-62.	.122	.273	.45
6/20/77	1955	7:05	390	53.52N	108.76W	-62.	.121	.285	.42
6/20/77	2000	7:10	390	53.17N	109.64W	-62.	.109	.245	.44
6/20/77	2005	7:15	390	52.88N	110.58W	-62.	.104	.183	.57
6/20/77	2015	7:25	390	52.13N	112.18W	-62.	.126	.267	.47
6/20/77	2025	7:35	390	51.22N	113.61W	-60.	.134	.350	.38
6/20/77	2035	7:45	393	50.31N	114.97W	-57.	.207	.532	.39
6/20/77	2045	7:55	393	49.31N	116.21W	-54.	.224	.586	.38
6/20/77	2050	8:00	393	48.72N	116.66W	-54.		.534	
6/20/77	2055	8:05	393	48.13N	117.10W	-52.	.210	.621	.34
6/20/77	2100	8:10	393	47.52N	117.54W	-53.	.198	.517	.38
6/20/77	2105	8:15	393	46.88N	117.99W	-54.	.218	.592	.37
6/20/77	2120	8:30	393	44.97N	119.25W	-59.	.175	.379	.46
6/20/77	2140	8:50	371	42.27N	120.91W	-55.	.051	.061	
6/20/77	2145	8:55	371	41.57N	121.31W	-55.	.035	.071	
6/20/77	2150	9:00	371	40.88N	121.70W	-55.	.031	.036	
6/20/77	2155	9:05	371	40.18N	122.08W	-55.	.021	.034	
6/20/77	2200	9:10	370	39.46N	122.37W	-55.	.033	.057	


SFO TO LHR DEPARTURE 21 JUN 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.9
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
ELAPSED TIME IN HOURS

SFO TO LHR (PAGE 1 OF 1) DEPARTURE: 21 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .780 CABIN OZONE= .341 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.98 TOTAL OBS IN CABIN: 61
DATA SOURCE: GASP TAPE VL010, FILE 4

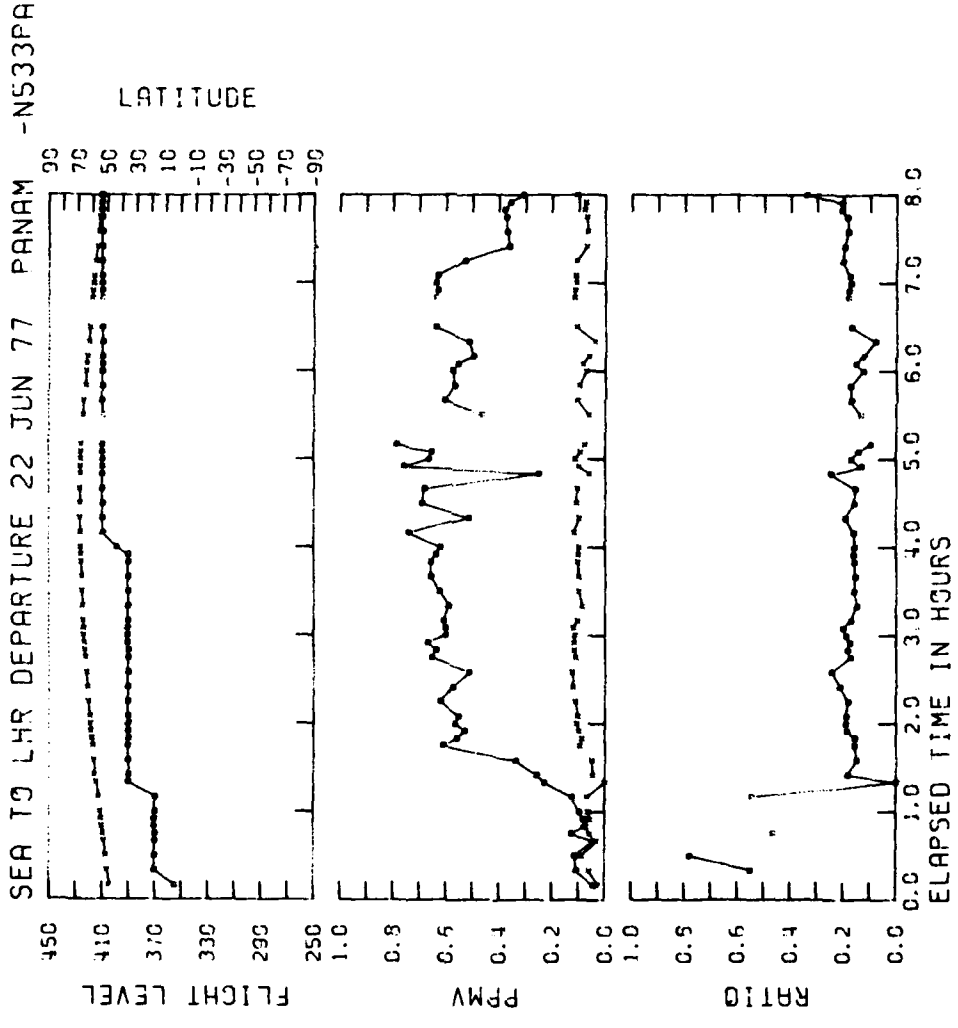
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/21/77	0146	0:10	350	38.73N	120.04W	-49.	.025		
6/21/77	0156	0:20	370	39.24N	118.55W	-55.	.034	.086	
6/21/77	0206	0:30	370	39.74N	117.02W	-55.	.106	.214	.50
6/21/77	0216	0:40	370	40.29N	115.50W	-55.	.251	.459	.55
6/21/77	0221	0:45	370	40.67N	114.81W	-57.	.270	.337	.80
6/21/77	0226	0:50	369	41.05N	114.06W	-59.		.121	
6/21/77	0231	0:55	370	41.47N	113.35W	-60.	.083	.063	
6/21/77	0236	1:00	370	41.89N	112.64W	-59.	.118	.148	.80
6/21/77	0246	1:10	370	42.73N	111.16W	-55.	.214	.408	.52
6/21/77	0256	1:20	370	43.54N	109.66W	-56.	.210	.106	1.98
6/21/77	0301	1:25	370	43.93N	108.91W	-57.	.139	.160	.87
6/21/77	0311	1:35	370	44.70N	107.36W	-57.	.071	.123	.58
6/21/77	0321	1:45	370	45.45N	105.79W	-57.	.052	.075	
6/21/77	0327	1:51	369	45.93N	104.76W	-57.	.048	.091	
6/21/77	0334	1:58	370	46.48N	103.67W	-57.	.099	.144	.69
6/21/77	0339	2:03	370	46.73N	102.62W	-56.	.111	.192	.58
6/21/77	0344	2:08	369	47.11N	101.69W	-57.	.142	.260	.55
6/21/77	0349	2:13	369	47.49N	100.76W	-57.	.197	.436	.45
6/21/77	0359	2:23	369	48.22N	98.90W	-58.	.084	.095	
6/21/77	0409	2:33	370	48.88N	97.07W	-58.	.048	.062	
6/21/77	0419	2:43	369	49.87N	95.65W	-59.	.132	.169	.78
6/21/77	0434	2:58	391	51.21N	93.37W	-50.	.291	.553	.53
6/21/77	0439	3:03	391	51.54N	92.42W	-52.	.295	.550	.54
6/21/77	0444	3:08	391	51.87N	91.44W	-49.	.318	.541	.59
6/21/77	0449	3:13	391	52.19N	90.44W	-49.	.304	.559	.54
6/21/77	0509	3:33	391	53.39N	86.32W	-48.	.295	.624	.47
6/21/77	0534	3:58	391	54.66N	80.98W	-49.	.244	.579	.42
6/21/77	0539	4:03	390	54.90N	79.84W	-50.	.282	.592	.48
6/21/77	0544	4:08	391	55.12N	78.68W	-50.	.301	.568	.53
6/21/77	0549	4:13	391	55.33N	77.59W	-51.	.273	.554	.49
6/21/77	0604	4:28	410	56.40N	74.44W	-51.	.341	.629	.54
6/21/77	0629	4:53	410	58.00N	68.78W	-49.	.103	.338	.30
6/21/77	0634	4:58	410	58.21N	67.57W	-49.	.058	.341	.17
6/21/77	0639	5:03	410	58.38N	66.27W	-49.	.072	.437	.16
6/21/77	0644	5:08	410	58.53N	65.01W	-48.	.082	.407	.20
6/21/77	0649	5:13	410	58.68N	63.68W	-47.	.080	.584	.14
6/21/77	0659	5:23	410	58.92N	61.03W	-46.	.131	.618	.21
6/21/77	0709	5:33	410	59.21N	58.41W	-45.	.067	.308	.22
6/21/77	0719	5:43	410	59.52N	55.76W	-44.	.100	.623	.16
6/21/77	0739	6:03	410	59.98N	50.23W	-43.	.073	.604	.12
6/21/77	0744	6:08	410	60.04N	48.85W	-42.	.085	.727	.12
6/21/77	0749	6:13	410	60.07N	47.46W	-42.	.085	.712	.12
6/21/77	0754	6:18	410	60.09N	46.09W	-42.	.093	.780	.12
6/21/77	0804	6:28	410	60.08N	43.28W	-42.	.099	.712	.14
6/21/77	0814	6:38	410	60.02N	40.53W	-41.	.105	.731	.14
6/21/77	0824	6:48	410	60.07N	37.67W	-42.	.067	.298	.22
6/21/77	0834	6:58	410	60.09N	34.83W	-44.	.064	.355	.18
6/21/77	0839	7:03	410	60.08N	33.39W	-45.	.069	.376	.18
6/21/77	0849	7:13	410	60.02N	30.57W	-48.	.075	.473	.16
6/21/77	0859	7:23	410	59.84N	27.71W	-51.	.089	.602	.15
6/21/77	0909	7:33	410	59.59N	24.92W	-55.	.094	.533	.18
6/21/77	0929	7:53	410	58.93N	19.53W	-55.	.093	.600	.16
6/21/77	0934	7:58	410	58.72N	18.25W	-56.	.098	.629	.16
6/21/77	0944	8:08	410	58.27N	15.76W	-56.	.220	.621	.35
6/21/77	0949	8:13	410	58.02N	14.49W	-56.	.078	.610	.13
6/21/77	1009	8:33	410	56.94N	9.82W	-56.	.066	.387	.17
6/21/77	1019	8:43	410	55.95N	8.10W	-55.	.083	.566	.15
6/21/77	1029	8:53	410	54.99N	6.43W	-56.	.105	.571	.18
6/21/77	1034	8:58	410	54.49N	5.66W	-55.	.083	.566	.15
6/21/77	1039	9:03	410	54.16N	4.67W	-55.	.080	.575	.14
6/21/77	1044	9:08	410	53.76N	3.77W	-54.	.078	.471	.17
6/21/77	1049	9:13	410	53.37N	2.85W	-55.	.159	.548	.29


LHR TO SEA DEPARTURE 21 JUN 77 PANAM -NS33PA
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
FLIGHT LEVEL
450
410
370
330
290
250
PFMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
ELAPSED TIME IN HOURS

LHR TO SEA (PAGE 1 OF 1) DEPARTURE: 21 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .743 CABIN OZONE= .308 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .73 TOTAL OBS IN CABIN: 60
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/21/77	1345	0:10	330	53.40N	1.79W	-52.	.027	.123	.22
6/21/77	1355	0:20	391	54.50N	3.04W	-61.	.143	.277	.52
6/21/77	1405	0:30	391	55.57N	4.47W	-62.	.149	.205	.73
6/21/77	1415	0:40	391	56.61N	6.00W	-62.	.122	.250	.49
6/21/77	1420	0:45	391	57.09N	6.74W	-62.	.142	.244	.58
6/21/77	1430	0:55	391	58.06N	8.34W	-62.	.168	.252	.67
6/21/77	1435	1:00	391	58.54N	9.17W	-58.	.203	.452	.45
6/21/77	1445	1:10	391	59.47N	10.96W	-58.	.284	.615	.46
6/21/77	1455	1:20	391	60.35N	12.91W	-58.	.262	.488	.54
6/21/77	1505	1:30	391	61.18N	14.88W	-62.	.202	.408	.50
6/21/77	1515	1:40	391	61.97N	16.94W	-65.	.132	.252	.52
6/21/77	1520	1:45	391	62.36N	18.04W	-62.	.169	.358	.47
6/21/77	1525	1:50	391	62.74N	19.16W	-61.	.189	.410	.46
6/21/77	1535	2:00	391	63.40N	21.60W	-59.	.215	.422	.51
6/21/77	1545	2:10	391	64.00N	24.33W	-55.	.080	.526	.158
6/21/77	1555	2:20	391	64.53N	27.13W	-51.	.085	.491	.178
6/21/77	1605	2:30	391	65.03N	30.09W	-46.	.063	.375	.178
6/21/77	1615	2:40	391	65.71N	32.99W	-44.	.090	.541	.178
6/21/77	1620	2:45	391	66.04N	34.53W	-44.	.082	.601	.148
6/21/77	1625	2:50	391	66.34N	36.09W	-43.	.087	.573	.158
6/21/77	1630	2:55	391	66.63N	37.67W	-43.	.071	.432	.168
6/21/77	1635	3:00	391	66.90N	39.29W	-42.	.119	.563	.218
6/21/77	1645	3:10	391	67.35N	42.71W	-42.		.566	
6/21/77	1655	3:20	391	67.72N	46.22W	-42.	.083	.583	.148
6/21/77	1705	3:30	391	68.00N	49.79W	-42.	.082	.560	.158
6/21/77	1715	3:40	391	68.08N	53.45W	-44.	.083	.576	.148
6/21/77	1720	3:45	391	68.09N	55.30W	-45.	.091	.679	.138
6/21/77	1725	3:50	391	68.08N	57.14W	-46.	.074	.603	.128
6/21/77	1730	3:55	391	68.04N	58.94W	-46.	.103	.613	.178
6/21/77	1735	4:00	391	68.05N	60.73W	-47.	.069	.620	.118
6/21/77	1745	4:10	391	68.33N	64.26W	-49.	.084	.593	.148
6/21/77	1755	4:20	391	68.44N	67.80W	-50.	.100	.453	.228
6/21/77	1805	4:30	404	68.26N	71.35W	-48.	.089	.701	.138
6/21/77	1815	4:40	410	67.99N	74.91W	-49.	.059	.724	.088
6/21/77	1820	4:45	410	67.83N	76.66W	-48.	.105	.743	.148
6/21/77	1825	4:50	410	67.65N	78.39W	-49.	.121	.728	.178
6/21/77	1830	4:55	410	67.45N	80.11W	-49.	.104	.684	.158
6/21/77	1835	5:00	410	67.22N	81.81W	-48.	.094	.676	.148
6/21/77	1845	5:10	410	66.72N	85.15W	-47.	.109	.651	.178
6/21/77	1855	5:20	410	66.16N	88.28W	-46.	.098	.638	.158
6/21/77	1905	5:30	410	65.52N	91.31W	-46.	.090	.661	.148
6/21/77	1915	5:40	410	64.79N	94.18W	-46.	.283	.689	.41
6/21/77	1920	5:45	410	64.41N	95.57W	-46.	.249	.577	.43
6/21/77	1935	6:00	410	63.17N	99.53W	-48.	.282	.561	.50
6/21/77	1945	6:10	410	62.32N	101.98W	-50.	.195	.333	.59
6/21/77	1955	6:20	410	61.45N	104.25W	-49.	.278	.576	.48
6/21/77	2005	6:30	426	60.56N	106.37W	-52.	.305	.643	.47
6/21/77	2010	6:35	429	60.10N	107.40W	-51.	.240	.408	.59
6/21/77	2015	6:40	430	59.65N	108.37W	-52.	.283	.687	.41
6/21/77	2020	6:45	430	59.13N	109.20W	-52.	.308	.641	.48
6/21/77	2025	6:50	429	58.60N	110.01W	-52.	.304	.684	.44
6/21/77	2035	7:00	429	57.53N	111.59W	-55.	.257	.647	.40
6/21/77	2045	7:10	430	56.47N	113.04W	-54.	.265	.543	.49
6/21/77	2105	7:30	430	54.33N	115.68W	-60.	.156	.346	.45
6/21/77	2110	7:35	430	53.80N	116.28W	-61.	.117	.260	.45
6/21/77	2115	7:40	430	53.27N	116.87W	-60.	.112	.305	.37
6/21/77	2120	7:45	430	52.73N	117.44W	-59.	.155	.325	.48
6/21/77	2125	7:50	429	52.20N	118.00W	-61.	.170	.255	.67
6/21/77	2135	8:00	429	51.13N	119.07W	-58.	.087	.192	.45
6/21/77	2145	8:10	430	50.06N	120.09W	-60.	.071	.180	.39
6/21/77	2155	8:20	397	48.99N	121.05W	-60.	.077	.158	.49

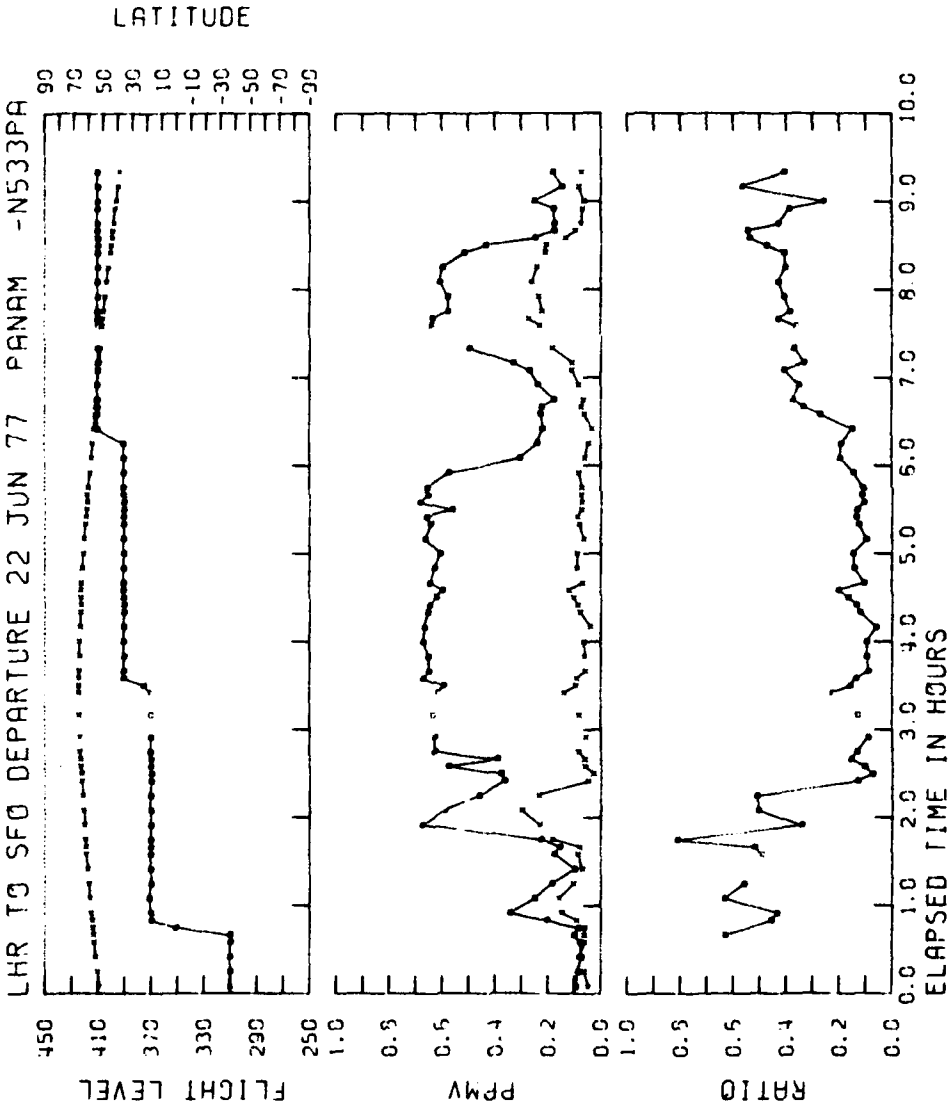

SEA TO LHR DEPARTURE 22 JUN 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0
ELAPSED TIME IN HOURS

SEA TO LHR (PAGE 1 OF 1) DEPARTURE: 22 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .787 CABIN OZONE= .125 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .78 TOTAL OBS IN CABIN: 60
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/22/77	0134	0:10	355	49.07N	120.62W	-52.	.026	.044	
6/22/77	0144	0:20	370	50.33N	119.31W	-55.	.059	.107	.55
6/22/77	0154	0:30	370	51.62N	118.07W	-54.	.088	.113	.78
6/22/77	0204	0:40	370	52.92N	116.79W	-55.	.033	.045	
6/22/77	0209	0:45	370	53.57N	116.12W	-54.	.058	.125	.46
6/22/77	0214	0:50	371	54.20N	115.44W	-55.	.071	.077	
6/22/77	0219	0:55	370	54.83N	114.74W	-55.	.059	.081	
6/22/77	0224	1:00	370	55.45N	114.03W	-55.	.063	.097	
6/22/77	0234	1:10	370	56.68N	112.53W	-55.	.069	.126	.55
6/22/77	0244	1:20	390	57.88N	110.96W	-55.	.000	.229	.00
6/22/77	0253	1:29	390	58.95N	109.43W	-55.	.047	.258	.188
6/22/77	0259	1:35	390	59.56N	108.50W	-54.	.051	.339	.158
6/22/77	0309	1:45	391	60.50N	106.47W	-53.	.096	.612	.168
6/22/77	0314	1:50	390	60.96N	105.41W	-55.	.087	.560	.168
6/22/77	0319	1:55	390	61.43N	104.28W	-56.	.099	.529	.198
6/22/77	0324	2:00	390	61.86N	103.18W	-53.	.108	.567	.198
6/22/77	0329	2:05	390	62.28N	102.05W	-51.	.104	.554	.198
6/22/77	0339	2:15	390	63.10N	99.72W	-50.	.111	.620	.188
6/22/77	0349	2:25	390	63.92N	97.36W	-46.	.122	.574	.218
6/22/77	0359	2:35	390	64.69N	94.73W	-45.	.125	.514	.248
6/22/77	0409	2:45	390	65.37N	91.96W	-45.	.112	.653	.178
6/22/77	0414	2:50	390	65.69N	90.50W	-46.	.116	.637	.188
6/22/77	0419	2:55	391	66.00N	89.01W	-46.	.116	.668	.178
6/22/77	0424	3:00	391	66.30N	87.49W	-45.	.114	.601	.198
6/22/77	0429	3:05	391	66.58N	85.95W	-47.	.121	.603	.208
6/22/77	0434	3:10	390	66.84N	84.35W	-48.	.104	.609	.178
6/22/77	0444	3:20	390	67.32N	81.03W	-49.	.087	.590	.158
6/22/77	0454	3:30	390	67.73N	77.50W	-49.	.100	.625	.168
6/22/77	0504	3:40	391	68.06N	73.90W	-48.	.102	.659	.158
6/22/77	0514	3:50	390	68.32N	70.18W	-46.	.104	.658	.168
6/22/77	0519	3:55	390	68.41N	68.29W	-45.	.102	.639	.168
6/22/77	0524	4:00	399	68.51N	66.42W	-45.	.098	.622	.168
6/22/77	0534	4:10	410	68.83N	62.67W	-45.	.119	.742	.168
6/22/77	0544	4:20	410	69.03N	58.82W	-44.	.098	.514	.198
6/22/77	0554	4:30	410	69.07N	54.84W	-44.	.109	.691	.168
6/22/77	0604	4:40	410	69.02N	50.89W	-43.	.106	.683	.168
6/22/77	0614	4:50	410	68.78N	47.07W	-42.	.062	.251	.258
6/22/77	0619	4:55	410	68.60N	45.21W	-41.	.099	.758	.138
6/22/77	0624	5:00	410	68.41N	43.37W	-41.	.113	.666	.178
6/22/77	0629	5:05	410	68.20N	41.55W	-42.	.093	.654	.148
6/22/77	0634	5:10	410	67.96N	39.76W	-42.	.077	.787	.108
6/22/77	0654	5:30	409	66.75N	33.22W	-41.	.062	.464	.138
6/22/77	0704	5:40	410	66.05N	30.23W	-43.	.104	.604	.178
6/22/77	0714	5:50	410	65.38N	27.45W	-45.	.099	.569	.178
6/22/77	0724	6:00	410	64.64N	24.77W	-45.	.072	.576	.138
6/22/77	0729	6:05	410	64.25N	23.46W	-46.	.084	.555	.158
6/22/77	0734	6:10	410	63.86N	22.17W	-49.	.063	.498	.138
6/22/77	0744	6:20	410	63.08N	19.69W	-49.	.042	.516	.088
6/22/77	0754	6:30	410	62.26N	17.37W	-52.	.109	.640	.178
6/22/77	0814	6:50	410	60.55N	13.16W	-54.	.117	.640	.188
6/22/77	0819	6:55	410	60.09N	12.17W	-55.	.114	.632	.188
6/22/77	0824	7:00	410	59.62N	11.21W	-54.	.110	.639	.178
6/22/77	0829	7:05	410	59.14N	10.27W	-55.	.111	.631	.188
6/22/77	0839	7:15	410	58.17N	8.52W	-55.	.108	.529	.208
6/22/77	0849	7:25	410	57.08N	7.14W	-56.	.072	.364	.208
6/22/77	0859	7:35	410	56.10N	5.44W	-56.	.068	.371	.188
6/22/77	0909	7:45	410	55.00N	4.01W	-56.	.069	.372	.198
6/22/77	0914	7:50	410	54.41N	3.38W	-55.	.079	.379	.218
6/22/77	0919	7:55	410	53.88N	2.69W	-53.	.074	.358	.218
6/22/77	0924	8:00	410	53.28N	2.34W	-53.	.106	.311	.34

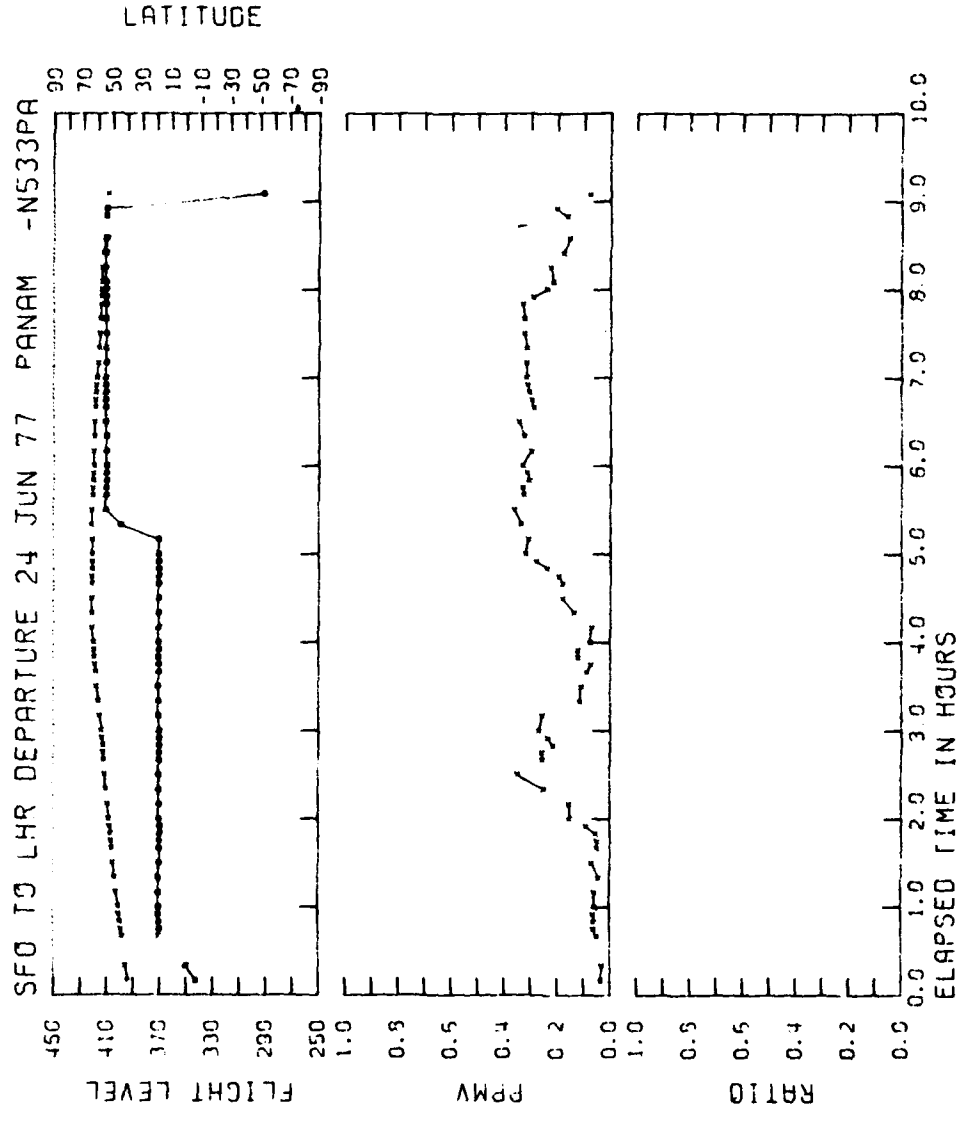
A-281


LATITUDE
LHR TO SFO DEPARTURE 22 JUN 77 PANAM -N533PA
90 70 50 30 10 -10 -30 -50 -70 -90
450 410 370 330 290 250
FLIGHT LEVEL
1.0 0.8 0.6 0.4 0.2 0.0
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0
ELAPSED TIME IN HOURS

LHR TO SFO (PAGE 1 OF 1) DEPARTURE: 22 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .683 CABIN OZONE= .298 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .81 TOTAL OBS IN CABIN: 71
DATA SOURCE: GASP TAPE VL010, FILE 4

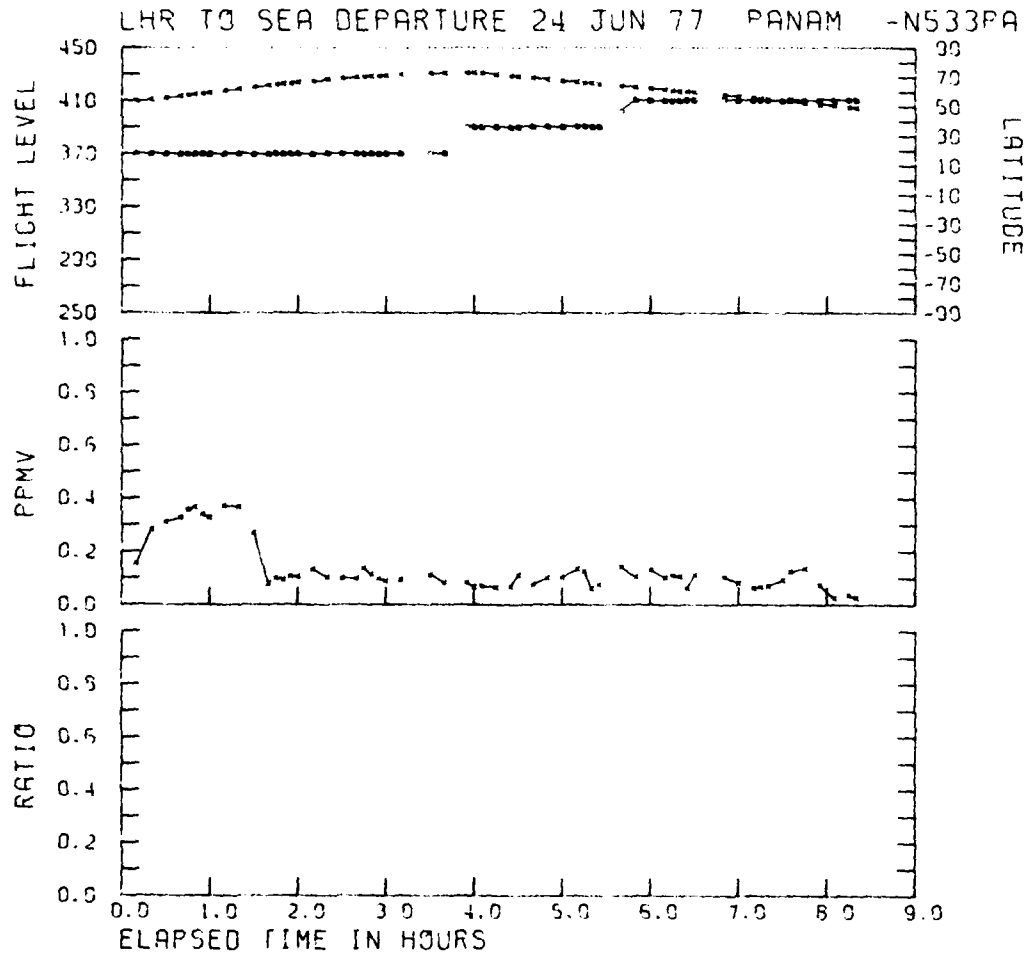
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/22/77	1240	0:05	310	53.29N	1.80W	-48.	.047	.093	
6/22/77	1250	0:15	310	54.48N	2.97W	-48.	.064	.086	
6/22/77	1300	0:25	310	55.63N	4.26W	-48.	.082	.073	
6/22/77	1310	0:35	310	56.68N	5.83W	-48.	.061	.076	
6/22/77	1315	0:40	310	57.16N	6.73W	-47.	.063	.100	
6/22/77	1320	0:45	351	57.65N	7.62W	-57.	.061	.085	
6/22/77	1325	0:50	370	58.14N	8.46W	-60.	.093	.204	.46
6/22/77	1330	0:55	370	58.64N	9.34W	-60.	.149	.343	.43
6/22/77	1340	1:05	371	59.50N	11.38W	-58.	.157	.249	.63
6/22/77	1350	1:15	370	60.24N	13.61W	-59.	.103	.184	.56
6/22/77	1400	1:25	370	60.94N	15.94W	-59.	.070	.097	
6/22/77	1410	1:35	370	61.62N	18.44W	-58.	.085	.173	.49
6/22/77	1415	1:40	370	61.95N	19.75W	-56.	.079	.153	.52
6/22/77	1420	1:45	370	62.28N	21.09W	-51.	.181	.224	.81
6/22/77	1433	1:58	370	63.07N	24.70W	-44.	.229	.672	.34
6/22/77	1443	2:08	370	63.63N	27.66W	-41.	.298	.591	.50
6/22/77	1453	2:18	370	64.18N	30.68W	-40.	.233	.458	.51
6/22/77	1503	2:28	370	64.86N	33.68W	-39.	.047	.363	.130
6/22/77	1508	2:33	370	65.17N	35.22W	-38.	.028	.377	.078
6/22/77	1513	2:38	370	65.46N	36.78W	-39.	.060	.573	.108
6/22/77	1518	2:43	370	65.74N	38.37W	-40.	.060	.389	.158
6/22/77	1523	2:48	370	66.00N	39.98W	-40.	.083	.625	.138
6/22/77	1533	2:58	370	66.42N	43.34W	-41.	.056	.626	.098
6/22/77	1548	3:13	370	66.89N	48.43W	-43.	.082	.634	.138
6/22/77	1603	3:28	370	66.96N	53.61W	-44.	.137	.613	.228
6/22/77	1608	3:33	375	66.92N	55.35W	-45.	.093	.592	.168
6/22/77	1613	3:38	390	66.87N	57.06W	-45.	.091	.670	.148
6/22/77	1618	3:43	390	66.80N	58.77W	-46.	.058	.649	.098
6/22/77	1628	3:53	390	66.64N	62.21W	-46.	.063	.652	.108
6/22/77	1638	4:03	390	66.46N	65.57W	-46.	.064	.670	.108
6/22/77	1648	4:13	390	66.22N	68.83W	-47.	.040	.665	.068
6/22/77	1658	4:23	390	65.91N	72.06W	-50.	.079	.653	.128
6/22/77	1703	4:28	390	65.73N	73.63W	-50.	.088	.647	.148
6/22/77	1708	4:33	390	65.53N	75.19W	-50.	.104	.622	.178
6/22/77	1713	4:38	391	65.32N	76.73W	-50.	.119	.596	.208
6/22/77	1718	4:43	390	65.08N	78.30W	-50.	.067	.644	.108
6/22/77	1728	4:53	390	64.58N	81.26W	-48.	.089	.627	.148
6/22/77	1738	5:03	390	64.01N	84.16W	-47.	.089	.606	.158
6/22/77	1748	5:13	390	63.31N	86.89W	-46.	.063	.661	.108
6/22/77	1758	5:23	390	62.57N	89.47W	-45.	.080	.642	.128
6/22/77	1803	5:28	391	62.19N	90.73W	-45.	.089	.658	.148
6/22/77	1808	5:33	390	61.80N	91.97W	-45.	.074	.561	.138
6/22/77	1813	5:38	390	61.40N	93.18W	-45.	.073	.683	.118
6/22/77	1818	5:43	390	60.97N	94.31W	-45.	.075	.654	.118
6/22/77	1823	5:48	390	60.44N	95.29W	-47.	.071	.654	.118
6/22/77	1833	5:58	390	59.40N	97.11W	-50.	.083	.574	.148
6/22/77	1843	6:08	390	58.32N	98.84W	-54.	.059	.304	.198
6/22/77	1853	6:18	390	57.24N	100.47W	-55.	.046	.240	.198
6/22/77	1903	6:28	410	56.42N	102.34W	-57.	.032	.218	.158
6/22/77	1913	6:38	410	55.73N	104.28W	-58.	.061	.226	.278
6/22/77	1918	6:43	410	55.37N	105.24W	-58.	.074	.222	.338
6/22/77	1923	6:48	410	55.00N	106.16W	-57.	.066	.176	.388
6/22/77	1933	6:58	410	54.27N	107.90W	-56.	.083	.236	.35
6/22/77	1943	7:08	410	53.38N	109.37W	-54.	.109	.268	.41
6/22/77	1948	7:13	410	52.99N	110.18W	-52.	.109	.329	.33
6/22/77	1958	7:23	410	52.22N	111.72W	-50.	.184	.497	.37
6/22/77	2013	7:38	410	50.96N	114.01W	-51.	.229	.636	.36
6/22/77	2018	7:43	410	50.50N	114.69W	-53.	.270	.633	.43
6/22/77	2023	7:48	410	50.04N	115.35W	-53.	.221	.576	.38
6/22/77	2033	7:58	410	49.01N	116.45W	-52.	.235	.578	.41
6/22/77	2043	8:08	410	47.86N	117.33W	-54.	.260	.607	.43
6/22/77	2053	8:18	410	46.69N	118.20W	-59.	.240	.597	.40
6/22/77	2103	8:28	410	45.56N	119.00W	-63.	.210	.516	.41
6/22/77	2108	8:33	410	45.00N	119.38W	-63.	.206	.435	.47
6/22/77	2113	8:38	410	44.41N	119.71W	-65.	.134	.249	.54
6/22/77	2118	8:43	410	43.82N	119.93W	-66.	.096	.176	.55
6/22/77	2123	8:48	410	43.20N	120.15W	-66.	.075	.175	.43
6/22/77	2133	8:58	410	42.00N	120.78W	-67.	.068	.176	.39
6/22/77	2138	9:03	410	41.42N	121.18W	-64.	.064	.249	.26
6/22/77	2148	9:13	410	40.31N	121.98W	-65.	.083	.147	.56
6/22/77	2158	9:23	410	39.08N	122.55W	-62.	.073	.180	.41


LATITUDE
SFO TO LHR DEPARTURE 24 JUN 77 PANAM -N533PA
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0
ELAPSED TIME IN HOURS

SFO TO LHR (PAGE 1 OF 1) DEPARTURE: 24 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .360 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 69
DATA SOURCE: GASP TAPE VL010, FILE 4

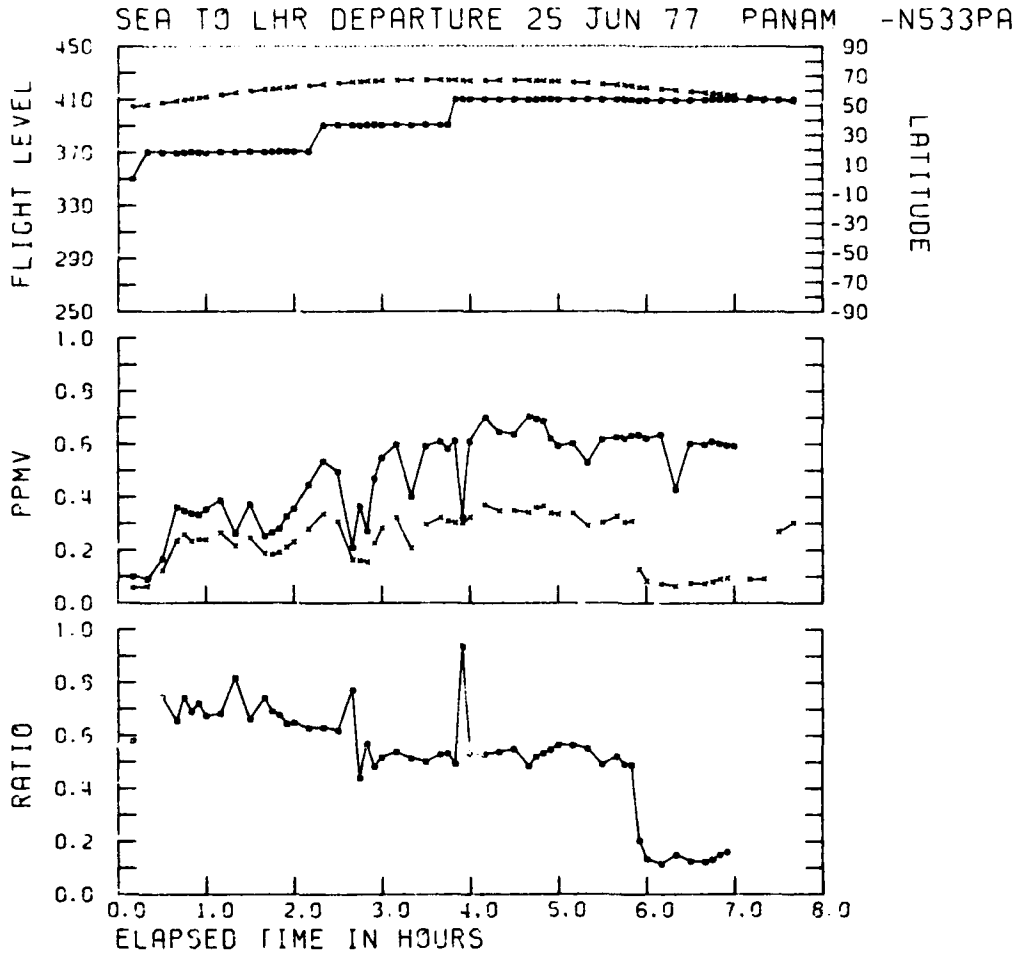
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/24/77	0153	0:10	343	39.88N	121.80W	-47.	.035		
6/24/77	0203	0:20	350	41.11N	121.20W	-50.	.032		
6/24/77	0223	0:40	370	43.55N	120.12W	-55.	.050		
6/24/77	0228	0:45	370	44.19N	119.88W	-55.	.061		
6/24/77	0233	0:50	370	44.81N	119.60W	-55.	.061		
6/24/77	0238	0:55	371	45.42N	119.18W	-55.	.064		
6/24/77	0243	1:00	371	45.99N	118.78W	-55.	.056		
6/24/77	0253	1:10	370	47.17N	117.92W	-55.	.059		
6/24/77	0303	1:20	371	48.33N	117.05W	-56.	.041		
6/24/77	0313	1:30	370	49.49N	116.14W	-56.	.070		
6/24/77	0323	1:40	370	50.52N	114.74W	-57.	.050		
6/24/77	0328	1:45	370	51.03N	114.01W	-57.	.052		
6/24/77	0333	1:50	370	51.53N	113.24W	-57.	.055		
6/24/77	0338	1:55	370	52.02N	112.45W	-57.	.090		
6/24/77	0343	2:00	370	52.49N	111.66W	-57.	.153		
6/24/77	0353	2:10	370	53.39N	109.96W	-57.	.155		
6/24/77	0403	2:20	370	54.23N	108.08W	-55.	.249		
6/24/77	0413	2:30	370	55.05N	106.12W	-51.	.347		
6/24/77	0423	2:40	370	55.85N	104.03W	-49.	.256		
6/24/77	0428	2:45	370	56.24N	102.94W	-52.	.257		
6/24/77	0433	2:50	371	56.62N	101.82W	-51.	.216		
6/24/77	0438	2:55	370	57.03N	100.82W	-52.	.236		
6/24/77	0443	3:00	370	57.57N	99.93W	-54.	.270		
6/24/77	0453	3:10	371	58.71N	98.20W	-55.	.255		
6/24/77	0503	3:20	371	59.77N	96.40W	-59.	.115		
6/24/77	0513	3:30	371	60.77N	94.55W	-59.	.109		
6/24/77	0523	3:40	371	61.61N	92.36W	-58.	.089		
6/24/77	0528	3:45	371	61.98N	91.19W	-59.	.073		
6/24/77	0533	3:50	371	62.34N	90.01W	-59.	.123		
6/24/77	0538	3:55	371	62.70N	88.82W	-60.	.122		
6/24/77	0543	4:00	371	63.03N	87.63W	-60.	.076		
6/24/77	0553	4:10	371	63.68N	85.18W	-61.	.071		
6/24/77	0603	4:20	371	64.13N	82.46W	-59.	.136		
6/24/77	0613	4:30	371	64.09N	79.29W	-57.	.179		
6/24/77	0623	4:40	371	64.04N	76.07W	-55.	.182		
6/24/77	0628	4:45	371	63.99N	74.44W	-55.	.196		
6/24/77	0633	4:50	371	63.92N	72.81W	-55.	.240		
6/24/77	0638	4:55	371	63.83N	71.15W	-52.	.278		
6/24/77	0643	5:00	371	63.78N	69.50W	-50.	.321		
6/24/77	0653	5:10	371	63.89N	66.21W	-45.	.308		
6/24/77	0703	5:20	399	63.93N	62.91W	-45.	.336		
6/24/77	0713	5:30	411	63.87N	59.59W	-44.	.360		
6/24/77	0723	5:40	410	63.61N	56.34W	-45.	.326		
6/24/77	0728	5:45	411	63.45N	54.72W	-44.	.330		
6/24/77	0733	5:50	410	63.28N	53.16W	-44.	.309		
6/24/77	0738	5:55	411	63.09N	51.62W	-44.	.317		
6/24/77	0743	6:00	411	62.89N	50.11W	-45.	.332		
6/24/77	0753	6:10	410	62.66N	46.99W	-45.	.299		
6/24/77	0803	6:20	410	62.36N	43.93W	-44.	.325		
6/24/77	0813	6:30	411	62.00N	40.91W	-44.	.345		
6/24/77	0823	6:40	411	61.55N	38.02W	-44.	.288		
6/24/77	0828	6:45	410	61.29N	36.59W	-44.	.297		
6/24/77	0833	6:50	410	61.03N	35.20W	-44.	.306		
6/24/77	0838	6:55	410	60.74N	33.80W	-45.	.311		
6/24/77	0843	7:00	411	60.45N	32.49W	-46.	.318		
6/24/77	0853	7:10	410	59.84N	29.78W	-46.	.316		
6/24/77	0903	7:20	411	59.39N	27.07W	-44.	.319		
6/24/77	0913	7:30	411	58.89N	24.43W	-45.	.326		
6/24/77	0923	7:40	411	58.32N	21.84W	-44.	.326		
6/24/77	0933	7:50	411	57.78N	19.24W	-44.	.330		
6/24/77	0938	7:55	410	57.56N	17.91W	-44.	.293		
6/24/77	0943	8:00	410	57.33N	16.60W	-45.	.238		
6/24/77	0948	8:05	411	57.09N	15.33W	-46.	.215		
6/24/77	0958	8:15	411	56.58N	12.88W	-46.	.225		
6/24/77	1008	8:25	411	56.02N	10.49W	-46.	.177		
6/24/77	1018	8:35	411	55.32N	8.29W	-47.	.157		
6/24/77	1033	8:50	411	54.25N	5.12W	-48.	.166		
6/24/77	1038	8:55	411	53.85N	4.11W	-49.	.204		
6/24/77	1048	9:05	292	52.98N	2.43W	-43.	.079		


LHR TO SEA DEPARTURE 24 JUN 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
ALTITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0
ELAPSED TIME IN HOURS

LHR TO SEA (PAGE 1 OF 1) DEPARTURE: 24 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .372 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 60
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/24/77	1351	0:12	370	53.83N	2.16W	-53.	.154			6/24/77	1756	4:17	391	72.11N	74.00W	-38.	.064		B
6/24/77	1401	0:22	370	55.09N	3.21W	-53.	.282			6/24/77	1806	4:27	390	71.18N	77.49W	-39.	.068		B
6/24/77	1411	0:32	370	56.33N	4.33W	-51.	.311			6/24/77	1811	4:32	390	70.64N	79.29W	-41.	.111		B
6/24/77	1421	0:42	370	57.56N	5.52W	-49.	.328			6/24/77	1822	4:43	390	69.62N	82.32W	-43.	.075		B
6/24/77	1426	0:47	370	58.17N	6.14W	-49.	.357			6/24/77	1832	4:53	391	68.58N	85.00W	-48.	.100		B
6/24/77	1431	0:52	370	58.76N	6.88W	-49.	.366			6/24/77	1841	5:02	391	67.67N	87.69W	-50.	.103		B
6/24/77	1436	0:57	370	59.34N	7.63W	-48.	.340			6/24/77	1851	5:12	391	66.77N	90.31W	-52.	.133		B
6/24/77	1441	1:02	370	59.93N	8.44W	-47.	.327			6/24/77	1856	5:17	391	66.32N	91.51W	-53.	.125		B
6/24/77	1451	1:12	370	61.07N	10.09W	-46.	.372			6/24/77	1901	5:22	390	65.84N	92.70W	-53.	.059		B
6/24/77	1501	1:22	370	62.23N	11.76W	-44.	.367			6/24/77	1906	5:27	391	65.37N	93.82W	-54.	.075		B
6/24/77	1511	1:32	370	63.37N	13.56W	-43.	.270		B	6/24/77	1921	5:42	402	63.98N	97.16W	-51.	.141		
6/24/77	1521	1:42	370	64.51N	15.55W	-41.	.080		B	6/24/77	1931	5:52	411	63.17N	99.52W	-49.	.103		B
6/24/77	1526	1:47	370	65.06N	16.60W	-39.	.098		B	6/24/77	1941	6:02	410	62.35N	101.88W	-49.	.130		B
6/24/77	1531	1:52	370	65.61N	17.69W	-40.	.094		B	6/24/77	1951	6:12	410	61.51N	104.08W	-48.	.101		B
6/24/77	1536	1:57	370	66.11N	18.93W	-39.	.107		B	6/24/77	1956	6:17	410	61.08N	105.13W	-48.	.110		B
6/24/77	1541	2:02	370	66.59N	20.24W	-41.	.105		B	6/24/77	2001	6:22	410	60.65N	106.14W	-50.	.105		B
6/24/77	1551	2:12	370	67.55N	23.00W	-39.	.133		B	6/24/77	2006	6:27	411	60.22N	107.11W	-49.	.061		B
6/24/77	1601	2:22	370	68.45N	25.96W	-40.	.103		B	6/24/77	2011	6:32	410	59.79N	108.03W	-52.	.110		B
6/24/77	1611	2:32	370	69.30N	29.18W	-40.	.099		B	6/24/77	2031	6:52	410	57.78N	111.10W	-52.	.104		B
6/24/77	1621	2:42	370	70.06N	32.69W	-40.	.098		B	6/24/77	2041	7:02	410	56.79N	112.39W	-57.	.082		B
6/24/77	1626	2:47	370	70.41N	34.55W	-40.	.136		B	6/24/77	2051	7:12	410	55.80N	113.62W	-60.	.062		B
6/24/77	1631	2:52	370	70.74N	36.46W	-40.	.112		B	6/24/77	2056	7:17	410	55.31N	114.19W	-58.	.067		B
6/24/77	1636	2:57	370	71.04N	38.41W	-40.	.099		B	6/24/77	2101	7:22	410	54.84N	114.73W	-58.	.070		B
6/24/77	1641	3:02	370	71.33N	40.42W	-40.	.089		B	6/24/77	2111	7:32	410	53.85N	115.82W	-58.	.093		
6/24/77	1651	3:12	370	71.86N	44.58W	-39.	.093		B	6/24/77	2116	7:37	410	53.37N	116.33W	-58.	.125		
6/24/77	1711	3:32	370	72.65N	53.52W	-39.	.112		B	6/24/77	2126	7:47	410	52.40N	117.31W	-58.	.136		
6/24/77	1721	3:42	370	72.88N	58.18W	-37.	.082		B	6/24/77	2136	7:57	411	51.44N	118.24W	-58.	.075		
6/24/77	1736	3:57	390	73.03N	65.43W	-38.	.082		B	6/24/77	2146	8:07	410	50.50N	119.13W	-59.	.025		
6/24/77	1741	4:02	390	73.03N	67.85W	-37.	.067		B	6/24/77	2156	8:17	411	49.61N	120.12W	-59.	.036		
6/24/77	1746	4:07	390	72.97N	70.25W	-38.	.070		B	6/24/77	2201	8:22	411	49.16N	120.60W	-60.	.026		

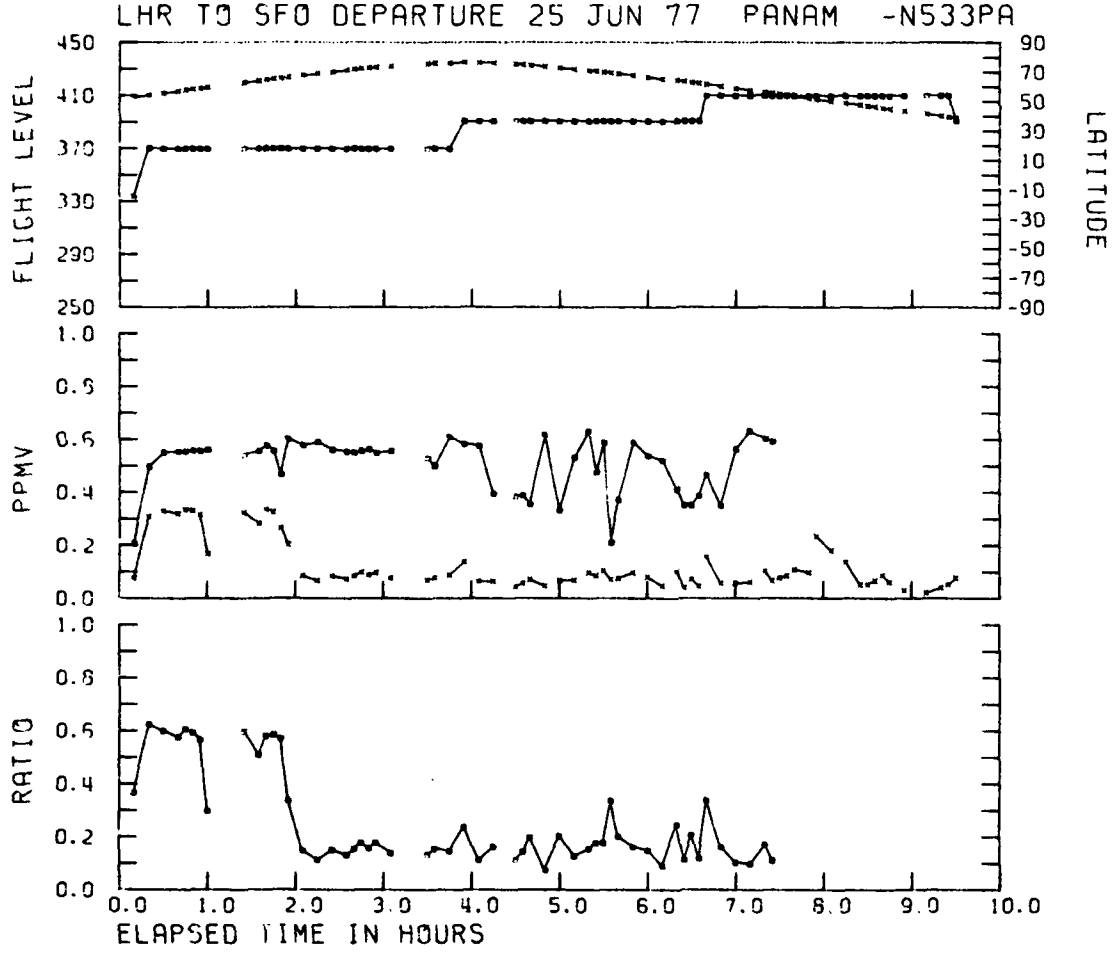

SEA TO LHR DEPARTURE 25 JUN 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
ELAPSED TIME IN HOURS

SEA TO LHR (PAGE 1 OF 1) DEPARTURE: 25 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .704 CABIN OZONE= .370 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .94 TOTAL OBS IN CABIN: 59
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/25/77	0130	0:10	350	49.19N	120.53W	-51.	.058	.100	
6/25/77	0140	0:20	370	50.53N	119.11W	-55.	.063	.090	
6/25/77	0150	0:30	370	51.89N	117.80W	-54.	.124	.166	.75
6/25/77	0200	0:40	370	53.23N	116.47W	-53.	.236	.361	.65
6/25/77	0205	0:45	370	53.90N	115.76W	-55.	.259	.349	.74
6/25/77	0210	0:50	371	54.59N	115.02W	-52.	.233	.338	.69
6/25/77	0215	0:55	370	55.27N	114.23W	-51.	.240	.333	.72
6/25/77	0220	1:00	370	55.96N	113.43W	-52.	.238	.353	.67
6/25/77	0230	1:10	370	57.28N	111.76W	-53.	.264	.387	.68
6/25/77	0240	1:20	370	58.54N	110.03W	-57.	.214	.262	.82
6/25/77	0250	1:30	371	59.72N	108.16W	-55.	.245	.371	.66
6/25/77	0300	1:40	370	60.73N	105.96W	-57.	.186	.251	.74
6/25/77	0305	1:45	371	61.21N	104.82W	-56.	.184	.266	.69
6/25/77	0310	1:50	371	61.68N	103.65W	-55.	.190	.280	.68
6/25/77	0315	1:55	371	62.14N	102.44W	-54.	.210	.326	.64
6/25/77	0320	2:00	371	62.58N	101.21W	-54.	.230	.355	.65
6/25/77	0330	2:10	371	63.43N	98.73W	-50.	.280	.446	.63
6/25/77	0340	2:20	390	64.24N	96.10W	-50.	.336	.534	.63
6/25/77	0350	2:30	391	65.00N	93.33W	-50.	.306	.495	.62
6/25/77	0400	2:40	391	65.71N	90.40W	-52.	.162	.210	.77
6/25/77	0405	2:45	390	66.04N	88.83W	-52.	.160	.364	.44
6/25/77	0410	2:50	391	66.35N	87.23W	-51.	.154	.271	.57
6/25/77	0415	2:55	391	66.58N	85.57W	-52.	.226	.468	.48
6/25/77	0420	3:00	391	66.72N	83.79W	-50.	.283	.547	.52
6/25/77	0430	3:10	391	66.94N	80.18W	-46.	.322	.598	.54
6/25/77	0440	3:20	390	67.06N	76.53W	-45.	.206	.401	.51
6/25/77	0450	3:30	391	67.10N	72.81W	-42.	.296	.591	.50
6/25/77	0500	3:40	391	67.05N	69.08W	-40.	.322	.609	.53
6/25/77	0505	3:45	391	66.99N	67.24W	-40.	.309	.581	.53
6/25/77	0510	3:50	410	66.91N	65.40W	-40.	.302	.612	.49
6/25/77	0515	3:55	410	66.81N	63.59W	-41.	.303	.324	.94
6/25/77	0520	4:00	410	66.70N	61.82W	-41.	.324	.609	.53
6/25/77	0530	4:10	410	66.83N	58.33W	-40.	.370	.699	.53
6/25/77	0540	4:20	410	66.96N	54.70W	-40.	.348	.646	.54
6/25/77	0550	4:30	410	67.00N	51.06W	-41.	.349	.636	.55
6/25/77	0600	4:40	410	66.81N	47.47W	-41.	.341	.704	.48
6/25/77	0605	4:45	410	66.66N	45.72W	-42.	.360	.694	.52
6/25/77	0610	4:50	410	66.49N	44.01W	-41.	.365	.686	.53
6/25/77	0615	4:55	410	66.30N	42.33W	-42.	.339	.621	.55
6/25/77	0620	5:00	410	66.09N	40.66W	-43.	.335	.593	.56
6/25/77	0630	5:10	410	65.57N	37.43W	-42.	.339	.602	.56
6/25/77	0640	5:20	410	64.99N	34.37W	-42.	.291	.529	.55
6/25/77	0650	5:30	410	64.34N	31.41W	-42.	.303	.617	.49
6/25/77	0700	5:40	410	63.64N	28.56W	-42.	.325	.624	.52
6/25/77	0705	5:45	410	63.28N	27.17W	-42.	.307	.622	.49
6/25/77	0710	5:50	410	62.90N	25.80W	-43.	.310	.633	.49
6/25/77	0715	5:55	409	62.50N	24.45W	-42.	.129	.635	.208
6/25/77	0720	6:00	410	62.09N	23.15W	-42.	.084	.623	.138
6/25/77	0730	6:10	410	61.24N	20.66W	-42.	.073	.636	.118
6/25/77	0740	6:20	410	60.36N	18.28W	-44.	.064	.429	.158
6/25/77	0750	6:30	410	59.43N	16.00W	-45.	.075	.602	.128
6/25/77	0800	6:40	410	58.54N	13.77W	-46.	.073	.598	.128
6/25/77	0805	6:45	410	58.12N	12.66W	-46.	.080	.610	.138
6/25/77	0810	6:50	410	57.67N	11.57W	-46.	.090	.602	.158
6/25/77	0815	6:55	410	57.24N	10.55W	-46.	.095	.595	.168
6/25/77	0820	7:00	410	56.76N	9.56W	-46.		.593	
6/25/77	0830	7:10	410	55.70N	7.77W	-46.	.090		B
6/25/77	0840	7:20	410	54.62N	6.06W	-47.	.091		B
6/25/77	0850	7:30	410	53.74N	4.09W	-47.	.270		
6/25/77	0900	7:40	410	52.77N	2.35W	-47.	.302		

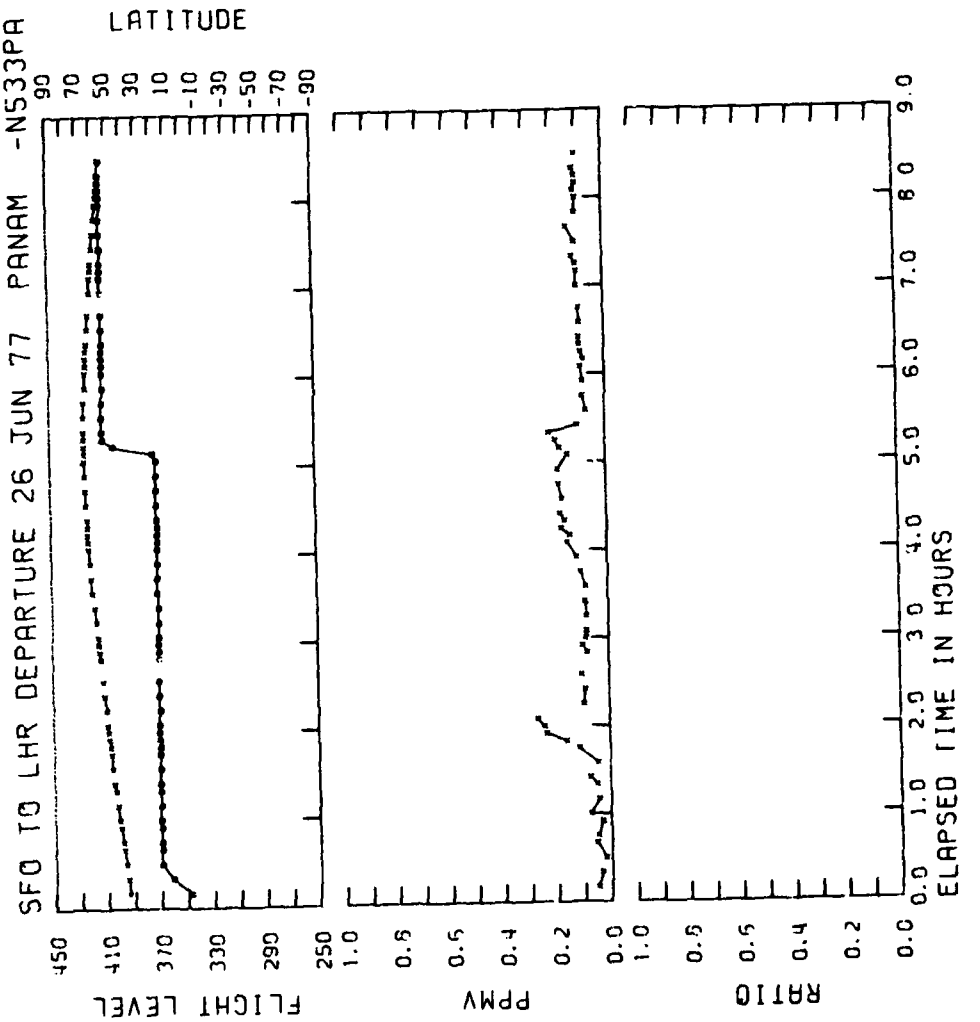
A-288


LHR TO SFO DEPARTURE 25 JUN 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
ELAPSED TIME IN HOURS

LHR TO SFO (PAGE 1 OF 1) DEPARTURE: 25 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .633 CABIN OZONE= .337 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .62 TOTAL OBS IN CABIN: 70
DATA SOURCE: GASP TAPE VL010, FILE 4

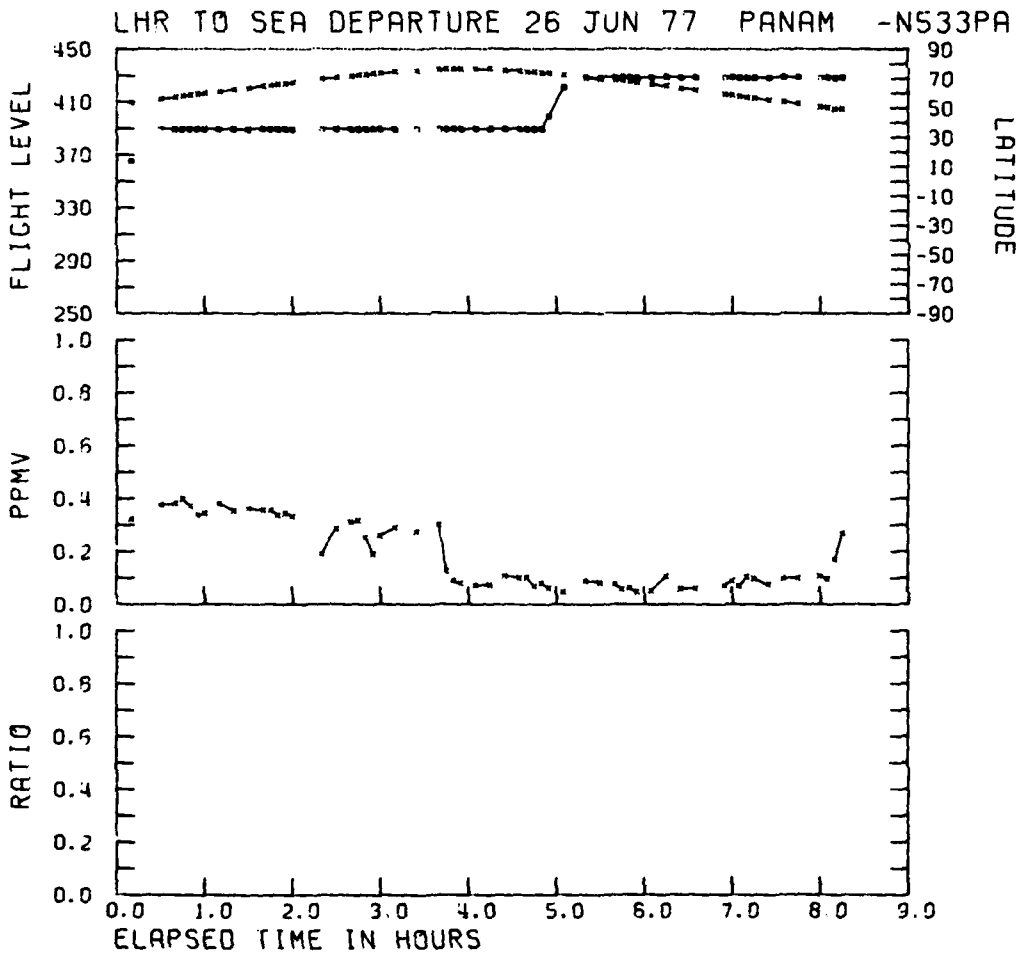
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/25/77	1325	0:10	334	53.17N	1.82W	-54.	.076	.207	.37
6/25/77	1335	0:20	370	54.38N	2.62W	-48.	.310	.497	.62
6/25/77	1345	0:30	370	55.66N	3.32W	-47.	.331	.552	.60
6/25/77	1355	0:40	370	57.04N	3.22W	-47.	.320	.555	.58
6/25/77	1400	0:45	370	57.74N	3.16W	-47.	.337	.555	.61
6/25/77	1405	0:50	370	58.43N	3.10W	-46.	.332	.559	.59
6/25/77	1410	0:55	370	59.05N	3.62W	-46.	.317	.558	.57
6/25/77	1415	1:00	370	59.67N	4.19W	-46.	.168	.563	.30
6/25/77	1440	1:25	370	62.81N	7.36W	-45.	.324	.542	.60
6/25/77	1450	1:35	370	64.05N	8.80W	-43.	.284	.557	.51
6/25/77	1455	1:40	370	64.67N	9.58W	-42.	.337	.579	.58
6/25/77	1500	1:45	370	65.30N	10.39W	-42.	.326	.557	.59
6/25/77	1505	1:50	370	65.92N	11.25W	-42.	.268	.469	.57
6/25/77	1510	1:55	370	66.54N	12.14W	-41.	.203	.603	.348
6/25/77	1520	2:05	370	67.77N	14.09W	-41.	.086	.579	.158
6/25/77	1530	2:15	370	69.00N	16.28W	-42.	.067	.591	.118
6/25/77	1540	2:25	370	70.17N	18.70W	-44.	.085	.562	.158
6/25/77	1550	2:35	370	71.32N	21.42W	-44.	.073	.555	.138
6/25/77	1555	2:40	370	71.88N	22.92W	-45.	.085	.551	.158
6/25/77	1600	2:45	370	72.41N	24.60W	-45.	.099	.558	.188
6/25/77	1605	2:50	370	72.88N	26.52W	-45.	.089	.564	.168
6/25/77	1610	2:55	370	73.32N	28.53W	-45.	.098	.551	.188
6/25/77	1620	3:05	370	74.15N	32.86W	-44.	.078	.558	.148
6/25/77	1645	3:30	370	75.75N	45.59W	-41.	.071	.530	.138
6/25/77	1650	3:35	370	75.98N	48.44W	-40.	.078	.500	.168
6/25/77	1700	3:45	370	76.33N	54.40W	-39.	.089	.610	.158
6/25/77	1710	3:55	391	76.52N	60.62W	-38.	.138	.582	.248
6/25/77	1720	4:05	391	76.55N	66.93W	-38.	.065	.576	.118
6/25/77	1730	4:15	391	76.18N	72.83W	-39.	.064	.394	.168
6/25/77	1745	4:30	391	75.29N	80.80W	-39.	.044	.384	.118
6/25/77	1750	4:35	391	74.95N	83.24W	-39.	.056	.389	.148
6/25/77	1755	4:40	391	74.57N	85.57W	-40.	.070	.355	.208
6/25/77	1805	4:50	391	73.76N	89.86W	-40.	.047	.619	.088
6/25/77	1815	5:00	391	72.87N	93.76W	-42.	.068	.334	.208
6/25/77	1825	5:10	391	71.94N	97.17W	-43.	.068	.532	.138
6/25/77	1835	5:20	391	70.95N	100.25W	-44.	.098	.631	.168
6/25/77	1840	5:25	391	70.45N	101.69W	-44.	.085	.477	.188
6/25/77	1845	5:30	391	69.94N	103.06W	-44.	.104	.589	.188
6/25/77	1850	5:35	391	69.41N	104.38W	-44.	.071	.211	.348
6/25/77	1855	5:40	391	68.86N	105.55W	-44.	.075	.371	.208
6/25/77	1905	5:50	391	67.70N	107.50W	-44.	.097	.590	.168
6/25/77	1915	6:00	391	66.51N	109.28W	-42.	.081	.539	.158
6/25/77	1925	6:10	391	65.31N	110.94W	-43.	.048	.522	.098
6/25/77	1935	6:20	391	64.09N	112.50W	-43.	.102	.413	.258
6/25/77	1940	6:25	391	63.48N	113.23W	-43.	.040	.352	.118
6/25/77	1945	6:30	391	62.85N	113.94W	-42.	.073	.352	.218
6/25/77	1950	6:35	391	62.21N	114.55W	-42.	.046	.388	.128
6/25/77	1955	6:40	410	61.54N	115.05W	-42.	.157	.466	.348
6/25/77	2005	6:50	410	60.23N	115.96W	-43.	.057	.351	.168
6/25/77	2015	7:00	410	58.89N	116.81W	-43.	.058	.564	.108
6/25/77	2025	7:10	410	57.58N	117.61W	-44.	.062	.633	.108
6/25/77	2035	7:20	410	56.27N	118.36W	-43.	.103	.603	.178
6/25/77	2040	7:25	410	55.61N	118.72W	-45.	.066	.593	.118
6/25/77	2045	7:30	410	54.96N	119.01W	-47.	.078		8
6/25/77	2050	7:35	410	54.28N	119.19W	-46.	.085		8
6/25/77	2055	7:40	410	53.60N	119.36W	-50.	.108		8
6/25/77	2105	7:50	410	52.23N	119.68W	-52.	.097		8
6/25/77	2110	7:55	410	51.56N	119.83W	-56.	.234		
6/25/77	2120	8:05	410	50.21N	120.13W	-62.	.181		
6/25/77	2130	8:15	410	48.98N	120.69W	-63.	.137		
6/25/77	2140	8:25	410	47.72N	121.20W	-64.	.051		
6/25/77	2145	8:30	410	47.04N	121.33W	-64.	.053		
6/25/77	2150	8:35	410	46.36N	121.46W	-64.	.066		
6/25/77	2155	8:40	410	45.67N	121.59W	-64.	.088		
6/25/77	2200	8:45	410	44.99N	121.71W	-64.	.061		
6/25/77	2210	8:55	410	43.63N	121.95W	-64.	.030		
6/25/77	2225	9:10	410	41.57N	122.28W	-64.	.021		
6/25/77	2235	9:20	410	40.18N	122.50W	-64.	.040		
6/25/77	2240	9:25	410	39.48N	122.60W	-64.	.052		
6/25/77	2245	9:30	391	38.79N	122.70W	-60.	.076		


SFO TO LHR DEPARTURE 26 JUN 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0
ELAPSED TIME IN HOURS

SFO TO LHR (PAGE 1 OF 1) DEPARTURE: 26 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .271 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 64
DATA SOURCE: GASP TAPE VL010, FILE 4

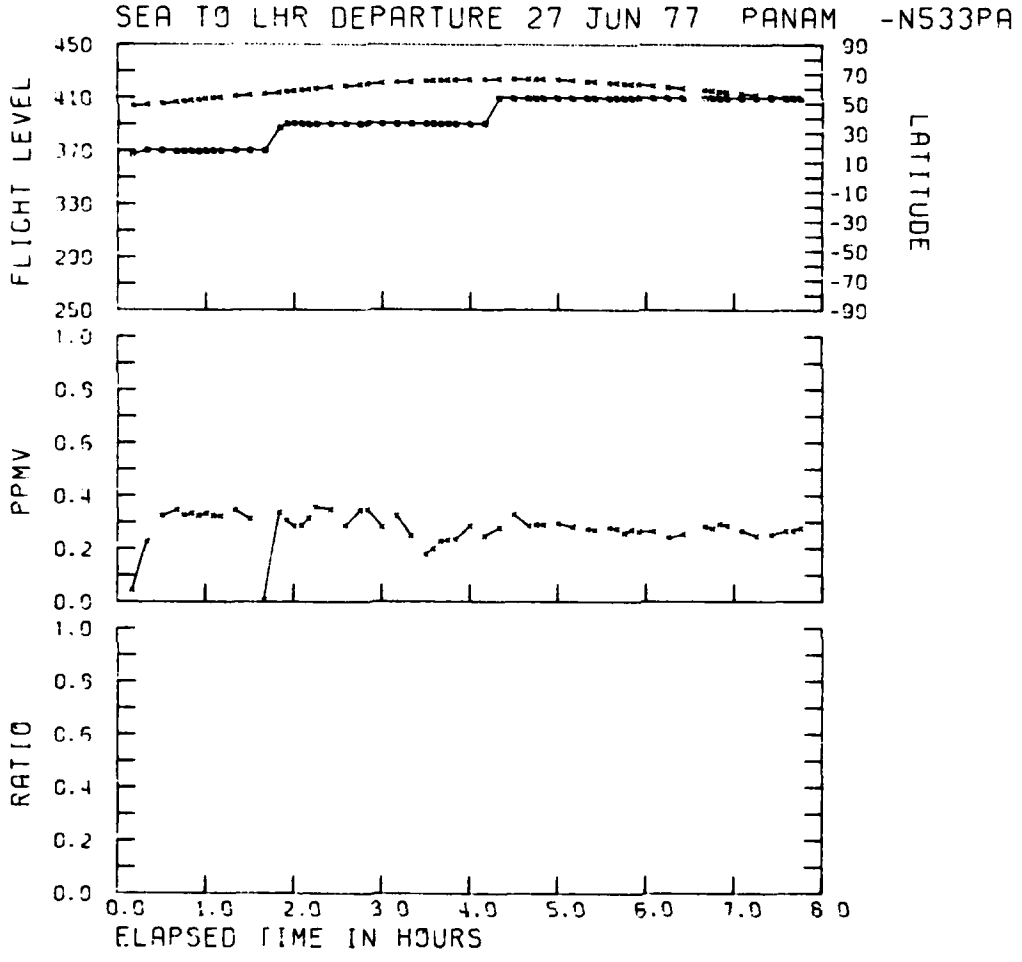
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/26/77	0152	0:10	347	39.93N	121.58W	-48.	.051			6/26/77	0611	4:29	371	65.62N	74.51W	-50.	.176		B
6/26/77	0202	0:20	362	41.20N	120.99W	-51.	.038			6/26/77	0621	4:39	370	66.01N	71.07W	-49.	.167		B
6/26/77	0212	0:30	370	42.44N	120.39W	-54.	.022			6/26/77	0631	4:49	370	66.32N	67.54W	-47.	.180		B
6/26/77	0222	0:40	370	43.66N	119.78W	-54.	.057			6/26/77	0641	4:59	370	66.55N	63.90W	-45.	.182		B
6/26/77	0227	0:45	370	44.28N	119.46W	-54.	.052			6/26/77	0651	5:09	370	66.74N	60.21W	-44.	.144		B
6/26/77	0237	0:55	370	45.54N	118.78W	-54.	.033			6/26/77	0656	5:14	373	66.83N	58.34W	-42.	.174		B
6/26/77	0242	1:00	370	46.19N	118.42W	-55.	.076			6/26/77	0701	5:19	402	66.91N	56.47W	-42.	.189		B
6/26/77	0252	1:10	370	47.43N	117.70W	-55.	.046			6/26/77	0706	5:24	410	66.96N	54.57W	-42.	.214		B
6/26/77	0302	1:20	370	48.68N	116.78W	-55.	.052			6/26/77	0711	5:29	411	66.99N	52.73W	-43.	.104		B
6/26/77	0307	1:25	370	49.29N	116.30W	-56.	.076			6/26/77	0721	5:39	411	66.94N	49.07W	-41.	.071		B
6/26/77	0317	1:35	370	50.35N	114.85W	-56.	.047			6/26/77	0731	5:49	410	66.64N	45.49W	-42.	.084		B
6/26/77	0327	1:45	370	51.35N	113.17W	-57.	.118			6/26/77	0741	5:59	411	66.26N	42.04W	-43.	.085		B
6/26/77	0332	1:50	370	51.86N	112.27W	-59.	.163			6/26/77	0751	6:09	411	65.79N	38.72W	-43.	.092		B
6/26/77	0337	1:55	370	52.36N	111.35W	-56.	.238			6/26/77	0756	6:14	410	65.52N	37.10W	-43.	.079		B
6/26/77	0342	2:00	370	52.83N	110.45W	-54.	.247			6/26/77	0801	6:19	410	65.22N	35.51W	-43.	.088		B
6/26/77	0347	2:05	370	53.32N	109.50W	-50.	.271			6/26/77	0806	6:24	410	64.91N	33.95W	-43.	.096		B
6/26/77	0357	2:15	370	54.26N	107.51W	-46.	.096		B	6/26/77	0811	6:29	410	64.58N	32.44W	-44.	.095		B
6/26/77	0407	2:25	370	55.17N	105.46W	-42.	.090		B	6/26/77	0821	6:39	410	63.88N	29.52W	-45.	.094		B
6/26/77	0417	2:35	370	56.03N	103.33W	-43.	.104		B	6/26/77	0831	6:49	410	63.15N	26.71W	-45.	.093		B
6/26/77	0432	2:50	370	57.46N	100.21W	-44.	.081		B	6/26/77	0846	7:04	411	61.98N	22.82W	-45.	.101		B
6/26/77	0437	2:55	370	58.04N	99.35W	-43.	.098		B	6/26/77	0856	7:14	411	61.15N	20.40W	-45.	.099		B
6/26/77	0442	3:00	370	58.63N	98.43W	-44.	.086		B	6/26/77	0901	7:19	410	60.73N	19.18W	-45.	.103		B
6/26/77	0447	3:05	370	59.16N	97.57W	-46.	.084		B	6/26/77	0906	7:24	410	60.32N	17.97W	-46.	.117		B
6/26/77	0457	3:15	370	60.25N	95.67W	-49.	.084		B	6/26/77	0916	7:34	410	59.46N	15.62W	-46.	.106		B
6/26/77	0507	3:25	370	61.30N	93.53W	-48.	.088		B	6/26/77	0926	7:44	410	58.55N	13.38W	-46.	.135		B
6/26/77	0521	3:39	370	62.49N	89.74W	-54.	.083		B	6/26/77	0936	7:54	410	57.58N	11.22W	-46.	.103		B
6/26/77	0531	3:49	370	63.26N	87.07W	-56.	.103		B	6/26/77	0946	8:04	410	56.57N	9.23W	-47.	.100		B
6/26/77	0541	3:59	370	63.99N	84.21W	-55.	.116		B	6/26/77	0951	8:09	410	56.04N	8.32W	-47.	.108		B
6/26/77	0551	4:09	370	64.61N	81.13W	-56.	.149		B	6/26/77	0956	8:14	410	55.49N	7.42W	-47.	.100		B
6/26/77	0556	4:14	370	64.88N	79.51W	-56.	.138		B	6/26/77	1001	8:19	410	55.00N	6.50W	-48.	.103		B
6/26/77	0601	4:19	370	65.15N	77.86W	-55.	.173		B	6/26/77	1006	8:24	410	54.52N	5.57W	-49.	.110		B
6/26/77	0606	4:24	370	65.39N	76.19W	-54.	.160		B	6/26/77	1016	8:34	410	53.65N	3.45W	-49.	.100		B


LHR TO SEA DEPARTURE 26 JUN 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
ELAPSED TIME IN HOURS

LHR TO SEA (PAGE 1 OF 1) DEPARTURE: 26 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .399 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 59
DATA SOURCE: GASP TAPE VL010, FILE 4

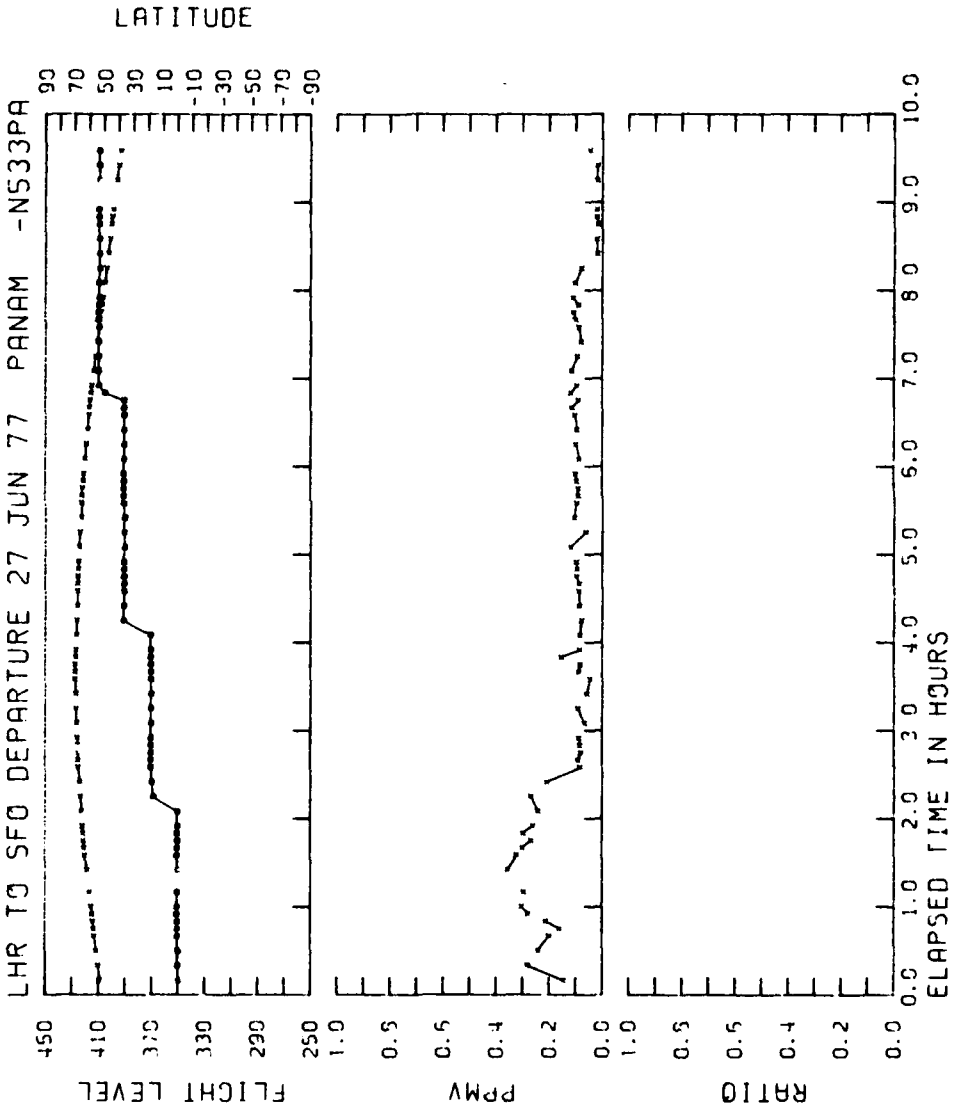
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/26/77	1344	0:10	365	53.75N	2.09W	-49.	.322		
6/26/77	1404	0:30	390	56.21N	3.29W	-47.	.376		
6/26/77	1414	0:40	390	57.56N	3.17W	-46.	.382		
6/26/77	1419	0:45	390	58.26N	3.10W	-46.	.399		
6/26/77	1424	0:50	390	58.89N	3.46W	-45.	.373		
6/26/77	1429	0:55	390	59.48N	3.99W	-44.	.339		
6/26/77	1434	1:00	389	60.08N	4.57W	-44.	.344		
6/26/77	1444	1:10	390	61.30N	5.77W	-43.	.380		
6/26/77	1454	1:20	389	62.51N	7.02W	-42.	.355		
6/26/77	1504	1:30	390	63.73N	8.39W	-41.	.363		
6/26/77	1514	1:40	390	64.96N	9.92W	-40.	.355		
6/26/77	1519	1:45	390	65.55N	10.71W	-40.	.357		
6/26/77	1524	1:50	390	66.16N	11.56W	-40.	.338		
6/26/77	1529	1:55	390	66.75N	12.43W	-40.	.344		
6/26/77	1534	2:00	390	67.34N	13.34W	-41.	.333		
6/26/77	1554	2:20	390	69.73N	17.70W	-42.	.191		
6/26/77	1604	2:30	390	70.87N	20.26W	-42.	.286		
6/26/77	1614	2:40	390	71.95N	23.06W	-43.	.310		
6/26/77	1619	2:45	390	72.46N	24.71W	-42.	.316		
6/26/77	1624	2:50	389	72.91N	26.57W	-42.	.254		
6/26/77	1629	2:55	390	73.34N	28.53W	-42.	.190		
6/26/77	1634	3:00	390	73.77N	30.66W	-43.	.259		
6/26/77	1648	3:14	390	74.88N	37.50W	-43.	.289		
6/26/77	1659	3:25	390	75.50N	42.69W	-42.	.275		
6/26/77	1714	3:40	390	76.18N	51.02W	-41.	.300		
6/26/77	1719	3:45	389	76.34N	54.02W	-42.	.125		B
6/26/77	1724	3:50	390	76.45N	57.06W	-42.	.090		B
6/26/77	1729	3:55	389	76.54N	60.19W	-41.	.078		B
6/26/77	1739	4:05	390	76.58N	66.31W	-40.	.073		B
6/26/77	1749	4:15	390	76.26N	72.16W	-40.	.073		B
6/26/77	1759	4:25	390	75.73N	77.55W	-40.	.107		B
6/26/77	1809	4:35	390	75.10N	82.45W	-41.	.101		B
6/26/77	1814	4:40	390	74.74N	84.76W	-41.	.102		B
6/26/77	1819	4:45	389	74.36N	86.97W	-41.	.069		B
6/26/77	1824	4:50	390	73.96N	89.07W	-41.	.081		B
6/26/77	1829	4:55	399	73.54N	91.07W	-42.	.062		B
6/26/77	1839	5:05	421	72.66N	94.73W	-42.	.049		B
6/26/77	1858	5:24	429	70.73N	101.05W	-42.	.091		B
6/26/77	1908	5:34	429	69.70N	103.82W	-43.	.082		B
6/26/77	1914	5:40	429	69.18N	105.09W	-42.	.075		B
6/26/77	1919	5:45	429	68.61N	106.13W	-42.	.057		B
6/26/77	1924	5:50	429	68.03N	107.12W	-42.	.063		B
6/26/77	1929	5:55	429	67.44N	108.05W	-42.	.047		B
6/26/77	1939	6:05	429	66.25N	109.78W	-43.	.053		B
6/26/77	1952	6:18	429	64.58N	112.04W	-44.	.106		B
6/26/77	2002	6:28	429	63.34N	113.52W	-44.	.059		B
6/26/77	2012	6:38	429	62.08N	114.76W	-44.	.062		B
6/26/77	2032	6:58	429	59.42N	116.60W	-46.	.071		B
6/26/77	2037	7:03	429	58.78N	117.00W	-44.	.090		B
6/26/77	2042	7:08	429	58.12N	117.41W	-47.	.071		B
6/26/77	2047	7:13	429	57.47N	117.80W	-47.	.104		B
6/26/77	2052	7:18	428	56.81N	118.19W	-47.	.099		B
6/26/77	2102	7:28	429	55.53N	118.89W	-46.	.075		B
6/26/77	2112	7:38	429	54.21N	119.32W	-48.	.099		B
6/26/77	2122	7:48	429	52.85N	119.65W	-48.	.099		B
6/26/77	2137	8:03	429	50.84N	120.10W	-50.	.107		B
6/26/77	2142	8:08	429	50.18N	120.24W	-47.	.096		B
6/26/77	2147	8:13	428	49.51N	120.38W	-48.	.169		
6/26/77	2152	8:18	428	48.98N	120.84W	-55.	.268		


SEA TO LHR DEPARTURE 27 JUN 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
ELAPSED TIME IN HOURS

SEA TO LHR (PAGE 1 OF 1) DEPARTURE: 27 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .357 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 60
DATA SOURCE: GASP TAPE VL010, FILE 4

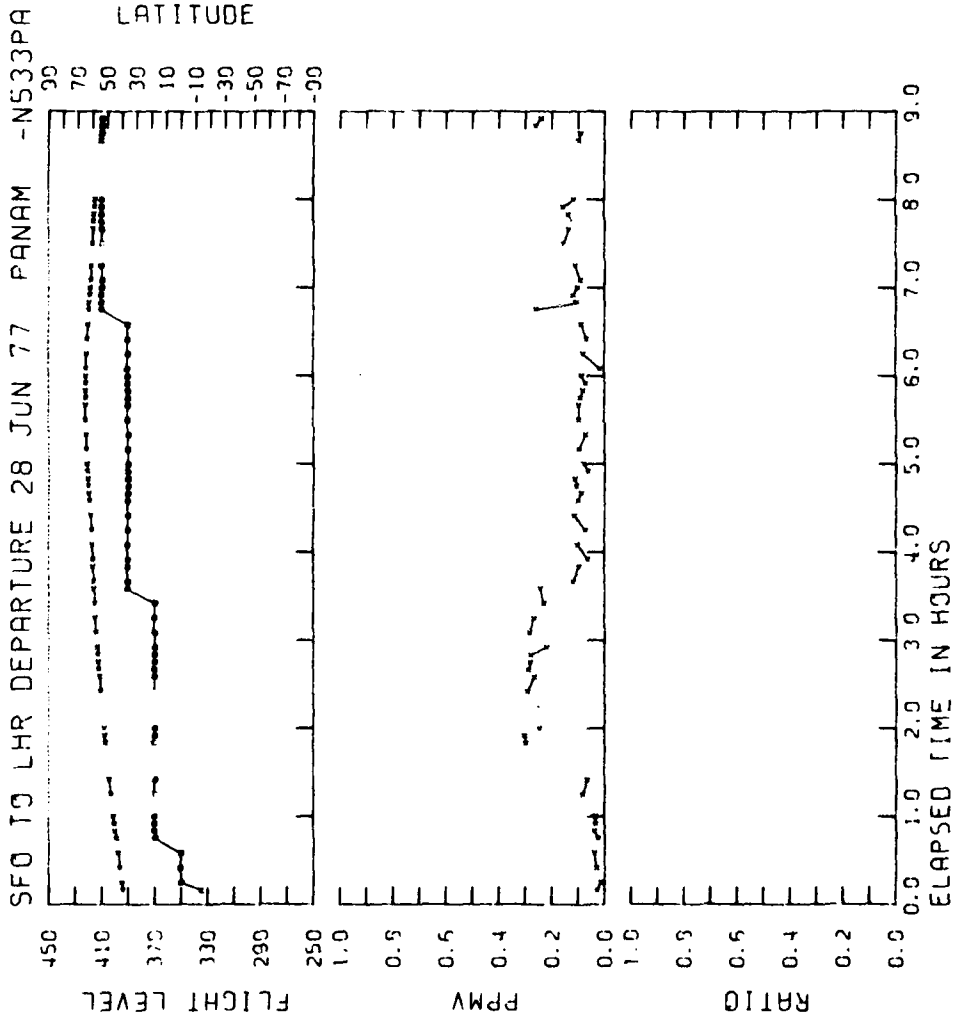
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
6/27/77	0135	0:10	367	48.38N	119.49W	-55.	.045		
6/27/77	0145	0:20	370	49.31N	117.71W	-53.	.228		
6/27/77	0155	0:30	370	50.23N	115.82W	-49.	.326		
6/27/77	0205	0:40	370	51.12N	113.85W	-49.	.347		
6/27/77	0210	0:45	370	51.66N	113.02W	-52.	.327		
6/27/77	0215	0:50	370	52.20N	112.15W	-50.	.334		
6/27/77	0220	0:55	370	52.72N	111.28W	-49.	.326		
6/27/77	0225	1:00	370	53.21N	110.35W	-49.	.333		
6/27/77	0230	1:05	370	53.66N	109.37W	-50.	.325		
6/27/77	0235	1:10	370	54.12N	108.34W	-50.	.323		
6/27/77	0245	1:20	370	54.97N	106.32W	-49.	.346		
6/27/77	0255	1:30	370	55.78N	104.21W	-48.	.313		
6/27/77	0305	1:40	370	56.56N	101.99W	-47.	.009		
6/27/77	0315	1:50	387	57.38N	100.31W	-43.	.337		
6/27/77	0320	1:55	390	58.06N	99.29W	-44.	.307		
6/27/77	0325	2:00	391	58.61N	98.44W	-42.	.285		
6/27/77	0330	2:05	390	59.15N	97.56W	-43.	.288		
6/27/77	0335	2:10	390	59.70N	96.65W	-43.	.316		
6/27/77	0340	2:15	390	60.23N	95.70W	-43.	.357		
6/27/77	0350	2:25	390	61.25N	93.65W	-43.	.348		
6/27/77	0400	2:35	391	62.04N	91.17W	-45.	.288		
6/27/77	0411	2:46	390	62.87N	88.39W	-44.	.345		
6/27/77	0417	2:52	391	63.27N	86.95W	-46.	.347		
6/27/77	0427	3:02	390	63.97N	84.17W	-48.	.282		
6/27/77	0437	3:12	390	64.57N	81.18W	-51.	.324		
6/27/77	0447	3:22	391	65.07N	78.14W	-55.	.249		
6/27/77	0457	3:32	391	65.51N	75.01W	-59.	.179		
6/27/77	0502	3:37	391	65.72N	73.36W	-58.	.199		
6/27/77	0507	3:42	390	65.90N	71.70W	-57.	.228		
6/27/77	0512	3:47	391	66.06N	70.03W	-56.	.232		
6/27/77	0517	3:52	390	66.21N	68.31W	-55.	.235		
6/27/77	0527	4:02	390	66.45N	64.84W	-54.	.285		
6/27/77	0537	4:12	391	66.61N	61.34W	-50.	.247		
6/27/77	0547	4:22	410	66.80N	57.77W	-46.	.278		
6/27/77	0557	4:32	410	66.91N	54.17W	-44.	.329		
6/27/77	0607	4:42	410	66.93N	50.56W	-43.	.285		
6/27/77	0612	4:47	410	66.84N	48.71W	-43.	.290		
6/27/77	0617	4:52	410	66.69N	46.96W	-42.	.288		
6/27/77	0627	5:02	410	66.34N	43.44W	-42.	.295		
6/27/77	0637	5:12	410	65.91N	40.03W	-42.	.282		
6/27/77	0647	5:22	410	65.36N	36.83W	-42.	.274		
6/27/77	0652	5:27	410	65.07N	35.28W	-43.	.269		
6/27/77	0702	5:37	410	64.43N	32.28W	-43.	.278		
6/27/77	0707	5:42	410	64.08N	30.84W	-44.	.273		
6/27/77	0712	5:47	410	63.74N	29.43W	-44.	.258		
6/27/77	0717	5:52	410	63.38N	28.04W	-44.	.271		
6/27/77	0722	5:57	410	63.02N	26.69W	-45.	.263		
6/27/77	0732	6:07	410	62.24N	24.06W	-45.	.263		
6/27/77	0742	6:17	410	61.40N	21.56W	-46.	.241		
6/27/77	0752	6:27	410	60.55N	19.14W	-46.	.253		
6/27/77	0807	6:42	410	59.28N	15.67W	-46.	.283		
6/27/77	0812	6:47	410	58.83N	14.55W	-46.	.274		
6/27/77	0817	6:52	410	58.38N	13.46W	-46.	.292		
6/27/77	0822	6:57	410	57.91N	12.41W	-47.	.284		
6/27/77	0832	7:07	410	56.97N	10.39W	-47.	.267		
6/27/77	0842	7:17	410	55.94N	8.58W	-48.	.246		
6/27/77	0852	7:27	410	54.88N	6.85W	-48.	.252		
6/27/77	0902	7:37	410	53.94N	4.95W	-50.	.266		
6/27/77	0907	7:42	410	53.52N	3.93W	-51.	.267		
6/27/77	0912	7:47	410	53.04N	2.99W	-52.	.277		


LHR TO SFO DEPARTURE 27 JUN 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0
ELAPSED TIME IN HOURS

LHR TO SFO (PAGE 1 OF 1) DEPARTURE: 27 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .358 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 73
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO	
6/27/77	1314	0:10	350	53.29N	1.76W	-54.	.146			
6/27/77	1324	0:20	350	54.47N	2.60W	-53.	.282			
6/27/77	1334	0:30	350	55.65N	3.50W	-55.	.243			
6/27/77	1344	0:40	350	56.78N	4.63W	-58.	.199			
6/27/77	1349	0:45	351	57.32N	5.20W	-58.	.161			
6/27/77	1354	0:50	350	57.86N	5.79W	-55.	.213			
6/27/77	1359	0:55	351	58.42N	6.32W	-52.	.280			
6/27/77	1404	1:00	351	59.01N	6.74W	-49.	.304			
6/27/77	1414	1:10	351	60.22N	7.64W	-44.	.297			
6/27/77	1429	1:25	351	62.07N	9.16W	-40.	.358			
6/27/77	1439	1:35	351	63.21N	10.59W	-40.	.322			
6/27/77	1444	1:40	351	63.64N	11.76W	-40.	.300			
6/27/77	1449	1:45	350	64.07N	12.94W	-41.	.268			
6/27/77	1454	1:50	351	64.49N	14.17W	-42.	.298			
6/27/77	1459	1:55	350	64.87N	15.50W	-42.	.261			
6/27/77	1509	2:05	350	65.60N	18.29W	-43.	.243			
6/27/77	1519	2:15	369	66.29N	21.19W	-42.	.269			
6/27/77	1529	2:25	370	66.98N	24.31W	-42.	.209		B	
6/27/77	1539	2:35	371	67.60N	27.56W	-42.	.083		B	
6/27/77	1544	2:40	371	67.88N	29.22W	-42.	.092		B	
6/27/77	1549	2:45	370	68.13N	31.00W	-41.	.081		B	
6/27/77	1554	2:50	371	68.34N	32.77W	-41.	.085		B	
6/27/77	1559	2:55	371	68.55N	34.63W	-40.	.089		B	
6/27/77	1609	3:05	370	68.88N	38.35W	-40.	.068		B	
6/27/77	1619	3:15	371	69.27N	42.13W	-39.	.092		B	
6/27/77	1629	3:25	370	69.68N	46.00W	-40.	.060		B	
6/27/77	1639	3:35	370	69.97N	50.01W	-40.	.047		B	
6/27/77	1644	3:40	370	69.83N	52.04W	-42.	.087		B	
6/27/77	1649	3:45	370	69.68N	54.02W	-42.	.083		B	
6/27/77	1654	3:50	371	69.49N	55.93W	-44.	.155		B	
6/27/77	1659	3:55	370	69.28N	57.79W	-46.	.086		B	
6/27/77	1709	4:05	371	68.91N	61.40W	-51.	.085		B	
6/27/77	1719	4:15	391	68.65N	64.90W	-52.	.078		B	
6/27/77	1729	4:25	391	68.40N	68.45W	-54.	.087		B	
6/27/77	1739	4:35	391	68.20N	72.02W	-54.	.091		B	
6/27/77	1744	4:40	391	68.07N	73.78W	-54.	.087		B	
6/27/77	1749	4:45	391	67.92N	75.54W	-53.	.097		B	
6/27/77	1754	4:50	391	67.75N	77.28W	-53.	.096		B	
6/27/77	1759	4:55	391	67.57N	79.01W	-52.	.099		B	
6/27/77	1809	5:05	390	67.13N	82.39W	-50.	.120		B	
6/27/77	1819	5:15	391	66.63N	85.60W	-46.	.063		B	
6/27/77	1829	5:25	391	66.06N	88.73W	-46.	.107		B	
6/27/77	1839	5:35	391	65.42N	91.65W	-42.	.099		B	
6/27/77	1844	5:40	391	65.07N	93.05W	-43.	.091		B	
6/27/77	1849	5:45	391	64.72N	94.40W	-42.	.090		B	
6/27/77	1854	5:50	391	64.35N	95.72W	-43.	.098		B	
6/27/77	1859	5:55	391	63.98N	96.99W	-42.	.101		B	
6/27/77	1909	6:05	391	63.17N	99.49W	-43.	.088		B	
6/27/77	1919	6:15	391	62.35N	101.86W	-44.	.100		B	
6/27/77	1929	6:25	391	61.51N	104.06W	-44.	.098		B	
6/27/77	1939	6:35	391	60.63N	106.17W	-46.	.105		B	
6/27/77	1944	6:40	391	60.18N	107.19W	-46.	.115		B	
6/27/77	1949	6:45	391	59.71N	108.19W	-47.	.090		B	
6/27/77	1954	6:50	405	59.15N	108.94W	-45.	.119		B	
6/27/77	1959	6:55	410	58.54N	109.56W	-46.	.096		B	
6/27/77	2009	7:05	410	57.32N	110.73W	-47.	.116		B	
6/27/77	2019	7:15	410	56.08N	111.79W	-47.	.095		B	
6/27/77	2029	7:25	410	54.83N	112.73W	-48.	.082		B	
6/27/77	2039	7:35	410	53.69N	113.96W	-47.	.090		B	
6/27/77	2044	7:40	410	53.04N	114.32W	-49.	.103		B	
6/27/77	2049	7:45	410	52.39N	114.67W	-50.	.108		B	
6/27/77	2054	7:50	410	51.73N	115.02W	-51.	.090		B	
6/27/77	2059	7:55	410	51.06N	115.36W	-51.	.110		B	
6/27/77	2109	8:05	410	49.73N	116.01W	-53.	.103		B	
6/27/77	2119	8:15	409	48.57N	116.87W	-62.	.079		B	
6/27/77	2129	8:25	409	47.45N	117.68W	-64.	.020		B	
6/27/77	2139	8:35	410	46.32N	118.47W	-64.	.022		B	
6/27/77	2149	8:45	409	45.15N	119.24W	-63.	.016		B	
6/27/77	2154	8:50	410	44.57N	119.62W	-64.	.021		B	
6/27/77	2159	8:55	410	43.98N	119.99W	-64.	.020		B	
6/27/77	2219	9:15	409	41.56N	121.42W	-64.	.020		B	
6/27/77	2229	9:25	410	40.34N	122.10W	-64.	.019		B	
6/27/77	2239	9:35	410	39.04N	122.45W	-63.	.049		B	


SFO TO LHR DEPARTURE 28 JUN 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0
ELAPSED TIME IN HOURS

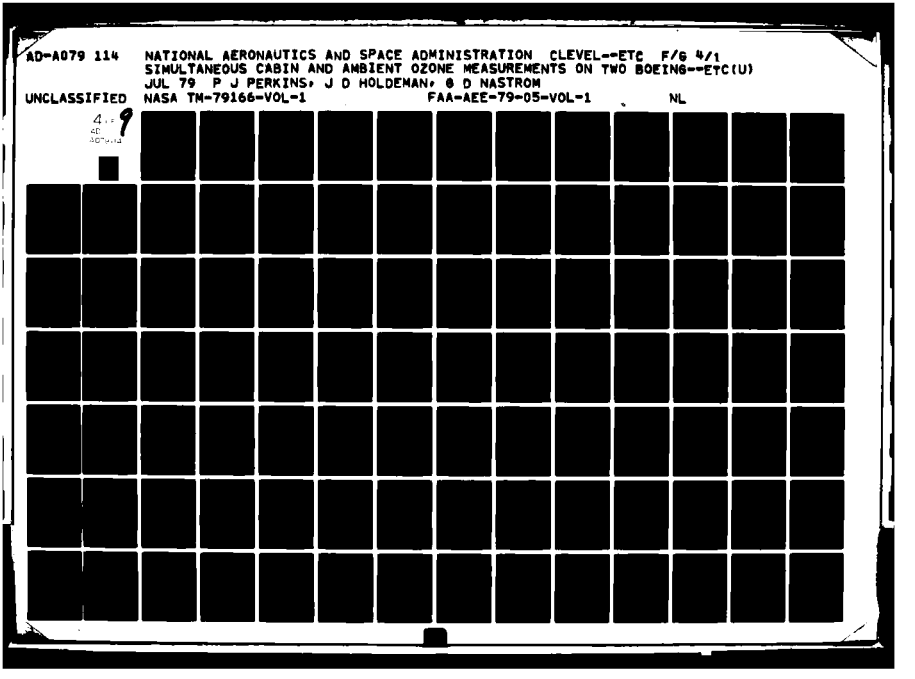
SFO TO LHR (PAGE 1 OF 1) DEPARTURE: 28 JUN 77 AIRCRAFT: PANAM -N533PA

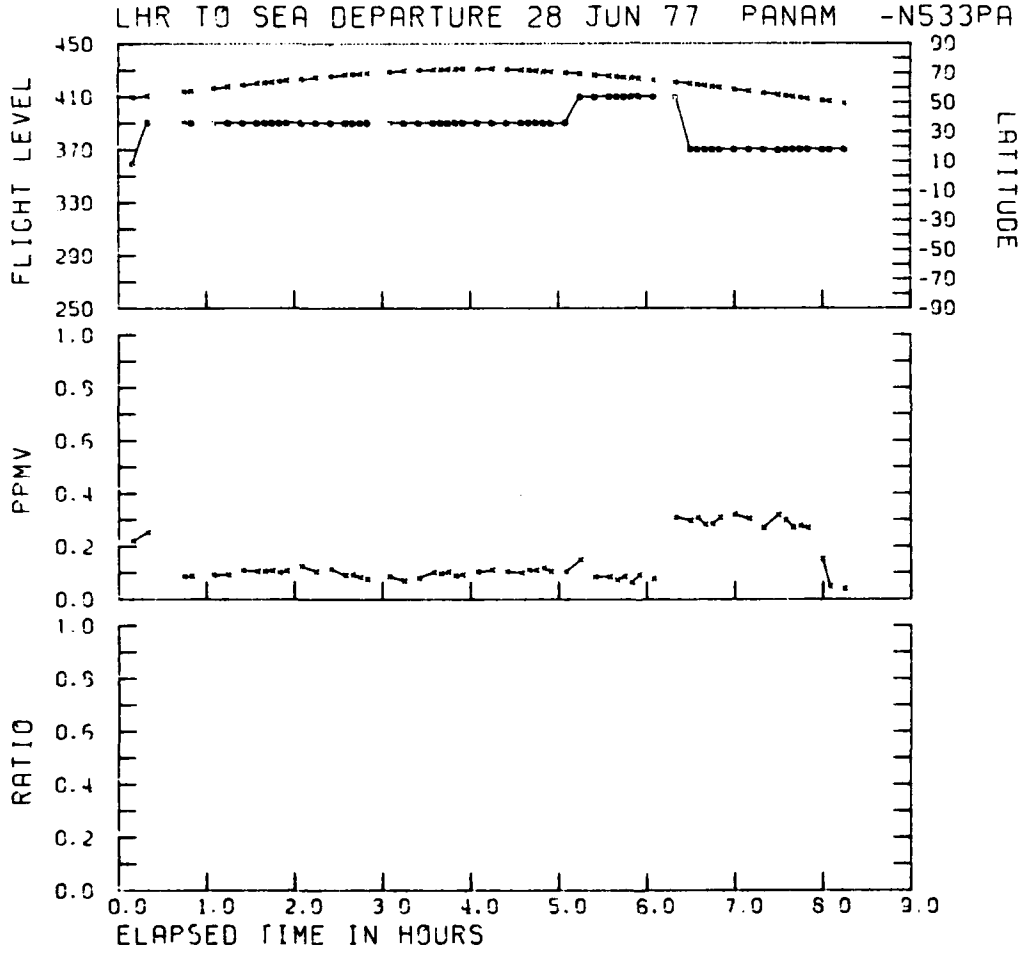
MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .303 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 63
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO	
6/28/77	0156	0:10	335	39.89N	122.24W	-44.	.028			
6/28/77	0201	0:15	350	40.51N	121.94W	-49.	.014			
6/28/77	0211	0:25	350	41.75N	121.16W	-48.	.032			
6/28/77	0221	0:35	350	43.02N	120.45W	-48.	.039			
6/28/77	0231	0:45	370	44.30N	119.71W	-53.	.027			
6/28/77	0236	0:50	370	44.93N	119.32W	-53.	.039			
6/28/77	0241	0:55	370	45.56N	118.94W	-54.	.034			
6/28/77	0246	1:00	370	46.18N	118.54W	-53.	.035			
6/28/77	0401	1:15	370	48.04N	117.27W	-55.	.085			
6/28/77	0311	1:25	370	49.22N	116.36W	-55.	.066			
6/28/77	0336	1:50	370	51.59N	112.68W	-52.	.297			
6/28/77	0341	1:55	370	52.05N	111.85W	-51.	.303			
6/28/77	0346	2:00	370	52.51N	111.00W	-53.	.246			
6/28/77	0411	2:25	370	54.70N	106.51W	-51.	.290			
6/28/77	0421	2:35	370	55.53N	104.57W	-49.	.266			
6/28/77	0426	2:40	370	55.93N	103.57W	-51.	.288			
6/28/77	0431	2:45	370	56.32N	102.55W	-50.	.280			
6/28/77	0436	2:50	370	56.71N	101.49W	-50.	.279			
6/28/77	0441	2:55	370	57.06N	100.37W	-49.	.220			
6/28/77	0451	3:05	370	57.72N	98.01W	-49.	.285			
6/28/77	0501	3:15	370	58.32N	95.63W	-49.	.266			
6/28/77	0511	3:25	370	58.89N	93.06W	-49.	.230			
6/28/77	0521	3:35	391	59.38N	90.41W	-46.	.244			
6/28/77	0526	3:40	391	59.59N	89.05W	-46.	.119			B
6/28/77	0536	3:50	391	59.98N	86.25W	-44.	.096			B
6/28/77	0541	3:55	391	60.15N	84.83W	-44.	.064			B
6/28/77	0551	4:05	390	60.43N	81.99W	-44.	.104			B
6/28/77	0601	4:15	391	60.88N	79.24W	-44.	.073			B
6/28/77	0611	4:25	391	61.75N	76.88W	-44.	.115			B
6/28/77	0621	4:35	391	62.59N	74.39W	-44.	.100			B
6/28/77	0626	4:40	391	62.99N	73.08W	-46.	.088			B
6/28/77	0631	4:45	390	63.38N	71.73W	-46.	.107			B
6/28/77	0636	4:50	391	63.75N	70.38W	-49.	.113			B
6/28/77	0641	4:55	391	64.01N	68.92W	-49.	.065			B
6/28/77	0646	5:00	390	64.23N	67.38W	-51.	.080			B
6/28/77	0656	5:10	391	64.60N	64.24W	-53.	.096			B
6/28/77	0706	5:20	390	64.91N	61.04W	-52.	.073			B
6/28/77	0716	5:30	390	65.06N	57.69W	-50.	.096			B
6/28/77	0726	5:40	391	65.08N	54.33W	-47.	.097			B
6/28/77	0731	5:45	391	65.06N	52.60W	-46.	.093			B
6/28/77	0736	5:50	390	65.03N	50.89W	-45.	.083			B
6/28/77	0741	5:55	391	64.94N	49.18W	-44.	.073			B
6/28/77	0746	6:00	391	64.82N	47.51W	-43.	.087			B
6/28/77	0751	6:05	391	64.67N	45.84W	-42.	.018			B
6/28/77	0801	6:15	390	64.33N	42.56W	-42.	.081			B
6/28/77	0811	6:25	390	63.90N	39.36W	-40.	.068			B
6/28/77	0821	6:35	390	63.36N	36.26W	-41.	.088			B
6/28/77	0831	6:45	410	62.77N	33.29W	-43.	.261			B
6/28/77	0836	6:50	410	62.45N	31.88W	-42.	.106			B
6/28/77	0841	6:55	411	62.13N	30.51W	-44.	.119			B
6/28/77	0846	7:00	410	61.86N	29.09W	-45.	.103			B
6/28/77	0851	7:05	410	61.61N	27.63W	-46.	.093			B
6/28/77	0901	7:15	410	61.11N	24.92W	-47.	.114			B
6/28/77	0916	7:30	410	60.26N	20.93W	-47.	.155			B
6/28/77	0926	7:40	410	59.69N	18.30W	-48.	.136			B
6/28/77	0931	7:45	410	59.36N	17.04W	-48.	.120			B
6/28/77	0936	7:50	410	59.02N	15.81W	-47.	.136			B
6/28/77	0941	7:55	410	58.66N	14.60W	-47.	.157			B
6/28/77	0946	8:00	410	58.30N	13.41W	-47.	.117			B
6/28/77	1026	8:40	410	54.55N	5.54W	-48.	.099			B
6/28/77	1031	8:45	410	54.14N	4.53W	-47.	.091			
6/28/77	1036	8:50	410	53.72N	3.52W	-48.	.261			
6/28/77	1041	8:55	410	53.28N	2.57W	-47.	.242			

AD-A079 114 NATIONAL AERONAUTICS AND SPACE ADMINISTRATION CLEVEL--ETC F/G 4/1
SIMULTANEOUS CABIN AND AMBIENT OZONE MEASUREMENTS ON TWO BOEING--ETC(U)
JUL 79 P J PERKINS, J D HOLDEMAN, B D NASTROM

UNCLASSIFIED NASA TM-79166-VOL-1 FAA-AEE-79-05-VOL-1 NL




LHR TO SEA DEPARTURE 28 JUN 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
ELAPSED TIME IN HOURS

LHR TO SEA (PAGE 1 OF 1) DEPARTURE: 28 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .321 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 61
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
6/28/77	1339	0:10	359	53.48N	1.73W	-53.	.221		
6/28/77	1349	0:20	391	54.68N	2.66W	-48.	.253		B
6/28/77	1414	0:45	390	57.61N	5.51W	-44.	.086		B
6/28/77	1419	0:50	390	58.19N	6.14W	-43.	.088		B
6/28/77	1434	1:05	390	59.83N	8.30W	-43.	.092		B
6/28/77	1444	1:15	390	60.91N	9.85W	-44.	.092		B
6/28/77	1454	1:25	390	62.02N	11.43W	-46.	.109		B
6/28/77	1504	1:35	390	63.11N	13.11W	-46.	.105		B
6/28/77	1509	1:40	390	63.64N	14.00W	-46.	.106		B
6/28/77	1514	1:45	390	64.17N	14.93W	-47.	.108		B
6/28/77	1519	1:50	390	64.70N	15.89W	-46.	.102		B
6/28/77	1524	1:55	390	65.22N	16.89W	-46.	.108		B
6/28/77	1534	2:05	390	66.22N	19.19W	-45.	.126		B
6/28/77	1544	2:15	390	67.17N	21.82W	-43.	.105		B
6/28/77	1554	2:25	390	68.08N	24.67W	-42.	.114		B
6/28/77	1604	2:35	390	68.95N	27.75W	-42.	.091		B
6/28/77	1609	2:40	390	69.37N	29.39W	-43.	.094		B
6/28/77	1614	2:45	390	69.75N	31.10W	-43.	.083		B
6/28/77	1619	2:50	390	70.11N	32.88W	-45.	.077		B
6/28/77	1634	3:05	390	71.08N	38.60W	-45.	.087		B
6/28/77	1644	3:15	390	71.65N	42.68W	-45.	.070		B
6/28/77	1654	3:25	390	72.14N	46.97W	-45.	.080		B
6/28/77	1704	3:35	390	72.52N	51.46W	-44.	.102		B
6/28/77	1709	3:40	390	72.68N	53.76W	-45.	.098		B
6/28/77	1714	3:45	390	72.81N	56.09W	-45.	.104		B
6/28/77	1719	3:50	390	72.90N	58.46W	-45.	.089		B
6/28/77	1724	3:55	390	72.98N	60.85W	-45.	.093		B
6/28/77	1734	4:05	390	73.05N	65.60W	-45.	.105		B
6/28/77	1744	4:15	390	73.00N	70.33W	-46.	.111		B
6/28/77	1754	4:25	390	72.66N	74.84W	-48.	.105		B
6/28/77	1804	4:35	390	72.22N	79.18W	-49.	.100		B
6/28/77	1809	4:40	390	71.97N	81.27W	-48.	.111		B
6/28/77	1814	4:45	390	71.69N	83.32W	-50.	.110		B
6/28/77	1819	4:50	390	71.38N	85.34W	-49.	.118		B
6/28/77	1824	4:55	390	71.06N	87.30W	-44.	.105		B
6/28/77	1834	5:05	390	70.36N	90.96W	-45.	.105		B
6/28/77	1844	5:15	410	69.59N	94.41W	-42.	.150		B
6/28/77	1854	5:25	410	68.77N	97.56W	-42.	.085		B
6/28/77	1904	5:35	410	67.95N	100.64W	-41.	.085		B
6/28/77	1909	5:40	410	67.52N	102.10W	-41.	.074		B
6/28/77	1914	5:45	410	67.07N	103.50W	-42.	.087		B
6/28/77	1919	5:50	410	66.62N	104.85W	-41.	.064		B
6/28/77	1924	5:55	410	66.15N	106.15W	-42.	.093		B
6/28/77	1934	6:05	410	65.19N	108.60W	-42.	.079		B
6/28/77	1949	6:20	410	63.71N	111.99W	-44.	.310		
6/28/77	1959	6:30	370	62.71N	114.04W	-46.	.297		
6/28/77	2004	6:35	370	62.13N	114.74W	-45.	.308		
6/28/77	2009	6:40	370	61.49N	115.21W	-48.	.282		
6/28/77	2014	6:45	370	60.85N	115.66W	-49.	.285		
6/28/77	2019	6:50	370	60.21N	116.09W	-48.	.309		
6/28/77	2029	7:00	370	58.93N	116.91W	-48.	.321		
6/28/77	2039	7:10	370	57.66N	117.68W	-46.	.304		
6/28/77	2049	7:20	370	56.41N	118.40W	-46.	.270		
6/28/77	2059	7:30	370	55.14N	119.07W	-46.	.318		
6/28/77	2104	7:35	370	54.51N	119.23W	-47.	.300		
6/28/77	2109	7:40	370	53.85N	119.39W	-49.	.272		
6/28/77	2114	7:45	370	53.20N	119.55W	-49.	.278		
6/28/77	2119	7:50	370	52.56N	119.71W	-51.	.269		
6/28/77	2129	8:00	370	51.31N	119.99W	-57.	.153		
6/28/77	2134	8:05	370	50.73N	120.11W	-58.	.048		
6/28/77	2144	8:15	370	49.50N	120.37W	-57.	.040		

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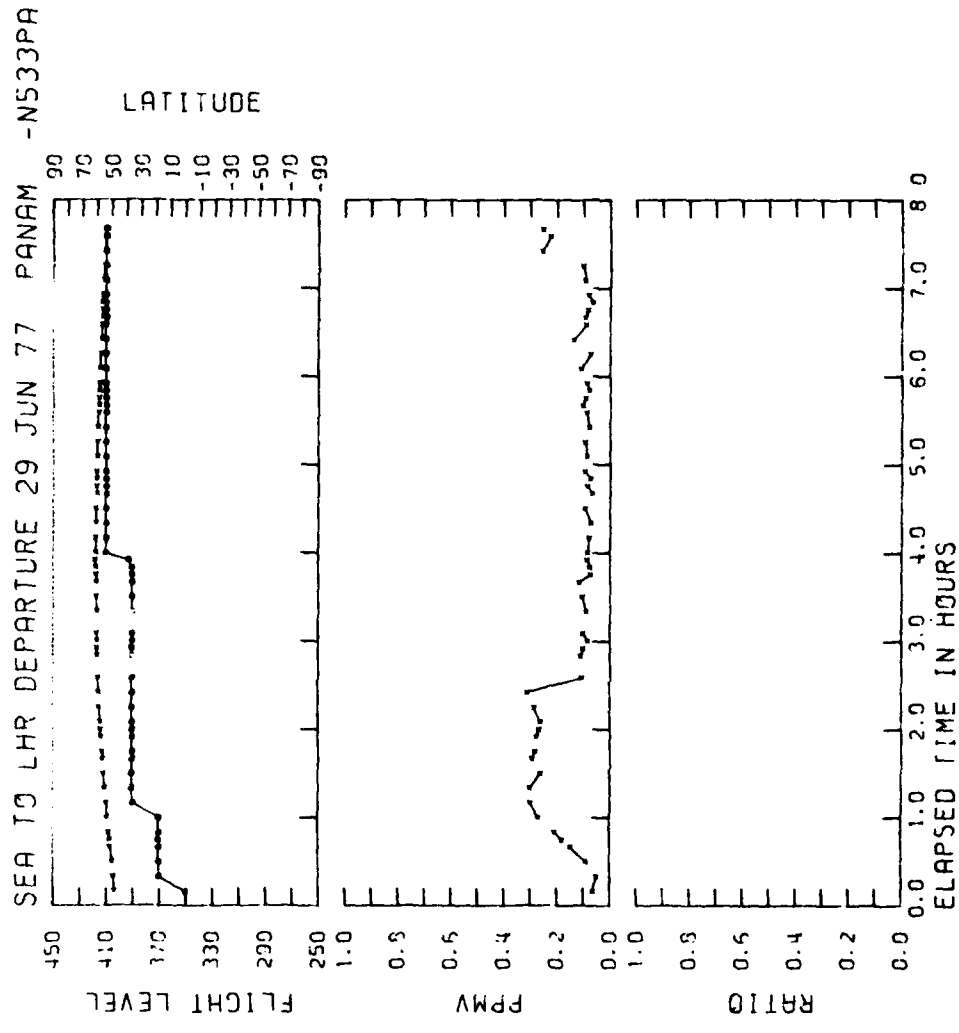
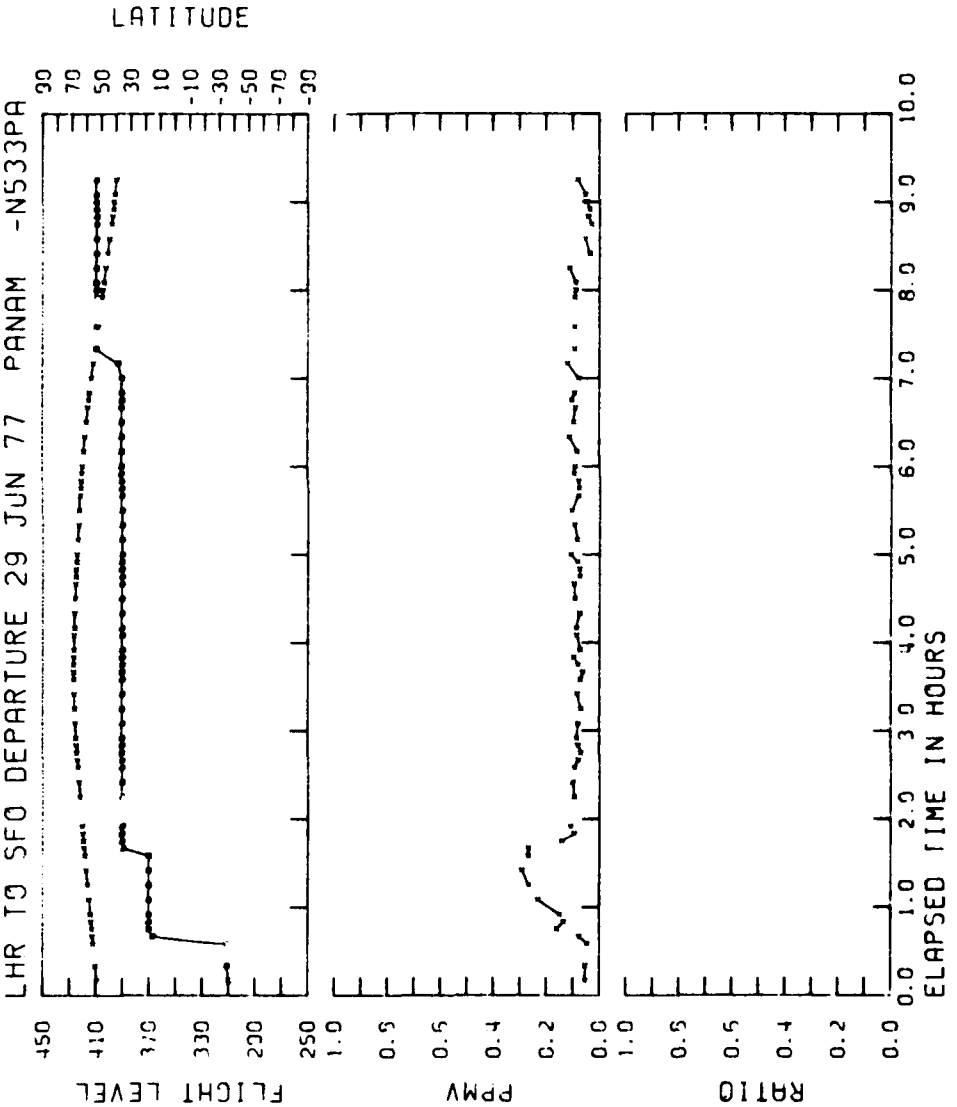

SEA TO LHR DEPARTURE 29 JUN 77 PANAM -N533PA
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
FLIGHT LEVEL
450
410
370
330
290
250
FPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
ELAPSED TIME IN HOURS

SEA TO LHR (PAGE 1 OF 1) DEPARTURE: 29 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .311 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 57
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	AMB.	RATIO
6/29/77	0132	0:10	350	48.57N	119.37W	-51.	.065			6/29/77	0522	4:00	410	61.37N	62.21W	-46.	.085		B
6/29/77	0142	0:20	370	49.24N	117.17W	-56.	.051			6/29/77	0532	4:10	410	61.39N	59.18W	-46.	.079		B
6/29/77	0152	0:30	370	50.14N	115.20W	-54.	.090			6/29/77	0542	4:20	410	61.29N	56.20W	-46.	.073		B
6/29/77	0202	0:40	370	51.25N	113.35W	-56.	.149			6/29/77	0552	4:30	410	61.14N	53.24W	-46.	.094		B
6/29/77	0207	0:45	371	51.78N	112.40W	-54.	.180			6/29/77	0602	4:40	410	60.91N	50.27W	-47.	.069		B
6/29/77	0212	0:50	370	52.31N	111.44W	-54.	.207			6/29/77	0607	4:45	410	60.80N	48.79W	-46.	.087		B
6/29/77	0222	1:00	370	53.31N	109.50W	-53.	.270			6/29/77	0612	4:50	410	60.69N	47.30W	-48.	.075		B
6/29/77	0232	1:10	390	54.24N	107.53W	-48.	.299			6/29/77	0617	4:55	410	60.55N	45.82W	-48.	.096		B
6/29/77	0242	1:20	391	55.14N	105.50W	-49.	.302			6/29/77	0627	5:05	410	60.23N	42.88W	-47.	.087		B
6/29/77	0252	1:30	391	55.98N	103.41W	-49.	.260			6/29/77	0637	5:15	410	59.86N	39.98W	-48.	.095		B
6/29/77	0302	1:40	391	56.79N	101.24W	-49.	.295			6/29/77	0647	5:25	410	59.64N	37.05W	-47.	.077		B
6/29/77	0307	1:45	391	57.12N	100.10W	-48.	.282			6/29/77	0657	5:35	410	59.36N	34.16W	-47.	.090		B
6/29/77	0317	1:55	391	57.76N	97.76W	-48.	.278			6/29/77	0702	5:40	410	59.20N	32.73W	-46.	.104		B
6/29/77	0322	2:00	391	58.08N	96.52W	-47.	.268			6/29/77	0707	5:45	410	59.02N	31.31W	-46.	.092		B
6/29/77	0327	2:05	391	58.38N	95.27W	-46.	.262			6/29/77	0712	5:50	410	58.82N	29.90W	-47.	.080		B
6/29/77	0337	2:15	391	58.94N	92.64W	-46.	.285			6/29/77	0717	5:55	410	58.60N	28.52W	-46.	.088		B
6/29/77	0347	2:25	391	59.42N	89.97W	-46.	.311			6/29/77	0727	6:05	410	58.11N	25.82W	-47.	.109		B
6/29/77	0357	2:35	391	59.81N	87.19W	-48.	.108		B	6/29/77	0737	6:15	410	57.56N	23.17W	-49.	.073		B
6/29/77	0412	2:50	391	60.29N	83.01W	-47.	.110		B	6/29/77	0747	6:25	410	56.97N	20.66W	-50.	.135		B
6/29/77	0417	2:55	391	60.42N	81.58W	-48.	.103		B	6/29/77	0757	6:35	410	56.72N	18.01W	-51.	.090		B
6/29/77	0422	3:00	391	60.54N	80.13W	-46.	.085		B	6/29/77	0802	6:40	410	56.61N	16.68W	-52.	.094		B
6/29/77	0427	3:05	391	60.65N	78.67W	-46.	.102		B	6/29/77	0807	6:45	410	56.49N	15.40W	-53.	.083		B
6/29/77	0442	3:20	391	60.88N	74.20W	-46.	.092		B	6/29/77	0812	6:50	410	56.36N	14.13W	-52.	.067		B
6/29/77	0452	3:30	391	60.95N	71.17W	-46.	.105		B	6/29/77	0817	6:55	410	56.21N	12.85W	-52.	.082		B
6/29/77	0502	3:40	391	61.09N	68.18W	-45.	.117		B	6/29/77	0827	7:05	410	55.88N	10.33W	-52.	.095		B
6/29/77	0507	3:45	391	61.19N	66.70W	-45.	.073		B	6/29/77	0837	7:15	410	55.14N	8.17W	-51.	.104		B
6/29/77	0512	3:50	391	61.26N	65.21W	-46.	.076		B	6/29/77	0847	7:25	410	54.43N	6.07W	-51.	.257		
6/29/77	0517	3:55	393	61.32N	63.70W	-46.	.087		B	6/29/77	0857	7:35	410	53.63N	4.05W	-50.	.225		
										6/29/77	0902	7:40	410	53.17N	3.16W	-49.	.253		


LHR TO SFO DEPARTURE 29 JUN 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0
ELAPSED TIME IN HOURS

LHR TO SFO (PAGE 1 OF 1) DEPARTURE: 29 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .292 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 69
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/29/77	1256	0:10	310	53.51N	1.93W	-49.	.054		
6/29/77	1306	0:20	311	54.57N	3.10W	-49.	.053		
6/29/77	1321	0:35	312	56.11N	4.98W	-48.	.047		
6/29/77	1326	0:40	367	56.56N	5.72W	-60.	.077		
6/29/77	1331	0:45	370	57.00N	6.49W	-60.	.161		
6/29/77	1336	0:50	370	57.45N	7.28W	-60.	.135		
6/29/77	1341	0:55	370	57.91N	8.07W	-60.	.152		
6/29/77	1351	1:05	370	58.86N	9.72W	-54.	.231		
6/29/77	1401	1:15	370	59.77N	11.50W	-47.	.267		
6/29/77	1411	1:25	370	60.71N	13.49W	-42.	.292		
6/29/77	1421	1:35	370	61.61N	15.63W	-40.	.269		
6/29/77	1426	1:40	389	62.06N	16.78W	-41.	.268		
6/29/77	1431	1:45	390	62.48N	17.92W	-40.	.142		B
6/29/77	1436	1:50	390	62.90N	19.13W	-40.	.095		B
6/29/77	1441	1:55	390	63.31N	20.36W	-40.	.109		B
6/29/77	1501	2:15	390	64.90N	25.61W	-41.	.096		B
6/29/77	1511	2:25	390	65.63N	28.39W	-42.	.101		B
6/29/77	1521	2:35	390	66.33N	31.30W	-43.	.095		B
6/29/77	1526	2:40	390	66.67N	32.82W	-43.	.081		B
6/29/77	1531	2:45	390	67.00N	34.38W	-43.	.070		B
6/29/77	1536	2:50	390	67.32N	35.99W	-42.	.080		B
6/29/77	1541	2:55	390	67.62N	37.63W	-44.	.086		B
6/29/77	1551	3:05	390	68.14N	41.03W	-45.	.080		B
6/29/77	1601	3:15	390	68.56N	44.62W	-44.	.070		B
6/29/77	1611	3:25	390	68.90N	48.42W	-45.	.084		B
6/29/77	1621	3:35	390	69.18N	52.31W	-45.	.073		B
6/29/77	1626	3:40	390	69.24N	54.27W	-45.	.063		B
6/29/77	1631	3:45	390	69.19N	56.24W	-45.	.081		B
6/29/77	1636	3:50	390	69.11N	58.19W	-45.	.097		B
6/29/77	1641	3:55	390	69.00N	60.13W	-45.	.074		B
6/29/77	1651	4:05	390	68.73N	63.92W	-46.	.086		B
6/29/77	1656	4:10	390	68.57N	65.79W	-46.	.087		B
6/29/77	1706	4:20	390	68.35N	69.53W	-45.	.075		B
6/29/77	1716	4:30	390	68.13N	73.16W	-44.	.093		B
6/29/77	1726	4:40	390	67.82N	76.67W	-45.	.096		B
6/29/77	1731	4:45	390	67.64N	78.40W	-44.	.075		B
6/29/77	1736	4:50	390	67.44N	80.12W	-44.	.075		B
6/29/77	1741	4:55	390	67.22N	81.80W	-44.	.084		B
6/29/77	1746	5:00	390	66.99N	83.44W	-43.	.108		B
6/29/77	1756	5:10	390	66.46N	86.63W	-42.	.086		B
6/29/77	1806	5:20	390	65.87N	89.66W	-43.	.095		B
6/29/77	1816	5:30	390	65.23N	92.55W	-44.	.106		B
6/29/77	1826	5:40	390	64.54N	95.29W	-43.	.081		B
6/29/77	1831	5:45	390	64.17N	96.59W	-44.	.079		B
6/29/77	1836	5:50	390	63.77N	97.81W	-44.	.081		B
6/29/77	1841	5:55	390	63.35N	99.01W	-44.	.097		B
6/29/77	1846	6:00	390	62.94N	100.17W	-43.	.092		B
6/29/77	1856	6:10	390	62.12N	102.49W	-44.	.084		B
6/29/77	1906	6:20	390	61.26N	104.69W	-45.	.112		B
6/29/77	1916	6:30	390	60.38N	106.75W	-44.	.097		B
6/29/77	1926	6:40	390	59.44N	108.65W	-46.	.089		B
6/29/77	1931	6:45	390	58.84N	109.27W	-47.	.104		B
6/29/77	1936	6:50	390	58.23N	109.88W	-47.	.093		B
6/29/77	1946	7:00	390	57.00N	111.02W	-47.	.079		B
6/29/77	1956	7:10	393	55.72N	112.05W	-46.	.120		
6/29/77	2006	7:20	410	54.40N	113.02W	-46.	.094		B
6/29/77	2021	7:35	410	52.43N	114.35W	-46.	.094		B
6/29/77	2041	7:55	410	49.75N	115.96W	-52.	.093		B
6/29/77	2046	8:00	409	49.11N	116.43W	-50.	.089		B
6/29/77	2051	8:05	410	48.46N	116.93W	-55.	.090		B
6/29/77	2101	8:15	410	47.24N	117.86W	-65.	.113		
6/29/77	2111	8:25	409	46.02N	118.74W	-66.	.037		
6/29/77	2121	8:35	410	44.78N	119.60W	-65.	.053		
6/29/77	2131	8:45	409	43.43N	120.15W	-65.	.032		
6/29/77	2136	8:50	409	42.76N	120.39W	-64.	.043		
6/29/77	2141	8:55	410	42.14N	120.75W	-62.	.038		
6/29/77	2146	9:00	410	41.56N	121.18W	-64.	.049		
6/29/77	2152	9:06	409	40.79N	121.73W	-63.	.052		
6/29/77	2202	9:16	409	39.60N	122.37W	-62.	.080		

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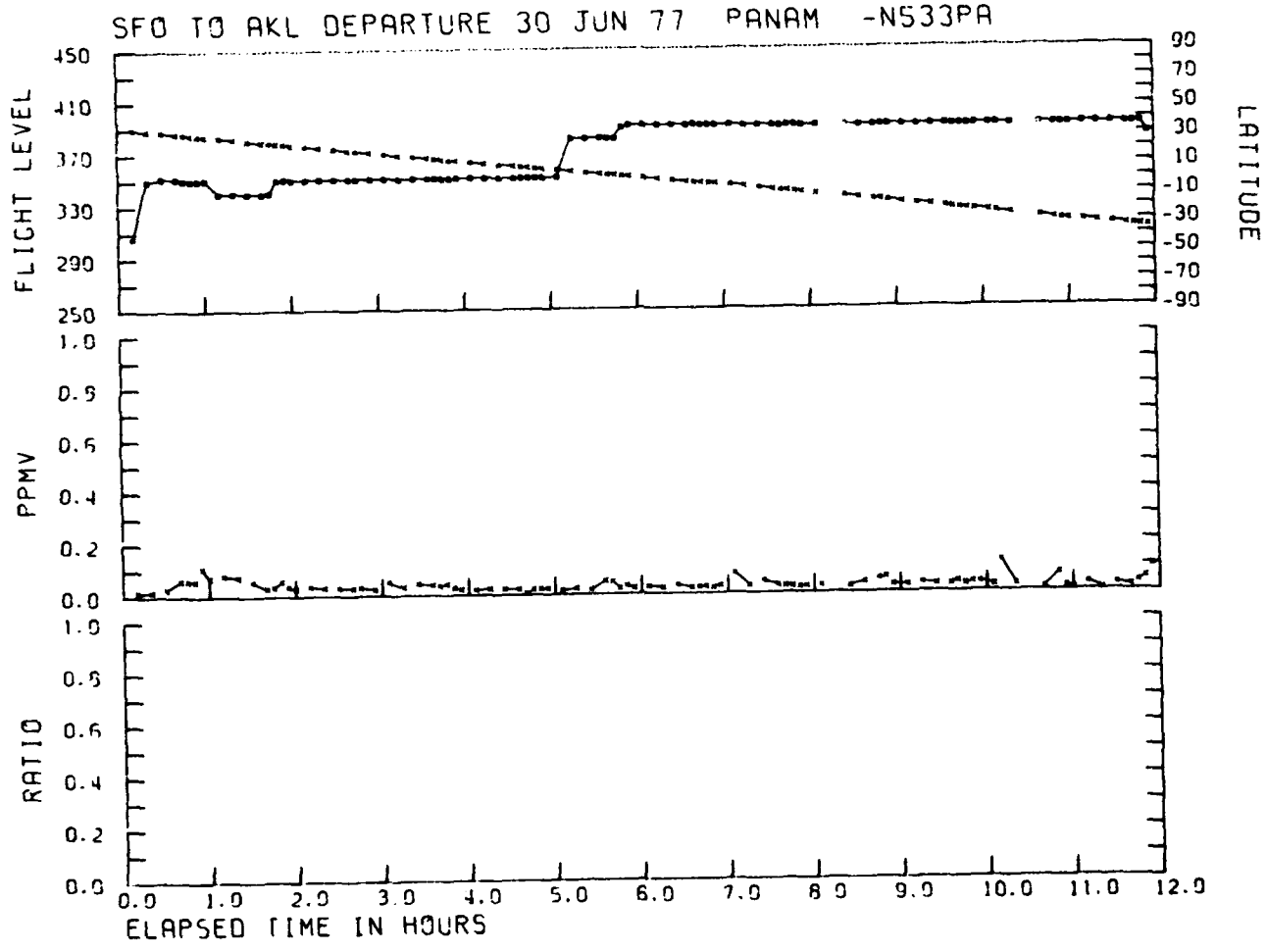
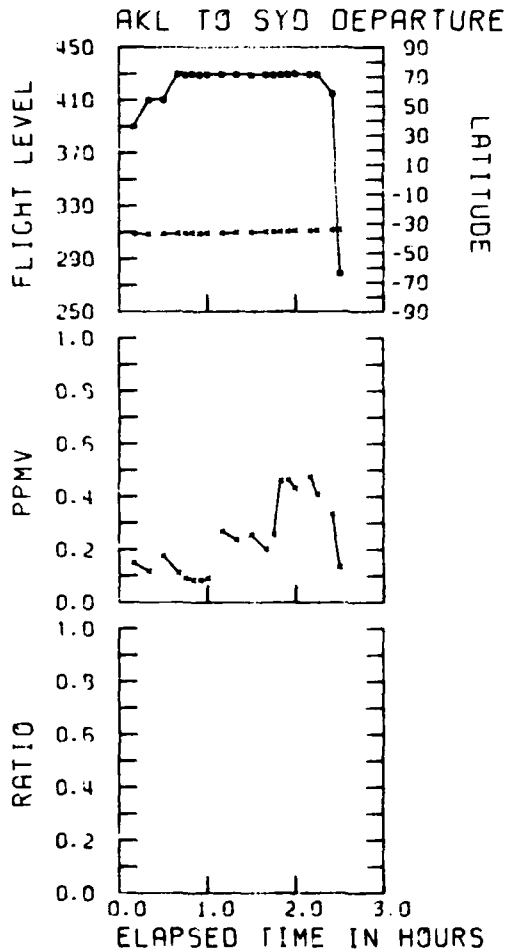

SFO TO AKL DEPARTURE 30 JUN 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
12.0
ELAPSED TIME IN HOURS

SFO TO AKL (PAGE 1 OF 1) DEPARTURE: 30 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .119 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 90
DATA SOURCE: GASP TAPE VL010, FILE 4

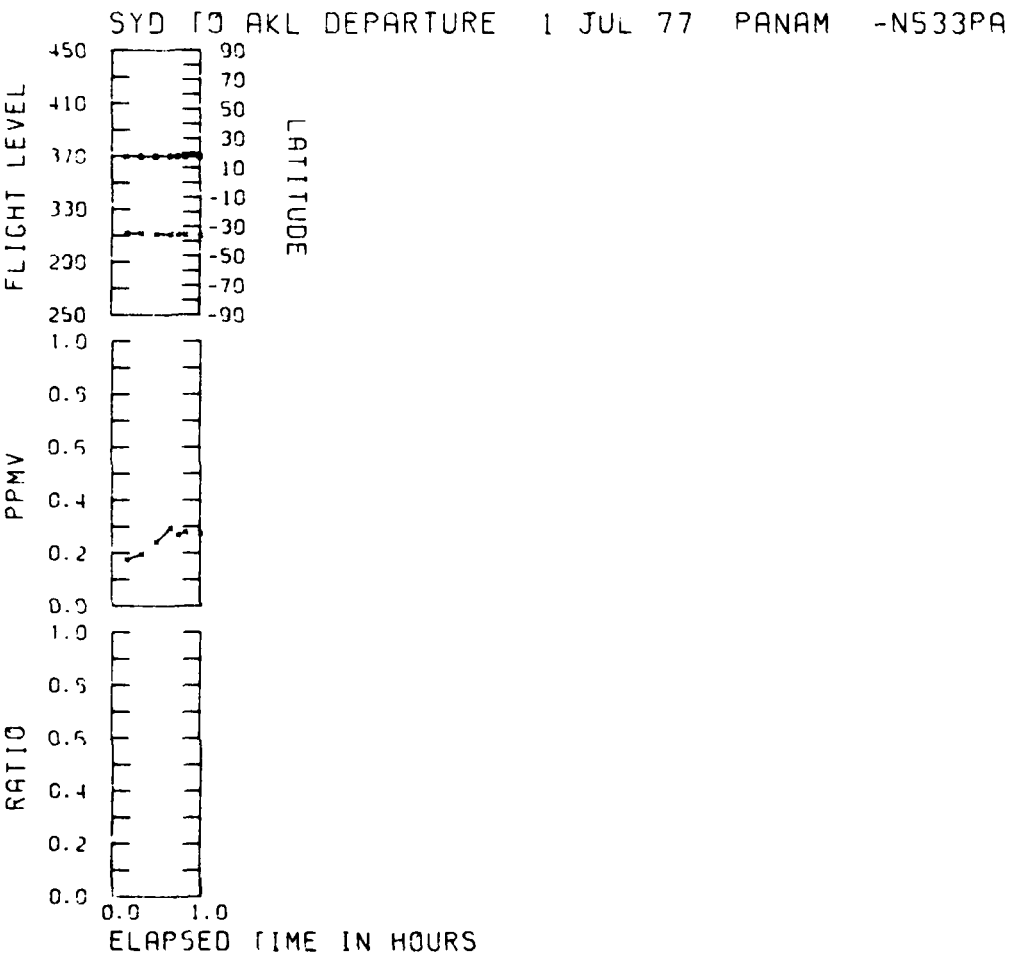
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
6/30/77	0601	0:10	306	36.22N	124.65W	-35.	.018		
6/30/77	0611	0:20	350	35.25N	125.70W	-48.	.021		
6/30/77	0621	0:30	352	34.26N	126.71W	-48.	.031		
6/30/77	0631	0:40	352	33.26N	127.70W	-44.	.063		
6/30/77	0636	0:45	351	32.76N	128.19W	-42.	.063		
6/30/77	0641	0:50	351	32.25N	128.67W	-41.	.061		
6/30/77	0646	0:55	351	31.75N	129.14W	-40.	.112		
6/30/77	0651	1:00	351	31.25N	129.60W	-40.	.073		
6/30/77	0701	1:10	340	30.22N	130.54W	-37.	.081		
6/30/77	0711	1:20	341	29.17N	131.48W	-37.	.074		
6/30/77	0721	1:30	340	28.11N	132.43W	-39.	.058		
6/30/77	0731	1:40	340	27.03N	133.36W	-41.	.032		
6/30/77	0736	1:45	341	26.50N	133.81W	-41.	.036		
6/30/77	0741	1:50	351	25.98N	134.25W	-44.	.059		
6/30/77	0746	1:55	351	25.45N	134.69W	-43.	.039		
6/30/77	0751	2:00	351	24.93N	135.12W	-44.	.030		
6/30/77	0801	2:10	351	23.89N	135.97W	-44.	.037		
6/30/77	0811	2:20	351	22.84N	136.81W	-45.	.032		
6/30/77	0821	2:30	351	21.79N	137.63W	-45.	.032		
6/30/77	0831	2:40	351	20.73N	138.44W	-45.	.031		
6/30/77	0836	2:45	351	20.21N	138.84W	-45.	.032		
6/30/77	0846	2:55	351	19.18N	139.66W	-45.	.025		
6/30/77	0856	3:05	351	18.17N	140.47W	-46.	.052		
6/30/77	0906	3:15	351	17.13N	141.28W	-46.	.032		
6/30/77	0917	3:26	351	16.08N	142.09W	-46.	.045		
6/30/77	0926	3:35	351	15.06N	142.87W	-46.	.041		
6/30/77	0931	3:40	351	14.54N	143.26W	-46.	.036		
6/30/77	0936	3:45	351	14.02N	143.66W	-46.	.044		
6/30/77	0941	3:50	351	13.49N	144.05W	-46.	.029		
6/30/77	0946	3:55	351	12.97N	144.44W	-46.	.022		
6/30/77	0956	4:05	351	11.96N	145.25W	-46.	.021		
6/30/77	1006	4:15	351	11.01N	146.19W	-45.	.025		
6/30/77	1016	4:25	351	10.07N	147.13W	-45.	.023		
6/30/77	1026	4:35	351	9.13N	148.05W	-45.	.022		
6/30/77	1031	4:40	351	8.66N	148.51W	-45.	.006		
6/30/77	1036	4:45	351	8.18N	148.97W	-45.	.022		
6/30/77	1041	4:50	351	7.70N	149.44W	-45.	.024		
6/30/77	1046	4:55	351	7.22N	149.91W	-45.	.024		
6/30/77	1056	5:05	351	6.34N	150.93W	-45.	.018		
6/30/77	1106	5:15	381	5.21N	151.67W	-52.	.023		
6/30/77	1117	5:26	381	4.11N	152.49W	-52.	.018		
6/30/77	1126	5:35	381	3.22N	153.47W	-52.	.052		
6/30/77	1131	5:40	381	2.78N	153.96W	-52.	.048		
6/30/77	1136	5:45	381	2.34N	154.46W	-52.	.023		
6/30/77	1141	5:50	389	1.90N	154.96W	-54.	.033		
6/30/77	1146	5:55	391	1.42N	155.42W	-55.	.024		
6/30/77	1156	6:05	391	.46N	156.34W	-55.	.029		
6/30/77	1206	6:15	391	.52S	157.26W	-55.	.023		
6/30/77	1216	6:25	391	1.48S	158.17W	-55.	.034		
6/30/77	1226	6:35	391	2.44S	159.08W	-55.	.023		
6/30/77	1231	6:40	392	2.84S	159.60W	-55.	.025		
6/30/77	1236	6:45	391	3.14S	160.22W	-55.	.027		
6/30/77	1241	6:50	391	3.44S	160.85W	-55.	.023		
6/30/77	1246	6:55	391	3.65S	161.53W	-55.	.031		
6/30/77	1256	7:05	391	4.69S	162.39W	-56.	.077		
6/30/77	1306	7:15	390	5.87S	163.11W	-56.	.030		
6/30/77	1316	7:25	391	7.01S	163.92W	-56.	.047		
6/30/77	1326	7:35	391	8.20S	164.68W	-55.	.031		
6/30/77	1331	7:40	390	8.77S	165.06W	-55.	.027		
6/30/77	1336	7:45	390	9.26S	165.55W	-55.	.024		
6/30/77	1341	7:50	390	9.75S	166.03W	-55.	.024		
6/30/77	1346	7:55	390	10.23S	166.51W	-55.	.025		
6/30/77	1356	8:05	390	11.21S	167.49W	-55.	.029		
6/30/77	1416	8:25	390	13.14S	169.46W	-56.	.025		
6/30/77	1426	8:35	390	14.10S	170.46W	-56.	.040		
6/30/77	1437	8:46	390	15.25S	171.29W	-55.	.051		
6/30/77	1442	8:51	390	15.82S	171.65W	-56.	.057		
6/30/77	1447	8:56	390	16.41S	172.03W	-55.	.027		
6/30/77	1456	9:05	391	17.53S	172.76W	-56.	.028		
6/30/77	1506	9:15	390	18.64S	173.49W	-56.	.034		
6/30/77	1516	9:25	390	19.74S	174.23W	-56.	.028		
6/30/77	1526	9:35	390	20.83S	174.97W	-56.	.031		
6/30/77	1531	9:40	390	21.39S	175.32W	-55.	.039		
6/30/77	1536	9:45	390	21.96S	175.63W	-56.	.029		
6/30/77	1541	9:50	390	22.53S	175.94W	-56.	.034		
6/30/77	1546	9:55	390	23.11S	176.26W	-56.	.035		
6/30/77	1556	10:05	390	24.25S	176.90W	-56.	.023		
6/30/77	1601	10:10	390	24.82S	177.22W	-56.	.119		
6/30/77	1611	10:20	390	26.00S	177.77W	-56.	.027		
6/30/77	1632	10:41	390	28.30S	178.85W	-56.	.012		
6/30/77	1641	10:50	390	29.39S	179.37W	-56.	.068		
6/30/77	1646	10:55	390	29.94S	179.64W	-56.	.017		
6/30/77	1651	11:00	390	30.44S	179.99E	-56.	.006		
6/30/77	1701	11:10	391	31.43S	179.24E	-56.	.029		
6/30/77	1711	11:20	390	32.40S	178.49E	-56.	.006		
6/30/77	1721	11:30	391	33.33S	177.75E	-55.	.024		
6/30/77	1731	11:40	390	34.25S	176.99E	-54.	.018		
6/30/77	1736	11:45	390	34.70S	176.62E	-54.	.034		
6/30/77	1741	11:50	391	35.14S	176.24E	-54.	.050		
6/30/77	1746	11:55	383	35.58S	175.86E	-53.	.098		


AKL TO SYD DEPARTURE 30 JUN 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

AKL TO SYD (PAGE 1 OF 1) DEPARTURE: 30 JUN 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .475 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 20
DATA SOURCE: GASP TAPE VL010, FILE 4 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	AMB.	RATIO
6/30/77	2038	0:10	390	36.90S	172.88E	-55.	.149		
6/30/77	2048	0:20	410	36.83S	171.61E	-55.	.118		
6/30/77	2058	0:30	410	36.73S	170.30E	-55.	.177		
6/30/77	2108	0:40	430	36.61S	168.94E	-56.	.111		
6/30/77	2113	0:45	430	36.54S	168.22E	-53.	.092		
6/30/77	2118	0:50	430	36.47S	167.50E	-50.	.085		
6/30/77	2123	0:55	429	36.39S	166.76E	-50.	.085		
6/30/77	2128	1:00	430	36.31S	166.03E	-50.	.092		
6/30/77	2138	1:10	430	36.13S	164.56E	-49.	.270		
6/30/77	2148	1:20	430	35.92S	163.05E	-47.	.237		
6/30/77	2158	1:30	429	35.70S	161.54E	-47.	.256		
6/30/77	2208	1:40	430	35.45S	160.06E	-46.	.202		
6/30/77	2213	1:45	430	35.32S	159.31E	-46.	.257		
6/30/77	2218	1:50	430	35.18S	158.55E	-47.	.462		
6/30/77	2223	1:55	430	35.04S	157.78E	-46.	.463		
6/30/77	2228	2:00	430	34.89S	157.00E	-46.	.433		
6/30/77	2238	2:10	430	34.58S	155.50E	-45.	.475		
6/30/77	2243	2:15	430	34.42S	154.76E	-47.	.408		
6/30/77	2253	2:25	415	34.18S	153.26E	-46.	.335		
6/30/77	2258A	2:30	279	34.12S	152.51E	-46.	.133		


SYD TO AKL DEPARTURE 1 JUL 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
ELAPSED TIME IN HOURS

SYD TO AKL (PAGE 1 OF 1)

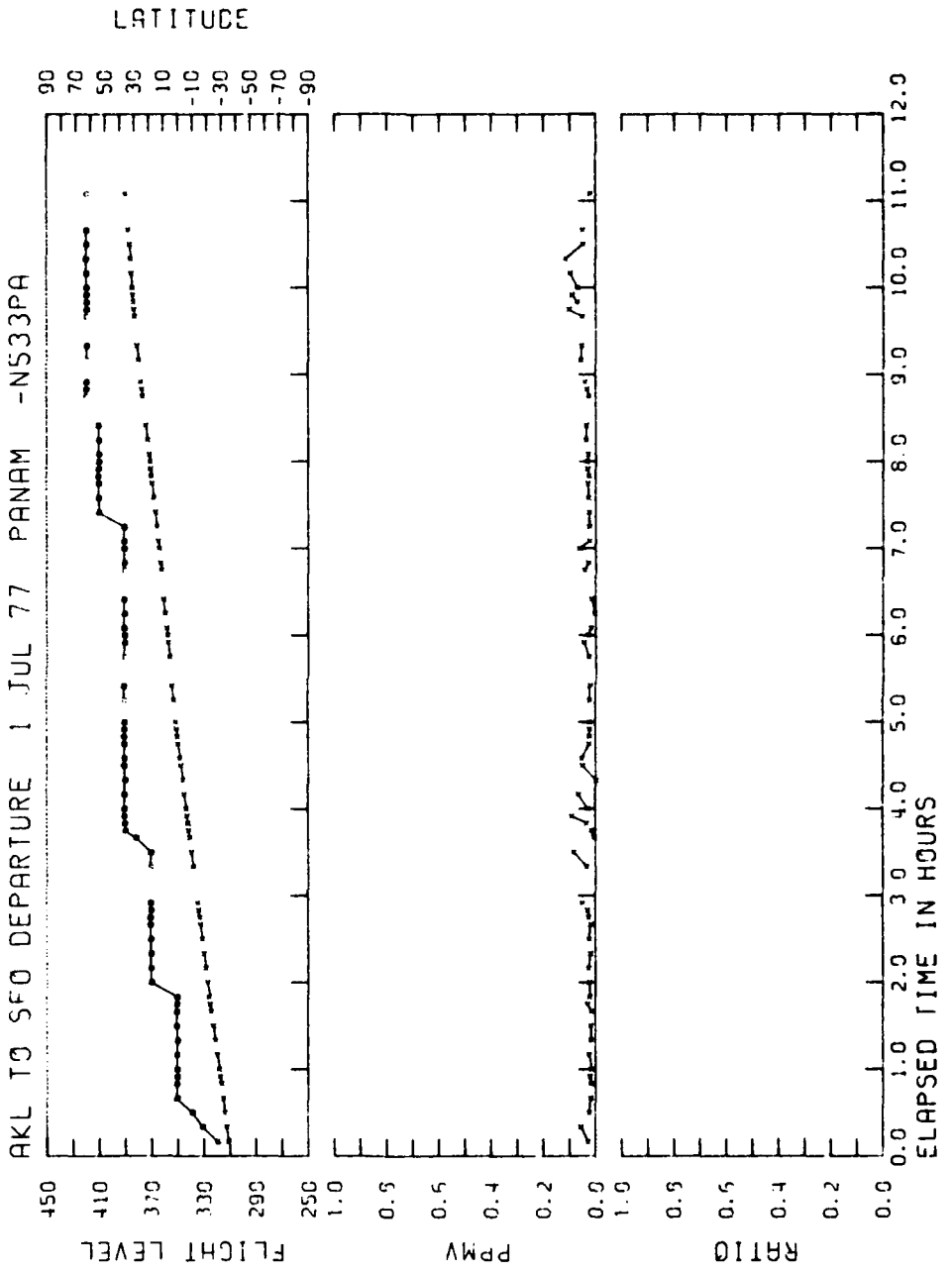
DEPARTURE: 1 JUL 77

AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .296 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 7

DATA SOURCE: GASP TAPE VL010, FILE 4

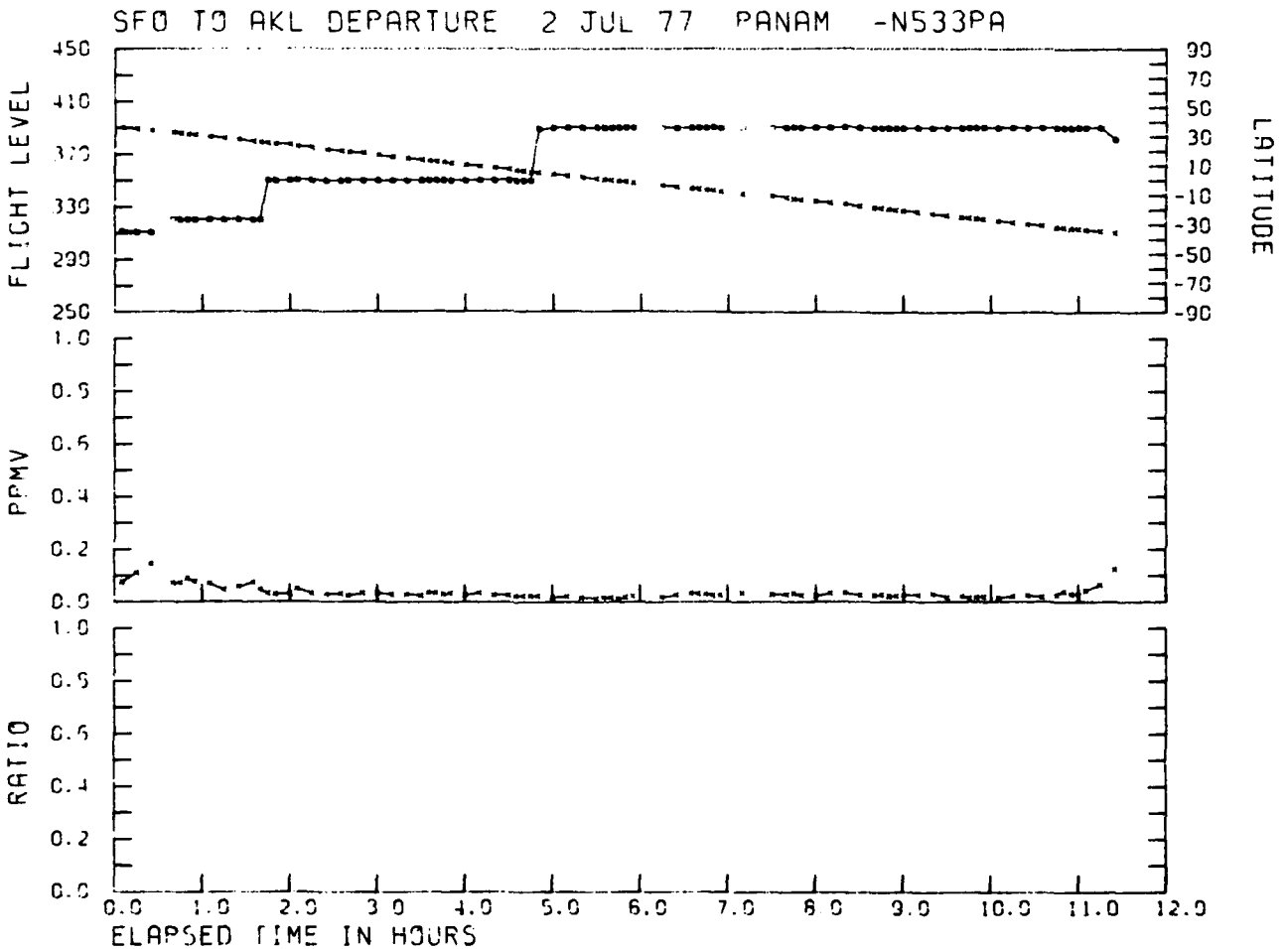
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	OZONE(PPMV) AMB.	RATIO
7/ 1/77	0511	0:10	370	34.24S	153.44E	-48.	.176		
7/ 1/77	0521	0:20	370	34.54S	155.18E	-45.	.196		
7/ 1/77	0531	0:30	370	34.90S	156.95E	-46.	.243		
7/ 1/77	0541	0:40	370	35.24S	158.74E	-47.	.296		
7/ 1/77	0546	0:45	370	35.40S	159.65E	-46.	.270		
7/ 1/77	0551	0:50	370	35.56S	160.58E	-46.	.279		
7/ 1/77	0601	1:00	370	35.85S	162.46E	-46.	.276		


AKL TO SFO DEPARTURE 1 JUL 77 PANAM -NS33PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0
ELAPSED TIME IN HOURS

AKL TO SFO (PAGE 1 OF 1) DEPARTURE: 1 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .116 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 73
DATA SOURCE: GASP TAPE VL010, FILE 4

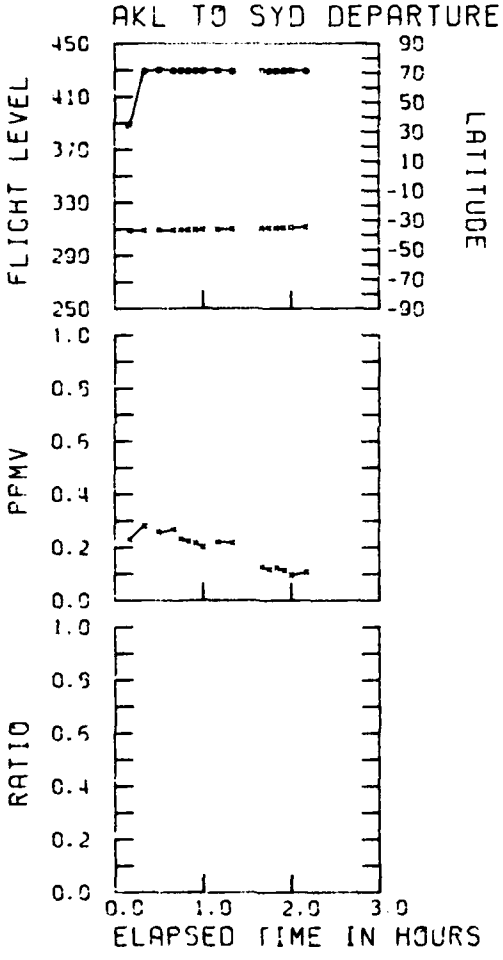
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
7/ 1/77	0941	0:12	319	34.98S	176.31E	-40.	.030		
7/ 1/77	0951	0:22	331	33.72S	177.21E	-42.	.057		
7/ 1/77	1000	0:31	339	32.43S	178.08E	-44.	.024		
7/ 1/77	1010	0:41	351	31.14S	178.94E	-47.	.020		
7/ 1/77	1020	0:51	351	29.83S	179.78E	-48.	.020		
7/ 1/77	1025	0:56	350	29.16S	179.80W	-48.	.023		
7/ 1/77	1030	1:01	350	28.48S	179.38W	-48.	.017		
7/ 1/77	1040	1:11	351	27.15S	178.58W	-46.	.026		
7/ 1/77	1050	1:21	350	25.80S	177.79W	-46.	.018		
7/ 1/77	1100	1:31	351	24.46S	177.02W	-46.	.018		
7/ 1/77	1110	1:41	351	23.12S	176.27W	-45.	.016		
7/ 1/77	1116	1:47	350	22.43S	175.89W	-44.	.030		
7/ 1/77	1121	1:52	350	21.75S	175.52W	-45.	.024		
7/ 1/77	1130	2:01	370	20.48S	174.73W	-50.	.024		
7/ 1/77	1140	2:11	370	19.27S	173.91W	-51.	.027		
7/ 1/77	1150	2:21	370	18.07S	173.12W	-50.	.020		
7/ 1/77	1200	2:31	370	16.87S	172.33W	-50.	.025		
7/ 1/77	1210	2:41	371	15.69S	171.57W	-51.	.018		
7/ 1/77	1215	2:46	371	15.11S	171.20W	-51.	.027		
7/ 1/77	1220	2:51	370	14.52S	170.82W	-51.	.030		
7/ 1/77	1225	2:56	370	13.90S	170.52W	-51.	.050		
7/ 1/77	1250	3:21	371	10.70S	169.32W	-50.	.035		
7/ 1/77	1300	3:31	371	9.43S	168.85W	-50.	.084		
7/ 1/77	1310	3:41	382	8.18S	168.45W	-54.	.006		
7/ 1/77	1315	3:46	390	7.55S	168.23W	-56.	.016		
7/ 1/77	1320	3:51	390	6.97S	167.89W	-56.	.035		
7/ 1/77	1325	3:56	391	6.40S	167.57W	-56.	.091		
7/ 1/77	1330	4:01	391	5.82S	167.25W	-56.	.029		
7/ 1/77	1341	4:12	391	4.60S	166.70W	-56.	.065		
7/ 1/77	1350	4:21	390	3.37S	166.22W	-56.	.000		
7/ 1/77	1400	4:31	391	2.08S	165.92W	-55.	.051		
7/ 1/77	1405	4:36	391	1.43S	165.76W	-57.	.054		
7/ 1/77	1415	4:46	391	.17S	165.46W	-56.	.025		
7/ 1/77	1420	4:51	391	.38N	165.06W	-56.	.024		
7/ 1/77	1425	4:56	391	.86N	164.61W	-56.	.023		
7/ 1/77	1430	5:01	391	1.34N	164.15W	-56.	.025		
7/ 1/77	1445	5:16	391	2.76N	162.81W	-57.	.023		
7/ 1/77	1455	5:26	391	3.73N	161.89W	-56.	.021		
7/ 1/77	1516	5:47	391	5.67N	160.03W	-55.	.028		
7/ 1/77	1525	5:56	391	6.61N	159.11W	-55.	.046		
7/ 1/77	1530	6:01	391	7.10N	158.63W	-55.	.031		
7/ 1/77	1535	6:06	391	7.58N	158.15W	-56.	.018		
7/ 1/77	1545	6:16	391	8.56N	157.18W	-56.	.005		
7/ 1/77	1555	6:26	391	9.54N	156.19W	-55.	.016		
7/ 1/77	1615	6:46	391	11.42N	154.14W	-55.	.044		
7/ 1/77	1620	6:51	391	11.88N	153.61W	-55.	.029		
7/ 1/77	1630	7:01	391	12.81N	152.56W	-55.	.063		
7/ 1/77	1635	7:06	391	13.27N	152.02W	-56.	.025		
7/ 1/77	1645	7:16	391	14.21N	150.93W	-56.	.025		
7/ 1/77	1655	7:26	410	15.16N	149.88W	-61.	.025		
7/ 1/77	1705	7:36	410	16.29N	149.06W	-61.	.028		
7/ 1/77	1715	7:46	410	17.40N	148.26W	-62.	.030		
7/ 1/77	1720	7:51	410	17.96N	147.85W	-61.	.026		
7/ 1/77	1725	7:56	410	18.51N	147.43W	-61.	.032		
7/ 1/77	1730	8:01	410	19.07N	147.02W	-62.	.033		
7/ 1/77	1735	8:06	410	19.63N	146.59W	-62.	.030		
7/ 1/77	1745	8:16	410	20.75N	145.74W	-62.	.038		
7/ 1/77	1755	8:26	410	21.88N	144.86W	-62.	.037		
7/ 1/77	1815	8:46	420	24.16N	143.04W	-63.	.027		
7/ 1/77	1820	8:51	420	24.72N	142.58W	-63.	.034		
7/ 1/77	1825	8:56	419	25.29N	142.11W	-63.	.041		
7/ 1/77	1840	9:11	420	26.96N	140.70W	-62.	.059		
7/ 1/77	1850	9:21	419	28.06N	139.73W	-63.	.055		
7/ 1/77	1910	9:41	420	29.73N	137.30W	-60.	.052		
7/ 1/77	1915	9:46	419	30.07N	136.60W	-59.	.102		
7/ 1/77	1920	9:51	419	30.42N	135.88W	-59.	.071		
7/ 1/77	1925	9:56	419	30.76N	135.15W	-59.	.091		
7/ 1/77	1930	10:01	419	31.10N	134.42W	-60.	.071		
7/ 1/77	1940	10:11	420	31.77N	132.92W	-56.	.097		
7/ 1/77	1950	10:21	420	32.44N	131.43W	-55.	.116		
7/ 1/77	2000	10:31	420	33.28N	130.05W	-55.	.050		
7/ 1/77	2010	10:41	420	34.12N	128.62W	-55.	.051		
7/ 1/77	2034	11:05	420	36.00N	125.21W	-57.	.021		


SFO TO AKL DEPARTURE 2 JUL 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
12.0
ELAPSED TIME IN HOURS

SFO TO AKL (PAGE 1 OF 1) DEPARTURE: 2 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .146 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 85
DATA SOURCE: GASP TAPE VL010, FILE 4

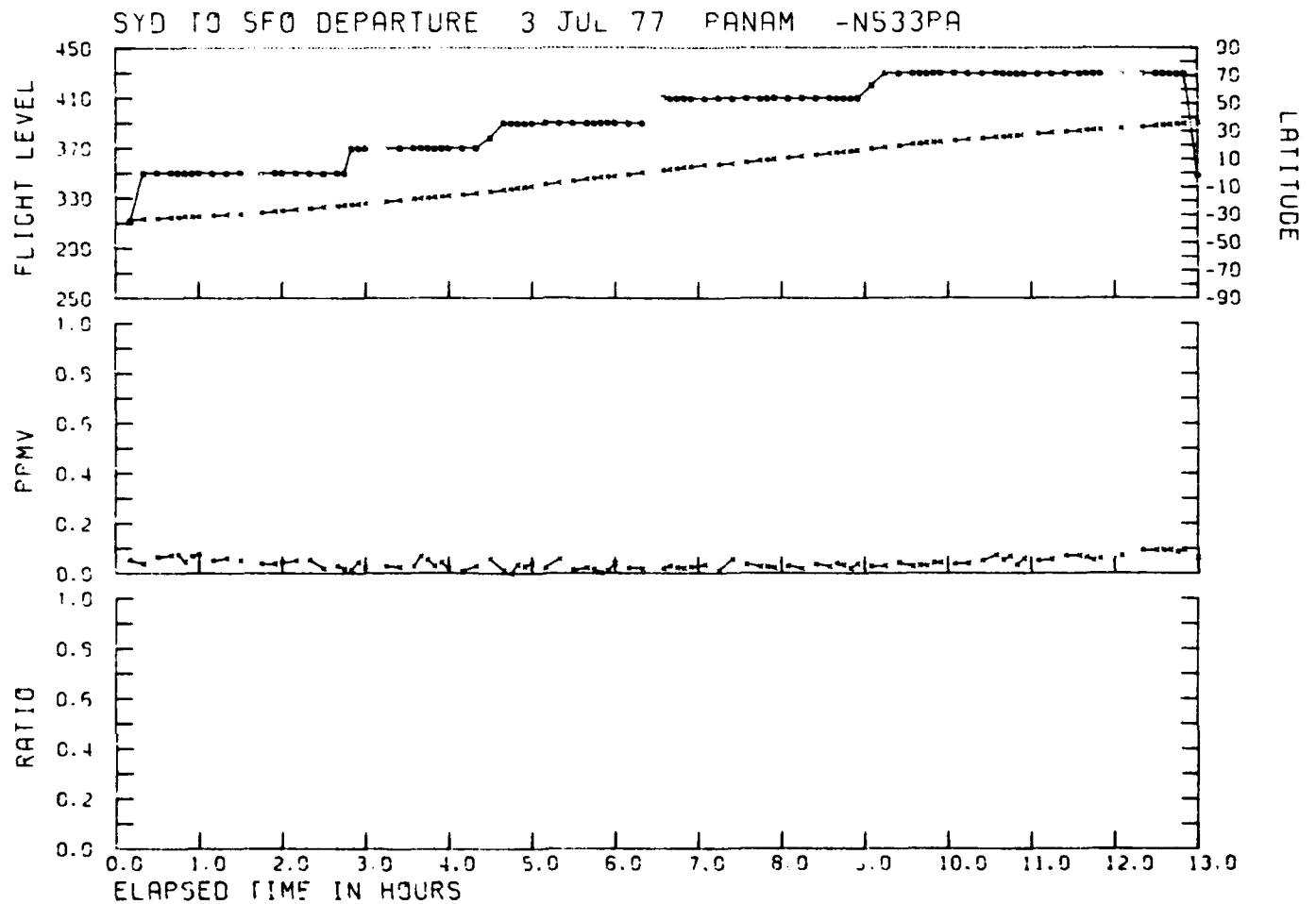
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
7/ 2/77	0610	0:09	312	36.29N	124.55W	-37.	.077		
7/ 2/77	0620	0:19	311	35.34N	125.62W	-36.	.112		
7/ 2/77	0630	0:29	311	34.32N	126.65W	-36.	.146		
7/ 2/77	0645	0:44	321	32.76N	128.19W	-40.	.071		
7/ 2/77	0650	0:49	320	32.22N	128.70W	-39.	.073		
7/ 2/77	0655	0:54	320	31.69N	129.20W	-39.	.090		
7/ 2/77	0700	0:59	320	31.14N	129.70W	-41.	.077		
7/ 2/77	0710	1:09	320	30.05N	130.69W	-41.	.071		
7/ 2/77	0720	1:19	320	28.94N	131.69W	-41.	.046		
7/ 2/77	0730	1:29	320	27.82N	132.68W	-41.	.057		
7/ 2/77	0740	1:39	320	26.68N	133.66W	-39.	.075		
7/ 2/77	0745	1:44	320	26.11N	134.14W	-38.	.047		
7/ 2/77	0750	1:49	350	25.54N	134.62W	-46.	.033		
7/ 2/77	0755	1:54	350	24.97N	135.09W	-46.	.030		
7/ 2/77	0801	2:00	350	24.41N	135.55W	-47.	.030		
7/ 2/77	0810	2:09	350	23.30N	136.44W	-46.	.050		
7/ 2/77	0820	2:19	350	22.18N	137.33W	-46.	.033		
7/ 2/77	0830	2:29	350	21.05N	138.20W	-46.	.029		
7/ 2/77	0840	2:39	350	19.92N	139.07W	-46.	.031		
7/ 2/77	0845	2:44	350	19.36N	139.52W	-46.	.025		
7/ 2/77	0851	2:50	350	18.79N	139.97W	-46.	.033		
7/ 2/77	0905	3:04	350	17.14N	141.27W	-46.	.035		
7/ 2/77	0915	3:14	350	16.02N	142.14W	-46.	.028		
7/ 2/77	0925	3:24	350	14.91N	142.98W	-46.	.030		
7/ 2/77	0935	3:34	350	13.79N	143.82W	-46.	.025		
7/ 2/77	0940	3:39	350	13.23N	144.24W	-46.	.037		
7/ 2/77	0945	3:44	350	12.66N	144.66W	-46.	.036		
7/ 2/77	0950	3:49	350	12.10N	145.10W	-46.	.031		
7/ 2/77	0955	3:54	350	11.59N	145.62W	-46.	.035		
7/ 2/77	1005	4:04	350	10.56N	146.64W	-45.	.029		
7/ 2/77	1015	4:14	350	9.52N	147.67W	-45.	.035		
7/ 2/77	1025	4:24	350	8.45N	148.72W	-45.	.028		
7/ 2/77	1035	4:34	350	7.36N	149.77W	-44.	.026		
7/ 2/77	1040	4:39	350	6.82N	150.29W	-44.	.025		
7/ 2/77	1045	4:44	350	6.28N	150.81W	-45.	.024		
7/ 2/77	1050	4:49	350	5.75N	151.32W	-45.	.025		
7/ 2/77	1055	4:54	389	5.22N	151.82W	-55.	.024		
7/ 2/77	1105	5:04	390	4.17N	152.82W	-55.	.019		
7/ 2/77	1115	5:14	390	3.13N	153.80W	-56.	.022		
7/ 2/77	1125	5:24	390	2.10N	154.78W	-55.	.018		
7/ 2/77	1135	5:34	390	1.07N	155.76W	-55.	.013		
7/ 2/77	1140	5:39	390	.55N	156.24W	-56.	.017		
7/ 2/77	1145	5:44	390	.04N	156.73W	-56.	.017		
7/ 2/77	1150	5:49	390	.46S	157.21W	-56.	.013		
7/ 2/77	1155	5:54	390	.97S	157.69W	-56.	.019		
7/ 2/77	1200	5:59	390	1.47S	158.17W	-55.	.023		
7/ 2/77	1220	6:19	390	3.49S	160.08W	-56.	.019		
7/ 2/77	1230	6:29	390	4.52S	161.07W	-55.	.027		
7/ 2/77	1240	6:39	390	5.54S	162.04W	-55.	.034		
7/ 2/77	1245	6:44	390	6.05S	162.52W	-56.	.031		
7/ 2/77	1250	6:49	390	6.55S	163.00W	-56.	.029		
7/ 2/77	1255	6:54	390	7.05S	163.47W	-56.	.024		
7/ 2/77	1300	6:59	390	7.55S	163.95W	-56.	.027		
7/ 2/77	1315	7:14	391	9.07S	165.42W	-56.	.034		
7/ 2/77	1331	7:30	390	10.70S	167.02W	-56.	.029		
7/ 2/77	1341	7:40	390	11.70S	168.02W	-56.	.029		
7/ 2/77	1347	7:46	391	12.20S	168.52W	-56.	.033		
7/ 2/77	1352	7:51	390	12.70S	169.02W	-56.	.025		
7/ 2/77	1401	8:00	390	13.67S	170.01W	-57.	.025		
7/ 2/77	1411	8:10	390	14.68S	170.93W	-56.	.034		
7/ 2/77	1421	8:20	391	15.82S	171.65W	-57.	.035		
7/ 2/77	1431	8:30	390	16.97S	172.39W	-57.	.027		
7/ 2/77	1441	8:40	390	18.09S	173.13W	-57.	.027		
7/ 2/77	1446	8:45	390	18.64S	173.49W	-57.	.028		
7/ 2/77	1451	8:50	390	19.20S	173.86W	-56.	.022		
7/ 2/77	1456	8:55	390	19.75S	174.24W	-56.	.023		
7/ 2/77	1501	9:00	390	20.29S	174.61W	-56.	.027		
7/ 2/77	1511	9:10	390	21.36S	175.31W	-57.	.027		
7/ 2/77	1521	9:20	390	22.49S	175.92W	-57.	.030		
7/ 2/77	1531	9:30	390	23.60S	176.54W	-57.	.018		
7/ 2/77	1541	9:40	390	24.71S	177.16W	-57.	.022		
7/ 2/77	1546	9:45	390	25.26S	177.47W	-56.	.015		
7/ 2/77	1552	9:51	390	25.81S	177.79W	-55.	.018		
7/ 2/77	1557	9:56	390	26.37S	178.11W	-55.	.019		
7/ 2/77	1607	10:06	390	27.44S	178.75W	-55.	.016		
7/ 2/77	1617	10:16	390	28.47S	179.37W	-56.	.022		
7/ 2/77	1626	10:25	390	29.48S	180.00W	-57.	.024		
7/ 2/77	1636	10:35	390	30.50S	179.35E	-57.	.019		
7/ 2/77	1646	10:45	390	31.49S	178.71E	-56.	.028		
7/ 2/77	1651	10:50	390	31.98S	178.39E	-57.	.040		
7/ 2/77	1656	10:55	390	32.46S	178.07E	-57.	.030		
7/ 2/77	1701	11:00	390	32.92S	177.75E	-57.	.027		
7/ 2/77	1706	11:05	390	33.38S	177.44E	-57.	.043		
7/ 2/77	1716	11:15	390	34.29S	176.80E	-55.	.065		
7/ 2/77	1726	11:25	381	35.25S	176.14E	-51.	.125		


AKL TO SYD DEPARTURE 2 JUL 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

AKL TO SYD (PAGE 1 OF 1) DEPARTURE: 2 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .281 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 16
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
7/ 2/77	2001	0:10	388	36.89S	172.65E	-47.	.230		
7/ 2/77	2011	0:20	429	36.81S	171.19E	-48.	.281		
7/ 2/77	2021	0:30	430	36.69S	169.71E	-48.	.258		
7/ 2/77	2031	0:40	430	36.55S	168.22E	-49.	.268		
7/ 2/77	2036	0:45	430	36.48S	167.45E	-48.	.232		
7/ 2/77	2041	0:50	429	36.40S	166.69E	-50.	.223		
7/ 2/77	2046	0:55	430	36.31S	165.94E	-51.	.217		
7/ 2/77	2051	1:00	430	36.22S	165.21E	-51.	.201		
7/ 2/77	2101	1:10	430	36.03S	163.75E	-52.	.221		
7/ 2/77	2111	1:20	429	35.82S	162.21E	-51.	.217		
7/ 2/77	2131	1:40	430	35.33S	159.21E	-54.	.128		
7/ 2/77	2136	1:45	429	35.19S	158.47E	-55.	.117		
7/ 2/77	2141	1:50	430	35.05S	157.73E	-54.	.124		
7/ 2/77	2146	1:55	430	34.91S	157.00E	-55.	.114		
7/ 2/77	2151	2:00	430	34.77S	156.27E	-56.	.097		
7/ 2/77	2201	2:10	430	34.46S	154.80E	-56.	.107		


SYD TO SFO DEPARTURE 3 JUL 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0 13.0
ELAPSED TIME IN HOURS

A-300

SYD TO SFO (PAGE 1 OF 2) DEPARTURE: 3 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .095 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 99
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
7/ 3/77	0539	0:10	311	33.25S	153.70E	-46.	.055		
7/ 3/77	0549	0:20	350	32.79S	155.29E	-55.	.039		
7/ 3/77	0559	0:30	350	32.33S	156.89E	-53.	.067		
7/ 3/77	0609	0:40	350	31.80S	158.45E	-51.	.073		
7/ 3/77	0614	0:45	350	31.48S	159.21E	-52.	.076		
7/ 3/77	0619	0:50	350	31.28S	160.04E	-52.	.046		
7/ 3/77	0624	0:55	350	31.06S	160.87E	-51.	.070		
7/ 3/77	0629	1:00	350	30.84S	161.71E	-49.	.078		
7/ 3/77	0639	1:10	350	30.38S	163.39E	-49.	.052		
7/ 3/77	0649	1:20	350	29.89S	165.10E	-47.	.060		
7/ 3/77	0659	1:30	351	29.36S	166.82E	-47.	.052		
7/ 3/77	0714	1:45	350	28.29S	169.22E	-46.	.039		
7/ 3/77	0724	1:55	350	27.42S	170.73E	-46.	.038		
7/ 3/77	0729	2:00	350	26.98S	171.48E	-46.	.044		
7/ 3/77	0739	2:10	350	26.09S	172.94E	-46.	.051		
7/ 3/77	0749	2:20	350	25.19S	174.39E	-46.	.054		
7/ 3/77	0759	2:30	350	24.27S	175.81E	-46.	.020		
7/ 3/77	0809	2:40	350	23.38S	177.17E	-46.	.030		
7/ 3/77	0814	2:45	350	22.93S	177.83E	-45.	.018		
7/ 3/77	0819	2:50	370	22.50S	178.46E	-51.	.014		
7/ 3/77	0824	2:55	370	22.06S	179.10E	-51.	.044		
7/ 3/77	0829	3:00	370	21.62S	179.73E	-51.	.025		
7/ 3/77	0844	3:15	370	20.30S	178.43W	-51.	.029		
7/ 3/77	0854	3:25	370	19.41S	177.21W	-51.	.024		
7/ 3/77	0904	3:35	370	18.52S	176.03W	-50.	.027		
7/ 3/77	0909	3:40	370	18.08S	175.44W	-50.	.068		
7/ 3/77	0914	3:45	370	17.63S	174.86W	-50.	.055		
7/ 3/77	0919	3:50	370	17.19S	174.29W	-51.	.029		
7/ 3/77	0924	3:55	370	16.75S	173.72W	-50.	.044		
7/ 3/77	0929	4:00	370	16.31S	173.17W	-50.	.019		
7/ 3/77	0939	4:10	370	15.43S	172.06W	-50.	.009		
7/ 3/77	0949	4:20	370	14.54S	170.95W	-50.	.028		
7/ 3/77	0959	4:30	378	13.35S	170.33W	-52.	.059		
7/ 3/77	1009	4:40	390	12.12S	169.86W	-56.	.012		
7/ 3/77	1014	4:45	390	11.48S	169.62W	-56.	.000		
7/ 3/77	1019	4:50	390	10.84S	169.38W	-56.	.036		
7/ 3/77	1024	4:55	390	10.23S	169.15W	-56.	.028		
7/ 3/77	1029	5:00	390	9.60S	168.92W	-57.	.040		
7/ 3/77	1039	5:10	390	8.32S	168.44W	-57.	.024		
7/ 3/77	1049	5:20	390	7.08S	167.98W	-56.	.058		
7/ 3/77	1059	5:30	390	5.83S	167.53W	-57.	.015		
7/ 3/77	1109	5:40	390	4.55S	167.06W	-56.	.022		
7/ 3/77	1114	5:45	390	3.91S	166.83W	-56.	.017		
7/ 3/77	1119	5:50	390	3.28S	166.60W	-56.	.002		
7/ 3/77	1124	5:55	390	2.66S	166.38W	-56.	.013		
7/ 3/77	1129	6:00	390	2.03S	166.15W	-56.	.040		
7/ 3/77	1139	6:10	390	.79S	165.71W	-55.	.022		
7/ 3/77	1149	6:20	390	.45N	165.26W	-55.	.018		
7/ 3/77	1204	6:35	410	2.27N	164.53W	-61.	.020		
7/ 3/77	1209	6:40	410	2.88N	164.33W	-61.	.031		
7/ 3/77	1214	6:45	410	3.50N	164.12W	-61.	.025		
7/ 3/77	1219	6:50	410	4.11N	163.91W	-61.	.022		
7/ 3/77	1224	6:55	410	4.73N	163.71W	-61.	.027		
7/ 3/77	1234	7:05	409	5.97N	163.24W	-61.	.035		
7/ 3/77	1244	7:15	410	6.64N	162.33W	-61.	.012		
7/ 3/77	1254	7:25	409	6.86N	161.03W	-61.	.056		
7/ 3/77	1304	7:35	410	7.90N	160.27W	-60.	.037		
7/ 3/77	1314	7:45	409	8.94N	159.50W	-61.	.026		
7/ 3/77	1319	7:50	409	9.48N	159.10W	-60.	.027		
7/ 3/77	1324	7:55	410	10.01N	158.71W	-61.	.022		
7/ 3/77	1334	8:05	409	11.07N	157.91W	-61.	.030		
7/ 3/77	1344	8:15	410	12.14N	157.10W	-61.	.019		
7/ 3/77	1354	8:25	410	13.20N	156.30W	-61.	.037		
7/ 3/77	1404	8:35	410	14.24N	155.49W	-61.	.028		
7/ 3/77	1409	8:40	410	14.77N	155.08W	-61.	.040		
7/ 3/77	1414	8:45	410	15.30N	154.67W	-61.	.033		
7/ 3/77	1419	8:50	410	15.83N	154.25W	-61.	.020		
7/ 3/77	1424	8:55	410	16.35N	153.84W	-61.	.038		
7/ 3/77	1434	9:05	420	17.39N	153.00W	-64.	.029		
7/ 3/77	1444	9:15	430	18.45N	152.14W	-66.	.030		
7/ 3/77	1454	9:25	429	19.51N	151.26W	-66.	.043		
7/ 3/77	1504	9:35	430	20.56N	150.38W	-66.	.028		
7/ 3/77	1509	9:40	430	21.07N	149.91W	-65.	.032		
7/ 3/77	1514	9:45	429	21.50N	149.37W	-66.	.030		
7/ 3/77	1519	9:50	430	21.92N	148.82W	-66.	.043		
7/ 3/77	1524	9:55	430	22.34N	148.28W	-66.	.043		
7/ 3/77	1534	10:05	430	23.19N	147.18W	-65.	.038		
7/ 3/77	1544	10:15	430	24.03N	146.05W	-66.	.040		
7/ 3/77	1554	10:25	430	24.87N	144.91W	-66.	.052		
7/ 3/77	1604	10:35	430	25.70N	143.74W	-65.	.073		
7/ 3/77	1609	10:40	430	26.11N	143.14W	-64.	.054		
7/ 3/77	1614	10:45	429	26.54N	142.53W	-64.	.069		
7/ 3/77	1619	10:50	429	26.96N	141.91W	-65.	.035		
7/ 3/77	1624	10:55	429	27.38N	141.29W	-65.	.059		
7/ 3/77	1634	11:05	429	28.19N	140.05W	-66.	.052		
7/ 3/77	1644	11:15	429	28.98N	138.77W	-65.	.056		
7/ 3/77	1654	11:25	430	29.66N	137.43W	-64.	.071		
7/ 3/77	1704	11:35	430	30.32N	136.06W	-64.	.071		
7/ 3/77	1709	11:40	430	30.64N	135.38W	-63.	.064		
7/ 3/77	1714	11:45	429	30.97N	134.69W	-63.	.052		
7/ 3/77	1719	11:50	430	31.28N	134.00W	-64.	.061		
7/ 3/77	1734	12:05	429	32.21N	131.88W	-65.	.072		

SYD TO SFO (PAGE 2 OF 2) DEPARTURE: 3 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .095 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 99
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
7/ 3/77	1749	12:20	429	33.17N	129.74W	-64.	.093		
7/ 3/77	1759	12:30	430	33.99N	128.42W	-63.	.093		
7/ 3/77	1804	12:35	430	34.39N	127.76W	-63.	.093		
7/ 3/77	1809	12:40	429	34.80N	127.07W	-63.	.093		
7/ 3/77	1814	12:45	429	35.21N	126.37W	-62.	.087		
7/ 3/77	1819	12:50	430	35.62N	125.66W	-62.	.095		
7/ 3/77	1829	13:00	348	36.39N	124.23W	-49.	.065		

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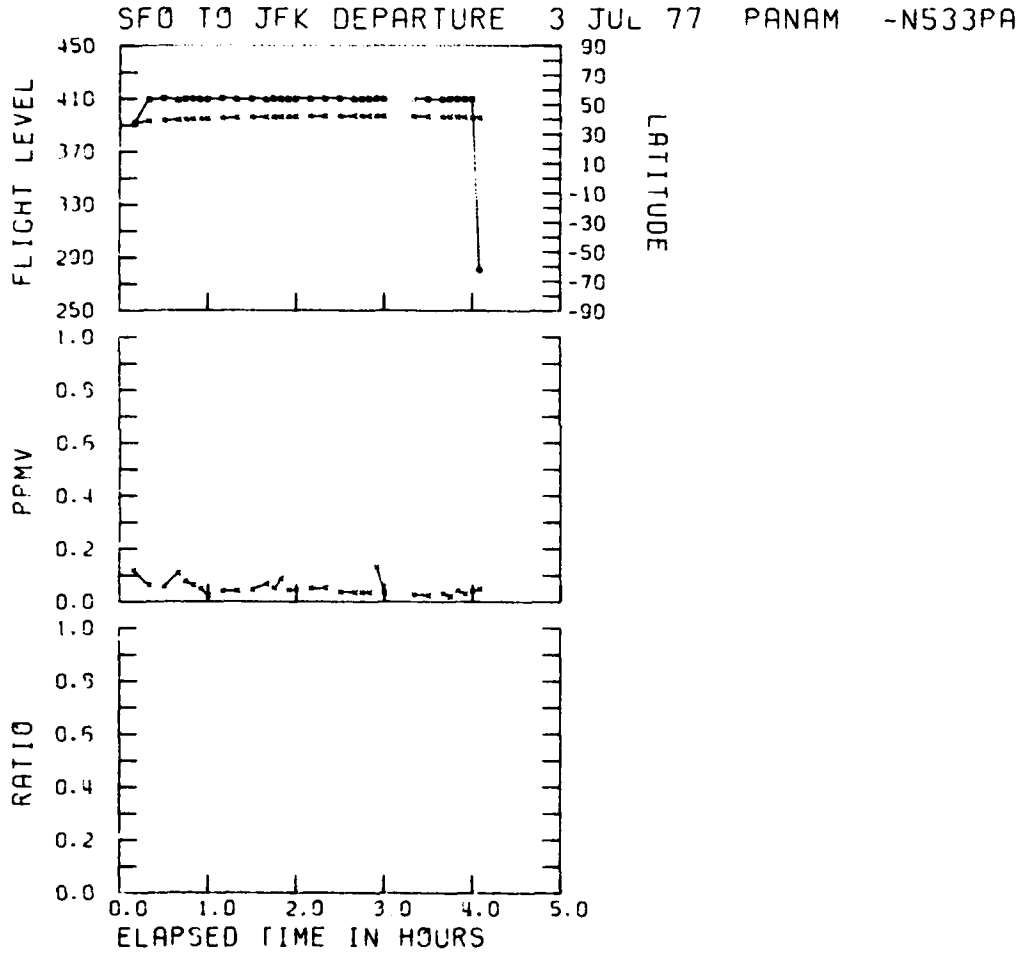
SFO TO JFK (PAGE 1 OF 1) DEPARTURE: 3 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .132 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 34
DATA SOURCE: GASP TAPE VL010, FILE 4 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
7/ 3/77	2227	0:10	391	38.34N	120.11W	-57.	.118		
7/ 3/77	2237	0:20	410	38.81N	118.33W	-58.	.063		
7/ 3/77	2247	0:30	410	39.26N	116.49W	-58.	.058		
7/ 3/77	2257	0:40	409	39.68N	114.65W	-60.	.108		
7/ 3/77	2302	0:45	410	39.88N	113.71W	-60.	.078		
7/ 3/77	2307	0:50	410	40.07N	112.76W	-58.	.063		
7/ 3/77	2312	0:55	410	40.26N	111.81W	-60.	.050		
7/ 3/77	2317	1:00	410	40.44N	110.85W	-61.	.024		
7/ 3/77	2327	1:10	410	40.76N	108.93W	-61.	.041		
7/ 3/77	2337	1:20	410	41.06N	107.01W	-59.	.042		
7/ 3/77	2347	1:30	410	41.32N	105.08W	-61.	.046		
7/ 3/77	2357	1:40	410	41.55N	103.17W	-61.	.068		
7/ 4/77	0002	1:45	410	41.65N	102.20W	-59.	.052		
7/ 4/77	0007	1:50	410	41.74N	101.22W	-58.	.088		
7/ 4/77	0012	1:55	410	41.83N	100.25W	-59.	.045		
7/ 4/77	0017	2:00	410	41.90N	99.28W	-59.	.046		
7/ 4/77	0027	2:10	410	42.03N	97.32W	-59.	.051		
7/ 4/77	0037	2:20	410	42.13N	95.38W	-59.	.052		
7/ 4/77	0047	2:30	410	42.19N	93.48W	-59.	.037		
7/ 4/77	0057	2:40	410	42.22N	91.56W	-59.	.035		
7/ 4/77	0102	2:45	410	42.22N	90.58W	-59.	.035		
7/ 4/77	0107	2:50	410	42.21N	89.60W	-59.	.035		
7/ 4/77	0112	2:55	410	42.20N	88.63W	-59.	.132		
7/ 4/77	0117	3:00	410	42.18N	87.65W	-58.	.032		
7/ 4/77	0137	3:20	410	42.01N	83.82W	-58.	.027		
7/ 4/77	0147	3:30	410	41.88N	81.91W	-58.	.024		
7/ 4/77	0157	3:40	410	41.72N	80.03W	-57.	.032		
7/ 4/77	0202	3:45	410	41.63N	79.10W	-57.	.021		
7/ 4/77	0207	3:50	410	41.53N	78.16W	-58.	.043		
7/ 4/77	0212	3:55	410	41.42N	77.22W	-58.	.030		
7/ 4/77	0217	4:00	410	41.30N	76.29W	-58.	.043		
7/ 4/77	0223A	4:06	281	40.97N	75.06W	-31.	.049		

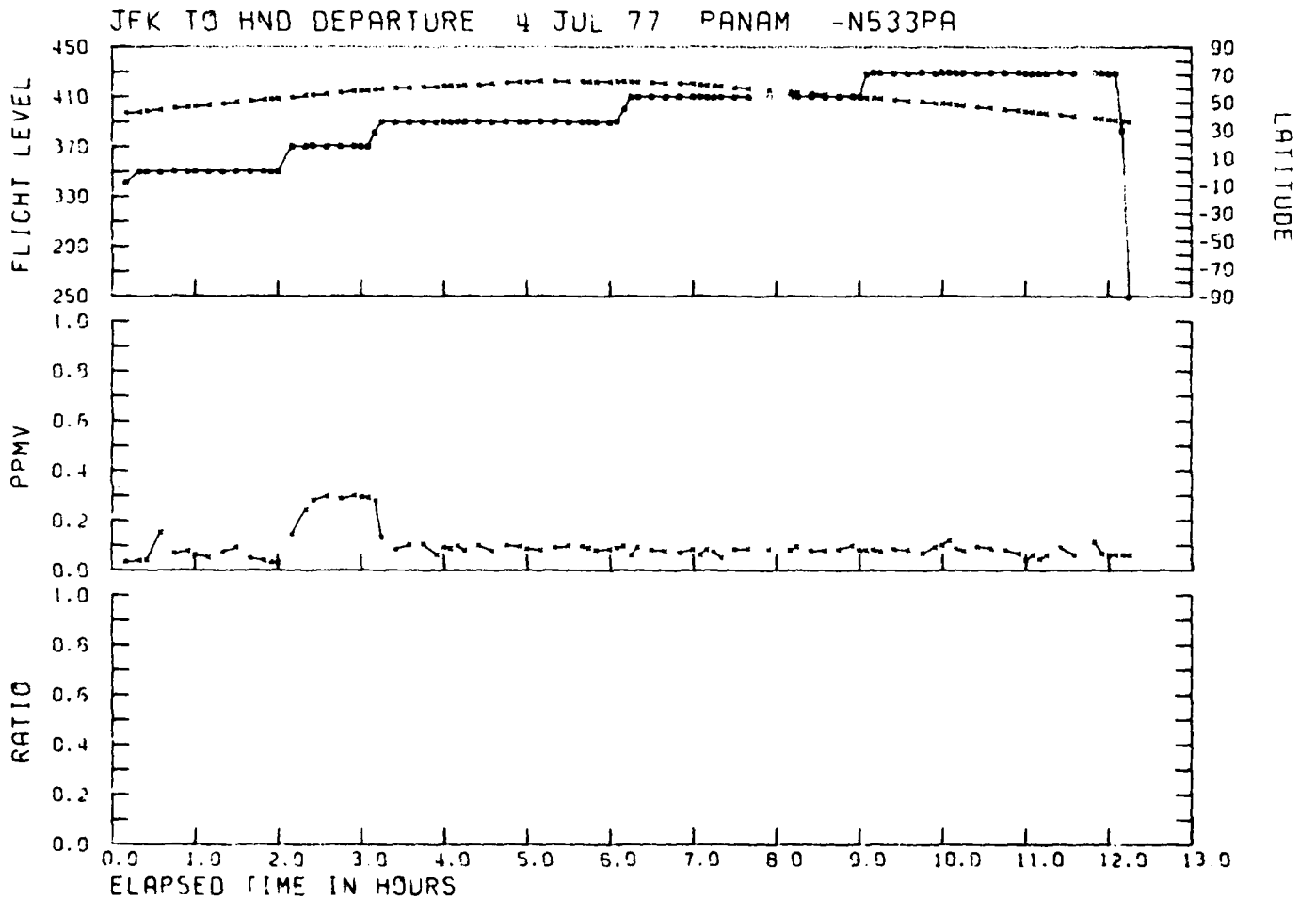
A-306


SFO TO JFK DEPARTURE 3 JUL 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

SFO TO JFK (PAGE 1 OF 1) DEPARTURE: 3 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .132 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 32
DATA SOURCE: GASP TAPE VL010, FILE 4 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
7/ 3/77	2227	0:10	391	38.34N	120.11W	-57.	.118		
7/ 3/77	2237	0:20	410	38.81N	118.33W	-58.	.063		
7/ 3/77	2247	0:30	410	39.26N	116.49W	-58.	.058		
7/ 3/77	2257	0:40	409	39.68N	114.65W	-60.	.108		
7/ 3/77	2302	0:45	410	39.88N	113.71W	-60.	.078		
7/ 3/77	2307	0:50	410	40.07N	112.76W	-58.	.063		
7/ 3/77	2312	0:55	410	40.26N	111.81W	-60.	.050		
7/ 3/77	2317	1:00	410	40.44N	110.85W	-61.	.024		
7/ 3/77	2327	1:10	410	40.76N	108.93W	-61.	.041		
7/ 3/77	2337	1:20	410	41.06N	107.01W	-59.	.042		
7/ 3/77	2347	1:30	410	41.32N	105.08W	-61.	.046		
7/ 3/77	2357	1:40	410	41.55N	103.17W	-61.	.068		
7/ 4/77	0002	1:45	410	41.65N	102.20W	-59.	.052		
7/ 4/77	0007	1:50	410	41.74N	101.22W	-58.	.088		
7/ 4/77	0012	1:55	410	41.83N	100.25W	-59.	.045		
7/ 4/77	0017	2:00	410	41.90N	99.28W	-59.	.046		
7/ 4/77	0027	2:10	410	42.03N	97.32W	-59.	.051		
7/ 4/77	0037	2:20	410	42.13N	95.38W	-59.	.052		
7/ 4/77	0047	2:30	410	42.19N	93.48W	-59.	.037		
7/ 4/77	0057	2:40	410	42.22N	91.56W	-59.	.035		
7/ 4/77	0102	2:45	410	42.22N	90.58W	-59.	.035		
7/ 4/77	0107	2:50	410	42.21N	89.60W	-59.	.035		
7/ 4/77	0112	2:55	410	42.20N	88.63W	-59.	.132		
7/ 4/77	0117	3:00	410	42.18N	87.65W	-58.	.032		
7/ 4/77	0137	3:20	410	42.01N	83.82W	-58.	.027		
7/ 4/77	0147	3:30	410	41.88N	81.91W	-58.	.024		
7/ 4/77	0157	3:40	410	41.72N	80.03W	-57.	.032		
7/ 4/77	0202	3:45	410	41.63N	79.10W	-57.	.021		
7/ 4/77	0207	3:50	410	41.53N	78.16W	-58.	.043		
7/ 4/77	0212	3:55	410	41.42N	77.22W	-58.	.030		
7/ 4/77	0217	4:00	410	41.30N	76.29W	-58.	.043		
7/ 4/77	0223A	4:06	281	40.97N	75.06W	-31.	.049		


JFK TO HND DEPARTURE 4 JUL 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0 13.0
ELAPSED TIME IN HOURS

JFK TO HND (PAGE 1 OF 2) DEPARTURE: 4 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .301 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 93
DATA SOURCE: GASP TAPE VL010, FILE 4 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO	
7/ 4/77	1635	0:10	341	42.33N	75.36W	-43.	.036			
7/ 4/77	1645	0:20	351	43.35N	76.25W	-44.	.039			
7/ 4/77	1651	0:26	350	43.88N	76.73W	-43.	.043			
7/ 4/77	1701	0:36	350	44.89N	77.67W	-48.	.152			
7/ 4/77	1711	0:46	350	45.89N	78.64W	-49.	.070			
7/ 4/77	1720	0:55	351	46.84N	79.60W	-49.	.078			
7/ 4/77	1725	1:00	350	47.32N	80.10W	-49.	.064			
7/ 4/77	1737	1:12	350	48.39N	81.27W	-49.	.052			
7/ 4/77	1747	1:22	350	49.32N	82.33W	-48.	.076			
7/ 4/77	1757	1:32	351	50.24N	83.25W	-46.	.092			
7/ 4/77	1807	1:42	350	51.18N	84.18W	-47.	.048			
7/ 4/77	1817	1:52	350	52.10N	85.15W	-48.	.040			
7/ 4/77	1822	1:57	350	52.57N	85.65W	-48.	.032			
7/ 4/77	1827	2:02	351	53.03N	86.16W	-47.	.031			
7/ 4/77	1837	2:12	371	53.91N	87.20W	-51.	.146			
7/ 4/77	1847	2:22	370	54.83N	88.32W	-47.	.244			
7/ 4/77	1852	2:27	371	55.30N	88.91W	-47.	.281			
7/ 4/77	1902	2:37	371	56.26N	90.21W	-45.	.298			
7/ 4/77	1912	2:47	370	57.23N	91.64W	-45.	.288			
7/ 4/77	1922	2:57	371	58.22N	93.22W	-45.	.301			
7/ 4/77	1927	3:02	370	58.69N	94.01W	-45.	.294			
7/ 4/77	1932	3:07	370	59.01N	95.10W	-45.	.292			
7/ 4/77	1937	3:12	381	59.32N	96.25W	-45.	.281			
7/ 4/77	1942	3:17	390	59.62N	97.42W	-45.	.132		B	
7/ 4/77	1952	3:27	390	60.20N	99.84W	-45.	.085		B	
7/ 4/77	2002	3:37	390	60.74N	102.38W	-45.	.102		B	
7/ 4/77	2012	3:47	390	61.23N	105.01W	-46.	.106		B	
7/ 4/77	2022	3:57	390	61.67N	107.71W	-47.	.063		B	
7/ 4/77	2027	4:02	390	61.88N	109.08W	-47.	.094		B	
7/ 4/77	2032	4:07	390	62.06N	110.48W	-47.	.088		B	
7/ 4/77	2037	4:12	390	62.21N	111.88W	-48.	.099		B	
7/ 4/77	2042	4:17	390	62.36N	113.30W	-48.	.080		B	
7/ 4/77	2052	4:27	390	62.90N	115.99W	-48.	.100		B	
7/ 4/77	2102	4:37	390	63.59N	118.62W	-49.	.079		B	
7/ 4/77	2112	4:47	390	64.24N	121.40W	-47.	.100		B	
7/ 4/77	2122	4:57	390	64.83N	124.31W	-47.	.097		B	
7/ 4/77	2127	5:02	390	65.11N	125.81W	-47.	.087		B	
7/ 4/77	2137	5:12	390	65.34N	129.02W	-46.	.083		B	
7/ 4/77	2147	5:22	390	65.41N	132.30W	-45.	.092		B	
7/ 4/77	2157	5:32	390	65.41N	135.58W	-44.	.099		B	
7/ 4/77	2207	5:42	390	65.33N	138.91W	-44.	.099		B	
7/ 4/77	2212	5:47	390	65.27N	140.53W	-44.	.090		B	
7/ 4/77	2217	5:52	390	65.23N	142.15W	-44.	.082		B	
7/ 4/77	2227	6:02	390	65.17N	145.46W	-43.	.087		B	
7/ 4/77	2232	6:07	390	65.11N	147.09W	-42.	.089		B	
7/ 4/77	2237	6:12	400	65.03N	148.70W	-43.	.098		B	

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO	
7/ 4/77	2242	6:17	410	64.94N	150.33W	-43.	.061			B
7/ 4/77	2247	6:22	410	64.83N	151.91W	-43.	.092			B
7/ 4/77	2257	6:32	410	64.56N	155.06W	-43.	.084			B
7/ 4/77	2307	6:42	410	64.22N	158.16W	-42.	.077			B
7/ 4/77	2317	6:52	410	63.79N	161.15W	-44.	.071			B
7/ 4/77	2327	7:02	410	63.14N	163.86W	-45.	.085			B
7/ 4/77	2332	7:07	410	62.80N	165.18W	-46.	.063			B
7/ 4/77	2337	7:12	410	62.43N	166.48W	-45.	.083			B
7/ 4/77	2342	7:17	410	62.06N	167.76W	-46.	.075			B
7/ 4/77	2347	7:22	410	61.68N	169.00W	-46.	.052			B
7/ 4/77	2357	7:32	410	60.90N	171.38W	-47.	.085			B
7/ 5/77	0007	7:42	410	60.10N	173.69W	-47.	.087			B
7/ 5/77	0022	7:57	410	58.82N	176.96W	-47.	.087			B
7/ 5/77	0037	8:12	410	57.47N	179.95W	-47.	.082			B
7/ 5/77	0042	8:17	410	57.14N	178.92E	-47.	.095			B
7/ 5/77	0052	8:27	410	56.46N	176.69E	-46.	.080			B
7/ 5/77	0102	8:37	410	55.74N	174.53E	-46.	.080			B
7/ 5/77	0112	8:47	410	54.97N	172.44E	-46.	.085			B
7/ 5/77	0122	8:57	410	54.19N	170.46E	-46.	.099			B
7/ 5/77	0127	9:02	410	53.82N	169.46E	-46.	.084			B
7/ 5/77	0132	9:07	429	53.48N	168.45E	-49.	.081			B
7/ 5/77	0137	9:12	430	53.13N	167.46E	-49.	.082			B
7/ 5/77	0142	9:17	429	52.77N	166.49E	-48.	.077			B
7/ 5/77	0152	9:27	429	52.04N	164.60E	-51.	.086			B
7/ 5/77	0202	9:37	429	51.27N	162.77E	-53.	.082			B
7/ 5/77	0212	9:47	430	50.48N	161.02E	-56.	.071			B
7/ 5/77	0222	9:57	429	49.66N	159.32E	-62.	.093			B
7/ 5/77	0227	10:02	430	49.24N	158.50E	-62.	.101			B
7/ 5/77	0232	10:07	430	48.81N	157.69E	-63.	.121			B
7/ 5/77	0237	10:12	430	48.37N	156.90E	-64.	.087			B
7/ 5/77	0242	10:17	429	47.93N	156.12E	-65.	.079			B
7/ 5/77	0252	10:27	429	47.03N	154.58E	-62.	.095			B
7/ 5/77	0302	10:37	430	46.12N	153.13E	-59.	.088			B
7/ 5/77	0312	10:47	430	45.19N	151.72E	-58.	.081			B
7/ 5/77	0322	10:57	430	44.26N	150.36E	-58.	.067			B
7/ 5/77	0327	11:02	429	43.79N	149.69E	-58.	.040			B
7/ 5/77	0332	11:07	429	43.31N	149.01E	-58.	.062			B
7/ 5/77	0337	11:12	429	42.83N	148.34E	-57.	.047			B
7/ 5/77	0342	11:17	429	42.34N	147.68E	-58.	.061			B
7/ 5/77	0352	11:27	430	41.36N	146.39E	-59.	.093			
7/ 5/77	0402	11:37	429	40.37N	145.15E	-58.	.061			
7/ 5/77	0417	11:52	430	38.89N	143.30E	-56.	.114			
7/ 5/77	0422	11:57	429	38.39N	142.70E	-56.	.066			
7/ 5/77	0427	12:02	429	37.89N	142.10E	-57.	.063			
7/ 5/77	0432	12:07	429	37.43N	141.51E	-58.	.061			
7/ 5/77	0437	12:12	383	36.95N	140.96E	-52.	.063			

JFK TO HNO (PAGE 2 OF 2) DEPARTURE: 4 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .301 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 93
DATA SOURCE: GASP TAPE VL010, FILE 4 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	OZONE(PPMV) AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	OZONE(PPMV) AMB.	RATIO
7/ 5/77	0443A	12:18	202	36.32N	140.34E	-11.			.063										

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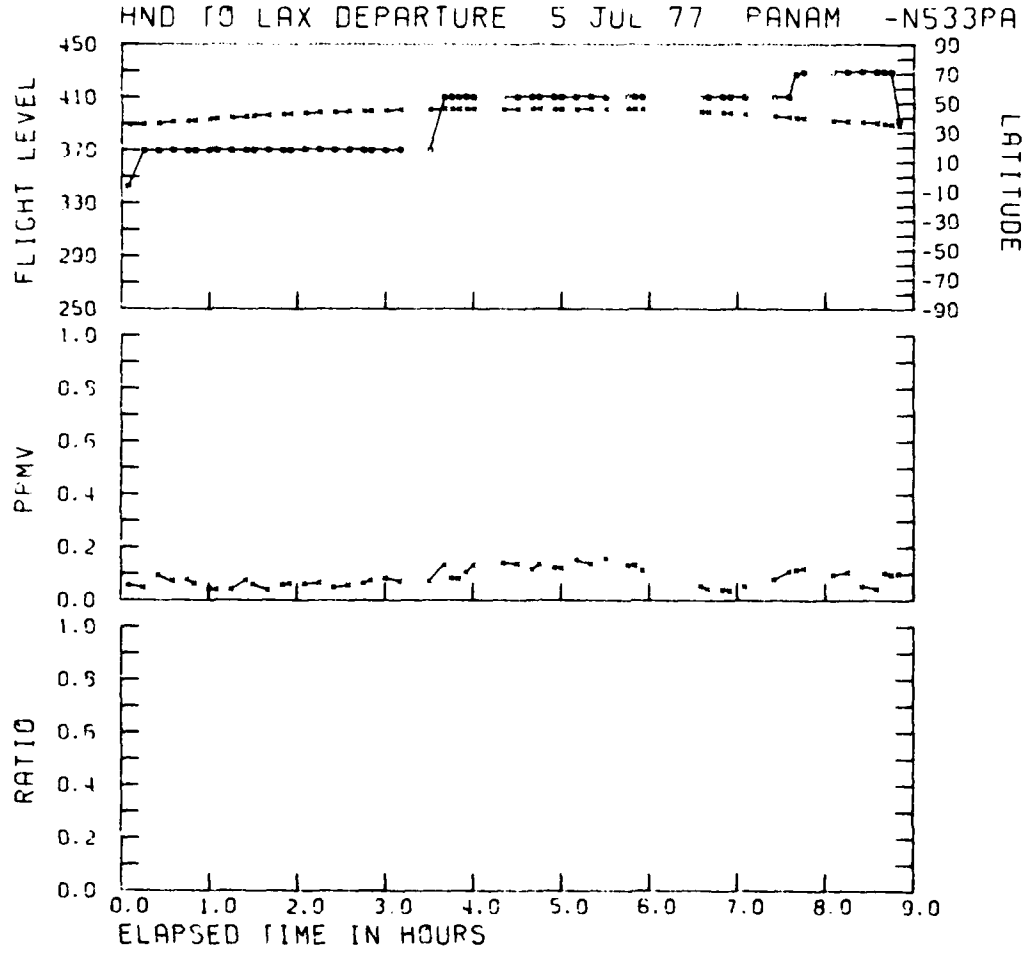
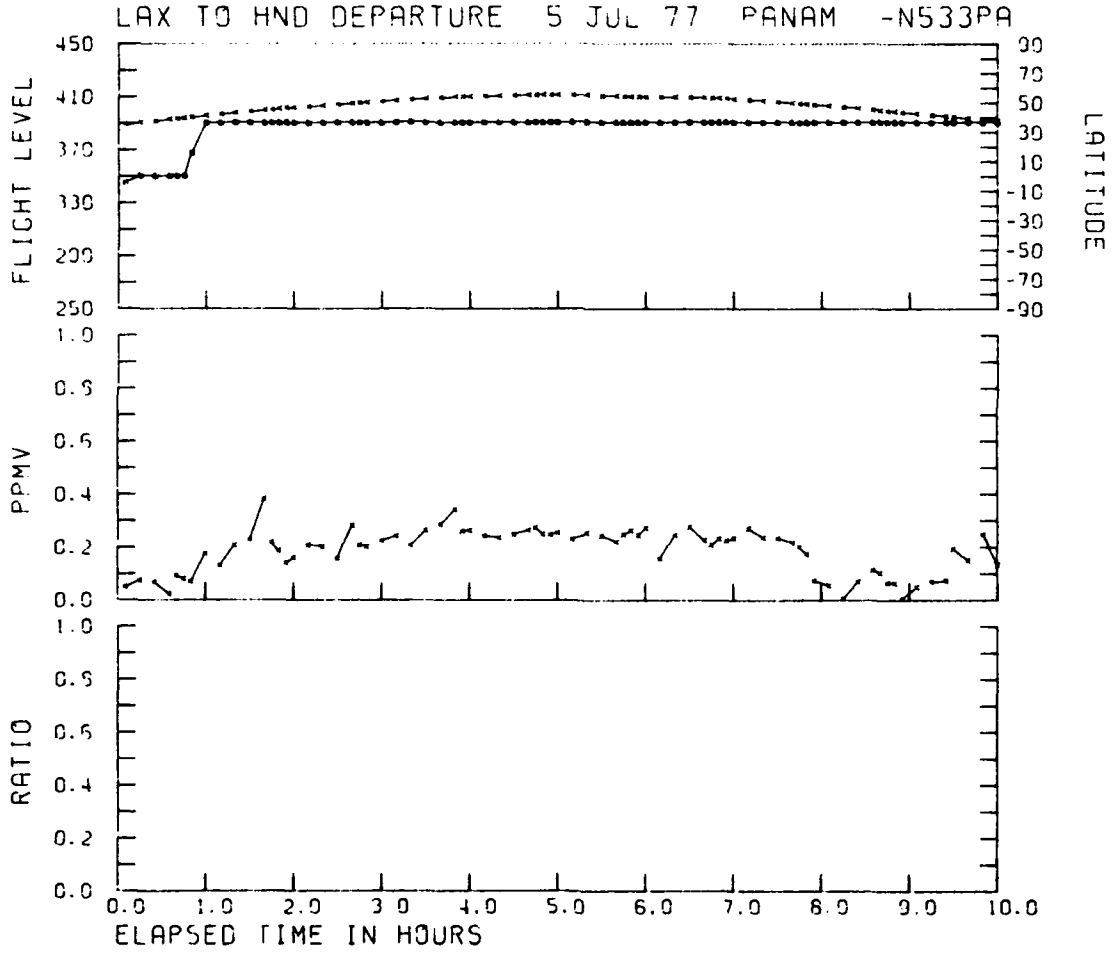

HND TO LAX DEPARTURE 5 JUL 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PFMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
ELAPSED TIME IN HOURS

HND TO LAX (PAGE 1 OF 1) DEPARTURE: 5 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .158 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 56
DATA SOURCE: GASP TAPE VL010, FILE 4 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO		MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO	
7/ 5/77	0820A	0:09	343	35.47N	142.75E	-44.	.056				7/ 5/77	1231	4:20	410	46.03N	170.69W	-61.	.141			B
7/ 5/77	0826	0:15	370	35.95N	143.30E	-50.	.048				7/ 5/77	1241	4:30	411	46.05N	168.53W	-60.	.138			B
7/ 5/77	0836	0:25	370	36.69N	144.80E	-50.	.095				7/ 5/77	1251	4:40	410	46.10N	166.38W	-61.	.117			B
7/ 5/77	0846	0:35	370	37.37N	146.24E	-51.	.072				7/ 5/77	1256	4:45	410	46.11N	165.33W	-62.	.136			B
7/ 5/77	0856	0:45	370	38.06N	147.79E	-52.	.078				7/ 5/77	1306	4:55	410	46.09N	163.13W	-61.	.124			B
7/ 5/77	0901	0:50	370	38.41N	148.60E	-53.	.063				7/ 5/77	1311	5:00	410	46.07N	162.03W	-59.	.122			B
7/ 5/77	0911	1:00	370	39.10N	150.22E	-53.	.045				7/ 5/77	1321	5:10	411	46.00N	159.87W	-59.	.153			B
7/ 5/77	0916	1:05	370	39.49N	151.06E	-53.	.040				7/ 5/77	1331	5:20	411	46.08N	157.64W	-56.	.137			B
7/ 5/77	0926	1:15	370	40.24N	152.76E	-53.	.041				7/ 5/77	1341	5:30	410	46.11N	155.46W	-57.	.158			B
7/ 5/77	0936	1:25	370	40.96N	154.48E	-54.	.076				7/ 5/77	1356	5:45	411	46.07N	152.20W	-58.	.134			B
7/ 5/77	0941	1:30	370	41.30N	155.33E	-55.	.061				7/ 5/77	1401	5:50	411	46.04N	151.12W	-58.	.131			B
7/ 5/77	0951	1:40	370	41.94N	157.01E	-55.	.039				7/ 5/77	1406	5:55	410	46.00N	150.08W	-62.	.114			B
7/ 5/77	1001	1:50	370	42.58N	158.78E	-55.	.060				7/ 5/77	1446	6:35	410	44.47N	141.96W	-69.	.054			B
7/ 5/77	1006	1:55	370	42.88N	159.65E	-56.	.063				7/ 5/77	1451	6:40	411	44.24N	140.99W	-69.	.044			B
7/ 5/77	1016	2:05	371	43.35N	161.46E	-56.	.064				7/ 5/77	1501	6:50	410	43.69N	139.10W	-69.	.041			B
7/ 5/77	1026	2:15	371	43.78N	163.33E	-55.	.066				7/ 5/77	1506	6:55	410	43.37N	138.18W	-69.	.037			B
7/ 5/77	1036	2:25	371	44.16N	165.19E	-55.	.050				7/ 5/77	1516	7:05	410	42.72N	136.40W	-68.	.053			B
7/ 5/77	1046	2:35	370	44.52N	167.08E	-56.	.057				7/ 5/77	1536	7:25	410	41.34N	132.99W	-65.	.080			B
7/ 5/77	1056	2:45	370	44.86N	169.11E	-57.	.065				7/ 5/77	1546	7:35	411	40.62N	131.34W	-64.	.109			B
7/ 5/77	1101	2:50	370	45.01N	170.08E	-59.	.076				7/ 5/77	1551	7:40	426	40.25N	130.54W	-62.	.116			B
7/ 5/77	1111	3:00	370	45.30N	172.18E	-59.	.084				7/ 5/77	1556	7:45	429	39.88N	129.76W	-60.	.121			B
7/ 5/77	1121	3:10	370	45.54N	174.30E	-59.	.072				7/ 5/77	1616	8:05	429	38.31N	126.70W	-62.	.098			B
7/ 5/77	1141	3:30	370	45.91N	178.63E	-58.	.073				7/ 5/77	1626	8:15	429	37.69N	125.13W	-59.	.106			B
7/ 5/77	1151	3:40	410	46.03N	179.20W	-61.	.135			B	7/ 5/77	1636	8:25	430	37.31N	123.38W	-58.	.053			B
7/ 5/77	1156	3:45	410	46.07N	178.11W	-62.	.083			B	7/ 5/77	1646	8:35	430	36.59N	121.86W	-57.	.042			B
7/ 5/77	1201	3:50	410	46.09N	177.01W	-61.	.081			B	7/ 5/77	1651	8:40	429	36.12N	121.23W	-56.	.103			B
7/ 5/77	1206	3:55	411	46.10N	175.96W	-60.	.107			B	7/ 5/77	1656	8:45	429	35.66N	120.60W	-57.	.096			
7/ 5/77	1211	4:00	410	46.11N	174.88W	-60.	.134			B	7/ 5/77	1701	8:50	392	35.20N	119.99W	-57.	.101			


LAX TO HND DEPARTURE 5 JUL 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
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1.0
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5.0
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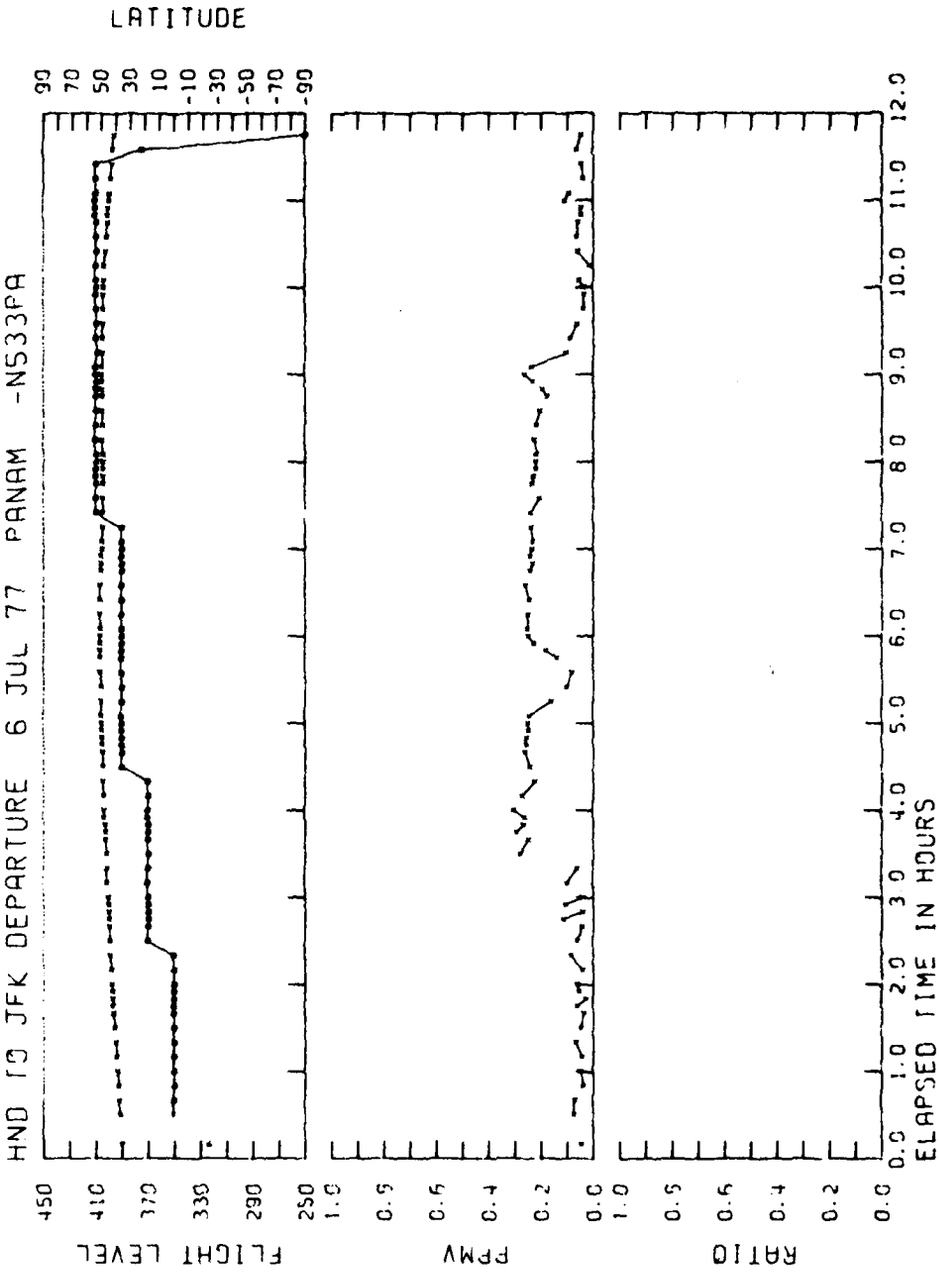
7.0
8.0
9.0
10.0
ELAPSED TIME IN HOURS

LAX TO HNO (PAGE 1 OF 1) DEPARTURE: 5 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .383 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 76
DATA SOURCE: GASP TAPE VL010, FILE 4

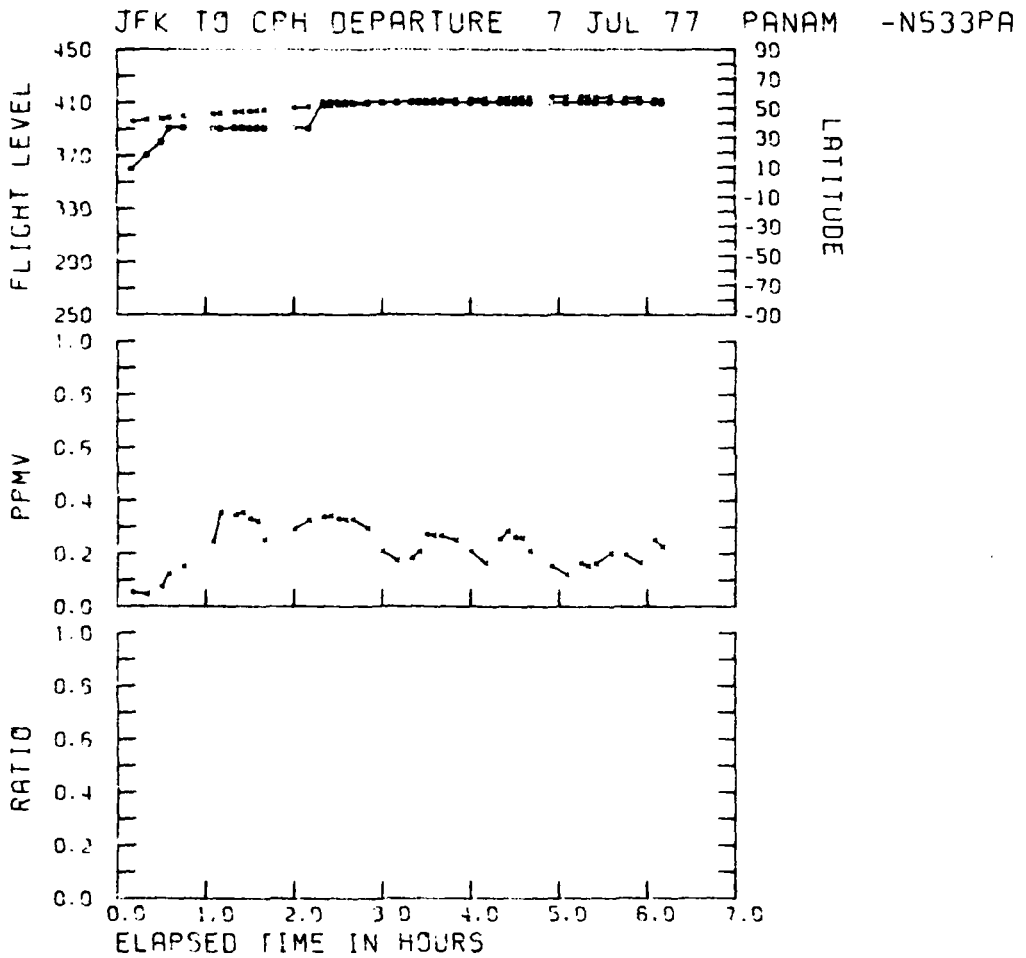
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	AMB.	RATIO
7/ 5/77	2029	0:05	345	35.51N	120.19W	-51.	.050		
7/ 5/77	2039	0:15	350	36.66N	121.03W	-52.	.076		
7/ 5/77	2049	0:25	350	37.81N	121.91W	-53.	.069		
7/ 5/77	2059	0:35	351	38.93N	122.79W	-54.	.024		
7/ 5/77	2104	0:40	350	39.47N	123.23W	-55.	.094		
7/ 5/77	2109	0:45	351	40.01N	123.68W	-54.	.081		
7/ 5/77	2114	0:50	368	40.56N	124.11W	-58.	.071		
7/ 5/77	2124	1:00	391	41.62N	124.96W	-63.	.176		
7/ 5/77	2134	1:10	391	42.59N	125.88W	-62.	.133		
7/ 5/77	2144	1:20	391	43.49N	126.90W	-61.	.208		
7/ 5/77	2154	1:30	391	44.37N	127.94W	-59.	.230		
7/ 5/77	2204	1:40	391	45.23N	129.01W	-59.	.383		
7/ 5/77	2209	1:45	391	45.66N	129.55W	-59.	.219		
7/ 5/77	2214	1:50	391	46.08N	130.13W	-60.	.186		
7/ 5/77	2219	1:55	391	46.45N	130.76W	-59.	.141		
7/ 5/77	2224	2:00	391	46.83N	131.42W	-60.	.161		
7/ 5/77	2234	2:10	391	47.57N	132.76W	-59.	.209		
7/ 5/77	2244	2:20	391	48.31N	134.16W	-61.	.202		
7/ 5/77	2254	2:30	391	49.02N	135.59W	-61.	.158		
7/ 5/77	2304	2:40	391	49.71N	137.05W	-61.	.282		
7/ 5/77	2309	2:45	391	50.06N	137.80W	-62.	.209		
7/ 5/77	2315	2:51	391	50.41N	138.61W	-62.	.202		
7/ 5/77	2324	3:00	391	50.99N	139.97W	-61.	.225		
7/ 5/77	2334	3:10	391	51.72N	142.04W	-59.	.242		
7/ 5/77	2344	3:20	391	52.31N	143.86W	-54.	.209		
7/ 5/77	2354	3:30	391	52.89N	145.78W	-51.	.264		
7/ 6/77	0005	3:41	391	53.47N	147.88W	-48.	.286		
7/ 6/77	0014	3:50	391	54.00N	149.99W	-50.	.342		
7/ 6/77	0019	3:55	391	54.16N	151.13W	-50.	.261		
7/ 6/77	0024	4:00	391	54.31N	152.28W	-52.	.264		
7/ 6/77	0035	4:11	391	54.57N	154.61W	-55.	.243		
7/ 6/77	0044	4:20	391	54.78N	156.88W	-53.	.236		
7/ 6/77	0054	4:30	391	54.94N	159.11W	-51.	.249		
7/ 6/77	0104	4:40	391	55.14N	161.35W	-51.	.264		
7/ 6/77	0109	4:45	391	55.29N	162.46W	-51.	.274		
7/ 6/77	0114	4:50	391	55.32N	163.59W	-50.	.249		
7/ 6/77	0119	4:55	391	55.28N	164.72W	-49.	.248		
7/ 6/77	0124	5:00	391	55.25N	165.87W	-49.	.255		
7/ 6/77	0134	5:10	391	55.16N	168.18W	-48.	.230		
7/ 6/77	0144	5:20	391	55.03N	170.49W	-48.	.255		
7/ 6/77	0154	5:30	391	54.87N	172.80W	-46.	.245		
7/ 6/77	0204	5:40	391	54.66N	175.10W	-46.	.221		
7/ 6/77	0209	5:45	391	54.54N	176.23W	-46.	.249		
7/ 6/77	0214	5:50	391	54.41N	177.37W	-46.	.264		
7/ 6/77	0219	5:55	391	54.27N	178.50W	-46.	.247		
7/ 6/77	0224	6:00	391	54.11N	179.63W	-46.	.273		
7/ 6/77	0234	6:10	391	54.03N	178.11E	-47.	.158		
7/ 6/77	0244	6:20	391	53.96N	175.82E	-47.	.246		
7/ 6/77	0254	6:30	391	53.84N	173.55E	-48.	.277		
7/ 6/77	0304	6:40	391	53.68N	171.24E	-48.	.226		
7/ 6/77	0309	6:45	391	53.58N	170.11E	-48.	.210		
7/ 6/77	0314	6:50	391	53.30N	169.09E	-49.	.233		
7/ 6/77	0319	6:55	391	53.00N	168.08E	-48.	.225		
7/ 6/77	0324	7:00	391	52.69N	167.10E	-48.	.235		
7/ 6/77	0334	7:10	391	52.04N	165.17E	-49.	.272		
7/ 6/77	0344	7:20	391	51.37N	163.32E	-50.	.237		
7/ 6/77	0354	7:30	391	50.68N	161.54E	-51.	.235		
7/ 6/77	0404	7:40	391	49.96N	159.85E	-51.	.218		
7/ 6/77	0409	7:45	391	49.56N	159.08E	-54.	.201		
7/ 6/77	0414	7:50	391	49.17N	158.32E	-57.	.174		
7/ 6/77	0419	7:55	391	48.79N	157.60E	-60.	.075		
7/ 6/77	0429	8:05	391	48.02N	156.22E	-60.	.056		
7/ 6/77	0439	8:15	391	47.22N	154.85E	-60.	.008		
7/ 6/77	0449	8:25	391	46.37N	153.48E	-58.	.071		
7/ 6/77	0459	8:35	391	45.48N	152.13E	-58.	.115		
7/ 6/77	0504	8:40	391	45.03N	151.47E	-59.	.104		
7/ 6/77	0509	8:45	391	44.58N	150.82E	-59.	.065		
7/ 6/77	0514	8:50	391	44.13N	150.18E	-56.	.063		
7/ 6/77	0520	8:56	391	43.67N	149.54E	-56.	.006		
7/ 6/77	0529	9:05	391	42.79N	148.31E	-55.	.050		
7/ 6/77	0539	9:15	391	41.87N	147.09E	-54.	.071		
7/ 6/77	0550	9:26	391	40.94N	145.91E	-55.	.074		
7/ 6/77	0555	9:31	391	40.44N	145.29E	-54.	.195		
7/ 6/77	0605	9:41	391	39.50N	144.10E	-53.	.150		
7/ 6/77	0615	9:51	391	38.53N	142.92E	-55.	.248		
7/ 6/77	0625	10:01	391	37.59N	141.65E	-58.	.134		


LATITUDE
HND TO JFK DEPARTURE 6 JUL 77 PANAM -N533PA
FLIGHT LEVEL
FPMV
RATIO
ELAPSED TIME IN HOURS

HND TO JFK (PAGE 1 OF 1) DEPARTURE: 6 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .302 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 89
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
7/ 6/77	0959	0:10	324	36.07N	142.30E	-41.	.047		
7/ 6/77	1019	0:30	350	37.29N	145.31E	-49.	.076		
7/ 6/77	1029	0:40	350	37.89N	146.87E	-48.	.070		
7/ 6/77	1039	0:50	350	38.47N	148.47E	-49.	.041		
7/ 6/77	1049	1:00	350	39.03N	150.07E	-48.	.051		
7/ 6/77	1059	1:10	350	39.73N	151.58E	-48.	.045		
7/ 6/77	1109	1:20	350	40.40N	153.13E	-49.	.069		
7/ 6/77	1119	1:30	350	41.06N	154.71E	-49.	.048		
7/ 6/77	1129	1:40	350	41.70N	156.34E	-49.	.038		
7/ 6/77	1134	1:45	350	42.02N	157.19E	-49.	.061		
7/ 6/77	1139	1:50	350	42.34N	158.07E	-49.	.026		
7/ 6/77	1144	1:55	350	42.67N	158.97E	-48.	.056		
7/ 6/77	1149	2:00	350	42.99N	159.90E	-48.	.064		
7/ 6/77	1159	2:10	350	43.49N	161.89E	-48.	.041		
7/ 6/77	1209	2:20	350	43.95N	163.93E	-48.	.086		
7/ 6/77	1219	2:30	370	44.38N	166.04E	-54.	.060		
7/ 6/77	1229	2:40	370	44.78N	168.27E	-54.	.044		
7/ 6/77	1234	2:45	370	44.96N	169.37E	-55.	.117		
7/ 6/77	1239	2:50	370	45.16N	170.41E	-55.	.043		
7/ 6/77	1244	2:55	370	45.41N	171.44E	-54.	.107		
7/ 6/77	1249	3:00	370	45.66N	172.49E	-54.	.043		
7/ 6/77	1259	3:10	370	46.13N	174.64E	-55.	.099		
7/ 6/77	1309	3:20	370	46.56N	176.86E	-55.	.061		
7/ 6/77	1319	3:30	370	46.95N	179.08E	-52.	.281		
7/ 6/77	1329	3:40	370	47.40N	178.78W	-49.	.247		
7/ 6/77	1334	3:45	370	47.65N	177.71W	-49.	.294		
7/ 6/77	1339	3:50	370	47.90N	176.61W	-48.	.267		
7/ 6/77	1344	3:55	370	48.13N	175.52W	-49.	.261		
7/ 6/77	1349	4:00	370	48.35N	174.41W	-49.	.302		
7/ 6/77	1359	4:10	370	48.76N	172.18W	-50.	.273		
7/ 6/77	1409	4:20	370	49.12N	169.92W	-52.	.223		
7/ 6/77	1419	4:30	390	49.43N	167.62W	-53.	.243		
7/ 6/77	1429	4:40	390	49.70N	165.33W	-55.	.262		
7/ 6/77	1434	4:45	390	49.82N	164.17W	-55.	.255		
7/ 6/77	1439	4:50	390	49.92N	163.03W	-56.	.256		
7/ 6/77	1444	4:55	390	50.01N	161.85W	-57.	.250		
7/ 6/77	1449	5:00	390	50.10N	160.70W	-58.	.250		
7/ 6/77	1454	5:05	390	50.19N	159.57W	-58.	.242		
7/ 6/77	1504	5:15	390	50.49N	157.26W	-61.	.161		
7/ 6/77	1514	5:25	390	50.75N	154.92W	-62.	.104		
7/ 6/77	1524	5:35	390	50.95N	152.61W	-62.	.082		
7/ 6/77	1534	5:45	390	51.10N	150.31W	-60.	.140		
7/ 6/77	1539	5:50	390	51.16N	149.13W	-57.	.182		
7/ 6/77	1544	5:55	390	51.19N	147.97W	-52.	.225		
7/ 6/77	1549	6:00	390	51.22N	146.85W	-52.	.249		
7/ 6/77	1554	6:05	391	51.23N	145.67W	-48.	.253		
7/ 6/77	1604	6:15	390	51.23N	143.36W	-46.	.249		
7/ 6/77	1614	6:25	390	51.18N	141.06W	-46.	.245		
7/ 6/77	1624	6:35	390	51.01N	138.78W	-49.	.259		
7/ 6/77	1634	6:45	390	50.69N	136.55W	-53.	.242		
7/ 6/77	1639	6:50	390	50.52N	135.45W	-54.	.232		
7/ 6/77	1644	6:55	390	50.34N	134.36W	-53.	.243		
7/ 6/77	1649	7:00	390	50.14N	133.26W	-54.	.234		
7/ 6/77	1654	7:05	390	49.93N	132.17W	-55.	.232		
7/ 6/77	1704	7:15	390	49.49N	130.01W	-55.	.239		
7/ 6/77	1714	7:25	410	49.32N	127.83W	-52.	.239		
7/ 6/77	1724	7:35	410	49.14N	125.63W	-52.	.206		
7/ 6/77	1734	7:45	410	49.09N	123.42W	-51.	.231		
7/ 6/77	1739	7:50	410	49.15N	122.33W	-49.	.230		
7/ 6/77	1744	7:55	410	49.25N	121.24W	-48.	.221		
7/ 6/77	1749	8:00	410	49.33N	120.15W	-49.	.222		
7/ 6/77	1754	8:05	410	49.41N	119.04W	-48.	.219		
7/ 6/77	1804	8:15	410	49.53N	116.80W	-46.	.225		
7/ 6/77	1814	8:25	410	49.60N	114.65W	-46.	.218		
7/ 6/77	1824	8:35	410	49.75N	112.41W	-46.	.206		
7/ 6/77	1834	8:45	410	49.81N	110.15W	-47.	.179		
7/ 6/77	1839	8:50	410	49.82N	109.04W	-46.	.197		
7/ 6/77	1844	8:55	410	49.82N	107.89W	-50.	.231		
7/ 6/77	1849	9:00	410	49.81N	106.73W	-48.	.262		
7/ 6/77	1854	9:05	410	49.79N	105.58W	-46.	.237		
7/ 6/77	1904	9:15	409	49.71N	103.23W	-51.	.106		
7/ 6/77	1914	9:25	410	49.58N	100.91W	-53.	.089		
7/ 6/77	1924	9:35	410	49.41N	98.57W	-55.	.063		
7/ 6/77	1934	9:45	410	49.19N	96.28W	-57.	.040		
7/ 6/77	1944	9:55	410	48.93N	94.04W	-59.	.036		
7/ 6/77	1949	10:00	410	48.79N	92.92W	-59.	.035		
7/ 6/77	1954	10:05	410	48.63N	91.80W	-59.	.056		
7/ 6/77	2004	10:15	410	48.28N	89.60W	-61.	.014		
7/ 6/77	2014	10:25	410	47.63N	87.59W	-59.	.062		
7/ 6/77	2024	10:35	410	46.92N	85.63W	-60.	.065		
7/ 6/77	2034	10:45	410	46.14N	83.77W	-60.	.058		
7/ 6/77	2039	10:50	411	45.71N	82.91W	-61.	.048		
7/ 6/77	2044	10:55	410	45.27N	82.08W	-60.	.045		
7/ 6/77	2049	11:00	411	44.83N	81.26W	-61.	.110		
7/ 6/77	2054	11:05	410	44.43N	80.40W	-61.	.094		
7/ 6/77	2104	11:15	410	43.75N	78.64W	-61.	.041		
7/ 6/77	2114	11:25	410	42.94N	77.00W	-61.	.049		
7/ 6/77	2124	11:35	374	42.07N	75.33W	-52.	.063		
7/ 6/77	2134	11:45	203	41.25N	73.71W	-10.	.046		

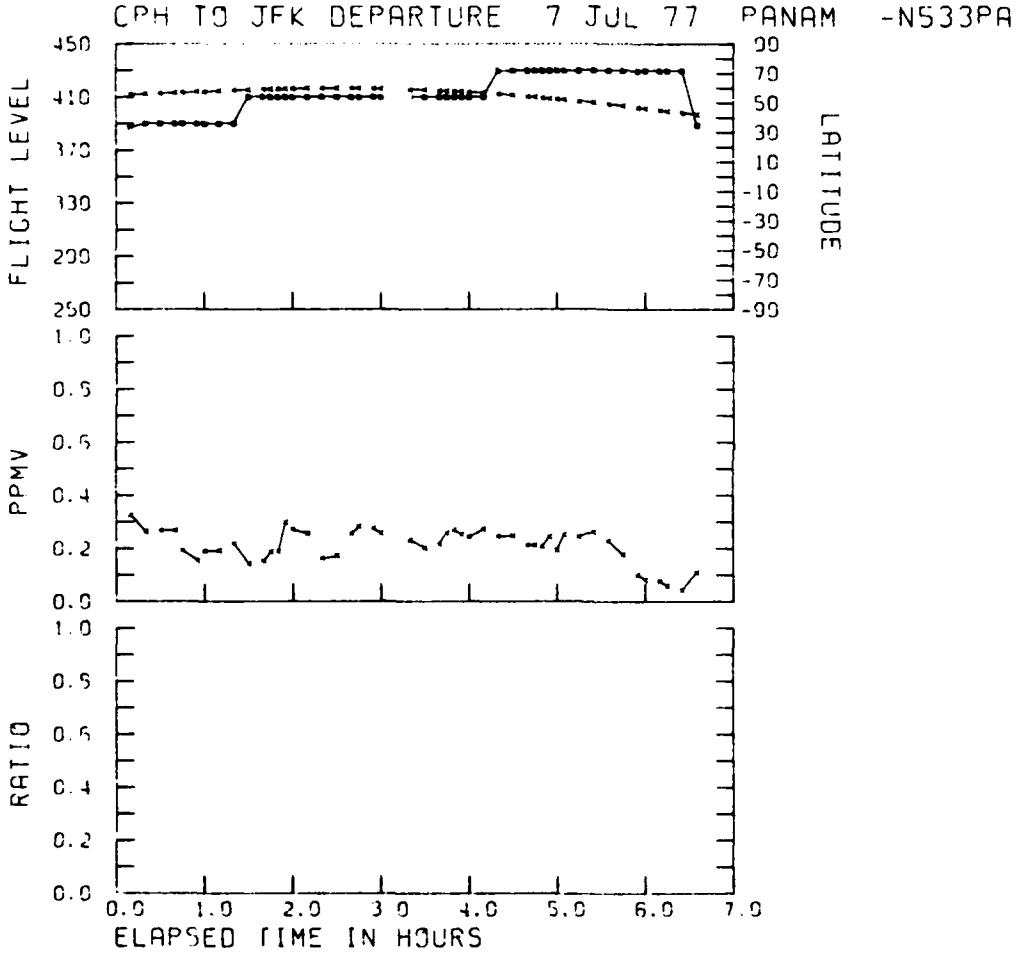

JFK TO CPH DEPARTURE 7 JUL 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
ELAPSED TIME IN HOURS

JFK TO CPH (PAGE 1 OF 1) DEPARTURE: 7 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .356 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 45
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
7/ 7/77	0332	0:10	360	41.42N	71.78W	-47.	.053		
7/ 7/77	0342	0:20	370	42.45N	70.64W	-49.	.047		
7/ 7/77	0352	0:30	380	43.45N	69.48W	-51.	.075		
7/ 7/77	0359	0:37	391	44.12N	68.68W	-51.	.124		
7/ 7/77	0409	0:47	391	45.06N	67.46W	-46.	.151		
7/ 7/77	0429	1:07	391	46.59N	64.07W	-43.	.246		
7/ 7/77	0434	1:12	391	46.96N	63.18W	-45.	.356		
7/ 7/77	0444	1:22	391	47.68N	61.37W	-42.	.346		
7/ 7/77	0449	1:27	391	48.02N	60.48W	-42.	.355		
7/ 7/77	0454	1:32	391	48.36N	59.55W	-43.	.332		
7/ 7/77	0459	1:37	391	48.69N	58.60W	-43.	.323		
7/ 7/77	0504	1:42	391	49.02N	57.64W	-43.	.252		
7/ 7/77	0524	2:02	391	50.50N	53.86W	-41.	.293		
7/ 7/77	0534	2:12	391	51.27N	51.96W	-41.	.326		
7/ 7/77	0544	2:22	410	51.97N	50.07W	-44.	.338		
7/ 7/77	0549	2:27	410	52.27N	48.88W	-46.	.343		
7/ 7/77	0554	2:32	410	52.53N	47.77W	-46.	.332		
7/ 7/77	0559	2:37	410	52.78N	46.65W	-48.	.328		
7/ 7/77	0604	2:42	410	53.03N	45.48W	-51.	.328		
7/ 7/77	0614	2:52	410	53.46N	43.24W	-56.	.296		
7/ 7/77	0624	3:02	410	53.86N	40.91W	-59.	.209		
7/ 7/77	0634	3:12	410	54.35N	38.54W	-59.	.173		
7/ 7/77	0644	3:22	410	54.88N	36.18W	-62.	.183		
7/ 7/77	0649	3:27	410	55.13N	34.97W	-58.	.207		
7/ 7/77	0654	3:32	410	55.36N	33.77W	-58.	.272		
7/ 7/77	0659	3:37	410	55.58N	32.55W	-57.	.266		
7/ 7/77	0704	3:42	410	55.79N	31.30W	-55.	.266		
7/ 7/77	0714	3:52	410	56.17N	28.74W	-51.	.250		
7/ 7/77	0724	4:02	410	56.48N	26.18W	-51.	.209		
7/ 7/77	0734	4:12	410	56.74N	23.59W	-48.	.104		
7/ 7/77	0744	4:22	410	56.94N	20.98W	-47.	.255		
7/ 7/77	0749	4:27	410	57.05N	19.68W	-46.	.286		
7/ 7/77	0754	4:32	410	57.22N	18.41W	-46.	.263		
7/ 7/77	0759	4:37	410	57.38N	17.13W	-47.	.260		
7/ 7/77	0804	4:42	410	57.52N	15.82W	-47.	.211		
7/ 7/77	0819	4:57	410	57.87N	11.92W	-51.	.155		
7/ 7/77	0829	5:07	410	58.12N	9.28W	-52.	.122		
7/ 7/77	0839	5:17	410	58.25N	6.67W	-54.	.166		
7/ 7/77	0844	5:22	411	58.13N	5.60W	-55.	.153		
7/ 7/77	0849	5:27	410	57.96N	4.34W	-55.	.164		
7/ 7/77	0859	5:37	410	57.64N	1.87W	-57.	.202		
7/ 7/77	0909	5:47	410	57.25N	.57E	-55.	.197		
7/ 7/77	0919	5:57	410	56.81N	2.95E	-52.	.168		
7/ 7/77	0929	6:07	410	56.33N	5.25E	-50.	.252		
7/ 7/77	0934	6:12	410	56.07N	6.38E	-51.	.227		

A317

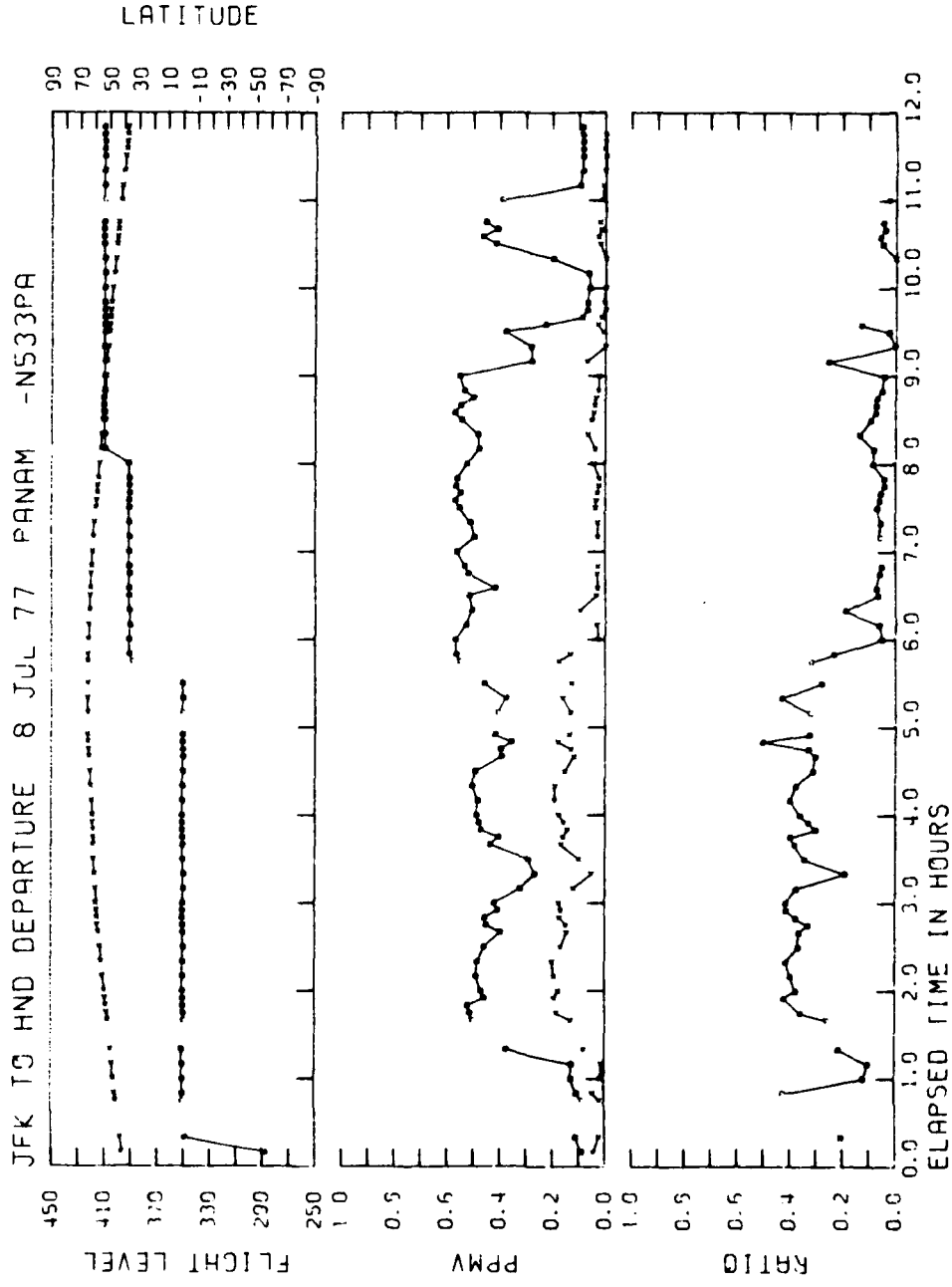

CPH TO JFK DEPARTURE 7 JUL 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
ELAPSED TIME IN HOURS

CPH TO JFK (PAGE 1 OF 1) DEPARTURE: 7 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .325 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 48
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
7/ 7/77	1158	0:10	387	55.90N	9.19E	-50.	.325		
7/ 7/77	1208	0:20	390	56.26N	6.79E	-53.	.263		
7/ 7/77	1218	0:30	390	56.61N	4.39E	-53.	.268		
7/ 7/77	1228	0:40	390	57.05N	2.06E	-58.	.268		
7/ 7/77	1233	0:45	390	57.25N	.88E	-58.	.193		
7/ 7/77	1243	0:55	390	57.63N	1.49W	-58.	.155		
7/ 7/77	1248	1:00	390	57.86N	2.67W	-56.	.191		
7/ 7/77	1258	1:10	390	58.28N	5.06W	-56.	.192		
7/ 7/77	1308	1:20	390	58.67N	7.56W	-55.	.218		
7/ 7/77	1318	1:30	410	59.02N	10.13W	-51.	.142		
7/ 7/77	1328	1:40	410	59.36N	12.74W	-48.	.153		
7/ 7/77	1333	1:45	410	59.51N	14.05W	-47.	.187		
7/ 7/77	1338	1:50	410	59.64N	15.36W	-46.	.189		
7/ 7/77	1343	1:55	410	59.77N	16.68W	-46.	.298		
7/ 7/77	1348	2:00	410	59.87N	18.02W	-46.	.272		
7/ 7/77	1358	2:10	410	60.03N	20.69W	-47.	.256		
7/ 7/77	1408	2:20	410	60.09N	23.35W	-48.	.163		
7/ 7/77	1418	2:30	410	60.09N	25.99W	-48.	.172		
7/ 7/77	1428	2:40	410	60.04N	28.63W	-49.	.257		
7/ 7/77	1433	2:45	410	60.00N	29.93W	-51.	.283		
7/ 7/77	1443	2:55	410	59.83N	32.45W	-55.	.275		
7/ 7/77	1448	3:00	410	59.72N	33.67W	-56.	.257		
7/ 7/77	1508	3:20	410	59.21N	38.45W	-58.	.232		
7/ 7/77	1518	3:30	410	58.90N	40.72W	-58.	.202		
7/ 7/77	1528	3:40	410	58.52N	42.97W	-57.	.218		
7/ 7/77	1533	3:45	410	58.30N	44.13W	-52.	.258		
7/ 7/77	1538	3:50	410	58.07N	45.29W	-50.	.270		
7/ 7/77	1543	3:55	410	57.83N	46.46W	-50.	.253		
7/ 7/77	1548	4:00	410	57.56N	47.65W	-49.	.245		
7/ 7/77	1558	4:10	410	57.00N	50.00W	-46.	.273		
7/ 7/77	1608	4:20	430	56.17N	51.99W	-44.	.246		
7/ 7/77	1618	4:30	430	55.31N	53.88W	-43.	.247		
7/ 7/77	1628	4:40	430	54.42N	55.70W	-42.	.213		
7/ 7/77	1633	4:45	430	53.95N	56.61W	-43.	.212		
7/ 7/77	1638	4:50	430	53.46N	57.42W	-43.	.208		
7/ 7/77	1643	4:55	430	53.01N	58.30W	-43.	.244		
7/ 7/77	1648	5:00	430	52.55N	59.17W	-43.	.194		
7/ 7/77	1653	5:05	430	52.09N	60.03W	-43.	.251		
7/ 7/77	1704	5:16	430	51.05N	61.81W	-46.	.244		
7/ 7/77	1713	5:25	430	50.08N	63.39W	-47.	.263		
7/ 7/77	1724	5:36	430	49.09N	64.90W	-46.	.230		
7/ 7/77	1733	5:45	430	48.06N	66.36W	-48.	.178		
7/ 7/77	1744	5:56	430	46.88N	67.55W	-51.	.101		
7/ 7/77	1749	6:01	430	46.29N	68.09W	-52.	.082		
7/ 7/77	1758	6:10	430	45.14N	69.12W	-56.	.077		
7/ 7/77	1804	6:16	430	44.54N	69.63W	-57.	.059		
7/ 7/77	1813	6:25	430	43.38N	70.60W	-61.	.044		
7/ 7/77	1824	6:36	389	42.20N	71.53W	-57.	.110		

A-19

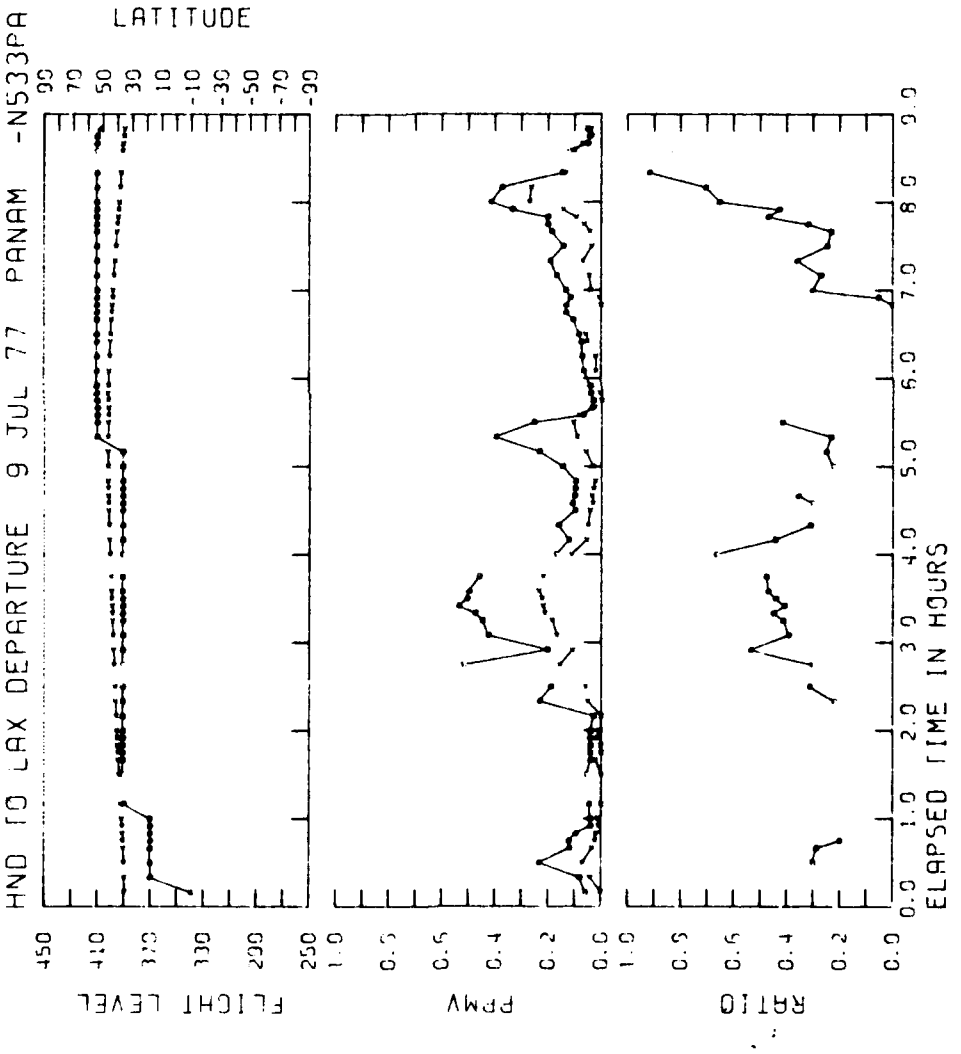

JFK TO HND DEPARTURE 8 JUL 77 PANAM -N533PA
LATITUDE
99 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0
ELAPSED TIME IN HOURS

JFK TO HNO (PAGE 1 OF 1) DEPARTURE: 8 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .571 CABIN OZONE= .200 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .50 TOTAL OBS IN CABIN: 82
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
7/ 8/77	1646	0:10	288	42.11N	75.22W	-28.	.043	.089	
7/ 8/77	1656	0:20	349	43.17N	76.13W	-44.	.023	.112	.21
7/ 8/77	1721	0:45	350	45.97N	78.63W	-47.	.020	.086	
7/ 8/77	1726	0:50	350	46.54N	79.12W	-46.	.045	.106	.42
7/ 8/77	1736	1:00	350	47.57N	80.22W	-47.	.015	.127	.12
7/ 8/77	1746	1:10	351	48.49N	81.38W	-50.	.013	.127	.10
7/ 8/77	1756	1:20	351	49.55N	82.38W	-46.	.080	.374	.21
7/ 8/77	1816	1:40	350	51.72N	84.60W	-47.	.131	.504	.26
7/ 8/77	1821	1:45	350	52.28N	85.21W	-46.	.184	.513	.36
7/ 8/77	1826	1:50	350	52.82N	85.83W	-47.		.521	
7/ 8/77	1831	1:55	350	53.36N	86.46W	-49.	.193	.458	.42
7/ 8/77	1836	2:00	350	53.89N	87.10W	-48.	.177	.470	.38
7/ 8/77	1846	2:10	350	54.94N	88.43W	-49.	.193	.487	.40
7/ 8/77	1856	2:20	350	55.98N	89.84W	-50.	.200	.483	.41
7/ 8/77	1906	2:30	350	57.01N	91.33W	-52.	.169	.459	.37
7/ 8/77	1916	2:40	350	58.02N	92.90W	-55.	.145	.397	.37
7/ 8/77	1921	2:45	350	58.53N	93.75W	-52.	.149	.451	.33
7/ 8/77	1926	2:50	351	58.90N	94.73W	-53.	.172	.456	.38
7/ 8/77	1931	2:55	351	59.21N	95.84W	-55.	.168	.407	.41
7/ 8/77	1936	3:00	350	59.51N	96.99W	-56.	.174	.420	.41
7/ 8/77	1946	3:10	350	60.08N	99.34W	-57.	.121	.322	.38
7/ 8/77	1956	3:20	350	60.61N	101.75W	-59.	.051	.267	.19
7/ 8/77	2006	3:30	350	61.10N	104.26W	-58.	.100	.291	.34
7/ 8/77	2016	3:40	351	61.53N	106.80W	-54.	.167	.436	.38
7/ 8/77	2021	3:45	351	61.73N	108.06W	-54.	.161	.404	.40
7/ 8/77	2026	3:50	351	61.91N	109.33W	-51.	.143	.472	.30
7/ 8/77	2031	3:55	351	62.07N	110.64W	-51.	.158	.479	.33
7/ 8/77	2036	4:00	351	62.23N	111.99W	-51.	.176	.488	.36
7/ 8/77	2046	4:10	351	62.52N	114.69W	-52.	.192	.482	.40
7/ 8/77	2056	4:20	350	63.24N	117.20W	-50.	.189	.503	.38
7/ 8/77	2106	4:30	350	63.90N	119.87W	-51.	.154	.493	.31
7/ 8/77	2116	4:40	350	64.52N	122.69W	-51.	.119	.393	.30
7/ 8/77	2121	4:45	350	64.80N	124.15W	-53.	.130	.396	.33
7/ 8/77	2126	4:50	351	65.08N	125.63W	-54.	.178	.355	.50
7/ 8/77	2131	4:55	351	65.28N	127.18W	-54.	.137	.419	.33
7/ 8/77	2146	5:10	350	65.41N	132.29W	-56.	.132	.407	.32
7/ 8/77	2156	5:20	350	65.40N	135.88W	-56.	.162	.377	.43
7/ 8/77	2206	5:30	351	65.32N	139.41W	-53.	.128	.458	.28
7/ 8/77	2221	5:45	389	65.10N	144.49W	-49.	.175	.551	.32
7/ 8/77	2226	5:50	391	65.01N	146.20W	-47.	.131	.565	.238
7/ 8/77	2236	6:00	391	64.77N	149.53W	-47.	.028	.567	.058
7/ 8/77	2246	6:10	391	64.47N	152.80W	-48.	.033	.529	.068
7/ 8/77	2256	6:20	391	64.09N	155.95W	-48.	.096	.506	.198
7/ 8/77	2306	6:30	391	63.66N	158.96W	-47.	.034	.516	.078
7/ 8/77	2311	6:35	391	63.42N	160.42W	-46.	.030	.417	.078
7/ 8/77	2321	6:45	391	62.90N	163.29W	-46.	.031	.519	.068
7/ 8/77	2326	6:50	391	62.61N	164.69W	-48.	.028	.534	.058
7/ 8/77	2336	7:00	391	62.00N	167.41W	-47.		.562	
7/ 8/77	2346	7:10	391	61.33N	170.06W	-46.	.029	.495	.068
7/ 8/77	2356	7:20	391	60.55N	172.44W	-46.	.026	.511	.058
7/ 9/77	0006	7:30	391	59.74N	174.64W	-47.	.039	.554	.078
7/ 9/77	0011	7:35	391	59.33N	175.71W	-47.	.035	.570	.068
7/ 9/77	0016	7:40	391	58.90N	176.76W	-47.	.031	.550	.068
7/ 9/77	0021	7:45	391	58.47N	177.78W	-46.	.024	.566	.048
7/ 9/77	0026	7:50	391	58.03N	178.76W	-46.	.024	.561	.048
7/ 9/77	0036	8:00	391	57.23N	179.23E	-46.	.044	.524	.088
7/ 9/77	0046	8:10	410	56.59N	177.11E	-46.	.040	.480	.088
7/ 9/77	0056	8:20	410	55.91N	175.02E	-46.	.066	.484	.148
7/ 9/77	0106	8:30	410	55.19N	173.03E	-47.	.051	.544	.098
7/ 9/77	0111	8:35	410	54.82N	172.03E	-48.	.043	.571	.088
7/ 9/77	0116	8:40	410	54.45N	171.10E	-48.	.040	.546	.078
7/ 9/77	0121	8:45	410	54.07N	170.18E	-49.	.036	.500	.078
7/ 9/77	0126	8:50	410	53.74N	169.22E	-50.	.028	.536	.058
7/ 9/77	0136	9:00	410	53.07N	167.30E	-53.	.024	.553	.048
7/ 9/77	0146	9:10	410	52.35N	165.39E	-55.	.071	.279	.258
7/ 9/77	0156	9:20	410	51.64N	163.63E	-57.	.001	.282	.008
7/ 9/77	0206	9:30	410	50.88N	161.90E	-60.	.010	.379	.038
7/ 9/77	0211	9:35	410	50.48N	161.02E	-62.	.030	.228	.138
7/ 9/77	0216	9:40	410	50.08N	160.16E	-64.	.016	.090	B
7/ 9/77	0221	9:45	410	49.66N	159.32E	-64.	.000	.070	B
7/ 9/77	0226	9:50	410	49.23N	158.48E	-64.	.006	.068	B
7/ 9/77	0236	10:00	410	48.34N	156.84E	-64.	.000	.061	B
7/ 9/77	0246	10:10	410	47.42N	155.24E	-64.		.066	
7/ 9/77	0256	10:20	410	46.48N	153.71E	-64.	.000	.199	.008
7/ 9/77	0306	10:30	411	45.57N	152.28E	-58.	.021	.416	.058
7/ 9/77	0311	10:35	411	45.12N	151.61E	-56.	.028	.465	.068
7/ 9/77	0316	10:40	411	44.67N	150.95E	-55.	.017	.410	.048
7/ 9/77	0321	10:45	410	44.21N	150.30E	-53.	.022	.453	.058
7/ 9/77	0336	11:00	410	42.81N	148.31E	-55.	.012	.393	.038
7/ 9/77	0346	11:10	410	41.82N	146.99E	-55.	.009	.096	B
7/ 9/77	0356	11:20	410	40.78N	145.65E	-56.	.005	.089	B
7/ 9/77	0406	11:30	410	39.75N	144.36E	-55.	.000	.084	B
7/ 9/77	0411	11:35	410	39.24N	143.72E	-55.	.006	.088	B
7/ 9/77	0416	11:40	410	38.72N	143.09E	-56.	.001	.086	B
7/ 9/77	0421	11:45	410	38.19N	142.46E	-55.	.000	.084	B
7/ 9/77	0426	11:50	410	37.67N	141.80E	-56.		.084	

A-321

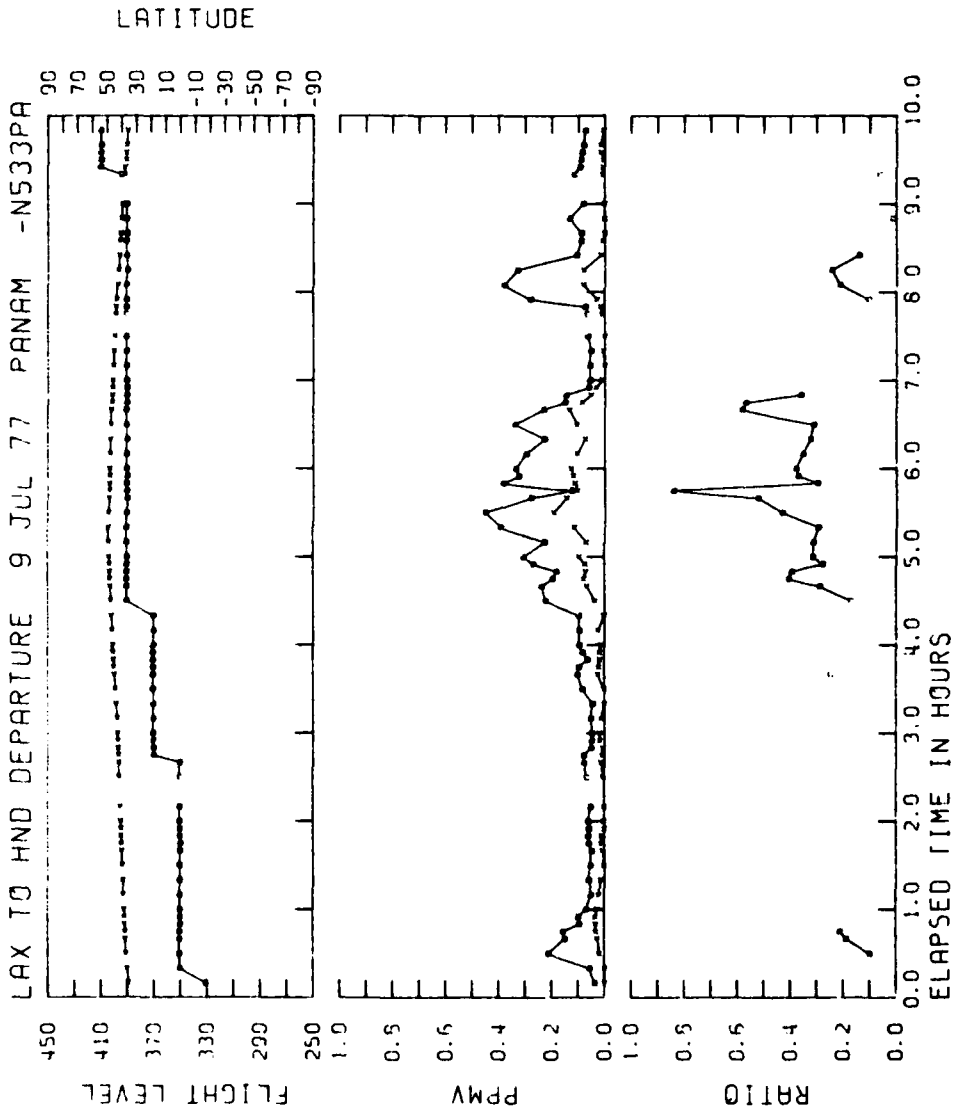

HND TO LAX DEPARTURE 9 JUL 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0
ELAPSED TIME IN HOURS

HND TO LAX (PAGE 1 OF 1) DEPARTURE: 9 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .536 CABIN OZONE= .270 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .92 TOTAL OBS IN CABIN: 64
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
7/ 9/77	0855	0:10	339	35.41N	142.34E	-41.	.000	.059	
7/ 9/77	0905	0:20	370	35.76N	143.88E	-48.	.041	.080	
7/ 9/77	0915	0:30	370	36.09N	145.39E	-48.	.070	.232	.30
7/ 9/77	0925	0:40	370	36.43N	147.05E	-49.	.034	.118	.29
7/ 9/77	0934	0:49	370	36.76N	148.80E	-49.	.024	.120	.20
7/ 9/77	0939	0:54	370	36.93N	149.74E	-49.	.019	.095	
7/ 9/77	0944	0:59	370	37.20N	150.67E	-50.	.009	.040	
7/ 9/77	0949	1:04	370	37.53N	151.62E	-50.	.011	.041	
7/ 9/77	0959	1:14	390	38.14N	153.45E	-55.	.000	.045	
7/ 9/77	1019	1:34	391	39.28N	157.30E	-55.	.000	.055	
7/ 9/77	1029	1:44	391	39.81N	159.33E	-55.	.022	.040	
7/ 9/77	1034	1:49	391	40.06N	160.34E	-56.	.000	.041	
7/ 9/77	1039	1:54	391	40.31N	161.35E	-56.	.000	.039	
7/ 9/77	1044	1:59	391	40.54N	162.36E	-56.	.016	.041	
7/ 9/77	1049	2:04	391	40.77N	163.39E	-56.	.005	.039	
7/ 9/77	1059	2:14	391	41.20N	165.47E	-56.	.000	.028	
7/ 9/77	1109	2:24	391	41.60N	167.55E	-57.	.051	.231	.22
7/ 9/77	1119	2:34	391	41.94N	169.57E	-57.	.059	.189	.31
7/ 9/77	1132	2:47	391	42.50N	172.02E	-54.	.156	.518	.30
7/ 9/77	1142	2:57	391	42.92N	173.95E	-55.	.108	.202	.53
7/ 9/77	1152	3:07	391	43.32N	175.89E	-57.	.167	.425	.39
7/ 9/77	1202	3:17	391	43.67N	177.81E	-55.	.185	.447	.41
7/ 9/77	1207	3:22	391	43.82N	178.73E	-54.	.213	.474	.45
7/ 9/77	1212	3:27	391	43.97N	179.68E	-52.	.219	.536	.41
7/ 9/77	1217	3:32	391	44.17N	179.37W	-52.	.223	.505	.44
7/ 9/77	1222	3:37	391	44.40N	178.42W	-53.	.234	.498	.47
7/ 9/77	1232	3:47	391	44.85N	176.46W	-55.	.219	.459	.48
7/ 9/77	1245	4:00	391	45.40N	173.80W	-58.	.112	.168	.67
7/ 9/77	1255	4:10	391	45.78N	171.72W	-58.	.054	.122	.44
7/ 9/77	1305	4:20	391	46.11N	169.62W	-58.	.050	.161	.31
7/ 9/77	1315	4:30	391	46.39N	167.56W	-60.	.042	.099	
7/ 9/77	1320	4:35	391	46.51N	166.53W	-60.	.033	.109	.30
7/ 9/77	1325	4:40	391	46.63N	165.50W	-61.	.036	.101	.36
7/ 9/77	1330	4:45	391	46.73N	164.45W	-60.	.029	.099	
7/ 9/77	1335	4:50	391	46.83N	163.40W	-60.	.023	.097	
7/ 9/77	1345	5:00	391	47.00N	161.27W	-60.	.033	.146	.23
7/ 9/77	1355	5:10	391	47.07N	159.14W	-60.	.059	.234	.25
7/ 9/77	1405	5:20	410	46.93N	156.99W	-59.	.093	.398	.23
7/ 9/77	1415	5:30	410	46.75N	154.87W	-65.	.106	.254	.42
7/ 9/77	1420	5:35	410	46.64N	153.80W	-65.	.083	.068	
7/ 9/77	1425	5:40	410	46.52N	152.75W	-65.	.027	.036	
7/ 9/77	1430	5:45	410	46.40N	151.73W	-66.	.000	.032	
7/ 9/77	1435	5:50	410	46.26N	150.70W	-65.	.005	.041	
7/ 9/77	1443	5:58	410	46.03N	149.08W	-65.		.042	
7/ 9/77	1453	6:08	410	45.69N	147.07W	-65.	.019	.064	
7/ 9/77	1503	6:18	410	45.33N	145.09W	-65.	.020	.071	
7/ 9/77	1513	6:28	410	44.94N	143.15W	-65.	.052	.074	
7/ 9/77	1518	6:33	410	44.74N	142.20W	-65.	.057	.083	
7/ 9/77	1528	6:43	410	44.30N	140.31W	-65.		.105	
7/ 9/77	1533	6:48	410	44.06N	139.40W	-66.		.132	
7/ 9/77	1538	6:53	410	43.77N	138.53W	-66.	.000	.131	.00
7/ 9/77	1543	6:58	410	43.47N	137.68W	-67.	.006	.114	.05
7/ 9/77	1548	7:03	410	43.16N	136.83W	-66.	.040	.133	.30
7/ 9/77	1558	7:13	410	42.54N	135.19W	-66.	.045	.167	.27
7/ 9/77	1608	7:23	410	41.88N	133.55W	-66.	.069	.192	.36
7/ 9/77	1618	7:33	410	41.19N	131.92W	-65.	.035	.142	.25
7/ 9/77	1628	7:43	410	40.48N	130.32W	-63.	.043	.186	.23
7/ 9/77	1633	7:48	410	40.12N	129.54W	-62.	.064	.201	.32
7/ 9/77	1638	7:53	410	39.74N	128.78W	-63.	.094	.201	.47
7/ 9/77	1643	7:58	410	39.36N	128.02W	-60.	.142	.333	.43
7/ 9/77	1648	8:03	410	38.98N	127.27W	-60.	.270	.414	.65
7/ 9/77	1658	8:13	410	38.27N	125.71W	-57.	.263	.373	.71
7/ 9/77	1708	8:23	410	37.86N	123.96W	-58.	.134	.146	.92
7/ 9/77	1723	8:38	410	36.84N	121.55W	-59.	.101	.122	.83
7/ 9/77	1728	8:43	410	36.38N	120.91W	-60.	.070	.050	
7/ 9/77	1733	8:48	410	35.90N	120.26W	-61.	.035	.044	
7/ 9/77	1738	8:53	408	35.39N	119.76W	-60.	.039	.052	

A-323


LAX TO HND DEPARTURE 9 JUL 77 PANAM -N533PA
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
FLIGHT LEVEL
450
410
370
330
290
250
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
ELAPSED TIME IN HOURS

LAX TO HNO (PAGE 1 OF 1) DEPARTURE: 9 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .451 CABIN OZONE= .194 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .84 TOTAL OBS IN CABIN: 74
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
7/ 9/77	2037	0:10	331	35.36N	120.56W	-43.	.000	.037	
7/ 9/77	2047	0:20	350	36.31N	121.70W	-49.	.000	.056	
7/ 9/77	2057	0:30	351	37.20N	122.86W	-49.	.021	.211	.10
7/ 9/77	2107	0:40	351	37.53N	124.39W	-49.	.028	.149	.19
7/ 9/77	2112	0:45	351	37.70N	125.19W	-50.	.033	.156	.21
7/ 9/77	2117	0:50	350	37.89N	126.02W	-51.	.033	.095	
7/ 9/77	2122	0:55	350	38.13N	126.84W	-51.	.035	.098	
7/ 9/77	2127	1:00	350	38.37N	127.67W	-52.	.028	.069	
7/ 9/77	2137	1:10	350	38.83N	129.34W	-52.	.021	.050	
7/ 9/77	2147	1:20	351	39.24N	130.99W	-52.	.014	.060	
7/ 9/77	2157	1:30	351	39.63N	132.64W	-52.	.003	.053	
7/ 9/77	2207	1:40	350	39.99N	134.34W	-51.	.007	.048	
7/ 9/77	2212	1:45	350	40.16N	135.21W	-51.	.012	.059	
7/ 9/77	2217	1:50	350	40.33N	136.08W	-51.	.010	.060	
7/ 9/77	2222	1:55	351	40.49N	136.96W	-51.	.000	.058	
7/ 9/77	2227	2:00	351	40.65N	137.84W	-51.	.003	.060	
7/ 9/77	2237	2:10	351	40.94N	139.63W	-50.	.001	.051	
7/ 9/77	2257	2:30	351	41.73N	143.14W	-50.	.005	.067	
7/ 9/77	2307	2:40	351	42.10N	144.88W	-50.	.014	.077	
7/ 9/77	2312	2:45	370	42.27N	145.74W	-56.	.009	.078	
7/ 9/77	2317	2:50	370	42.43N	146.61W	-56.	.005	.050	
7/ 9/77	2322	2:55	370	42.59N	147.47W	-55.	.018	.048	
7/ 9/77	2327	3:00	371	42.73N	148.31W	-55.	.019	.047	
7/ 9/77	2337	3:10	371	43.00N	149.98W	-55.	.012	.051	
7/ 9/77	2347	3:20	370	43.69N	151.50W	-55.	.000	.044	
7/ 9/77	2357	3:30	371	44.34N	152.98W	-55.	.002	.083	
7/10/77	0007	3:40	371	44.96N	154.45W	-56.	.025	.101	.25
7/10/77	0012	3:45	371	45.26N	155.20W	-56.	.022	.095	
7/10/77	0017	3:50	371	45.55N	155.94W	-56.	.017	.063	
7/10/77	0022	3:55	371	45.83N	156.69W	-56.	.019	.081	
7/10/77	0027	4:00	371	46.11N	157.44W	-56.	.013	.096	
7/10/77	0037	4:10	370	46.65N	158.97W	-56.	.025	.096	
7/10/77	0047	4:20	370	47.14N	160.57W	-56.	.002	.097	
7/10/77	0057	4:30	391	47.53N	162.22W	-60.	.038	.222	.17
7/10/77	0107	4:40	391	47.90N	163.88W	-59.	.068	.237	.29
7/10/77	0112	4:45	391	48.07N	164.70W	-60.	.079	.196	.40
7/10/77	0117	4:50	391	48.23N	165.53W	-60.	.071	.181	.39
7/10/77	0122	4:55	391	48.39N	166.39W	-60.	.074	.268	.28
7/10/77	0127	5:00	390	48.55N	167.27W	-60.	.096	.305	.31
7/10/77	0137	5:10	391	48.86N	169.09W	-60.	.070	.224	.31
7/10/77	0147	5:20	391	48.94N	170.97W	-60.	.116	.394	.29
7/10/77	0157	5:30	391	48.80N	172.88W	-57.	.194	.451	.43
7/10/77	0207	5:40	391	48.63N	174.82W	-58.	.145	.278	.52
7/10/77	0212	5:45	391	48.53N	175.80W	-57.	.105	.125	.84
7/10/77	0217	5:50	391	48.42N	176.78W	-55.	.113	.382	.30
7/10/77	0222	5:55	390	48.30N	177.74W	-58.	.120	.324	.37
7/10/77	0227	6:00	391	48.18N	178.69W	-58.	.127	.336	.38
7/10/77	0237	6:10	391	47.92N	179.47E	-58.	.104	.296	.35
7/10/77	0247	6:20	390	47.61N	177.60E	-60.	.073	.226	.32
7/10/77	0257	6:30	391	47.27N	175.75E	-60.	.105	.338	.31
7/10/77	0307	6:40	391	46.91N	173.94E	-60.	.133	.229	.58
7/10/77	0312	6:45	391	46.72N	173.07E	-61.	.086	.151	.57
7/10/77	0317	6:50	391	46.52N	172.18E	-60.	.053	.147	.36
7/10/77	0322	6:55	391	46.32N	171.32E	-60.	.034	.061	
7/10/77	0327	7:00	391	46.10N	170.42E	-60.	.010	.056	
7/10/77	0337	7:10	391	45.67N	168.68E	-59.	.001	.057	
7/10/77	0347	7:20	391	45.20N	166.91E	-59.	.005	.052	
7/10/77	0357	7:30	391	44.70N	165.17E	-59.	.000	.064	
7/10/77	0412	7:45	391	43.89N	162.58E	-58.	.011	.066	
7/10/77	0417	7:50	391	43.60N	161.71E	-58.	.015	.072	
7/10/77	0422	7:55	391	43.30N	160.86E	-56.	.029	.278	.10
7/10/77	0432	8:05	391	42.73N	159.20E	-50.	.081	.380	.21
7/10/77	0442	8:15	390	42.14N	157.55E	-49.	.080	.329	.248
7/10/77	0452	8:25	391	41.54N	155.95E	-52.	.015	.107	.148
7/10/77	0502	8:35	391	40.93N	154.41E	-54.	.008	.089	8
7/10/77	0508	8:41	390	40.56N	153.51E	-55.	.000	.088	8
7/10/77	0518	8:51	391	39.91N	152.01E	-54.	.002	.132	.068
7/10/77	0528	9:01	391	39.24N	150.53E	-53.	.000	.081	8
7/10/77	0548	9:21	395	37.96N	147.56E	-53.	.007	.113	.068
7/10/77	0553	9:26	410	37.61N	146.78E	-54.	.007	.094	8
7/10/77	0558	9:31	410	37.26N	146.01E	-54.	.007	.091	8
7/10/77	0603	9:36	410	36.90N	145.25E	-55.	.015	.086	8
7/10/77	0608	9:41	410	36.54N	144.49E	-56.	.015	.080	8
7/10/77	0618	9:51	410	35.81N	143.03E	-57.	.004	.073	

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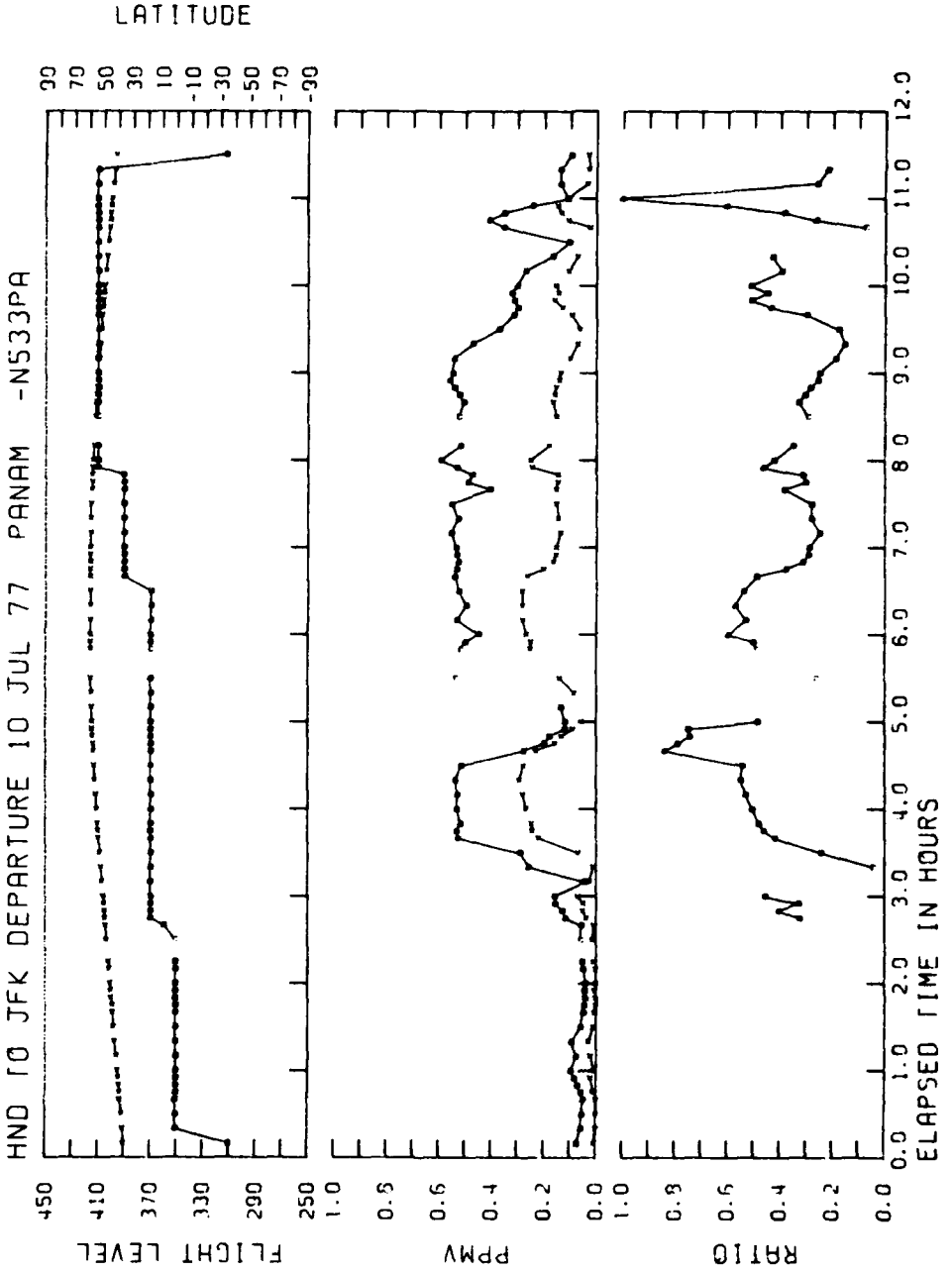
HND TO JFK DEPARTURE 10 JUL 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0
ELAPSED TIME IN HOURS

HND TO JFK (PAGE 1 OF 1) DEPARTURE: 10 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .593 CABIN OZONE= .293 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.02 TOTAL OBS IN CABIN: 84
DATA SOURCE: GASP TAPE VL010, FILE 4 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
7/10/77	0953	0:10	310	36.42N	142.22E	-33.	.007	.072	
7/10/77	1003	0:20	351	36.94N	143.85E	-42.	.000	.056	
7/10/77	1013	0:30	351	37.86N	145.09E	-43.	.000	.053	
7/10/77	1023	0:40	351	38.81N	146.30E	-42.	.000	.049	
7/10/77	1028	0:45	351	39.27N	146.94E	-42.	.013	.057	
7/10/77	1033	0:50	351	39.74N	147.58E	-43.		.071	
7/10/77	1038	0:55	351	40.20N	148.23E	-43.	.022	.083	
7/10/77	1043	1:00	351	40.66N	148.88E	-43.	.012	.097	
7/10/77	1053	1:10	351	41.60N	150.30E	-44.	.022	.077	
7/10/77	1103	1:20	351	42.48N	151.79E	-45.	.029	.092	
7/10/77	1113	1:30	351	43.30N	153.28E	-46.	.010	.058	
7/10/77	1123	1:40	351	44.11N	154.82E	-46.	.007	.048	
7/10/77	1128	1:45	351	44.50N	155.60E	-46.	.001	.045	
7/10/77	1133	1:50	351	44.90N	156.42E	-46.	.002	.041	
7/10/77	1138	1:55	351	45.27N	157.20E	-46.	.005	.042	
7/10/77	1143	2:00	351	45.65N	158.04E	-46.	.000	.039	
7/10/77	1153	2:10	351	46.38N	159.70E	-47.	.001	.049	
7/10/77	1200A	2:17	351	46.96N	160.94E	-47.	.010	.053	
7/10/77	1216	2:33	351	48.19N	163.65E	-49.	.013	.058	
7/10/77	1226	2:43	360	48.99N	165.54E	-52.	.008	.055	
7/10/77	1231	2:48	370	49.38N	166.52E	-54.	.038	.117	.32
7/10/77	1236	2:53	370	49.75N	167.51E	-54.	.052	.129	.40
7/10/77	1241	2:58	370	50.13N	168.53E	-53.	.051	.156	.33
7/10/77	1246	3:03	370	50.48N	169.53E	-54.	.072	.158	.46
7/10/77	1256	3:13	370	51.28N	171.36E	-55.	.025	.042	
7/10/77	1306	3:23	370	52.14N	173.21E	-52.	.011	.256	.04
7/10/77	1316	3:33	370	53.06N	174.99E	-46.	.070	.289	.24
7/10/77	1326	3:43	370	53.78N	177.10E	-42.	.219	.525	.42
7/10/77	1331	3:48	370	54.14N	178.18E	-42.	.244	.531	.46
7/10/77	1336	3:53	370	54.49N	179.27E	-40.	.247	.516	.48
7/10/77	1346	4:03	370	55.16N	178.51W	-40.	.268	.531	.50
7/10/77	1356	4:13	370	55.80N	176.20W	-41.	.281	.530	.53
7/10/77	1406	4:23	370	56.39N	173.77W	-43.	.293	.536	.55
7/10/77	1416	4:33	370	56.92N	171.31W	-46.	.278	.514	.54
7/10/77	1426	4:43	370	57.45N	168.80W	-50.	.232	.277	.84
7/10/77	1431	4:48	370	57.71N	167.51W	-52.	.158	.200	.79
7/10/77	1436	4:53	370	57.95N	166.20W	-56.	.133	.179	.74
7/10/77	1441	4:58	370	58.18N	164.87W	-57.	.089	.119	.75
7/10/77	1446	5:03	370	58.40N	163.53W	-57.	.057	.118	.48
7/10/77	1456	5:13	370	58.63N	160.78W	-58.		.134	
7/10/77	1506	5:23	370	58.91N	158.05W	-58.	.087		
7/10/77	1516	5:33	370	59.13N	155.26W	-50.	.139	.534	.26
7/10/77	1536	5:53	370	59.39N	149.91W	-49.	.252	.517	.49
7/10/77	1541	5:58	370	59.42N	148.56W	-48.	.250	.500	.50
7/10/77	1546	6:03	370	59.43N	147.21W	-49.	.268	.444	.60
7/10/77	1556	6:13	370	59.49N	144.54W	-48.	.281	.531	.53
7/10/77	1606	6:23	370	59.52N	141.88W	-48.	.283	.496	.57
7/10/77	1616	6:33	370	59.53N	139.22W	-47.	.283	.525	.54
7/10/77	1626	6:43	390	59.57N	136.51W	-46.	.263	.539	.498
7/10/77	1631	6:48	390	59.57N	135.14W	-48.	.201	.532	.388
7/10/77	1636	6:53	390	59.56N	133.80W	-48.	.164	.526	.318
7/10/77	1641	6:58	390	59.52N	132.46W	-49.	.155	.532	.298
7/10/77	1646	7:03	391	59.46N	131.12W	-49.	.154	.535	.298
7/10/77	1656	7:13	391	59.32N	128.41W	-49.	.138	.555	.258
7/10/77	1706	7:23	390	59.13N	125.71W	-51.	.146	.526	.288
7/10/77	1716	7:33	390	58.89N	123.03W	-51.	.153	.551	.288
7/10/77	1726	7:43	390	58.63N	120.39W	-51.	.155	.405	.388
7/10/77	1731	7:48	390	58.31N	119.09W	-49.	.148	.490	.308
7/10/77	1736	7:53	390	58.08N	117.79W	-51.	.147	.473	.318
7/10/77	1741	7:58	410	57.84N	116.58W	-49.	.245	.531	.46
7/10/77	1746	8:03	410	57.58N	115.32W	-49.	.250	.593	.428
7/10/77	1756	8:13	410	57.04N	112.92W	-49.	.181	.514	.358
7/10/77	1816	8:33	410	55.96N	108.17W	-49.	.153	.525	.298
7/10/77	1826	8:43	410	55.40N	105.90W	-52.	.166	.506	.338
7/10/77	1831	8:48	410	55.10N	104.78W	-51.	.159	.522	.308
7/10/77	1836	8:53	410	54.79N	103.67W	-53.	.154	.542	.288
7/10/77	1841	8:58	410	54.46N	102.55W	-54.	.143	.561	.258
7/10/77	1846	9:03	410	54.13N	101.49W	-55.	.137	.549	.258
7/10/77	1856	9:13	410	53.45N	99.41W	-55.	.101	.542	.198
7/10/77	1906	9:23	410	52.73N	97.39W	-58.	.072	.471	.158
7/10/77	1916	9:33	410	51.99N	95.49W	-62.	.065	.371	.188
7/10/77	1926	9:43	410	51.22N	93.64W	-62.	.093	.314	.30
7/10/77	1931	9:48	410	50.83N	92.74W	-63.	.129	.298	.43
7/10/77	1936	9:53	410	50.43N	91.85W	-63.	.159	.313	.51
7/10/77	1941	9:58	410	50.01N	90.97W	-63.	.144	.322	.45
7/10/77	1946	10:03	410	49.59N	90.10W	-63.	.155	.303	.51
7/10/77	1956	10:13	410	48.72N	88.39W	-63.	.107	.271	.39
7/10/77	2006	10:23	410	47.81N	86.71W	-65.	.071	.166	.43
7/10/77	2016	10:33	410	47.03N	84.88W	-65.		.103	
7/10/77	2026	10:43	410	46.20N	83.03W	-58.	.026	.353	.07
7/10/77	2031	10:48	410	45.78N	82.14W	-57.	.108	.410	.26
7/10/77	2036	10:53	410	45.34N	81.26W	-58.	.134	.350	.38
7/10/77	2041	10:58	410	44.90N	80.38W	-61.	.146	.242	.60
7/10/77	2046	11:03	410	44.45N	79.52W	-62.	.110	.108	1.02
7/10/77	2056	11:13	410	43.51N	77.78W	-61.	.035	.136	.26
7/10/77	2106	11:23	410	42.54N	76.11W	-61.	.030	.137	.22
7/10/77	2116	11:33	312	41.86N	74.19W	-38.	.031	.097	

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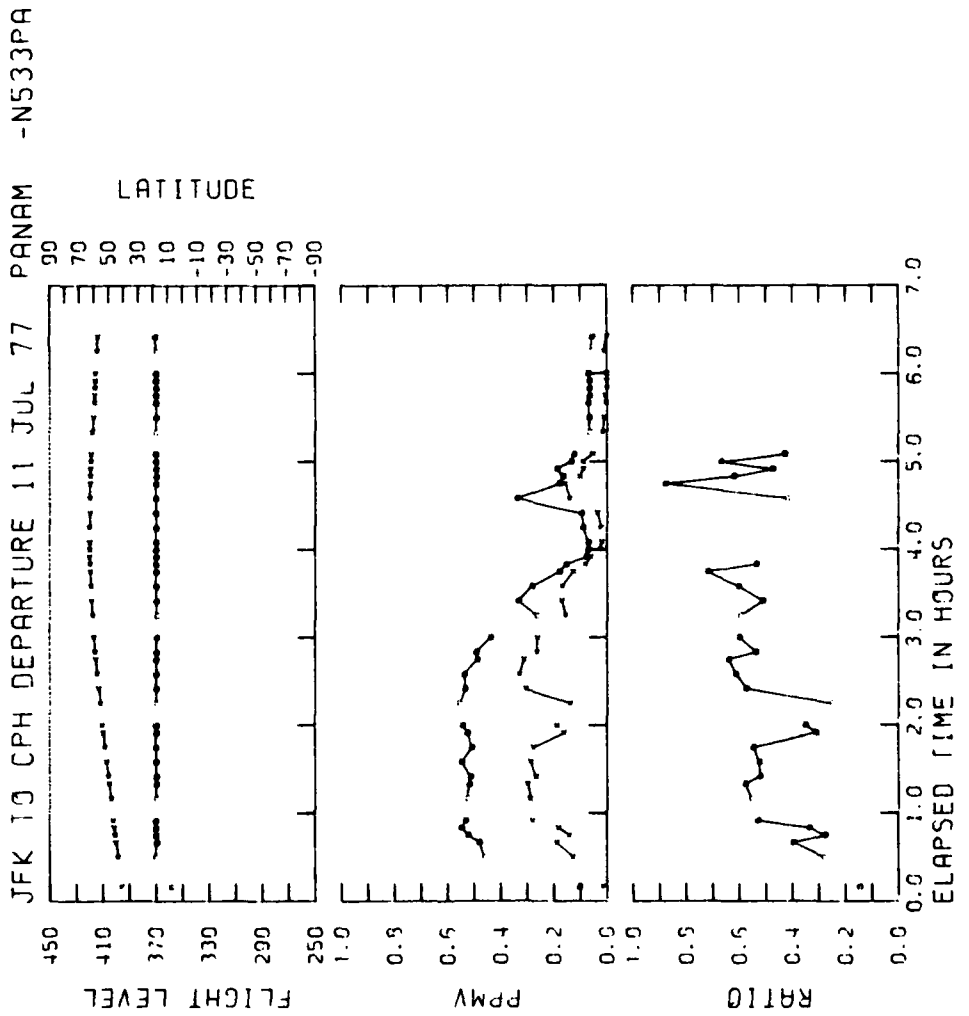
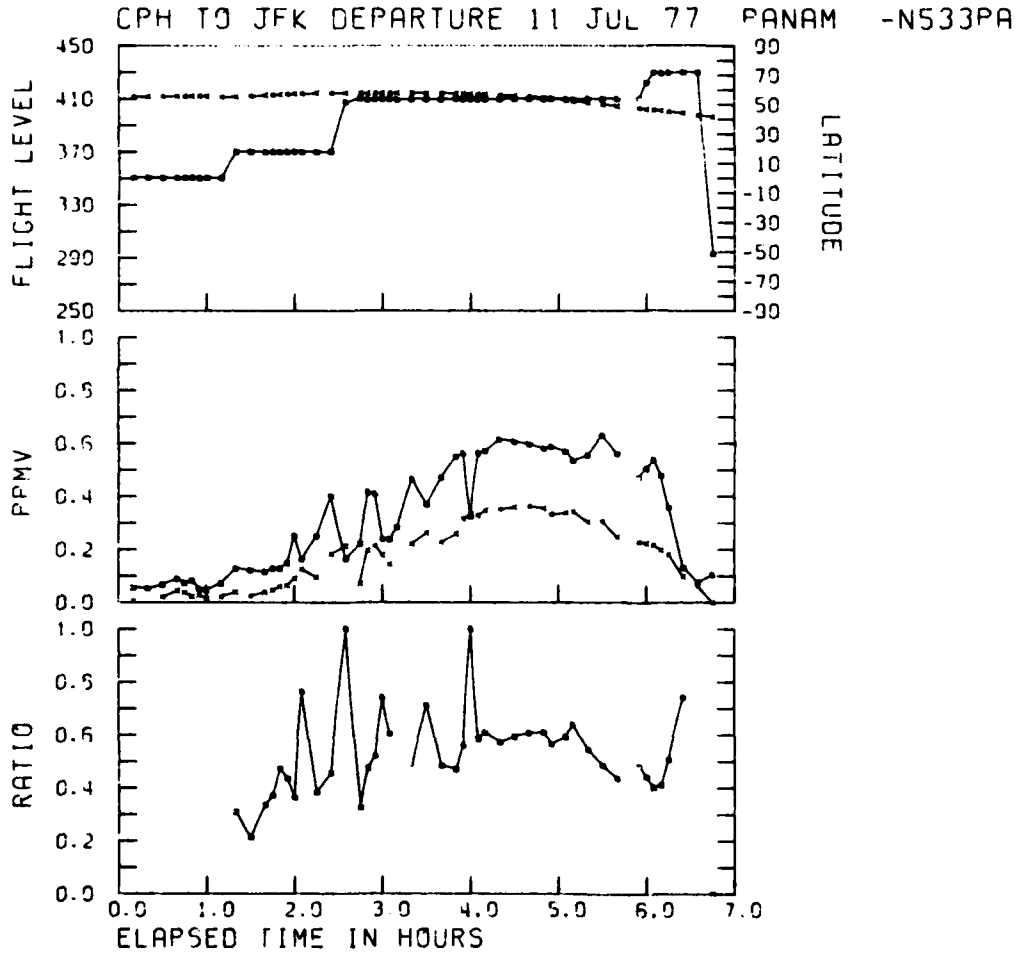

JFK TO CPH DEPARTURE 11 JUL 77 PANAM -N533PA
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
FLIGHT LEVEL
450
410
370
330
290
250
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
ELAPSED TIME IN HOURS

JFK TO CPH (PAGE 1 OF 1) DEPARTURE: 11 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .555 CABIN OZONE= .330 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .88 TOTAL OBS IN CABIN: 44
DATA SOURCE: GASP TAPE VL010, FILE 4

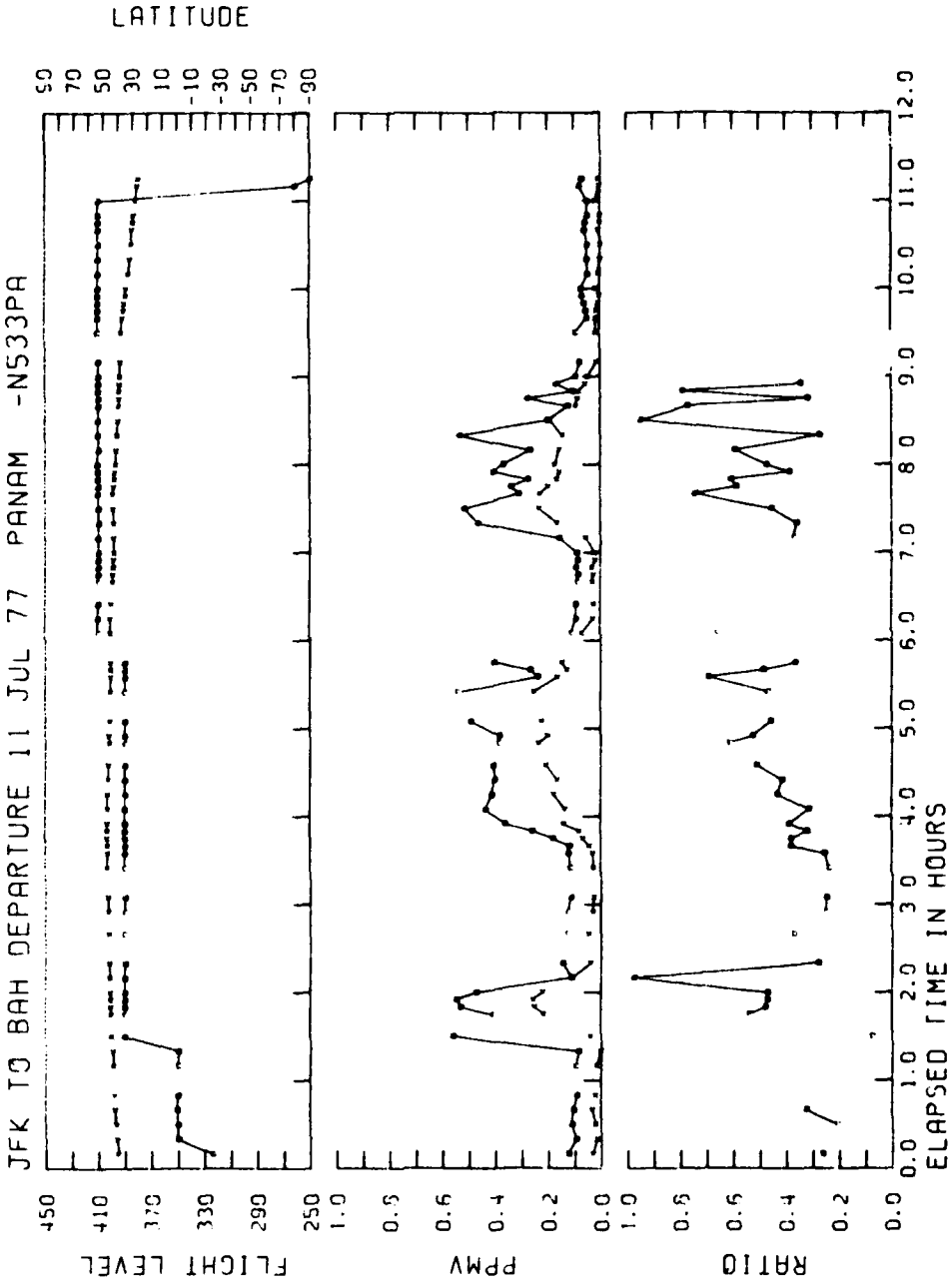
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
7/11/77	0237	0:10	359	41.49N	71.69W	-48.	.015	.103	.15
7/11/77	0257	0:30	370	44.00N	69.91W	-49.	.129	.461	.28
7/11/77	0307	0:40	369	45.20N	68.91W	-50.	.189	.479	.39
7/11/77	0312	0:45	370	45.78N	68.40W	-48.	.143	.521	.27
7/11/77	0317	0:50	370	46.36N	67.89W	-48.	.182	.546	.33
7/11/77	0322	0:55	370	46.94N	67.36W	-48.	.280	.531	.53
7/11/77	0337	1:10	370	48.69N	65.67W	-46.	.291	.525	.55
7/11/77	0347	1:20	370	49.86N	64.47W	-47.	.299	.518	.58
7/11/77	0352	1:25	370	50.45N	63.83W	-46.	.268	.514	.52
7/11/77	0402	1:35	370	51.61N	62.52W	-43.	.287	.547	.52
7/11/77	0413	1:46	370	52.78N	61.12W	-42.	.278	.508	.55
7/11/77	0422	1:55	370	53.88N	59.58W	-41.	.162	.525	.31
7/11/77	0427	2:00	370	54.43N	58.73W	-41.	.189	.542	.35
7/11/77	0442	2:15	370	56.02N	56.05W	-41.	.139	.555	.25
7/11/77	0452	2:25	370	57.02N	54.18W	-44.	.306	.534	.57
7/11/77	0502	2:35	370	58.02N	52.17W	-46.	.330	.538	.61
7/11/77	0512	2:45	370	58.99N	50.02W	-48.	.313	.489	.64
7/11/77	0517	2:50	370	59.41N	48.87W	-49.	.264	.492	.54
7/11/77	0528	3:01	369	60.23N	46.41W	-53.	.262	.437	.60
7/11/77	0542	3:15	370	61.32N	42.68W	-55.	.158	.265	.60
7/11/77	0552	3:25	370	61.99N	40.04W	-56.	.171	.334	.51
7/11/77	0602	3:35	370	62.37N	37.12W	-55.	.170	.282	.60
7/11/77	0612	3:45	370	62.69N	34.07W	-56.	.128	.174	.72
7/11/77	0617	3:50	370	62.82N	32.52W	-56.	.082	.153	.54
7/11/77	0622	3:55	370	62.94N	30.96W	-57.	.061	.077	
7/11/77	0627	4:00	370	63.02N	29.41W	-57.	.025	.071	
7/11/77	0632	4:05	370	63.06N	27.85W	-57.	.019	.069	
7/11/77	0642	4:15	370	63.09N	24.74W	-57.	.024	.090	
7/11/77	0652	4:25	370	63.05N	21.71W	-56.	.037	.098	
7/11/77	0702	4:35	370	62.91N	18.73W	-54.	.142	.338	.42
7/11/77	0712	4:45	370	62.67N	15.76W	-56.	.158	.180	.88
7/11/77	0717	4:50	370	62.52N	14.25W	-56.	.103	.166	.62
7/11/77	0722	4:55	370	62.35N	12.76W	-57.	.089	.188	.47
7/11/77	0727	5:00	370	62.17N	11.28W	-57.	.090	.135	.67
7/11/77	0732	5:05	370	61.96N	9.82W	-57.	.053	.124	.43
7/11/77	0747	5:20	370	61.08N	5.79W	-58.	.015	.067	
7/11/77	0757	5:30	370	60.44N	3.27W	-58.	.011	.067	
7/11/77	0807	5:40	370	59.79N	.83W	-58.	.004	.070	
7/11/77	0812	5:45	370	59.63N	.52E	-58.	.006	.065	
7/11/77	0817	5:50	370	59.44N	1.87E	-58.	.000	.065	
7/11/77	0822	5:55	370	59.21N	3.17E	-58.	.000	.065	
7/11/77	0827	6:00	370	59.03N	4.50E	-58.	.000	.070	
7/11/77	0842	6:15	370	57.93N	7.99E	-58.	.009	.058	
7/11/77	0852	6:25	370	57.03N	10.05E	-58.	.001	.056	


CPH TO JFK DEPARTURE 11 JUL 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
ELAPSED TIME IN HOURS

CPH TO JFK (PAGE 1 OF 1) DEPARTURE: 11 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .630 CABIN OZONE= .363 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.29 TOTAL OBS IN CABIN: 50
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
7/11/77	1234	0:10	351	55.63N	8.94E	-54.	.007	.056	
7/11/77	1244	0:20	351	55.71N	6.61E	-53.		.054	
7/11/77	1254	0:30	350	55.83N	4.22E	-53.	.022	.067	
7/11/77	1304	0:40	350	55.90N	1.79E	-53.	.046	.090	
7/11/77	1309	0:45	350	55.91N	.56E	-53.	.038	.074	
7/11/77	1314	0:50	351	55.92N	.67W	-53.	.023	.084	
7/11/77	1319	0:55	350	55.91N	1.91W	-54.	.029	.052	
7/11/77	1324	1:00	351	55.78N	3.11W	-54	.015	.048	
7/11/77	1334	1:10	350	55.33N	5.47W	-54.	.023	.073	
7/11/77	1345	1:21	370	55.68N	7.90W	-57.	.040	.129	.31
7/11/77	1354	1:30	370	56.09N	10.36W	-57.	.026	.122	.21
7/11/77	1404	1:40	370	56.65N	12.73W	-58.	.039	.116	.34
7/11/77	1409	1:45	370	56.91N	13.95W	-58.	.048	.129	.37
7/11/77	1414	1:50	370	57.15N	15.14W	-58.	.061	.129	.47
7/11/77	1419	1:55	370	57.38N	16.31W	-58.	.065	.149	.44
7/11/77	1424	2:00	370	57.60N	17.52W	-57.	.092	.252	.37
7/11/77	1429	2:05	370	57.80N	18.72W	-56.	.126	.165	.76
7/11/77	1439	2:15	370	58.04N	21.18W	-57.	.096	.250	.38
7/11/77	1449	2:25	370	58.09N	23.67W	-53.	.183	.401	.46
7/11/77	1459	2:35	408	58.09N	26.18W	-50.	.213	.165	1.29
7/11/77	1509	2:45	410	58.04N	28.70W	-50.	.072	.221	.33
7/11/77	1514	2:50	409	58.00N	29.95W	-49.	.197	.415	.47
7/11/77	1519	2:55	410	58.04N	31.21W	-51.	.214	.410	.52
7/11/77	1524	3:00	410	58.07N	32.45W	-49.	.178	.240	.74
7/11/77	1529	3:05	410	58.09N	33.70W	-49.	.144	.238	.61
7/11/77	1534	3:10	410	58.10N	34.95W	-51.		.284	
7/11/77	1544	3:20	410	58.07N	37.43W	-51.	.222	.465	.48
7/11/77	1554	3:30	410	58.00N	39.90W	-53.	.263	.369	.71
7/11/77	1604	3:40	410	57.84N	42.36W	-48.	.228	.471	.48
7/11/77	1614	3:50	410	57.62N	44.86W	-46.	.259	.550	.47
7/11/77	1619	3:55	410	57.49N	46.10W	-45.	.316	.563	.56
7/11/77	1624	4:00	410	57.35N	47.34W	-45.	.333	.324	1.03
7/11/77	1629	4:05	410	57.19N	48.57W	-44.	.329	.562	.59
7/11/77	1634	4:10	410	57.03N	49.80W	-44.	.348	.571	.61
7/11/77	1644	4:20	410	56.58N	52.20W	-42.	.353	.615	.57
7/11/77	1654	4:30	410	56.09N	54.52W	-42.	.360	.606	.59
7/11/77	1704	4:40	410	55.56N	56.79W	-42.	.363	.597	.61
7/11/77	1714	4:50	410	54.63N	58.56W	-41.	.355	.581	.61
7/11/77	1719	4:55	410	54.10N	59.33W	-40.	.333	.588	.57
7/11/77	1729	5:05	410	53.01N	60.83W	-42.	.339	.570	.59
7/11/77	1734	5:10	409	52.45N	61.55W	-43.	.343	.536	.64
7/11/77	1744	5:20	410	51.37N	62.86W	-45.	.303	.556	.54
7/11/77	1754	5:30	410	50.25N	64.14W	-47.	.306	.630	.49
7/11/77	1804	5:40	410	49.11N	65.37W	-51.	.246	.561	.44
7/11/77	1819	5:55	410	47.38N	67.10W	-58.	.228	.471	.48
7/11/77	1824	6:00	422	46.84N	67.63W	-58.	.224	.505	.44
7/11/77	1829	6:05	430	46.26N	68.16W	-58.	.217	.538	.40
7/11/77	1834	6:10	429	45.69N	68.66W	-60.	.198	.480	.41
7/11/77	1839	6:15	430	45.12N	69.16W	-61.	.182	.359	.51
7/11/77	1849	6:25	430	44.02N	70.08W	-61.	.098	.132	.74
7/11/77	1859	6:35	430	42.91N	70.96W	-62.	.061	.076	
7/11/77	1909	6:45	293	41.79N	71.73W	-34.	.000	.105	.00

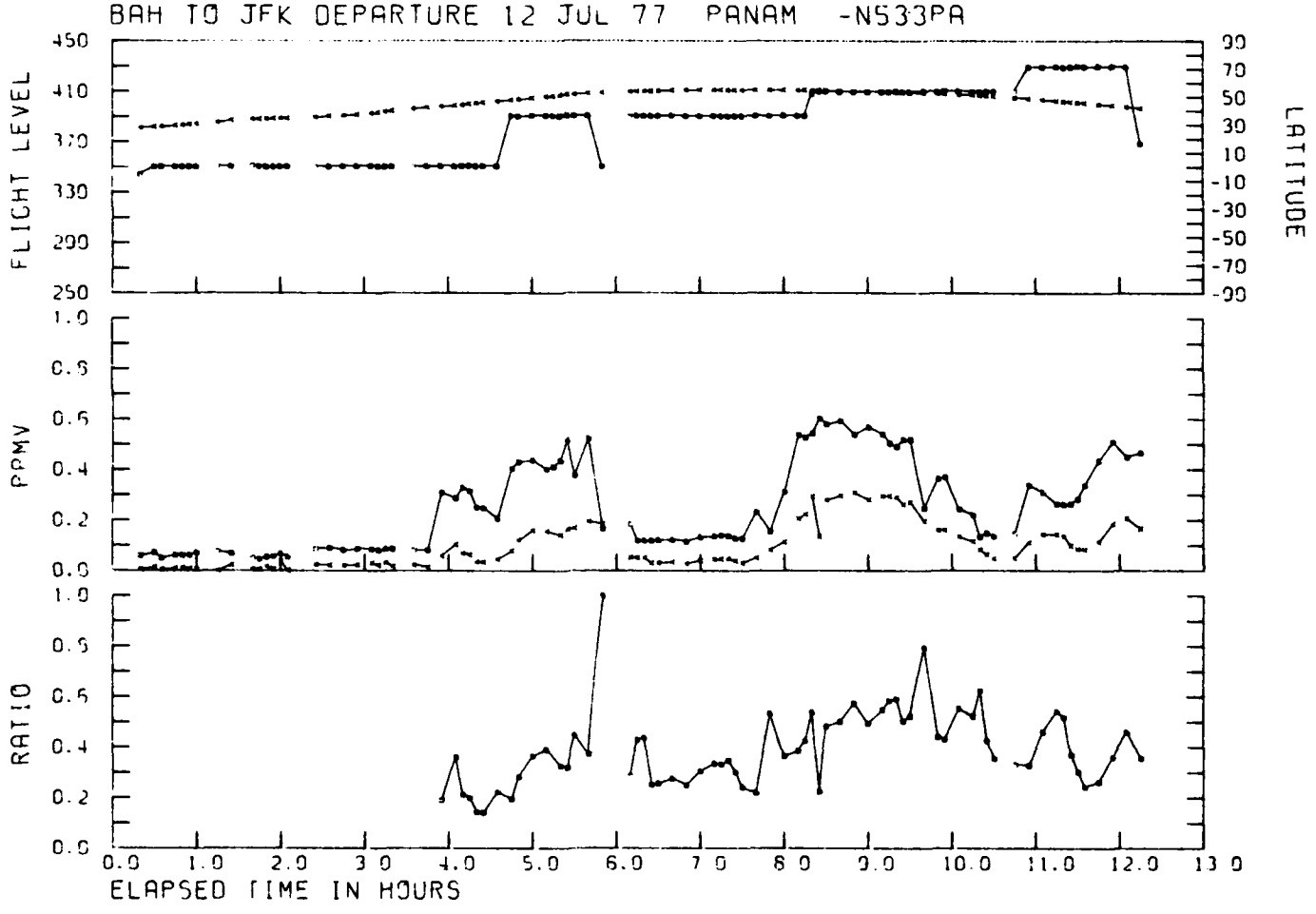

JFK TO BAH DEPARTURE 11 JUL 77 PANAM -N533PA
LATITUDE
FLIGHT LEVEL
PPMV
RATIO
ELAPSED TIME IN HOURS

JFK TO BAH (PAGE 1 OF 1) DEPARTURE: 11 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .558 CABIN OZONE= .257 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .97 TOTAL OBS IN CABIN: 74
DATA SOURCE: GASP TAPE VL010, FILE 4 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
7/11/77	2306	0:10	324	41.16N	70.55W	-40.	.033	.125	.26
7/11/77	2316	0:20	350	41.69N	68.67W	-48.	.017	.096	
7/11/77	2326	0:30	350	42.25N	66.74W	-48.	.023	.111	.21
7/11/77	2336	0:40	350	42.78N	64.78W	-49.	.033	.102	.32
7/11/77	2346	0:50	350	43.26N	62.82W	-50.	.023	.091	
7/12/77	0006	1:10	350	44.20N	58.77W	-53.	.018	.096	
7/12/77	0016	1:20	350	44.69N	56.71W	-51.	.002	.085	
7/12/77	0026	1:30	390	45.12N	54.66W	-49.	.042	.558	.08
7/12/77	0041	1:45	390	45.69N	51.59W	-48.	.219	.407	.54
7/12/77	0046	1:50	390	45.85N	50.57W	-48.	.253	.530	.48
7/12/77	0051	1:55	390	46.01N	49.51W	-49.	.257	.546	.47
7/12/77	0056	2:00	390	46.16N	48.41W	-51.	.221	.471	.47
7/12/77	0106	2:10	390	46.43N	46.18W	-55.	.108	.111	.97
7/12/77	0116	2:20	390	46.66N	43.96W	-56.	.040	.144	.28
7/12/77	0136	2:40	390	47.00N	39.60W	-57.	.047	.126	.37
7/12/77	0151	2:55	390	47.40N	36.49W	-58.	.031	.124	.25
7/12/77	0201	3:05	390	47.62N	34.41W	-58.	.028	.113	.25
7/12/77	0221	3:25	390	47.93N	30.25W	-58.	.027	.114	.24
7/12/77	0231	3:35	390	48.01N	28.21W	-58.	.031	.122	.25
7/12/77	0236	3:40	390	48.04N	27.19W	-58.	.045	.118	.38
7/12/77	0241	3:45	390	48.06N	26.16W	-58.	.069	.181	.38
7/12/77	0246	3:50	390	48.06N	25.15W	-57.	.082	.257	.32
7/12/77	0251	3:55	390	48.06N	24.14W	-55.	.140	.361	.39
7/12/77	0301	4:05	390	48.04N	22.08W	-51.	.136	.435	.31
7/12/77	0311	4:15	390	47.97N	20.02W	-52.	.178	.412	.43
7/12/77	0321	4:25	390	47.73N	17.97W	-50.	.166	.401	.41
7/12/77	0331	4:35	390	47.45N	15.96W	-50.	.208	.407	.51
7/12/77	0346	4:50	390	46.96N	12.93W	-48.	.237	.386	.61
7/12/77	0351	4:55	390	46.79N	11.93W	-46.	.202	.383	.53
7/12/77	0401	5:05	390	46.40N	9.94W	-44.	.225	.492	.46
7/12/77	0421	5:25	390	45.93N	5.88W	-44.	.253	.541	.47
7/12/77	0431	5:35	390	45.85N	3.78W	-45.	.164	.237	.69
7/12/77	0436	5:40	390	45.81N	2.74W	-46.	.129	.266	.48
7/12/77	0441	5:45	390	45.81N	1.68W	-47.	.147	.403	.36
7/12/77	0501	6:05	410	45.71N	2.64E	-50.	.071	.108	.66
7/12/77	0511	6:15	410	45.70N	4.80E	-51.	.028	.091	
7/12/77	0521	6:25	410	45.26N	6.78E	-52.	.027	.092	
7/12/77	0536	6:40	410	44.33N	9.53E	-53.	.031	.087	
7/12/77	0541	6:45	410	44.13N	10.54E	-54.	.028	.084	
7/12/77	0546	6:50	410	43.93N	11.56E	-54.	.033	.093	
7/12/77	0551	6:55	410	43.74N	12.61E	-53.	.021	.086	
7/12/77	0556	7:00	410	43.56N	13.57E	-53.	.025	.089	
7/12/77	0606	7:10	410	43.50N	15.60E	-53.	.058	.156	.37
7/12/77	0616	7:20	409	43.68N	17.58E	-52.	.165	.462	.36
7/12/77	0626	7:30	410	44.09N	19.36E	-51.	.233	.514	.45
7/12/77	0636	7:40	410	43.91N	21.16E	-50.	.228	.308	.74
7/12/77	0641	7:45	410	43.45N	21.98E	-46.	.197	.337	.58
7/12/77	0646	7:50	410	42.99N	22.78E	-46.	.165	.272	.61
7/12/77	0651	7:55	410	42.66N	23.65E	-46.	.155	.404	.38
7/12/77	0656	8:00	411	42.46N	24.65E	-47.	.173	.367	.47
7/12/77	0706	8:10	410	41.93N	26.46E	-46.	.157	.265	.59
7/12/77	0716	8:20	410	41.20N	28.19E	-47.	.144	.532	.27
7/12/77	0726	8:30	410	40.44N	29.90E	-49.	.189	.200	.95
7/12/77	0736	8:40	410	40.16N	31.93E	-49.	.094	.122	.77
7/12/77	0741	8:45	410	39.99N	32.93E	-48.	.087	.275	.32
7/12/77	0746	8:50	410	39.74N	33.84E	-52.	.082	.104	.79
7/12/77	0751	8:55	410	39.48N	34.76E	-50.	.057	.167	.34
7/12/77	0756	9:00	410	39.22N	35.67E	-52.	.048	.094	
7/12/77	0806	9:10	410	38.89N	37.64E	-52.	.015	.078	
7/12/77	0826	9:30	410	38.01N	41.38E	-52.	.016	.091	
7/12/77	0836	9:40	410	37.04N	42.46E	-53.	.015	.048	
7/12/77	0841	9:45	410	36.45N	42.79E	-53.	.012	.053	
7/12/77	0846	9:50	410	35.84N	43.09E	-53.	.005	.059	
7/12/77	0851	9:55	410	35.22N	43.40E	-54.	.002	.068	
7/12/77	0856	10:00	410	34.63N	43.68E	-53.	.016	.071	
7/12/77	0906	10:10	410	33.41N	44.24E	-53.	.007	.046	
7/12/77	0916	10:20	410	32.24N	44.89E	-54.	.000	.051	
7/12/77	0926	10:30	410	31.48N	46.22E	-54.	.000	.050	
7/12/77	0936	10:40	410	30.72N	47.51E	-54.	.006	.059	
7/12/77	0941	10:45	410	30.23N	47.99E	-55.	.001	.057	
7/12/77	0946	10:50	410	29.62N	48.28E	-55.	.000	.049	
7/12/77	0956	11:00	410	28.48N	49.08E	-55.	.019	.050	
7/12/77	1006A	11:10	261	27.36N	49.90E	-17.	.004	.080	
7/12/77	1012A	11:16	201	26.78N	50.32E	-3.	.009	.071	

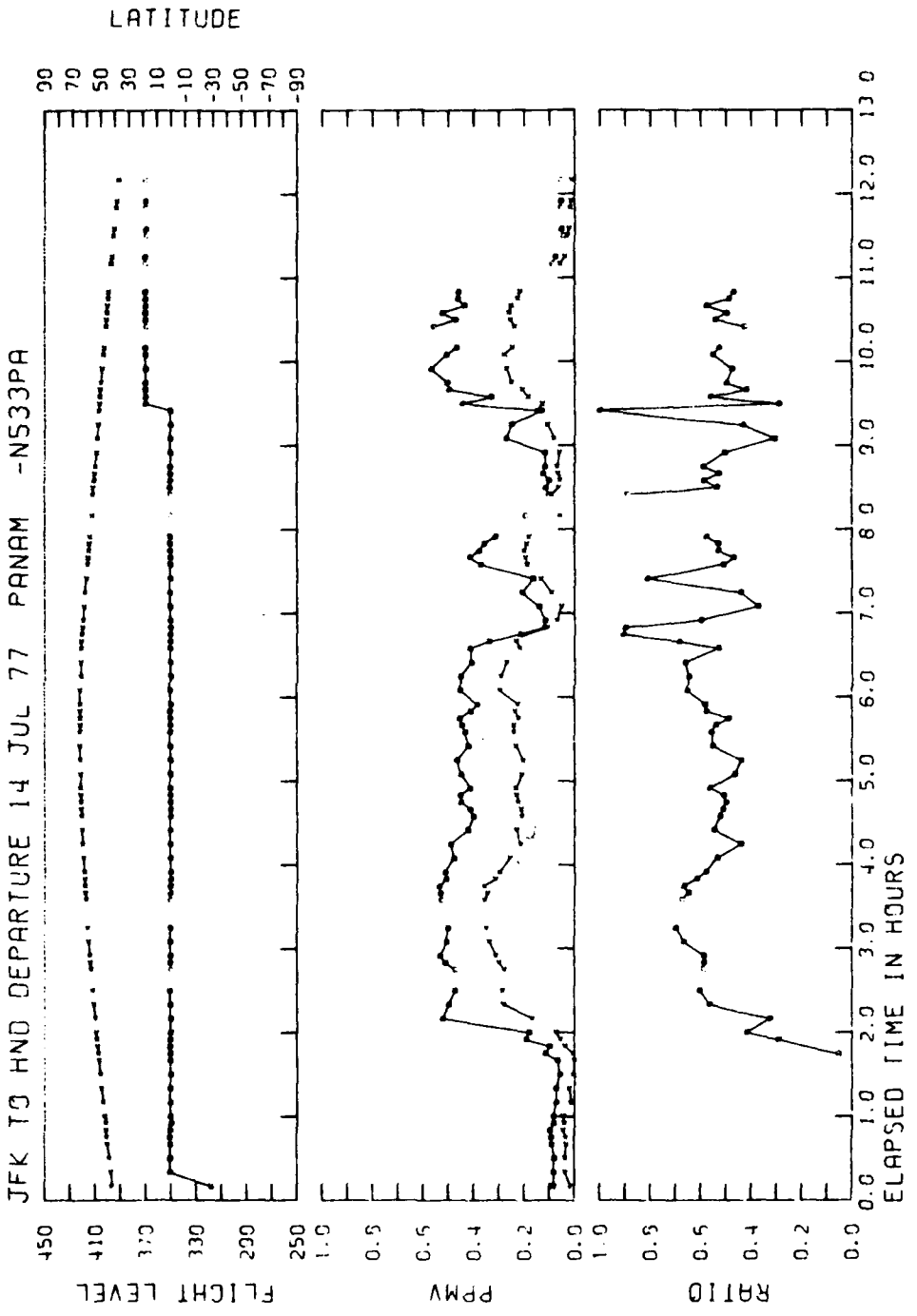
A-33


BAH TO JFK DEPARTURE 12 JUL 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0 13.0
ELAPSED TIME IN HOURS

BAH TO JFK (PAGE 1 OF 1) DEPARTURE: 12 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .604 CABIN OZONE= .310 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.11 TOTAL OBS IN CABIN: 90
DATA SOURCE: GASP TAPE VL010, FILE 4 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

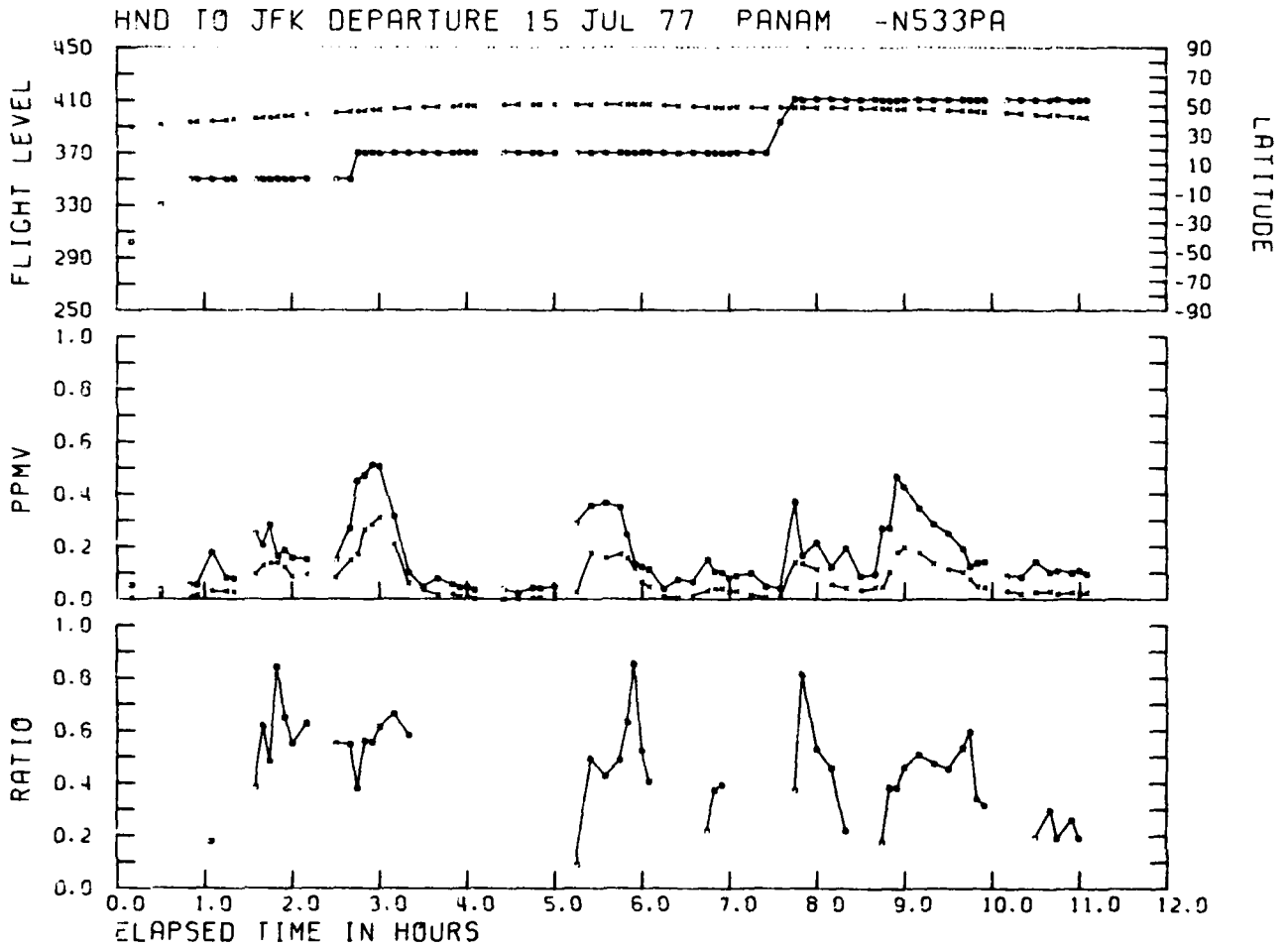
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
7/12/77	2143	0:20	344	28.15N	46.52E	-36.	.007	.060	
7/12/77	2153	0:30	350	28.85N	45.07E	-38.	.014	.072	
7/12/77	2158	0:35	350	29.21N	44.34E	-39.	.006	.050	
7/12/77	2208	0:45	350	29.95N	42.89E	-39.	.010	.062	
7/12/77	2213	0:50	350	30.34N	42.17E	-39.	.013	.062	
7/12/77	2218	0:55	351	30.73N	41.44E	-39.	.008	.062	
7/12/77	2223	1:00	351	31.05N	40.71E	-39.	.005	.071	
7/12/77	2238	1:15	351	32.03N	38.67E	-39.	.000	.076	
7/12/77	2248	1:25	351	33.48N	38.58E	-40.	.023	.068	
7/12/77	2305A	1:42	351	34.35N	36.07E	-38.	.007	.050	
7/12/77	2310	1:47	351	34.34N	35.29E	-39.	.006	.046	
7/12/77	2315	1:52	350	34.59N	34.54E	-38.	.016	.054	
7/12/77	2320	1:57	350	34.83N	33.76E	-38.	.007	.057	
7/12/77	2325	2:02	351	34.94N	32.97E	-38.	.037	.067	
7/12/77	2330	2:07	351	35.02N	32.19E	-39.	.000	.055	
7/12/77	2350	2:27	350	35.66N	29.25E	-37.	.024	.087	
7/14/77	0000	2:37	350	36.41N	27.87E	-38.	.022	.089	
7/14/77	0010	2:47	351	36.94N	26.36E	-39.	.022	.086	
7/14/77	0020	2:57	351	37.45N	24.84E	-41.	.023	.087	
7/14/77	0030	3:07	351	38.29N	23.81E	-41.	.030	.085	
7/14/77	0035	3:12	350	38.96N	23.75E	-41.	.022	.082	
7/14/77	0040	3:17	350	39.59N	23.47E	-42.	.032	.087	
7/14/77	0045	3:22	350	40.19N	23.14E	-42.	.016	.086	
7/14/77	0058	3:35	350	41.69N	22.09E	-43.	.023	.082	
7/14/77	0108	3:45	351	42.57N	20.98E	-43.	.014	.081	
7/14/77	0118	3:55	351	43.29N	19.68E	-44.	.059	.309	.19
7/14/77	0128	4:05	351	44.02N	18.36E	-47.	.104	.288	.36
7/14/77	0133	4:10	351	44.50N	17.85E	-47.	.070	.329	.21
7/14/77	0138	4:15	351	44.99N	17.32E	-48.	.063	.315	.20
7/14/77	0143	4:20	351	45.49N	16.77E	-50.	.036	.251	.14
7/14/77	0148	4:25	351	45.99N	16.18E	-51.	.035	.248	.14
7/14/77	0158	4:35	350	47.00N	14.90E	-54.	.046	.207	.22
7/14/77	0208	4:45	391	47.97N	13.59E	-52.	.079	.404	.20
7/14/77	0213	4:50	390	48.45N	12.92E	-52.	.122	.431	.28
7/14/77	0223	5:00	391	49.40N	11.53E	-51.	.160	.438	.37
7/14/77	0233	5:10	391	50.32N	10.04E	-48.	.157	.402	.39
7/14/77	0238	5:15	391	50.77N	9.32E	-48.		.412	
7/14/77	0243	5:20	390	51.20N	8.54E	-49.	.142	.436	.33
7/14/77	0248	5:25	390	51.55N	7.63E	-48.	.165	.515	.32
7/14/77	0253	5:30	391	51.89N	6.72E	-47.	.169	.377	.45
7/14/77	0303	5:40	391	52.53N	4.87E	-49.	.195	.523	.37
7/14/77	0313	5:50	351	53.16N	3.00E	-52.	.184	.166	1.11
7/14/77	0333	6:10	390	53.89N	1.21W	-59.	.053	.185	.29
7/14/77	0338	6:15	391	54.05N	2.35W	-59.	.051	.119	.43
7/14/77	0343	6:20	390	54.21N	3.49W	-59.	.052	.119	.44
7/14/77	0348	6:25	390	54.36N	4.67W	-59.	.030	.119	.25
7/14/77	0353	6:30	391	54.49N	5.85W	-59.	.031	.121	.26
7/14/77	0403	6:40	391	54.80N	8.22W	-59.	.034	.123	.28
7/14/77	0413	6:50	390	55.02N	10.64W	-60.	.029	.116	.25
7/14/77	0423	7:00	390	55.09N	13.12W	-59.	.041	.134	.31
7/14/77	0433	7:10	391	55.10N	15.58W	-59.	.046	.137	.34
7/14/77	0438	7:15	390	55.09N	16.81W	-59.	.047	.141	.33
7/14/77	0443	7:20	390	55.06N	18.03W	-59.	.048	.138	.35
7/14/77	0448	7:25	390	55.03N	19.25W	-59.	.039	.129	.30
7/14/77	0457	7:30	391	55.02N	20.47W	-59.	.031	.128	.24
7/14/77	0503	7:40	391	55.08N	22.89W	-57.	.051	.232	.22
7/14/77	0513	7:50	391	55.10N	25.33W	-57.	.083	.156	.53
7/14/77	0523	8:00	391	55.07N	27.70W	-52.	.114	.313	.36
7/14/77	0533	8:10	391	55.00N	30.05W	-46.	.207	.538	.38
7/14/77	0538	8:15	391	54.92N	31.20W	-46.	.224	.528	.42
7/14/77	0543	8:20	408	54.84N	32.38W	-44.	.294	.545	.54
7/14/77	0548	8:25	410	54.74N	33.53W	-44.	.136	.604	.23
7/14/77	0553	8:30	410	54.64N	34.68W	-43.	.281	.582	.48
7/14/77	0603	8:40	410	54.40N	36.93W	-44.	.298	.594	.50
7/14/77	0613	8:50	410	54.11N	39.18W	-46.	.310	.540	.57
7/14/77	0623	9:00	410	53.91N	41.41W	-46.	.282	.570	.49
7/14/77	0633	9:10	410	53.74N	43.62W	-50.	.297	.542	.55
7/14/77	0638	9:15	410	53.64N	44.68W	-51.	.296	.506	.58
7/14/77	0643	9:20	410	53.53N	45.74W	-51.	.291	.492	.59
7/14/77	0648	9:25	410	53.42N	46.78W	-53.	.262	.520	.50
7/14/77	0653	9:30	410	53.29N	47.81W	-56.	.272	.520	.52
7/14/77	0703	9:40	410	53.03N	49.80W	-58.	.196	.247	.79
7/14/77	0713	9:50	410	52.62N	51.69W	-59.	.161	.365	.44
7/14/77	0718	9:55	411	52.41N	52.58W	-59.	.160	.371	.43
7/14/77	0728	10:05	410	51.98N	54.31W	-60.	.135	.244	.55
7/14/77	0738	10:15	410	51.53N	55.97W	-62.	.115	.220	.52
7/14/77	0743	10:20	410	51.21N	56.73W	-62.	.083	.133	.62
7/14/77	0748	10:25	410	50.90N	57.46W	-62.	.063	.148	.43
7/14/77	0753	10:30	410	50.58N	58.18W	-61.	.048	.135	.36
7/14/77	0808	10:45	410	49.58N	60.29W	-61.	.049	.147	.33
7/14/77	0818	10:55	429	48.86N	61.73W	-57.	.111	.338	.33
7/14/77	0828	11:05	429	48.09N	63.17W	-59.	.143	.310	.46
7/14/77	0838	11:15	430	47.31N	64.56W	-58.	.143	.264	.54
7/14/77	0843	11:20	429	46.92N	65.24W	-57.	.136	.262	.52
7/14/77	0848	11:25	429	46.51N	65.92W	-56.	.098	.264	.37
7/14/77	0853	11:30	430	46.10N	66.59W	-56.	.086	.283	.30
7/14/77	0858	11:35	430	45.70N	67.24W	-56.	.082	.337	.24
7/14/77	0908	11:45	430	44.86N	68.53W	-55.	.114	.434	.26
7/14/77	0918	11:55	430	43.98N	69.83W	-57.	.184	.510	.36
7/14/77	0928	12:05	430	42.98N	70.89W	-56.	.207	.449	.46
7/14/77	0938	12:15	368	41.88N	71.77W	-51.	.166	.466	.36


JFK TO HND DEPARTURE 14 JUL 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0 13.0
ELAPSED TIME IN HOURS

JFK TO HNO (PAGE 1 OF 1) DEPARTURE: 14 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .568 CABIN OZONE= .357 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.13 TOTAL OBS IN CABIN: 91
DATA SOURCE: GASP TAPE VL010, FILE 4

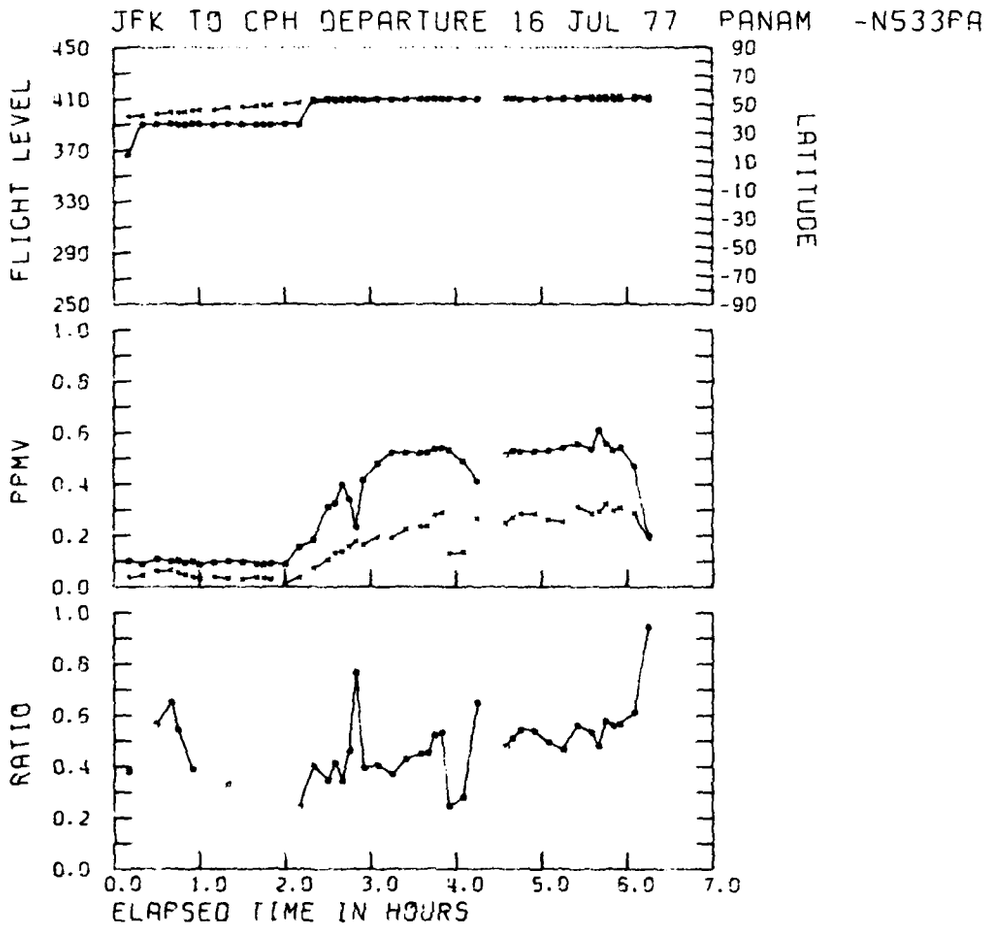
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
7/14/77	2045	0:10	318	42.14N	75.38W	-39.	.017	.084	
7/14/77	2055	0:20	351	43.21N	76.26W	-49.	.038	.083	
7/14/77	2105	0:30	351	44.27N	77.20W	-47.	.038	.080	
7/14/77	2115	0:40	350	45.34N	78.17W	-48.	.032	.090	
7/14/77	2120	0:45	351	45.87N	78.68W	-47.	.035	.091	
7/14/77	2125	0:50	351	46.41N	79.21W	-47.	.046	.097	
7/14/77	2130	0:55	350	46.95N	79.75W	-47.	.043	.084	
7/14/77	2135	1:00	351	47.50N	80.31W	-48.	.047	.084	
7/14/77	2145	1:10	351	48.55N	81.43W	-47.	.015	.072	
7/14/77	2155	1:20	351	49.58N	82.61W	-47.	.021	.072	
7/14/77	2205	1:30	351	50.55N	83.99W	-48.	.005	.059	
7/14/77	2215	1:40	351	51.50N	85.39W	-48.	.000	.067	
7/14/77	2220	1:45	351	51.97N	86.13W	-48.	.006	.115	.05
7/14/77	2225	1:50	351	52.44N	86.87W	-50.	.037	.098	
7/14/77	2230	1:55	350	52.89N	87.62W	-48.	.055	.190	.29
7/14/77	2235	2:00	350	53.34N	88.37W	-48.	.075	.180	.42
7/14/77	2245	2:10	350	54.24N	89.96W	-43.	.169	.521	.32
7/14/77	2255	2:20	351	55.13N	91.66W	-45.	.280	.497	.56
7/14/77	2305	2:30	351	56.00N	93.44W	-46.	.284	.472	.60
7/14/77	2320	2:45	351	57.25N	96.28W	-46.	.279	.474	.59
7/14/77	2325	2:50	351	57.64N	97.24W	-44.	.299	.511	.59
7/14/77	2330	2:55	351	58.03N	98.24W	-44.	.312	.532	.59
7/14/77	2340	3:05	351	58.77N	100.26W	-42.	.336	.505	.67
7/14/77	2350	3:15	351	59.50N	102.40W	-41.	.350	.501	.70
7/15/77	0010	3:35	351	60.85N	107.00W	-42.	.357	.529	.67
7/15/77	0015	3:40	351	61.16N	108.21W	-42.	.344	.531	.65
7/15/77	0020	3:45	351	61.46N	109.43W	-44.	.357	.535	.67
7/15/77	0025	3:50	351	61.74N	110.67W	-44.	.314	.510	.62
7/15/77	0030	3:55	351	62.01N	111.92W	-45.	.297	.513	.58
7/15/77	0040	4:05	351	62.53N	114.53W	-46.	.255	.478	.53
7/15/77	0050	4:15	351	63.03N	117.19W	-48.	.215	.490	.44
7/15/77	0100	4:25	351	63.48N	119.96W	-50.	.231	.422	.55
7/15/77	0110	4:35	351	63.88N	122.76W	-51.	.209	.400	.52
7/15/77	0115	4:40	350	64.05N	124.17W	-51.	.211	.413	.51
7/15/77	0120	4:45	351	64.22N	125.62W	-49.	.224	.449	.50
7/15/77	0125	4:50	351	64.37N	127.08W	-50.	.229	.451	.51
7/15/77	0130	4:55	351	64.50N	128.55W	-50.	.232	.412	.56
7/15/77	0140	5:05	351	64.73N	131.55W	-51.	.209	.450	.46
7/15/77	0150	5:15	351	64.89N	134.65W	-52.	.204	.465	.44
7/15/77	0200	5:25	351	64.99N	137.77W	-51.	.231	.419	.55
7/15/77	0210	5:35	351	65.02N	140.91W	-49.	.242	.434	.56
7/15/77	0215	5:40	351	65.01N	142.49W	-49.	.241	.446	.54
7/15/77	0220	5:45	351	64.98N	144.08W	-51.	.222	.455	.49
7/15/77	0225	5:50	351	64.94N	145.68W	-52.	.237	.411	.58
7/15/77	0230	5:55	350	64.87N	147.33W	-50.	.224	.385	.58
7/15/77	0240	6:05	351	64.75N	150.49W	-49.	.294	.451	.65
7/15/77	0250	6:15	351	64.58N	153.68W	-48.	.293	.452	.65
7/15/77	0300	6:25	351	64.34N	156.84W	-47.	.270	.408	.66
7/15/77	0310	6:35	351	64.03N	159.94W	-50.	.218	.413	.53
7/15/77	0315	6:40	351	63.78N	161.44W	-54.	.231	.338	.68
7/15/77	0320	6:45	351	63.44N	162.86W	-56.	.195	.215	.91
7/15/77	0325	6:50	351	63.10N	164.24W	-57.	.108	.120	.90
7/15/77	0330	6:55	351	62.74N	165.59W	-57.	.070	.117	.60
7/15/77	0340	7:05	351	61.97N	168.21W	-57.	.052	.140	.37
7/15/77	0350	7:15	351	61.20N	170.63W	-55.	.091	.207	.44
7/15/77	0400	7:25	351	60.40N	172.98W	-56.	.134	.165	.81
7/15/77	0410	7:35	351	59.57N	175.20W	-51.	.189	.371	.51
7/15/77	0415	7:40	351	59.14N	176.28W	-51.	.194	.414	.47
7/15/77	0420	7:45	351	58.71N	177.31W	-51.	.200	.378	.53
7/15/77	0425	7:50	351	58.28N	178.31W	-52.	.189	.357	.53
7/15/77	0430	7:55	351	57.84N	179.27W	-53.	.181	.313	.58
7/15/77	0449	8:14	351	56.37N	176.70E	-53.	.059	.195	.30
7/15/77	0500	8:25	351	55.63N	174.75E	-53.	.091	.102	.89
7/15/77	0505	8:30	351	55.24N	173.81E	-53.	.061	.114	.54
7/15/77	0510	8:35	351	54.83N	172.84E	-53.	.060	.102	.59
7/15/77	0515	8:40	351	54.44N	171.93E	-53.	.066	.125	.53
7/15/77	0520	8:45	351	54.01N	171.00E	-53.	.069	.117	.59
7/15/77	0530	8:55	351	53.28N	169.11E	-54.	.060	.119	.50
7/15/77	0540	9:05	351	52.66N	167.10E	-54.	.083	.271	.31
7/15/77	0550	9:15	351	52.05N	165.25E	-53.	.109	.251	.43
7/15/77	0600	9:25	351	51.40N	163.43E	-54.	.148	.131	1.13
7/15/77	0605	9:30	370	51.06N	162.52E	-48.	.128	.444	.29
7/15/77	0610	9:35	370	50.70N	161.61E	-48.	.184	.329	.56
7/15/77	0615	9:40	370	50.35N	160.73E	-46.	.207	.495	.42
7/15/77	0620	9:45	370	49.98N	159.87E	-45.	.252	.505	.50
7/15/77	0630	9:55	370	49.16N	158.28E	-42.	.270	.568	.48
7/15/77	0640	10:05	370	48.32N	156.73E	-42.	.279	.506	.55
7/15/77	0649	10:14	370	47.47N	155.26E	-42.	.246	.467	.53
7/15/77	0700	10:25	370	46.61N	153.84E	-45.	.239	.559	.43
7/15/77	0705	10:30	371	46.18N	153.16E	-45.	.255	.471	.54
7/15/77	0710	10:35	370	45.74N	152.48E	-45.	.260	.524	.50
7/15/77	0715	10:40	370	45.30N	151.81E	-47.	.251	.435	.58
7/15/77	0720	10:45	370	44.85N	151.16E	-47.	.225	.462	.49
7/15/77	0725	10:50	370	44.41N	150.53E	-46.	.215	.459	.47
7/15/77	0745	11:10	370	42.75N	148.17E	-46.	.058	.090	
7/15/77	0754	11:19	370	41.94N	147.06E	-46.	.038	.075	
7/15/77	0805	11:30	370	41.10N	145.96E	-47.	.031	.047	
7/15/77	0810	11:35	370	40.67N	145.41E	-47.	.024	.054	
7/15/77	0825	11:50	370	39.35N	143.78E	-47.	.019	.057	
7/15/77	0834	11:59	370	38.42N	142.68E	-46.	.014	.054	
7/15/77	0845	12:10	370	37.44N	141.65E	-47.	.014	.059	


HND TO JFK DEPARTURE 15 JUL 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
12.0
ELAPSED TIME IN HOURS

HND TO JFK (PAGE 1 OF 1) DEPARTURE: 15 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .511 CABIN OZONE= .310 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .85 TOTAL OBS IN CABIN: 78
DATA SOURCE: GASP TAPE VL010, FILE 4

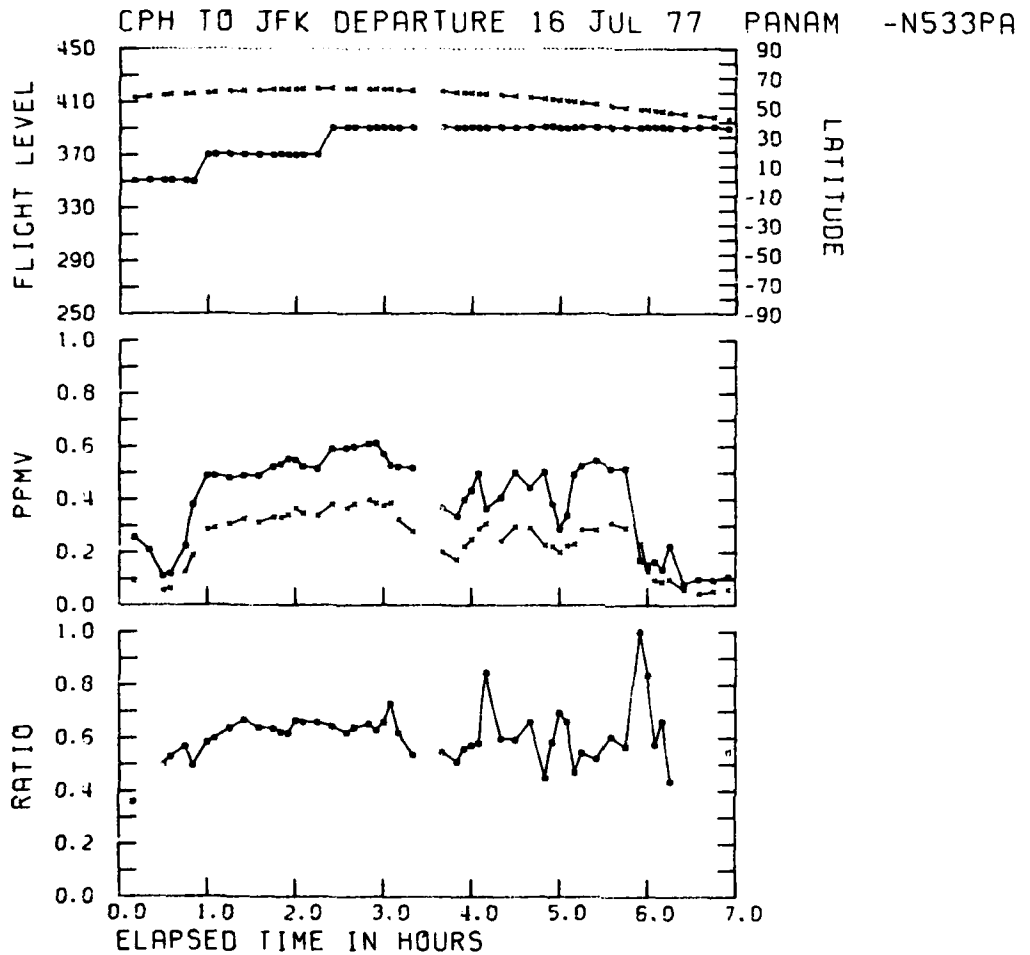
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
7/15/77	1131	0:10	302	35.73N	142.95E	-29.	.006	.054	
7/15/77	1151	0:30	330	37.29N	146.13E	-37.	.016	.035	
7/15/77	1211	0:50	350	38.79N	149.53E	-42.	.008	.055	
7/15/77	1217	0:56	350	39.18N	150.54E	-42.	.016	.054	
7/15/77	1227	1:06	350	39.82N	152.41E	-42.	.032	.179	.18
7/15/77	1237	1:16	350	40.45N	154.38E	-42.	.030	.083	
7/15/77	1242	1:21	350	40.75N	155.39E	-43.	.028	.080	
7/15/77	1257	1:36	350	41.60N	158.44E	-44.	.097	.252	.38
7/15/77	1302	1:41	350	41.86N	159.46E	-45.	.128	.207	.62
7/15/77	1307	1:46	350	42.16N	160.40E	-49.	.138	.284	.49
7/15/77	1312	1:51	350	42.55N	161.25E	-51.	.140	.166	.84
7/15/77	1317	1:56	350	42.94N	162.13E	-51.	.121	.186	.65
7/15/77	1322	2:01	350	43.33N	163.02E	-52.	.087	.158	.55
7/15/77	1332	2:11	350	44.07N	164.83E	-53.	.094	.150	.63
7/15/77	1352	2:31	350	45.46N	168.55E	-52.	.083	.151	.55
7/15/77	1402	2:41	350	46.12N	170.47E	-50.	.148	.270	.55
7/15/77	1407	2:46	370	46.46N	171.45E	-48.	.171	.450	.38
7/15/77	1412	2:51	370	46.80N	172.46E	-47.	.264	.471	.56
7/15/77	1417	2:56	370	47.13N	173.49E	-46.	.284	.511	.56
7/15/77	1422	3:01	370	47.45N	174.53E	-48.	.310	.505	.61
7/15/77	1432	3:11	370	48.07N	176.70E	-49.	.209	.315	.66
7/15/77	1442	3:21	370	48.68N	179.00E	-50.	.060	.103	.58
7/15/77	1452	3:31	370	49.12N	178.57W	-52.	.034	.046	
7/15/77	1502	3:41	370	49.41N	176.12W	-51.	.017	.079	
7/15/77	1512	3:51	370	49.65N	173.61W	-51.	.019	.056	
7/15/77	1517	3:56	370	49.75N	172.41W	-51.	.009	.045	
7/15/77	1522	4:01	370	49.83N	171.19W	-51.	.006	.045	
7/15/77	1527	4:06	370	49.90N	169.96W	-51.	.000	.034	
7/15/77	1549	4:28	370	50.61N	164.47W	-51.	.000	.039	
7/15/77	1559	4:38	370	50.85N	161.91W	-52.	.000	.022	
7/15/77	1609	4:48	370	51.03N	159.28W	-52.	.005	.043	
7/15/77	1614	4:53	370	51.07N	157.95W	-52.	.007	.042	
7/15/77	1624	5:03	370	51.11N	155.18W	-51.	.018	.050	
7/15/77	1639	5:18	370	51.04N	151.04W	-49.	.026	.290	.09
7/15/77	1649	5:28	370	51.05N	148.46W	-47.	.176	.357	.49
7/15/77	1659	5:38	370	51.10N	145.90W	-48.	.156	.365	.43
7/15/77	1709	5:48	370	51.09N	143.37W	-52.	.171	.350	.49
7/15/77	1714	5:53	370	51.07N	142.11W	-55.	.156	.246	.63
7/15/77	1719	5:58	370	51.03N	140.84W	-55.	.117	.137	.85
7/15/77	1724	6:03	370	50.95N	139.61W	-55.	.065	.124	.52
7/15/77	1729	6:08	370	50.80N	138.41W	-55.	.046	.113	.41
7/15/77	1739	6:18	370	50.46N	136.05W	-55.	.011	.040	
7/15/77	1749	6:28	370	50.09N	133.78W	-55.	.006	.075	
7/15/77	1759	6:38	370	49.67N	131.57W	-56.	.014	.066	
7/15/77	1809	6:48	370	49.32N	129.36W	-57.	.033	.150	.22
7/15/77	1814	6:53	370	49.25N	128.27W	-57.	.040	.107	.37
7/15/77	1819	6:58	370	49.17N	127.15W	-57.	.041	.104	.39
7/15/77	1824	7:03	370	49.06N	126.04W	-57.	.030	.083	
7/15/77	1829	7:08	370	48.94N	124.93W	-56.	.030	.090	
7/15/77	1839	7:18	370	48.66N	122.74W	-57.	.015	.099	
7/15/77	1849	7:28	370	48.55N	120.59W	-57.	.006	.048	
7/15/77	1859	7:38	393	48.67N	118.44W	-63.	.014	.040	
7/15/77	1909	7:48	411	48.75N	116.31W	-61.	.138	.370	.37
7/15/77	1914	7:53	410	48.78N	115.22W	-56.	.135	.166	.81
7/15/77	1924	8:03	411	48.80N	112.98W	-60.	.114	.215	.53
7/15/77	1934	8:13	411	48.77N	110.74W	-61.	.056	.122	.46
7/15/77	1944	8:23	410	48.71N	108.52W	-62.	.043	.195	.22
7/15/77	1954	8:33	411	48.60N	106.34W	-62.	.035	.088	
7/15/77	2004	8:43	411	48.52N	104.16W	-62.	.046	.096	
7/15/77	2009	8:48	410	48.32N	103.11W	-61.	.048	.270	.18
7/15/77	2014	8:53	410	48.22N	102.00W	-60.	.105	.273	.38
7/15/77	2019	8:58	410	48.11N	100.90W	-56.	.180	.469	.38
7/15/77	2024	9:03	410	47.99N	99.81W	-57.	.198	.429	.46
7/15/77	2034	9:13	410	47.71N	97.61W	-58.	.176	.346	.51
7/15/77	2044	9:23	410	47.38N	95.40W	-58.	.136	.286	.48
7/15/77	2054	9:33	410	47.02N	93.22W	-60.	.114	.251	.45
7/15/77	2104	9:43	410	46.61N	91.06W	-60.	.103	.193	.53
7/15/77	2109	9:48	410	46.39N	89.98W	-61.	.074	.124	.60
7/15/77	2114	9:53	410	46.19N	88.91W	-60.	.047	.138	.34
7/15/77	2119	9:58	410	45.98N	87.86W	-61.	.045	.142	.32
7/15/77	2134	10:13	410	45.31N	84.85W	-61.	.032	.090	
7/15/77	2144	10:23	410	44.83N	82.91W	-62.	.020	.083	
7/15/77	2154	10:33	410	44.32N	81.01W	-61.	.028	.143	.20
7/15/77	2204	10:43	410	43.81N	79.24W	-62.	.031	.104	.30
7/15/77	2209	10:48	410	43.43N	78.47W	-61.	.021	.109	.19
7/15/77	2217	10:56	410	42.83N	77.23W	-60.	.026	.100	
7/15/77	2222	11:01	410	42.49N	76.42W	-61.	.021	.109	.19
7/15/77	2227	11:06	411	42.17N	75.62W	-61.	.025	.097	


JFK TO CPH DEPARTURE 16 JUL 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
ELAPSED TIME IN HOURS

JFK TO CPH (PAGE 1 OF 1) DEPARTURE: 16 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .610 CABIN OZONE= .324 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .95 TOTAL OBS IN CABIN: 47
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
7/16/77	0223	0:10	366	41.48N	71.41W	-49.	.039	.102	.38
7/16/77	0233	0:20	390	42.55N	70.30W	-54.	.046	.089	
7/16/77	0243	0:30	390	43.53N	69.04W	-54.	.061	.108	.56
7/16/77	0253	0:40	390	44.39N	67.51W	-54.	.065	.100	
7/16/77	0258	0:45	390	44.82N	66.73W	-54.	.056	.103	.54
7/16/77	0303	0:50	390	45.24N	65.93W	-54.	.047	.094	
7/16/77	0308	0:55	390	45.66N	65.12W	-54.	.039	.100	
7/16/77	0313	1:00	390	46.06N	64.32W	-55.	.033	.089	
7/16/77	0323	1:10	390	46.85N	62.68W	-54.	.040	.097	
7/16/77	0333	1:20	390	47.63N	60.99W	-54.	.033	.100	
7/16/77	0343	1:30	390	48.38N	59.24W	-54.	.032	.099	
7/16/77	0353	1:40	390	49.10N	57.43W	-54.	.038	.090	
7/16/77	0358	1:45	390	49.45N	56.51W	-54.	.034	.089	
7/16/77	0403	1:50	390	49.82N	55.61W	-53.	.029	.091	
7/16/77	0413	2:00	390	50.59N	53.83W	-53.	.013	.088	
7/16/77	0423	2:10	390	51.37N	51.90W	-54.	.038	.156	.24
7/16/77	0433	2:20	410	52.11N	49.94W	-54.	.073	.182	.40
7/16/77	0443	2:30	410	52.43N	47.68W	-55.	.108	.312	.35
7/16/77	0448	2:35	410	52.57N	46.52W	-54.	.135	.327	.41
7/16/77	0453	2:40	410	52.70N	45.35W	-52.	.136	.397	.34
7/16/77	0458	2:45	410	52.82N	44.19W	-52.	.157	.341	.46
7/16/77	0503	2:50	410	52.93N	43.02W	-51.	.179	.234	.76
7/16/77	0508	2:55	410	53.03N	41.81W	-49.	.164	.415	.40
7/16/77	0518	3:05	410	53.22N	39.44W	-48.	.195	.481	.41
7/16/77	0528	3:15	410	53.52N	37.11W	-47.	.193	.523	.37
7/16/77	0538	3:25	410	53.80N	34.64W	-46.	.224	.522	.43
7/16/77	0548	3:35	410	54.02N	32.18W	-47.	.235	.522	.45
7/16/77	0553	3:40	410	54.11N	30.93W	-46.	.236	.522	.45
7/16/77	0558	3:45	410	54.19N	29.67W	-46.	.279	.537	.52
7/16/77	0603	3:50	410	54.24N	28.39W	-47.	.288	.540	.53
7/16/77	0608	3:55	410	54.28N	27.10W	-47.	.131	.533	.25
7/16/77	0618	4:05	410	54.31N	24.53W	-46.	.136	.490	.28
7/16/77	0628	4:15	410	54.29N	21.98W	-48.	.268	.413	.65
7/16/77	0648	4:35	410	54.25N	16.91W	-48.	.247	.514	.48
7/16/77	0653	4:40	410	54.24N	15.63W	-48.	.270	.529	.51
7/16/77	0658	4:45	410	54.25N	14.32W	-49.	.287	.528	.54
7/16/77	0708	4:55	410	54.40N	11.86W	-48.	.284	.527	.54
7/16/77	0718	5:05	410	54.55N	9.37W	-46.	.262	.531	.49
7/16/77	0728	5:15	410	55.19N	7.14W	-46.	.252	.541	.47
7/16/77	0738	5:25	410	55.69N	4.74W	-43.	.313	.558	.56
7/16/77	0748	5:35	410	55.90N	2.16W	-46.	.287	.538	.53
7/16/77	0753	5:40	410	55.95N	.84W	-44.	.294	.610	.48
7/16/77	0758	5:45	410	55.99N	.50E	-45.	.324	.559	.58
7/16/77	0803	5:50	410	56.02N	1.82E	-46.	.299	.534	.56
7/16/77	0808	5:55	410	56.03N	3.16E	-44.	.307	.543	.57
7/16/77	0818	6:05	410	56.00N	5.85E	-46.	.289	.472	.61
7/16/77	0828	6:15	410	55.99N	8.52E	-49.	.189	.200	.95

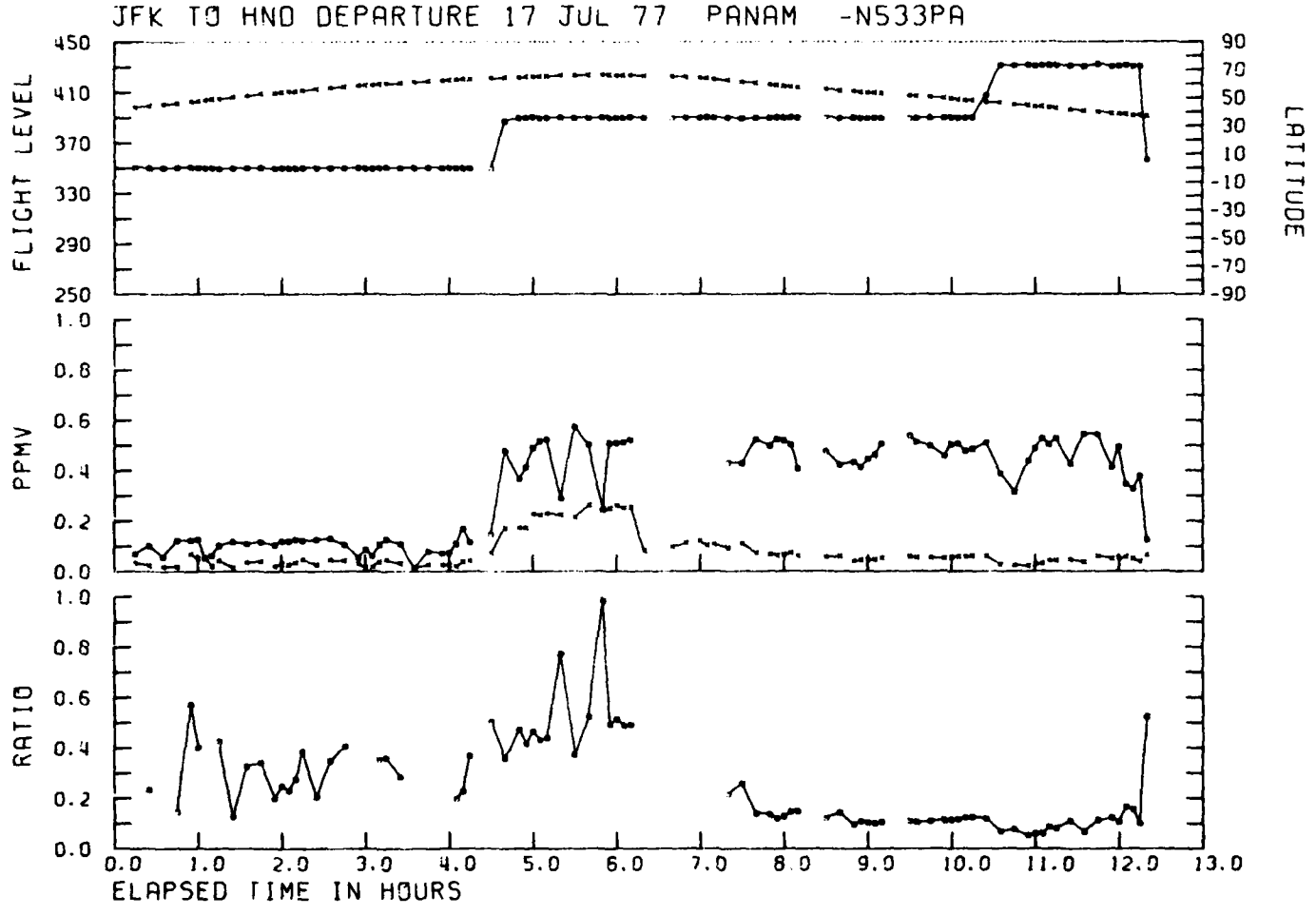

CPH TO JFK DEPARTURE 16 JUL 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
ELAPSED TIME IN HOURS

CPH TO JFK (PAGE 1 OF 1) DEPARTURE: 16 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .612 CABIN OZONE= .398 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.36 TOTAL OBS IN CABIN: 52
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
7/16/77	1120	0:10	351	56.92N	10.34E	-54.	.093	.258	.36
7/16/77	1130	0:20	351	57.79N	8.57E	-55.		.209	
7/16/77	1140	0:30	351	58.59N	6.50E	-56.	.055	.110	.50
7/16/77	1145	0:35	351	58.94N	5.31E	-55.	.063	.119	.53
7/16/77	1155	0:45	351	59.37N	2.59E	-53.	.127	.224	.57
7/16/77	1200	0:50	350	59.57N	1.24E	-51.	.188	.379	.50
7/16/77	1210	1:00	370	59.93N	1.50W	-47.	.285	.489	.58
7/16/77	1215	1:05	370	60.28N	2.72W	-48.	.292	.489	.60
7/16/77	1225	1:15	370	60.94N	5.22W	-48.	.305	.480	.64
7/16/77	1235	1:25	370	61.53N	7.76W	-47.	.326	.489	.67
7/16/77	1245	1:35	371	62.05N	10.39W	-46.	.313	.490	.64
7/16/77	1255	1:45	370	62.41N	13.22W	-44.	.331	.522	.63
7/16/77	1300	1:50	370	62.56N	14.62W	-43.	.331	.532	.62
7/16/77	1305	1:55	370	62.70N	16.07W	-42.	.341	.553	.62
7/16/77	1310	2:00	370	62.82N	17.50W	-42.	.365	.549	.66
7/16/77	1315	2:05	370	62.93N	18.98W	-42.	.346	.524	.66
7/16/77	1325	2:15	370	63.05N	21.89W	-41.	.339	.515	.66
7/16/77	1335	2:25	390	63.09N	24.90W	-41.	.379	.589	.64
7/16/77	1345	2:35	391	63.06N	27.96W	-40.	.367	.593	.62
7/16/77	1350	2:40	391	63.02N	29.44W	-41.	.382	.598	.64
7/16/77	1400	2:50	391	62.83N	32.39W	-42.	.398	.610	.65
7/16/77	1405	2:55	391	62.71N	33.85W	-42.	.385	.612	.63
7/16/77	1410	3:00	391	62.57N	35.28W	-43.	.376	.571	.66
7/16/77	1415	3:05	391	62.42N	36.70W	-44.	.386	.529	.73
7/16/77	1420	3:10	391	62.25N	38.09W	-46.	.324	.523	.62
7/16/77	1430	3:20	391	61.84N	40.78W	-48.	.278	.518	.54
7/16/77	1450	3:40	391	60.98N	45.72W	-54.	.201	.368	.55
7/16/77	1500	3:50	391	60.47N	48.03W	-53.	.172	.337	.51
7/16/77	1505	3:55	391	60.20N	49.20W	-51.	.223	.399	.56
7/16/77	1510	4:00	391	59.91N	50.34W	-49.	.248	.434	.57
7/16/77	1515	4:05	391	59.60N	51.42W	-49.	.288	.497	.58
7/16/77	1520	4:10	391	59.27N	52.51W	-48.	.307	.364	.84
7/16/77	1530	4:20	391	58.60N	54.62W	-45.	.243	.407	.60
7/16/77	1540	4:30	391	57.88N	56.69W	-45.	.297	.501	.59
7/16/77	1550	4:40	391	57.09N	58.59W	-44.	.292	.443	.66
7/16/77	1600	4:50	391	56.97N	59.72W	-46.	.225	.502	.45
7/16/77	1605	4:55	391	55.41N	60.29W	-43.	.222	.381	.58
7/16/77	1610	5:00	391	55.02N	61.17W	-43.	.200	.288	.69
7/16/77	1615	5:05	390	54.52N	61.85W	-46.	.224	.339	.66
7/16/77	1620	5:10	391	53.97N	62.41W	-47.	.231	.492	.47
7/16/77	1625	5:15	391	53.42N	62.94W	-48.	.285	.525	.54
7/16/77	1635	5:25	391	52.33N	63.97W	-48.	.283	.545	.52
7/16/77	1645	5:35	391	51.23N	64.94W	-52.	.312	.516	.60
7/16/77	1655	5:45	391	50.13N	65.87W	-53.	.293	.517	.57
7/16/77	1705	5:55	391	49.00N	66.76W	-56.	.232	.171	1.36
7/16/77	1710	6:00	391	48.45N	67.18W	-56.	.128	.153	.84
7/16/77	1715	6:05	391	47.90N	67.60W	-56.	.094	.164	.57
7/16/77	1720	6:10	391	47.33N	68.01W	-56.	.090	.136	.66
7/16/77	1725	6:15	391	46.76N	68.42W	-57.	.097	.223	.43
7/16/77	1735	6:25	390	45.61N	69.20W	-57.	.058	.079	
7/16/77	1745	6:35	391	44.47N	69.99W	-57.	.044	.097	
7/16/77	1755	6:45	391	43.31N	70.81W	-58.	.052	.094	
7/16/77	1805	6:55	390	42.12N	71.63W	-57.	.059	.108	.55

A343


JFK TO HNO DEPARTURE 17 JUL 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
12.0
13.0
ELAPSED TIME IN HOURS

JFK TO HNO (PAGE 1 OF 2) DEPARTURE: 17 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .572 CABIN OZONE= .263 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .98 TOTAL OBS IN CABIN: 94
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
7/17/77	1655	0:15	350	43.40N	76.12W	-46.	.035	.070	
7/17/77	1705	0:25	350	44.59N	76.93W	-45.	.024	.102	.24
7/17/77	1715	0:35	350	45.61N	77.99W	-47.	.020	.058	
7/17/77	1725	0:45	350	46.61N	79.08W	-47.	.018	.123	.15
7/17/77	1735	0:55	351	47.63N	80.25W	-50.	.071	.124	.57
7/17/77	1740	1:00	350	48.14N	80.86W	-51.	.051	.127	.40
7/17/77	1745	1:05	350	48.64N	81.46W	-51.	.055	.053	
7/17/77	1750	1:10	350	49.11N	82.06W	-51.	.022	.064	
7/17/77	1755	1:15	350	49.60N	82.64W	-51.	.044	.103	.43
7/17/77	1805	1:25	350	50.66N	83.66W	-52.	.015	.117	.13
7/17/77	1815	1:35	350	51.68N	84.70W	-52.	.036	.110	.33
7/17/77	1825	1:45	350	52.66N	85.76W	-52.	.040	.117	.34
7/17/77	1835	1:55	350	53.61N	86.83W	-52.	.021	.105	.20
7/17/77	1840	2:00	350	54.07N	87.38W	-52.	.030	.120	.25
7/17/77	1845	2:05	350	54.53N	87.94W	-52.	.028	.121	.23
7/17/77	1850	2:10	350	54.98N	88.51W	-53.	.035	.127	.28
7/17/77	1855	2:15	350	55.43N	89.09W	-53.	.047	.122	.39
7/17/77	1905	2:25	350	56.33N	90.31W	-54.	.026	.126	.21
7/17/77	1915	2:35	350	57.20N	91.60W	-54.	.045	.129	.35
7/17/77	1925	2:45	350	58.07N	92.97W	-55.	.043	.106	.41
7/17/77	1935	2:55	350	58.85N	94.57W	-55.	.032	.056	
7/17/77	1940	3:00	350	59.13N	95.54W	-55.	.016	.087	
7/17/77	1945	3:05	350	59.47N	96.46W	-55.	.018	.062	
7/17/77	1950	3:10	350	59.81N	97.40W	-55.	.038	.107	.36
7/17/77	1955	3:15	350	60.14N	98.40W	-56.	.046	.128	.36
7/17/77	2005	3:25	350	60.81N	100.49W	-56.	.031	.109	.28
7/17/77	2015	3:35	350	61.46N	102.73W	-57.	.018	.015	
7/17/77	2025	3:45	350	62.07N	105.05W	-57.	.026	.079	
7/17/77	2035	3:55	350	62.64N	107.47W	-57.	.026	.072	
7/17/77	2040	4:00	350	62.91N	108.73W	-58.	.023	.073	
7/17/77	2045	4:05	350	63.16N	110.00W	-57.	.022	.110	.20
7/17/77	2050	4:10	350	63.41N	111.29W	-57.	.039	.171	.23
7/17/77	2055	4:15	350	63.65N	112.63W	-58.	.043	.117	.37
7/17/77	2110	4:30	350	64.29N	116.81W	-57.	.074	.147	.50
7/17/77	2120	4:40	387	64.66N	119.75W	-46.	.171	.478	.36
7/17/77	2130	4:50	390	64.98N	122.91W	-47.	.174	.368	.47
7/17/77	2135	4:55	390	65.11N	124.50W	-48.	.172	.413	.42
7/17/77	2140	5:00	390	65.22N	126.10W	-48.	.228	.491	.46
7/17/77	2145	5:05	390	65.39N	127.67W	-47.	.223	.517	.43
7/17/77	2150	5:10	390	65.59N	129.26W	-45.	.229	.523	.44
7/17/77	2200	5:20	390	65.92N	132.48W	-46.	.224	.290	.77
7/17/77	2210	5:30	390	66.19N	135.80W	-44.	.214	.572	.37
7/17/77	2220	5:40	390	66.39N	139.19W	-44.	.263	.503	.52
7/17/77	2230	5:50	390	66.47N	142.65W	-44.	.241	.245	.98
7/17/77	2235	5:55	390	66.44N	144.39W	-45.	.251	.509	.49
7/17/77	2240	6:00	390	66.39N	146.12W	-45.	.262	.510	.51
7/17/77	2245	6:05	390	66.33N	147.84W	-46.	.251	.512	.49
7/17/77	2250	6:10	390	66.24N	149.57W	-46.	.257	.522	.49
7/17/77	2300	6:20	390	66.02N	152.95W	-45.	.081		
7/17/77	2320	6:40	390	65.36N	159.42W	-48.	.098		
7/17/77	2330	6:50	390	64.93N	162.50W	-49.	.114		
7/17/77	2340	7:00	390	64.41N	165.48W	-51.	.120		
7/17/77	2345	7:05	390	63.97N	166.69W	-52.	.104		
7/17/77	2350	7:10	390	63.52N	167.87W	-53.	.108		8
7/18/77	0000	7:20	390	62.60N	170.12W	-54.	.094	.432	.22
7/18/77	0010	7:30	390	61.68N	172.24W	-53.	.111	.430	.26
7/18/77	0020	7:40	390	60.72N	174.27W	-49.	.074	.525	.148
7/18/77	0030	7:50	390	59.73N	176.18W	-49.	.068	.499	.148
7/18/77	0035	7:55	390	59.21N	177.10W	-49.	.064	.525	.128
7/18/77	0040	8:00	390	58.69N	177.99W	-48.	.067	.521	.138
7/18/77	0045	8:05	390	58.17N	178.87W	-48.	.074	.504	.158
7/18/77	0050	8:10	390	57.64N	179.70W	-49.	.061	.408	.158
7/18/77	0110	8:30	390	56.26N	176.07E	-51.	.058	.476	.128
7/18/77	0120	8:40	390	55.56N	174.04E	-50.	.061	.425	.148
7/18/77	0130	8:50	390	54.83N	172.07E	-49.	.042	.436	.108
7/18/77	0135	8:55	390	54.45N	171.10E	-49.	.045	.415	.118
7/18/77	0140	9:00	390	54.07N	170.16E	-48.	.046	.446	.108
7/18/77	0145	9:05	390	53.73N	169.17E	-47.	.047	.462	.108
7/18/77	0150	9:10	390	53.38N	168.18E	-46.	.054	.508	.118
7/18/77	0210	9:30	390	51.92N	164.32E	-43.	.059	.539	.118
7/18/77	0215	9:35	390	51.54N	163.41E	-43.	.054	.514	.118
7/18/77	0225	9:45	390	50.75N	161.61E	-43.	.055	.500	.118
7/18/77	0235	9:55	390	50.00N	160.00E	-42.	.052	.458	.118
7/18/77	0240	10:00	390	49.51N	159.02E	-43.	.058	.505	.118
7/18/77	0245	10:05	390	49.06N	158.17E	-44.	.059	.508	.128
7/18/77	0250	10:10	390	48.63N	157.36E	-44.	.059	.479	.128
7/18/77	0255	10:15	390	48.18N	156.56E	-44.	.061	.485	.138
7/18/77	0305	10:25	408	47.30N	155.04E	-46.	.061	.512	.128
7/18/77	0315	10:35	431	46.39N	153.55E	-48.	.027	.389	.078
7/18/77	0325	10:45	431	45.47N	152.13E	-51.	.024	.315	.088
7/18/77	0335	10:55	431	44.53N	150.75E	-52.	.023	.439	.058
7/18/77	0340	11:00	431	44.06N	150.08E	-52.	.029	.488	.068
7/18/77	0345	11:05	431	44.04N	150.06E	-52.	.032	.528	.068
7/18/77	0350	11:10	431	43.14N	148.77E	-52.	.044	.504	.098
7/18/77	0355	11:15	431	42.68N	148.13E	-54.	.042	.528	.088
7/18/77	0405	11:25	431	41.77N	146.92E	-55.	.047	.427	.118
7/18/77	0415	11:35	431	40.88N	145.78E	-54.	.037	.546	.078
7/18/77	0425	11:45	432	39.96N	144.63E	-56.	.062	.543	.118
7/18/77	0435	11:55	431	39.08N	143.53E	-57.	.051	.414	.128
7/18/77	0440	12:00	431	38.65N	143.01E	-58.	.053	.493	.118
7/18/77	0445	12:05	431	38.21N	142.48E	-58.	.058	.348	.178
7/18/77	0450	12:10	431	37.78N	141.97E	-59.	.051	.328	.168

A-36F

AIRCRAFT: PANAM -N533PA

JFK TO HND (PAGE 2 OF 2) DEPARTURE: 17 JUL 77 TOTAL OBS IN CABIN: 94

MAXIMUM VALUES: AMBIENT OZONE= .572 CABIN OZONE= .263 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .98

DATA SOURCE: GASP TAPE VL010. FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	AMB.	RATIO
7/18/77	0455	12:15	431	37.43N	141.41E	-61.	.038	.377	.108
7/18/77	0500	12:20	356	37.02N	140.88E	-49.	.066	.126	.52

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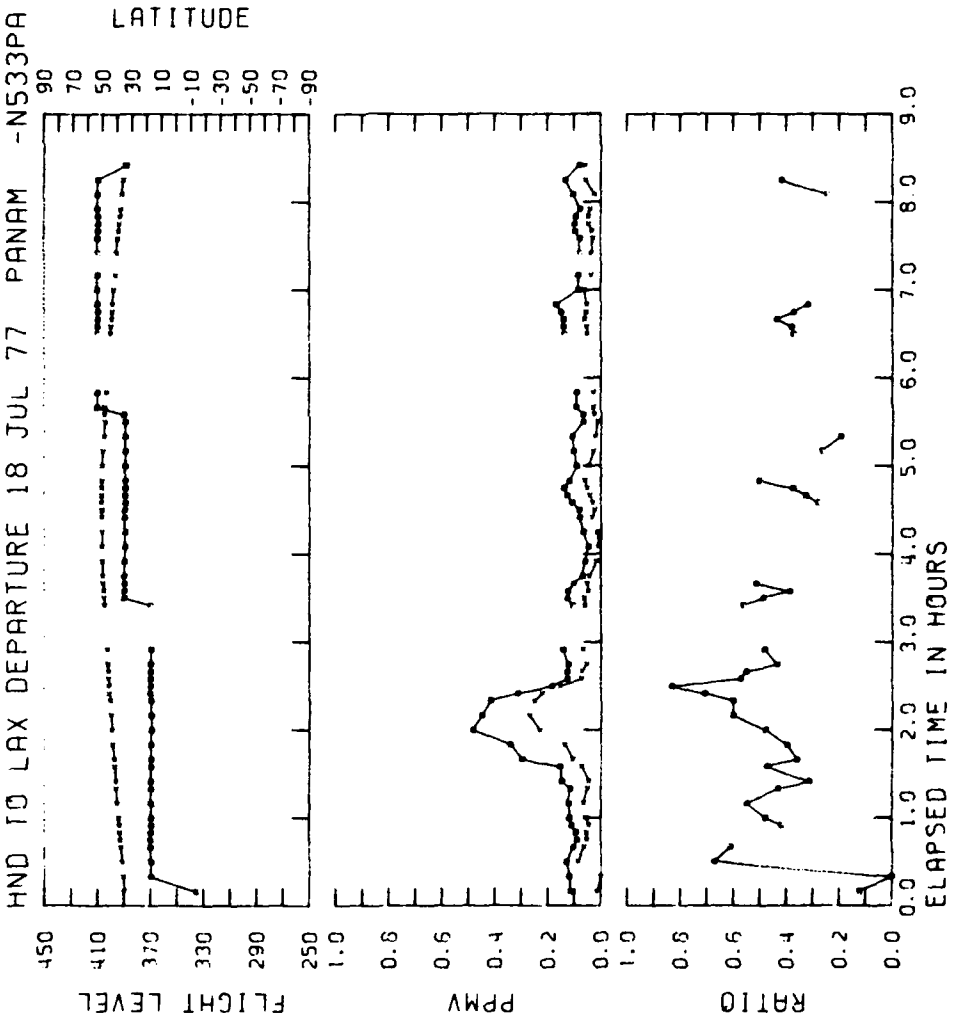
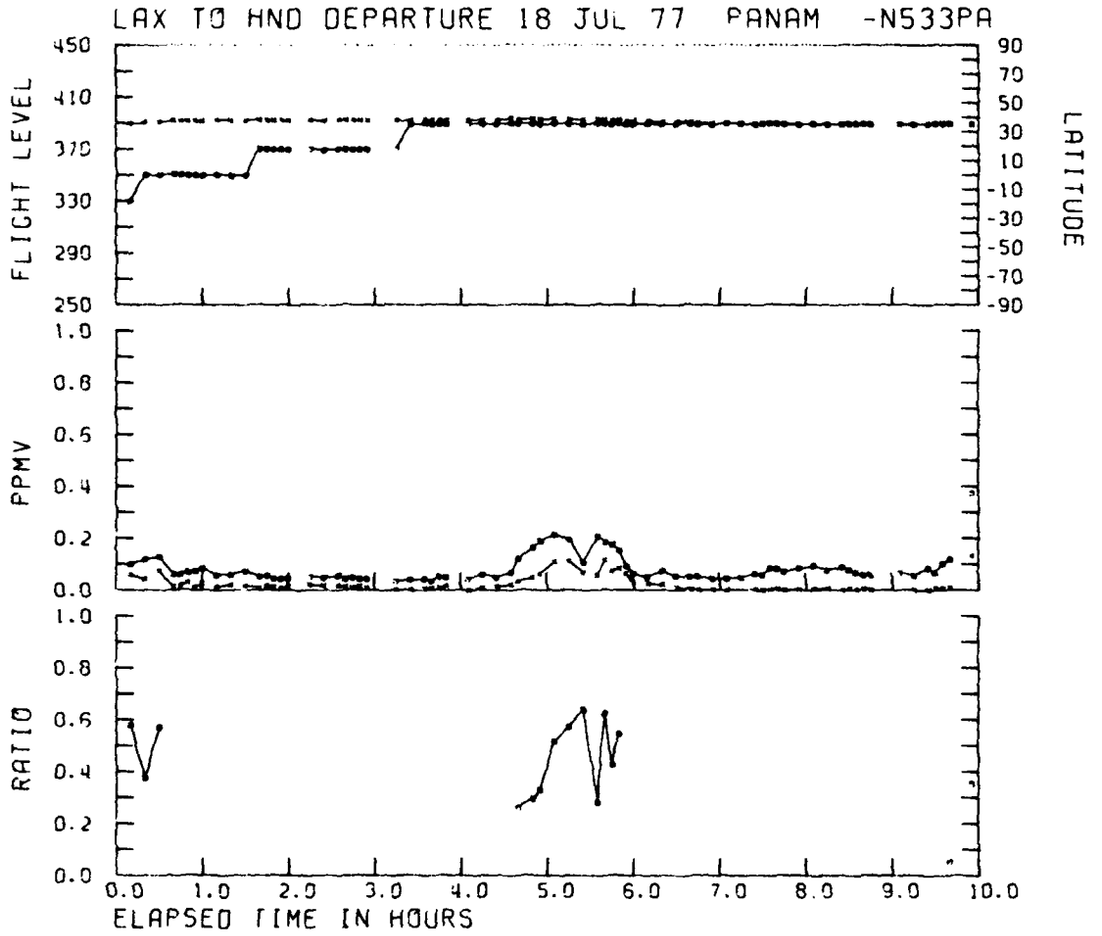

HND TO LAX DEPARTURE 18 JUL 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0
ELAPSED TIME IN HOURS

HND TO LAX (PAGE 1 OF 1) DEPARTURE: 18 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .483 CABIN OZONE= .270 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .83 TOTAL OBS IN CABIN: 60
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
7/18/77	0721	0:10	336	35.77N	142.95E	-41.	.014	.114	.12
7/18/77	0731	0:20	370	36.56N	144.53E	-51.	.000	.119	.00
7/18/77	0741	0:30	370	37.33N	146.16E	-51.	.088	.131	.67
7/18/77	0751	0:40	370	38.09N	147.86E	-52.	.064	.105	.61
7/18/77	0756	0:45	370	38.47N	148.74E	-52.	.052	.089	
7/18/77	0801	0:50	370	38.84N	149.63E	-53.	.054	.093	
7/18/77	0806	0:55	369	39.23N	150.51E	-53.	.046	.110	.42
7/18/77	0811	1:00	370	39.63N	151.36E	-52.	.057	.119	.48
7/18/77	0821	1:10	369	40.40N	153.14E	-52.	.067	.122	.55
7/18/77	0831	1:20	370	41.16N	154.98E	-52.	.049	.114	.43
7/18/77	0836	1:25	370	41.53N	155.93E	-53.	.046	.147	.31
7/18/77	0846	1:35	370	42.26N	157.89E	-54.	.073	.154	.47
7/18/77	0854	1:43	370	42.82N	159.47E	-54.	.107	.297	.36
7/18/77	0904	1:53	370	43.51N	161.46E	-52.	.136	.341	.40
7/18/77	0914	2:03	369	44.16N	163.44E	-49.	.231	.483	.48
7/18/77	0924	2:13	369	44.77N	165.43E	-47.	.270	.449	.60
7/18/77	0934	2:23	370	45.34N	167.43E	-51.	.250	.416	.60
7/18/77	0939	2:28	370	45.61N	168.46E	-55.	.222	.314	.71
7/18/77	0944	2:33	370	45.88N	169.50E	-57.	.152	.183	.83
7/18/77	0949	2:38	370	46.19N	170.53E	-57.	.072	.126	.57
7/18/77	0954	2:43	370	46.54N	171.52E	-57.	.070	.127	.55
7/18/77	0959	2:48	370	46.88N	172.53E	-57.	.053	.122	.43
7/18/77	1009	2:58	369	47.52N	174.55E	-58.	.069	.143	.48
7/18/77	1039	3:28	370	49.24N	179.03W	-56.	.059	.105	.56
7/18/77	1044	3:33	390	49.49N	177.96W	-61.	.061	.125	.49
7/18/77	1049	3:38	390	49.74N	176.84W	-61.	.048	.124	.39
7/18/77	1054	3:43	389	49.98N	175.73W	-60.	.053	.103	.51
7/18/77	1059	3:48	390	50.21N	174.60W	-60.	.042	.068	
7/18/77	1109	3:58	389	50.63N	172.29W	-60.	.016	.059	
7/18/77	1119	4:08	389	50.99N	170.02W	-61.	.010	.047	
7/18/77	1129	4:18	389	51.02N	167.65W	-60.	.015	.067	
7/18/77	1139	4:28	389	51.07N	165.26W	-59.	.033	.080	
7/18/77	1144	4:33	389	51.07N	164.06W	-58.	.023	.082	
7/18/77	1149	4:38	389	51.06N	162.84W	-58.	.030	.107	.28
7/18/77	1154	4:43	389	51.04N	161.64W	-58.	.041	.126	.33
7/18/77	1159	4:48	389	51.01N	160.43W	-59.	.052	.139	.37
7/18/77	1204	4:53	389	50.88N	159.24W	-58.	.060	.119	.50
7/18/77	1214	5:03	389	50.48N	156.85W	-59.	.045	.090	
7/18/77	1224	5:13	389	50.03N	154.54W	-59.	.027	.102	.26
7/18/77	1234	5:23	389	49.53N	152.19W	-58.	.021	.108	.19
7/18/77	1244	5:33	389	48.96N	149.85W	-58.	.013	.068	
7/18/77	1249	5:38	389	48.68N	148.70W	-57.	.027	.069	
7/18/77	1254	5:43	410	48.38N	147.56W	-58.	.026	.091	
7/18/77	1304	5:53	410	47.76N	145.38W	-58.	.028	.091	
7/18/77	1314	6:33	410	44.96N	136.99W	-54.	.051	.137	.37
7/18/77	1319	6:38	410	44.57N	136.00W	-54.	.053	.140	.38
7/18/77	1324	6:43	410	44.18N	135.02W	-54.	.061	.140	.44
7/18/77	1329	6:48	410	43.80N	134.06W	-54.	.056	.150	.37
7/18/77	1334	6:53	410	43.40N	133.13W	-54.	.054	.169	.32
7/18/77	1344	7:03	410	42.60N	131.29W	-57.	.062	.085	
7/18/77	1354	7:13	410	41.80N	129.53W	-58.	.037	.086	
7/18/77	1359	7:28	409	40.69N	127.06W	-60.	.036	.080	
7/18/77	1449	7:38	410	39.86N	125.64W	-59.	.028	.078	
7/18/77	1454	7:43	409	39.40N	125.01W	-60.	.032	.096	
7/18/77	1459	7:48	409	38.93N	124.38W	-60.	.046	.099	
7/18/77	1504	7:53	410	38.45N	123.76W	-59.	.047	.094	
7/18/77	1509	7:58	410	37.95N	123.13W	-59.	.040	.079	
7/18/77	1519	8:08	410	37.02N	121.97W	-60.	.026	.105	.25
7/18/77	1529	8:18	409	36.10N	120.86W	-59.	.056	.134	.42
7/18/77	1539	8:28	388	35.16N	119.78W	-56.	.060	.082	

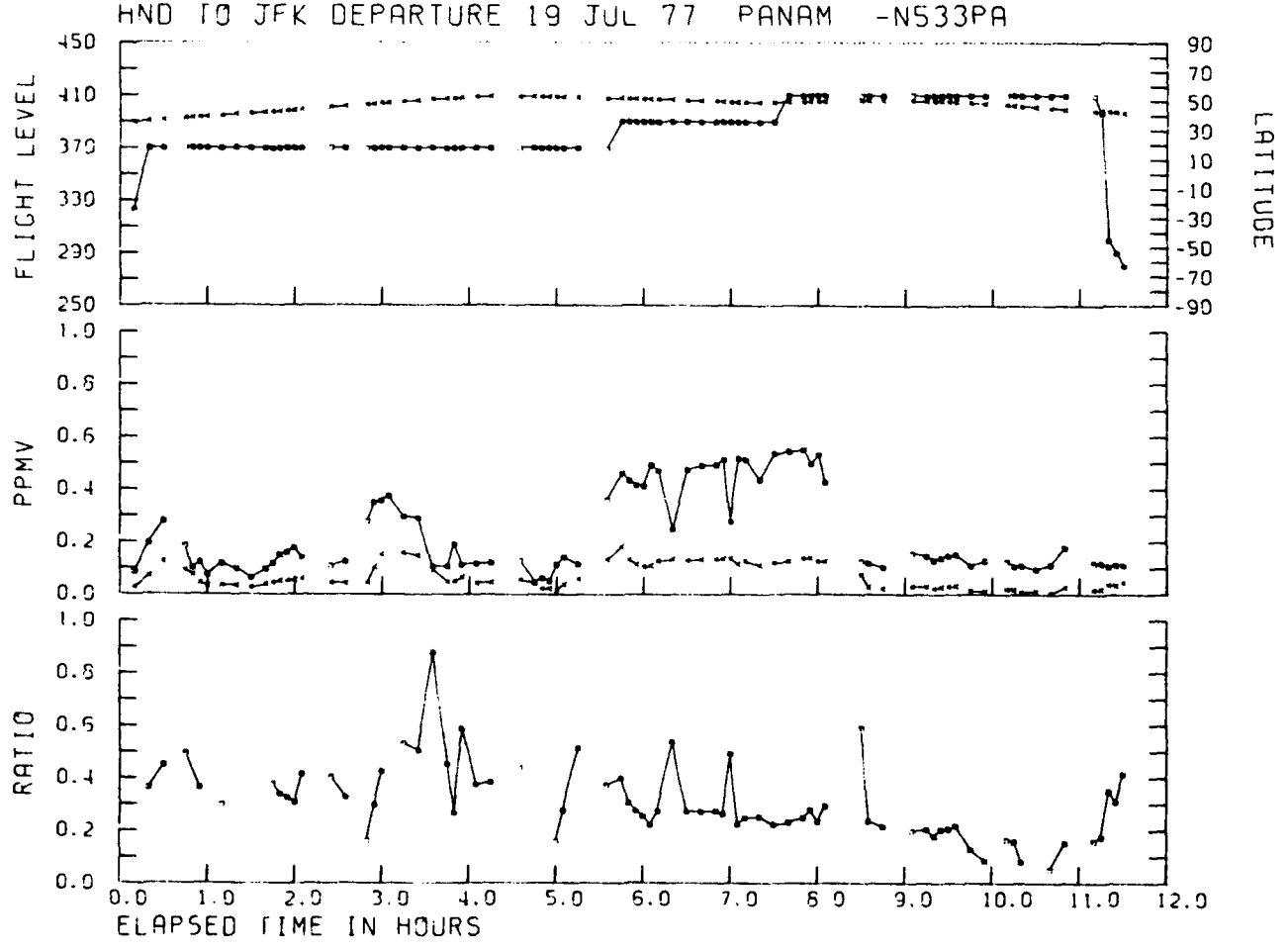

LAX TO HND DEPARTURE 18 JUL 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
ELAPSED TIME IN HOURS

A-350

LAX TO HNL (PAGE 1 OF 1) DEPARTURE: 18 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .374 CABIN OZONE= .132 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .64 TOTAL OBS IN CABIN: 71
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
7/18/77	2032	0:10	330	35.55N	120.46W	-41.	.058	.100	
7/18/77	2042	0:20	350	36.71N	121.58W	-46.	.044	.118	.37
7/18/77	2052	0:30	350	37.24N	123.16W	-47.	.073	.128	.57
7/18/77	2102	0:40	350	37.47N	124.85W	-47.	.015	.062	
7/18/77	2107	0:45	350	37.57N	125.70W	-47.	.017	.059	
7/18/77	2112	0:50	350	37.67N	126.55W	-47.	.029	.068	
7/18/77	2117	0:55	350	37.76N	127.39W	-47.	.013	.072	
7/18/77	2122	1:00	350	37.84N	128.24W	-47.	.024	.083	
7/18/77	2132	1:10	350	37.99N	129.92W	-48.	.014	.058	
7/18/77	2142	1:20	350	38.06N	131.73W	-47.	.020	.059	
7/18/77	2152	1:30	350	38.09N	133.45W	-47.	.017	.073	
7/18/77	2202	1:40	370	38.10N	135.20W	-52.	.007	.052	
7/18/77	2207	1:45	370	38.10N	136.07W	-52.	.015	.053	
7/18/77	2212	1:50	370	38.09N	136.93W	-53.	.013	.045	
7/18/77	2217	1:55	370	38.07N	137.80W	-52.	.007	.043	
7/18/77	2222	2:00	370	38.05N	138.66W	-52.	.012	.045	
7/18/77	2237	2:15	370	38.05N	141.27W	-53.	.020	.051	
7/18/77	2247	2:25	370	38.09N	143.01W	-53.	.017	.048	
7/18/77	2257	2:35	370	38.10N	144.73W	-53.	.017	.056	
7/18/77	2302	2:40	370	38.10N	145.61W	-53.	.011	.043	
7/18/77	2307	2:45	370	38.10N	146.48W	-53.	.007	.045	
7/18/77	2312	2:50	370	38.08N	147.36W	-53.	.015	.044	
7/18/77	2317	2:55	370	38.06N	148.24W	-53.	.009	.042	
7/18/77	2337	3:15	370	38.06N	151.85W	-54.	.002	.034	
7/18/77	2347	3:25	390	38.10N	153.67W	-59.	.000	.039	
7/18/77	2357	3:35	389	38.10N	155.46W	-58.	.007	.043	
7/19/77	0002	3:40	389	38.10N	156.36W	-59.	.005	.033	
7/19/77	0007	3:45	389	38.08N	157.24W	-59.	.008	.050	
7/19/77	0012	3:50	390	38.06N	158.13W	-59.	.017	.050	
7/19/77	0027	4:05	389	38.11N	160.81W	-60.	.001	.044	
7/19/77	0037	4:15	389	38.34N	162.60W	-60.	.008	.059	
7/19/77	0047	4:25	390	38.55N	164.40W	-60.	.015	.049	
7/19/77	0057	4:35	389	38.72N	166.22W	-59.	.021	.068	
7/19/77	0102	4:40	390	38.80N	167.13W	-58.	.031	.118	.26
7/19/77	0112	4:50	389	38.94N	168.96W	-57.	.048	.163	.29
7/19/77	0117	4:55	389	38.99N	169.87W	-56.	.062	.188	.33
7/19/77	0127	5:05	389	38.89N	171.65W	-55.	.111	.215	.52
7/19/77	0137	5:15	389	38.76N	173.39W	-54.	.111	.194	.57
7/19/77	0147	5:25	389	38.60N	175.12W	-54.	.069	.108	.64
7/19/77	0157	5:35	390	38.41N	176.85W	-55.	.058	.206	.28
7/19/77	0202	5:40	390	38.31N	177.71W	-56.	.114	.183	.62
7/19/77	0207	5:45	389	38.20N	178.57W	-57.	.075	.176	.43
7/19/77	0212	5:50	390	38.08N	179.42W	-59.	.083	.152	.55
7/19/77	0217	5:55	389	37.96N	179.73E	-58.	.064	.091	
7/19/77	0222	6:00	389	37.82N	178.90E	-59.	.031	.064	
7/19/77	0232	6:10	389	37.54N	177.26E	-58.	.024	.049	
7/19/77	0242	6:20	390	37.24N	175.63E	-58.	.021	.073	
7/19/77	0252	6:30	389	36.92N	174.03E	-58.	.011	.054	B
7/19/77	0302	6:40	389	36.58N	172.46E	-58.	.000	.049	B
7/19/77	0307	6:45	389	36.40N	171.68E	-57.	.000	.051	B
7/19/77	0317	6:55	389	36.03N	170.14E	-57.	.000	.042	B
7/19/77	0327	7:05	390	35.91N	168.58E	-57.	.000	.044	B
7/19/77	0337	7:15	389	35.79N	167.02E	-56.		.047	
7/19/77	0347	7:25	389	35.65N	165.46E	-56.	.000	.061	B
7/19/77	0352	7:30	390	35.57N	164.68E	-56.	.000	.059	B
7/19/77	0357	7:35	390	35.49N	163.89E	-56.	.001	.082	B
7/19/77	0402	7:40	390	35.40N	163.12E	-55.	.000	.078	B
7/19/77	0407	7:45	390	35.31N	162.36E	-56.	.000	.071	B
7/19/77	0417	7:55	389	35.12N	160.88E	-55.	.001	.083	B
7/19/77	0427	8:05	389	35.02N	159.39E	-55.	.004	.094	B
7/19/77	0437	8:15	389	35.07N	157.87E	-56.	.004	.075	B
7/19/77	0447	8:25	389	35.09N	156.34E	-56.	.001	.088	B
7/19/77	0452	8:30	389	35.10N	155.57E	-56.	.006	.078	B
7/19/77	0457	8:35	389	35.10N	154.81E	-56.	.000	.066	B
7/19/77	0502	8:40	389	35.10N	154.05E	-57.	.000	.054	B
7/19/77	0507	8:45	389	35.09N	153.29E	-56.	.000	.057	B
7/19/77	0527	9:05	389	35.01N	150.37E	-57.		.066	
7/19/77	0537	9:15	389	35.08N	148.95E	-57.	.000	.054	B
7/19/77	0547	9:25	389	35.18N	147.56E	-57.	.000	.084	B
7/19/77	0552	9:30	389	35.22N	146.86E	-58.	.007	.068	B
7/19/77	0557	9:35	389	35.26N	146.16E	-57.	.004	.099	B
7/19/77	0602	9:40	390	35.29N	145.47E	-57.	.006	.116	.058
7/19/77	0617	9:55	389	35.37N	143.31E	-55.	.132	.374	.35

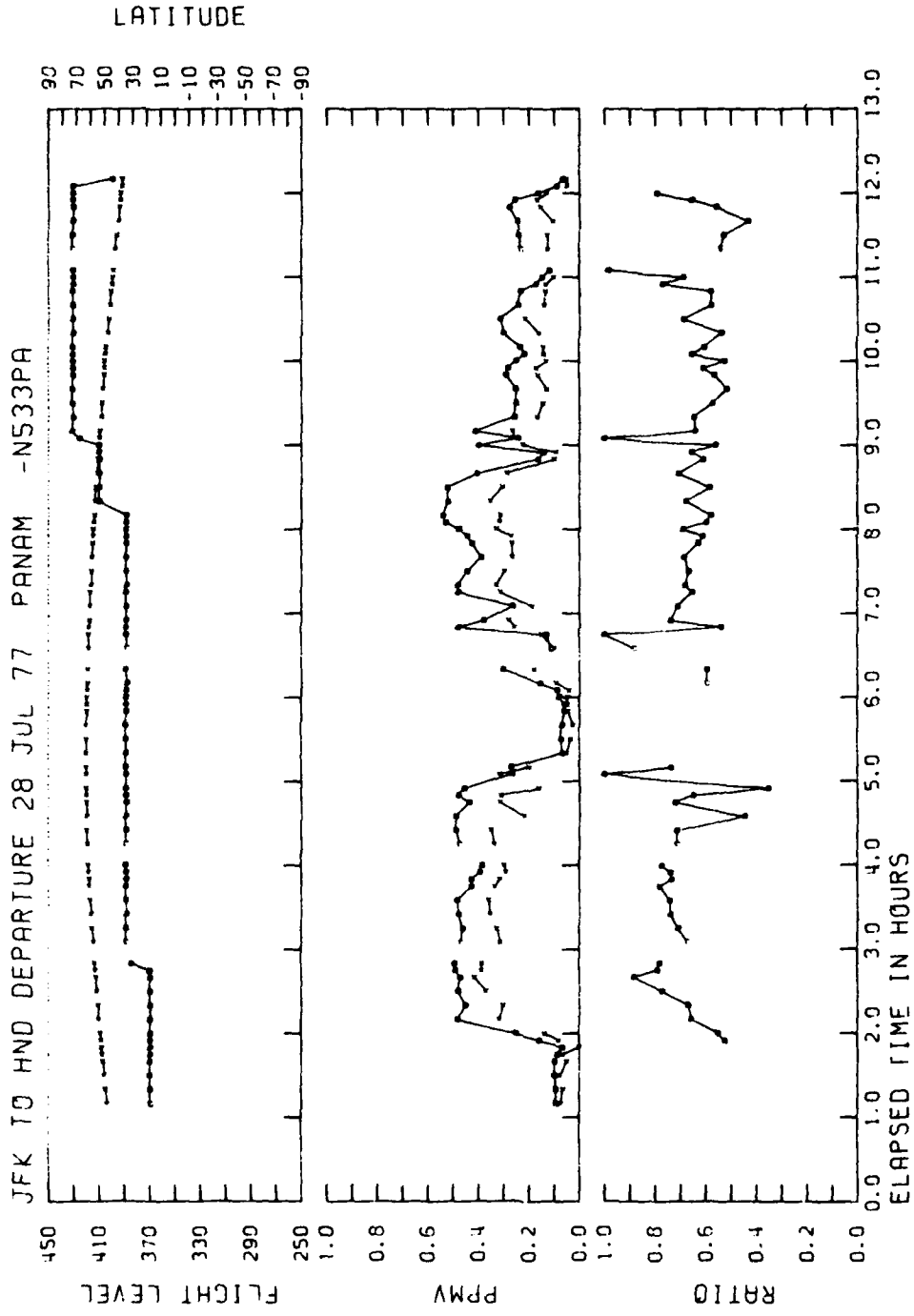

HND TO JFK DEPARTURE 19 JUL 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
12.0
ELAPSED TIME IN HOURS

HND TO JFK (PAGE 1 OF 1) DEPARTURE: 19 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .552 CABIN OZONE= .184 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .88 TOTAL OBS IN CABIN: 80
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
7/19/77	0854	0:10	323	35.50N	142.55E	-42.	.028	.085	
7/19/77	0904	0:20	370	36.32N	143.92E	-50.	.070	.193	.36
7/19/77	0914	0:30	370	37.04N	145.48E	-50.	.125	.278	.45
7/19/77	0929	0:45	370	38.11N	147.96E	-52.	.092	.186	.49
7/19/77	0934	0:50	370	38.47N	148.84E	-54.	.074	.099	
7/19/77	0939	0:55	370	38.83N	149.75E	-54.	.044	.121	.36
7/19/77	0944	1:00	370	39.13N	150.70E	-54.	.032	.075	
7/19/77	0954	1:10	370	39.96N	152.50E	-54.	.035	.117	.30
7/19/77	1004	1:20	370	40.74N	154.32E	-54.	.033	.096	
7/19/77	1014	1:30	370	41.50N	156.18E	-54.	.026	.063	
7/19/77	1024	1:40	370	42.23N	158.10E	-54.	.038	.095	
7/19/77	1029	1:45	369	42.57N	159.03E	-54.	.044	.116	.38
7/19/77	1034	1:50	370	42.90N	159.99E	-55.	.051	.150	.34
7/19/77	1039	1:55	370	43.32N	160.90E	-55.	.052	.159	.33
7/19/77	1044	2:00	370	43.73N	161.82E	-55.	.054	.176	.31
7/19/77	1049	2:05	370	44.13N	162.76E	-56.	.059	.142	.42
7/19/77	1109	2:25	370	45.67N	166.61E	-58.	.044	.109	.40
7/19/77	1119	2:35	370	46.38N	168.57E	-58.	.041	.125	.33
7/19/77	1134	2:50	370	47.57N	171.51E	-57.	.045	.278	.16
7/19/77	1139	2:55	369	48.00N	172.46E	-55.	.104	.349	.30
7/19/77	1144	3:00	370	48.41N	173.41E	-55.	.152	.356	.43
7/19/77	1149	3:05	370	48.81N	174.38E	-55.		.372	
7/19/77	1159	3:15	370	49.62N	176.43E	-56.	.157	.295	.53
7/19/77	1209	3:25	370	50.37N	178.50E	-56.	.146	.289	.51
7/19/77	1219	3:35	370	51.06N	179.34W	-61.	.093	.106	.88
7/19/77	1229	3:45	370	51.67N	177.05W	-60.	.048	.106	.45
7/19/77	1234	3:50	370	51.92N	175.88W	-59.	.051	.190	.27
7/19/77	1239	3:55	370	52.15N	174.67W	-60.	.067	.114	.59
7/19/77	1249	4:05	370	52.56N	172.27W	-59.	.044	.117	.38
7/19/77	1259	4:15	369	52.90N	169.83W	-59.	.046	.120	.38
7/19/77	1319	4:35	370	53.01N	164.77W	-57.	.057	.130	.44
7/19/77	1329	4:45	370	52.98N	162.21W	-57.	.042	.047	
7/19/77	1334	4:50	370	52.94N	160.92W	-57.	.021	.061	
7/19/77	1339	4:55	370	52.89N	159.63W	-57.	.021	.051	
7/19/77	1344	5:00	370	52.80N	158.33W	-57.	.018	.113	.16
7/19/77	1349	5:05	370	52.71N	157.04W	-57.	.039	.142	.27
7/19/77	1359	5:15	370	52.48N	154.51W	-58.	.059	.115	.51
7/19/77	1419	5:35	370	51.91N	149.54W	-52.	.135	.362	.37
7/19/77	1429	5:45	390	51.76N	147.13W	-49.	.184	.461	.40B
7/19/77	1434	5:50	390	51.66N	145.94W	-49.	.132	.434	.30B

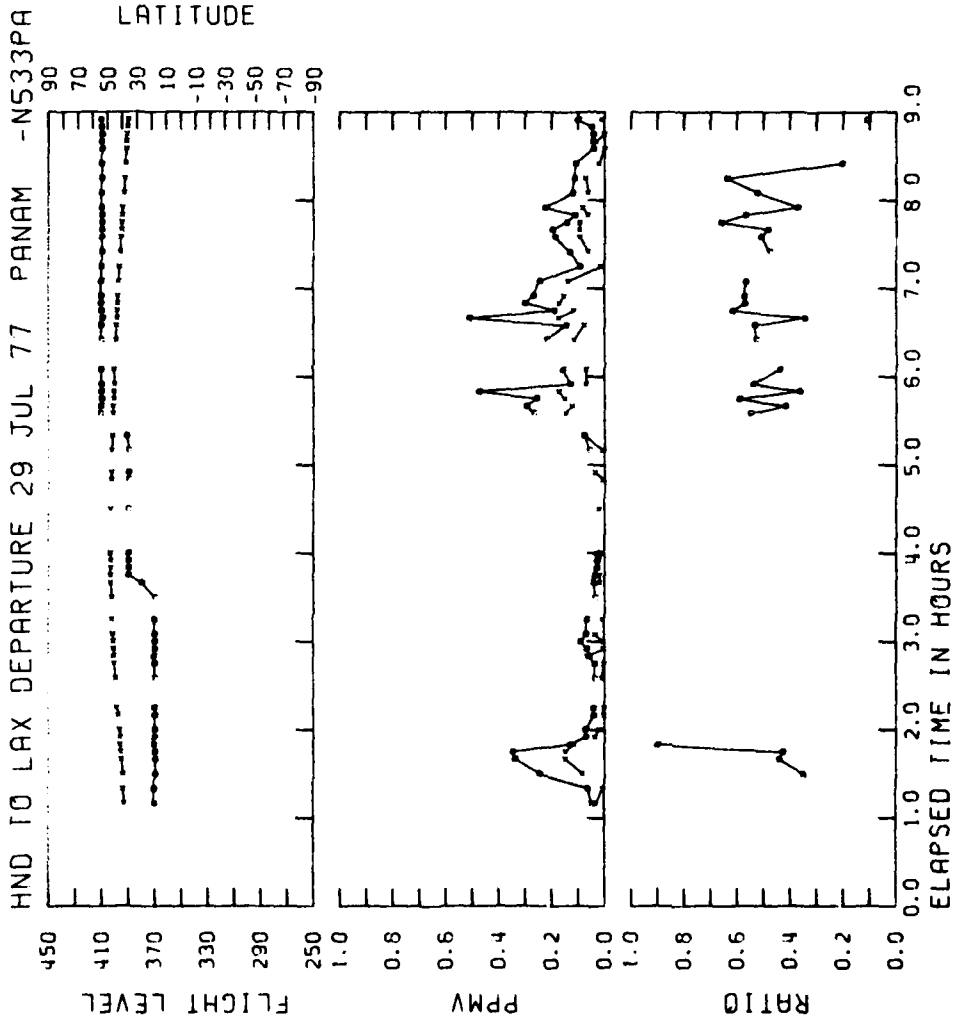
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
7/19/77	1439	5:55	390	51.55N	144.76W	-48.	.115	.417	.288
7/19/77	1444	6:00	390	51.44N	143.58W	-49.	.105	.412	.258
7/19/77	1449	6:05	390	51.30N	142.41W	-48.	.109	.492	.228
7/19/77	1454	6:10	390	51.16N	141.24W	-49.	.128	.471	.278
7/19/77	1504	6:20	390	50.88N	138.95W	-49.	.134	.249	.548
7/19/77	1514	6:30	390	50.58N	136.72W	-50.	.129	.475	.278
7/19/77	1524	6:40	390	50.26N	134.57W	-50.	.133	.491	.278
7/19/77	1534	6:50	390	49.88N	132.42W	-51.	.135	.494	.278
7/19/77	1539	6:55	390	49.69N	131.37W	-51.	.135	.513	.268
7/19/77	1544	7:00	390	49.48N	130.32W	-51.	.137	.279	.498
7/19/77	1549	7:05	390	49.38N	129.24W	-51.	.116	.518	.228
7/19/77	1554	7:10	390	49.32N	128.14W	-51.	.127	.514	.258
7/19/77	1604	7:20	390	49.16N	125.95W	-50.	.110	.437	.258
7/19/77	1614	7:30	390	49.28N	123.73W	-51.	.120	.537	.228
7/19/77	1624	7:40	410	49.44N	121.45W	-49.	.126	.545	.238
7/19/77	1634	7:50	410	49.58N	119.15W	-49.	.137	.552	.258
7/19/77	1639	7:55	410	49.63N	117.99W	-48.	.139	.499	.288
7/19/77	1644	8:00	410	49.67N	116.83W	-48.	.125	.531	.248
7/19/77	1649	8:05	410	49.72N	115.65W	-48.	.125	.427	.298
7/19/77	1714	8:30	410	50.24N	109.53W	-50.	.074	.125	.598
7/19/77	1723	8:39	410	50.47N	107.31W	-51.	.028	.118	.248
7/19/77	1733	8:49	410	50.46N	104.90W	-52.	.022	.102	.228
7/19/77	1753	9:09	410	50.27N	100.00W	-55.	.031	.155	.208
7/19/77	1803	9:19	410	50.29N	97.53W	-56.	.030	.146	.218
7/19/77	1808	9:24	410	50.25N	96.34W	-59.	.023	.129	.188
7/19/77	1813	9:29	410	50.09N	95.16W	-60.	.028	.138	.208
7/19/77	1818	9:34	410	49.76N	94.12W	-60.	.030	.146	.218
7/19/77	1823	9:39	410	49.45N	93.06W	-60.	.033	.151	.228
7/19/77	1833	9:49	410	48.90N	90.94W	-59.	.014	.109	.138
7/19/77	1843	9:59	410	48.32N	88.95W	-59.	.011	.127	.098
7/19/77	1858	10:14	410	47.34N	86.12W	-60.	.021	.126	.178
7/19/77	1903	10:19	410	46.99N	85.20W	-60.	.017	.107	.168
7/19/77	1908	10:24	410	46.65N	84.31W	-61.	.009	.109	.088
7/19/77	1914	10:30	410	46.18N	83.29W	-60.	.012	.095	.8
7/19/77	1924	10:40	410	45.36N	81.70W	-59.	.006	.112	.058
7/19/77	1934	10:50	410	44.50N	80.15W	-60.	.027	.177	.158
7/19/77	1954	11:10	410	43.38N	76.61W	-61.	.019	.119	.168
7/19/77	1959	11:15	397	43.14N	75.70W	-58.	.021	.119	.18
7/19/77	2004	11:20	300	43.05N	74.77W	-33.	.037	.106	.35
7/19/77	2009	11:25	291	42.79N	73.99W	-31.	.035	.113	.31
7/19/77	2014	11:30	280	42.10N	73.73W	-28.	.046	.111	.41


JFK TO HND DEPARTURE 28 JUL 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0 13.0
ELAPSED TIME IN HOURS

JFK TO HND (PAGE 1 OF 1) DEPARTURE: 28 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .540 CABIN OZONE= .415 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.18 TOTAL OBS IN CABIN: 84
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
7/28/77	1745	1:10	370	48.46N	81.46W	-59.	.073	.093	
7/28/77	1755	1:20	369	49.50N	32.54W	-59.	.065	.093	
7/28/77	1805	1:30	370	50.52N	83.66W	-60.	.077	.098	
7/28/77	1815	1:40	370	51.45N	85.04W	-61.	.050	.097	
7/28/77	1820	1:45	370	51.89N	85.73W	-61.	.066	.088	
7/28/77	1825	1:50	370	52.33N	86.43W	-61.	.000	.067	
7/28/77	1830	1:55	370	52.76N	87.14W	-61.	.083	.158	.53
7/28/77	1835	2:00	370	53.18N	87.85W	-59.	.137	.249	.55
7/28/77	1845	2:10	369	53.99N	89.29W	-51.	.316	.481	.66
7/28/77	1855	2:20	370	54.80N	90.83W	-50.	.301	.450	.67
7/28/77	1905	2:30	370	55.60N	92.43W	-48.	.369	.478	.77
7/28/77	1915	2:40	370	56.41N	94.17W	-48.	.415	.470	.88
7/28/77	1920	2:45	370	56.82N	95.10W	-47.	.386	.489	.79
7/28/77	1925	2:50	384	57.20N	96.02W	-47.	.384	.492	.78
7/28/77	1940	3:05	389	58.34N	98.95W	-47.	.314	.467	.67
7/28/77	1950	3:15	389	59.08N	101.03W	-48.	.325	.459	.71
7/28/77	2000	3:25	389	59.77N	103.21W	-49.	.354	.478	.74
7/28/77	2010	3:35	389	60.44N	105.49W	-50.	.356	.483	.74
7/28/77	2020	3:45	389	61.06N	107.88W	-50.	.335	.428	.78
7/28/77	2025	3:50	389	61.35N	109.07W	-49.	.314	.427	.74
7/28/77	2030	3:55	389	61.64N	110.35W	-49.	.290	.393	.74
7/28/77	2035	4:00	389	61.91N	111.59W	-49.	.296	.383	.77
7/28/77	2050	4:15	389	62.59N	115.59W	-49.	.338	.474	.71
7/28/77	2100	4:25	389	62.86N	118.46W	-49.	.347	.487	.71
7/28/77	2110	4:35	389	63.08N	121.39W	-49.	.219	.490	.45
7/28/77	2120	4:45	389	63.23N	124.33W	-49.	.313	.435	.72
7/28/77	2125	4:50	389	63.29N	125.81W	-50.	.310	.477	.65
7/28/77	2130	4:55	389	63.33N	127.34W	-51.	.161	.456	.35
7/28/77	2140	5:05	389	63.37N	130.36W	-55.	.315	.266	1.18
7/28/77	2145	5:10	389	63.37N	131.89W	-56.	.198	.269	.74
7/28/77	2155	5:20	389	63.32N	134.89W	-61.	.051	.068	
7/28/77	2205	5:30	389	63.20N	137.93W	-60.	.034	.072	
7/28/77	2215	5:40	389	63.02N	140.93W	-60.	.027	.068	
7/28/77	2225	5:50	389	62.88N	143.91W	-60.	.046	.060	
7/28/77	2230	5:55	389	62.80N	145.37W	-61.	.047	.058	
7/28/77	2235	6:00	389	62.71N	146.83W	-61.	.047	.080	
7/28/77	2240	6:05	389	62.60N	148.29W	-60.	.043	.090	
7/28/77	2245	6:10	388	62.48N	149.73W	-57.	.093	.156	.60
7/28/77	2255	6:20	389	62.19N	152.61W	-54.	.179	.301	.59
7/28/77	2310	6:35	388	61.65N	156.75W	-51.	.099	.112	.88
7/28/77	2320	6:45	389	61.22N	159.42W	-48.	.147	.128	1.15
7/28/77	2325	6:50	388	60.99N	160.75W	-48.	.258	.477	.54
7/28/77	2330	6:55	389	60.78N	161.94W	-48.	.280	.379	.74
7/28/77	2340	7:05	389	60.46N	164.71W	-45.	.187	.263	.71
7/28/77	2350	7:15	389	60.10N	167.33W	-43.	.313	.478	.65
7/28/77	2355	7:20	388	59.90N	168.60W	-42.	.330	.483	.68
7/29/77	0005	7:30	389	59.47N	171.12W	-40.	.296	.444	.67
7/29/77	0015	7:40	389	58.99N	173.57W	-41.	.267	.389	.69
7/29/77	0025	7:50	388	58.48N	175.93W	-40.	.266	.423	.63
7/29/77	0030	7:55	388	58.20N	177.09W	-40.	.269	.441	.61
7/29/77	0035	8:00	388	57.92N	178.24W	-40.	.329	.476	.69
7/29/77	0040	8:05	389	57.62N	179.37W	-40.	.317	.530	.60
7/29/77	0045	8:10	389	57.31N	179.51E	-40.	.313	.540	.58
7/29/77	0055	8:20	410	56.67N	177.34E	-40.	.351	.519	.68
7/29/77	0105	8:30	410	56.00N	175.28E	-44.	.304	.521	.58
7/29/77	0115	8:40	410	55.30N	173.30E	-46.	.287	.406	.71
7/29/77	0125	8:50	410	54.58N	171.43E	-48.	.100	.164	.61
7/29/77	0130	8:55	410	54.21N	170.51E	-48.	.093	.142	.65
7/29/77	0135	9:00	410	53.86N	169.59E	-52.	.223	.398	.56
7/29/77	0140	9:05	425	53.55N	168.66E	-54.	.259	.240	1.08
7/29/77	0145	9:10	431	53.22N	167.72E	-55.	.264	.411	.64
7/29/77	0155	9:20	431	52.55N	165.91E	-59.	.167	.258	.65
7/29/77	0205	9:30	431	51.86N	164.18E	-61.	.143	.250	.57
7/29/77	0215	9:40	431	51.14N	162.49E	-62.	.130	.252	.52
7/29/77	0225	9:50	431	50.40N	160.85E	-62.	.163	.289	.56
7/29/77	0230	9:55	431	50.04N	160.08E	-61.	.170	.280	.61
7/29/77	0235	10:00	431	49.65N	159.30E	-61.	.131	.250	.52
7/29/77	0240	10:05	431	49.25N	158.52E	-59.	.141	.216	.65
7/29/77	0245	10:10	431	48.83N	157.74E	-59.	.140	.232	.60
7/29/77	0255	10:20	431	47.99N	156.21E	-57.	.162	.301	.54
7/29/77	0305	10:30	431	47.09N	154.69E	-57.	.216	.314	.69
7/29/77	0315	10:40	431	46.17N	153.20E	-57.	.139	.241	.58
7/29/77	0325	10:50	431	45.22N	151.76E	-56.	.135	.233	.58
7/29/77	0330	10:55	431	44.74N	151.05E	-55.	.133	.173	.77
7/29/77	0335	11:00	431	44.26N	150.37E	-55.	.101	.147	.69
7/29/77	0340	11:05	431	43.79N	149.70E	-55.	.116	.118	.98
7/29/77	0355	11:20	431	42.37N	147.71E	-56.	.124	.231	.54
7/29/77	0405	11:30	431	41.39N	146.43E	-58.	.126	.239	.53
7/29/77	0415	11:40	431	40.39N	145.17E	-59.	.107	.247	.43
7/29/77	0425	11:50	431	39.38N	143.90E	-62.	.154	.277	.56
7/29/77	0430	11:55	431	38.86N	143.26E	-62.	.167	.255	.65
7/29/77	0435	12:00	431	38.33N	142.63E	-63.	.131	.165	.79
7/29/77	0440	12:05	431	37.79N	141.98E	-64.	.050	.091	
7/29/77	0445	12:10	399	37.33N	141.26E	-58.	.051	.066	

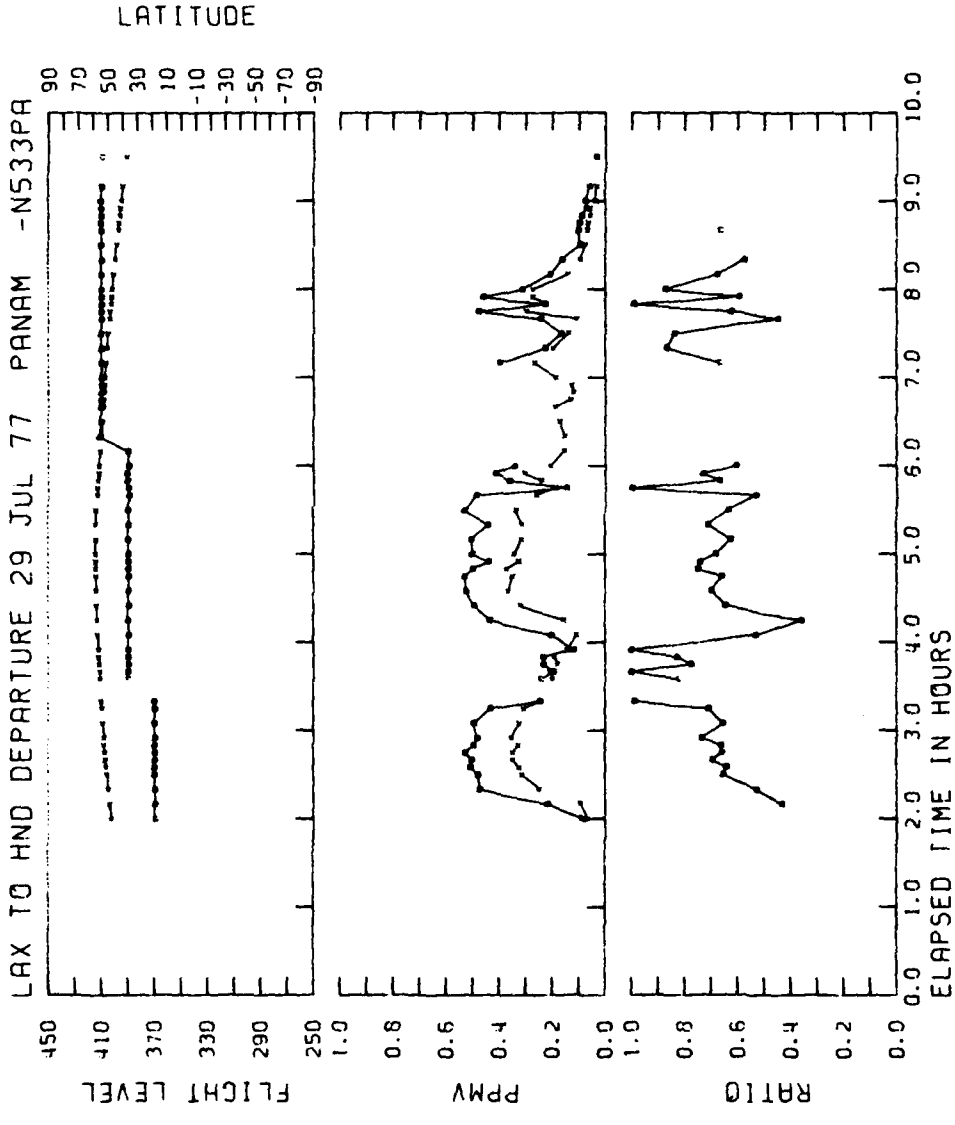

HND TO LAX DEPARTURE 29 JUL 77 PANAM -N533PA
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
FLIGHT LEVEL
450
410
370
330
290
250
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
ELAPSED TIME IN HOURS

HND TO LAX (PAGE 1 OF 1) DEPARTURE: 29 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .510 CABIN OZONE= .176 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .90 TOTAL OBS IN CABIN: 53
DATA SOURCE: GASP TAPE VL010, FILE 4 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
7/29/77	0945	1:10	370	38.77N	151.68E	-53.	.033	.047	
7/29/77	0955	1:20	370	39.44N	153.24E	-53.	.005	.061	
7/29/77	1005	1:30	370	40.10N	154.84E	-52.	.087	.247	.35
7/29/77	1015	1:40	369	40.74N	156.47E	-48.	.149	.338	.44
7/29/77	1020	1:45	370	41.05N	157.31E	-51.	.148	.347	.43
7/29/77	1025	1:50	370	41.38N	158.20E	-54.	.116	.129	.90
7/29/77	1030	1:55	370	41.69N	159.10E	-54.	.039	.072	
7/29/77	1035	2:00	370	41.98N	159.95E	-54.	.021	.072	
7/29/77	1045	2:10	370	42.77N	161.68E	-54.	.002	.041	
7/29/77	1052A	2:17	370	43.89N	164.29E	-54.	.000	.042	
7/29/77	1110	2:35	370	44.60N	166.09E	-54.	.009	.037	
7/29/77	1120	2:45	370	45.29N	167.94E	-54.	.000	.036	
7/29/77	1125	2:50	370	45.62N	168.88E	-54.	.067	.058	
7/29/77	1130	2:55	370	45.94N	169.82E	-54.	.004	.067	
7/29/77	1135	3:00	370	46.20N	170.81E	-54.	.006	.090	
7/29/77	1140	3:05	370	46.44N	171.80E	-55.	.035	.069	
7/29/77	1150	3:15	370	46.88N	173.82E	-55.	.006	.065	
7/29/77	1205	3:30	370	47.49N	176.90E	-54.		.035	
7/29/77	1215	3:40	380	47.84N	179.00E	-56.	.018	.041	
7/29/77	1220	3:45	390	48.00N	179.98E	-59.	.020	.038	
7/29/77	1225	3:50	390	48.04N	178.82W	-59.	.028	.032	
7/29/77	1230	3:55	390	48.08N	177.70W	-59.		.030	
7/29/77	1235	4:00	390	48.10N	176.58W	-59.	.012	.029	
7/29/77	1305	4:30	390	47.99N	169.76W	-61.	.020		
7/29/77	1325	4:50	390	47.63N	165.18W	-61.	.007		
7/29/77	1330	4:55	390	47.51N	164.06W	-61.	.038		
7/29/77	1345	5:10	390	47.11N	160.80W	-61.	.010	.059	
7/29/77	1355	5:20	391	46.79N	158.68W	-60.	.078	.076	
7/29/77	1410	5:35	411	46.23N	155.52W	-55.	.146	.266	.55
7/29/77	1415	5:40	410	46.03N	154.53W	-56.	.124	.296	.42
7/29/77	1420	5:45	410	45.82N	153.53W	-54.	.152	.257	.59
7/29/77	1425	5:50	410	45.60N	152.51W	-54.	.172	.473	.36
7/29/77	1430	5:55	410	45.37N	151.51W	-54.	.069	.128	.54
7/29/77	1440	6:05	410	44.99N	149.98W	-51.	.069	.157	.44
7/29/77	1500	6:25	410	44.23N	145.56W	-49.	.115	.218	.53
7/29/77	1510	6:35	410	43.81N	143.50W	-51.	.078	.146	.53
7/29/77	1515	6:40	410	43.60N	142.54W	-52.	.176	.510	.35
7/29/77	1520	6:45	410	43.38N	141.56W	-52.	.117	.190	.62
7/29/77	1525	6:50	410	43.14N	140.58W	-55.	.171	.300	.57
7/29/77	1530	6:55	410	42.90N	139.61W	-57.	.153	.268	.57
7/29/77	1540	7:05	410	42.41N	137.72W	-59.	.139	.245	.57
7/29/77	1550	7:15	410	41.91N	135.91W	-61.	.014	.092	
7/29/77	1600	7:25	410	41.39N	134.16W	-58.	.063	.132	.48
7/29/77	1610	7:35	410	40.84N	132.45W	-59.	.096	.188	.51
7/29/77	1615	7:40	410	40.56N	131.60W	-60.	.096	.198	.48
7/29/77	1620	7:45	410	40.27N	130.76W	-58.	.095	.144	.66
7/29/77	1625	7:50	410	39.96N	129.93W	-58.	.063	.111	.57
7/29/77	1630	7:55	410	39.59N	129.17W	-60.	.083	.224	.37
7/29/77	1640	8:05	410	38.82N	127.66W	-62.	.064	.122	.52
7/29/77	1650	8:15	410	38.04N	126.22W	-62.	.072	.113	.64
7/29/77	1700	8:25	410	37.36N	124.75W	-61.	.022	.108	.20
7/29/77	1710	8:35	410	37.11N	122.98W	-62.	.000	.043	
7/29/77	1715	8:40	410	37.01N	122.08W	-62.	.033	.044	
7/29/77	1720	8:45	409	36.53N	121.50W	-62.	.000	.042	
7/29/77	1725	8:50	410	36.05N	120.90W	-61.		.048	
7/29/77	1730	8:55	410	35.57N	120.32W	-61.	.011	.100	

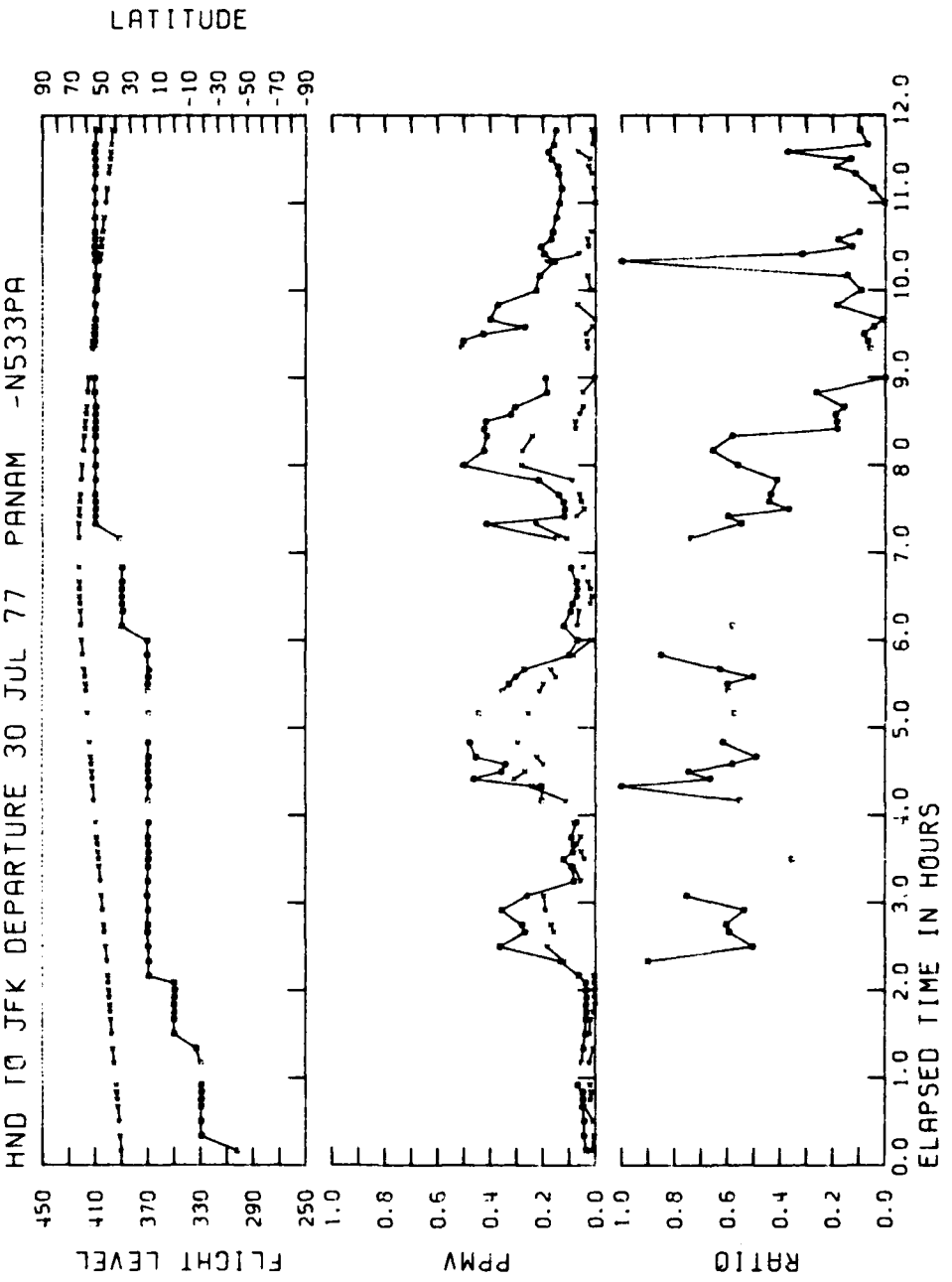
A-357


LATITUDE
LAX TO HND DEPARTURE 29 JUL 77 PANAM -N533PA
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0
ELAPSED TIME IN HOURS

LAX TO HNL (PAGE 1 OF 1) DEPARTURE: 29 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .530 CABIN OZONE= .374 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.30 TOTAL OBS IN CABIN: 59
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
7/29/77	2329	2:00	370	47.58N	132.28W	-56.	.067	.087	
7/29/77	2339	2:10	369	48.50N	133.71W	-54.	.094	.217	.43
7/29/77	2349	2:20	369	49.41N	135.21W	-45.	.250	.473	.53
7/29/77	2359	2:30	370	50.36N	136.86W	-42.	.313	.478	.65
7/30/77	0004	2:35	370	50.83N	137.72W	-42.	.326	.508	.64
7/30/77	0009	2:40	370	51.28N	138.58W	-40.	.348	.502	.69
7/30/77	0014	2:45	370	51.73N	139.45W	-39.	.347	.526	.66
7/30/77	0019	2:50	370	52.14N	140.38W	-39.	.328	.496	.66
7/30/77	0024	2:55	370	52.50N	141.40W	-38.	.355	.482	.74
7/30/77	0034	3:05	370	53.20N	143.50W	-39.	.325	.496	.66
7/30/77	0044	3:15	370	53.85N	145.67W	-41.	.307	.432	.71
7/30/77	0049	3:20	370	54.16N	146.75W	-45.	.242	.245	.99
7/30/77	0104	3:35	390	55.01N	150.05W	-48.	.200	.243	.82
7/30/77	0109	3:40	390	55.29N	151.17W	-48.	.207	.195	1.06
7/30/77	0114	3:45	390	55.55N	152.31W	-49.	.180	.232	.78
7/30/77	0119	3:50	390	55.81N	153.48W	-50.	.193	.233	.83
7/30/77	0124	3:55	390	56.06N	154.67W	-50.	.143	.118	1.21
7/30/77	0134	4:05	389	56.52N	157.07W	-46.	.108	.203	.53
7/30/77	0144	4:15	390	56.93N	159.55W	-46.	.156	.434	.36
7/30/77	0154	4:25	389	57.28N	162.10W	-43.	.317	.493	.64
7/30/77	0204	4:35	390	57.57N	164.68W	-41.	.367	.525	.70
7/30/77	0214	4:45	390	57.81N	167.29W	-41.	.350	.530	.66
7/30/77	0219	4:50	390	57.91N	168.60W	-40.	.374	.499	.75
7/30/77	0224	4:55	390	57.99N	169.91W	-41.	.324	.438	.74
7/30/77	0229	5:00	390	57.97N	171.22W	-40.	.343	.502	.68
7/30/77	0239	5:10	390	57.88N	173.80W	-41.	.314	.503	.62
7/30/77	0249	5:20	389	57.75N	176.32W	-41.	.313	.441	.71
7/30/77	0259	5:30	390	57.56N	178.75W	-42.	.336	.529	.64
7/30/77	0309	5:40	390	57.12N	178.99E	-43.	.259	.487	.53
7/30/77	0314	5:45	390	56.77N	177.95E	-45.	.191	.147	1.30
7/30/77	0319	5:50	391	56.40N	176.92E	-48.	.241	.361	.67
7/30/77	0324	5:55	391	56.03N	175.93E	-50.	.303	.414	.73
7/30/77	0329	6:00	389	55.67N	174.99E	-54.	.208	.343	.61
7/30/77	0339	6:10	390	54.92N	173.15E	-54.	.154		
7/30/77	0349	6:20	411	54.15N	171.39E	-55.	.152		
7/30/77	0359	6:30	410	53.38N	169.60E	-57.	.171		
7/30/77	0409	6:40	411	52.83N	167.74E	-59.	.189		
7/30/77	0414	6:45	410	52.54N	166.84E	-59.	.131		
7/30/77	0419	6:50	410	52.25N	165.95E	-59.	.120		
7/30/77	0424	6:55	410	51.95N	165.07E	-57.	.126		
7/30/77	0429	7:00	410	51.63N	164.18E	-56.	.188		
7/30/77	0439	7:10	410	50.96N	162.39E	-51.	.265	.396	.67
7/30/77	0449	7:20	410	50.25N	160.60E	-50.	.195	.225	.87
7/30/77	0459	7:30	410	49.42N	158.86E	-50.	.140	.167	.84
7/30/77	0509	7:40	410	48.54N	157.20E	-51.	.109	.243	.45
7/30/77	0514	7:45	410	48.09N	156.40E	-52.	.298	.477	.62
7/30/77	0519	7:50	410	47.63N	155.60E	-53.	.225	.227	.99
7/30/77	0524	7:55	410	47.16N	154.81E	-55.	.273	.459	.59
7/30/77	0529	8:00	410	46.68N	154.03E	-55.	.273	.313	.87
7/30/77	0539	8:10	410	45.69N	152.46E	-55.	.141	.208	.68
7/30/77	0549	8:20	410	44.66N	150.94E	-58.	.093	.162	.57
7/30/77	0559	8:30	410	43.61N	149.43E	-59.	.077	.097	
7/30/77	0609	8:40	410	42.54N	147.95E	-59.	.068	.102	.67
7/30/77	0614	8:45	410	42.00N	147.23E	-59.	.064	.098	
7/30/77	0619	8:50	410	41.46N	146.52E	-60.	.056	.088	
7/30/77	0624	8:55	410	40.91N	145.82E	-60.	.058	.072	
7/30/77	0629	9:00	410	40.36N	145.14E	-60.	.037	.074	
7/30/77	0639	9:10	409	39.31N	143.81E	-59.	.033	.059	
7/30/77	0650	9:30	410	37.12N	141.41E	-58.	.032	.036	

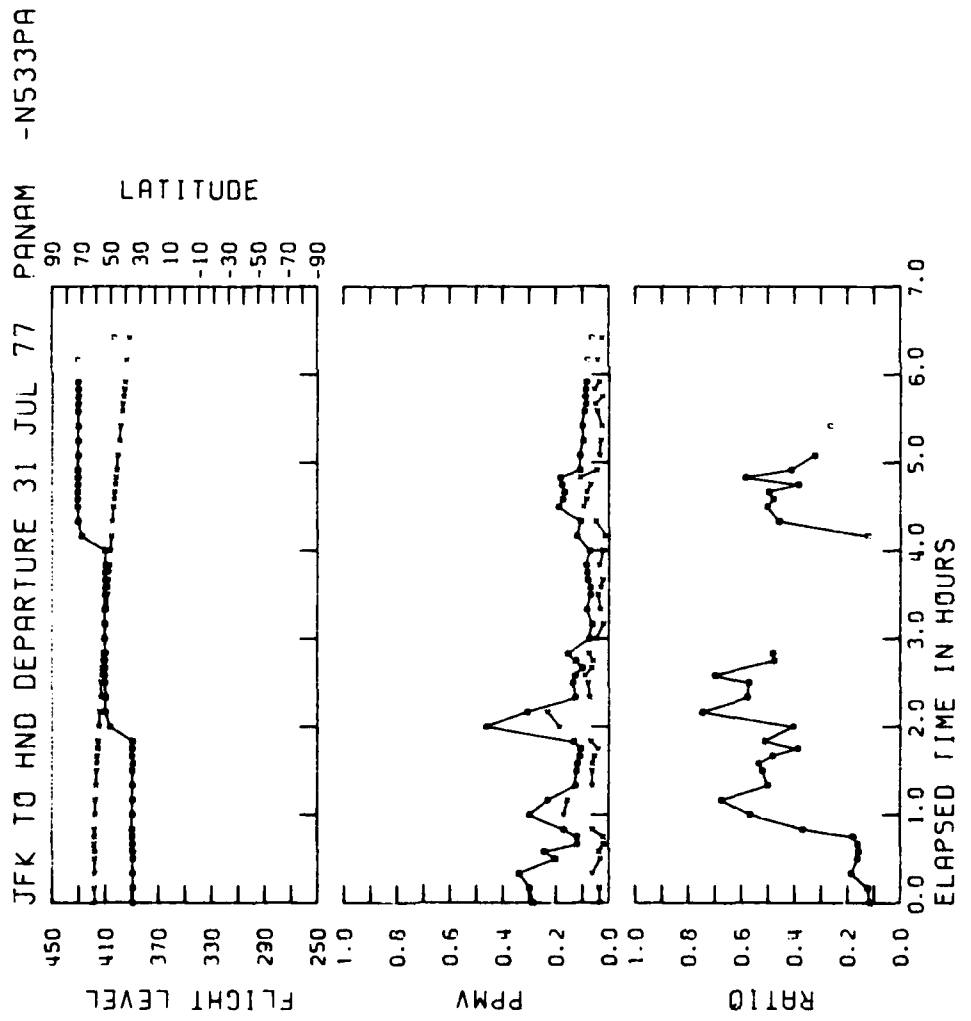

HND TO JFK DEPARTURE 30 JUL 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0
ELAPSED TIME IN HOURS

HND TO JFK (PAGE 1 OF 1) DEPARTURE: 30 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .509 CABIN OZONE= .307 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.19 TOTAL OBS IN CABIN: 88
DATA SOURCE: GASP TAPE VL010, FILE 4 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
7/30/77	1013	0:10	302	36.39N	142.40E	-30.	.013	.035	
7/30/77	1023	0:20	329	36.92N	143.79E	-37.	.005	.043	
7/30/77	1033	0:30	330	37.75N	144.91E	-38.	.009	.043	
7/30/77	1043	0:40	329	38.62N	145.99E	-38.	.044	.050	
7/30/77	1048	0:45	330	39.04N	146.55E	-38.	.020	.048	
7/30/77	1053	0:50	330	39.47N	147.12E	-38.	.017	.049	
7/30/77	1058	0:55	330	39.89N	147.69E	-38.	.022	.069	
7/30/77	1113	1:10	330	41.13N	149.45E	-38.	.023	.051	
7/30/77	1123	1:20	333	41.91N	150.68E	-39.	.008	.045	
7/30/77	1133	1:30	350	42.64N	151.93E	-44.	.022	.038	
7/30/77	1143	1:40	350	43.35N	153.20E	-44.	.019	.036	
7/30/77	1148	1:45	350	43.70N	153.85E	-43.	.009	.035	
7/30/77	1153	1:50	350	44.05N	154.52E	-43.	.000	.036	
7/30/77	1158	1:55	350	44.40N	155.19E	-43.	.004	.034	
7/30/77	1203	2:00	350	44.73N	155.84E	-43.	.000	.036	
7/30/77	1210A	2:07	350	45.23N	156.86E	-43.	.005	.037	
7/30/77	1215	2:12	369	45.57N	157.56E	-49.	.006	.064	
7/30/77	1225	2:22	369	46.22N	158.98E	-50.	.120	.133	.90
7/30/77	1235	2:32	370	46.92N	160.51E	-50.	.184	.365	.50
7/30/77	1245	2:42	370	47.70N	162.16E	-50.	.158	.267	.59
7/30/77	1250	2:47	370	48.05N	162.92E	-49.	.167	.277	.60
7/30/77	1300	2:57	370	48.83N	164.73E	-49.	.190	.355	.54
7/30/77	1310	3:07	370	49.63N	166.71E	-52.	.196	.260	.75
7/30/77	1320	3:17	370	50.43N	168.85E	-55.	.056	.082	
7/30/77	1330	3:27	370	51.27N	170.88E	-56.	.084	.091	
7/30/77	1335	3:32	370	51.73N	171.85E	-56.	.043	.121	.36
7/30/77	1340	3:37	370	52.18N	172.82E	-56.	.054	.086	
7/30/77	1345	3:42	370	52.62N	173.82E	-56.	.071	.082	
7/30/77	1350	3:47	370	53.02N	174.88E	-56.	.056	.093	
7/30/77	1400	3:57	370	53.77N	177.00E	-56.	.083	.073	
7/30/77	1415	4:12	370	54.81N	179.75W	-56.	.112	.203	.55
7/30/77	1425	4:22	369	55.46N	177.49W	-48.	.241	.203	1.19
7/30/77	1430	4:27	370	55.76N	176.39W	-44.	.307	.462	.66
7/30/77	1435	4:32	370	56.10N	175.30W	-42.	.266	.357	.75
7/30/77	1440	4:37	370	56.54N	174.31W	-42.	.198	.341	.58
7/30/77	1445	4:42	369	56.97N	173.32W	-41.	.222	.454	.49
7/30/77	1455	4:52	370	57.79N	171.26W	-40.	.294	.477	.62
7/30/77	1515	5:12	370	59.34N	166.86W	-44.	.255	.444	.57
7/30/77	1530	5:27	370	60.36N	163.42W	-51.	.213	.355	.60
7/30/77	1535	5:32	370	60.68N	162.22W	-53.	.198	.329	.60
7/30/77	1540	5:37	370	61.07N	161.10W	-55.	.154	.305	.50
7/30/77	1545	5:42	369	61.48N	160.02W	-55.	.172	.273	.63
7/30/77	1555	5:52	370	62.26N	157.79W	-59.	.086	.101	.85
7/30/77	1605	6:02	370	63.00N	155.42W	-59.	.017	.070	
7/30/77	1615	6:12	390	63.70N	152.82W	-61.	.071	.122	.58
7/30/77	1625	6:22	389	64.33N	150.21W	-61.	.063	.096	
7/30/77	1630	6:27	390	64.63N	148.83W	-61.	.022	.089	
7/30/77	1635	6:32	390	64.86N	147.33W	-62.	.015	.073	
7/30/77	1640	6:37	390	64.98N	145.73W	-62.	.021	.071	
7/30/77	1645	6:42	390	65.09N	144.13W	-62.	.031	.073	
7/30/77	1655	6:52	390	65.25N	140.89W	-61.	.048	.095	
7/30/77	1715	7:12	392	65.39N	134.36W	-56.	.111	.150	.74
7/30/77	1725	7:22	410	65.06N	131.15W	-53.	.226	.414	.55
7/30/77	1730	7:27	410	64.86N	129.58W	-54.	.071	.119	.60
7/30/77	1735	7:32	410	64.65N	128.04W	-54.	.043	.117	.37
7/30/77	1740	7:37	410	64.43N	126.52W	-53.	.054	.122	.44
7/30/77	1745	7:42	410	64.18N	124.99W	-53.	.061	.140	.44
7/30/77	1755	7:52	410	63.64N	121.98W	-52.	.089	.216	.41
7/30/77	1805	8:02	410	63.03N	119.08W	-51.	.282	.502	.56
7/30/77	1815	8:12	410	62.36N	116.28W	-49.	.279	.425	.66
7/30/77	1825	8:22	410	61.63N	113.59W	-48.	.241	.414	.58
7/30/77	1830	8:27	410	61.24N	112.28W	-47.	.078	.425	.188
7/30/77	1835	8:32	410	60.84N	110.99W	-48.	.078	.418	.198
7/30/77	1840	8:37	410	60.43N	109.74W	-47.	.062	.323	.198
7/30/77	1845	8:42	410	60.00N	108.51W	-48.	.049	.308	.168
7/30/77	1855	8:52	410	59.11N	106.15W	-48.	.048	.184	.268
7/30/77	1905	9:02	410	58.18N	103.91W	-49.	.000	.189	.008
7/30/77	1925	9:22	410	56.22N	99.96W	-50.	.030	.509	.068
7/30/77	1930	9:27	410	55.77N	98.96W	-51.	.033	.502	.078
7/30/77	1935	9:32	410	55.31N	97.99W	-51.	.035	.427	.088
7/30/77	1940	9:37	410	54.84N	97.05W	-51.	.012	.268	.048
7/30/77	1945	9:42	410	54.38N	96.15W	-51.	.004	.400	.018
7/30/77	1955	9:52	410	53.44N	94.41W	-52.	.069	.373	.188
7/30/77	2005	10:02	410	52.49N	92.77W	-54.	.021	.226	.098
7/30/77	2015	10:12	410	51.52N	91.21W	-58.	.031	.213	.158
7/30/77	2025	10:22	410	50.53N	89.72W	-59.	.182	.156	1.178
7/30/77	2030	10:27	410	50.03N	88.96W	-59.	.061	.193	.328
7/30/77	2035	10:32	410	49.56N	88.12W	-60.	.026	.207	.138
7/30/77	2040	10:37	410	49.09N	87.29W	-60.	.030	.168	.188
7/30/77	2045	10:42	410	48.61N	86.48W	-60.	.016	.161	.108
7/30/77	2055	10:52	410	47.62N	84.89W	-62.		.148	
7/30/77	2105	11:02	410	46.62N	83.37W	-63.	.000	.136	.008
7/30/77	2115	11:12	410	45.60N	81.91W	-64.	.006	.129	.058
7/30/77	2125	11:22	410	44.55N	80.47W	-62.	.016	.140	.118
7/30/77	2130	11:27	410	44.14N	79.63W	-63.	.027	.144	.198
7/30/77	2135	11:32	410	43.69N	79.09W	-61.	.022	.167	.138
7/30/77	2140	11:37	410	43.33N	78.19W	-61.	.067	.180	.378
7/30/77	2145	11:42	410	42.95N	77.30W	-61.	.011	.160	.078
7/30/77	2155	11:52	410	42.20N	75.61W	-57.	.015	.151	.108

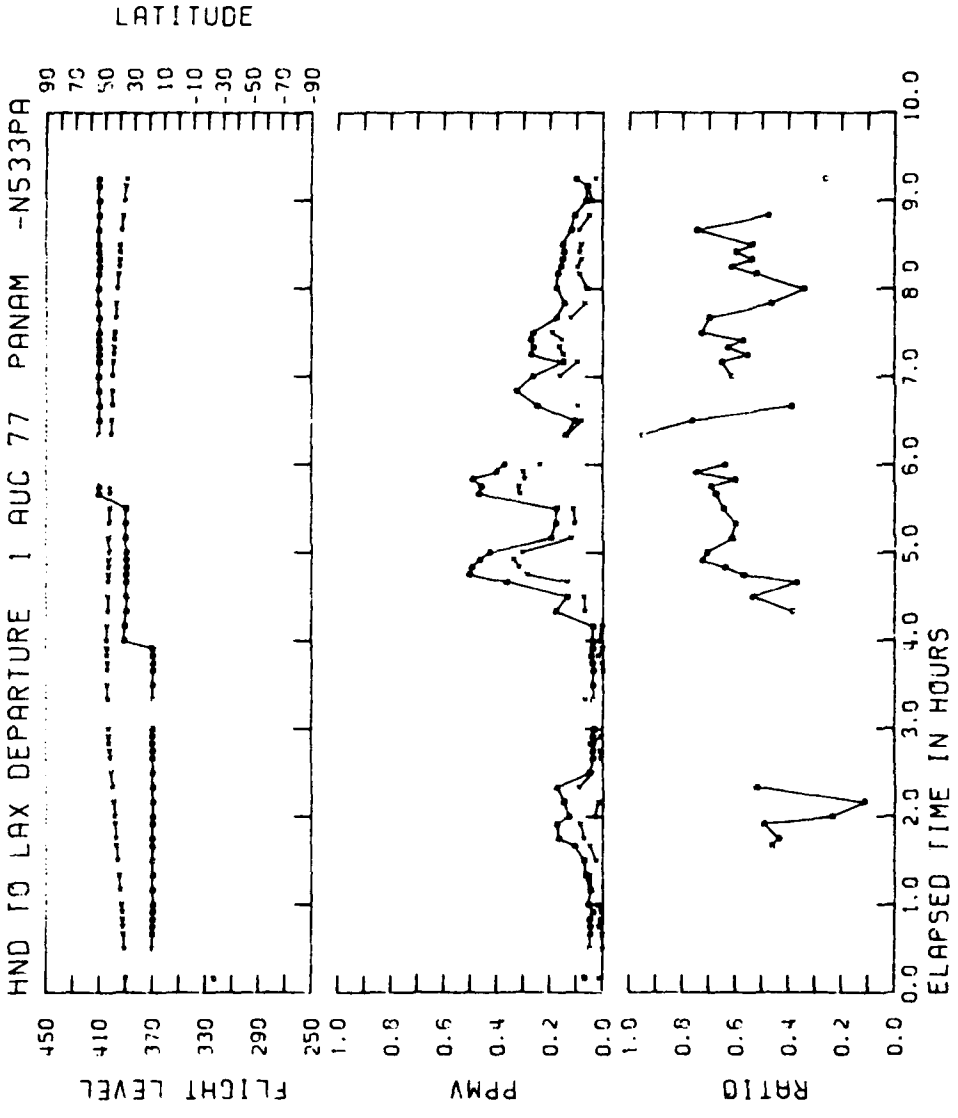
A381


JFK TO HND DEPARTURE 31 JUL 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0
ELAPSED TIME IN HOURS

JFK TO HNU (PAGE 1 OF 1) DEPARTURE: 31 JUL 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .462 CABIN OZONE= .231 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .75 TOTAL OBS IN CABIN: 50
DATA SOURCE: GASP TAPE VL010, FILE 4 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED
AN "M" AFTER THE GMT BELOW DENOTES GMT MISSING ON THE ORIGINAL DATA TAPE

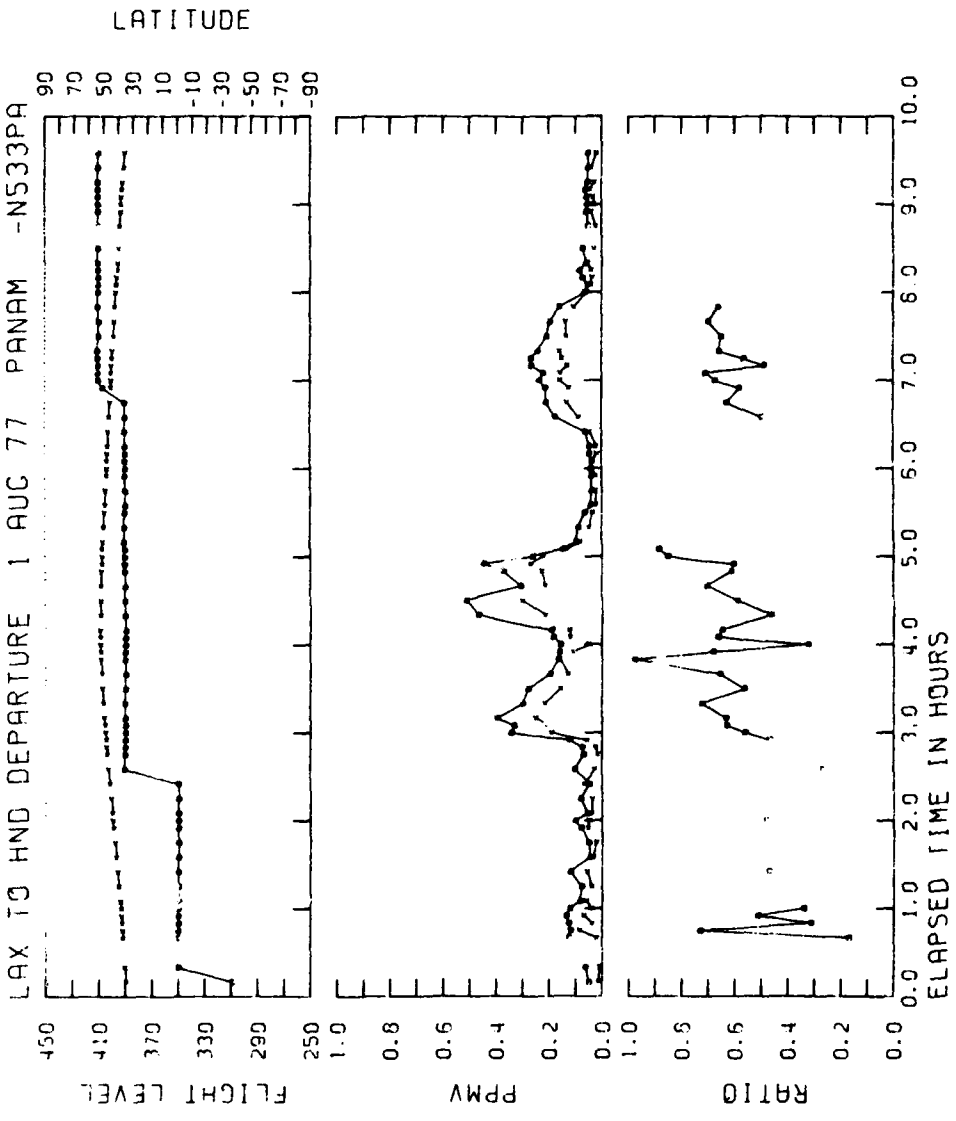
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
7/31/77	2203M	0:00	389	61.38N	141.33W	-52.	.033	.286	.128
7/31/77	2213M	0:10	389	61.37N	144.27W	-50.	.037	.300	.128
7/31/77	2223M	0:20	389	61.35N	147.25W	-50.	.063	.338	.198
7/31/77	2233M	0:30	389	61.37N	150.32W	-51.	.033	.203	.168
7/31/77	2238M	0:35	390	61.34N	151.86W	-50.	.039	.246	.168
7/31/77	2243M	0:40	389	61.31N	153.41W	-51.	.019	.119	.168
7/31/77	2248M	0:45	389	61.25N	154.96W	-50.	.021	.119	.188
7/31/77	2253M	0:50	390	61.18N	156.51W	-52.	.062	.169	.37
7/31/77	2303M	1:00	390	60.98N	159.58W	-52.	.170	.300	.57
7/31/77	2313M	1:10	390	60.70N	162.60W	-51.	.156	.231	.68
7/31/77	2323M	1:20	389	60.35N	165.56W	-51.	.063	.126	.50
7/31/77	2333M	1:30	390	59.93N	168.42W	-51.	.063	.121	.52
7/31/77	2338M	1:35	389	59.71N	169.74W	-50.	.063	.118	.53
7/31/77	2343M	1:40	390	59.46N	171.15W	-50.	.053	.110	.48
7/31/77	2348M	1:45	390	59.21N	172.49W	-52.	.041	.106	.39
7/31/77	2353M	1:50	389	58.95N	173.80W	-55.	.068	.133	.51
8/ 1/77	0003M	2:00	407	58.38N	176.34W	-52.	.187	.462	.40
8/ 1/77	0013M	2:10	410	57.79N	178.74W	-53.	.231	.309	.75
8/ 1/77	0023M	2:20	410	57.18N	179.05E	-55.	.074	.128	.58
8/ 1/77	0033M	2:30	410	56.55N	176.95E	-54.	.077	.135	.57
8/ 1/77	0038M	2:35	411	56.22N	175.93E	-56.	.088	.126	.70
8/ 1/77	0043M	2:40	410	55.89N	174.96E	-57.	.063	.099	
8/ 1/77	0048M	2:45	410	55.55N	174.00E	-56.	.059	.124	.48
8/ 1/77	0053M	2:50	410	55.21N	173.07E	-56.	.074	.154	.48
8/ 1/77	0103M	3:00	411	54.54N	171.31E	-58.	.047	.073	
8/ 1/77	0113M	3:10	410	53.86N	169.58E	-57.	.020	.063	
8/ 1/77	0123M	3:20	410	53.25N	167.81E	-56.	.033	.083	
8/ 1/77	0133M	3:30	410	52.62N	166.10E	-55.	.040	.069	
8/ 1/77	0138M	3:35	410	52.30N	165.27E	-53.	.031	.070	
8/ 1/77	0143M	3:40	410	51.97N	164.45E	-52.	.022	.080	
8/ 1/77	0148M	3:45	410	51.64N	163.64E	-52.		.082	
8/ 1/77	0153M	3:50	410	51.30N	162.84E	-53.	.036	.086	
8/ 1/77	0203M	4:00	410	50.61N	161.29E	-53.	.022	.073	
8/ 1/77	0213M	4:10	428	49.90N	159.79E	-53.	.015	.121	.12
8/ 1/77	0223M	4:20	430	49.13N	158.31E	-54.	.048	.105	.46
8/ 1/77	0233M	4:30	431	48.34N	156.85E	-55.	.095	.189	.50
8/ 1/77	0238M	4:35	431	47.93N	156.12E	-56.	.083	.173	.48
8/ 1/77	0243M	4:40	431	47.51N	155.40E	-56.	.083	.167	.50
8/ 1/77	0248M	4:45	431	47.09N	154.69E	-57.	.068	.177	.38
8/ 1/77	0253M	4:50	431	46.66N	153.99E	-56.	.107	.183	.58
8/ 1/77	0258M	4:55	431	46.22N	153.29E	-55.	.045	.109	.41
8/ 1/77	0308M	5:05	431	45.33N	151.92E	-55.	.035	.108	.32
8/ 1/77	0318M	5:15	431	44.42N	150.59E	-56.	.030	.097	
8/ 1/77	0328M	5:25	431	43.49N	149.27E	-56.	.027	.101	.27
8/ 1/77	0338M	5:35	431	42.55N	147.96E	-56.	.044	.093	
8/ 1/77	0343M	5:40	431	42.07N	147.32E	-57.	.051	.087	
8/ 1/77	0348M	5:45	431	41.59N	146.69E	-57.	.025	.090	
8/ 1/77	0353M	5:50	431	41.10N	146.06E	-57.	.056	.089	
8/ 1/77	0358M	5:55	431	40.61N	145.44E	-58.	.037	.086	
8/ 1/77	0413M	6:10	431	39.11N	143.56E	-57.	.040	.079	
8/ 1/77	0432A	6:29	403	37.23N	141.11E	-54.	.026	.063	


HND TO LAX DEPARTURE 1 AUG 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0
ELAPSED TIME IN HOURS

HND TO LAX (PAGE 1 OF 1) DEPARTURE: 1 AUG 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .504 CABIN OZONE= .339 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .95 TOTAL OBS IN CABIN: 60
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
8/ 1/77	0821	0:10	323	35.96N	142.55E	-35.	.013	.068	
8/ 1/77	0841	0:30	370	37.21N	145.44E	-47.	.002	.050	
8/ 1/77	0851	0:40	370	37.82N	146.94E	-48.	.002	.046	
8/ 1/77	0856	0:45	370	38.13N	147.71E	-48.	.015	.046	
8/ 1/77	0901	0:50	370	38.43N	148.48E	-48.	.008	.049	
8/ 1/77	0906	0:55	370	38.72N	149.27E	-47.	.006	.037	
8/ 1/77	0911	1:00	370	39.02N	150.07E	-47.	.019	.054	
8/ 1/77	0921	1:10	370	39.83N	151.46E	-47.	.047	.046	
8/ 1/77	0931	1:20	370	40.63N	152.92E	-48.	.050	.064	
8/ 1/77	0941	1:30	370	41.39N	154.39E	-49.	.025	.070	
8/ 1/77	0951	1:40	370	42.12N	155.86E	-49.	.049	.106	.46
8/ 1/77	0956	1:45	370	42.48N	156.61E	-49.	.072	.165	.44
8/ 1/77	1006	1:55	370	43.21N	158.21E	-51.	.085	.173	.49
8/ 1/77	1011	2:00	370	43.58N	159.04E	-52.	.030	.128	.23
8/ 1/77	1021	2:10	370	44.35N	160.77E	-52.	.017	.148	.11
8/ 1/77	1031	2:20	370	45.13N	162.51E	-51.	.091	.175	.52
8/ 1/77	1041	2:30	370	45.86N	164.22E	-51.	.043	.051	
8/ 1/77	1051	2:40	370	46.56N	165.96E	-51.	.007	.037	
8/ 1/77	1056	2:45	370	46.91N	166.86E	-51.	.009	.038	
8/ 1/77	1101	2:50	370	47.24N	167.76E	-51.	.049	.039	
8/ 1/77	1106	2:55	370	47.57N	168.70E	-51.	.004	.038	
8/ 1/77	1111	3:00	370	47.90N	169.65E	-51.	.031	.033	
8/ 1/77	1131	3:20	370	48.52N	173.80E	-51.	.069	.039	
8/ 1/77	1141	3:30	370	48.73N	175.93E	-51.		.038	
8/ 1/77	1151	3:40	370	48.91N	178.07E	-51.	.001	.037	
8/ 1/77	1156	3:45	370	48.99N	179.15E	-51.	.006	.041	
8/ 1/77	1201	3:50	370	49.05N	179.75W	-51.	.018	.044	
8/ 1/77	1206	3:55	370	48.98N	178.63W	-52.	.001	.039	
8/ 1/77	1211	4:00	391	48.90N	177.49W	-57.	.010	.038	
8/ 1/77	1221	4:10	391	48.72N	175.29W	-56.	.001	.036	
8/ 1/77	1231	4:20	390	48.50N	173.15W	-54.	.069	.179	.39
8/ 1/77	1241	4:30	390	48.23N	171.03W	-47.	.073	.136	.54
8/ 1/77	1251	4:40	390	48.01N	168.90W	-45.	.134	.363	.37
8/ 1/77	1256	4:45	390	47.93N	167.82W	-43.	.287	.504	.57
8/ 1/77	1301	4:50	390	47.84N	166.73W	-40.	.318	.496	.64
8/ 1/77	1306	4:55	390	47.75N	165.63W	-40.	.339	.466	.73
8/ 1/77	1311	5:00	390	47.65N	164.57W	-40.	.305	.430	.71
8/ 1/77	1321	5:10	390	47.41N	162.44W	-43.	.119	.194	.61
8/ 1/77	1331	5:20	390	47.14N	160.33W	-44.	.106	.177	.60
8/ 1/77	1341	5:30	390	46.97N	158.20W	-46.	.113	.175	.65
8/ 1/77	1351	5:40	410	46.80N	156.09W	-47.	.317	.469	.68
8/ 1/77	1356	5:45	410	46.71N	155.04W	-50.	.317	.458	.69
8/ 1/77	1401	5:50	410	46.60N	154.01W	-49.	.294	.490	.60
8/ 1/77	1406	5:55	410	46.49N	152.97W	-50.	.300	.402	.75
8/ 1/77	1411	6:00	410	46.36N	151.93W	-51.	.238	.372	.64
8/ 1/77	1431	6:20	410	45.93N	147.80W	-58.	.135	.142	.95
8/ 1/77	1441	6:30	410	45.76N	145.73W	-61.	.081	.106	.76
8/ 1/77	1454	6:43	410	45.51N	143.25W	-61.	.097	.249	.39
8/ 1/77	1504	6:53	410	45.28N	141.32W	-58.		.327	
8/ 1/77	1514	7:03	410	45.02N	139.54W	-57.	.161	.263	.61
8/ 1/77	1524	7:13	410	44.52N	137.55W	-55.	.097	.149	.65
8/ 1/77	1529	7:18	410	44.28N	136.65W	-55.	.151	.272	.56
8/ 1/77	1534	7:23	410	44.03N	135.76W	-55.	.166	.264	.63
8/ 1/77	1539	7:28	410	43.76N	134.86W	-55.	.156	.272	.57
8/ 1/77	1544	7:33	410	43.50N	134.01W	-55.	.191	.263	.73
8/ 1/77	1554	7:43	410	42.92N	132.30W	-58.	.123	.176	.70
8/ 1/77	1604	7:53	411	42.27N	130.67W	-56.	.068	.146	.47
8/ 1/77	1614	8:03	410	41.61N	129.10W	-56.	.059	.173	.34
8/ 1/77	1624	8:13	410	40.93N	127.56W	-57.	.088	.169	.52
8/ 1/77	1629	8:18	410	40.58N	126.81W	-57.	.097	.158	.61
8/ 1/77	1634	8:23	410	40.27N	126.05W	-57.	.082	.152	.54
8/ 1/77	1639	8:28	410	39.95N	125.29W	-59.	.087	.146	.60
8/ 1/77	1644	8:33	410	39.54N	124.64W	-58.	.081	.151	.54
8/ 1/77	1654	8:43	410	38.62N	123.47W	-58.	.087	.117	.74
8/ 1/77	1704	8:53	410	37.71N	122.36W	-58.	.050	.105	.48
8/ 1/77	1714	9:03	410	36.78N	121.26W	-60.	.042	.063	
8/ 1/77	1724	9:13	410	35.78N	120.29W	-59.	.059	.057	
8/ 1/77	1729	9:18	410	35.24N	119.88W	-59.	.026	.100	

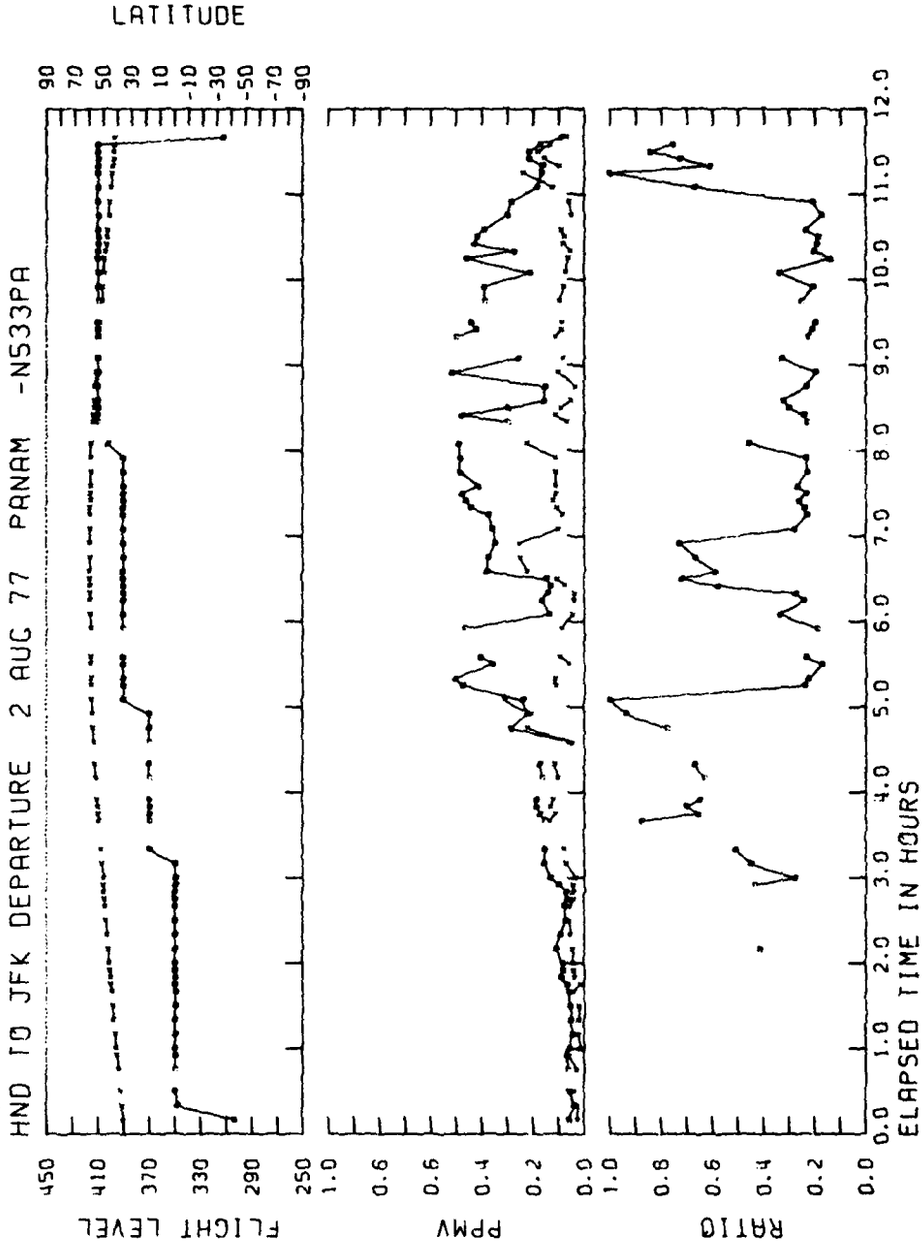

LAX TO HND DEPARTURE 1 AUG 77 PANAM -N533PA
LATITUDE
FLIGHT LEVEL
PPMV
RATIO
ELAPSED TIME IN HOURS

LAX TO HND (PAGE 1 OF 1) DEPARTURE: 1 AUG 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .511 CABIN OZONE= .301 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .98 TOTAL OBS IN CABIN: 75
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
8/ 1/77	2032	0:10	309	35.58N	120.47W	-36.	.015	.050	
8/ 1/77	2042	0:20	350	36.53N	121.82W	-46.	.010	.063	
8/ 1/77	2102	0:40	350	37.68N	124.99W	-47.	.021	.125	.17
8/ 1/77	2107	0:45	350	37.85N	125.86W	-46.	.086	.118	.73
8/ 1/77	2112	0:50	350	38.25N	126.60W	-48.	.039	.125	.31
8/ 1/77	2117	0:55	350	38.66N	127.35W	-48.	.069	.135	.51
8/ 1/77	2122	1:00	350	39.05N	128.11W	-48.	.041	.121	.34
8/ 1/77	2127	1:05	350	39.43N	128.86W	-49.	.061	.085	
8/ 1/77	2137	1:15	350	40.23N	130.33W	-50.	.039	.075	
8/ 1/77	2147	1:25	350	41.16N	131.69W	-50.	.056	.119	.47
8/ 1/77	2157	1:35	350	42.09N	133.11W	-51.	.032	.046	
8/ 1/77	2207	1:45	350	42.97N	134.53W	-52.	.022	.051	
8/ 1/77	2217	1:55	350	43.84N	135.99W	-52.	.052	.078	
8/ 1/77	2222	2:00	350	44.26N	136.73W	-52.	.048	.100	
8/ 1/77	2227	2:05	350	44.67N	137.48W	-53.	.039	.055	
8/ 1/77	2237	2:15	350	45.49N	139.00W	-53.	.038	.081	
8/ 1/77	2247	2:25	350	46.32N	140.54W	-52.	.067	.047	
8/ 1/77	2257	2:35	390	47.17N	142.03W	-61.	.027	.101	.27
8/ 1/77	2307	2:45	390	48.01N	143.59W	-61.	.017	.069	
8/ 1/77	2312	2:50	390	48.42N	144.38W	-61.	.024	.074	
8/ 1/77	2317	2:55	390	48.82N	145.18W	-60.	.057	.122	.47
8/ 1/77	2322	3:00	390	49.22N	145.99W	-59.	.191	.341	.56
8/ 1/77	2327	3:05	390	49.61N	146.82W	-54.	.209	.332	.63
8/ 1/77	2332	3:10	390	50.00N	147.67W	-55.	.250	.395	.63
8/ 1/77	2342	3:20	390	50.76N	149.43W	-51.	.216	.299	.72
8/ 1/77	2352	3:30	390	51.34N	151.40W	-48.	.157	.279	.56
8/ 2/77	0002	3:40	390	51.81N	153.45W	-46.	.129	.197	.65
8/ 2/77	0012	3:50	390	52.25N	155.62W	-44.	.160	.164	.98
8/ 2/77	0017	3:55	390	52.46N	156.72W	-43.	.108	.159	.69
8/ 2/77	0022	4:00	390	52.65N	157.83W	-42.	.050	.156	.32
8/ 2/77	0027	4:05	390	52.84N	158.95W	-41.	.121	.183	.66
8/ 2/77	0032	4:10	389	53.00N	160.07W	-41.	.123	.190	.65
8/ 2/77	0044	4:22	390	52.80N	162.98W	-40.	.215	.466	.46
8/ 2/77	0054	4:32	390	52.58N	165.32W	-39.	.301	.511	.59
8/ 2/77	0104	4:42	390	52.32N	167.63W	-42.	.214	.305	.70
8/ 2/77	0114	4:52	390	52.01N	169.94W	-45.	.227	.371	.61
8/ 2/77	0119	4:57	391	51.74N	171.03W	-47.	.269	.446	.60
8/ 2/77	0124	5:02	390	51.47N	172.09W	-50.	.223	.262	.85
8/ 2/77	0129	5:07	390	51.20N	173.11W	-49.	.133	.150	.89
8/ 2/77	0134	5:12	390	50.92N	174.09W	-54.	.082	.095	
8/ 2/77	0144	5:22	390	50.35N	175.99W	-55.	.047	.087	
8/ 2/77	0154	5:32	390	49.77N	177.79W	-56.	.035	.065	
8/ 2/77	0159	5:37	390	49.48N	178.65W	-56.	.023	.042	
8/ 2/77	0209	5:47	390	48.93N	179.70E	-56.	.024	.039	
8/ 2/77	0219	5:57	390	48.50N	178.00E	-57.	.024	.039	
8/ 2/77	0224	6:02	390	48.27N	177.15E	-56.	.040	.042	
8/ 2/77	0229	6:07	390	48.03N	176.32E	-57.	.035	.036	
8/ 2/77	0234	6:12	390	47.80N	175.49E	-56.	.018	.046	
8/ 2/77	0239	6:17	390	47.55N	174.67E	-56.	.021	.046	
8/ 2/77	0249	6:27	390	47.04N	173.04E	-55.	.047	.062	
8/ 2/77	0259	6:37	390	46.49N	171.40E	-54.	.087	.175	.50
8/ 2/77	0309	6:47	390	45.93N	169.74E	-55.	.132	.210	.63
8/ 2/77	0319	6:57	407	45.49N	168.00E	-57.	.124	.213	.58
8/ 2/77	0324	7:02	410	45.26N	167.13E	-58.	.159	.236	.67
8/ 2/77	0329	7:07	410	45.02N	166.26E	-58.	.157	.221	.71
8/ 2/77	0334	7:12	410	44.77N	165.42E	-59.	.129	.265	.49
8/ 2/77	0339	7:17	410	44.52N	164.57E	-59.	.150	.266	.56
8/ 2/77	0344	7:22	410	44.26N	163.74E	-61.	.159	.242	.66
8/ 2/77	0354	7:32	410	43.73N	162.11E	-59.	.135	.208	.65
8/ 2/77	0404	7:42	410	43.18N	160.51E	-57.	.137	.196	.70
8/ 2/77	0414	7:52	410	42.61N	158.86E	-55.	.105	.159	.66
8/ 2/77	0424	8:02	410	42.01N	157.20E	-55.	.058	.065	
8/ 2/77	0429	8:07	410	41.71N	156.39E	-55.	.042	.053	
8/ 2/77	0434	8:12	410	41.40N	155.60E	-54.	.037	.073	
8/ 2/77	0439	8:17	410	41.09N	154.80E	-55.	.042	.085	
8/ 2/77	0444	8:22	410	40.76N	154.01E	-54.	.056	.061	
8/ 2/77	0455	8:33	410	40.10N	152.43E	-54.	.030	.072	
8/ 2/77	0509	8:47	410	39.09N	150.18E	-57.	.023	.051	
8/ 2/77	0519	8:57	410	38.46N	148.70E	-56.	.041	.059	
8/ 2/77	0524	9:02	410	38.14N	147.96E	-57.	.031	.054	
8/ 2/77	0529	9:07	410	37.82N	147.24E	-57.	.032	.056	
8/ 2/77	0534	9:12	410	37.49N	146.52E	-57.	.044	.061	
8/ 2/77	0539	9:17	410	37.16N	145.80E	-57.	.028	.053	
8/ 2/77	0549	9:27	410	36.49N	144.38E	-57.	.040	.051	
8/ 2/77	0559	9:37	410	35.80N	143.00E	-57.	.021	.052	

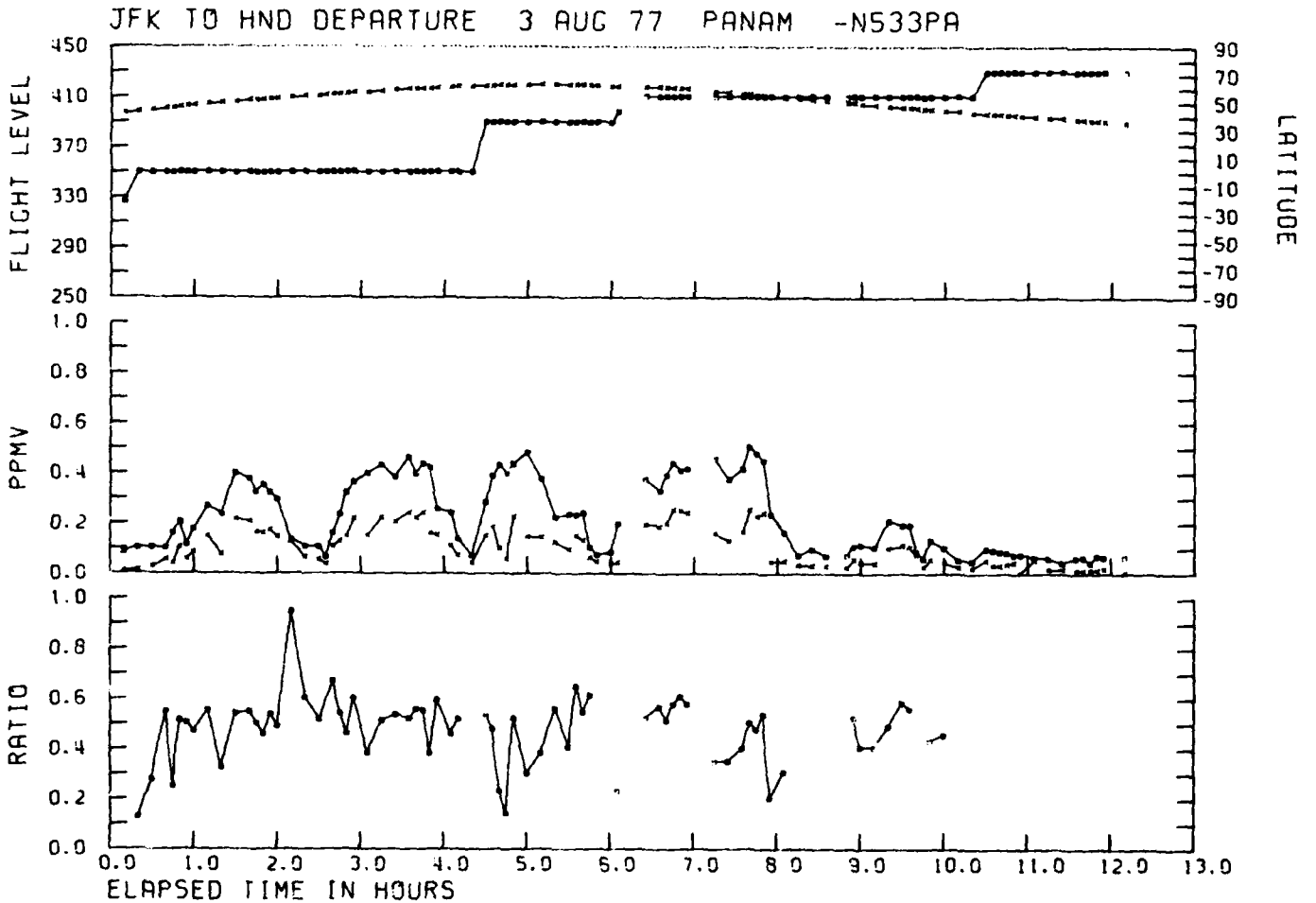
A-387


HND TO JFK DEPARTURE 2 AUG 77 PANAM -N533PA
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
FLIGHT LEVEL
450
410
370
330
290
250
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
12.0
ELAPSED TIME IN HOURS

HND TO JFK (PAGE 1 OF 1) DEPARTURE: 2 AUG 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .518 CABIN OZONE= .311 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.43 TOTAL OBS IN CABIN: 83
DATA SOURCE: GASP TAPE VL010, FILE 4 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
8/ 2/77	1007	0:10	304	36.27N	142.53E	-29.	.025	.058	
8/ 2/77	1017	0:20	348	37.01N	144.04E	-41.	.028	.039	
8/ 2/77	1027	0:30	350	38.06N	145.32E	-42.	.039	.058	
8/ 2/77	1042	0:45	350	39.61N	147.36E	-42.	.033	.066	
8/ 2/77	1052	0:55	350	40.60N	148.74E	-45.	.058	.066	
8/ 2/77	1057	1:00	350	41.08N	149.42E	-44.	.017	.060	
8/ 2/77	1107	1:10	350	41.99N	150.85E	-44.	.022	.046	
8/ 2/77	1117	1:20	350	42.86N	152.35E	-44.	.021	.051	
8/ 2/77	1127	1:30	350	43.69N	153.86E	-45.	.023	.057	
8/ 2/77	1137	1:40	350	44.50N	155.43E	-45.	.043	.060	
8/ 2/77	1142	1:45	350	44.90N	156.20E	-45.	.014	.066	
8/ 2/77	1147	1:50	350	45.28N	156.98E	-44.	.040	.091	
8/ 2/77	1152	1:55	350	45.66N	157.80E	-44.	.043	.083	
8/ 2/77	1157	2:00	350	46.03N	158.64E	-44.	.043	.083	
8/ 2/77	1207	2:10	350	46.79N	160.33E	-46.	.046	.111	.41
8/ 2/77	1217	2:20	350	47.59N	162.00E	-48.	.055	.094	
8/ 2/77	1227	2:30	350	48.33N	163.63E	-48.	.061	.073	
8/ 2/77	1237	2:40	350	49.07N	165.36E	-48.	.056	.077	
8/ 2/77	1242	2:45	350	49.42N	166.24E	-48.	.040	.065	
8/ 2/77	1247	2:50	350	49.77N	167.13E	-49.	.045	.072	
8/ 2/77	1252	2:55	350	50.11N	168.04E	-49.	.044	.101	.44
8/ 2/77	1257	3:00	350	50.45N	168.96E	-49.	.037	.133	.28
8/ 2/77	1307	3:10	350	51.19N	170.82E	-50.	.070	.156	.45
8/ 2/77	1317	3:20	370	52.04N	172.63E	-51.	.079	.155	.51
8/ 2/77	1337	3:40	370	53.57N	176.52E	-54.	.135	.154	.88
8/ 2/77	1342	3:45	370	53.93N	177.58E	-54.	.114	.174	.66
8/ 2/77	1347	3:50	370	54.26N	178.60E	-54.	.130	.186	.70
8/ 2/77	1352	3:55	370	54.60N	179.65E	-55.	.120	.185	.65
8/ 2/77	1407	4:10	370	55.55N	177.15W	-58.	.104	.165	.63
8/ 2/77	1417	4:20	370	56.13N	174.94W	-58.	.116	.173	.67
8/ 2/77	1433	4:36	370	56.93N	171.37W	-57.	.046	.057	
8/ 2/77	1444	4:47	370	57.41N	169.08W	-52.	.222	.286	.78
8/ 2/77	1454	4:57	370	57.87N	166.78W	-47.	.208	.222	.94
8/ 2/77	1503	5:06	390	58.28N	164.48W	-45.	.311	.239	1.30
8/ 2/77	1514	5:17	390	58.68N	162.36W	-46.	.113	.476	.238
8/ 2/77	1519	5:22	390	58.71N	161.09W	-46.	.113	.502	.238
8/ 2/77	1528	5:31	390	58.74N	158.58W	-47.	.062	.360	.178
8/ 2/77	1533	5:36	390	58.75N	157.34W	-47.	.094	.404	.238
8/ 2/77	1553	5:56	390	59.14N	152.30W	-51.	.088	.464	.198
8/ 2/77	1603	6:06	390	59.31N	149.66W	-54.	.046	.137	.348
8/ 2/77	1613	6:16	390	59.43N	146.91W	-55.	.040	.165	.248
8/ 2/77	1618	6:21	390	59.47N	145.55W	-57.	.039	.143	.278
8/ 2/77	1623	6:26	390	59.50N	144.17W	-59.	.075	.130	.56
8/ 2/77	1628	6:31	390	59.52N	142.76W	-59.	.105	.146	.72
8/ 2/77	1633	6:36	390	59.52N	141.33W	-55.	.226	.382	.59
8/ 2/77	1643	6:46	390	59.52N	138.48W	-54.	.249	.373	.67
8/ 2/77	1653	6:56	390	59.54N	135.65W	-53.	.254	.348	.73
8/ 2/77	1704	7:07	390	59.49N	132.75W	-53.	.100	.358	.288
8/ 2/77	1713	7:16	390	59.39N	129.98W	-51.	.086	.373	.238
8/ 2/77	1718	7:21	390	59.32N	128.58W	-52.	.107	.443	.248
8/ 2/77	1723	7:26	390	59.23N	127.19W	-52.	.121	.462	.268
8/ 2/77	1728	7:31	390	59.13N	125.79W	-52.	.111	.477	.238
8/ 2/77	1733	7:36	390	59.01N	124.41W	-50.	.111	.413	.278
8/ 2/77	1743	7:46	390	58.85N	122.07W	-49.	.111	.485	.238
8/ 2/77	1754	7:57	390	58.69N	119.25W	-51.	.113	.484	.238
8/ 2/77	1804	8:07	402	58.59N	116.58W	-50.	.224	.489	.46
8/ 2/77	1819	8:22	410	57.25N	113.04W	-50.	.068	.295	.238
8/ 2/77	1824	8:27	410	56.85N	111.91W	-49.	.115	.478	.248
8/ 2/77	1829	8:32	410	56.51N	110.78W	-49.	.090	.299	.308
8/ 2/77	1834	8:37	410	56.24N	109.55W	-49.	.050	.156	.328
8/ 2/77	1844	8:47	410	55.67N	107.12W	-49.	.035	.150	.238
8/ 2/77	1853	8:56	410	55.07N	104.82W	-47.	.102	.518	.208
8/ 2/77	1903	9:06	410	54.39N	1[illegible].50W	-47.	.085	.258	.338
8/ 2/77	1918	9:21	410	53.32N	99.22W	-47.	.113	.500	.238
8/ 2/77	1924	9:27	410	52.92N	98.12W	-47.	.089	.422	.218
8/ 2/77	1929	9:32	410	52.54N	97.11W	-48.	.087	.441	.208
8/ 2/77	1943	9:46	410	51.35N	94.14W	-49.	.099	.389	.258
8/ 2/77	1953	9:56	410	50.67N	92.39W	-49.	.081	.393	.218
8/ 2/77	2003	10:06	410	49.80N	90.54W	-47.	.071	.211	.348
8/ 2/77	2013	10:16	410	48.90N	88.77W	-50.	.063	.458	.148
8/ 2/77	2018	10:21	410	48.44N	87.91W	-49.	.056	.274	.208
8/ 2/77	2023	10:26	410	47.98N	87.07W	-49.	.082	.428	.198
8/ 2/77	2028	10:31	410	47.52N	86.26W	-49.	.079	.419	.198
8/ 2/77	2033	10:36	410	47.05N	85.45W	-50.	.093	.393	.248
8/ 2/77	2043	10:46	410	46.16N	83.87W	-52.	.052	.301	.178
8/ 2/77	2053	10:56	410	45.31N	82.21W	-55.	.058	.281	.218
8/ 2/77	2103	11:06	410	44.53N	80.51W	-61.	.123	.184	.67
8/ 2/77	2113	11:16	410	43.76N	78.83W	-63.	.238	.167	1.43
8/ 2/77	2118	11:21	410	43.36N	78.00W	-63.	.099	.162	.61
8/ 2/77	2123	11:26	410	42.97N	77.19W	-60.	.157	.216	.73
8/ 2/77	2128	11:31	410	42.57N	76.39W	-61.	.182	.216	.84
8/ 2/77	2133	11:36	410	42.16N	75.60W	-60.	.128	.170	.75
8/ 2/77	2138A	11:41	312	41.76N	74.76W	-40.	.068	.088	


JFK TO HND DEPARTURE 3 AUG 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0 13.0
ELAPSED TIME IN HOURS

JFK TO HNU (PAGE 1 OF 2) DEPARTURE: 3 AUG 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .505 CABIN OZONE= .255 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .95 TOTAL OBS IN CABIN: 95
DATA SOURCE: GASP TAPE VL010, FILE 4
AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED
AN "M" AFTER THE GMT BELOW DENOTES GMT MISSING ON THE ORIGINAL DATA TAPE

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
8/ 3/77	1649	0:10	326	42.26N	75.37W	-43.	.010	.085	
8/ 3/77	1659	0:20	350	43.43N	76.38W	-49.	.013	.101	.13
8/ 3/77	1709	0:30	350	44.60N	77.45W	-52.	.029	.104	.28
8/ 3/77	1719	0:40	350	45.76N	78.55W	-55.	.056	.102	.55
8/ 3/77	1724	0:45	350	46.32N	79.11W	-55.	.040	.159	.25
8/ 3/77	1729	0:50	350	46.89N	79.69W	-55.	.106	.206	.51
8/ 3/77	1734	0:55	350	47.45N	80.27W	-57.	.058	.115	.50
8/ 3/77	1739	1:00	350	47.98N	80.84W	-57.	.083	.176	.47
8/ 3/77	1749	1:10	350	49.02N	81.99W	-57.	.149	.269	.55
8/ 3/77	1759	1:20	350	49.89N	83.30W	-58.	.077	.236	.33
8/ 3/77	1809	1:30	350	50.68N	84.85W	-52.	.217	.400	.54
8/ 3/77	1819	1:40	350	51.47N	86.48W	-51.	.207	.377	.55
8/ 3/77	1824	1:45	350	51.85N	87.31W	-54.	.164	.325	.50
8/ 3/77	1829	1:50	350	52.22N	88.14W	-52.	.163	.353	.46
8/ 3/77	1834	1:55	350	52.58N	88.96W	-53.	.174	.323	.54
8/ 3/77	1839	2:00	350	52.93N	89.79W	-53.	.145	.295	.49
8/ 3/77	1849	2:10	350	53.60N	91.45W	-57.	.128	.135	.95
8/ 3/77	1859	2:20	350	54.23N	93.13W	-58.	.066	.109	.61
8/ 3/77	1909	2:30	350	54.85N	94.91W	-57.	.055	.106	.52
8/ 3/77	1917M	2:38	350	55.46N	96.72W	-57.	.038	.067	
8/ 3/77	1922M	2:43	350	55.76N	97.66W	-56.	.108	.161	.67
8/ 3/77	1927M	2:48	350	56.07N	98.60W	-55.	.127	.234	.54
8/ 3/77	1932M	2:53	350	56.37N	99.56W	-54.	.149	.322	.46
8/ 3/77	1937M	2:58	350	56.67N	100.54W	-53.	.219	.364	.60
8/ 3/77	1946M	3:07	350	57.40N	102.45W	-49.	.154	.399	.39
8/ 3/77	1955M	3:16	350	58.16N	104.43W	-46.	.222	.431	.52
8/ 3/77	2005M	3:26	350	58.91N	106.54W	-46.	.206	.384	.54
8/ 3/77	2015M	3:36	350	59.59N	108.74W	-46.	.242	.463	.52
8/ 3/77	2020M	3:41	350	59.75N	110.01W	-46.	.222	.398	.56
8/ 3/77	2025M	3:46	350	59.91N	111.28W	-46.	.241	.436	.55
8/ 3/77	2030M	3:51	350	60.11N	112.51W	-49.	.162	.422	.38
8/ 3/77	2035M	3:56	350	60.37N	113.72W	-54.	.153	.257	.60
8/ 3/77	2044M	4:05	350	60.83N	116.06W	-56.	.111	.241	.46
8/ 3/77	2053M	4:14	350	61.28N	118.39W	-55.	.073	.140	.52
8/ 3/77	2102M	4:23	350	61.69N	120.77W	-55.	.045	.074	
8/ 3/77	2111M	4:32	390	62.01N	123.26W	-55.	.151	.284	.53
8/ 3/77	2116M	4:37	390	62.16N	124.60W	-56.	.187	.388	.48
8/ 3/77	2121M	4:42	390	62.30N	125.95W	-55.	.100	.432	.23
8/ 3/77	2126M	4:47	390	62.42N	127.30W	-56.	.058	.399	.15
8/ 3/77	2131M	4:52	390	62.52N	128.66W	-54.	.229	.437	.52
8/ 3/77	2140M	5:01	390	62.71N	131.46W	-54.	.146	.481	.30
8/ 3/77	2150M	5:11	390	62.85N	134.34W	-54.	.145	.378	.38
8/ 3/77	2200M	5:21	390	62.94N	137.22W	-57.	.127	.226	.56
8/ 3/77	2210M	5:31	390	62.96N	140.10W	-59.	.096	.235	.41
8/ 3/77	2215M	5:36	390	62.95N	141.57W	-61.	.152	.234	.65
8/ 3/77	2220M	5:41	390	62.76N	142.97W	-60.	.132	.241	.55
8/ 3/77	2225M	5:46	390	62.49N	144.36W	-63.	.064	.104	.62
8/ 3/77	2230M	5:51	390	62.21N	145.71W	-62.	.048	.076	
8/ 3/77	2240A	6:01	390	61.60N	148.42W	-63.	.041	.085	
8/ 3/77	2245M	6:06	398	61.42N	149.77W	-59.	.046	.199	.23
8/ 3/77	2305M	6:26	411	61.25N	155.66W	-50.	.197	.376	.52
8/ 3/77	2315M	6:36	410	61.06N	158.62W	-49.	.189	.332	.57
8/ 3/77	2320M	6:41	411	60.95N	160.05W	-47.	.202	.393	.51
8/ 3/77	2325M	6:46	411	60.81N	161.53W	-46.	.255	.440	.58
8/ 3/77	2330M	6:51	411	60.48N	162.81W	-44.	.253	.414	.61
8/ 3/77	2335M	6:56	410	60.08N	164.01W	-44.	.243	.419	.58
8/ 3/77	2355M	7:16	410	58.18N	168.23W	-43.	.160	.458	.35
8/ 4/77	0005M	7:26	410	57.17N	170.20W	-44.	.131	.376	.35
8/ 4/77	0015M	7:36	410	56.36N	172.43W	-47.	.167	.417	.40
8/ 4/77	0020M	7:41	410	55.94N	173.50W	-49.	.254	.505	.50
8/ 4/77	0025M	7:46	411	55.53N	174.52W	-53.	.229	.479	.48
8/ 4/77	0030M	7:51	411	55.10N	175.54W	-56.	.243	.452	.54
8/ 4/77	0035M	7:56	411	54.68N	176.50W	-58.	.048	.236	.20
8/ 4/77	0045M	8:06	410	53.84N	178.31W	-63.	.051	.166	.31
8/ 4/77	0055M	8:16	410	52.99N	179.98E	-64.	.035	.073	
8/ 4/77	0105M	8:26	411	52.21N	178.15E	-62.	.033	.098	
8/ 4/77	0115M	8:36	411	51.45N	176.46E	-61.	.032	.072	
8/ 4/77	0129M	8:50	410	50.27N	174.07E	-59.	.028	.076	
8/ 4/77	0134M	8:55	411	49.84N	173.26E	-58.	.057	.109	.52
8/ 4/77	0143M	9:04	411	49.02N	171.75E	-58.	.047	.115	.41
8/ 4/77	0152M	9:13	411	48.18N	170.30E	-59.	.043	.106	.41
8/ 4/77	0201M	9:22	411	47.47N	168.75E	-61.	.104	.212	.49
8/ 4/77	0210M	9:31	411	46.76N	167.18E	-60.	.113	.193	.59
8/ 4/77	0215M	9:36	411	46.40N	166.41E	-61.	.109	.194	.56
8/ 4/77	0220M	9:41	411	46.04N	165.66E	-63.	.079	.090	
8/ 4/77	0225M	9:46	410	45.66N	164.88E	-63.	.028	.061	
8/ 4/77	0230M	9:51	411	45.28N	164.13E	-61.	.058	.134	.43
8/ 4/77	0239M	10:00	411	44.52N	162.69E	-61.	.047	.103	.46
8/ 4/77	0249M	10:10	411	43.70N	161.20E	-62.	.026	.055	
8/ 4/77	0259M	10:20	411	42.90N	159.72E	-61.	.025	.052	
8/ 4/77	0309M	10:30	430	42.34N	158.10E	-65.	.053	.099	
8/ 4/77	0314M	10:35	430	42.05N	157.31E	-65.	.035	.095	
8/ 4/77	0319M	10:40	430	41.76N	156.52E	-65.	.033	.088	
8/ 4/77	0324M	10:45	430	41.46N	155.74E	-65.	.038	.084	
8/ 4/77	0329M	10:50	430	41.16N	154.97E	-64.	.047	.077	
8/ 4/77	0334M	10:55	430	40.85N	154.21E	-64.	.006	.077	
8/ 4/77	0344M	11:05	430	40.20N	152.67E	-64.	.057	.066	
8/ 4/77	0354M	11:15	430	39.53N	151.15E	-64.	.018	.061	
8/ 4/77	0404M	11:25	430	38.86N	149.67E	-63.	.019	.044	
8/ 4/77	0414M	11:35	430	38.23N	148.16E	-63.	.016	.064	
8/ 4/77	0419M	11:40	430	37.90N	147.42E	-63.	.013	.066	
8/ 4/77	0424M	11:45	430	37.56N	146.67E	-62.	.016	.044	

JFK TO HNO (PAGE 2 OF 2) DEPARTURE: 3 AUG 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .505 CABIN OZONE= .255 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .95 TOTAL OBS IN CABIN: 95
DATA SOURCE: GASP TAPE VL010, FILE 4
AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED
AN "M" AFTER THE GMT BELOW DENOTES GMT MISSING ON THE ORIGINAL DATA TAPE

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	OZONE(PPMV) AMB.	RATIO
8/ 4/77	0429M	11:50	430	37.22N	145.92E	-62.	.015	.072	
8/ 4/77	0434M	11:55	430	36.86N	145.17E	-62.	.021	.067	
8/ 4/77	0449M	12:10	430	35.89N	142.96E	-61.	.006	.068	

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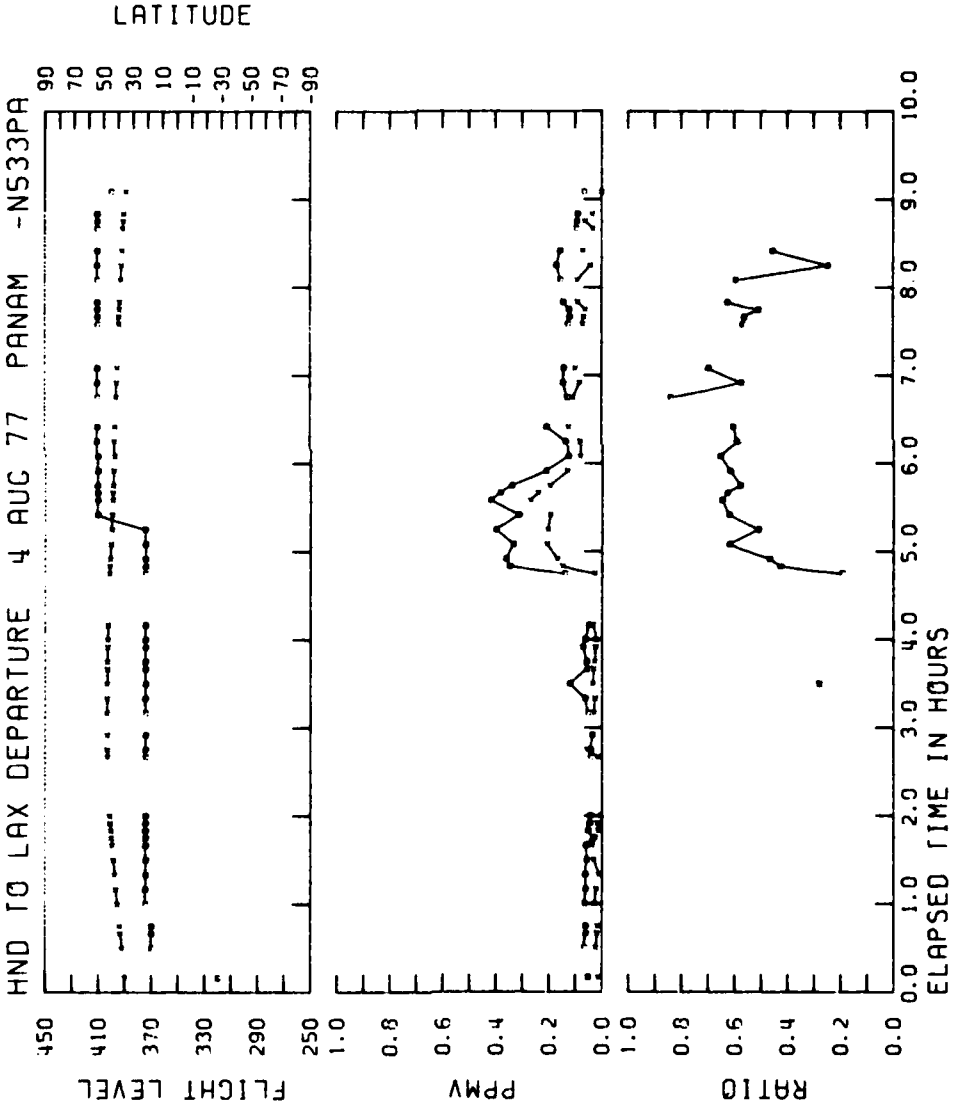
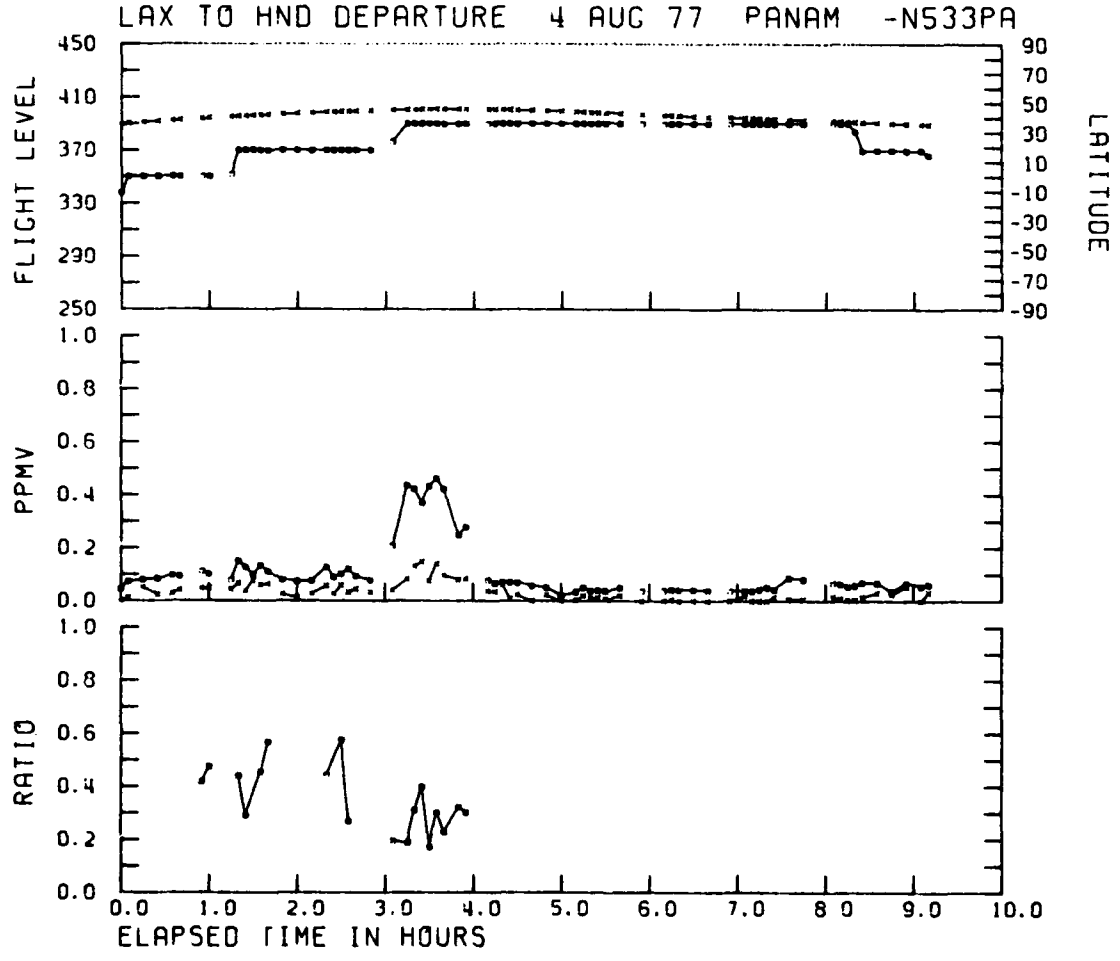

HND TO LAX DEPARTURE 4 AUG 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0
ELAPSED TIME IN HOURS

HND TO LAX (PAGE 1 OF 1) DEPARTURE: 4 AUG 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .419 CABIN OZONE= .271 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .84 TOTAL OBS IN CABIN: 50
DATA SOURCE: GASP TAPE VL010, FILE 4 AN "M" AFTER THE GMT BELOW DENOTES GMT MISSING ON THE ORIGINAL DATA TAPE

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
8/ 4/77	0824	0:10	320	36.12N	143.01E	-33.	.013	.053	
8/ 4/77	0844	0:30	370	38.14N	145.38E	-47.	.024	.066	
8/ 4/77	0854	0:40	370	39.14N	146.67E	-47.	.018	.061	
8/ 4/77	0859	0:45	370	39.62N	147.32E	-47.	.017	.061	
8/ 4/77	0914	1:00	375	41.09N	149.40E	-48.	.027	.065	
8/ 4/77	0924	1:10	375	42.03N	150.88E	-49.	.021	.061	
8/ 4/77	0934	1:20	374	42.93N	152.44E	-49.	.012	.062	
8/ 4/77	0944	1:30	374	43.82N	154.08E	-50.	.031	.057	
8/ 4/77	0954	1:40	374	44.69N	155.76E	-50.	.036	.060	
8/ 4/77	0959	1:45	374	45.11N	156.61E	-50.	.026	.033	
8/ 4/77	1004	1:50	374	45.52N	157.46E	-50.	.013	.052	
8/ 4/77	1009	1:55	374	45.94N	158.37E	-51.	.017	.046	
8/ 4/77	1014	2:00	374	46.35N	159.27E	-51.	.004	.044	
8/ 4/77	1054	2:40	374	47.78N	167.73E	-52.	.014	.043	
8/ 4/77	1059	2:45	374	47.89N	168.81E	-52.	.055	.042	
8/ 4/77	1109	2:55	374	48.04N	170.96E	-53.		.035	
8/ 4/77	1124	3:10	374	48.10N	174.24E	-53.	.030	.053	
8/ 4/77	1134	3:20	375	48.10N	176.38E	-54.	.026	.063	
8/ 4/77	1144	3:30	374	48.05N	178.50E	-55.	.034	.121	.28
8/ 4/77	1154	3:40	374	47.96N	179.37W	-55.	.031	.057	
8/ 4/77	1159	3:45	375	47.89N	178.32W	-55.	.027	.058	
8/ 4/77	1209	3:55	374	47.73N	176.21W	-55.	.023	.071	
8/ 4/77	1214	4:00	374	47.63N	175.19W	-55.	.023	.062	
8/ 4/77	1224	4:10	374	47.40N	173.07W	-55.	.033	.049	
8/ 4/77	1259	4:45	374	46.30N	165.87W	-58.	.027	.140	.19
8/ 4/77	1304	4:50	374	46.10N	164.86W	-53.	.148	.347	.43
8/ 4/77	1309	4:55	374	45.89N	163.84W	-51.	.169	.362	.47
8/ 4/77	1319	5:05	375	45.45N	161.86W	-48.	.207	.334	.62
8/ 4/77	1329	5:15	375	44.98N	159.86W	-47.	.204	.400	.51
8/ 4/77	1339	5:25	411	44.65N	157.85W	-50.	.194	.313	.62
8/ 4/77	1349	5:35	410	44.30N	155.90W	-49.	.271	.419	.65
8/ 4/77	1354	5:40	411	44.11N	154.93W	-51.	.241	.384	.63
8/ 4/77	1359	5:45	411	43.91N	153.95W	-52.	.197	.341	.58
8/ 4/77	1410	5:56	410	43.48N	151.99W	-53.	.130	.211	.62
8/ 4/77	1419	6:05	411	43.08N	150.33W	-56.	.083	.127	.65
8/ 4/77	1429	6:15	411	42.72N	148.23W	-57.	.079	.134	.59
8/ 4/77	1439	6:25	410	42.38N	146.36W	-57.	.124	.206	.60
8/ 4/77	1459	6:45	411	41.67N	142.84W	-56.	.109	.130	.84
8/ 4/77	1509	6:55	411	41.27N	141.12W	-54.	.083	.145	.57
8/ 4/77	1519	7:05	411	40.91N	139.43W	-54.	.099	.142	.70
8/ 4/77	1549M	7:35	410	39.96N	134.22W	-53.	.072	.127	.57
8/ 4/77	1554M	7:40	411	39.77N	133.33W	-55.	.068	.121	.56
8/ 4/77	1559M	7:45	411	39.58N	132.45W	-55.	.062	.122	.51
8/ 4/77	1604M	7:50	411	39.39N	131.62W	-55.	.090	.144	.63
8/ 4/77	1620M	8:06	411	38.72N	128.95W	-55.	.092	.155	.59
8/ 4/77	1631M	8:17	411	38.23N	127.16W	-53.	.042	.170	.25
8/ 4/77	1642M	8:28	411	37.72N	125.40W	-54.	.071	.156	.46
8/ 4/77	1658M	8:44	411	37.30N	122.74W	-53.	.033	.097	
8/ 4/77	1703M	8:49	411	36.95N	121.93W	-54.	.062	.093	
8/ 4/77	1708M	8:54	411	36.58N	121.18W	-54.	.035	.090	
8/ 4/77	1723M	9:09	400	35.11N	119.39W	-56.	.000	.066	

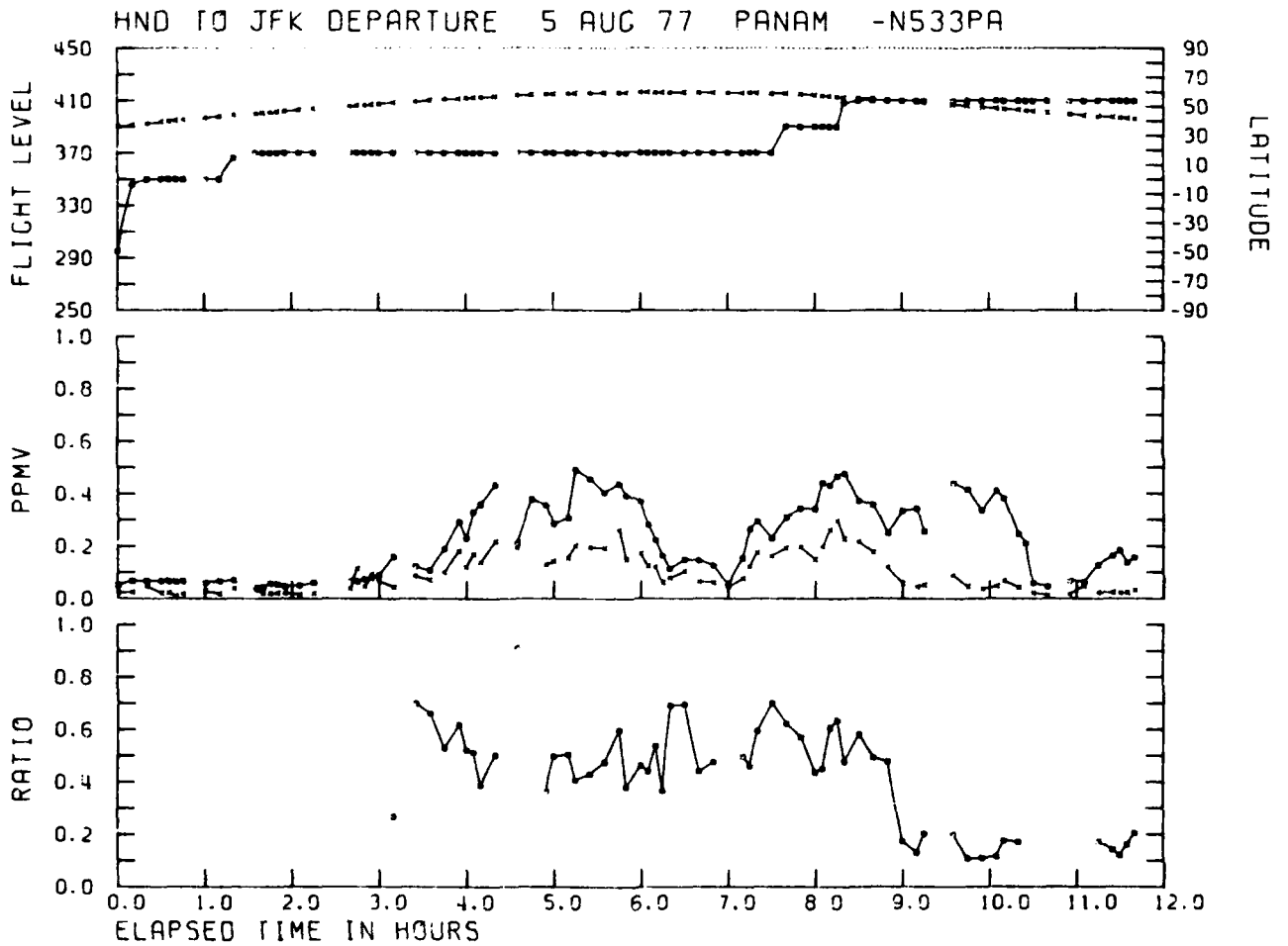

LAX TO HND DEPARTURE 4 AUG 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
ELAPSED TIME IN HOURS

LAX TO HND (PAGE 1 OF 1) DEPARTURE: 4 AUG 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .460 CABIN OZONE= .147 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .57 TOTAL OBS IN CABIN: 70
DATA SOURCE: GASP TAPE VL010, FILE 4 AN "M" AFTER THE GMT BELOW DENOTES GMT MISSING ON THE ORIGINAL DATA TAPE

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO		MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO	
8/ 4/77	0000M	0:00	338	35.48N	120.42W	-46.	.000	.046			8/ 4/77	0427M	4:27	390	45.41N	166.89W	-60.	.008	.069		B
8/ 4/77	0009M	0:09	350	36.39N	121.55W	-49.	.012	.073			8/ 4/77	0432M	4:32	390	45.30N	167.79W	-60.	.023	.068		B
8/ 4/77	0018M	0:18	350	37.13N	122.80W	-49.	.051	.080			8/ 4/77	0442M	4:42	390	45.04N	169.66W	-60.	.000	.056		B
8/ 4/77	0027M	0:27	350	37.69N	124.20W	-49.	.024	.084			8/ 4/77	0452M	4:52	390	44.75N	171.52W	-60.	.022	.050		B
8/ 4/77	0036M	0:36	350	38.29N	125.59W	-49.	.029	.097			8/ 4/77	0502M	5:02	390	44.42N	173.38W	-59.	.000	.021		B
8/ 4/77	0041M	0:41	350	38.58N	126.30W	-49.	.041	.094			8/ 4/77	0512M	5:12	390	44.07N	175.20W	-59.	.004	.034		B
8/ 4/77	0055M	0:55	350	39.43N	128.44W	-49.	.047	.112	.42		8/ 4/77	0517M	5:17	390	43.88N	176.13W	-58.	.019	.051		B
8/ 4/77	0104M	1:04	350	39.98N	129.92W	-50.	.048	.101	.48		8/ 4/77	0522M	5:22	390	43.67N	177.08W	-58.	.011	.038		B
8/ 4/77	0118M	1:18	352	40.80N	132.25W	-52.	.044	.080			8/ 4/77	0527M	5:27	390	43.46N	178.02W	-58.	.012	.040		B
8/ 4/77	0123M	1:23	370	41.06N	133.05W	-54.	.066	.150	.44		8/ 4/77	0532M	5:32	390	43.24N	178.95W	-58.	.007	.038		B
8/ 4/77	0128M	1:28	370	41.33N	133.88W	-54.	.037	.127	.29		8/ 4/77	0542M	5:42	390	42.86N	179.18E	-58.	.019	.050		B
8/ 4/77	0133M	1:33	370	41.58N	134.69W	-54.	.076	.098			8/ 4/77	0557M	5:57	390	42.37N	176.38E	-58.	.000	.039		B
8/ 4/77	0138M	1:38	370	41.83N	135.53W	-55.	.060	.132	.45		8/ 4/77	0613M	6:13	390	41.81N	173.61E	-57.	.002	.040		B
8/ 4/77	0143M	1:43	370	42.08N	136.39W	-54.	.063	.111	.57		8/ 4/77	0618M	6:18	390	41.61N	172.70E	-57.	.004	.043		B
8/ 4/77	0153M	1:53	370	42.55N	138.12W	-55.	.026	.079			8/ 4/77	0623M	6:23	390	41.40N	171.80E	-57.	.000	.042		B
8/ 4/77	0203M	2:03	370	43.00N	139.92W	-55.	.012	.073			8/ 4/77	0634M	6:34	390	40.96N	170.00E	-57.	.000	.042		B
8/ 4/77	0213M	2:13	370	43.42N	141.67W	-55.	.028	.075			8/ 4/77	0644M	6:44	390	40.66N	168.16E	-56.	.000	.040		B
8/ 4/77	0223M	2:23	370	43.81N	143.44W	-56.	.056	.126	.44		8/ 4/77	0655M	6:55	390	40.34N	166.32E	-56.	.001	.039		B
8/ 4/77	0228M	2:28	370	44.00N	144.31W	-58.	.027	.089			8/ 4/77	0706M	7:06	390	39.98N	164.49E	-56.	.019	.039		B
8/ 4/77	0233M	2:33	370	44.17N	145.18W	-58.	.058	.101	.57		8/ 4/77	0711M	7:11	390	39.79N	163.58E	-56.	.000	.038		B
8/ 4/77	0238M	2:38	370	44.35N	146.07W	-56.	.032	.119	.27		8/ 4/77	0716M	7:16	390	39.59N	162.67E	-56.	.000	.044		B
8/ 4/77	0243M	2:43	370	44.51N	146.94W	-57.	.044	.092			8/ 4/77	0721M	7:21	390	39.39N	161.77E	-56.	.000	.052		B
8/ 4/77	0252M	2:52	370	44.81N	148.67W	-58.	.032	.077			8/ 4/77	0726M	7:26	390	39.17N	160.87E	-55.	.015	.044		B
8/ 4/77	0306M	3:06	376	45.19N	151.22W	-58.	.040	.206	.19		8/ 4/77	0737M	7:37	390	38.81N	159.07E	-55.	.008	.087		B
8/ 4/77	0315M	3:15	390	45.42N	153.01W	-51.	.082	.435	.198		8/ 4/77	0748M	7:48	390	38.50N	157.27E	-54.	.007	.082		B
8/ 4/77	0320M	3:20	390	45.52N	153.93W	-48.	.131	.421	.318		8/ 4/77	0809M	8:09	390	37.79N	153.70E	-52.	.017	.068		B
8/ 4/77	0325M	3:25	390	45.61N	154.86W	-48.	.147	.369	.408		8/ 4/77	0814M	8:14	390	37.60N	152.82E	-52.	.008	.064		B
8/ 4/77	0330M	3:30	390	45.70N	155.78W	-47.	.074	.431	.178		8/ 4/77	0819M	8:19	390	37.40N	151.95E	-53.	.004	.055		B
8/ 4/77	0335M	3:35	390	45.78N	156.71W	-48.	.138	.460	.308		8/ 4/77	0824M	8:24	384	37.20N	151.10E	-51.	.004	.058		
8/ 4/77	0344M	3:44	390	45.91N	158.59W	-49.	.096	.421	.238		8/ 4/77	0829M	8:29	370	36.99N	150.21E	-46.	.015	.069		
8/ 4/77	0353M	3:53	390	45.97N	160.46W	-53.	.080	.248	.328		8/ 4/77	0839M	8:39	370	36.66N	148.47E	-46.	.031	.068		
8/ 4/77	0358M	3:58	390	45.91N	161.38W	-58.	.084	.278	.308		8/ 4/77	0849M	8:49	370	36.34N	146.79E	-46.	.026	.036		
8/ 4/77	0412M	4:12	390	45.69N	164.16W	-60.	.036	.077	B		8/ 4/77	0859M	8:59	370	35.99N	145.14E	-46.	.054	.068		
8/ 4/77	0417M	4:17	390	45.61N	165.05W	-60.	.034	.066	B		8/ 4/77	0909M	9:09	370	35.64N	143.52E	-46.	.001	.056		
8/ 4/77	0422M	4:22	390	45.51N	165.98W	-60.	.059	.070	B		8/ 4/77	0914M	9:14	366	35.51N	142.71E	-46.	.032	.062		

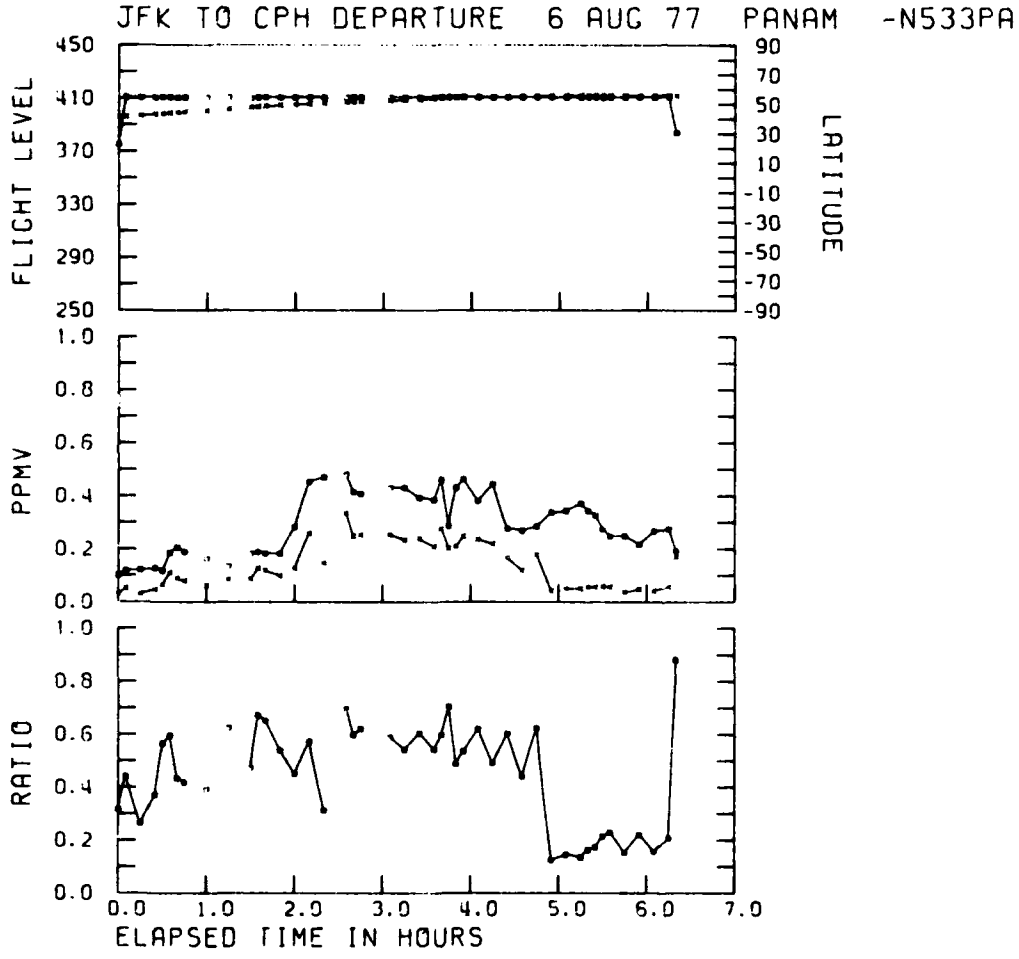
A377


HND TO JFK DEPARTURE 5 AUG 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0
ELAPSED TIME IN HOURS

MND TO JFK (PAGE 1 OF 1) DEPARTURE: 5 AUG 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .491 CABIN OZONE= .296 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .91 TOTAL OBS IN CABIN: 81
DATA SOURCE: GASP TAPE VL010, FILE 4 AN "M" AFTER THE GMT BELOW DENOTES GMT MISSING ON THE ORIGINAL DATA TAPE

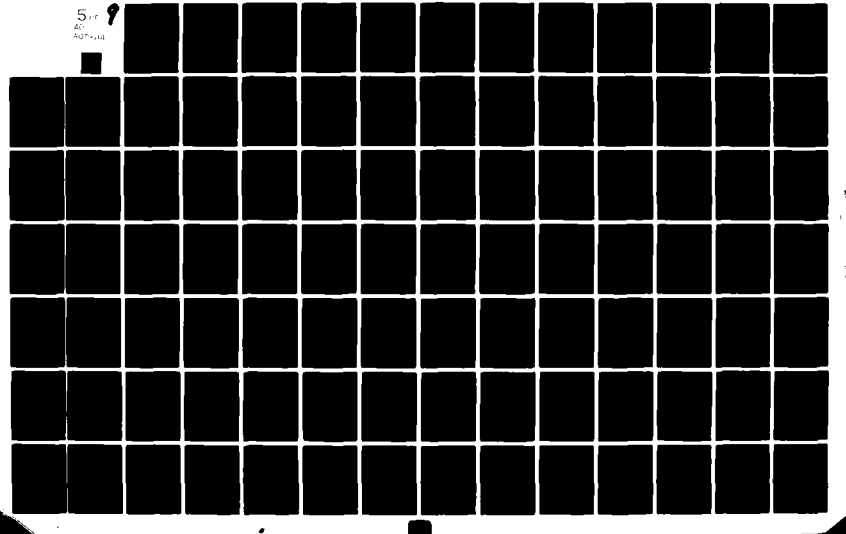
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
8/ 5/77	0000M	0:00	295	36.55N	142.75E	-27.	.024	.051	
8/ 5/77	0010M	0:10	346	37.29N	144.34E	-38.	.025	.067	
8/ 5/77	0021M	0:21	350	38.36N	145.69E	-40.	.046	.066	
8/ 5/77	0032M	0:32	350	39.42N	147.08E	-41.	.021	.067	
8/ 5/77	0037M	0:37	350	39.94N	147.79E	-41.	.022	.066	
8/ 5/77	0042M	0:42	350	40.45N	148.51E	-41.	.009	.064	
8/ 5/77	0047M	0:47	350	40.96N	149.25E	-41.	.017	.066	
8/ 5/77	0103M	1:03	350	42.40N	151.54E	-41.	.028	.061	
8/ 5/77	0113M	1:13	350	43.30N	153.14E	-41.	.018	.067	
8/ 5/77	0124M	1:24	366	44.19N	154.81E	-46.	.038	.069	
8/ 5/77	0135M	1:35	370	45.04N	156.52E	-48.	.032	.043	
8/ 5/77	0140M	1:40	370	45.45N	157.37E	-48.	.020	.043	
8/ 5/77	0145M	1:45	370	45.86N	158.26E	-48.	.020	.057	
8/ 5/77	0150M	1:50	370	46.27N	159.16E	-49.	.021	.054	
8/ 5/77	0156M	1:56	370	46.68N	160.09E	-49.	.020	.046	
8/ 5/77	0207M	2:07	370	47.56N	161.92E	-49.	.013	.049	
8/ 5/77	0218M	2:18	370	48.41N	163.81E	-50.	.021	.060	
8/ 5/77	0240M	2:40	370	50.03N	167.82E	-49.	.037	.067	
8/ 5/77	0246M	2:46	370	50.41N	168.87E	-49.	.113	.065	
8/ 5/77	0252M	2:52	370	50.78N	169.92E	-50.	.047	.074	
8/ 5/77	0257M	2:57	370	51.22N	170.87E	-50.	.091	.079	
8/ 5/77	0302M	3:02	370	51.67N	171.81E	-49.	.067	.088	
8/ 5/77	0313M	3:13	370	52.56N	173.79E	-50.	.043	.160	.27
8/ 5/77	0325M	3:25	370	53.40N	176.04E	-51.	.086	.123	.70
8/ 5/77	0337M	3:37	370	54.19N	178.42E	-51.	.070	.106	.66
8/ 5/77	0349M	3:49	370	54.97N	179.09W	-48.	.100	.189	.53
8/ 5/77	0355M	3:55	370	55.34N	177.81W	-47.	.181	.293	.62
8/ 5/77	0401M	4:01	370	55.69N	176.51W	-45.	.120	.230	.52
8/ 5/77	0407M	4:07	370	56.01N	175.27W	-45.	.169	.330	.51
8/ 5/77	0413M	4:13	370	56.31N	174.02W	-45.	.139	.359	.39
8/ 5/77	0424M	4:24	370	56.88N	171.49W	-45.	.218	.434	.50
8/ 5/77	0435M	4:35	370	57.41N	168.93W	-45.	.193	.212	.91
8/ 5/77	0445M	4:45	370	57.92N	166.36W	-45.		.378	
8/ 5/77	0456M	4:56	370	58.38N	163.74W	-43.	.129	.355	.36
8/ 5/77	0501M	5:01	370	58.58N	162.43W	-42.	.142	.285	.50
8/ 5/77	0511M	5:11	370	58.91N	159.71W	-40.	.155	.307	.50
8/ 5/77	0516M	5:16	370	59.05N	158.33W	-40.	.200	.491	.41
8/ 5/77	0526M	5:26	370	59.28N	155.58W	-40.	.196	.456	.43
8/ 5/77	0536M	5:36	370	59.46N	152.84W	-42.	.192	.404	.48
8/ 5/77	0546M	5:46	370	59.58N	150.11W	-44.	.261	.437	.60
8/ 5/77	0551M	5:51	370	59.62N	148.79W	-46.	.150	.394	.38
8/ 5/77	0601M	6:01	370	59.65N	146.12W	-54.	.171	.370	.46
8/ 5/77	0606M	6:06	370	59.65N	144.81W	-57.	.124	.281	.44
8/ 5/77	0611M	6:11	370	59.64N	143.51W	-58.	.120	.223	.54
8/ 5/77	0616M	6:16	370	59.61N	142.18W	-60.	.060	.164	.37
8/ 5/77	0621M	6:21	370	59.56N	140.83W	-60.	.078	.113	.69
8/ 5/77	0631M	6:31	370	59.53N	138.12W	-60.	.103	.148	.70
8/ 5/77	0641M	6:41	370	59.54N	135.44W	-58.	.064	.145	.44
8/ 5/77	0651M	6:51	370	59.49N	132.75W	-59.	.060	.126	.48
8/ 5/77	0701M	7:01	370	59.39N	130.09W	-60.	.045	.051	
8/ 5/77	0711M	7:11	370	59.25N	127.44W	-59.	.076	.153	.50
8/ 5/77	0716M	7:16	370	59.16N	126.14W	-59.	.122	.264	.46
8/ 5/77	0721M	7:21	370	59.06N	124.84W	-57.	.174	.293	.59
8/ 5/77	0731M	7:31	370	58.86N	122.26W	-57.	.161	.230	.70
8/ 5/77	0741M	7:41	390	58.74N	119.56W	-52.	.192	.308	.62
8/ 5/77	0751M	7:51	390	58.55N	116.94W	-50.	.196	.343	.57
8/ 5/77	0801M	8:01	390	57.83N	114.57W	-49.	.149	.341	.44
8/ 5/77	0806M	8:06	390	57.45N	113.42W	-50.	.198	.440	.45
8/ 5/77	0811M	8:11	390	57.05N	112.29W	-50.	.261	.431	.61
8/ 5/77	0816M	8:16	390	56.65N	111.18W	-51.	.296	.466	.64
8/ 5/77	0821M	8:21	409	56.36N	109.97W	-50.	.228	.477	.48
8/ 5/77	0831M	8:31	410	55.76N	107.60W	-47.	.217	.373	.58
8/ 5/77	0841M	8:41	410	55.11N	105.28W	-47.	.176	.357	.49
8/ 5/77	0852M	8:52	410	54.52N	102.93W	-47.	.119	.249	.488
8/ 5/77	0903M	9:03	410	53.88N	100.63W	-46.	.058	.334	.178
8/ 5/77	0914M	9:14	410	53.11N	98.50W	-46.	.045	.343	.138
8/ 5/77	0919M	9:19	410	52.72N	97.48W	-47.	.052	.257	.208
8/ 5/77	0935M	9:35	410	51.45N	94.44W	-48.	.088	.441	.208
8/ 5/77	0946M	9:46	410	50.47N	92.61W	-48.	.045	.415	.118
8/ 5/77	0957M	9:57	410	49.48N	90.85W	-48.	.037	.336	.118
8/ 5/77	1008M	10:08	410	48.64N	88.85W	-50.	.047	.410	.118
8/ 5/77	1014M	10:14	410	48.21N	87.87W	-51.	.067	.382	.188
8/ 5/77	1020M	10:20	410	47.76N	86.88W	-53.	.042	.246	.178
8/ 5/77	1026M	10:26	410	47.29N	85.86W	-55.		.211	
8/ 5/77	1032M	10:32	410	46.81N	84.88W	-56.	.021	.060	8
8/ 5/77	1044M	10:44	410	45.85N	82.96W	-57.	.010	.045	8
8/ 5/77	1056M	10:56	410	44.84N	81.22W	-58.	.016	.068	8
8/ 5/77	1106M	11:06	410	43.85N	79.46W	-57.	.047	.063	8
8/ 5/77	1119M	11:19	410	43.09N	77.63W	-56.	.022	.127	.178
8/ 5/77	1125M	11:25	410	42.70N	76.74W	-55.	.023	.162	.148
8/ 5/77	1130M	11:30	410	42.31N	75.87W	-57.	.022	.183	.128
8/ 5/77	1135M	11:35	410	41.93N	75.01W	-60.	.022	.137	.168
8/ 5/77	1141M	11:41	410	41.61N	74.16W	-60.	.032	.156	.21


JFK TO CPH DEPARTURE 6 AUG 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
ELAPSED TIME IN HOURS

A-380

AD-A079 114 NATIONAL AERONAUTICS AND SPACE ADMINISTRATION CLEVEL--ETC F/G 4/1
SIMULTANEOUS CABIN AND AMBIENT OZONE MEASUREMENTS ON TWO BOEING--ETC(U)
JUL 79 P J PERKINS, J D HOLDEMAN, G D NASTROM

UNCLASSIFIED NASA TM-79166-VOL-1 FAA-AEE-79-05-VOL-1 NL

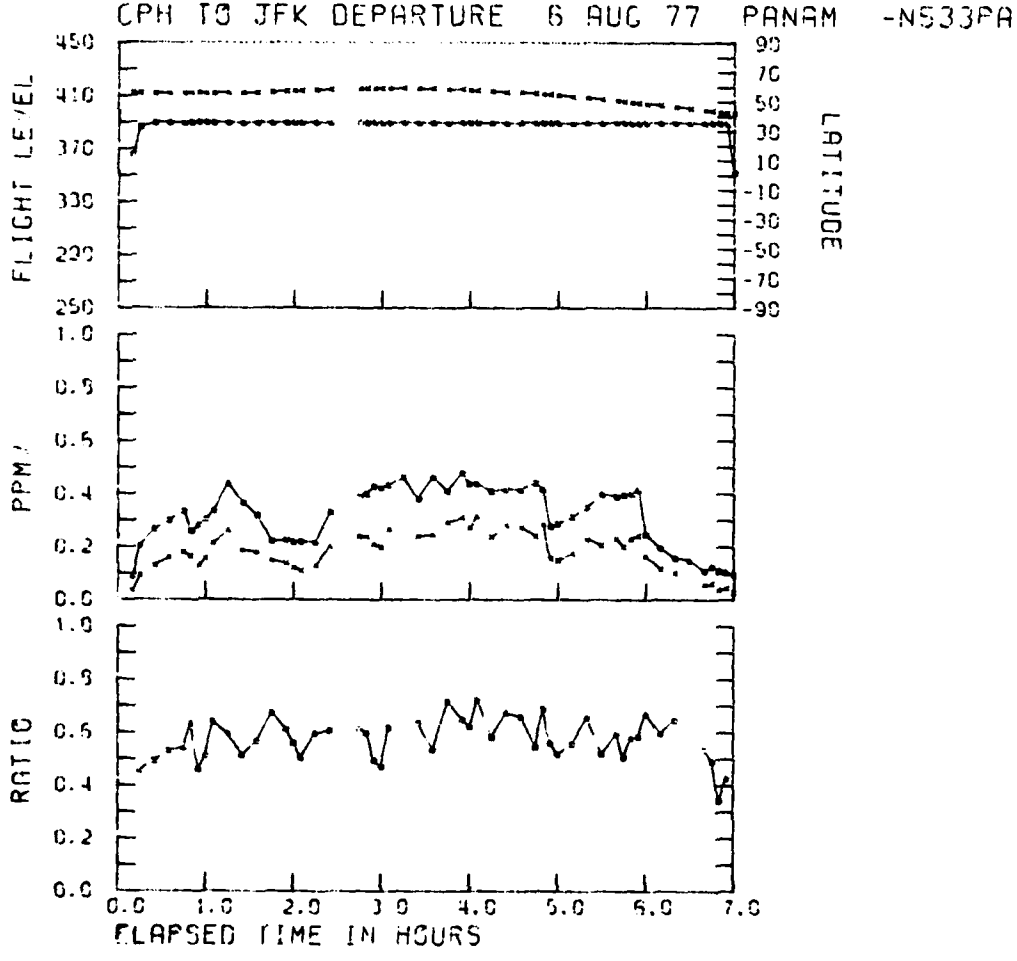


JFK TO CPH (PAGE 1 OF 1) DEPARTURE: 6 AUG 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .481 CABIN OZONE= .335 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .88 TOTAL OBS IN CABIN: 45
DATA SOURCE: GASP TAPE VL010, FILE 4 AN "M" AFTER THE GMT BELOW DENOTES GMT MISSING ON THE ORIGINAL DATA TAPE

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
8/ 6/77	0000M	0:00	375	40.94N	71.37W	-53.	.032	.101	.32
8/ 6/77	0009M	0:09	411	41.58N	69.89W	-62.	.052	.118	.44
8/ 6/77	0019M	0:19	411	42.38N	68.50W	-62.	.032	.121	.26
8/ 6/77	0029M	0:29	411	43.15N	67.08W	-63.	.047	.127	.37
8/ 6/77	0034M	0:34	411	43.54N	66.34W	-62.	.066	.117	.56
8/ 6/77	0039M	0:39	411	43.94N	65.56W	-59.	.110	.185	.59
8/ 6/77	0044M	0:44	411	44.35N	64.74W	-58.	.089	.205	.43
8/ 6/77	0049M	0:49	411	44.76N	63.88W	-58.	.079	.189	.42
8/ 6/77	0100M	1:00	411	45.58N	62.21W	-62.	.064	.163	.39
8/ 6/77	0116M	1:16	411	46.79N	59.66W	-62.	.085	.136	.63
8/ 6/77	0132M	1:32	410	47.94N	56.99W	-63.	.087	.184	.47
8/ 6/77	0137M	1:37	411	48.31N	56.07W	-62.	.126	.188	.67
8/ 6/77	0142M	1:42	411	48.65N	55.18W	-63.	.119	.183	.65
8/ 6/77	0150M	1:50	411	49.13N	53.67W	-64.	.098	.182	.54
8/ 6/77	0201M	2:01	411	49.64N	51.57W	-61.	.127	.282	.45
8/ 6/77	0212M	2:12	411	50.13N	49.46W	-56.	.259	.453	.57
8/ 6/77	0223M	2:23	411	50.64N	47.29W	-55.	.147	.470	.31
8/ 6/77	0239M	2:39	411	51.34N	43.88W	-52.	.335	.481	.70
8/ 6/77	0244M	2:44	411	51.55N	42.74W	-53.	.248	.415	.60
8/ 6/77	0249M	2:49	411	51.74N	41.62W	-54.	.253	.408	.62
8/ 6/77	0305M	3:05	411	52.44N	38.19W	-54.	.254	.431	.59
8/ 6/77	0316M	3:16	411	52.99N	35.84W	-53.	.233	.430	.54
8/ 6/77	0327M	3:27	411	53.44N	33.45W	-52.	.238	.394	.60
8/ 6/77	0338M	3:38	411	53.85N	31.02W	-50.	.209	.385	.54
8/ 6/77	0343M	3:43	411	54.03N	29.80W	-50.	.275	.460	.60
8/ 6/77	0348M	3:48	411	54.19N	28.58W	-48.	.202	.287	.70
8/ 6/77	0353M	3:53	411	54.35N	27.37W	-50.	.210	.430	.49
8/ 6/77	0358M	3:58	411	54.49N	26.15W	-49.	.248	.463	.54
8/ 6/77	0409M	4:09	411	54.73N	23.68W	-49.	.236	.381	.62
8/ 6/77	0419M	4:19	411	54.92N	21.26W	-47.	.218	.444	.49
8/ 6/77	0429M	4:29	411	55.16N	18.83W	-46.	.166	.276	.60
8/ 6/77	0437M	4:37	411	55.39N	17.03W	-47.	.118	.268	.44
8/ 6/77	0447M	4:47	411	55.65N	14.58W	-46.	.177	.284	.62
8/ 6/77	0457M	4:57	411	55.86N	12.05W	-46.	.042	.337	.128
8/ 6/77	0507M	5:07	411	55.99N	9.51W	-46.	.050	.343	.158
8/ 6/77	0517M	5:17	411	56.01N	6.95W	-47.	.050	.370	.148
8/ 6/77	0522M	5:22	411	56.00N	5.67W	-47.	.056	.343	.168
8/ 6/77	0527M	5:27	411	55.98N	4.39W	-48.	.057	.327	.178
8/ 6/77	0532M	5:32	411	55.94N	3.08W	-49.	.059	.275	.218
8/ 6/77	0537M	5:37	411	55.88N	1.85W	-49.	.057	.248	.238
8/ 6/77	0547M	5:47	411	55.89N	.71E	-50.	.038	.248	.158
8/ 6/77	0558M	5:58	411	55.85N	3.31E	-51.	.048	.218	.228
8/ 6/77	0608M	6:08	411	55.83N	5.84E	-52.	.042	.267	.168
8/ 6/77	0618M	6:18	411	55.81N	8.40E	-53.	.057	.275	.21
8/ 6/77	0623M	6:23	384	55.78N	9.68E	-57.	.171	.194	.88

A-381


CPH TO JFK DEPARTURE 6 AUG 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPM
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
ELAPSED TIME IN HOURS

CPH TO JFK (PAGE 1 OF 1) DEPARTURE: 6 AUG 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .479 CABIN OZONE= .315 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .72 TOTAL OBS IN CABIN: 51
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
8/ 6/77	1212	0:10	366	55.67N	9.14E	-58.	.036	.090	
8/ 6/77	1217	0:15	386	55.72N	8.07E	-55.	.092	.202	.46
8/ 6/77	1227	0:25	390	55.79N	5.80E	-51.	.131	.267	.49
8/ 6/77	1237	0:35	390	55.87N	3.48E	-49.	.159	.299	.53
8/ 6/77	1247	0:45	390	55.92N	1.17E	-49.	.181	.334	.54
8/ 6/77	1252	0:50	390	55.93N	.02E	-49.	.164	.259	.63
8/ 6/77	1257	0:55	390	55.93N	1.14W	-48.	.129	.280	.46
8/ 6/77	1302	1:00	390	55.91N	2.30W	-48.	.155	.303	.51
8/ 6/77	1307	1:05	390	55.95N	3.46W	-48.	.215	.336	.64
8/ 6/77	1317	1:15	390	56.01N	5.79W	-46.	.261	.438	.60
8/ 6/77	1327	1:25	390	56.02N	8.16W	-46.	.187	.365	.51
8/ 6/77	1337	1:35	390	56.13N	10.53W	-47.	.181	.319	.57
8/ 6/77	1347	1:45	390	56.66N	12.78W	-47.	.149	.221	.67
8/ 6/77	1357	1:55	390	57.15N	15.07W	-47.	.139	.227	.61
8/ 6/77	1402	2:00	390	57.37N	16.21W	-48.	.122	.218	.56
8/ 6/77	1407	2:05	390	57.58N	17.36W	-49.	.110	.219	.50
8/ 6/77	1417	2:15	390	57.97N	19.74W	-48.	.130	.218	.60
8/ 6/77	1427	2:25	390	58.30N	22.21W	-48.	.201	.331	.61
8/ 6/77	1447	2:45	390	58.80N	27.16W	-47.	.239	.389	.61
8/ 6/77	1452	2:50	390	58.90N	28.42W	-46.	.238	.399	.60
8/ 6/77	1457	2:55	390	58.98N	29.68W	-47.	.211	.428	.49
8/ 6/77	1502	3:00	390	59.04N	30.95W	-46.	.198	.421	.47
8/ 6/77	1507	3:05	390	59.07N	32.23W	-46.	.267	.433	.62
8/ 6/77	1517	3:15	390	59.11N	34.82W	-47.		.462	
8/ 6/77	1527	3:25	390	59.09N	37.43W	-48.	.240	.379	.63
8/ 6/77	1537	3:35	390	59.02N	39.99W	-49.	.247	.463	.53
8/ 6/77	1547	3:45	390	58.63N	42.44W	-49.	.293	.410	.71
8/ 6/77	1557	3:55	390	58.18N	44.82W	-49.	.310	.479	.65
8/ 6/77	1602	4:00	390	57.95N	45.97W	-48.	.271	.436	.62
8/ 6/77	1607	4:05	390	57.70N	47.11W	-49.	.315	.437	.72
8/ 6/77	1617	4:15	390	57.17N	49.38W	-49.	.238	.410	.58
8/ 6/77	1627	4:25	390	56.72N	51.62W	-49.	.280	.416	.67
8/ 6/77	1637	4:35	390	56.28N	53.82W	-51.	.274	.416	.66
8/ 6/77	1647	4:45	390	55.81N	55.94W	-54.	.239	.440	.54
8/ 6/77	1652	4:50	390	55.55N	57.00W	-53.	.286	.416	.69
8/ 6/77	1657	4:55	390	55.10N	57.81W	-56.	.155	.277	.56
8/ 6/77	1702	5:00	390	54.63N	58.55W	-55.	.149	.287	.52
8/ 6/77	1712	5:10	390	53.69N	60.00W	-54.	.174	.313	.56
8/ 6/77	1722	5:20	390	52.82N	61.53W	-53.	.230	.350	.66
8/ 6/77	1732	5:30	390	51.97N	62.98W	-50.	.206	.398	.52
8/ 6/77	1742	5:40	390	50.91N	64.12W	-51.	.231	.390	.59
8/ 6/77	1747	5:45	390	50.39N	64.67W	-51.	.199	.394	.51
8/ 6/77	1752	5:50	390	49.87N	65.20W	-52.	.230	.398	.58
8/ 6/77	1757	5:55	390	49.35N	65.71W	-53.	.242	.415	.58
8/ 6/77	1802	6:00	390	48.83N	66.21W	-52.	.166	.248	.67
8/ 6/77	1812	6:10	390	47.78N	67.18W	-54.	.116	.195	.59
8/ 6/77	1822	6:20	390	46.72N	68.11W	-54.	.102	.158	.65
8/ 6/77	1832	6:30	390	45.64N	69.01W	-54.		.148	
8/ 6/77	1842	6:40	390	44.52N	69.90W	-55.	.059	.110	.54
8/ 6/77	1847	6:45	390	43.94N	70.35W	-57.	.061	.124	.49
8/ 6/77	1852	6:50	390	43.35N	70.81W	-56.	.038	.111	.34
8/ 6/77	1857	6:55	389	42.74N	71.27W	-56.	.045	.105	.43
8/ 6/77	1902	7:00	352	42.15N	71.71W	-46.	.028	.096	

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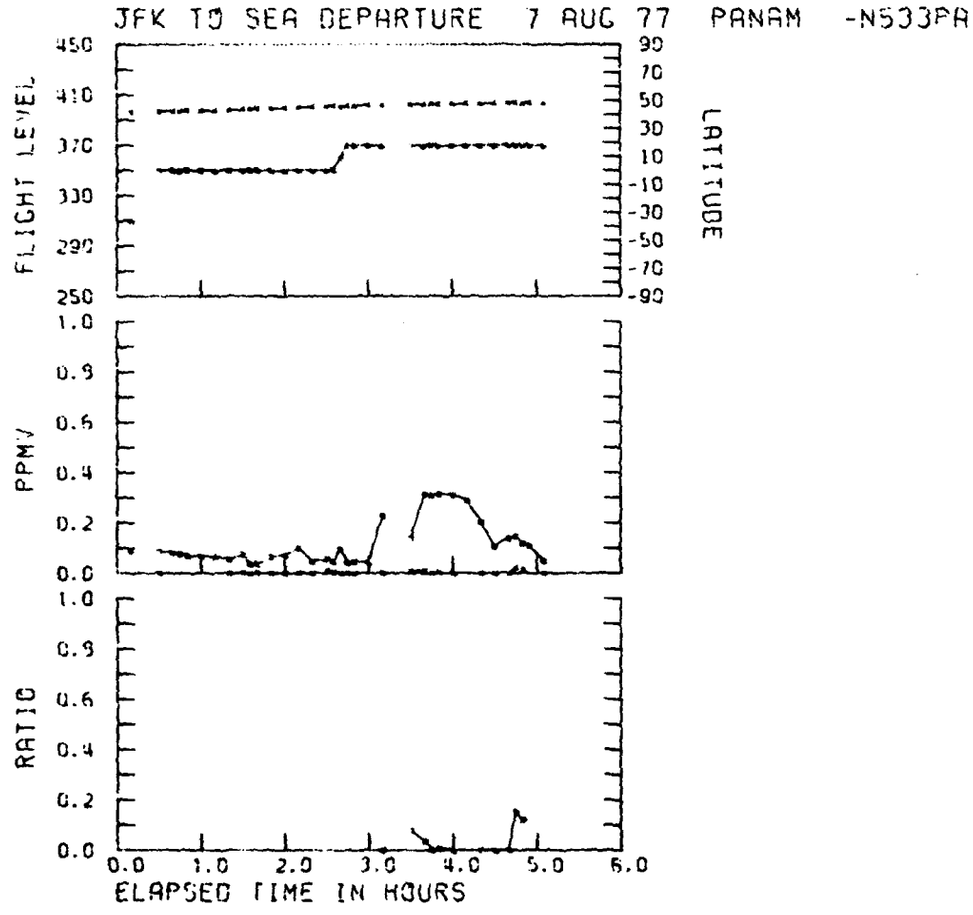
JFK TO SEA DEPARTURE 7 AUG 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
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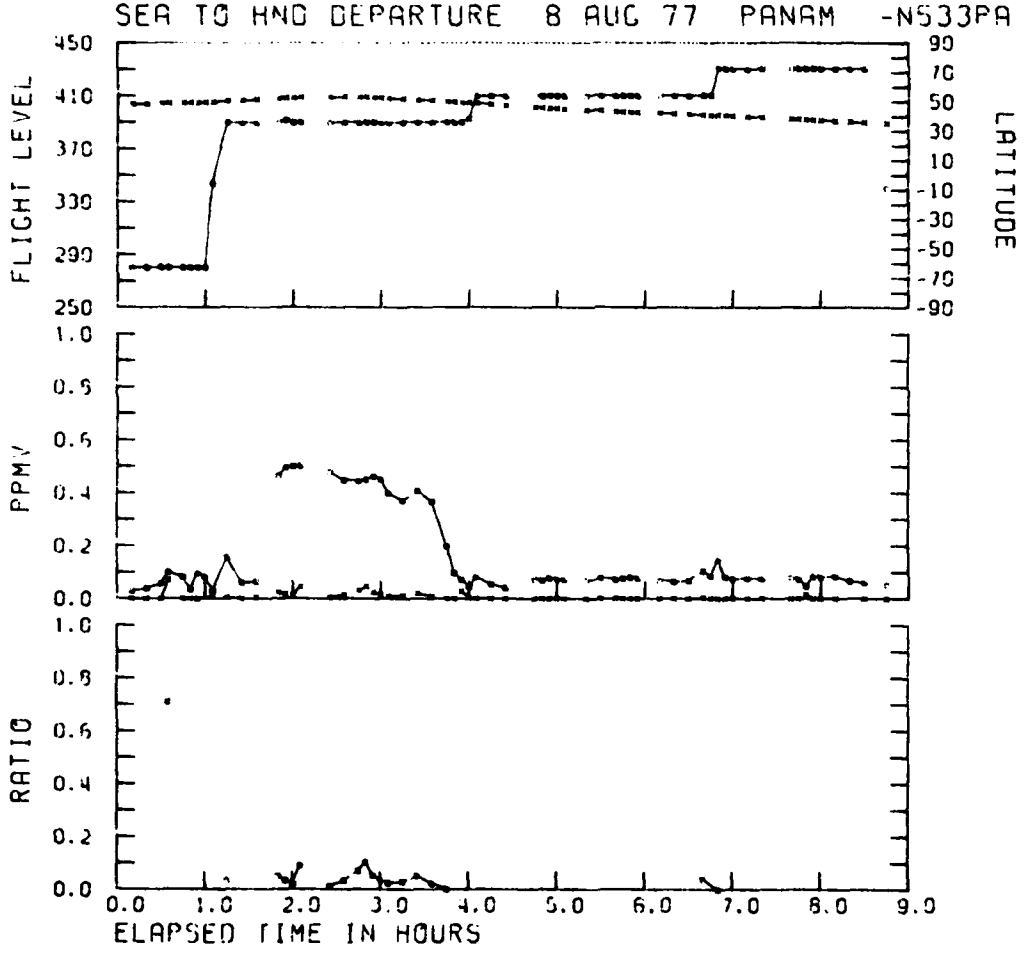
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
ELAPSED TIME IN HOURS

JFK TO SEA (PAGE 1 OF 1) DEPARTURE: 7 AUG 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .314 CABIN OZONE= .022 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .15 TOTAL OBS IN CABIN: 20
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
8/ 7/77	1658	0:10	309	41.70N	75.63W	-35.		.091	
8/ 7/77	1719	0:31	350	42.30N	78.81W	-47.	.000	.085	
8/ 7/77	1728	0:40	350	42.49N	80.38W	-47.		.082	
8/ 7/77	1733	0:45	350	42.58N	81.16W	-47.		.076	
8/ 7/77	1738	0:50	350	42.66N	81.94W	-47.		.069	
8/ 7/77	1748	1:00	350	42.81N	83.53W	-47.		.068	
8/ 7/77	1758	1:10	350	42.94N	85.09W	-46.		.067	
8/ 7/77	1808	1:20	350	43.36N	86.49W	-47.	.000	.056	
8/ 7/77	1819	1:31	350	43.78N	87.97W	-48.	.000	.072	
8/ 7/77	1824	1:36	350	43.98N	88.72W	-49.	.000	.037	
8/ 7/77	1829	1:41	350	44.17N	89.46W	-50.	.000	.035	
8/ 7/77	1839	1:51	350	44.54N	90.92W	-49.	.000	.065	
8/ 7/77	1849	2:01	350	44.89N	92.42W	-49.	.000	.074	
8/ 7/77	1859	2:11	350	45.22N	93.94W	-49.	.000	.098	
8/ 7/77	1908	2:20	350	45.53N	95.44W	-50.	.000	.046	
8/ 7/77	1918	2:30	350	45.80N	96.90W	-51.	.013	.058	
8/ 7/77	1923	2:35	350	45.94N	97.65W	-50.	.003	.046	
8/ 7/77	1928	2:40	360	46.07N	98.41W	-51.	.000	.098	
8/ 7/77	1933	2:45	370	46.19N	99.18W	-53.	.000	.043	
8/ 7/77	1938	2:50	370	46.31N	99.94W	-54.	.000	.046	
8/ 7/77	1949	3:01	370	46.53N	101.47W	-54.		.042	
8/ 7/77	1959	3:11	370	46.73N	102.98W	-53.	.000	.227	.00
8/ 7/77	2018	3:30	370	47.33N	106.07W	-53.	.011	.140	.08
8/ 7/77	2028	3:40	370	47.44N	107.73W	-54.	.011	.314	.04
8/ 7/77	2033	3:45	370	47.50N	108.58W	-53.	.000	.308	.00
8/ 7/77	2038	3:50	370	47.54N	109.46W	-54.	.002	.313	.01
8/ 7/77	2048	4:00	370	47.61N	111.23W	-55.	.000	.313	.00
8/ 7/77	2058	4:10	370	47.72N	113.05W	-55.		.288	
8/ 7/77	2108	4:20	370	47.88N	114.89W	-58.	.000	.203	.00
8/ 7/77	2118	4:30	370	48.04N	116.79W	-56.	.000	.108	.00
8/ 7/77	2128	4:40	370	48.17N	118.77W	-58.	.000	.138	.00
8/ 7/77	2133	4:45	370	48.19N	119.75W	-58.	.022	.146	.15
8/ 7/77	2138	4:50	370	48.18N	120.73W	-59.	.014	.116	.12
8/ 7/77	2143	4:55	370	48.24N	121.73W	-59.		.110	
8/ 7/77	2153	5:05	370	48.33N	123.77W	-59.	.000	.049	


SEA TO HND DEPARTURE 8 AUG 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
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0.8
0.6
0.4
0.2
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2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
ELAPSED TIME IN HOURS

SEA TO HNU (PAGE 1 OF 1) DEPARTURE: 8 AUG 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .501 CABIN OZONE= .071 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .10 TOTAL OBS IN CABIN: 61
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
8/ 8/77	0010	0:10	280	48.28N	125.51W	-36.	.000	.028	
8/ 8/77	0020	0:20	280	48.33N	127.59W	-36.	.000	.038	
8/ 8/77	0030	0:30	280	48.90N	129.42W	-36.	.000	.057	
8/ 8/77	0035	0:35	280	49.05N	130.44W	-36.	.071	.100	
8/ 8/77	0045	0:45	280	49.32N	132.52W	-35.	.000	.082	
8/ 8/77	0050	0:50	280	49.44N	133.58W	-34.	.000	.035	
8/ 8/77	0055	0:55	280	49.54N	134.64W	-33.	.000	.096	
8/ 8/77	0100	1:00	280	49.64N	135.71W	-33.		.082	
8/ 8/77	0105	1:05	344	49.89N	136.71W	-49.	.011	.029	
8/ 8/77	0115	1:15	390	50.46N	138.63W	-60.	.005	.154	.03
8/ 8/77	0125	1:25	390	51.00N	140.58W	-60.	.000	.061	
8/ 8/77	0135	1:35	390	51.52N	142.64W	-59.	.006	.065	
8/ 8/77	0150	1:50	390	52.24N	145.87W	-48.	.024	.465	.05
8/ 8/77	0155	1:55	392	52.49N	146.95W	-45.	.017	.494	.03
8/ 8/77	0200	2:00	390	52.68N	148.05W	-43.	.010	.499	.02
8/ 8/77	0205	2:05	390	52.87N	149.18W	-43.	.045	.501	.09
8/ 8/77	0225	2:25	390	53.10N	153.76W	-43.	.006	.479	.01
8/ 8/77	0235	2:35	390	53.10N	156.00W	-42.	.015	.447	.03
8/ 8/77	0245	2:45	390	53.06N	158.24W	-44.	.031	.444	.07
8/ 8/77	0250	2:50	390	53.02N	159.35W	-44.	.046	.449	.10
8/ 8/77	0255	2:55	390	52.90N	160.46W	-44.	.024	.460	.05
8/ 8/77	0300	3:00	390	52.64N	161.46W	-44.	.016	.450	.04
8/ 8/77	0305	3:05	390	52.38N	162.47W	-44.	.010	.398	.03
8/ 8/77	0315	3:15	390	51.84N	164.40W	-44.	.011	.370	.03
8/ 8/77	0325	3:25	390	51.27N	166.27W	-45.	.021	.407	.05
8/ 8/77	0335	3:35	390	50.69N	168.05W	-50.	.008	.366	.02
8/ 8/77	0345	3:45	390	50.10N	169.72W	-55.	.000	.197	.00
8/ 8/77	0350	3:50	390	49.80N	170.59W	-55.	.000	.097	
8/ 8/77	0355	3:55	390	49.51N	171.45W	-57.	.028	.072	
8/ 8/77	0400	4:00	393	49.20N	172.32W	-58.	.004	.047	
8/ 8/77	0405	4:05	410	48.90N	173.15W	-61.	.000	.081	
8/ 8/77	0415	4:15	410	48.27N	174.78W	-62.	.000	.054	
8/ 8/77	0425	4:25	410	47.59N	176.45W	-62.	.000	.041	
8/ 8/77	0445	4:45	410	46.14N	179.70W	-60.	.000	.072	
8/ 8/77	0450	4:50	410	45.86N	179.44E	-59.	.000	.069	
8/ 8/77	0455	4:55	410	45.64N	178.56E	-60.	.001	.077	
8/ 8/77	0500	5:00	410	45.41N	177.68E	-60.	.000	.074	
8/ 8/77	0505	5:05	410	45.17N	176.80E	-59.	.000	.072	
8/ 8/77	0520	5:20	410	44.41N	174.22E	-61.	.000	.071	
8/ 8/77	0530	5:30	410	43.87N	172.52E	-60.	.000	.079	
8/ 8/77	0540	5:40	410	43.29N	170.82E	-60.	.002	.072	
8/ 8/77	0545	5:45	410	43.00N	169.99E	-60.	.000	.077	
8/ 8/77	0550	5:50	410	42.85N	169.07E	-60.	.000	.080	
8/ 8/77	0555	5:55	410	42.71N	168.16E	-60.	.000	.077	
8/ 8/77	0610	6:10	410	42.22N	165.51E	-60.	.000	.069	
8/ 8/77	0620	6:20	410	41.87N	163.77E	-61.	.000	.065	
8/ 8/77	0630	6:30	410	41.50N	162.07E	-61.	.000	.069	
8/ 8/77	0640	6:40	411	41.10N	160.41E	-60.	.004	.105	.04
8/ 8/77	0645	6:45	410	40.90N	159.60E	-59.	.002	.086	
8/ 8/77	0650	6:50	431	40.69N	158.78E	-62.	.000	.146	.00
8/ 8/77	0655	6:55	430	40.47N	157.94E	-62.	.000	.081	
8/ 8/77	0700	7:00	430	40.25N	157.12E	-62.	.000	.074	
8/ 8/77	0710	7:10	430	39.80N	155.53E	-62.	.000	.078	
8/ 8/77	0720	7:20	431	39.33N	153.99E	-61.	.000	.075	
8/ 8/77	0740	7:40	431	38.34N	150.98E	-60.	.000	.079	
8/ 8/77	0745	7:45	431	38.08N	150.24E	-61.	.000	.073	
8/ 8/77	0750	7:50	430	37.84N	149.47E	-59.	.015	.048	
8/ 8/77	0755	7:55	431	37.63N	148.75E	-59.	.000	.083	
8/ 8/77	0800	8:00	430	37.39N	148.00E	-59.	.000	.081	
8/ 8/77	0810	8:10	431	36.92N	146.52E	-59.	.000	.085	
8/ 8/77	0820	8:20	430	36.43N	145.06E	-60.		.067	
8/ 8/77	0830	8:30	430	35.92N	143.64E	-61.	.000	.061	
8/ 8/77	0845	8:45	340	35.30N	141.47E	-38.	.000	.052	

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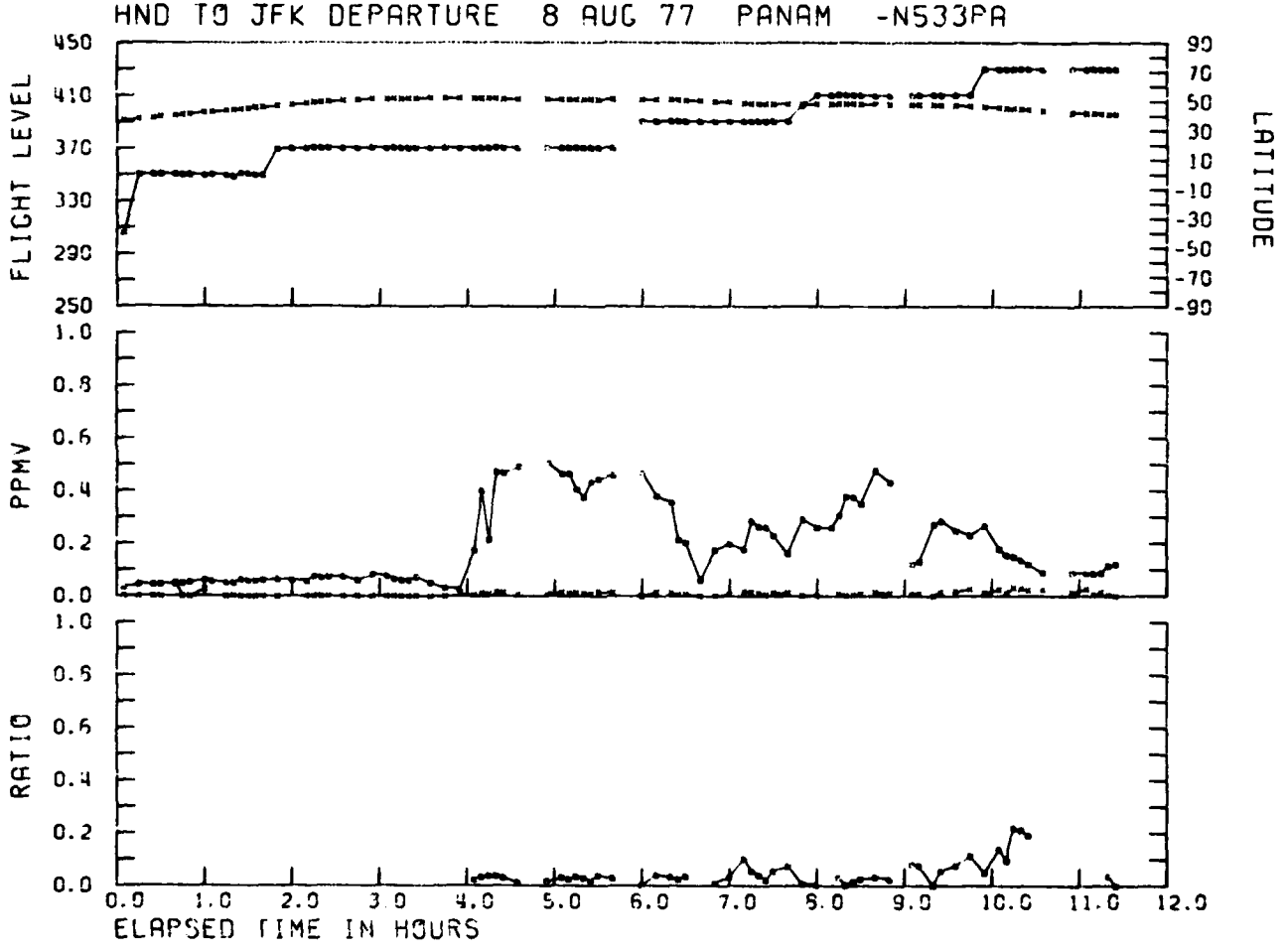
HND TO JFK DEPARTURE 8 AUG 77 PANAM -N533PA
FLIGHT LEVEL
450
410
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330
290
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LATITUDE
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10
-10
-30
-50
-70
-90
PPMV
1.0
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0.6
0.4
0.2
0.0
RATIO
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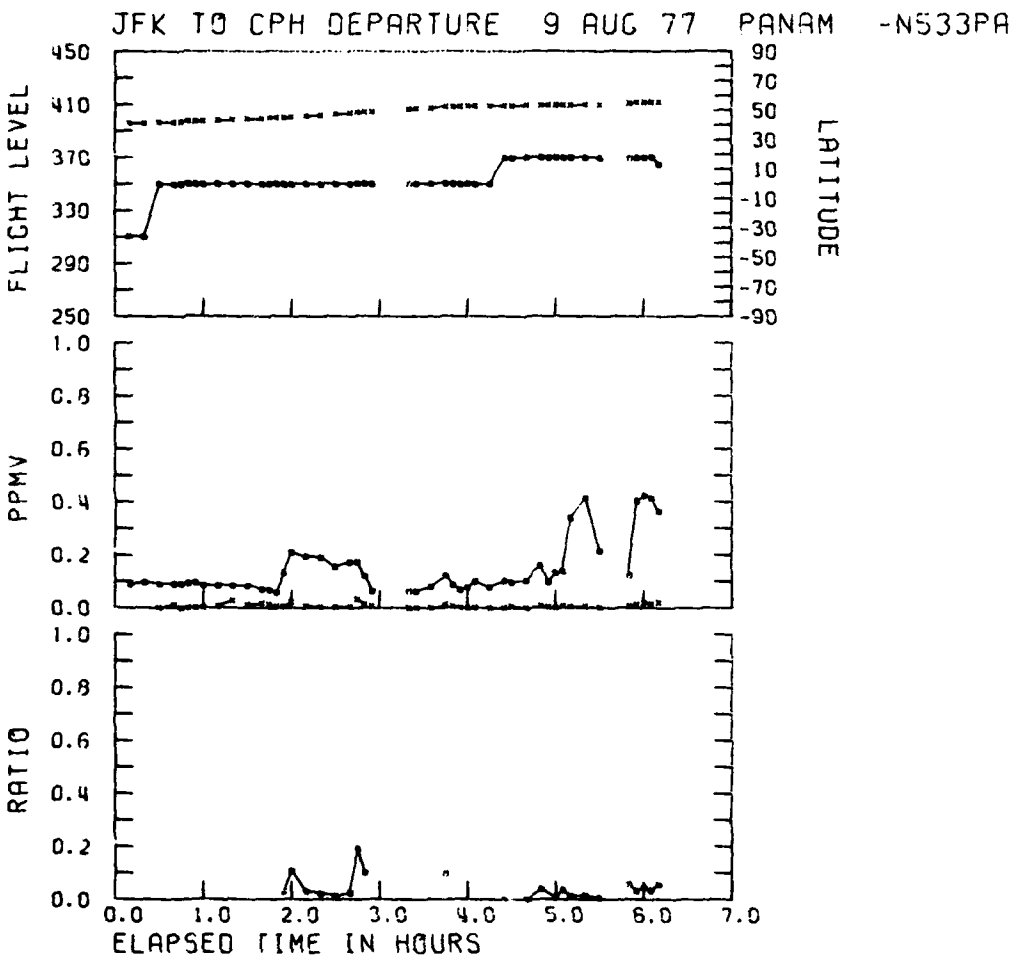
11.0
12.0
ELAPSED TIME IN HOURS

A-388

HND TO JFK (PAGE 1 OF 1) DEPARTURE: 8 AUG 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .506 CABIN OZONE= .052 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .22 TOTAL OBS IN CABIN: 85
DATA SOURCE: GASP TAPE VL010, FILE 4 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
8/ 8/77	1123	0:05	306	37.03N	142.15E	-28.	.000	.034	
8/ 8/77	1133	0:15	350	37.94N	143.61E	-41.	.000	.044	
8/ 8/77	1144	0:26	350	38.87N	145.15E	-41.	.000	.043	
8/ 8/77	1152A	0:34	350	39.65N	146.52E	-42.	.000	.045	
8/ 8/77	1202	0:44	350	40.55N	148.13E	-43.	.052	.046	
8/ 8/77	1207A	0:49	350	41.00N	148.98E	-43.	.001	.050	
8/ 8/77	1212	0:54	350	41.47N	149.88E	-43.	.000	.054	
8/ 8/77	1222	1:04	350	42.42N	151.48E	-44.	.025	.061	
8/ 8/77	1227	1:09	350	42.82N	152.17E	-44.		.056	
8/ 8/77	1235A	1:17	350	43.63N	153.60E	-45.	.000	.051	
8/ 8/77	1240A	1:22	349	44.15N	154.57E	-45.	.002	.050	
8/ 8/77	1245A	1:27	351	44.52N	155.38E	-47.	.000	.062	
8/ 8/77	1250A	1:32	351	45.06N	156.41E	-47.	.000	.059	
8/ 8/77	1256	1:38	350	45.58N	157.45E	-47.	.000	.059	
8/ 8/77	1301A	1:43	350	45.98N	158.32E	-47.	.000	.061	
8/ 8/77	1311	1:53	369	46.95N	160.06E	-52.	.000	.065	
8/ 8/77	1321	2:03	370	47.71N	162.04E	-52.		.061	
8/ 8/77	1331	2:13	370	48.57N	163.99E	-52.	.001	.058	
8/ 8/77	1336	2:18	370	48.96N	164.95E	-52.	.000	.074	
8/ 8/77	1341	2:23	370	49.36N	165.95E	-52.	.000	.071	
8/ 8/77	1346	2:28	370	49.74N	166.92E	-52.	.000	.074	
8/ 8/77	1356	2:38	370	50.48N	168.97E	-52.	.000	.075	
8/ 8/77	1406	2:48	370	51.03N	171.23E	-52.	.000	.060	
8/ 8/77	1416	2:58	370	51.35N	173.56E	-52.	.001	.083	
8/ 8/77	1426	3:08	370	51.63N	175.91E	-52.	.000	.078	
8/ 8/77	1431	3:13	370	51.76N	177.13E	-52.	.001	.066	
8/ 8/77	1436	3:18	370	51.72N	178.13E	-52.	.000	.061	
8/ 8/77	1441	3:23	370	51.90N	179.32E	-52.	.000	.060	
8/ 8/77	1446	3:28	370	52.02N	179.46W	-53.	.001	.073	
8/ 8/77	1456	3:38	370	52.09N	176.97W	-51.	.000	.051	
8/ 8/77	1506	3:48	370	52.10N	174.51W	-52.	.000	.032	
8/ 8/77	1516	3:58	370	52.07N	172.05W	-52.	.007	.027	
8/ 8/77	1526	4:08	370	51.98N	169.60W	-52.	.004	.174	.02
8/ 8/77	1531	4:13	370	51.90N	168.37W	-47.	.013	.399	.03
8/ 8/77	1536	4:18	370	51.80N	167.16W	-45.	.008	.214	.04
8/ 8/77	1541	4:23	370	51.70N	165.98W	-44.	.017	.470	.04
8/ 8/77	1546	4:28	370	51.59N	164.77W	-43.	.014	.469	.03
8/ 8/77	1556	4:38	370	51.33N	162.47W	-41.	.006	.492	.01
8/ 8/77	1616	4:58	370	51.16N	157.97W	-42.	.009	.506	.02
8/ 8/77	1626	5:08	370	51.21N	155.67W	-44.	.014	.465	.03
8/ 8/77	1631	5:13	370	51.22N	154.54W	-44.	.011	.465	.02
8/ 8/77	1636	5:18	370	51.22N	153.38W	-45.	.014	.407	.03
8/ 8/77	1641	5:23	370	51.20N	152.29W	-45.	.011	.376	.03
8/ 8/77	1646	5:28	370	51.18N	151.17W	-45.	.008	.435	.02
8/ 8/77	1651	5:33	370	51.14N	150.05W	-46.	.017	.445	.04
8/ 8/77	1701	5:43	370	51.18N	147.83W	-46.	.013	.459	.03
8/ 8/77	1721	6:03	390	51.20N	143.34W	-47.	.000	.469	.00
8/ 8/77	1731	6:13	390	51.15N	141.08W	-49.	.015	.381	.04
8/ 8/77	1741	6:23	390	51.01N	138.95W	-56.	.012	.355	.03
8/ 8/77	1746	6:28	390	50.82N	137.91W	-58.	.005	.214	.02
8/ 8/77	1751	6:33	390	50.62N	136.91W	-60.	.007	.203	.03
8/ 8/77	1801	6:43	390	50.21N	134.97W	-60.	.000	.060	
8/ 8/77	1811	6:53	390	49.75N	133.01W	-60.	.002	.176	.01
8/ 8/77	1821	7:03	390	49.21N	131.12W	-57.	.007	.199	.04
8/ 8/77	1831	7:13	390	48.71N	129.20W	-57.	.018	.178	.10
8/ 8/77	1836	7:18	390	48.44N	128.23W	-58.	.016	.285	.06
8/ 8/77	1841	7:23	390	48.16N	127.26W	-58.	.011	.265	.04
8/ 8/77	1846	7:28	390	48.04N	126.24W	-59.	.006	.263	.02
8/ 8/77	1851	7:33	390	47.92N	125.24W	-60.	.013	.230	.06
8/ 8/77	1901	7:43	390	47.74N	123.24W	-62.	.012	.161	.07
8/ 8/77	1911	7:53	402	47.88N	121.22W	-56.	.002	.291	.01
8/ 8/77	1921	8:03	410	48.00N	119.06W	-54.	.001	.261	.00
8/ 8/77	1931	8:13	410	48.07N	116.93W	-53.		.262	
8/ 8/77	1936	8:18	411	48.10N	115.86W	-53.	.010	.307	.03
8/ 8/77	1941	8:23	410	48.11N	114.80W	-52.	.001	.379	.00
8/ 8/77	1946	8:28	410	48.12N	113.73W	-52.	.005	.376	.01
8/ 8/77	1951	8:33	410	48.11N	112.65W	-52.	.009	.351	.03
8/ 8/77	2001	8:43	410	48.07N	110.46W	-51.	.016	.477	.03
8/ 8/77	2011	8:53	410	47.98N	108.23W	-52.	.011	.434	.03
8/ 8/77	2026	9:08	410	47.75N	104.81W	-53.	.010	.123	.08
8/ 8/77	2031	9:13	410	47.65N	103.71W	-54.	.010	.131	.08
8/ 8/77	2041	9:23	410	47.42N	101.49W	-53.	.000	.271	.00
8/ 8/77	2046	9:28	410	47.30N	100.41W	-53.	.016	.285	.06
8/ 8/77	2056	9:38	410	47.00N	98.21W	-54.	.019	.250	.08
8/ 8/77	2106	9:48	410	46.67N	95.99W	-56.	.026	.231	.11
8/ 8/77	2116	9:58	430	46.28N	93.78W	-55.	.013	.267	.05
8/ 8/77	2126	10:08	430	45.77N	91.71W	-56.	.025	.180	.14
8/ 8/77	2131	10:13	430	45.45N	90.73W	-60.	.015	.156	.10
8/ 8/77	2136	10:18	430	45.11N	89.75W	-61.	.033	.150	.22
8/ 8/77	2141	10:23	430	44.76N	88.78W	-62.	.029	.136	.21
8/ 8/77	2146	10:28	430	44.41N	87.82W	-63.	.023	.120	.19
8/ 8/77	2156	10:38	430	43.67N	85.94W	-63.	.025	.090	
8/ 8/77	2216	10:58	430	42.28N	82.21W	-64.	.014	.088	
8/ 8/77	2226	11:08	430	41.93N	80.22W	-63.	.028	.089	
8/ 8/77	2231	11:13	430	41.75N	79.25W	-63.	.005	.085	
8/ 8/77	2236	11:18	430	41.55N	78.29W	-64.	.014	.087	
8/ 8/77	2241	11:23	430	41.32N	77.32W	-63.	.004	.114	.04
8/ 8/77	2246	11:28	430	41.10N	76.42W	-65.	.000	.120	.00

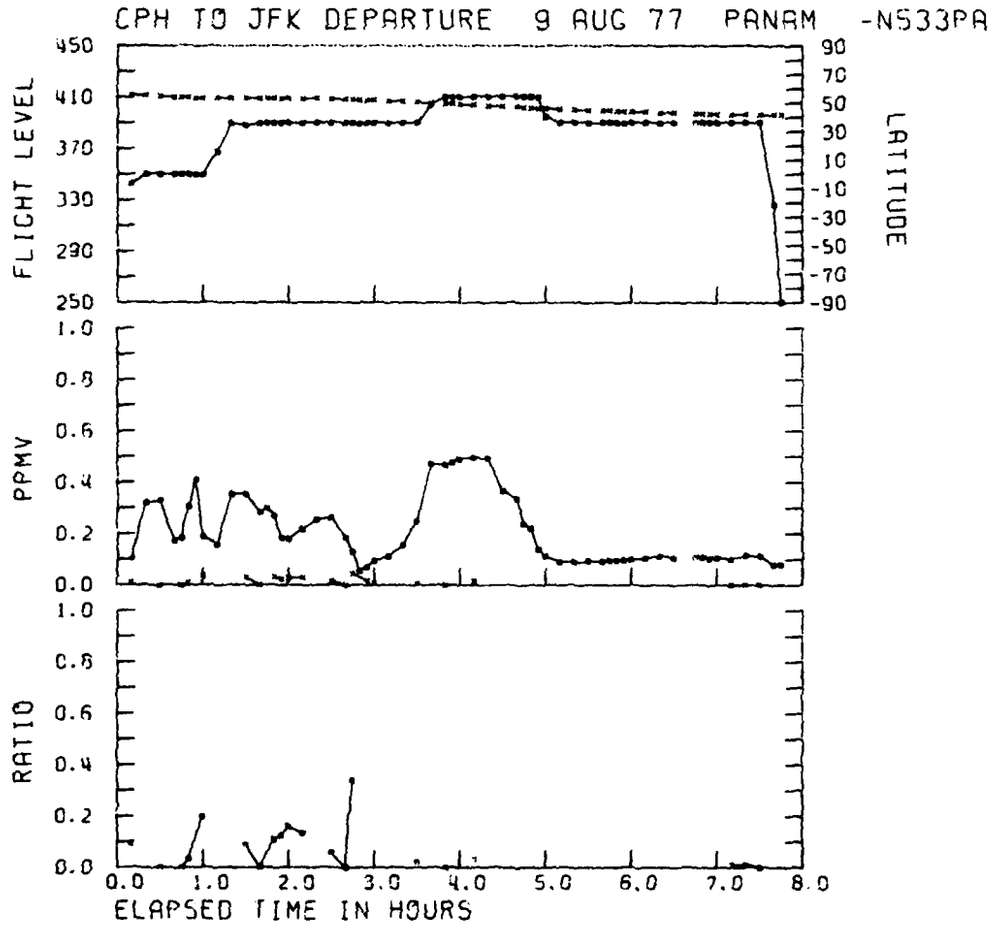

JFK TO CPH DEPARTURE 9 AUG 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
ELAPSED TIME IN HOURS

JFK TO CPH (PAGE 1 OF 1) DEPARTURE: 9 AUG 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .423 CABIN OZONE= .033 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .19 TOTAL OBS IN CABIN: 45
DATA SOURCE: GASP TAPE VL010, FILE 4 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
8/ 9/77	0226	0:10	310	41.03N	70.97W	-35.		.089	
8/ 9/77	0236	0:20	310	41.48N	68.99W	-36.		.096	
8/ 9/77	0246	0:30	350	41.83N	66.99W	-46.	.000	.090	
8/ 9/77	0256	0:40	350	42.00N	64.97W	-46.	.011	.089	
8/ 9/77	0301	0:45	350	42.22N	63.97W	-47.	.000	.090	
8/ 9/77	0306	0:50	350	42.43N	62.97W	-47.	.000	.094	
8/ 9/77	0311	0:55	350	42.64N	61.95W	-47.	.000	.093	
8/ 9/77	0316	1:00	350	42.83N	60.92W	-47.	.000	.084	
8/ 9/77	0326	1:10	350	43.27N	58.88W	-48.	.008	.084	
8/ 9/77	0336	1:20	350	43.75N	56.80W	-48.	.027	.083	
8/ 9/77	0346	1:30	350	44.19N	54.68W	-48.	.012	.083	
8/ 9/77	0356	1:40	350	44.59N	52.50W	-48.	.017	.070	
8/ 9/77	0401	1:45	350	44.78N	51.38W	-48.	.014	.069	
8/ 9/77	0406	1:50	350	44.96N	50.23W	-48.	.004	.058	
8/ 9/77	0411	1:55	350	45.29N	49.19W	-49.	.004	.132	.03
8/ 9/77	0416	2:00	350	45.64N	48.18W	-51.	.022	.209	.11
8/ 9/77	0426	2:10	350	46.28N	46.19W	-52.	.006	.194	.03
8/ 9/77	0436	2:20	350	46.88N	44.21W	-53.	.004	.191	.02
8/ 9/77	0446	2:30	350	47.44N	42.18W	-54.	.002	.154	.01
8/ 9/77	0456	2:40	350	47.98N	40.08W	-52.	.004	.171	.02
8/ 9/77	0501	2:45	350	48.34N	39.03W	-51.	.033	.173	.19
8/ 9/77	0506	2:50	350	48.71N	37.97W	-52.	.012	.118	.10
8/ 9/77	0511	2:55	350	49.06N	36.89W	-53.	.006	.063	
8/ 9/77	0536	3:20	350	50.70N	31.22W	-54.	.000	.064	
8/ 9/77	0543A	3:27	350	51.12N	29.52W	-55.	.000	.063	
8/ 9/77	0553	3:37	350	51.68N	27.13W	-54.	.000	.079	
8/ 9/77	0603	3:47	350	52.17N	24.76W	-54.	.012	.122	.10
8/ 9/77	0608	3:52	350	52.40N	23.59W	-56.	.004	.085	
8/ 9/77	0613	3:57	350	52.61N	22.39W	-56.	.000	.068	
8/ 9/77	0618	4:02	350	52.81N	21.21W	-56.	.000	.077	
8/ 9/77	0623	4:07	350	52.99N	20.04W	-56.	.000	.099	
8/ 9/77	0633	4:17	350	53.03N	17.60W	-56.	.000	.078	
8/ 9/77	0643	4:27	370	53.01N	15.38W	-61.	.000	.102	.00
8/ 9/77	0648	4:32	370	53.11N	13.99W	-61.	.005	.096	
8/ 9/77	0658	4:42	370	53.28N	11.59W	-61.	.000	.104	.00
8/ 9/77	0708	4:52	370	53.41N	9.25W	-61.	.006	.159	.04
8/ 9/77	0713	4:57	370	53.45N	8.06W	-62.	.002	.097	
8/ 9/77	0718	5:02	370	53.42N	6.88W	-62.	.001	.133	.01
8/ 9/77	0723	5:07	370	53.48N	5.72W	-59.	.005	.137	.04
8/ 9/77	0728	5:12	370	53.53N	4.56W	-57.	.004	.338	.01
8/ 9/77	0738	5:22	370	53.63N	2.20W	-52.	.006	.414	.01
8/ 9/77	0748	5:32	370	53.71N	.09E	-53.	.001	.213	.00
8/ 9/77	0808	5:52	370	55.01N	4.16E	-48.	.007	.123	.06
8/ 9/77	0813	5:57	370	55.28N	5.26E	-47.	.013	.403	.03
8/ 9/77	0818	6:02	370	55.42N	6.43E	-47.	.019	.423	.04
8/ 9/77	0823	6:07	370	55.54N	7.62E	-49.	.014	.412	.03
8/ 9/77	0828	6:12	365	55.65N	8.81E	-55.	.020	.364	.05

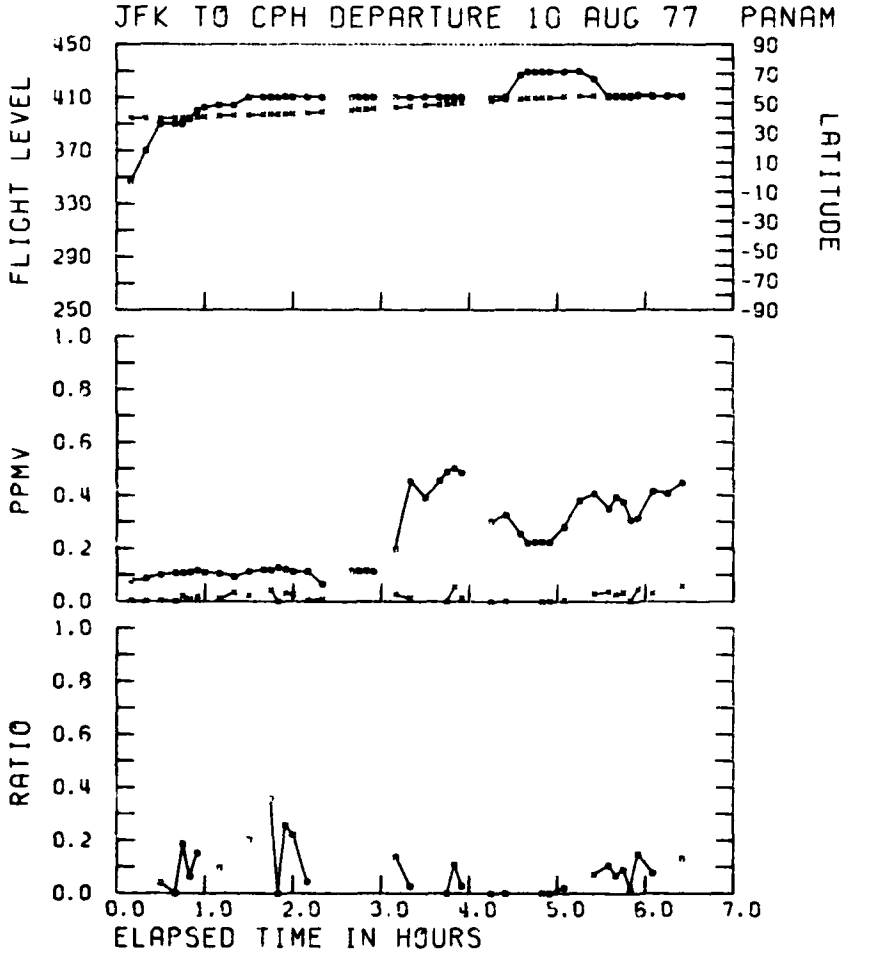
A-81


CPH TO JFK DEPARTURE 9 AUG 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
ELAPSED TIME IN HOURS

CPH TO JFK (PAGE 1 OF 1) DEPARTURE: 9 AUG 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .495 CABIN OZONE= .044 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .34 TOTAL OBS IN CABIN: 36
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
8/ 9/77	1123	0:10	343	55.58N	7.98E	-55.	.010	.106	.09
8/ 9/77	1133	0:20	350	55.33N	5.66E	-50.		.318	
8/ 9/77	1143	0:30	350	54.82N	3.48E	-52.	.000	.331	.00
8/ 9/77	1153	0:40	350	54.18N	1.42E	-57.		.172	
8/ 9/77	1158	0:45	350	53.85N	.41E	-57.	.000	.185	.00
8/ 9/77	1203	0:50	350	53.63N	.63W	-54.	.010	.307	.03
8/ 9/77	1208	0:55	350	53.53N	1.75W	-53.		.409	
8/ 9/77	1213	1:00	350	53.42N	2.87W	-56.	.037	.188	.20
8/ 9/77	1223	1:10	367	53.46N	5.02W	-61.		.158	
8/ 9/77	1233	1:20	390	53.45N	7.17W	-58.		.353	
8/ 9/77	1243	1:30	388	53.38N	9.26W	-58.	.031	.353	.09
8/ 9/77	1253	1:40	390	53.28N	11.35W	-60.	.000	.283	.00
8/ 9/77	1258	1:45	390	53.21N	12.38W	-59.		.300	
8/ 9/77	1303	1:50	390	53.13N	13.40W	-58.	.030	.268	.11
8/ 9/77	1308	1:55	390	53.05N	14.42W	-58.	.023	.184	.13
8/ 9/77	1313	2:00	390	53.01N	15.41W	-57.	.029	.181	.16
8/ 9/77	1323	2:10	390	53.02N	17.41W	-58.	.029	.218	.13
8/ 9/77	1333	2:20	390	53.01N	19.40W	-58.		.254	
8/ 9/77	1343	2:30	390	52.79N	21.33W	-57.	.015	.262	.06
8/ 9/77	1353	2:40	390	52.47N	23.19W	-60.	.000	.185	.00
8/ 9/77	1358	2:45	390	52.31N	24.04W	-61.	.044	.130	.34
8/ 9/77	1403	2:50	390	52.15N	24.88W	-62.		.054	
8/ 9/77	1408	2:55	390	51.98N	25.71W	-62.	.016	.070	
8/ 9/77	1413	3:00	390	51.80N	26.55W	-60.	.006	.094	
8/ 9/77	1423	3:10	390	51.43N	28.21W	-59.		.111	
8/ 9/77	1433	3:20	390	51.03N	29.86W	-57.		.152	
8/ 9/77	1443	3:30	390	50.62N	31.52W	-55.	.005	.249	.02
8/ 9/77	1453	3:40	405	50.16N	33.24W	-50.		.471	
8/ 9/77	1503	3:50	410	49.64N	35.03W	-50.	.000	.466	.00
8/ 9/77	1508	3:55	410	49.38N	35.91W	-50.		.477	
8/ 9/77	1513	4:00	410	49.10N	36.79W	-49.		.491	
8/ 9/77	1523	4:10	410	48.52N	38.52W	-48.	.015	.495	.03
8/ 9/77	1533	4:20	411	47.95N	40.20W	-48.		.492	
8/ 9/77	1543	4:30	411	47.50N	41.97W	-48.		.364	
8/ 9/77	1553	4:40	410	47.05N	43.62W	-55.		.335	
8/ 9/77	1558	4:45	411	46.83N	44.38W	-53.		.239	
8/ 9/77	1603	4:50	411	46.59N	45.18W	-52.		.220	
8/ 9/77	1608	4:55	410	46.36N	45.94W	-54.		.139	
8/ 9/77	1613	5:00	395	46.13N	46.68W	-55.		.113	
8/ 9/77	1623	5:10	390	45.66N	48.09W	-55.		.090	
8/ 9/77	1633	5:20	390	45.18N	49.50W	-57.		.088	
8/ 9/77	1643	5:30	390	44.85N	50.98W	-57.		.093	
8/ 9/77	1653	5:40	390	44.59N	52.51W	-57.		.092	
8/ 9/77	1658	5:45	390	44.45N	53.28W	-57.		.096	
8/ 9/77	1703	5:50	390	44.31N	54.06W	-57.		.096	
8/ 9/77	1708	5:55	390	44.16N	54.84W	-57.		.098	
8/ 9/77	1713	6:00	390	44.00N	55.61W	-57.		.099	
8/ 9/77	1723	6:10	390	43.68N	57.13W	-56.		.106	
8/ 9/77	1733	6:20	390	43.33N	58.65W	-56.		.112	
8/ 9/77	1743	6:30	390	42.97N	60.15W	-56.		.106	
8/ 9/77	1758	6:45	390	42.54N	62.44W	-56.		.108	
8/ 9/77	1803	6:50	390	42.39N	63.19W	-56.		.108	
8/ 9/77	1808	6:55	390	42.23N	63.93W	-56.		.104	
8/ 9/77	1813	7:00	390	42.07N	64.67W	-56.		.106	
8/ 9/77	1823	7:10	390	41.92N	66.21W	-56.	.001	.100	
8/ 9/77	1833	7:20	390	41.85N	67.77W	-56.	.001	.115	.01
8/ 9/77	1843	7:30	390	41.77N	69.35W	-56.	.000	.112	.00
8/ 9/77	1853	7:40	326	41.65N	70.95W	-40.		.079	
8/ 9/77	1858	7:45	231	41.60N	71.79W	-18.		.079	


JFK TO CPH DEPARTURE 10 AUG 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
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0.8
0.6
0.4
0.2
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7.0
ELAPSED TIME IN HOURS

JFK TO CPH (PAGE 1 OF 1) DEPARTURE: 10 AUG 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .502 CABIN OZONE= .059 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .36 TOTAL OBS IN CABIN: 34
DATA SOURCE: GASP TAPE VL010, FILE 4

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
8/10/77	0209	0:10	347	40.25N	70.71W	-45.	.004	.079	
8/10/77	0219	0:20	370	40.05N	68.81W	-52.	.001	.087	
8/10/77	0229	0:30	390	39.83N	66.97W	-56.	.004	.100	
8/10/77	0239	0:40	390	39.99N	65.10W	-56.	.000	.107	.00
8/10/77	0244	0:45	390	40.17N	64.19W	-56.	.020	.108	.19
8/10/77	0249	0:50	394	40.37N	63.28W	-57.	.007	.110	.06
8/10/77	0254	0:55	400	40.57N	62.31W	-59.	.018	.118	.15
8/10/77	0259	1:00	403	40.85N	61.41W	-60.		.110	
8/10/77	0309	1:10	404	41.38N	59.58W	-60.	.010	.104	.10
8/10/77	0319	1:20	404	41.76N	57.69W	-61.	.033	.093	
8/10/77	0329	1:30	410	42.14N	55.69W	-62.	.023	.113	.20
8/10/77	0339	1:40	411	42.47N	53.71W	-61.		.120	
8/10/77	0344	1:45	410	42.63N	52.67W	-61.	.043	.119	.36
8/10/77	0349	1:50	411	42.78N	51.66W	-61.	.000	.129	.00
8/10/77	0354	1:55	411	42.69N	50.64W	-61.	.031	.121	.26
8/10/77	0359	2:00	411	42.76N	49.66W	-61.	.025	.113	.22
8/10/77	0409	2:10	411	43.48N	47.79W	-60.	.005	.113	.04
8/10/77	0419	2:20	410	44.17N	45.88W	-61.	.007	.065	
8/10/77	0439	2:40	410	45.47N	41.84W	-60.		.117	
8/10/77	0444	2:45	410	45.77N	40.81W	-59.		.115	
8/10/77	0449	2:50	410	46.07N	39.79W	-59.		.116	
8/10/77	0454	2:55	410	46.42N	38.82W	-58.		.113	
8/10/77	0509	3:10	410	47.39N	35.86W	-55.	.027	.197	.14
8/10/77	0519	3:20	411	48.00N	33.81W	-50.	.012	.452	.03
8/10/77	0529	3:30	411	48.56N	31.73W	-48.		.391	
8/10/77	0539	3:40	410	49.14N	29.68W	-50.		.455	
8/10/77	0544	3:45	410	49.56N	28.78W	-49.	.000	.488	.00
8/10/77	0549	3:50	411	49.98N	27.85W	-48.	.055	.502	.11
8/10/77	0554	3:55	411	50.40N	26.90W	-49.	.014	.485	.03
8/10/77	0614	4:15	410	51.99N	22.89W	-54.	.000	.301	.00
8/10/77	0624	4:25	410	52.73N	20.81W	-56.	.000	.326	.00
8/10/77	0634	4:35	427	53.30N	18.61W	-55.		.255	
8/10/77	0639	4:40	430	53.54N	17.47W	-56.		.221	
8/10/77	0644	4:45	430	53.76N	16.33W	-56.		.224	
8/10/77	0649	4:50	430	53.97N	15.17W	-57.	.000	.225	.00
8/10/77	0654	4:55	430	54.21N	14.04W	-57.	.000	.223	.00
8/10/77	0704	5:05	430	54.67N	11.78W	-58.	.006	.282	.02
8/10/77	0714	5:15	430	55.07N	9.44W	-55.		.380	
8/10/77	0724	5:25	424	55.38N	7.02W	-55.	.029	.407	.07
8/10/77	0734	5:35	411	55.68N	4.54W	-55.	.037	.350	.11
8/10/77	0739	5:40	411	55.80N	3.37W	-55.	.027	.395	.07
8/10/77	0744	5:45	411	55.91N	2.15W	-52.	.034	.377	.09
8/10/77	0749	5:50	411	55.92N	.91W	-52.	.004	.308	.01
8/10/77	0754	5:55	411	55.91N	.31E	-51.	.047	.314	.15
8/10/77	0804	6:05	411	55.76N	2.76E	-49.	.032	.415	.08
8/10/77	0814	6:15	411	55.67N	5.20E	-48.		.407	
8/10/77	0824	6:25	411	55.52N	7.64E	-47.	.059	.448	.13

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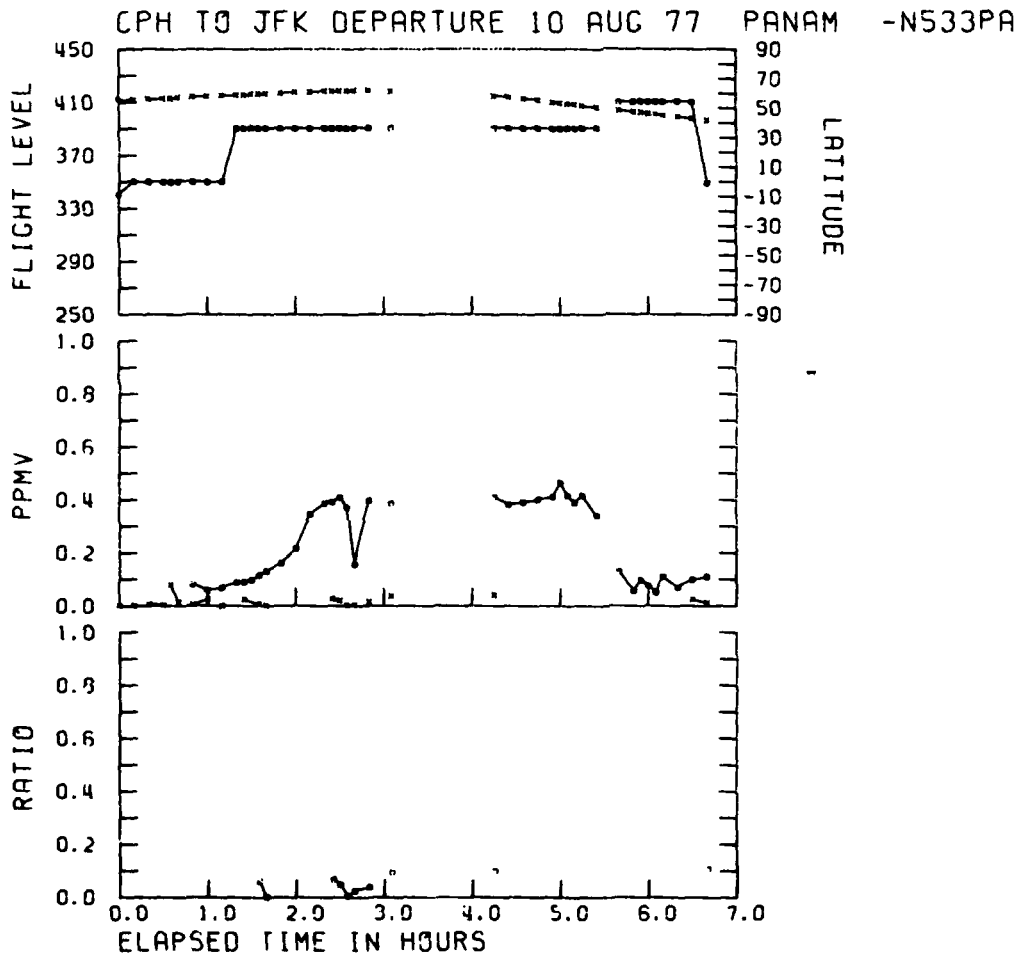
CPH TO JFK DEPARTURE 10 AUG 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
ELAPSED TIME IN HOURS

CPH TO JFK (PAGE 1 OF 1) DEPARTURE: 10 AUG 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .465 CABIN OZONE= .080 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .11 TOTAL OBS IN CABIN: 34
DATA SOURCE: GASP TAPE VL010, FILE 4 AN "M" AFTER THE GMT BELOW DENOTES GMT MISSING ON THE ORIGINAL DATA TAPE

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
8/10/77	0000M	0:00	341	55.66N	9.33E	-51.	.000		
8/10/77	0010M	0:10	350	55.83N	7.00E	-46.	.000		
8/10/77	0020M	0:20	350	56.25N	4.70E	-49.	.008		
8/10/77	0030M	0:30	350	56.74N	2.47E	-55.	.003		
8/10/77	0035M	0:35	350	57.00N	1.37E	-56.	.080		
8/10/77	0044M	0:44	350	57.48N	.79W	-55.	.014		
8/10/77	0053M	0:53	350	57.90N	2.90W	-55.	.005	.081	
8/10/77	0102M	1:02	350	58.28N	5.04W	-55.	.025	.060	
8/10/77	0111M	1:11	350	58.63N	7.27W	-54.	.000	.068	
8/10/77	0120M	1:20	390	58.94N	9.54W	-63.		.089	
8/10/77	0125M	1:25	390	59.16N	10.65W	-63.	.025	.090	
8/10/77	0130M	1:30	390	59.43N	11.78W	-63.		.098	
8/10/77	0135M	1:35	390	59.69N	12.91W	-62.	.007	.114	.06
8/10/77	0140M	1:40	390	59.93N	14.05W	-62.	.000	.130	.00
8/10/77	0150M	1:50	390	60.40N	16.46W	-61.		.162	
8/10/77	0200M	2:00	390	60.84N	18.97W	-59.		.215	
8/10/77	0210M	2:10	391	61.21N	21.54W	-52.		.346	
8/10/77	0220M	2:20	390	61.52N	24.26W	-49.		.388	
8/10/77	0225M	2:25	390	61.66N	25.65W	-47.	.027	.392	.07
8/10/77	0230M	2:30	391	61.79N	27.04W	-45.	.020	.410	.05
8/10/77	0235M	2:35	390	61.90N	28.48W	-46.	.002	.372	.01
8/10/77	0240M	2:40	391	61.99N	29.92W	-44.	.004	.157	.03
8/10/77	0250M	2:50	390	61.80N	32.82W	-45.	.016	.397	.04
8/10/77	0306M	3:06	391	61.33N	37.43W	-47.	.037	.387	.10
8/10/77	0416M	4:16	390	58.28N	55.55W	-52.	.041	.412	.10
8/10/77	0426M	4:26	390	57.52N	57.67W	-50.		.382	
8/10/77	0436M	4:36	390	56.58N	59.39W	-48.		.391	
8/10/77	0446M	4:46	390	55.34N	60.35W	-47.		.401	
8/10/77	0456M	4:56	390	54.20N	61.63W	-46.		.412	
8/10/77	0501M	5:01	390	53.61N	62.25W	-46.		.465	
8/10/77	0506M	5:06	390	53.03N	62.85W	-46.		.417	
8/10/77	0511M	5:11	390	52.44N	63.43W	-46.		.389	
8/10/77	0516M	5:16	391	51.85N	64.00W	-46.		.416	
8/10/77	0526M	5:26	391	50.68N	65.08W	-50.		.342	
8/10/77	0544M	5:44	410	48.48N	66.95W	-56.		.130	
8/10/77	0553M	5:53	410	47.41N	67.79W	-61.		.057	
8/10/77	0558M	5:58	410	46.85N	68.21W	-61.		.097	
8/10/77	0603M	6:03	410	46.30N	68.62W	-61.		.077	
8/10/77	0608M	6:08	411	45.74N	69.02W	-62.		.052	
8/10/77	0613M	6:13	411	45.17N	69.43W	-63.		.110	
8/10/77	0622M	6:22	411	44.04N	70.23W	-60.		.070	
8/10/77	0631M	6:31	410	42.92N	71.05W	-60.	.025	.099	
8/10/77	0640M	6:40	349	41.82N	71.82W	-45.	.012	.111	.11

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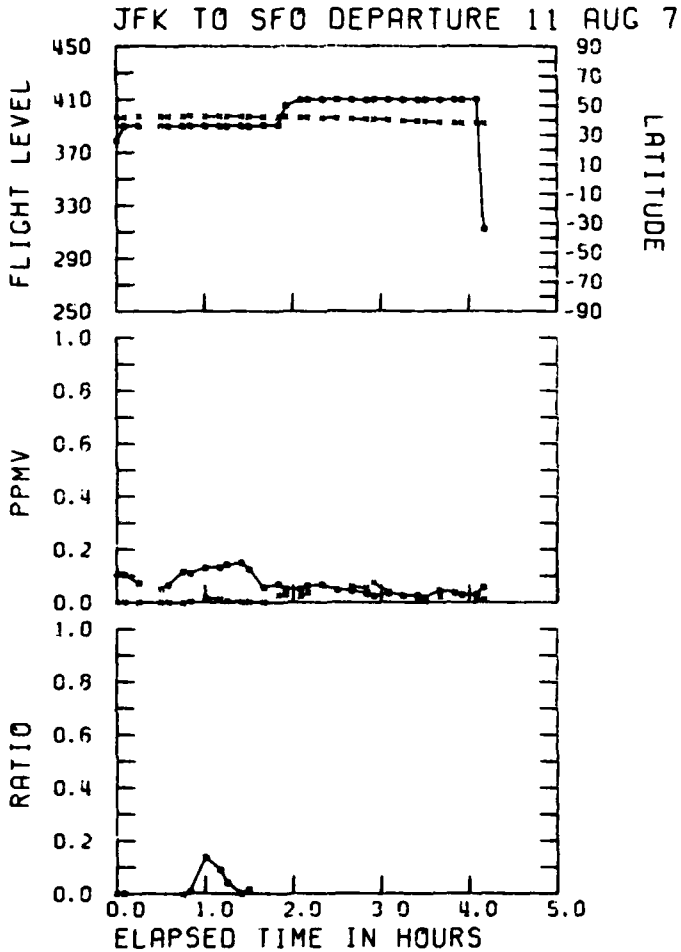
JFK TO SFO DEPARTURE 11 AUG 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

JFK TO SFO (PAGE 1 OF 1) DEPARTURE: 11 AUG 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .149 CABIN OZONE= .075 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .14 TOTAL OBS IN CABIN: 26
DATA SOURCE: GASP TAPE VL010, FILE 4 AN "M" AFTER THE GMT BELOW DENOTES GMT MISSING ON THE ORIGINAL DATA TAPE

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
8/11/77	0000M	0:00	379	41.47N	75.91W	-53.	.000	.107	.00
8/11/77	0009M	0:09	390	41.93N	77.46W	-56.	.000	.105	.00
8/11/77	0018M	0:18	390	42.39N	78.96W	-55.	.000	.072	
8/11/77	0030M	0:30	390	42.51N	81.27W	-55.	.000	.050	
8/11/77	0038M	0:38	390	42.56N	82.79W	-55.	.000	.065	
8/11/77	0046M	0:46	390	42.60N	84.30W	-55.	.000	.118	.00
8/11/77	0054M	0:54	390	42.61N	85.85W	-54.	.001	.109	.01
8/11/77	0102M	1:02	390	42.60N	87.38W	-54.	.018	.131	.14
8/11/77	0110M	1:10	390	42.57N	88.91W	-55.	.012	.133	.09
8/11/77	0118M	1:18	390	42.52N	90.47W	-55.	.006	.144	.04
8/11/77	0126M	1:26	390	42.45N	91.95W	-54.	.000	.149	.00
8/11/77	0134M	1:34	390	42.37N	93.37W	-55.	.002	.125	.02
8/11/77	0142M	1:42	391	42.27N	94.76W	-56.	.000	.057	
8/11/77	0150M	1:50	390	42.15N	96.13W	-58.	.029	.070	
8/11/77	0158M	1:58	405	42.02N	97.50W	-60.	.028	.051	
8/11/77	0206M	2:06	410	41.87N	98.92W	-60.	.025	.051	
8/11/77	0214M	2:14	410	41.69N	100.38W	-58.	.036	.064	
8/11/77	0222M	2:22	410	41.49N	101.86W	-57.		.068	
8/11/77	0234M	2:34	410	41.16N	104.06W	-57.		.047	
8/11/77	0242M	2:42	410	40.91N	105.51W	-57.	.059	.044	
8/11/77	0250M	2:50	410	40.65N	106.96W	-57.	.054	.033	
8/11/77	0258M	2:58	410	40.36N	108.41W	-57.	.075	.025	
8/11/77	0307M	3:07	410	40.05N	109.88W	-56.	.039	.035	
8/11/77	0316M	3:16	410	39.71N	111.37W	-57.		.026	
8/11/77	0325M	3:25	410	39.36N	112.83W	-59.	.015	.027	
8/11/77	0334M	3:34	410	38.98N	114.29W	-58.	.004	.019	
8/11/77	0343M	3:43	410	38.59N	115.76W	-57.	.021	.045	
8/11/77	0352M	3:52	410	38.19N	117.24W	-55.		.037	
8/11/77	0357M	3:57	410	38.08N	118.03W	-56.		.029	
8/11/77	0406M	4:06	410	37.80N	119.57W	-56.	.006	.031	
8/11/77	0411M	4:11	312	37.64N	120.33W	-39.	.010	.058	

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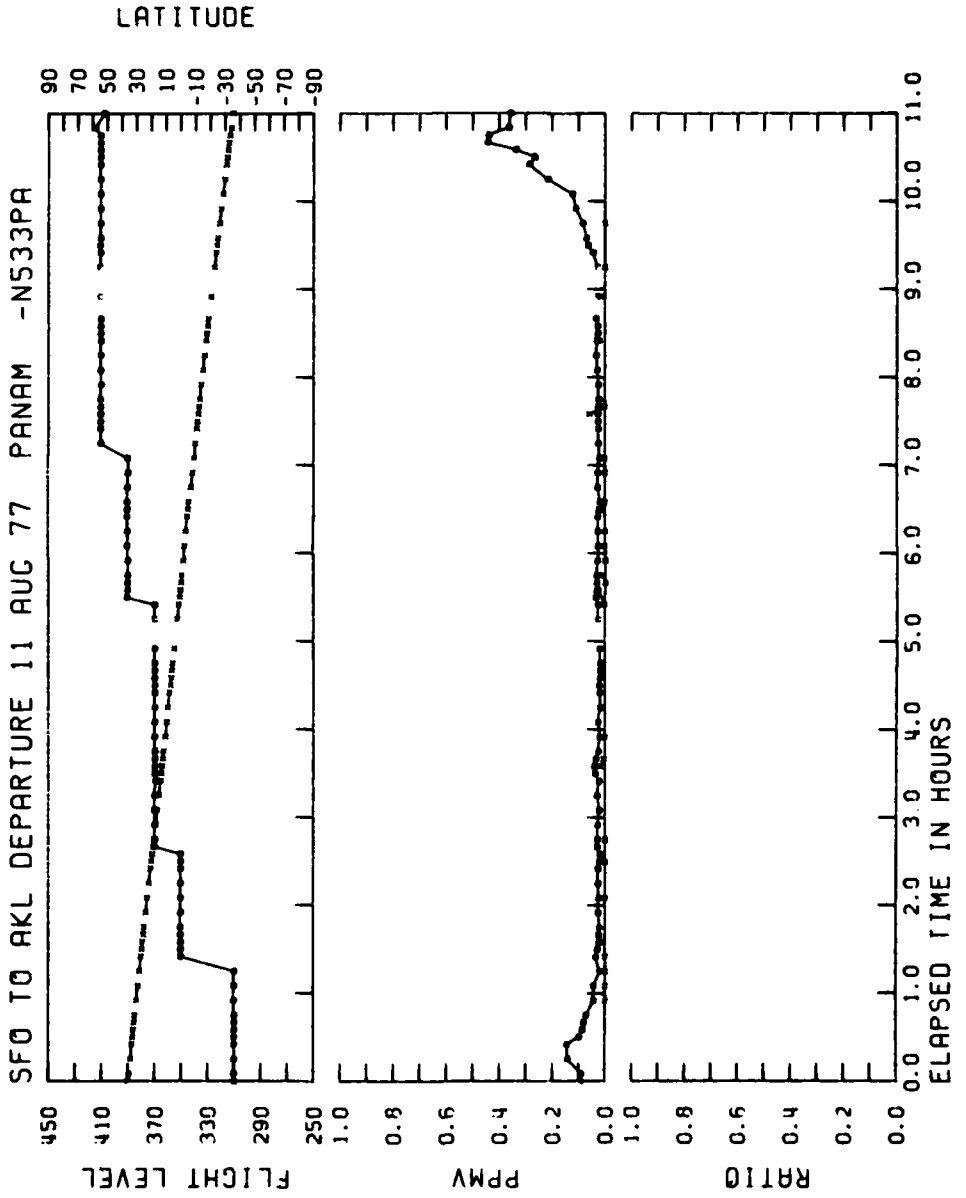
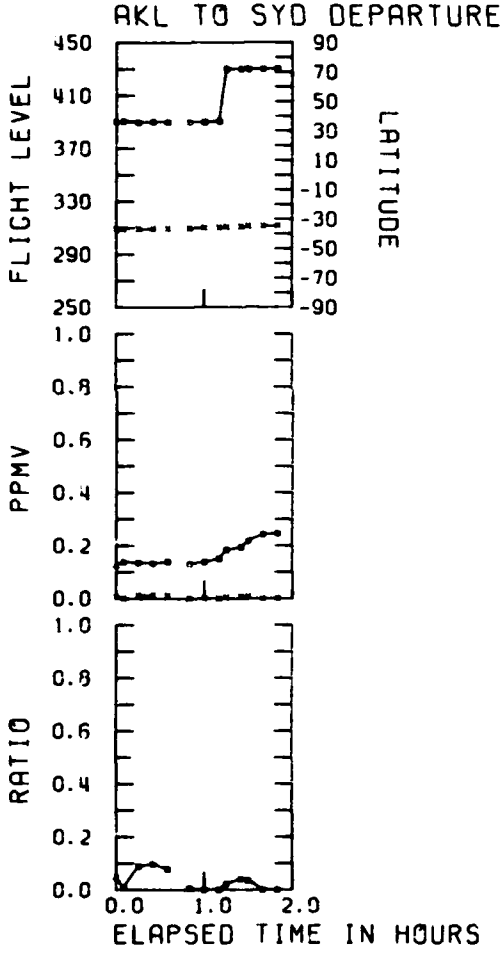

SFO TO AKL DEPARTURE 11 AUG 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0
ELAPSED TIME IN HOURS

SFO TO AKL (PAGE 1 OF 1) DEPARTURE: 11 AUG 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .443 CABIN OZONE= .059 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 0.00 TOTAL OBS IN CABIN: 40
DATA SOURCE: GASP TAPE VL010, FILE 4 AN "M" AFTER THE GMT BELOW DENOTES GMT MISSING ON THE ORIGINAL DATA TAPE

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
8/11/77	0000M	0:00	310	36.14N	124.43W	-40.		.093	
8/11/77	0009M	0:09	310	35.22N	125.45W	-40.		.090	
8/11/77	0018M	0:18	310	34.28N	126.47W	-40.		.142	
8/11/77	0027M	0:27	310	33.33N	127.46W	-39.		.145	
8/11/77	0032M	0:32	310	32.85N	127.96W	-38.		.099	
8/11/77	0037M	0:37	310	32.36N	128.45W	-38.		.086	
8/11/77	0042M	0:42	310	31.87N	128.94W	-38.		.081	
8/11/77	0047M	0:47	310	31.38N	129.42W	-37.		.072	
8/11/77	0056M	0:56	310	30.38N	130.38W	-36.	.000	.044	
8/11/77	0106M	1:06	310	29.32N	131.35W	-36.	.000	.044	
8/11/77	0116M	1:16	310	28.25N	132.30W	-35.	.000	.020	
8/11/77	0126M	1:26	350	27.19N	133.23W	-44.	.000	.036	
8/11/77	0131M	1:31	350	26.66N	133.68W	-44.		.029	
8/11/77	0136M	1:36	350	26.14N	134.12W	-45.	.015	.023	
8/11/77	0141M	1:41	351	25.61N	134.56W	-45.	.024	.024	
8/11/77	0146M	1:46	351	25.08N	135.00W	-45.		.022	
8/11/77	0156M	1:56	351	24.00N	135.88W	-45.		.026	
8/11/77	0206M	2:06	350	22.90N	136.76W	-45.	.000	.025	
8/11/77	0216M	2:16	351	21.80N	137.62W	-46.		.027	
8/11/77	0226M	2:26	351	20.65N	138.51W	-46.		.027	
8/11/77	0231M	2:31	350	20.09N	138.93W	-46.	.000	.022	
8/11/77	0236M	2:36	350	19.52N	139.39W	-46.		.020	
8/11/77	0241M	2:41	370	18.95N	139.85W	-51.		.030	
8/11/77	0246M	2:46	370	18.38N	140.30W	-50.	.000	.029	
8/11/77	0256M	2:56	370	17.24N	141.20W	-50.		.028	
8/11/77	0306M	3:06	370	16.08N	142.09W	-51.		.022	
8/11/77	0316M	3:16	370	14.92N	142.98W	-51.		.030	
8/11/77	0326M	3:26	369	13.79N	143.88W	-51.		.022	
8/11/77	0331M	3:31	370	13.26N	144.37W	-51.		.037	
8/11/77	0336M	3:36	370	12.73N	144.86W	-51.	.018	.040	
8/11/77	0341M	3:41	370	12.20N	145.36W	-51.	.005	.034	
8/11/77	0346M	3:46	370	11.67N	145.85W	-51.		.025	
8/11/77	0356M	3:56	370	10.64N	146.86W	-51.	.000	.020	
8/11/77	0406M	4:06	370	9.60N	147.84W	-51.		.026	
8/11/77	0416M	4:16	370	8.95N	149.08W	-51.		.017	
8/11/77	0426M	4:26	370	7.75N	149.79W	-50.		.020	
8/11/77	0431M	4:31	370	7.12N	150.08W	-51.		.022	
8/11/77	0436M	4:36	370	6.55N	150.46W	-51.		.018	
8/11/77	0441M	4:41	370	6.05N	150.95W	-51.		.017	
8/11/77	0446M	4:46	370	5.53N	151.46W	-52.	.007	.017	
8/11/77	0456M	4:56	370	4.51N	152.45W	-51.		.019	
8/11/77	0517M	5:17	370	2.45N	154.44W	-51.		.026	
8/11/77	0527M	5:27	370	1.42N	155.43W	-51.	.000	.025	
8/11/77	0532M	5:32	391	.89N	155.93W	-55.		.034	
8/11/77	0537M	5:37	390	.37N	156.42W	-55.	.026	.031	
8/11/77	0542M	5:42	390	.14S	156.91W	-55.	.000	.032	
8/11/77	0547M	5:47	390	.66S	157.39W	-56.	.008	.033	
8/11/77	0557M	5:57	390	1.68S	158.36W	-56.	.000	.030	
8/11/77	0607M	6:07	390	2.71S	159.34W	-56.	.000	.026	
8/11/77	0617M	6:17	390	3.45S	160.55W	-56.	.000	.027	
8/11/77	0627M	6:27	390	4.45S	161.56W	-57.		.028	
8/11/77	0632M	6:32	390	4.99S	162.00W	-56.	.024	.015	
8/11/77	0637M	6:37	390	5.54S	162.45W	-57.	.000	.020	
8/11/77	0647M	6:47	390	6.66S	163.36W	-57.		.028	
8/11/77	0657M	6:57	390	7.76S	164.27W	-57.	.000	.027	
8/11/77	0707M	7:07	390	8.83S	165.18W	-57.	.001	.021	
8/11/77	0718M	7:18	411	9.68S	166.34W	-63.		.025	
8/11/77	0728M	7:28	411	10.72S	167.29W	-62.		.025	
8/11/77	0733M	7:33	411	11.22S	167.76W	-61.		.026	
8/11/77	0738M	7:38	411	11.72S	168.22W	-62.	.059	.026	
8/11/77	0743M	7:43	411	12.22S	168.69W	-62.	.001	.026	
8/11/77	0748M	7:48	411	12.71S	169.16W	-61.	.020	.025	
8/11/77	0758M	7:58	410	13.70S	170.10W	-61.		.025	
8/11/77	0808M	8:08	411	14.74S	170.97W	-62.		.030	
8/11/77	0818M	8:18	411	15.90S	171.70W	-61.		.033	
8/11/77	0828M	8:28	411	17.05S	172.44W	-61.	.021	.030	
8/11/77	0833M	8:33	411	17.60S	172.80W	-62.		.027	
8/11/77	0838M	8:38	411	18.17S	173.18W	-63.		.027	
8/11/77	0843M	8:43	411	18.73S	173.55W	-62.		.034	
8/11/77	0858M	8:58	411	20.38S	174.66W	-63.	.016	.026	
8/11/77	0917M	9:17	411	22.67S	176.02W	-62.	.008	.028	
8/11/77	0927M	9:27	411	23.84S	176.67W	-62.		.045	
8/11/77	0932M	9:32	411	24.42S	177.00W	-61.		.064	
8/11/77	0937M	9:37	411	25.00S	177.32W	-59.		.071	
8/11/77	0947M	9:47	411	26.18S	178.01W	-54.	.000	.084	
8/11/77	0957M	9:57	411	27.37S	178.71W	-54.		.111	
8/11/77	1006M	10:06	411	28.52S	179.40W	-52.		.123	
8/11/77	1016M	10:16	411	29.69S	179.86E	-51.		.215	
8/11/77	1025M	10:25	411	30.84S	179.13E	-49.		.286	
8/11/77	1030M	10:30	411	31.43S	178.75E	-48.		.265	
8/11/77	1035M	10:35	411	32.01S	178.37E	-49.		.336	
8/11/77	1040M	10:40	411	32.57S	177.99E	-50.		.443	
8/11/77	1045M	10:45	411	33.16S	177.59E	-49.		.439	
8/11/77	1054M	10:54	414	34.29S	176.80E	-53.		.363	
8/11/77	1104M	11:04	407	35.46S	176.07E	-53.		.356	

A-401


AKL TO SYD DEPARTURE 11 AUG 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
ELAPSED TIME IN HOURS

AKL TO SYD (PAGE 1 OF 1) DEPARTURE: 11 AUG 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .246 CABIN OZONE= .013 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .10 TOTAL OBS IN CABIN: 13
DATA SOURCE: GASP TAPE VL010, FILE 4 AN "M" AFTER THE GMT BELOW DENOTES GMT MISSING ON THE ORIGINAL DATA TAPE

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
8/11/77	0000M	0:00	390	36.86S	172.43E	-63.	.006	.126	.05
8/11/77	0009M	0:09	390	36.75S	170.94E	-63.	.001	.137	.01
8/11/77	0018M	0:18	390	36.60S	169.45E	-63.	.012	.135	.09
8/11/77	0027M	0:27	390	36.48S	167.96E	-62.	.013	.133	.10
8/11/77	0036M	0:36	390	36.35S	166.49E	-62.	.011	.140	.08
8/11/77	0054M	0:54	390	36.02S	163.61E	-62.	.001	.132	.01
8/11/77	0102M	1:02	390	35.82S	162.23E	-59.	.000	.138	.00
8/11/77	0110M	1:10	391	35.61S	160.89E	-58.	.000	.150	.00
8/11/77	0118M	1:18	430	35.39S	159.60E	-59.	.004	.184	.02
8/11/77	0126M	1:26	430	35.16S	158.28E	-58.	.008	.194	.04
8/11/77	0134M	1:34	430	34.91S	156.96E	-57.	.008	.218	.04
8/11/77	0142M	1:42	430	34.65S	155.67E	-57.	.000	.242	.00
8/11/77	0150M	1:50	430	34.37S	154.37E	-56.	.000	.246	.00

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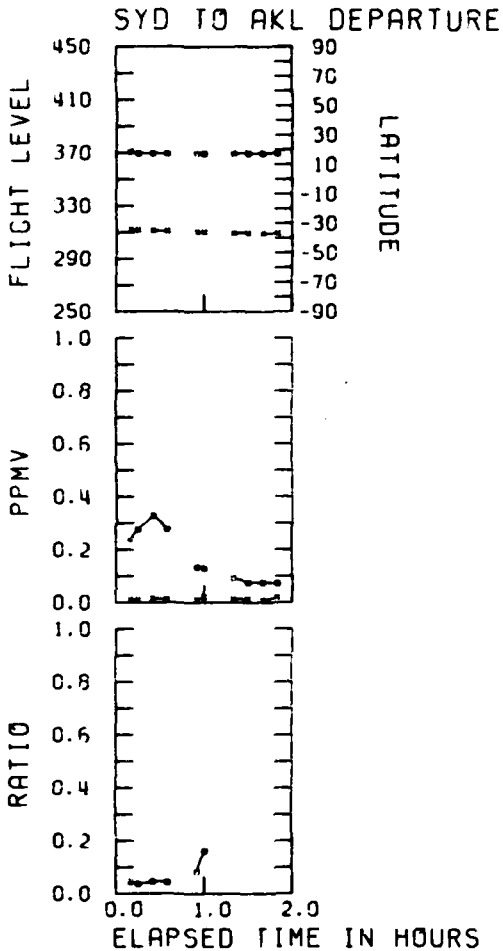
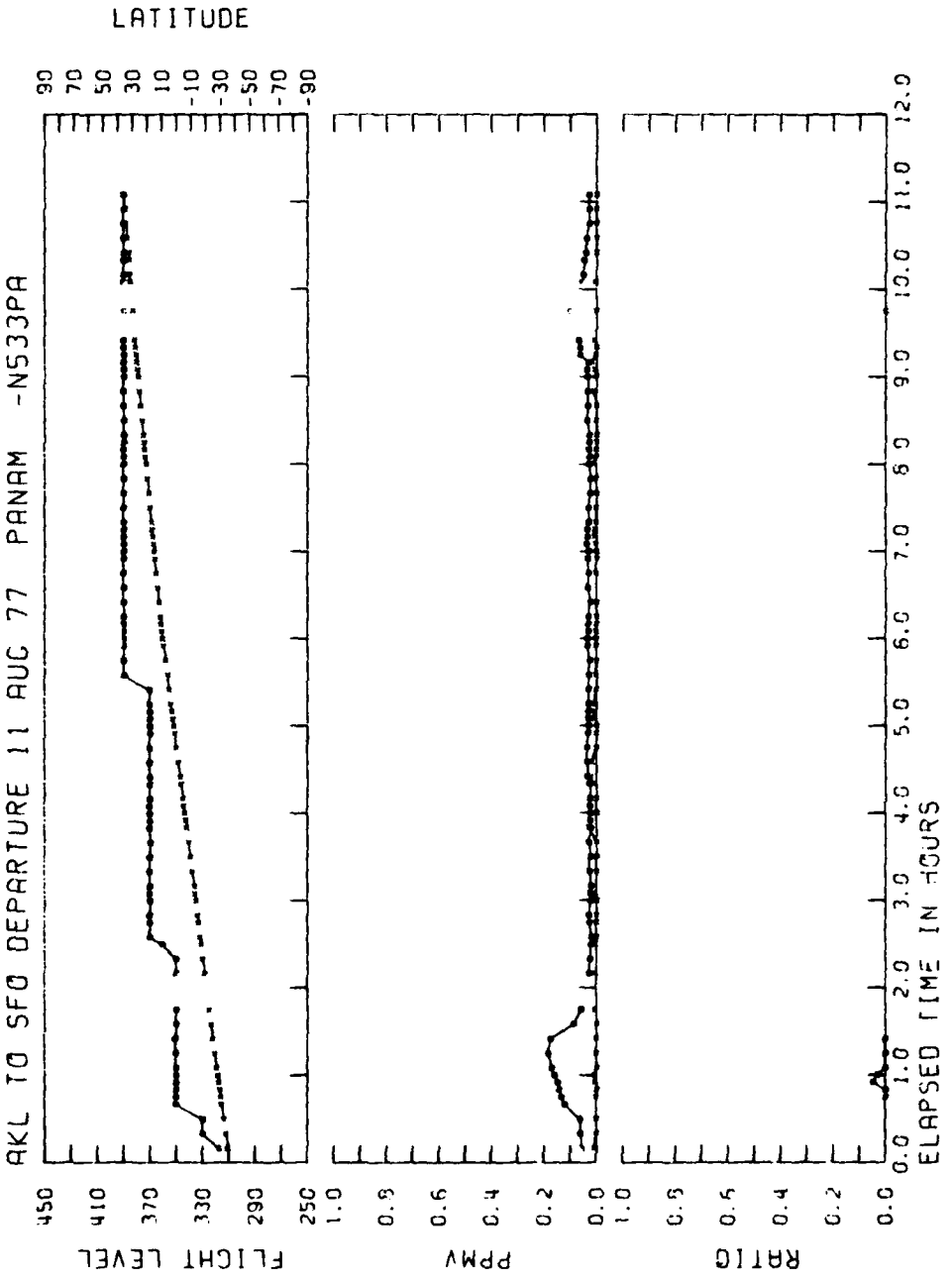

SYD TO AKL DEPARTURE 12 AUG 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
ELAPSED TIME IN HOURS

SYD TO AKL (PAGE 1 OF 1) DEPARTURE: 12 AUG 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .328 CABIN OZONE= .021 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .16 TOTAL OBS IN CABIN: 10
DATA SOURCE: GASP TAPE VL010, FILE 4

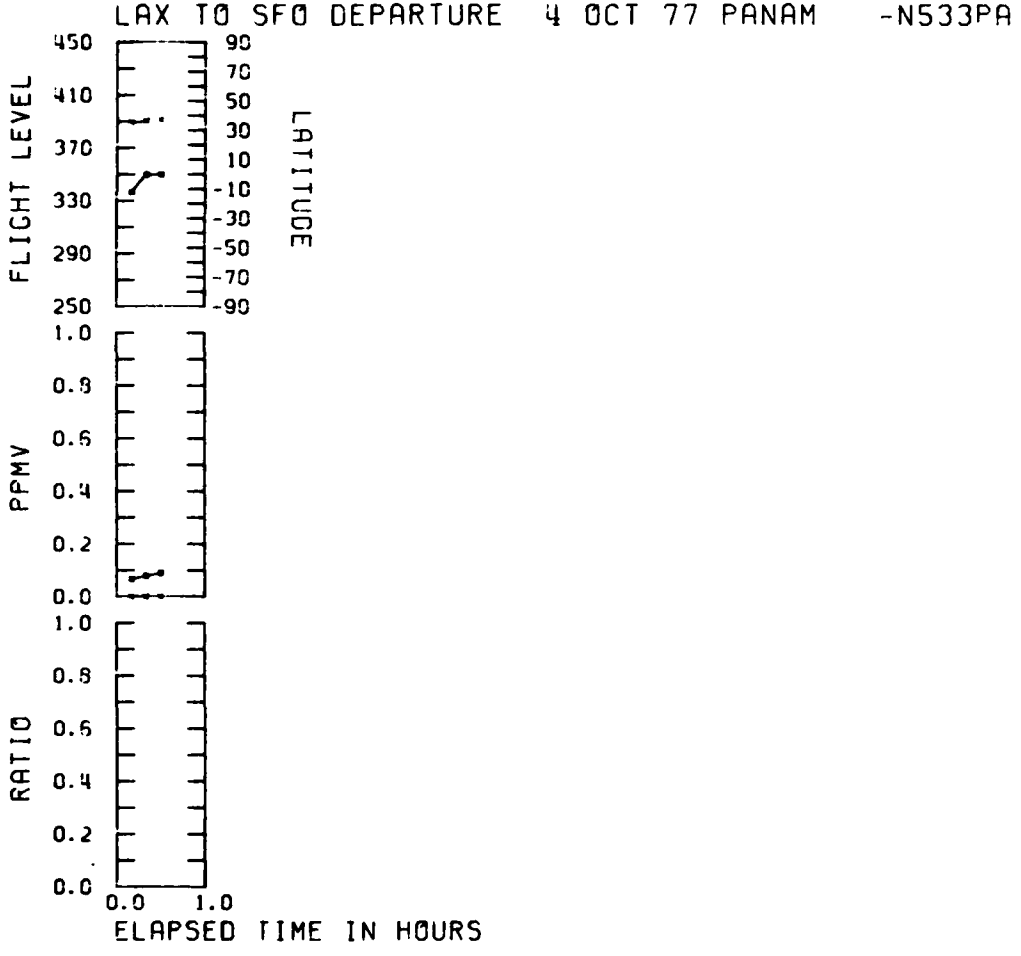
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
8/12/77	0549	0:10	371	34.26S	153.35E	-49.	.011	.242	.05	8/12/77	0641	1:02	369	35.91S	162.88E	-58.	.021	.130	.16
8/12/77	0556	0:17	369	34.43S	154.65E	-51.	.010	.275	.04	8/12/77	0701	1:22	369	36.40S	166.62E	-60.	.013	.093	
8/12/77	0606	0:27	369	34.81S	156.49E	-53.	.015	.328	.05	8/12/77	0711	1:32	369	36.59S	168.46E	-61.	.013	.075	
8/12/77	0616	0:37	369	35.16S	158.32E	-54.	.012	.277	.04	8/12/77	0721	1:42	370	36.75S	170.27E	-62.	.009	.075	
8/12/77	0636	0:57	370	35.77S	161.96E	-57.	.011	.134	.08	8/12/77	0731	1:52	369	36.88S	172.08E	-63.	.020	.072	


AKL TO SFO DEPARTURE 11 AUG 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0
ELAPSED TIME IN HOURS

AKL TO SFO (PAGE 1 OF 1) DEPARTURE: 11 AUG 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .183 CABIN OZONE= .029 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .05 TOTAL OBS IN CABIN: 74
DATA SOURCE: GASP TAPE VL010, FILE 4

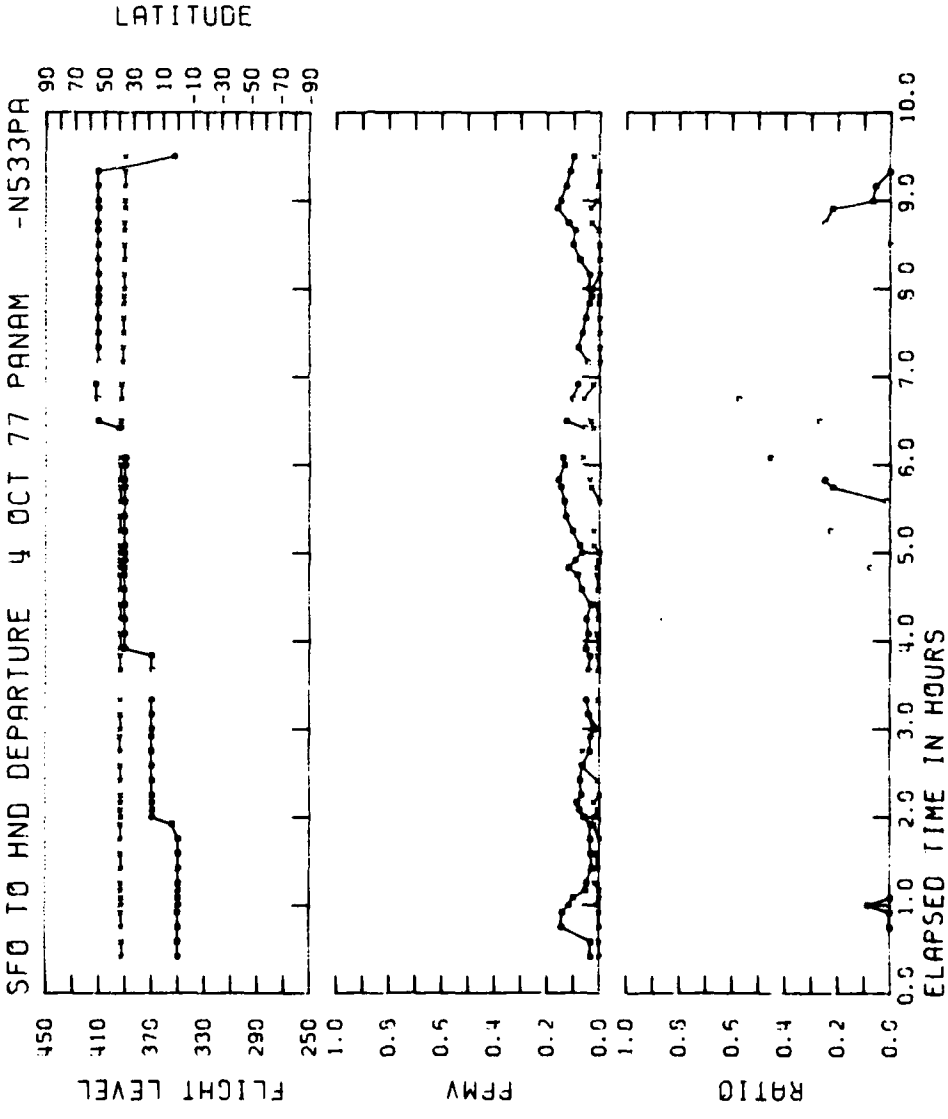
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
8/11/77	0910	0:10	318	35.03S	176.27E	-50.	.009	.057	
8/11/77	0920	0:20	330	33.78S	177.16E	-53.	.000	.061	
8/11/77	0930	0:30	330	32.48S	178.05E	-51.	.000	.062	
8/11/77	0940	0:40	350	31.14S	178.94E	-53.		.121	
8/11/77	0945	0:45	350	30.48S	179.37E	-51.	.000	.132	.00
8/11/77	0950	0:50	350	29.80S	179.81E	-50.	.000	.143	.00
8/11/77	0955	0:55	350	29.11S	179.76W	-49.	.007	.149	.05
8/11/77	1000	1:00	350	28.41S	179.32W	-47.	.005	.160	.03
8/11/77	1005	1:05	350	27.72S	178.90W	-47.	.000	.171	.00
8/11/77	1015	1:15	350	26.36S	178.08W	-42.	.000	.183	.00
8/11/77	1025	1:25	350	25.04S	177.32W	-42.	.000	.174	.00
8/11/77	1035	1:35	350	23.73S	176.57W	-42.	.000	.088	
8/11/77	1048	1:48	350	22.45S	175.87W	-43.	.006	.057	
8/11/77	1111	2:11	350	19.29S	173.87W	-45.	.011	.029	
8/11/77	1121	2:21	350	18.18S	173.12W	-46.		.025	
8/11/77	1131	2:31	361	17.06S	172.38W	-49.	.005	.020	
8/11/77	1136	2:36	370	16.50S	172.01W	-52.	.000	.019	
8/11/77	1146	2:46	370	15.38S	171.29W	-51.	.000	.026	
8/11/77	1151	2:51	370	14.81S	170.92W	-51.	.001	.031	
8/11/77	1201	3:01	370	13.64S	170.37W	-52.	.000	.022	
8/11/77	1206	3:06	370	13.03S	170.13W	-51.	.015	.025	
8/11/77	1211	3:11	370	12.41S	169.90W	-51.		.021	
8/11/77	1221	3:21	370	11.16S	169.42W	-50.	.000	.027	
8/11/77	1231	3:31	370	9.89S	168.94W	-51.	.000	.024	
8/11/77	1243	3:43	370	8.39S	168.38W	-52.	.000	.029	
8/11/77	1253	3:53	370	7.15S	167.91W	-51.	.029	.022	
8/11/77	1258	3:58	370	6.53S	167.68W	-51.		.024	
8/11/77	1303	4:03	370	5.90S	167.45W	-51.	.000	.024	
8/11/77	1308	4:08	370	5.28S	167.22W	-51.		.025	
8/11/77	1313	4:13	370	4.65S	166.99W	-51.	.000	.025	
8/11/77	1323	4:23	370	3.40S	166.53W	-51.	.016	.028	
8/11/77	1328	4:28	370	2.77S	166.30W	-51.	.022	.035	
8/11/77	1338	4:38	370	1.49S	165.84W	-50.	.020	.036	
8/11/77	1348	4:48	370	.21S	165.38W	-51.	.000	.036	
8/11/77	1358	4:58	370	1.07N	164.91W	-51.	.001	.033	
8/11/77	1403	5:03	370	1.71N	164.67W	-50.	.000	.032	
8/11/77	1408	5:08	370	2.35N	164.44W	-50.	.011	.033	
8/11/77	1413	5:13	370	2.98N	164.21W	-51.	.008	.032	
8/11/77	1418	5:18	370	3.58N	163.99W	-51.	.008	.031	
8/11/77	1428	5:28	370	4.81N	163.54W	-51.	.000	.030	
8/11/77	1438	5:38	390	6.04N	163.09W	-56.	.004	.030	
8/11/77	1448	5:48	390	7.29N	162.63W	-56.	.000	.027	
8/11/77	1458	5:58	390	8.53N	162.17W	-56.	.002	.035	
8/11/77	1503	6:03	390	9.16N	161.94W	-57.	.000	.035	
8/11/77	1508	6:08	390	9.80N	161.70W	-56.	.001	.030	
8/11/77	1513	6:13	390	10.28N	161.26W	-57.	.000	.032	
8/11/77	1518	6:18	390	10.76N	160.80W	-57.	.001	.032	
8/11/77	1528	6:28	390	11.72N	159.87W	-56.	.000	.024	
8/11/77	1538	6:38	390	12.68N	158.92W	-57.		.033	
8/11/77	1548	6:48	390	13.63N	157.97W	-57.	.002	.030	
8/11/77	1558	6:58	390	14.58N	157.02W	-57.	.000	.035	
8/11/77	1603	7:03	390	15.06N	156.51W	-57.	.000	.031	
8/11/77	1608	7:08	390	15.54N	155.99W	-56.	.002	.038	
8/11/77	1613	7:13	390	15.99N	155.50W	-56.	.008	.035	
8/11/77	1618	7:18	390	16.44N	154.99W	-56.	.006	.035	
8/11/77	1623	7:23	390	16.90N	154.48W	-56.	.001	.029	
8/11/77	1633	7:33	390	17.82N	153.44W	-55.	.000	.030	
8/11/77	1643	7:43	390	18.75N	152.38W	-55.	.000	.025	
8/11/77	1653	7:53	390	19.67N	151.29W	-55.	.002	.023	
8/11/77	1703	8:03	390	20.61N	150.18W	-55.	.010	.028	
8/11/77	1708	8:08	390	21.07N	149.60W	-55.	.000	.026	
8/11/77	1713	8:13	390	21.53N	149.02W	-55.	.000	.029	
8/11/77	1718	8:18	390	21.99N	148.43W	-55.	.000	.028	
8/11/77	1723	8:23	390	22.44N	147.85W	-56.	.000	.028	
8/11/77	1733	8:33	390	23.35N	146.66W	-56.	.000	.036	
8/11/77	1743	8:43	390	24.25N	145.45W	-55.	.000	.033	
8/11/77	1753	8:53	390	25.15N	144.22W	-55.	.010	.033	
8/11/77	1803	9:03	390	26.06N	142.93W	-55.	.000	.035	
8/11/77	1808	9:08	390	26.52N	142.28W	-54.	.008	.038	
8/11/77	1813	9:13	390	26.97N	141.62W	-54.	.019	.031	
8/11/77	1818	9:18	390	27.42N	140.95W	-54.	.002	.062	
8/11/77	1823	9:23	390	27.86N	140.28W	-55.	.000	.064	
8/11/77	1828	9:28	390	28.30N	139.61W	-54.	.007	.067	
8/11/77	1848	9:48	390	29.87N	136.68W	-51.	.000	.102	.00
8/11/77	1908	10:08	390	31.36N	133.55W	-51.	.004	.055	
8/11/77	1913	10:13	390	31.72N	132.76W	-51.		.049	
8/11/77	1923	10:23	390	32.41N	131.17W	-50.		.049	
8/11/77	1928	10:28	390	32.74N	130.39W	-50.	.000	.041	
8/11/77	1938	10:38	390	33.60N	128.93W	-51.	.000	.038	
8/11/77	1948	10:48	390	34.49N	127.49W	-51.	.000	.026	
8/11/77	1958	10:58	390	35.37N	126.01W	-51.	.000	.028	
8/11/77	2008	11:08	390	36.21N	124.53W	-51.	.000	.030	


LAX TO SFO DEPARTURE 4 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
ELAPSED TIME IN HOURS

LAX TO SFO (PAGE 1 OF 1) DEPARTURE: 4 OCT 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .090 CABIN OZONE=0.000 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)=***** TOTAL OBS IN CABIN: 3
DATA SOURCE: GASP TAPE VL014, FILE 1

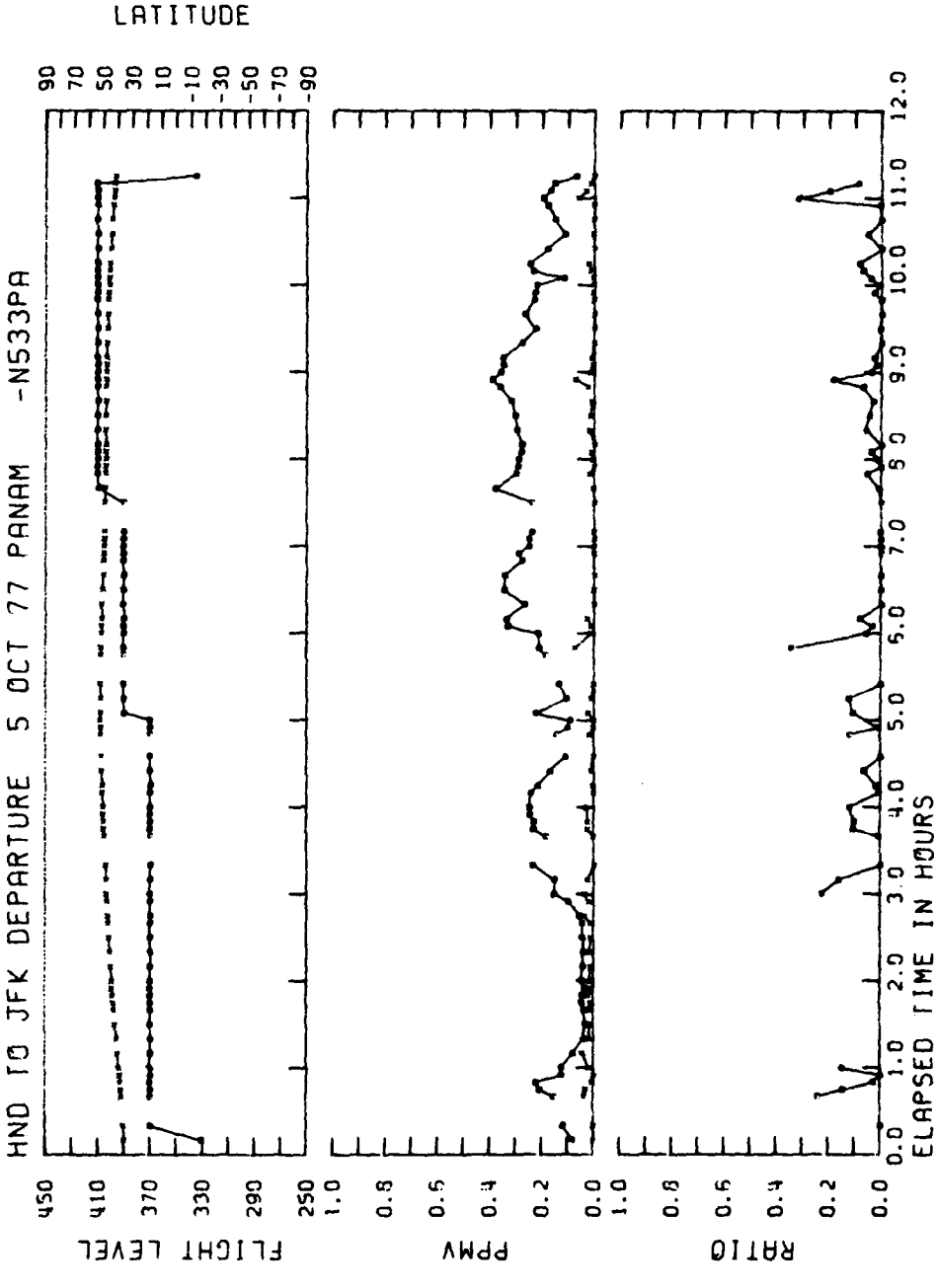
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
10/ 4/77	2040	0:10	336	35.46N	120.26W	-50.	.000	.067	
10/ 4/77	2050	0:20	350	36.47N	121.33W	-54.	.000	.079	
10/ 4/77	2100	0:30	350	37.23N	122.68W	-53.	.000	.090	


LATITUDE
SFO TO HND DEPARTURE 4 OCT 77 PANAM -N533PA
FLIGHT LEVEL
FFMV
RATIO
ELAPSED TIME IN HOURS

TO HND (PAGE 1 OF 1) DEPARTURE: 4 OCT 77 AIRCRAFT:PANAM -N=33PA

MAXIMUM VALUES: AMBIENT OZONE= .160 CABIN OZONE= .068 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .57 TOTAL OBS IN CABIN: 60
DATA SOURCE: GASP TAPE VL014, FILE 1 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
10/ 4/77	2140	0:25	350	37.98N	129.21W	-55.	.000	.034	
10/ 4/77	2150	0:35	350	38.11N	130.82W	-55.	.001	.033	
10/ 4/77	2200	0:45	350	38.32N	132.38W	-55.	.000	.143	.00
10/ 4/77	2210	0:55	350	38.50N	133.95W	-53.	.000	.139	.00
10/ 4/77	2215	1:00	350	38.58N	134.75W	-53.	.010	.117	.09
10/ 4/77	2220	1:05	350	38.66N	135.55W	-52.	.000	.100	
10/ 4/77	2225	1:10	350	38.74N	136.35W	-53.	.001	.053	
10/ 4/77	2230	1:15	350	38.80N	137.15W	-53.	.017	.048	
10/ 4/77	2240	1:25	350	38.92N	138.78W	-53.	.009	.031	
10/ 4/77	2250	1:35	350	39.02N	140.42W	-53.	.013	.034	
10/ 4/77	2300	1:45	350	39.07N	142.08W	-53.	.000	.036	
10/ 4/77	2310	1:55	354	39.10N	143.78W	-55.	.023	.034	
10/ 4/77	2315	2:00	370	39.10N	144.63W	-58.	.019	.062	
10/ 4/77	2320	2:05	370	39.10N	145.49W	-57.	.007	.078	
10/ 4/77	2325	2:10	370	39.10N	146.35W	-56.	.024	.087	
10/ 4/77	2330	2:15	370	39.08N	147.22W	-56.	.000	.070	
10/ 4/77	2340	2:25	370	39.04N	148.95W	-53.	.008	.074	
10/ 4/77	2350	2:35	370	39.02N	150.65W	-55.	.068	.064	
10/ 5/77	0000	2:45	370	39.08N	152.35W	-56.	.064	.037	
10/ 5/77	0010	2:55	370	39.10N	154.03W	-56.		.035	
10/ 5/77	0016	3:01	370	39.11N	154.90W	-57.	.005	.025	
10/ 5/77	0025	3:10	370	39.10N	156.57W	-57.	.045	.041	
10/ 5/77	0035	3:20	370	39.06N	158.29W	-57.	.005	.051	
10/ 5/77	0055	3:40	370	39.06N	161.72W	-56.	.006	.043	
10/ 5/77	0105	3:50	370	39.10N	163.43W	-56.	.007	.037	
10/ 5/77	0110	3:55	390	39.10N	164.29W	-61.	.007	.054	
10/ 5/77	0120	4:05	390	39.10N	166.04W	-61.	.011	.044	
10/ 5/77	0130	4:15	390	39.07N	167.80W	-62.	.006	.051	
10/ 5/77	0140	4:25	390	39.02N	169.55W	-62.	.011	.034	
10/ 5/77	0150	4:35	390	39.05N	171.28W	-62.	.006	.068	
10/ 5/77	0200	4:45	390	39.09N	173.01W	-62.	.009	.083	
10/ 5/77	0205	4:50	390	39.10N	173.86W	-60.	.009	.117	.08
10/ 5/77	0210	4:55	390	39.11N	174.69W	-57.	.004	.094	
10/ 5/77	0215	5:00	390	39.10N	175.53W	-55.	.000	.060	
10/ 5/77	0220	5:05	390	39.10N	176.35W	-56.	.022	.075	
10/ 5/77	0230	5:15	390	39.07N	178.01W	-58.	.023	.102	.23
10/ 5/77	0240	5:25	390	39.01N	179.68W	-57.		.127	
10/ 5/77	0250	5:35	390	39.05N	178.66E	-55.	.002	.135	.01
10/ 5/77	0300	5:45	390	39.09N	176.97E	-55.	.032	.147	.22
10/ 5/77	0305	5:50	390	39.10N	176.13E	-57.	.039	.157	.25
10/ 5/77	0315	6:00	390	39.10N	174.44E	-60.		.136	
10/ 5/77	0321	6:06	390	39.10N	173.56E	-58.	.064	.141	.45
10/ 5/77	0343A	6:28	395	38.50N	169.93E	-61.	.025	.057	
10/ 5/77	0349	6:34	410	38.44N	169.11E	-62.	.034	.127	.27
10/ 5/77	0404	6:49	411	38.20N	166.70E	-61.	.059	.103	.57
10/ 5/77	0414	6:59	412	37.97N	165.10E	-61.	.024	.083	
10/ 5/77	0429	7:14	410	37.70N	162.85E	-64.	.000	.047	
10/ 5/77	0439	7:24	410	37.35N	161.39E	-63.	.000	.085	
10/ 5/77	0449	7:34	410	36.99N	159.90E	-63.	.000	.066	
10/ 5/77	0458	7:43	410	36.90N	158.39E	-63.	.000	.053	
10/ 5/77	0509	7:54	410	36.78N	156.85E	-62.	.005	.041	
10/ 5/77	0514	7:59	410	36.71N	156.10E	-64.	.002	.033	
10/ 5/77	0519	8:04	410	36.64N	155.33E	-63.	.032	.040	
10/ 5/77	0528	8:13	410	36.48N	153.83E	-63.	.000	.030	
10/ 5/77	0539	8:24	410	36.31N	152.30E	-60.	.000	.075	
10/ 5/77	0548	8:33	410	36.12N	150.84E	-57.	.000	.100	
10/ 5/77	0558	8:43	410	35.97N	149.36E	-52.	.004	.092	
10/ 5/77	0604	8:49	410	35.93N	148.61E	-52.	.029	.117	.25
10/ 5/77	0614	8:59	410	35.84N	147.15E	-51.	.035	.160	.22
10/ 5/77	0619	9:04	410	35.78N	146.39E	-51.	.010	.149	.07
10/ 5/77	0628	9:13	410	35.66N	144.86E	-51.	.007	.127	.06
10/ 5/77	0638	9:23	410	35.51N	143.31E	-51.	.000	.111	.00
10/ 5/77	0648	9:33	352	35.35N	141.81E	-45.	.022	.097	


LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
HND TO JFK DEPARTURE 5 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
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8.0
9.0
10.0
11.0
12.0
ELAPSED TIME IN HOURS

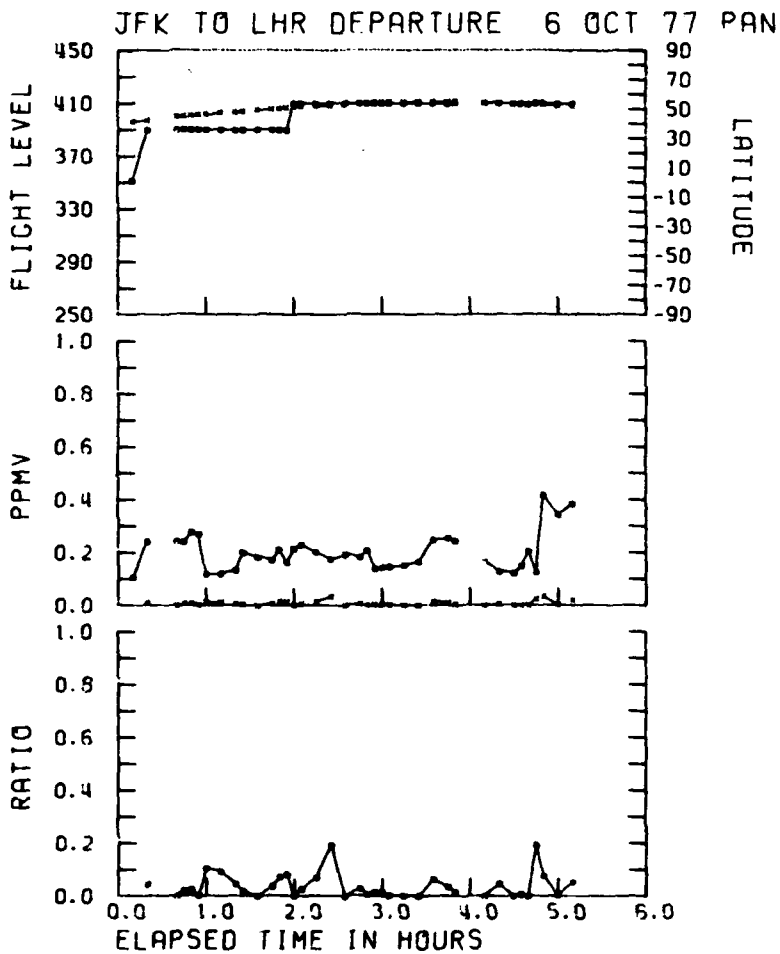
DEPARTURE: 5 OCT 77

AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .390 CABIN OZONE= .072 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .34 TOTAL OBS IN CABIN: 81

DATA SOURCE: GASP TAPE VL014, FILE 1

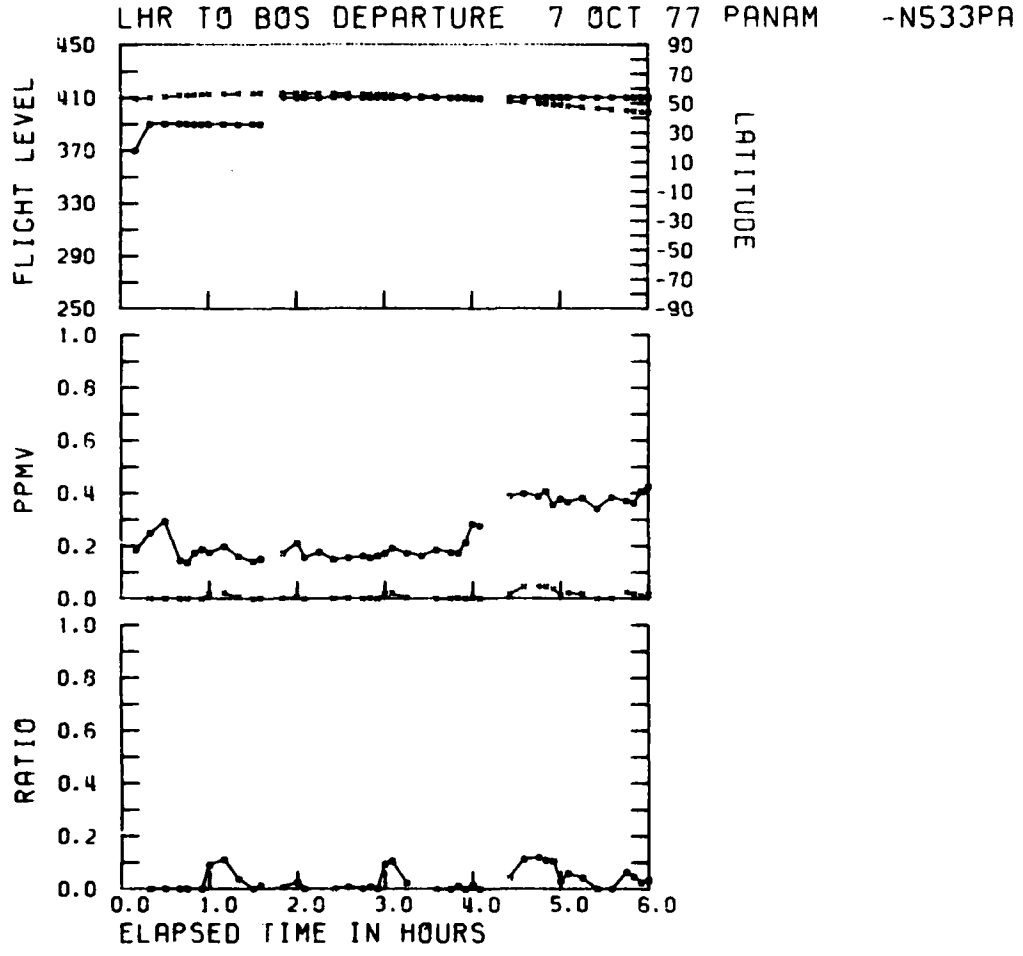
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
10/ 5/77	1005	0:10	331	35.70N	142.76E	-45.	.000	.081	
10/ 5/77	1015	0:20	370	36.42N	144.22E	-49.	.000	.117	.00
10/ 5/77	1035	0:40	370	37.89N	147.40E	-45.	.037	.154	.24
10/ 5/77	1040	0:45	370	38.26N	148.24E	-45.	.030	.208	.14
10/ 5/77	1045	0:50	370	38.63N	149.10E	-44.	.006	.222	.03
10/ 5/77	1050	0:55	370	38.99N	149.96E	-45.	.000	.124	.00
10/ 5/77	1055	1:00	370	39.44N	150.77E	-48.	.018	.123	.15
10/ 5/77	1105	1:10	370	40.32N	152.35E	-54.	.043	.079	
10/ 5/77	1115	1:20	370	41.19N	153.99E	-55.	.019	.041	
10/ 5/77	1125	1:30	370	42.04N	155.69E	-55.	.015	.033	
10/ 5/77	1135	1:40	370	42.87N	157.46E	-55.	.015	.038	
10/ 5/77	1140	1:45	370	43.27N	158.37E	-55.	.010	.046	
10/ 5/77	1145	1:50	370	43.67N	159.28E	-55.	.019	.042	
10/ 5/77	1150	1:55	370	44.06N	160.22E	-55.	.015	.034	
10/ 5/77	1155	2:00	370	44.41N	161.20E	-55.	.015	.045	
10/ 5/77	1205	2:10	370	45.08N	163.22E	-56.	.012	.042	
10/ 5/77	1215	2:20	370	45.71N	165.27E	-56.	.018	.040	
10/ 5/77	1225	2:30	370	46.31N	167.38E	-56.	.009	.042	
10/ 5/77	1235	2:40	370	46.87N	169.55E	-56.	.013	.045	
10/ 5/77	1240	2:45	370	47.13N	170.64E	-56.	.037	.055	
10/ 5/77	1250	2:55	370	47.63N	172.78E	-56.	.018	.097	
10/ 5/77	1255	3:00	370	47.86N	173.86E	-56.	.034	.152	.22
10/ 5/77	1305	3:10	370	48.28N	175.95E	-59.	.024	.150	.16
10/ 5/77	1315	3:20	370	48.66N	178.07E	-54.	.000	.236	.00
10/ 5/77	1335	3:40	370	49.52N	177.62W	-53.	.002	.185	.01
10/ 5/77	1340	3:45	370	49.76N	176.53W	-53.	.024	.232	.10
10/ 5/77	1345	3:50	370	50.00N	175.41W	-52.	.023	.228	.10
10/ 5/77	1350	3:55	370	50.22N	174.30W	-54.		.246	
10/ 5/77	1355	4:00	370	50.43N	173.17W	-52.	.029	.247	.12
10/ 5/77	1405	4:10	370	50.82N	170.89W	-55.	.002	.242	.01
10/ 5/77	1410	4:15	370	50.99N	169.72W	-56.	.004	.216	.02
10/ 5/77	1420	4:25	370	51.31N	167.34W	-55.	.011	.169	.07
10/ 5/77	1430	4:35	370	51.58N	164.87W	-55.	.000	.110	.00
10/ 5/77	1445	4:50	370	51.89N	161.12W	-59.	.017	.144	.12
10/ 5/77	1450	4:55	370	51.97N	159.84W	-58.	.001	.101	.01
10/ 5/77	1455	5:00	370	52.02N	158.53W	-58.	.000	.091	
10/ 5/77	1500	5:05	390	52.05N	157.23W	-58.	.024	.225	.11
10/ 5/77	1510	5:15	390	52.07N	154.64W	-62.	.013	.107	.12
10/ 5/77	1520	5:25	390	52.04N	152.10W	-61.	.000	.134	.00
10/ 5/77	1540	5:45	390	51.79N	147.16W	-61.		.187	
10/ 5/77	1545	5:50	390	51.69N	145.94W	-60.	.072	.210	.34
10/ 5/77	1555	6:00	390	51.45N	143.54W	-58.	.012	.214	.06
10/ 5/77	1600	6:05	390	51.31N	142.34W	-54.	.011	.331	.03
10/ 5/77	1605	6:10	390	51.16N	141.16W	-53.	.027	.337	.08
10/ 5/77	1615	6:20	390	50.87N	138.91W	-53.	.000	.266	.00
10/ 5/77	1625	6:30	390	50.56N	136.63W	-50.	.000	.344	.00
10/ 5/77	1635	6:40	390	50.22N	134.44W	-50.	.000	.343	.00
10/ 5/77	1645	6:50	390	49.83N	132.29W	-54.		.276	
10/ 5/77	1650	6:55	390	49.63N	131.23W	-53.	.000	.288	.00
10/ 5/77	1655	7:00	390	49.42N	130.19W	-55.	.000	.250	.00
10/ 5/77	1700	7:05	390	49.36N	129.12W	-55.	.000	.250	.00
10/ 5/77	1705	7:10	390	49.34N	128.04W	-55.	.001	.239	.00
10/ 5/77	1725	7:30	390	49.14N	123.70W	-57.	.000	.240	.00
10/ 5/77	1735	7:40	410	48.84N	121.59W	-56.	.004	.380	.01
10/ 5/77	1745	7:50	410	48.22N	119.68W	-56.	.016	.299	.05
10/ 5/77	1750	7:55	410	48.21N	118.61W	-57.	.000	.293	.00
10/ 5/77	1755	8:00	410	48.25N	117.53W	-58.	.004	.290	.01
10/ 5/77	1800	8:05	410	48.28N	116.42W	-58.	.011	.280	.04
10/ 5/77	1805	8:10	410	48.31N	115.32W	-58.	.000	.279	.00
10/ 5/77	1815	8:20	410	48.33N	113.10W	-58.	.017	.296	.06
10/ 5/77	1825	8:30	410	48.30N	110.87W	-58.	.014	.303	.05
10/ 5/77	1835	8:40	410	48.24N	108.59W	-58.	.010	.318	.03
10/ 5/77	1845	8:50	410	48.13N	106.33W	-57.	.025	.361	.07
10/ 5/77	1850	8:55	410	48.05N	105.20W	-56.	.072	.390	.18
10/ 5/77	1855	9:00	410	47.96N	104.06W	-56.	.014	.360	.04
10/ 5/77	1900	9:05	410	47.87N	102.93W	-56.	.007	.349	.02
10/ 5/77	1905	9:10	410	47.76N	101.80W	-54.	.010	.351	.03
10/ 5/77	1915	9:20	410	47.50N	99.55W	-53.	.000	.276	.00
10/ 5/77	1925	9:30	410	47.20N	97.33W	-51.	.001	.226	.00
10/ 5/77	1935	9:40	410	46.85N	95.11W	-52.	.000	.267	.00
10/ 5/77	1945	9:50	410	46.46N	92.91W	-52.	.000	.230	.00
10/ 5/77	1950	9:55	410	46.25N	91.82W	-52.	.006	.228	.03
10/ 5/77	1955	10:00	410	46.03N	90.74W	-51.	.002	.221	.01
10/ 5/77	2000	10:05	410	45.80N	89.66W	-51.	.005	.118	.04
10/ 5/77	2005	10:10	410	45.56N	88.62W	-51.	.017	.237	.07
10/ 5/77	2010	10:15	410	45.32N	87.58W	-54.	.021	.246	.09
10/ 5/77	2020	10:25	410	44.79N	85.51W	-54.	.000	.180	.00
10/ 5/77	2030	10:35	410	44.24N	83.52W	-57.	.006	.115	.05
10/ 5/77	2040	10:45	410	43.65N	81.60W	-57.	.000	.150	.00
10/ 5/77	2050	10:55	410	43.05N	79.75W	-58.	.001	.178	.01
10/ 5/77	2055	11:00	410	42.73N	78.83W	-58.	.063	.198	.32
10/ 5/77	2100	11:05	410	42.41N	77.93W	-57.	.034	.170	.20
10/ 5/77	2105	11:10	410	41.96N	77.14W	-59.	.014	.153	.09
10/ 5/77	2110	11:15	335	41.53N	76.34W	-53.	.000	.070	


JFK TO LHR DEPARTURE 6 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
ELAPSED TIME IN HOURS

JFK TO LHR (PAGE 1 OF 1) DEPARTURE: 6 OCT 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .414 CABIN OZONE= .034 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .19 TOTAL OBS IN CABIN: 37
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
10/ 6/77	2351	0:10	351	41.36N	71.34W	-57.		.106	
10/ 7/77	0001	0:20	390	42.68N	70.41W	-57.	.011	.242	.05
10/ 7/77	0021	0:40	390	44.98N	67.38W	-54.	.000	.242	.00
10/ 7/77	0026	0:45	390	45.42N	66.48W	-55.	.005	.239	.02
10/ 7/77	0031	0:50	390	45.86N	65.53W	-55.	.006	.275	.02
10/ 7/77	0036	0:55	390	46.29N	64.58W	-55.	.000	.268	.00
10/ 7/77	0041	1:00	390	46.70N	63.64W	-56.	.012	.117	.10
10/ 7/77	0051	1:10	390	47.51N	61.69W	-59.	.011	.119	.09
10/ 7/77	0101	1:20	390	48.27N	59.70W	-55.	.006	.133	.05
10/ 7/77	0106	1:25	390	48.63N	58.70W	-57.	.004	.201	.02
10/ 7/77	0116	1:35	390	49.34N	56.65W	-58.	.000	.184	.00
10/ 7/77	0126	1:45	390	50.15N	54.69W	-58.	.006	.170	.04
10/ 7/77	0131	1:50	390	50.58N	53.67W	-56.	.015	.210	.07
10/ 7/77	0136	1:55	390	51.00N	52.64W	-55.	.013	.162	.08
10/ 7/77	0141	2:00	410	51.40N	51.61W	-55.	.000	.214	.00
10/ 7/77	0146	2:05	410	51.80N	50.54W	-55.	.006	.228	.03
10/ 7/77	0156	2:15	410	52.42N	48.28W	-55.	.014	.202	.07
10/ 7/77	0206	2:25	410	52.95N	45.89W	-55.	.034	.176	.19
10/ 7/77	0216	2:35	410	53.42N	43.46W	-55.	.000	.192	.00
10/ 7/77	0226	2:45	410	53.85N	40.98W	-55.	.005	.181	.03
10/ 7/77	0231	2:50	410	54.04N	39.71W	-54.	.001	.207	.00
10/ 7/77	0236	2:55	410	54.21N	38.42W	-54.	.002	.139	.01
10/ 7/77	0241	3:00	410	54.38N	37.14W	-55.	.002	.142	.01
10/ 7/77	0246	3:05	410	54.52N	35.84W	-54.	.000	.144	.00
10/ 7/77	0256	3:15	410	54.77N	33.22W	-53.	.000	.151	.00
10/ 7/77	0306	3:25	410	54.96N	30.57W	-53.	.000	.165	.00
10/ 7/77	0316	3:35	410	55.07N	27.88W	-53.	.016	.249	.06
10/ 7/77	0326	3:45	410	55.10N	25.15W	-54.	.009	.254	.04
10/ 7/77	0331	3:50	410	55.10N	23.80W	-55.	.004	.243	.02
10/ 7/77	0355	4:14	410	54.55N	17.61W	-57.	.000	.165	.00
10/ 7/77	0405	4:24	410	54.05N	15.21W	-61.	.006	.129	.05
10/ 7/77	0415	4:34	410	53.75N	12.90W	-64.	.000	.121	.00
10/ 7/77	0420	4:39	410	53.53N	11.75W	-59.	.001	.149	.01
10/ 7/77	0425	4:44	409	53.31N	10.63W	-58.	.000	.204	.00
10/ 7/77	0430	4:49	410	53.08N	9.54W	-54.	.024	.125	.19
10/ 7/77	0435	4:54	410	52.84N	8.48W	-53.	.032	.414	.08
10/ 7/77	0445	5:04	410	52.35N	6.41W	-51.	.001	.343	.00
10/ 7/77	0455	5:14	410	51.95N	4.34W	-53.	.020	.383	.05


LHR TO BOS DEPARTURE 7 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
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30
10
-10
-30
-50
-70
-90
PPMV
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0.4
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0.0
RATIO
1.0
0.8
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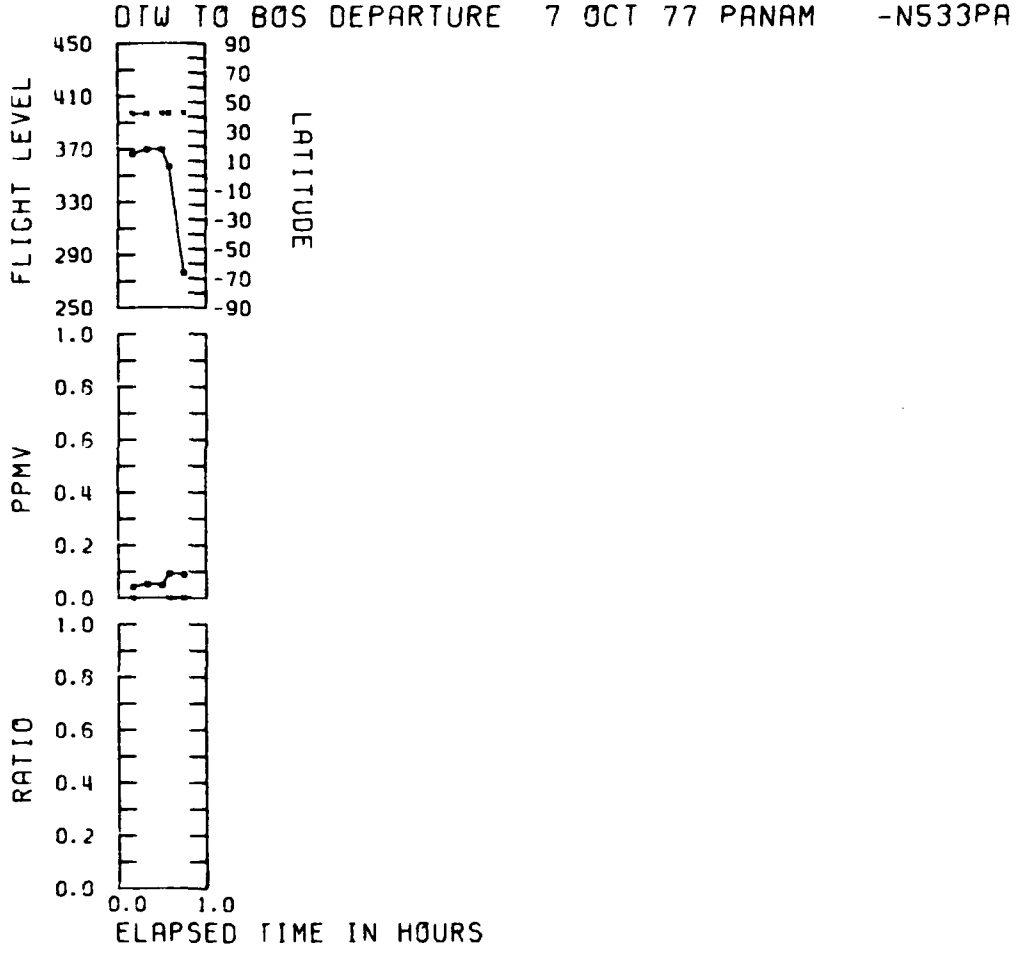
5.0
6.0
ELAPSED TIME IN HOURS

LHR TO BOS (PAGE 1 OF 1) DEPARTURE: 7 OCT 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .425 CABIN OZONE= .046 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .12 TOTAL OBS IN CABIN: 41
DATA SOURCE: GASP TAPE VL014, FILE 1 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

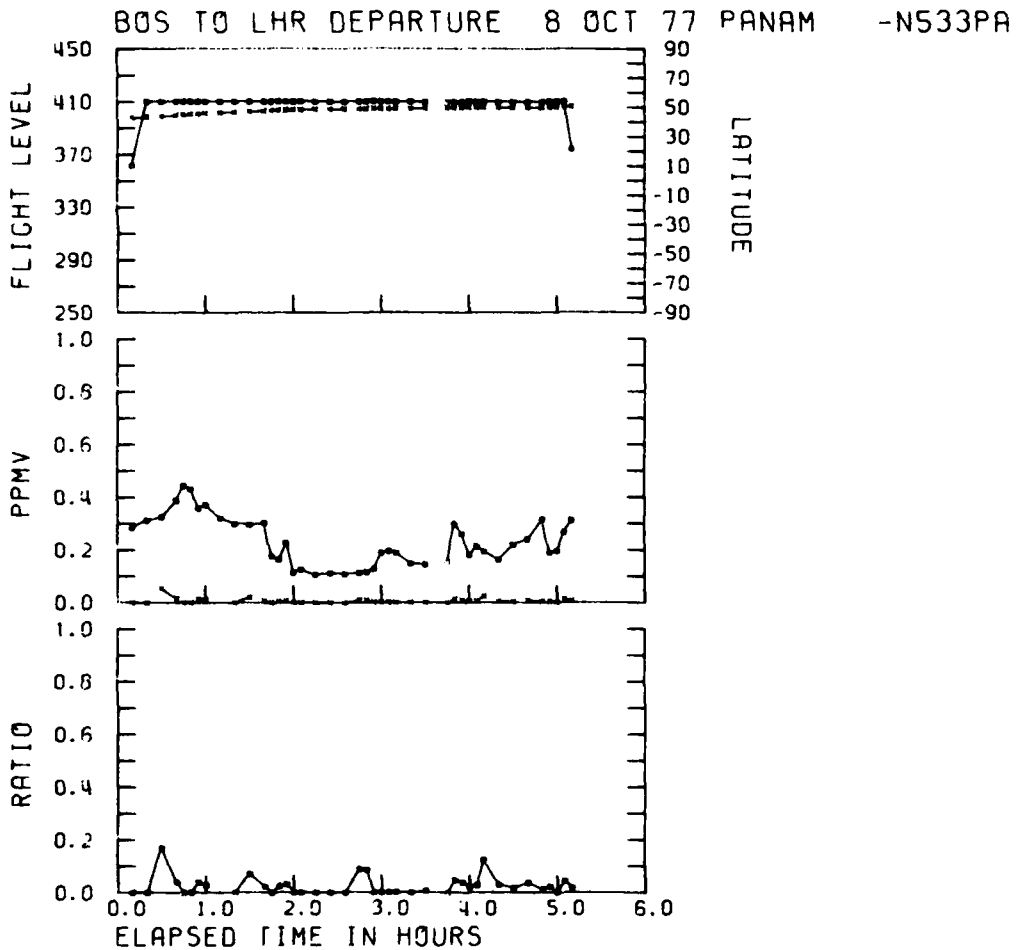
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
10/ 7/77	1124	0:10	370	53.25N	2.90W	-50.		.185	
10/ 7/77	1134	0:20	390	54.08N	4.78W	-56.	.000	.248	.00
10/ 7/77	1144	0:30	390	54.86N	6.81W	-55.	.000	.293	.00
10/ 7/77	1154	0:40	390	55.60N	8.84W	-57.	.000	.145	.00
10/ 7/77	1159	0:45	390	55.95N	9.85W	-59.	.000	.137	.00
10/ 7/77	1204	0:50	390	56.14N	10.95W	-58.		.174	
10/ 7/77	1209	0:55	390	56.28N	12.07W	-56.	.000	.187	.00
10/ 7/77	1214	1:00	390	56.42N	13.22W	-55.	.016	.175	.09
10/ 7/77	1224	1:10	390	56.67N	15.63W	-53.	.022	.198	.11
10/ 7/77	1234	1:20	390	56.87N	18.00W	-50.	.006	.161	.04
10/ 7/77	1244	1:30	390	57.01N	20.38W	-47.	.000	.141	.00
10/ 7/77	1249	1:35	390	57.05N	21.60W	-47.	.002	.151	.01
10/ 7/77	1304	1:50	410	57.10N	25.27W	-49.	.001	.171	.01
10/ 7/77	1314	2:00	410	57.07N	27.63W	-51.	.005	.211	.02
10/ 7/77	1319	2:05	410	57.04N	28.81W	-52.	.000	.157	.00
10/ 7/77	1329	2:15	410	56.93N	31.14W	-52.		.177	
10/ 7/77	1339	2:25	410	56.75N	33.40W	-55.	.000	.148	.00
10/ 7/77	1349	2:35	410	56.54N	35.68W	-55.	.001	.155	.01
10/ 7/77	1359	2:45	410	56.28N	37.91W	-55.	.000	.161	.00
10/ 7/77	1404	2:50	410	56.14N	38.99W	-54.	.001	.154	.01
10/ 7/77	1409	2:55	410	55.99N	40.06W	-56.	.000	.161	.00
10/ 7/77	1414	3:00	410	55.82N	41.13W	-56.	.016	.171	.09
10/ 7/77	1419	3:05	410	55.65N	42.18W	-56.	.020	.190	.11
10/ 7/77	1429	3:15	410	55.27N	44.25W	-57.	.004	.172	.02
10/ 7/77	1439	3:25	410	54.87N	46.25W	-55.		.162	
10/ 7/77	1449	3:35	410	54.44N	48.20W	-54.	.000	.185	.00
10/ 7/77	1459	3:45	410	53.96N	50.09W	-52.	.000	.175	.00
10/ 7/77	1504	3:50	410	53.64N	50.95W	-52.	.002	.172	.01
10/ 7/77	1509	3:55	410	53.31N	51.79W	-51.	.000	.213	.00
10/ 7/77	1514	4:00	410	52.98N	52.62W	-50.	.004	.283	.01
10/ 7/77	1519A	4:05	410	52.64N	53.44W	-47.	.000	.275	.00
10/ 7/77	1539	4:25	410	51.26N	56.48W	-51.	.017	.389	.04
10/ 7/77	1549	4:35	410	50.51N	57.89W	-50.	.045	.398	.11
10/ 7/77	1559	4:45	410	49.72N	59.30W	-50.	.046	.387	.12
10/ 7/77	1604	4:50	410	49.32N	59.99W	-49.	.044	.406	.11
10/ 7/77	1609	4:55	410	48.92N	60.66W	-50.	.037	.354	.10
10/ 7/77	1614	5:00	410	48.51N	61.32W	-51.	.011	.377	.03
10/ 7/77	1619	5:05	410	48.10N	61.97W	-51.	.021	.366	.06
10/ 7/77	1629	5:15	410	47.27N	63.25W	-52.	.016	.381	.04
10/ 7/77	1639	5:25	410	46.48N	64.56W	-51.	.000	.341	.00
10/ 7/77	1649	5:35	410	45.81N	66.01W	-50.	.000	.384	.00
10/ 7/77	1659	5:45	410	44.99N	67.28W	-51.	.024	.371	.06
10/ 7/77	1704	5:50	410	44.54N	67.88W	-51.	.017	.363	.05
10/ 7/77	1709	5:55	410	44.09N	68.46W	-51.	.010	.406	.02
10/ 7/77	1714	6:00	410	43.64N	69.04W	-52.	.014	.425	.03


DTW TO BOS DEPARTURE 7 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
ELAPSED TIME IN HOURS

DTW TO BOS (PAGE 1 OF 1) DEPARTURE: 7 OCT 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .094 CABIN OZONE=0.000 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)=***** TOTAL OBS IN CABIN: 3
DATA SOURCE: GASP TAPE VL014, FILE 1 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

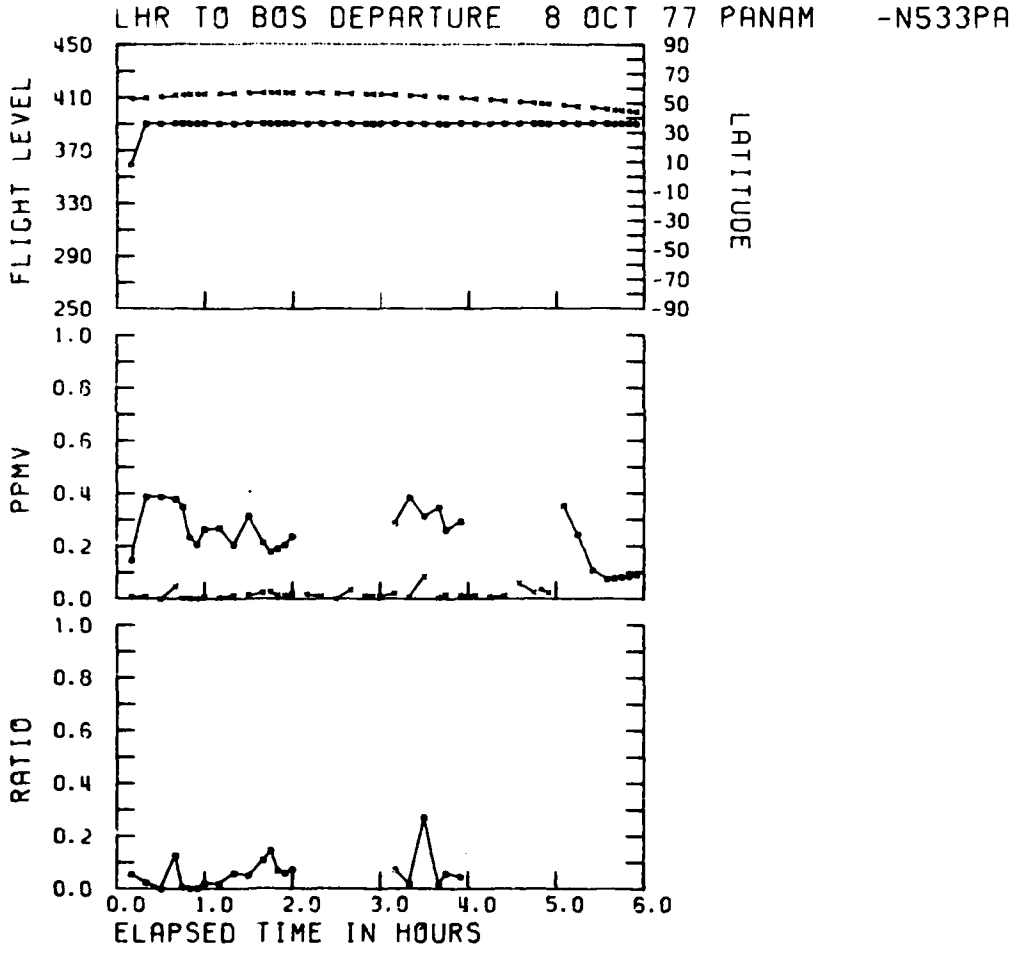
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
10/ 7/77	2239	0:10	366	42.25N	80.61W	-57.	.000	.043	
10/ 7/77	2249	0:20	370	42.27N	78.50W	-58.		.053	
10/ 7/77	2259	0:30	370	42.49N	76.49W	-58.		.050	
10/ 7/77	2304A	0:35	357	42.60N	75.44W	-54.	.000	.094	
10/ 7/77	2314	0:45	276	42.70N	73.43W	-39.	.000	.089	


BOS TO LHR DEPARTURE 8 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
ELAPSED TIME IN HOURS

BOS TO LHR (PAGE 1 OF 1) DEPARTURE: 8 OCT 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .442 CABIN OZONE= .055 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .17 TOTAL OBS IN CABIN: 41
DATA SOURCE: GASP TAPE VL014, FILE 1

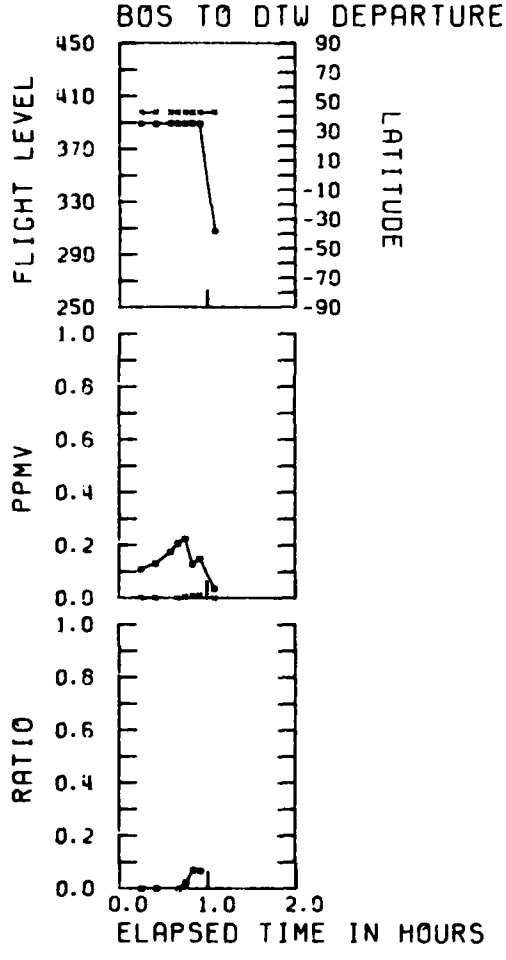
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
10/ 8/77	0318	0:10	362	43.17N	68.49W	-52.	.000	.285	.00
10/ 8/77	0328	0:20	410	43.80N	66.73W	-49.	.000	.312	.00
10/ 8/77	0338	0:30	410	44.42N	64.90W	-51.	.055	.325	.17
10/ 8/77	0348	0:40	410	45.02N	62.98W	-51.	.016	.388	.04
10/ 8/77	0353	0:45	410	45.31N	61.98W	-52.	.000	.442	.00
10/ 8/77	0358	0:50	410	45.60N	60.97W	-52.	.000	.431	.00
10/ 8/77	0403	0:55	410	45.88N	59.94W	-53.	.014	.358	.04
10/ 8/77	0408	1:00	410	46.15N	58.89W	-54.	.010	.371	.03
10/ 8/77	0418	1:10	410	46.67N	56.75W	-54.		.321	
10/ 8/77	0428	1:20	410	47.15N	54.56W	-53.	.001	.300	.00
10/ 8/77	0438	1:30	410	47.57N	52.38W	-55.	.021	.296	.07
10/ 8/77	0448	1:40	410	47.95N	50.26W	-56.	.007	.303	.02
10/ 8/77	0453	1:45	410	48.15N	48.96W	-58.	.000	.177	.00
10/ 8/77	0458	1:50	410	48.30N	47.79W	-59.	.004	.164	.02
10/ 8/77	0503	1:55	410	48.44N	46.64W	-60.	.007	.226	.03
10/ 8/77	0508	2:00	410	48.56N	45.47W	-61.	.000	.114	.00
10/ 8/77	0513	2:05	410	48.68N	44.29W	-60.	.000	.125	.00
10/ 8/77	0523	2:15	410	48.87N	41.97W	-59.	.000	.106	.00
10/ 8/77	0533	2:25	410	49.01N	39.68W	-61.	.000	.112	.00
10/ 8/77	0543	2:35	410	49.08N	37.38W	-61.	.000	.109	.00
10/ 8/77	0553	2:45	410	49.11N	35.10W	-61.	.010	.113	.09
10/ 8/77	0558	2:50	410	49.10N	33.96W	-60.	.010	.116	.09
10/ 8/77	0603	2:55	410	49.09N	32.82W	-57.	.000	.127	.00
10/ 8/77	0608	3:00	410	49.06N	31.68W	-56.	.000	.188	.00
10/ 8/77	0613	3:05	410	49.02N	30.59W	-57.	.000	.195	.00
10/ 8/77	0618	3:10	410	49.07N	29.51W	-56.	.000	.188	.00
10/ 8/77	0628	3:20	410	49.35N	27.35W	-54.	.000	.148	.00
10/ 8/77	0638	3:30	410	49.60N	25.15W	-53.	.001	.145	.01
10/ 8/77	0653	3:45	410	49.88N	21.82W	-49.	.000	.156	.00
10/ 8/77	0658	3:50	410	49.96N	20.72W	-49.	.014	.298	.05
10/ 8/77	0703	3:55	410	50.02N	19.62W	-50.	.010	.261	.04
10/ 8/77	0708	4:00	410	50.07N	18.49W	-49.	.004	.180	.02
10/ 8/77	0713	4:05	410	50.11N	17.37W	-49.	.006	.213	.03
10/ 8/77	0718	4:10	410	50.13N	16.24W	-49.	.024	.194	.12
10/ 8/77	0728	4:20	410	50.15N	13.96W	-49.	.005	.163	.03
10/ 8/77	0738	4:30	410	50.13N	11.71W	-49.	.004	.220	.02
10/ 8/77	0748	4:40	410	50.07N	9.48W	-48.	.009	.240	.04
10/ 8/77	0758	4:50	410	50.05N	7.28W	-46.	.004	.315	.01
10/ 8/77	0803	4:55	410	50.11N	6.19W	-47.	.004	.189	.02
10/ 8/77	0808	5:00	410	50.22N	5.13W	-48.	.000	.196	.00
10/ 8/77	0813	5:05	410	50.38N	4.06W	-48.	.012	.267	.04
10/ 8/77	0818	5:10	374	50.63N	3.03W	-45.	.006	.312	.02


LHR TO BOS DEPARTURE 8 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
ELAPSED TIME IN HOURS

LHR TO BOS (PAGE 1 OF 1) DEPARTURE: 8 OCT 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .388 CABIN OZONE= .085 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .27 TOTAL OBS IN CABIN: 36
DATA SOURCE: GASP TAPE VL014, FILE 1

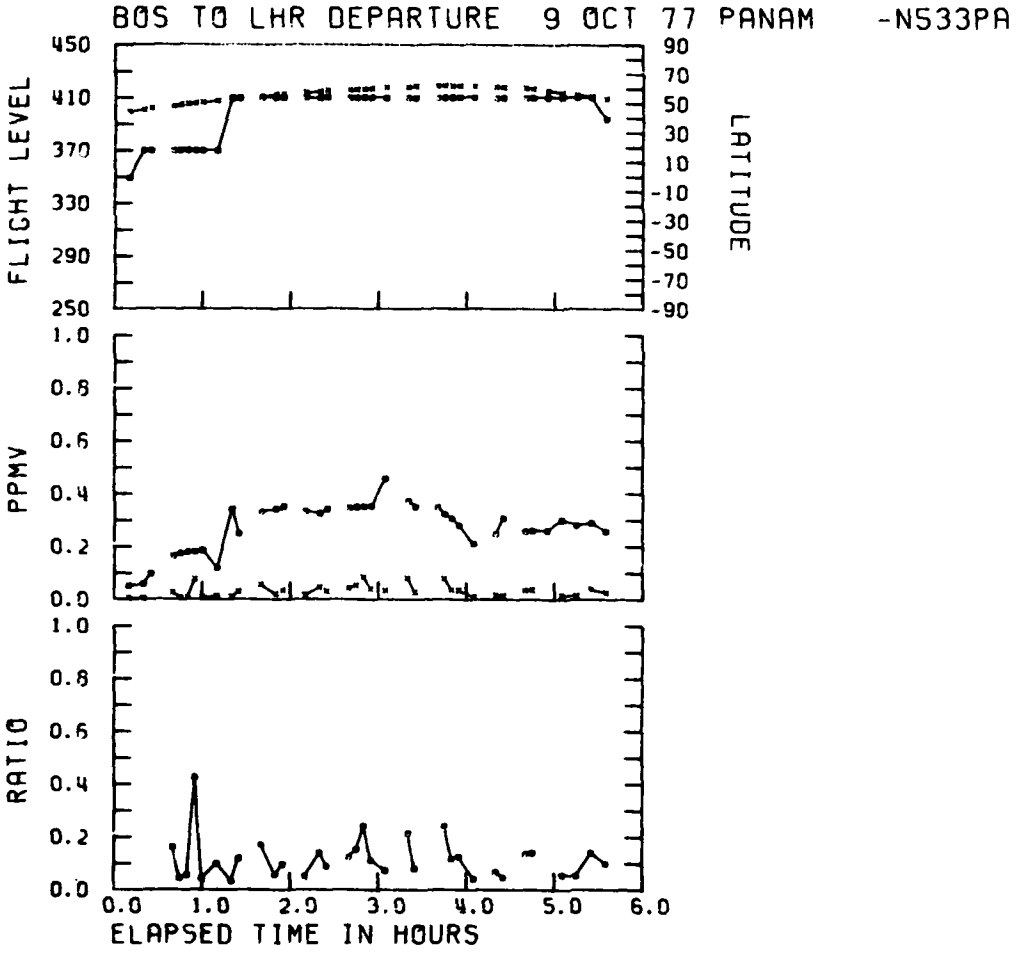
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
10/ 8/77	1201	0:10	359	53.09N	2.27W	-45.	.008	.146	.05
10/ 8/77	1211	0:20	390	53.84N	4.20W	-46.	.009	.388	.02
10/ 8/77	1221	0:30	390	54.62N	6.18W	-46.	.000	.387	.00
10/ 8/77	1231	0:40	390	55.38N	8.22W	-46.	.048	.379	.13
10/ 8/77	1236	0:45	390	55.75N	9.26W	-45.	.002	.349	.01
10/ 8/77	1241	0:50	390	56.05N	10.35W	-44.	.000	.233	.00
10/ 8/77	1246	0:55	390	56.21N	11.54W	-47.	.000	.206	.00
10/ 8/77	1251	1:00	390	56.36N	12.72W	-46.	.005	.264	.02
10/ 8/77	1301	1:10	390	56.62N	15.15W	-48.	.005	.268	.02
10/ 8/77	1311	1:20	390	56.83N	17.56W	-50.	.012	.205	.06
10/ 8/77	1321	1:30	390	57.00N	19.97W	-51.	.016	.314	.05
10/ 8/77	1331	1:40	390	57.07N	22.35W	-54.	.023	.214	.11
10/ 8/77	1336	1:45	390	57.09N	23.55W	-56.	.026	.179	.15
10/ 8/77	1341	1:50	390	57.10N	24.73W	-56.	.013	.190	.07
10/ 8/77	1346	1:55	390	57.10N	25.89W	-55.	.012	.204	.06
10/ 8/77	1351	2:00	390	57.08N	27.04W	-56.	.017	.236	.07
10/ 8/77	1401	2:10	390	57.02N	29.31W	-54.	.018		
10/ 8/77	1411	2:20	390	56.90N	31.54W	-52.	.009		
10/ 8/77	1421	2:30	390	56.72N	33.79W	-51.	.000		
10/ 8/77	1431	2:40	390	56.50N	36.03W	-49.	.034		
10/ 8/77	1441	2:50	390	56.26N	38.07W	-50.	.011		
10/ 8/77	1446	2:55	390	56.13N	39.09W	-49.	.010		
10/ 8/77	1451	3:00	390	55.98N	40.11W	-48.	.011		
10/ 8/77	1501	3:10	390	55.65N	42.17W	-49.	.021	.286	.07
10/ 8/77	1511	3:20	390	55.28N	44.20W	-49.	.007	.384	.02
10/ 8/77	1521	3:30	390	54.88N	46.21W	-49.	.085	.313	.27
10/ 8/77	1531	3:40	390	54.43N	48.20W	-49.	.006	.346	.02
10/ 8/77	1536	3:45	390	54.20N	49.18W	-50.	.015	.262	.06
10/ 8/77	1546	3:55	390	53.63N	50.97W	-50.	.013	.292	.04
10/ 8/77	1556	4:05	390	52.97N	52.64W	-51.	.012		
10/ 8/77	1606	4:15	390	52.28N	54.28W	-52.	.009		
10/ 8/77	1616	4:25	390	51.56N	55.88W	-51.	.012		
10/ 8/77	1626	4:35	390	50.86N	57.52W	-52.	.060		
10/ 8/77	1636	4:45	390	50.13N	59.14W	-53.	.024		
10/ 8/77	1641	4:50	390	49.74N	59.95W	-53.	.035		
10/ 8/77	1646	4:55	390	49.35N	60.74W	-53.	.023		
10/ 8/77	1656	5:05	390	48.55N	62.30W	-55.		.352	
10/ 8/77	1706	5:15	390	47.73N	63.82W	-58.		.243	
10/ 8/77	1716	5:25	390	46.83N	65.14W	-64.		.108	
10/ 8/77	1726	5:35	390	45.92N	66.37W	-64.		.076	
10/ 8/77	1731	5:40	390	45.46N	66.97W	-64.		.078	
10/ 8/77	1736	5:45	390	45.00N	67.55W	-64.		.082	
10/ 8/77	1741	5:50	390	44.55N	68.12W	-64.		.085	
10/ 8/77	1746	5:55	390	44.10N	68.67W	-62.		.091	


BOS TO DTW DEPARTURE 8 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
ELAPSED TIME IN HOURS

BOS TO DTW (PAGE 1 OF 1) DEPARTURE: 8 OCT 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .224 CABIN OZONE= .010 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .07 . TOTAL OBS IN CABIN: 7
DATA SOURCE: GASP TAPE VL0I4, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	AMB.	RATIO
10/ 8/77	2028	0:15	389	42.96N	73.82W	-60.	.000	.109	.00
10/ 8/77	2038	0:25	389	43.07N	75.23W	-59.	.000	.130	.00
10/ 8/77	2048	0:35	389	43.11N	76.64W	-61.		.175	
10/ 8/77	2053	0:40	389	43.02N	77.35W	-59.	.000	.207	.00
10/ 8/77	2058	0:45	389	43.00N	78.07W	-59.	.005	.224	.02
10/ 8/77	2103	0:50	389	43.00N	78.82W	-57.	.009	.128	.07
10/ 8/77	2108	0:55	389	43.04N	79.56W	-55.	.010	.149	.07
10/ 8/77	2118	1:05	308	43.03N	81.06W	-45.	.000	.036	


BOS TO LHR DEPARTURE 9 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
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290
250
LATITUDE
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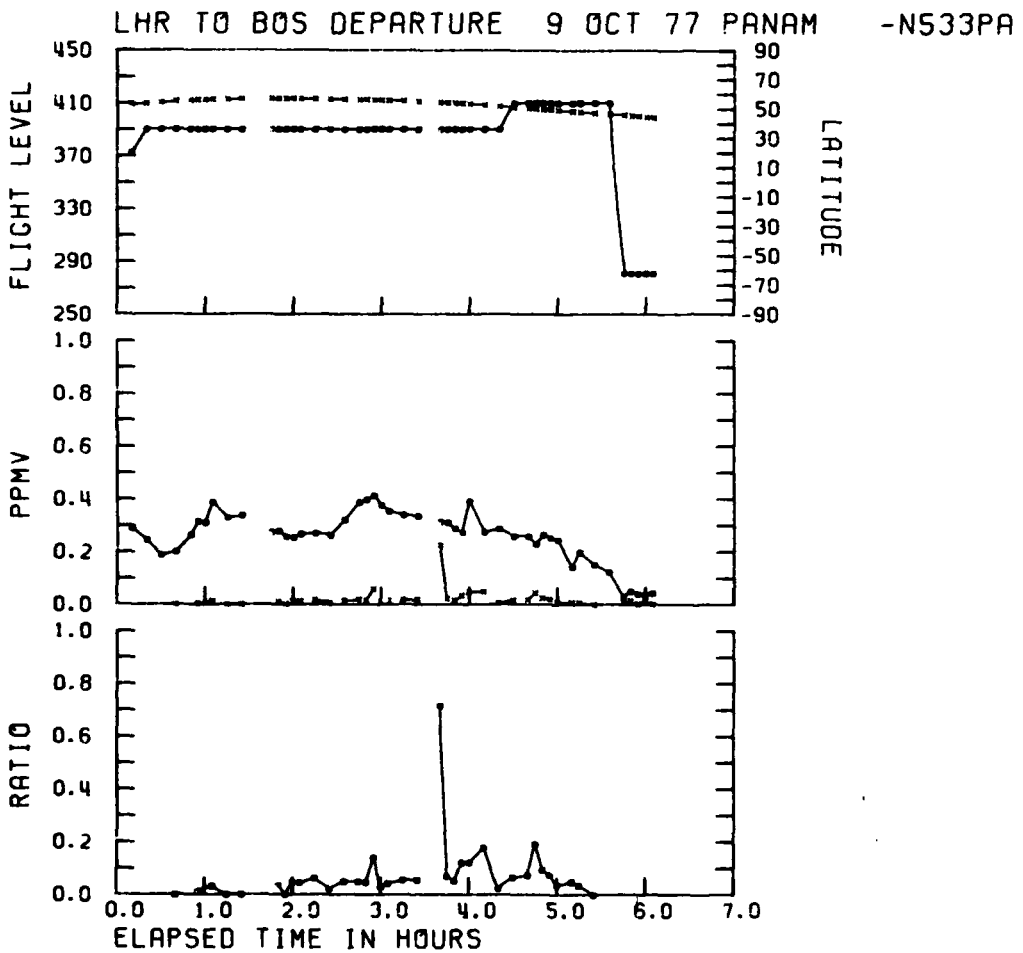
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
ELAPSED TIME IN HOURS

BOS TO LHR (PAGE 1 OF 1) DEPARTURE: 9 OCT 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .457 CABIN OZONE= .085 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .43 TOTAL OBS IN CABIN: 35
DATA SOURCE: GASP TAPE VL014, FILE 1

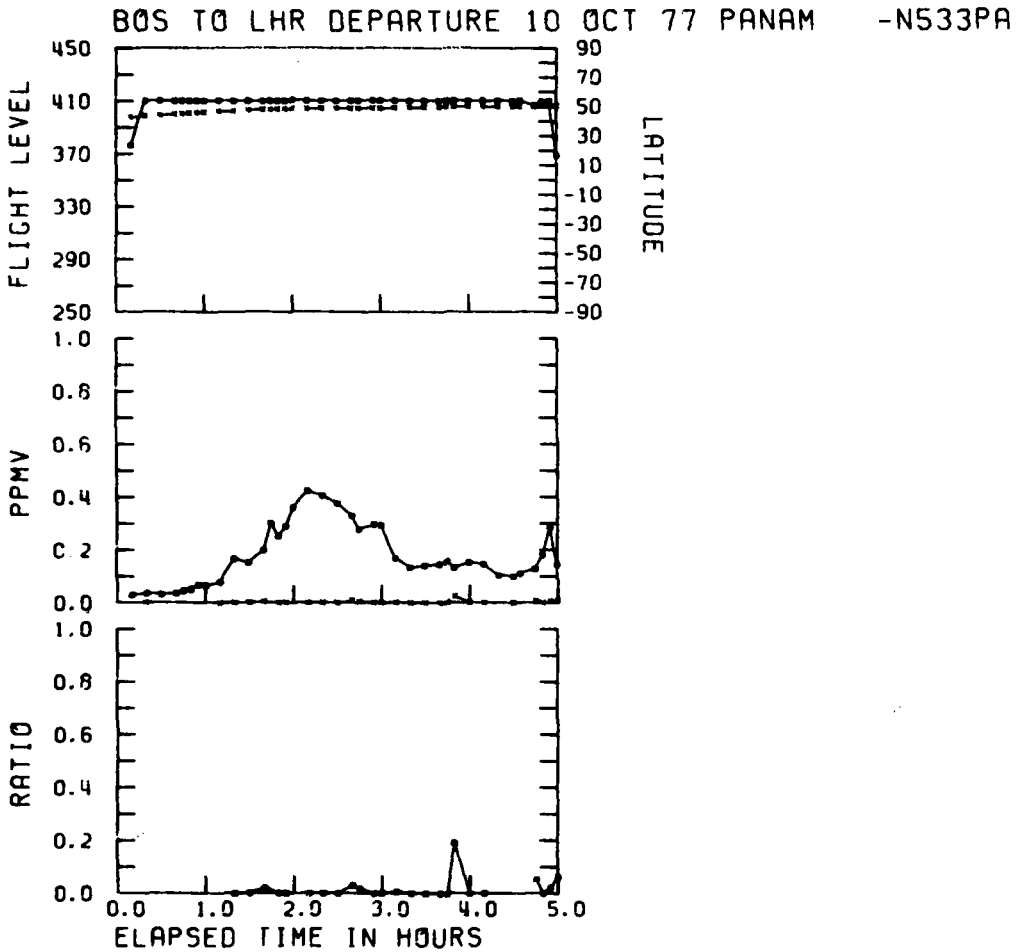
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
10/ 9/77	0152	0:10	349	44.58N	69.54W	-54.	.006	.052	
10/ 9/77	0202	0:20	370	45.92N	68.41W	-59.	.004	.058	
10/ 9/77	0211	0:29	370	47.21N	67.21W	-57.		.099	
10/ 9/77	0222	0:40	370	48.43N	66.01W	-58.	.027	.166	.16
10/ 9/77	0227	0:45	370	49.02N	65.40W	-58.	.008	.175	.05
10/ 9/77	0232	0:50	370	49.61N	64.78W	-59.	.010	.179	.06
10/ 9/77	0237	0:55	370	50.20N	64.15W	-56.	.077	.181	.43
10/ 9/77	0242	1:00	370	50.79N	63.50W	-57.	.008	.186	.04
10/ 9/77	0252	1:10	370	51.94N	62.15W	-60.	.012	.120	.10
10/ 9/77	0302	1:20	410	53.06N	60.76W	-53.	.012	.343	.03
10/ 9/77	0311	1:29	410	54.14N	59.18W	-53.	.030	.250	.12
10/ 9/77	0322	1:40	410	55.18N	57.49W	-49.	.057	.333	.17
10/ 9/77	0332	1:50	410	56.07N	55.51W	-50.	.020	.342	.06
10/ 9/77	0337	1:55	410	56.48N	54.40W	-47.	.034	.350	.10
10/ 9/77	0352	2:10	410	57.65N	50.99W	-47.	.017	.334	.05
10/ 9/77	0402	2:20	410	58.32N	48.55W	-46.	.046	.326	.14
10/ 9/77	0411	2:29	410	58.89N	45.99W	-45.	.031	.342	.09
10/ 9/77	0422	2:40	410	59.42N	43.32W	-46.	.044	.348	.13
10/ 9/77	0427	2:45	410	59.65N	41.98W	-46.	.054	.350	.15
10/ 9/77	0432	2:50	410	59.88N	40.62W	-47.	.085	.351	.24
10/ 9/77	0437	2:55	410	60.15N	39.25W	-46.	.040	.353	.11
10/ 9/77	0451	3:09	410	61.04N	35.16W	-47.	.034	.457	.07
10/ 9/77	0502	3:20	410	61.56N	32.35W	-48.	.081	.375	.22
10/ 9/77	0511	3:29	410	61.97N	29.43W	-49.	.029	.352	.08
10/ 9/77	0522	3:40	410	62.03N	26.40W	-48.		.349	
10/ 9/77	0527	3:45	410	62.04N	24.89W	-49.	.078	.323	.24
10/ 9/77	0532	3:50	410	62.03N	23.39W	-48.	.036	.306	.12
10/ 9/77	0537	3:55	410	62.01N	21.87W	-49.	.035	.280	.13
10/ 9/77	0551	4:09	410	61.78N	17.47W	-46.	.009	.210	.04
10/ 9/77	0602	4:20	410	61.52N	14.61W	-46.	.017	.249	.07
10/ 9/77	0611	4:29	410	61.19N	11.80W	-46.	.015	.309	.05
10/ 9/77	0622	4:40	410	60.60N	9.35W	-46.	.036	.259	.14
10/ 9/77	0627	4:45	410	60.02N	8.55W	-46.	.037	.262	.14
10/ 9/77	0637	4:55	410	58.87N	7.06W	-46.		.260	
10/ 9/77	0651	5:09	410	57.12N	5.04W	-46.	.017	.302	.06
10/ 9/77	0701	5:19	410	55.93N	3.81W	-47.	.015	.282	.05
10/ 9/77	0711	5:29	410	54.65N	2.92W	-48.	.041	.291	.14
10/ 9/77	0721	5:39	394	53.37N	2.21W	-50.	.026	.259	.10


LHR TO BOS DEPARTURE 9 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
ELAPSED TIME IN HOURS

LHR TO BOS (PAGE 1 OF 1) DEPARTURE: 9 OCT 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .413 CABIN OZONE= .225 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .72 TOTAL OBS IN CABIN: 40
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
10/ 9/77	1053	0:10	372	53.28N	2.69W	-49.		.290	
10/ 9/77	1103	0:20	390	54.01N	4.55W	-48.		.245	
10/ 9/77	1113	0:30	390	54.75N	6.52W	-47.		.188	
10/ 9/77	1123	0:40	390	55.48N	8.50W	-46.	.000	.200	.00
10/ 9/77	1133	0:50	390	56.09N	10.63W	-45.		.263	
10/ 9/77	1138	0:55	390	56.24N	11.79W	-46.	.004	.314	.01
10/ 9/77	1143	1:00	390	56.38N	12.91W	-45.		.309	
10/ 9/77	1148	1:05	390	56.51N	14.07W	-48.	.012	.387	.03
10/ 9/77	1158	1:15	390	56.74N	16.39W	-51.	.000	.330	.00
10/ 9/77	1208	1:25	390	56.91N	18.65W	-49.	.000	.337	.00
10/ 9/77	1228	1:45	390	57.09N	23.20W	-52.		.275	
10/ 9/77	1233	1:50	390	57.10N	24.31W	-51.	.010	.277	.04
10/ 9/77	1238	1:55	390	57.10N	25.41W	-52.	.000	.256	.00
10/ 9/77	1243	2:00	390	57.09N	26.52W	-53.	.012	.253	.05
10/ 9/77	1248	2:05	390	57.07N	27.62W	-54.	.012	.267	.04
10/ 9/77	1258	2:15	390	57.01N	29.79W	-54.	.017	.270	.06
10/ 9/77	1308	2:25	390	56.87N	31.95W	-53.	.006	.263	.02
10/ 9/77	1318	2:35	390	56.69N	34.07W	-52.	.016	.321	.05
10/ 9/77	1328	2:45	390	56.48N	36.18W	-51.	.019	.387	.05
10/ 9/77	1333	2:50	390	56.36N	37.22W	-50.	.018	.397	.05
10/ 9/77	1338	2:55	390	56.23N	38.27W	-49.	.058	.413	.14
10/ 9/77	1343	3:00	390	56.09N	39.33W	-48.	.011	.376	.03
10/ 9/77	1348	3:05	390	55.94N	40.37W	-49.	.015	.354	.04
10/ 9/77	1353	3:15	390	55.60N	42.44W	-48.	.019	.340	.06
10/ 9/77	1408	3:25	390	55.23N	44.48W	-49.	.019	.335	.06
10/ 9/77	1423	3:40	390	54.59N	47.54W	-49.	.225	.314	.72
10/ 9/77	1428	3:45	390	54.35N	48.56W	-49.	.022	.310	.07
10/ 9/77	1433	3:50	390	54.11N	49.56W	-49.	.015	.288	.05
10/ 9/77	1438	3:55	390	53.81N	50.51W	-49.	.033	.272	.12
10/ 9/77	1443	4:00	390	53.46N	51.42W	-50.	.047	.390	.12
10/ 9/77	1453	4:10	390	52.75N	53.18W	-53.	.049	.275	.18
10/ 9/77	1503	4:20	390	52.04N	54.86W	-53.	.007	.287	.02
10/ 9/77	1513	4:30	410	51.33N	56.45W	-54.	.017	.259	.07
10/ 9/77	1523	4:40	410	50.65N	58.00W	-54.	.019	.258	.07
10/ 9/77	1528	4:45	410	50.30N	58.78W	-55.	.044	.229	.19
10/ 9/77	1533	4:50	410	49.94N	59.55W	-54.	.025	.264	.09
10/ 9/77	1538	4:55	410	49.58N	60.29W	-55.	.019	.252	.08
10/ 9/77	1543	5:00	410	49.22N	61.01W	-56.	.009	.244	.04
10/ 9/77	1553	5:10	410	48.50N	62.42W	-58.	.007	.143	.05
10/ 9/77	1558	5:15	410	48.14N	63.09W	-61.	.007	.198	.04
10/ 9/77	1608	5:25	410	47.41N	64.39W	-64.	.000	.152	.00
10/ 9/77	1618	5:35	410	46.68N	65.64W	-62.		.124	
10/ 9/77	1628	5:45	281	45.94N	66.85W	-36.	.008	.031	
10/ 9/77	1633	5:50	281	45.47N	67.43W	-35.	.014	.050	
10/ 9/77	1638	5:55	281	44.98N	67.97W	-34.	.001	.040	
10/ 9/77	1643	6:00	281	44.49N	68.49W	-34.	.017	.038	
10/ 9/77	1648	6:05	281	44.00N	69.01W	-33.	.001	.043	

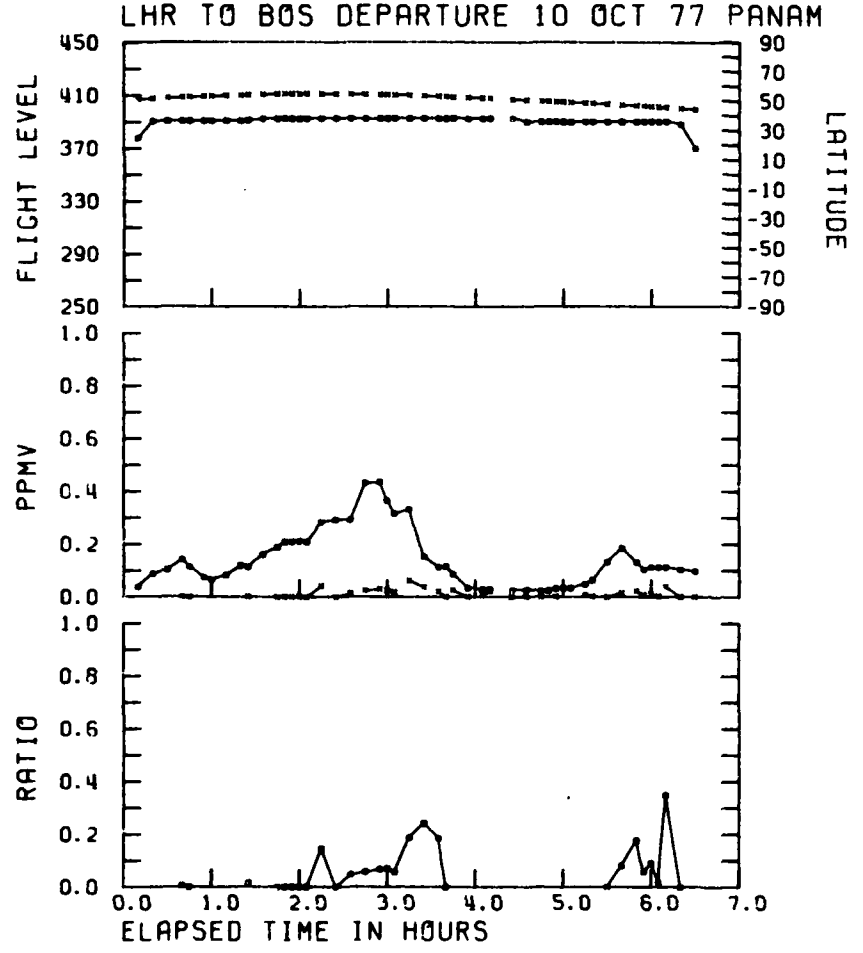

BOS TO LHR DEPARTURE 10 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

A-30

BOS TO LHR (PAGE 1 OF 1) DEPARTURE: 10 OCT 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .423 CABIN OZONE= .044 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .19 TOTAL OBS IN CABIN: 28
DATA SOURCE: GASP TAPE VL014, FILE 1

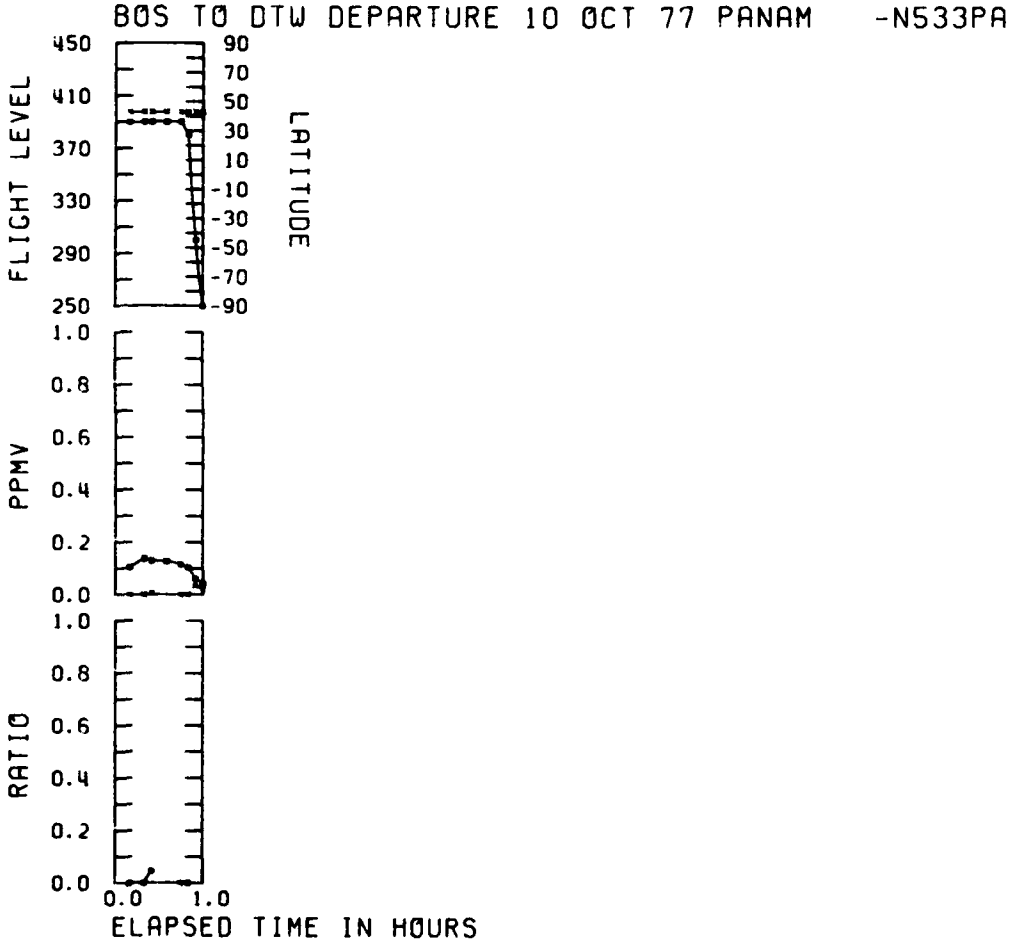
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
10/10/77	0107	0:10	377	43.22N	68.24W	-56.		.030	
10/10/77	0117	0:20	410	43.85N	66.11W	-65.	.000	.035	
10/10/77	0127	0:30	410	44.57N	64.00W	-65.		.032	
10/10/77	0137	0:40	410	45.25N	61.83W	-65.		.036	
10/10/77	0142	0:45	410	45.57N	60.73W	-65.	.044	.046	
10/10/77	0147	0:50	410	45.88N	59.63W	-65.		.051	
10/10/77	0152	0:55	410	46.17N	58.54W	-65.		.067	
10/10/77	0157	1:00	410	46.45N	57.45W	-65.		.065	
10/10/77	0207	1:10	410	46.97N	55.25W	-66.	.000	.078	
10/10/77	0217	1:20	410	47.44N	53.06W	-63.	.000	.168	.00
10/10/77	0227	1:30	410	47.84N	50.91W	-64.	.000	.151	.00
10/10/77	0237	1:40	410	48.18N	48.72W	-62.	.004	.198	.02
10/10/77	0242	1:45	410	48.32N	47.58W	-59.		.302	
10/10/77	0247	1:50	410	48.46N	46.45W	-54.	.000	.252	.00
10/10/77	0252	1:55	410	48.58N	45.35W	-54.	.000	.288	.00
10/10/77	0257	2:00	411	48.69N	44.18W	-51.		.362	
10/10/77	0307	2:10	410	48.88N	41.84W	-50.	.000	.423	.00
10/10/77	0317	2:20	410	49.02N	39.52W	-50.	.000	.406	.00
10/10/77	0327	2:30	410	49.09N	37.20W	-51.	.000	.377	.00
10/10/77	0337	2:40	411	49.11N	34.89W	-51.	.010	.330	.03
10/10/77	0342	2:45	410	49.10N	33.73W	-52.	.005	.279	.02
10/10/77	0352	2:55	410	49.05N	31.43W	-52.	.000	.296	.00
10/10/77	0357	3:00	410	49.01N	30.27W	-52.	.000	.292	.00
10/10/77	0407	3:10	410	49.26N	28.03W	-53.	.001	.169	.01
10/10/77	0417	3:20	410	49.53N	25.76W	-56.	.000	.134	.00
10/10/77	0427	3:30	410	49.75N	23.46W	-59.	.000	.141	.00
10/10/77	0437	3:40	410	49.94N	21.04W	-61.	.000	.146	.00
10/10/77	0442	3:45	410	50.01N	19.82W	-61.	.000	.156	.00
10/10/77	0447	3:50	410	50.06N	18.61W	-61.	.025	.132	.19
10/10/77	0457	4:00	410	50.13N	16.23W	-61.	.000	.152	.00
10/10/77	0507	4:10	410	50.15N	13.86W	-60.	.000	.145	.00
10/10/77	0517	4:20	410	50.13N	11.50W	-65.		.105	
10/10/77	0527	4:30	410	50.06N	9.25W	-65.	.000	.099	
10/10/77	0532	4:35	410	50.01N	8.10W	-65.		.111	
10/10/77	0542	4:45	407	50.26N	5.85W	-65.	.007	.128	.05
10/10/77	0547	4:50	410	50.45N	4.73W	-62.	.000	.182	.00
10/10/77	0552	4:55	410	50.67N	3.63W	-57.	.006	.286	.02
10/10/77	0557	5:00	369	50.88N	2.54W	-58.	.009	.145	.06


LHR TO BOS DEPARTURE 10 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
ELAPSED TIME IN HOURS

LHR TO BOS (PAGE 1 OF 1) DEPARTURE: 10 OCT 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .434 CABIN OZONE= .062 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .35 TOTAL OBS IN CABIN: 38
DATA SOURCE: GASP TAPE VL014, FILE 1 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

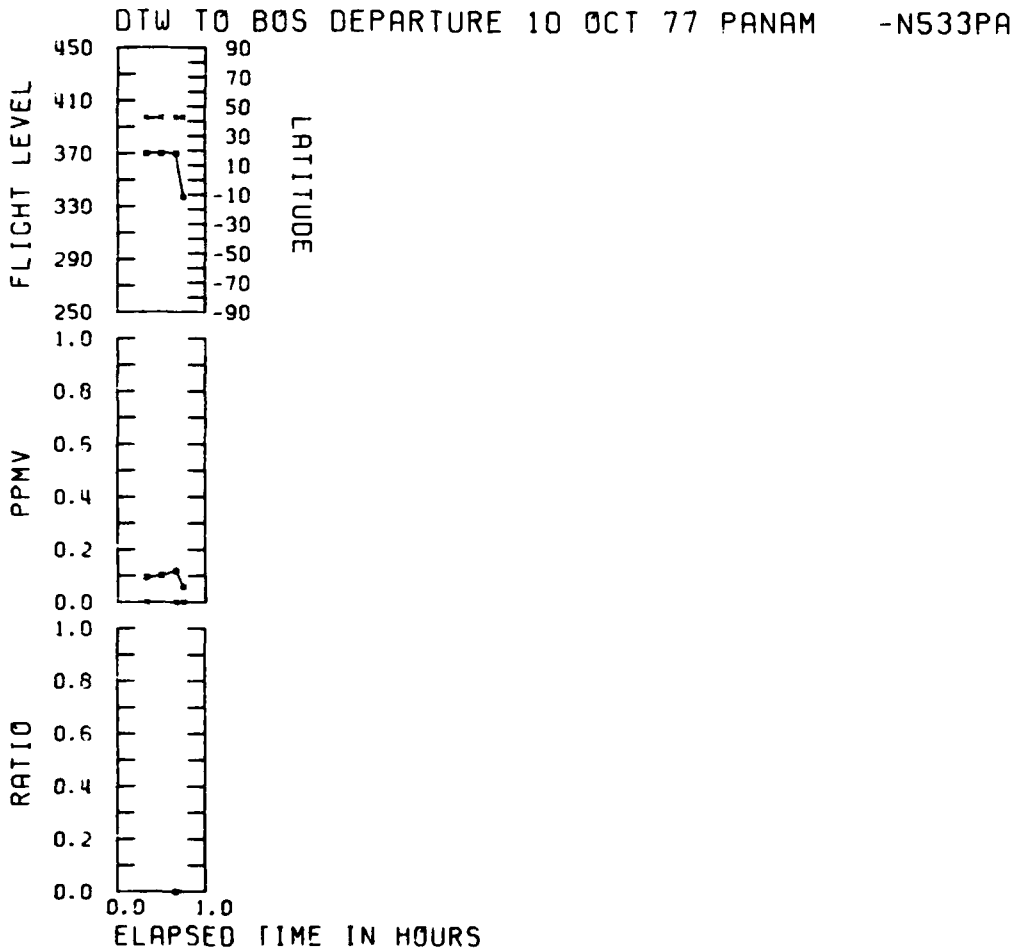
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
10/10/77	1030	0:10	378	51.75N	3.55W	-62.		.040	
10/10/77	1040	0:20	391	52.14N	5.27W	-63.		.088	
10/10/77	1050	0:30	391	52.59N	7.05W	-62.		.104	
10/10/77	1100	0:40	391	52.97N	8.88W	-61.	.001	.142	.01
10/10/77	1106	0:46	391	53.16N	9.82W	-62.	.000	.114	.00
10/10/77	1115	0:55	391	53.47N	11.58W	-65.		.074	
10/10/77	1120	1:00	391	53.62N	12.44W	-64.		.065	
10/10/77	1130	1:10	391	53.88N	14.18W	-63.		.083	
10/10/77	1140	1:20	391	54.21N	15.97W	-61.		.119	
10/10/77	1145A	1:25	391	54.40N	16.86W	-62.	.002	.114	.02
10/10/77	1155	1:35	393	54.77N	18.75W	-60.		.161	
10/10/77	1205	1:45	393	55.03N	20.78W	-60.	.000	.188	.00
10/10/77	1210	1:50	393	55.07N	21.85W	-56.	.000	.208	.00
10/10/77	1215	1:55	393	55.10N	22.92W	-57.	.000	.209	.00
10/10/77	1220	2:00	393	55.11N	24.03W	-57.	.000	.211	.00
10/10/77	1225	2:05	393	55.12N	25.17W	-55.	.000	.208	.00
10/10/77	1235	2:15	393	55.09N	27.43W	-52.	.041	.283	.14
10/10/77	1245	2:25	393	55.02N	29.73W	-51.	.000	.292	.00
10/10/77	1255	2:35	393	54.88N	31.95W	-48.	.014	.292	.05
10/10/77	1305	2:45	392	54.69N	34.14W	-48.	.025	.432	.06
10/10/77	1315	2:55	393	54.47N	36.34W	-49.	.029	.434	.07
10/10/77	1320	3:00	392	54.35N	37.41W	-49.	.025	.365	.07
10/10/77	1325	3:05	393	54.22N	38.47W	-48.	.018	.315	.06
10/10/77	1335	3:15	393	53.93N	40.57W	-53.	.062	.331	.19
10/10/77	1345	3:25	393	53.61N	42.54W	-61.	.037	.153	.24
10/10/77	1355	3:35	393	53.29N	44.33W	-59.	.021	.113	.19
10/10/77	1400	3:40	393	53.12N	45.18W	-58.	.000	.115	.00
10/10/77	1408A	3:48	393	52.85N	46.49W	-58.	.026	.086	
10/10/77	1418	3:58	392	52.50N	47.99W	-61.	.000	.034	
10/10/77	1428	4:08	392	52.16N	49.40W	-62.	.011	.028	
10/10/77	1433	4:13	393	51.98N	50.09W	-62.	.022	.028	
10/10/77	1448	4:28	393	51.20N	52.16W	-62.	.000	.026	
10/10/77	1458	4:38	390	50.68N	53.48W	-62.	.000	.027	
10/10/77	1508	4:48	390	50.14N	54.79W	-61.	.000	.023	
10/10/77	1513	4:53	390	49.88N	55.40W	-61.		.024	
10/10/77	1518	4:58	390	49.60N	56.04W	-60.	.000	.032	
10/10/77	1523	5:03	390	49.37N	56.68W	-60.		.033	
10/10/77	1528	5:08	390	49.14N	57.36W	-60.		.033	
10/10/77	1538	5:18	390	48.69N	58.68W	-59.	.007	.048	
10/10/77	1543	5:23	390	48.45N	59.34W	-59.	.001	.064	
10/10/77	1553	5:33	390	47.96N	60.65W	-56.	.000	.132	.00
10/10/77	1603	5:43	390	47.43N	62.02W	-54.	.015	.185	.08
10/10/77	1613	5:53	390	46.86N	63.43W	-53.	.023	.131	.18
10/10/77	1618	5:58	390	46.57N	64.12W	-53.	.006	.104	.06
10/10/77	1623	6:03	390	46.28N	64.81W	-52.	.010	.112	.09
10/10/77	1628	6:08	390	45.97N	65.51W	-52.	.002	.112	.02
10/10/77	1633	6:13	390	45.66N	66.21W	-53.	.039	.112	.35
10/10/77	1643	6:23	388	45.04N	67.54W	-55.	.000	.104	.00
10/10/77	1653	6:33	370	44.39N	68.88W	-54.	.001	.098	


BOS TO DTW DEPARTURE 10 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
ELAPSED TIME IN HOURS

BOS TO DTW (PAGE 1 OF 1) DEPARTURE: 10 OCT 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .137 CABIN OZONE= .035 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .05 TOTAL OBS IN CABIN: 7
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
10/10/77	1903	0:10	390	42.85N	73.09W	-55.	.000	.105	.00
10/10/77	1913	0:20	390	43.01N	74.67W	-54.	.000	.137	.00
10/10/77	1918	0:25	390	43.09N	75.47W	-56.	.006	.129	.05
10/10/77	1928	0:35	390	43.08N	77.08W	-55.		.127	
10/10/77	1938	0:45	390	42.91N	78.65W	-55.	.000	.115	.00
10/10/77	1943	0:50	380	42.79N	79.43W	-56.	.000	.104	.00
10/10/77	1948	0:55	300	42.77N	80.22W	-45.	.035	.061	
10/10/77	1953	1:00	241	42.69N	81.06W	-31.	.021	.043	


DTW TO BOS DEPARTURE 10 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
ELAPSED TIME IN HOURS

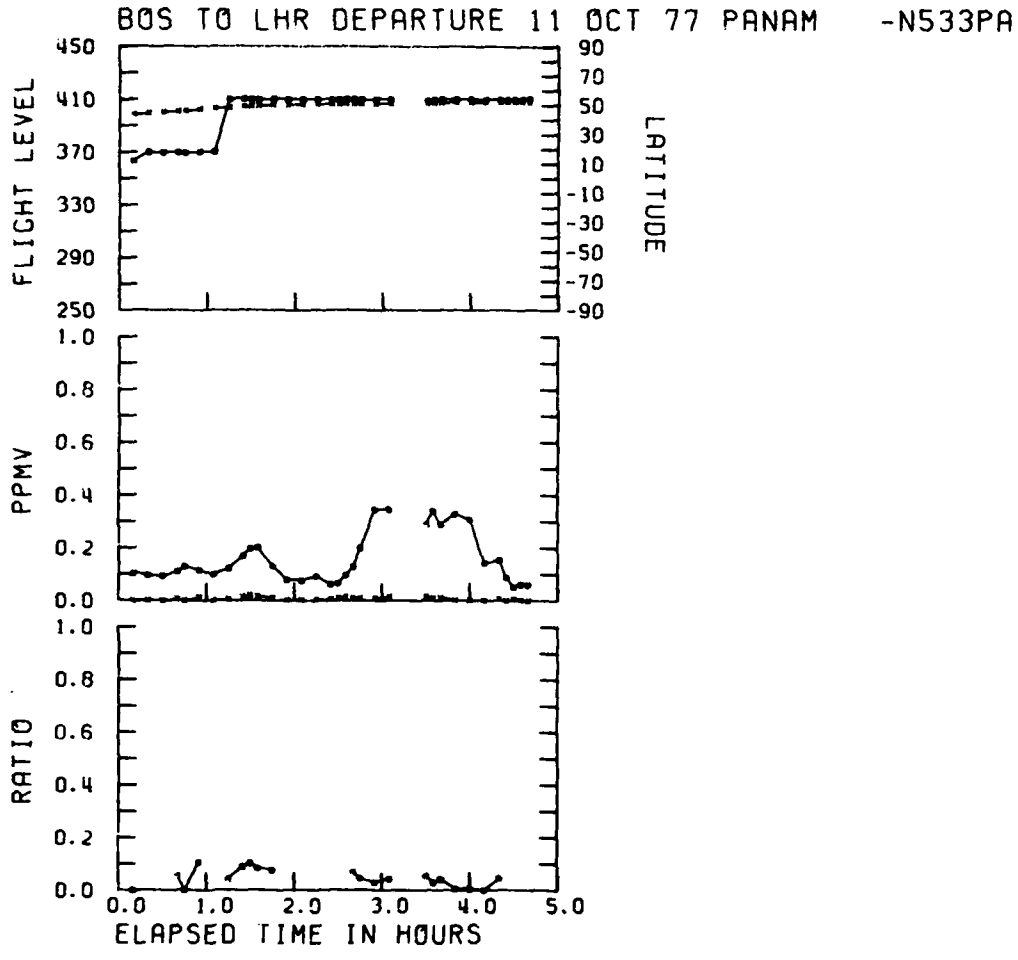
DTW TO BOS (PAGE 1 OF 1)

DEPARTURE: 10 OCT 77

AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .119 CABIN OZONE=0.000 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 0.00 TOTAL OBS IN CABIN: 3
DATA SOURCE: GASP TAPE VL014, FILE 1 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

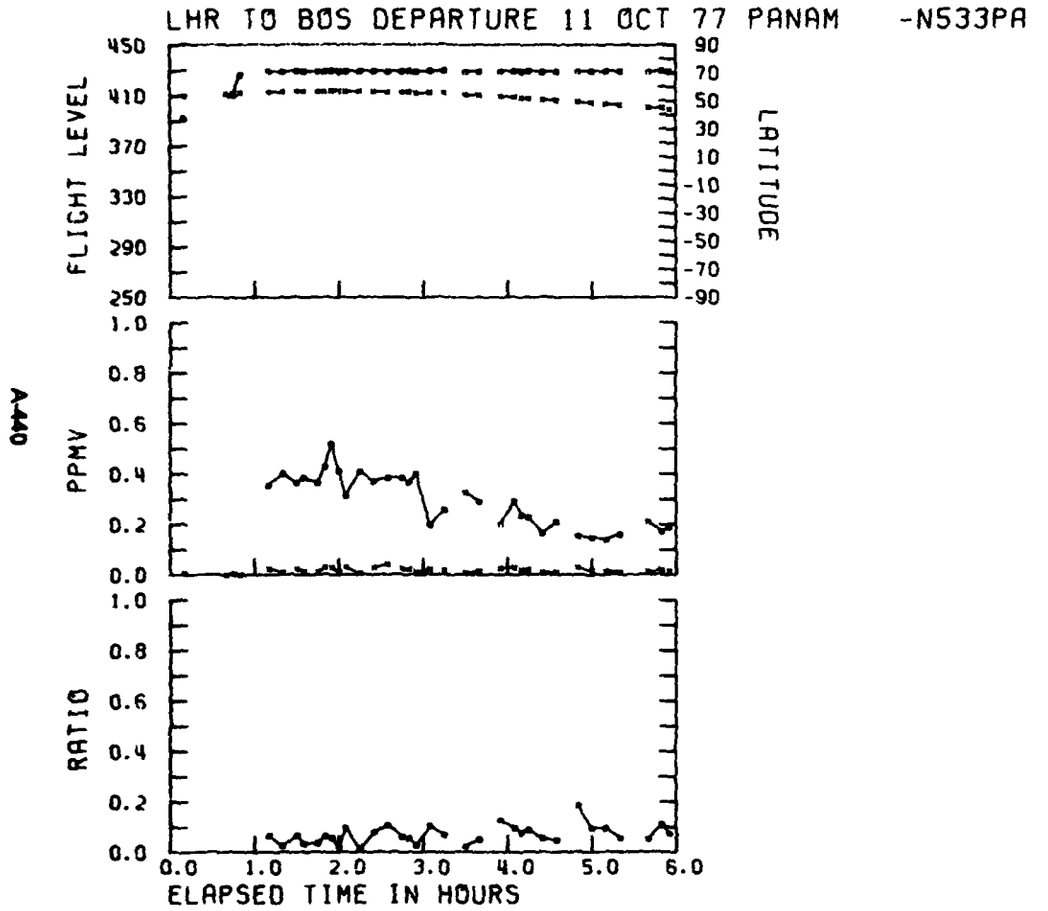
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
10/10/77	2235	0:20	370	42.25N	78.54W	-54.	.000	.095	
10/10/77	2245	0:30	370	42.48N	76.46W	-55.		.102	
10/10/77	2255	0:40	370	42.68N	74.35W	-55.	.000	.119	.00
10/10/77	2300A	0:45	337	42.62N	73.39W	-50.	.000	.059	


BOS TO LHR DEPARTURE 11 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

BOS TO LHR (PAGE 1 OF 1) DEPARTURE: 11 OCT 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .345 CABIN OZONE= .020 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .10 TOTAL OBS IN CABIN= 33
DATA SOURCE: GASP TAPE VL014, FILE 1

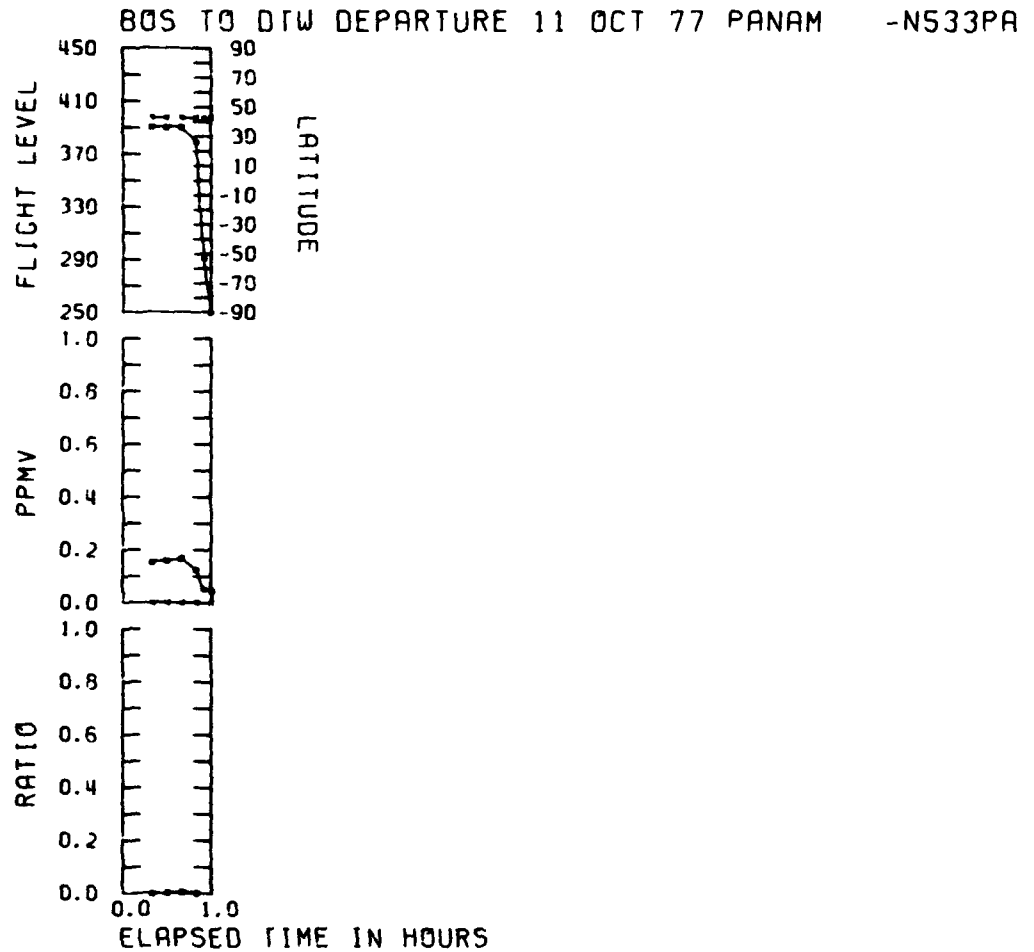
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
10/11/77	0130	0:10	363	43.80N	68.98W	-53.	.000	.104	.00
10/11/77	0140	0:20	370	44.72N	67.25W	-53.	.000	.095	
10/11/77	0150	0:30	370	45.54N	65.41W	-52.	.000	.093	
10/11/77	0200	0:40	370	46.12N	63.32W	-52.	.006	.109	.06
10/11/77	0205	0:45	370	46.46N	62.31W	-51.	.000	.129	.00
10/11/77	0210	0:58	370	47.42N	59.56W	-51.	.012	.115	.10
10/11/77	0220	1:08	370	48.11N	57.36W	-52.	.000	.098	
10/11/77	0230	1:18	410	48.74N	55.14W	-54.	.005	.121	.04
10/11/77	0240	1:28	410	49.33N	52.87W	-55.	.015	.169	.09
10/11/77	0253	1:33	410	49.60N	51.75W	-56.	.020	.197	.10
10/11/77	0258	1:38	410	49.88N	50.55W	-57.	.017	.201	.08
10/11/77	0308	1:48	410	50.26N	48.12W	-59.	.010	.132	.08
10/11/77	0318	1:58	410	50.55N	45.57W	-60.	.002	.078	
10/11/77	0328	2:08	410	50.80N	42.97W	-59.	.002	.076	
10/11/77	0338	2:18	410	50.98N	40.35W	-59.	.004	.092	
10/11/77	0348	2:28	410	51.07N	37.72W	-63.	.005	.062	
10/11/77	0353	2:33	410	51.10N	36.40W	-62.	.011	.066	
10/11/77	0358	2:38	410	51.11N	35.09W	-61.	.015	.097	
10/11/77	0403	2:43	410	51.10N	33.81W	-61.	.009	.127	.07
10/11/77	0408	2:48	410	51.08N	32.57W	-58.	.009	.199	.05
10/11/77	0418	2:58	410	51.01N	30.16W	-54.	.010	.345	.03
10/11/77	0428	3:08	410	51.29N	27.88W	-50.	.015	.345	.04
10/11/77	0453	3:33	410	51.86N	22.10W	-46.	.016	.289	.06
10/11/77	0458	3:38	410	51.94N	20.93W	-46.	.010	.342	.03
10/11/77	0503	3:43	410	52.00N	19.75W	-46.	.012	.289	.04
10/11/77	0513	3:53	410	52.02N	17.39W	-47.	.002	.328	.01
10/11/77	0523	4:03	410	52.00N	15.06W	-50.	.001	.306	.00
10/11/77	0533	4:13	410	52.31N	12.65W	-54.	.000	.143	.00
10/11/77	0543	4:23	410	52.58N	10.25W	-59.	.007	.153	.05
10/11/77	0548	4:28	410	52.69N	9.01W	-64.	.000	.088	
10/11/77	0553	4:33	410	52.53N	7.89W	-65.	.006	.053	
10/11/77	0558	4:38	410	52.33N	6.78W	-66.	.002	.062	
10/11/77	0603	4:43	410	52.11N	5.64W	-67.	.000	.060	


LHR TO BOS DEPARTURE 11 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
A440
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
ELAPSED TIME IN HOURS

LHR TO BOS (PAGE 1 OF 1) DEPARTURE: 11 OCT 77 AIRCRAFT:PANAN -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .518 CABIN OZONE= .041 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .18 TOTAL OBS IN CABIN: 36
DATA SOURCE: GASP TAPE VL014, FILE 1

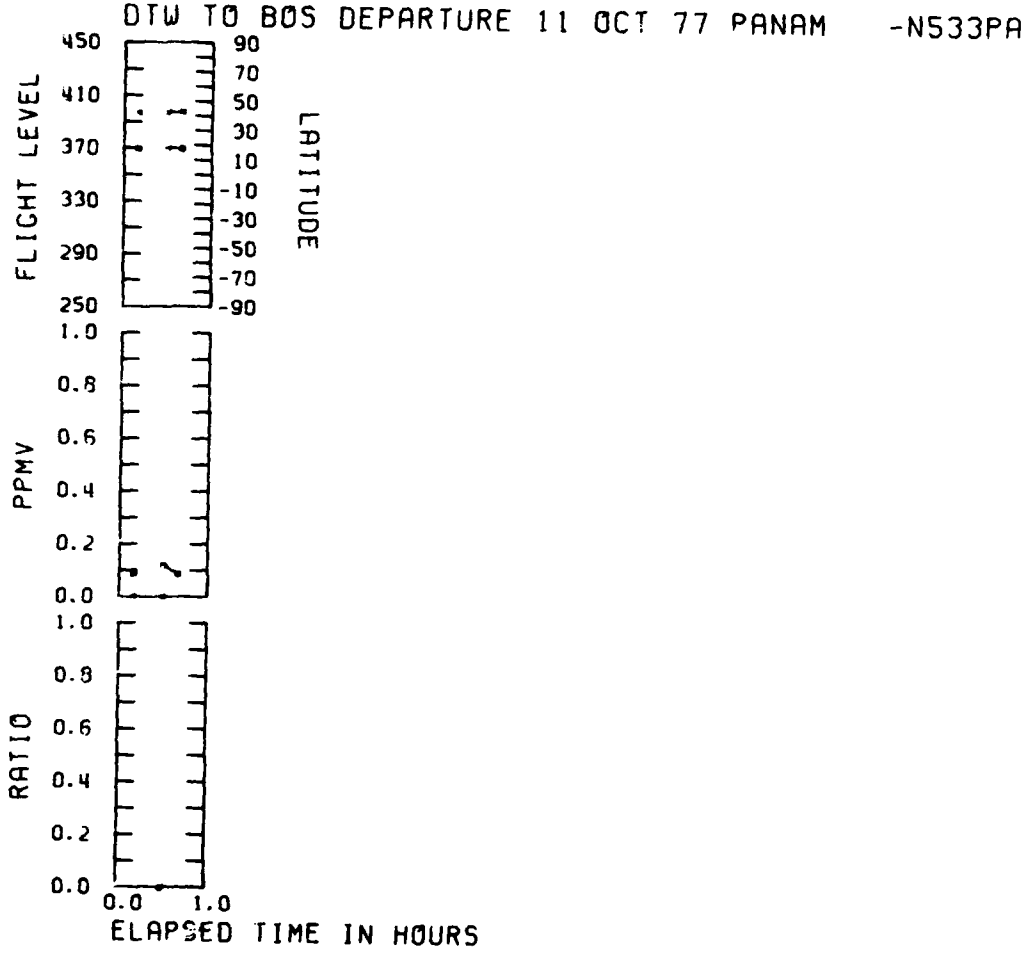
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
10/11/77	1039	0:10	392	53.15N	2.60W	-63.	.005		
10/11/77	1110	0:41	411	55.27N	7.93W	-60.	.000		
10/11/77	1115	0:46	410	55.63N	8.92W	-56.	.004		
10/11/77	1120	0:51	426	55.99N	9.97W	-55.	.000		
10/11/77	1140	1:11	429	56.58N	14.74W	-49.	.023	.354	.06
10/11/77	1149	1:20	429	56.81N	17.21W	-48.	.010	.401	.02
10/11/77	1159	1:30	429	56.98N	19.71W	-48.	.024	.365	.07
10/11/77	1204	1:35	429	57.03N	20.96W	-48.	.013	.384	.03
10/11/77	1214	1:45	429	57.09N	23.45W	-50.	.013	.364	.04
10/11/77	1219	1:50	429	57.10N	24.70W	-50.	.027	.428	.06
10/11/77	1224	1:55	429	57.10N	25.92W	-50.	.029	.518	.06
10/11/77	1229	2:00	429	57.08N	27.17W	-50.	.009	.412	.02
10/11/77	1234	2:05	429	57.05N	28.37W	-51.	.030	.313	.10
10/11/77	1244	2:15	429	56.95N	30.74W	-51.	.004	.408	.01
10/11/77	1255	2:26	429	56.78N	33.11W	-51.	.029	.371	.08
10/11/77	1305	2:36	429	56.56N	35.41W	-54.	.041	.385	.11
10/11/77	1314	2:45	429	56.31N	37.67W	-53.	.024	.384	.06
10/11/77	1319	2:50	429	56.17N	38.77W	-55.	.020	.367	.05
10/11/77	1325	2:56	429	56.01N	39.89W	-53.	.011	.400	.03
10/11/77	1335	3:06	429	55.68N	42.00W	-55.	.020	.196	.10
10/11/77	1344	3:15	429	55.31N	44.07W	-53.	.018	.256	.07
10/11/77	1359	3:30	429	54.68N	47.12W	-52.	.008	.327	.02
10/11/77	1409	3:40	429	54.22N	49.12W	-52.	.015	.291	.05
10/11/77	1425	3:56	429	53.28N	51.87W	-53.	.025	.200	.13
10/11/77	1434	4:05	429	52.60N	53.54W	-49.	.028	.291	.10
10/11/77	1439	4:10	429	52.23N	54.40W	-50.	.018	.234	.08
10/11/77	1445	4:16	429	51.86N	55.23W	-51.	.020	.228	.09
10/11/77	1454	4:25	429	51.17N	56.82W	-54.	.009	.165	.05
10/11/77	1504	4:35	429	50.47N	58.40W	-52.	.010	.210	.05
10/11/77	1520	4:51	429	49.38N	60.69W	-53.	.028	.152	.18
10/11/77	1530	5:01	429	48.65N	62.12W	-57.	.014	.147	.10
10/11/77	1539	5:10	429	47.92N	63.47W	-58.	.013	.139	.09
10/11/77	1549	5:20	429	47.16N	64.83W	-58.	.009	.159	.06
10/11/77	1610	5:41	429	45.51N	67.37W	-58.	.011	.210	.05
10/11/77	1619	5:50	429	44.56N	68.39W	-59.	.019	.173	.11
10/11/77	1624	5:55	429	44.08N	68.89W	-58.	.014	.188	.07


BOS TO DTW DEPARTURE 11 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
ELAPSED TIME IN HOURS

BOS TO DTW (PAGE 1 OF 1) DEPARTURE: 11 OCT 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .167 CABIN OZONE= .001 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .01 TOTAL OBS IN CABIN: 5
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
10/11/77	1938	0:20	390	43.00N	74.94W	-58.	.000	.154	.00	10/11/77	2008	0:50	379	42.64N	79.32W	-56.	.000	.124	.00
10/11/77	1948	0:30	390	42.98N	76.43W	-58.	.000	.159	.00	10/11/77	2013	0:55	291	42.64N	80.09W	-41.		.053	
10/11/77	1958	0:40	390	42.83N	77.89W	-58.	.001	.167	.01	10/11/77	2018	1:00	244	42.50N	80.86W	-29.	.000	.046	


DTW TO BOS DEPARTURE 11 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
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50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
ELAPSED TIME IN HOURS

DTW TO BOS (PAGE 1 OF 1)

DEPARTURE: 11 OCT 77

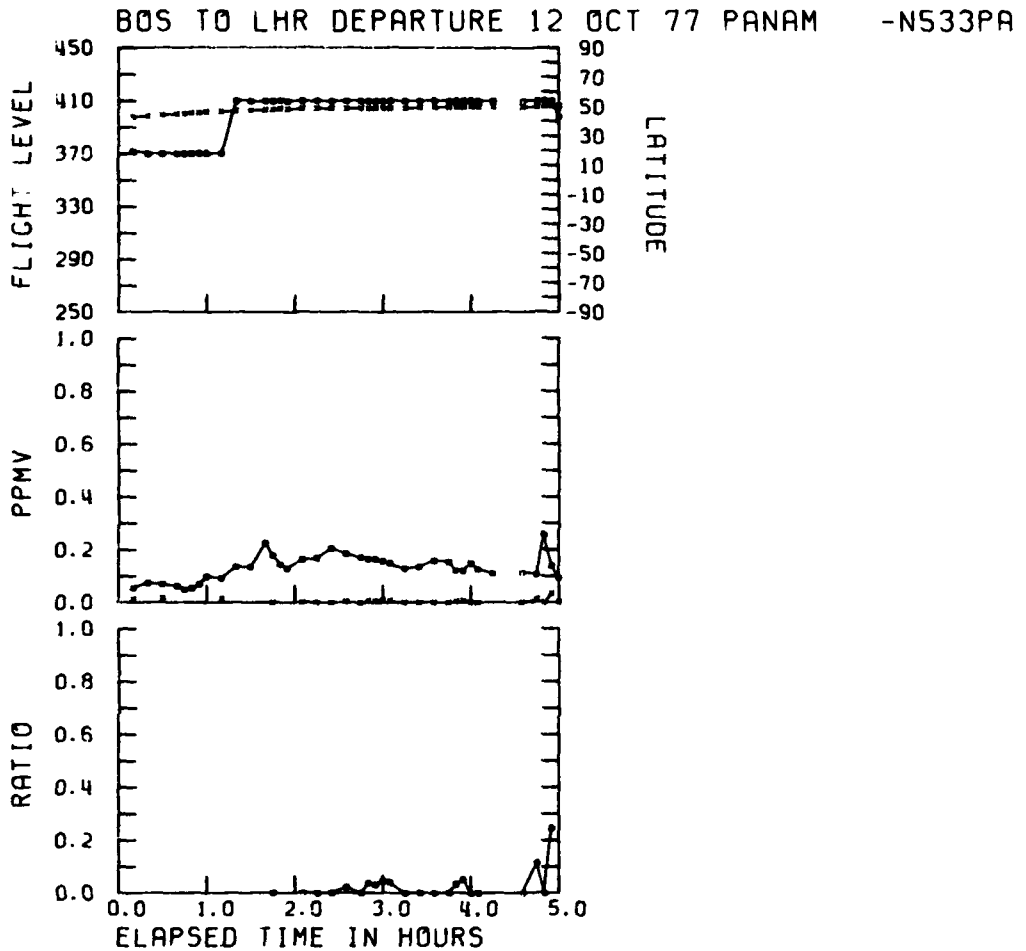
AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .120 CABIN OZONE=0.000 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 0.00

DATA SOURCE: GASP TAPE VL014, FILE 1

TOTAL OBS IN CABIN: 2

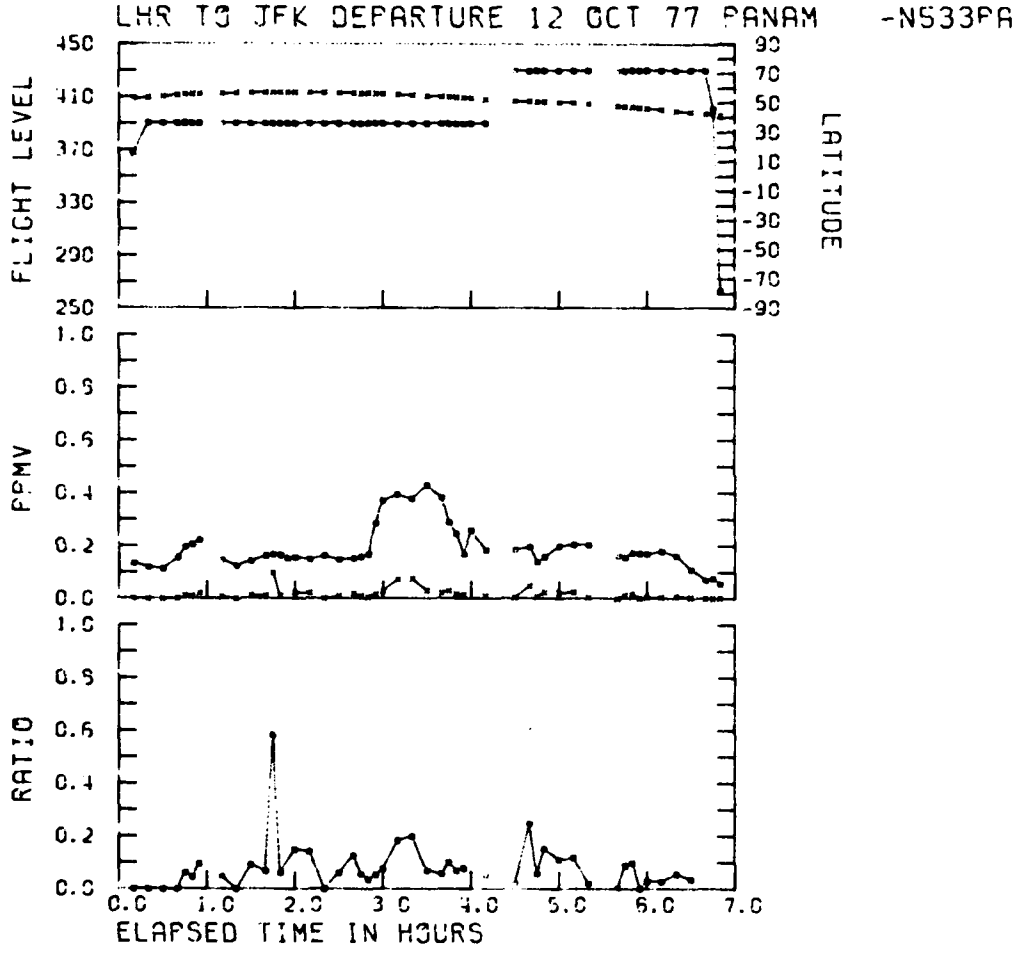
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
10/11/77	2213	0:10	370	42.14N	80.61W	-54.	.000	.088	
10/11/77	2233	0:30	370	42.51N	76.34W	-54.	.000	.120	.00
10/11/77	2243	0:40	370	42.66N	74.19W	-54.		.087	


BOS TO LHR DEPARTURE 12 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

BOS TO LHR (PAGE 1 OF 1) DEPARTURE: 12 OCT 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .257 CABIN OZONE= .034 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .24 TOTAL OBS IN CABIN: 26
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
10/12/77	0118	0:10	372	43.22N	68.03W	-55.	.014	.056		10/12/77	0353	2:45	410	49.03N	34.17W	-54.	.000	.171	.00
10/12/77	0128	0:20	370	43.92N	66.04W	-54.		.074		10/12/77	0358	2:50	410	49.01N	33.01W	-55.	.006	.164	.04
10/12/77	0138	0:30	370	44.57N	64.08W	-57.	.018	.069		10/12/77	0403	2:55	410	48.98N	31.84W	-56.	.005	.163	.03
10/12/77	0148	0:40	370	45.19N	62.09W	-56.		.062		10/12/77	0408	3:00	410	48.94N	30.68W	-57.	.007	.156	.04
10/12/77	0153	0:45	370	45.48N	61.08W	-58.		.049		10/12/77	0413	3:05	410	48.96N	29.55W	-56.	.006	.147	.04
10/12/77	0158	0:50	370	45.77N	60.08W	-57.		.054		10/12/77	0423	3:15	410	49.24N	27.29W	-57.	.000	.129	.00
10/12/77	0203	0:55	370	46.04N	59.08W	-56.		.068		10/12/77	0433	3:25	410	49.47N	25.05W	-57.	.000	.135	.00
10/12/77	0208	1:00	370	46.30N	58.06W	-57.		.098		10/12/77	0443	3:35	410	49.67N	22.74W	-56.	.000	.158	.00
10/12/77	0218	1:10	370	46.80N	56.02W	-58.	.016	.091		10/12/77	0453	3:45	410	49.82N	20.41W	-56.	.000	.154	.00
10/12/77	0228	1:20	410	47.27N	53.88W	-57.		.135		10/12/77	0458	3:50	410	49.88N	19.27W	-55.	.004	.121	.03
10/12/77	0238	1:30	410	47.68N	51.72W	-55.		.135		10/12/77	0503	3:55	410	49.92N	18.14W	-56.	.006	.119	.05
10/12/77	0248	1:40	410	48.05N	49.47W	-54.		.226		10/12/77	0508	4:00	410	49.96N	17.00W	-57.	.000	.149	.00
10/12/77	0253	1:45	410	48.19N	48.32W	-53.	.000	.179	.00	10/12/77	0513	4:05	410	49.98N	15.86W	-57.	.000	.127	.00
10/12/77	0258	1:50	410	48.33N	47.17W	-52.		.145		10/12/77	0523	4:15	410	49.99N	13.52W	-56.		.111	
10/12/77	0303	1:55	410	48.46N	45.99W	-52.		.129		10/12/77	0543	4:35	410	49.86N	9.01W	-58.	.000	.113	.00
10/12/77	0313	2:05	410	48.68N	43.61W	-51.	.000	.161	.00	10/12/77	0553	4:45	410	49.89N	6.72W	-61.	.012	.106	.11
10/12/77	0323	2:15	410	48.86N	41.26W	-52.	.000	.168	.00	10/12/77	0558	4:50	410	50.07N	5.59W	-61.	.000	.257	.00
10/12/77	0333	2:25	410	48.98N	38.87W	-50.	.000	.205	.00	10/12/77	0603	4:55	410	50.29N	4.43W	-64.	.034	.139	.24
10/12/77	0343	2:35	410	49.03N	36.49W	-52.	.004	.185	.02	10/12/77	0608	5:00	398	50.50N	3.31W	-62.	.000	.093	

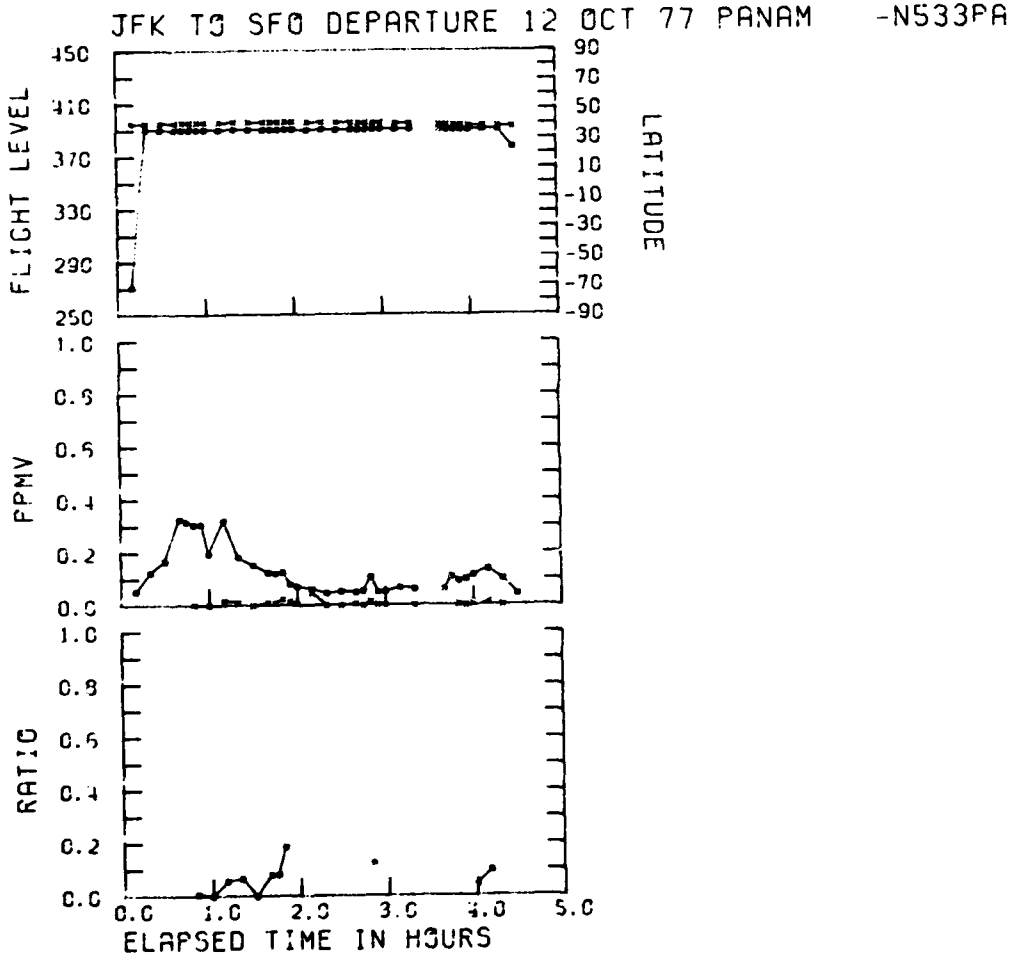

LHR TO JFK DEPARTURE 12 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
ELAPSED TIME IN HOURS

A-448

LHR TO JFK (PAGE 1 OF 1) DEPARTURE: 12 OCT 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .429 CABIN OZONE= .097 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .58 TOTAL OBS IN CABIN: 48
DATA SOURCE: GASP TAPE VL014, FILE 1

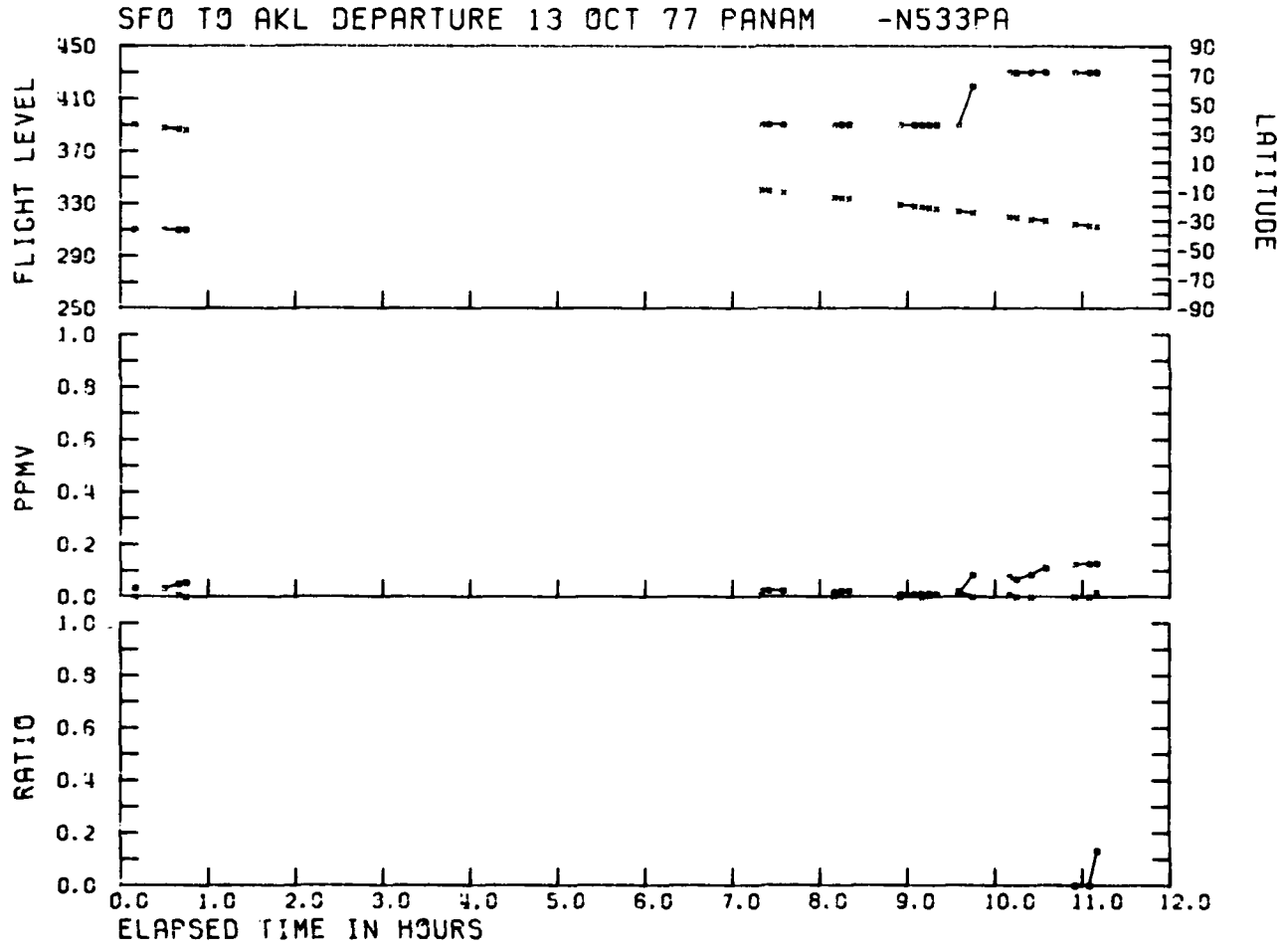
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
10/12/77	1330	0:10	367	53.03N	2.40W	-53.	.000	.134	.00	10/12/77	1650	3:30	390	54.82N	46.46W	-49.	.030	.429	.07
10/12/77	1340	0:20	390	53.80N	4.11W	-55.	.000	.118	.00	10/12/77	1700	3:40	390	54.35N	48.55W	-52.	.022	.382	.06
10/12/77	1350	0:30	390	54.53N	5.96W	-51.	.000	.113	.00	10/12/77	1705	3:45	390	54.11N	49.55W	-51.	.029	.289	.10
10/12/77	1400	0:40	390	55.23N	7.80W	-50.	.000	.154	.00	10/12/77	1710	3:50	390	53.82N	50.48W	-54.	.017	.245	.07
10/12/77	1405	0:45	390	55.57N	8.74W	-52.	.012	.195	.06	10/12/77	1715	3:55	390	53.49N	51.35W	-51.	.013	.167	.08
10/12/77	1410	0:50	390	55.90N	9.70W	-52.	.009	.205	.04	10/12/77	1721	4:01	390	53.14N	52.22W	-54.		.257	
10/12/77	1415	0:55	390	56.10N	10.73W	-51.	.021	.221	.10	10/12/77	1730	4:10	390	52.50N	53.76W	-60.	.010	.183	.05
10/12/77	1430	1:10	390	56.50N	14.01W	-50.	.007	.147	.05	10/12/77	1750	4:30	430	51.39N	56.87W	-59.	.004	.185	.02
10/12/77	1440	1:20	390	56.72N	16.22W	-51.	.000	.124	.00	10/12/77	1800	4:40	430	51.09N	58.56W	-58.	.048	.195	.25
10/12/77	1450	1:30	390	56.90N	18.42W	-50.	.013	.142	.09	10/12/77	1805	4:45	430	50.93N	59.38W	-59.	.008	.139	.06
10/12/77	1500	1:40	390	57.02N	20.65W	-50.	.011	.162	.07	10/12/77	1810	4:50	430	50.77N	60.19W	-61.	.024	.158	.15
10/12/77	1505	1:45	390	57.06N	21.82W	-50.	.097	.167	.58	10/12/77	1820	5:00	430	50.44N	61.77W	-58.	.022	.198	.11
10/12/77	1510	1:50	390	57.08N	22.99W	-50.	.010	.164	.06	10/12/77	1830	5:10	430	50.10N	63.29W	-58.	.024	.204	.12
10/12/77	1515	1:55	390	57.10N	24.17W	-51.		.152		10/12/77	1840	5:20	430	49.61N	64.71W	-57.	.004	.203	.02
10/12/77	1520	2:00	390	57.10N	25.36W	-51.	.023	.155	.15	10/12/77	1900	5:40	430	48.00N	66.69W	-57.	.001	.163	.01
10/12/77	1530	2:10	390	57.07N	27.75W	-51.	.021	.148	.14	10/12/77	1905	5:45	430	47.60N	67.16W	-57.	.014	.157	.09
10/12/77	1540	2:20	390	56.99N	30.17W	-49.	.000	.162	.00	10/12/77	1910	5:50	430	47.18N	67.60W	-60.	.017	.172	.10
10/12/77	1550	2:30	390	56.82N	32.58W	-50.	.009	.148	.06	10/12/77	1915	5:55	430	46.74N	67.98W	-60.	.000	.170	.00
10/12/77	1600	2:40	390	56.61N	34.99W	-50.	.019	.151	.13	10/12/77	1920	6:00	430	46.28N	68.37W	-60.	.005	.169	.03
10/12/77	1605	2:45	390	56.48N	36.21W	-49.	.009	.158	.06	10/12/77	1930	6:10	430	45.38N	69.12W	-60.	.005	.179	.03
10/12/77	1610	2:50	390	56.34N	37.41W	-49.	.006	.167	.04	10/12/77	1940	6:20	430	44.48N	69.83W	-59.	.009	.161	.06
10/12/77	1615	2:55	390	56.19N	38.59W	-50.	.015	.284	.05	10/12/77	1950	6:30	430	43.58N	70.52W	-59.	.004	.110	.04
10/12/77	1620	3:00	390	56.03N	39.76W	-50.	.028	.370	.08	10/12/77	2000	6:40	430	42.68N	71.19W	-59.	.001	.071	
10/12/77	1630	3:10	390	55.67N	42.05W	-50.	.072	.394	.18	10/12/77	2005	6:45	402	42.23N	71.52W	-58.	.000	.076	
10/12/77	1640	3:20	390	55.27N	44.28W	-49.	.075	.377	.20	10/12/77	2010	6:50	263	41.78N	71.81W	-29.	.002	.056	


JFK TO SFO DEPARTURE 12 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

JFK TO SFO (PAGE 1 OF 1) DEPARTURE: 12 OCT 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .326 CABIN OZONE= .047 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .19 TOTAL OBS IN CABIN: 24
DATA SOURCE: GASP TAPE VL014, FILE 1

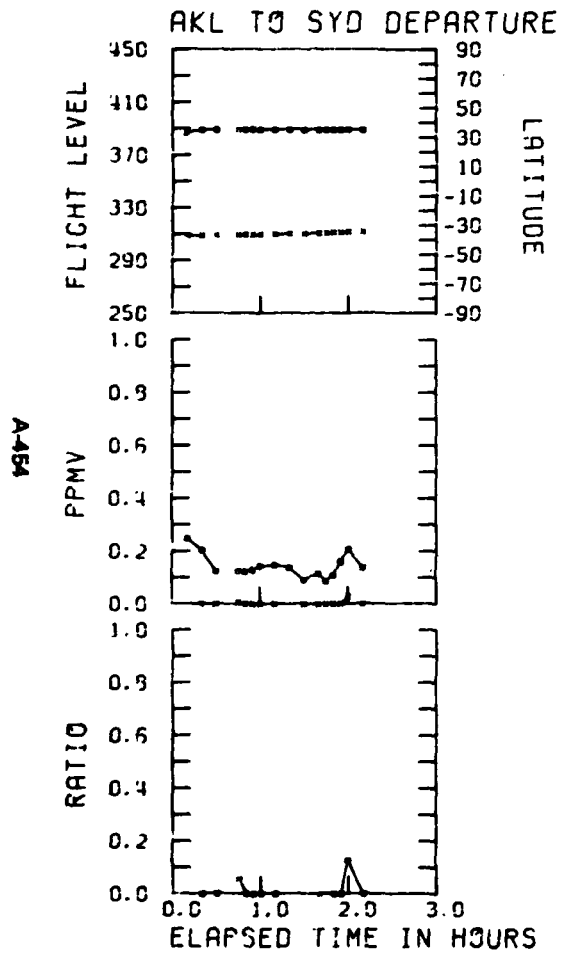
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
10/12/77	2322	0:10	271	40.40N	75.88W	-32.		.053	
10/12/77	2332	0:20	390	40.74N	77.30W	-56.		.125	
10/12/77	2342	0:30	390	41.00N	78.73W	-55.		.168	
10/12/77	2352	0:40	391	41.17N	80.24W	-53.		.326	
10/12/77	2357	0:45	390	41.25N	81.04W	-54.		.317	
10/13/77	0002	0:50	390	41.30N	81.87W	-53.	.002	.305	.01
10/13/77	0007	0:55	390	41.36N	82.71W	-52.		.307	
10/13/77	0012	1:00	391	41.41N	83.57W	-53.	.000	.196	.00
10/13/77	0022	1:10	390	41.49N	85.35W	-55.	.018	.320	.06
10/13/77	0032	1:20	391	41.54N	87.17W	-56.	.012	.182	.07
10/13/77	0042	1:30	390	41.56N	88.99W	-59.	.000	.152	.00
10/13/77	0052	1:40	390	41.56N	90.78W	-61.	.010	.124	.08
10/13/77	0057	1:45	390	41.54N	91.70W	-60.	.010	.122	.08
10/13/77	0102	1:50	390	41.52N	92.62W	-60.	.023	.124	.19
10/13/77	0107	1:55	390	41.49N	93.55W	-62.	.015	.079	
10/13/77	0112	2:00	390	41.46N	94.47W	-63.	.005	.070	
10/13/77	0122	2:10	390	41.37N	96.24W	-64.	.047	.061	
10/13/77	0132	2:20	390	41.25N	98.03W	-64.	.000	.046	
10/13/77	0142	2:30	390	41.11N	99.75W	-64.	.000	.052	
10/13/77	0152	2:40	390	40.94N	101.49W	-63.	.006	.049	
10/13/77	0157	2:45	390	40.85N	102.37W	-63.	.000	.055	
10/13/77	0202	2:50	390	40.75N	103.22W	-62.	.013	.105	.12
10/13/77	0207	2:55	390	40.64N	104.09W	-62.	.002	.050	
10/13/77	0212	3:00	390	40.53N	104.94W	-62.	.000	.051	
10/13/77	0222	3:10	390	40.28N	106.64W	-62.		.066	
10/13/77	0232	3:20	390	40.02N	108.31W	-63.	.000	.061	
10/13/77	0252	3:40	390	39.41N	111.60W	-62.		.061	
10/13/77	0257	3:45	390	39.25N	112.40W	-61.		.108	
10/13/77	0302	3:50	390	39.08N	113.21W	-60.	.004	.093	
10/13/77	0307	3:55	390	38.91N	114.02W	-60.	.000	.099	
10/13/77	0312	4:00	390	38.73N	114.81W	-59.	.005	.115	.04
10/13/77	0322	4:10	390	38.39N	116.41W	-58.	.013	.135	.10
10/13/77	0332	4:20	390	38.11N	118.03W	-58.	.001	.099	
10/13/77	0342	4:30	377	37.90N	119.66W	-58.		.042	


SFO TO AKL DEPARTURE 13 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
12.0
ELAPSED TIME IN HOURS

SFO TO AKL (PAGE 1 OF 1) DEPARTURE: 13 OCT 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .129 CABIN OZONE= .023 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .13 TOTAL OBS IN CABIN: 16
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	AMB.	RATIO
10/13/77	0647	0:10	310	36.22N	124.65W	-43.	.000	.034	
10/13/77	0707	0:30	310	34.21N	126.77W	-43.		.033	
10/13/77	0717	0:40	310	33.14N	127.82W	-43.	.008	.050	
10/13/77	0722	0:45	310	32.60N	128.34W	-43.	.000	.055	
10/13/77	1401	7:24	390	8.91S	165.26W	-55.	.006	.023	
10/13/77	1406	7:29	390	9.41S	165.75W	-55.		.024	
10/13/77	1416	7:39	390	10.40S	166.72W	-56.		.023	
10/13/77	1451	8:14	390	13.79S	170.14W	-55.	.004	.020	
10/13/77	1456	8:19	390	14.26S	170.63W	-55.		.022	
10/13/77	1501	8:24	390	14.81S	171.01W	-55.		.023	
10/13/77	1536	8:59	390	18.83S	173.62W	-53.	.000	.012	
10/13/77	1546	9:09	390	19.91S	174.35W	-54.		.010	
10/13/77	1551	9:14	390	20.44S	174.71W	-54.	.000	.012	
10/13/77	1556	9:19	390	20.98S	175.08W	-54.	.006	.012	
10/13/77	1601	9:24	390	21.53S	175.40W	-54.		.011	
10/13/77	1616	9:39	390	23.27S	176.35W	-53.	.023	.011	
10/13/77	1626	9:49	419	24.40S	176.98W	-60.	.000	.084	
10/13/77	1651	10:14	430	27.20S	178.60W	-59.	.010	.077	
10/13/77	1656	10:19	430	27.76S	178.94W	-58.	.000	.068	
10/13/77	1706	10:29	430	28.86S	179.61W	-59.	.000	.086	
10/13/77	1716	10:39	430	29.97S	179.69E	-55.		.111	
10/13/77	1736	10:59	430	32.20S	178.24E	-52.	.000	.125	.00
10/13/77	1746	11:09	430	33.31S	177.49E	-51.	.000	.127	.00
10/13/77	1751	11:14	430	33.86S	177.10E	-50.	.017	.129	.13

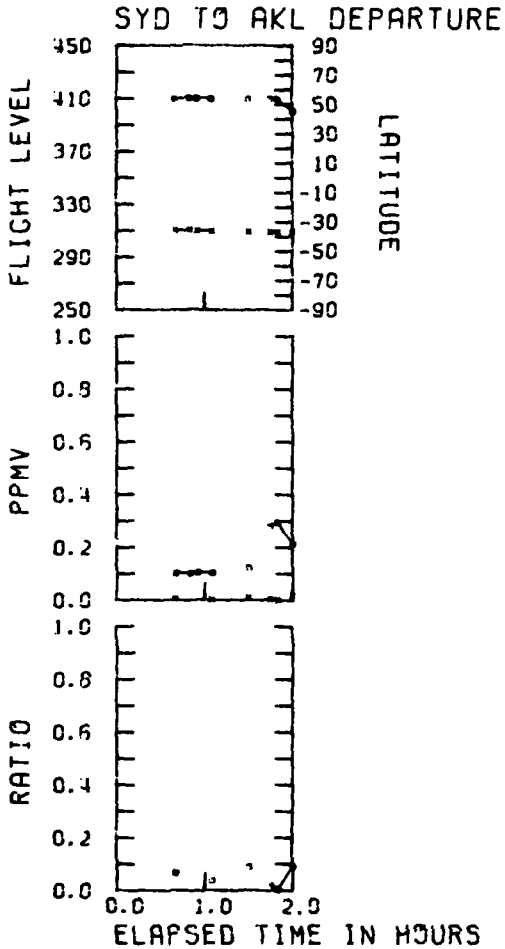

AKL TO SYD DEPARTURE 13 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

AKL TO SYD (PAGE 1 OF 1) DEPARTURE: 13 OCT 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .248 CABIN OZONE= .026 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .13 TOTAL OBS IN CABIN: 14
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
10/13/77	2045	0:10	387	36.91S	172.47E	-48.		.248		10/13/77	2155	1:20	389	35.65S	161.07E	-59.		.137	
10/13/77	2055	0:20	389	36.79S	170.79E	-49.	.000	.204	.00	10/13/77	2205	1:30	389	35.38S	159.54E	-58.	.000	.092	
10/13/77	2105	0:30	389	36.65S	169.11E	-50.	.000	.124	.00	10/13/77	2215	1:40	389	35.11S	158.03E	-58.	.000	.116	.00
10/13/77	2120	0:45	389	36.41S	166.64E	-52.	.007	.125	.06	10/13/77	2220	1:45	389	34.97S	157.27E	-59.	.000	.087	
10/13/77	2125	0:50	389	36.32S	165.82E	-52.	.000	.122	.00	10/13/77	2225	1:50	389	34.82S	156.51E	-59.	.000	.108	.00
10/13/77	2130	0:55	389	36.23S	165.01E	-54.	.000	.129	.00	10/13/77	2230	1:55	389	34.66S	155.76E	-58.	.000	.160	.00
10/13/77	2135	1:00	389	36.13S	164.24E	-56.	.000	.144	.00	10/13/77	2235	2:00	389	34.51S	155.02E	-59.	.026	.207	.13
10/13/77	2145	1:10	389	35.90S	162.65E	-57.	.000	.148	.00	10/13/77	2245	2:10	389	34.25S	153.56E	-56.	.000	.138	.00

A459

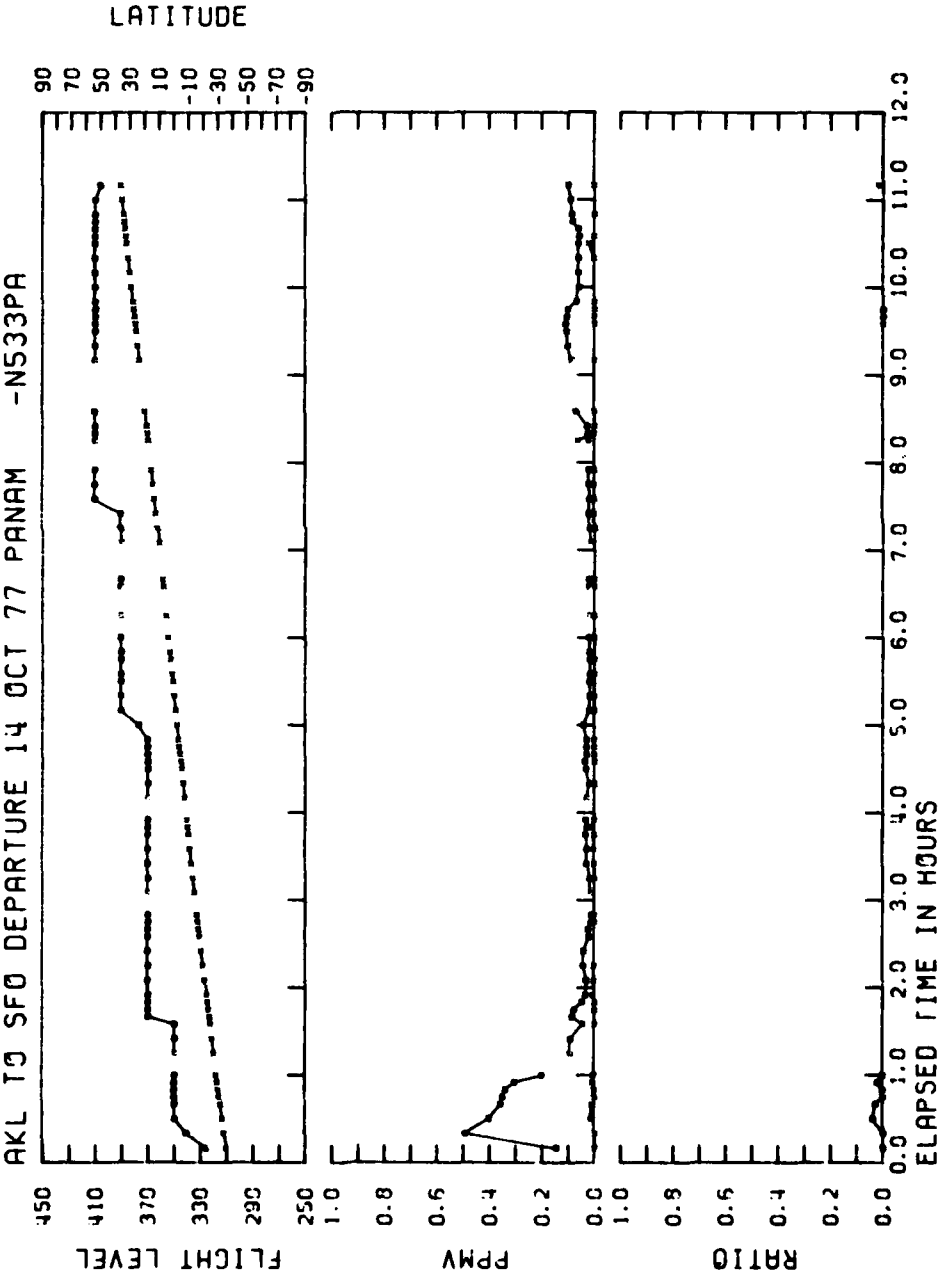

SYD TO AKL DEPARTURE 14 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
ELAPSED TIME IN HOURS

SYD TO AKL (PAGE 1 OF 1) DEPARTURE: 14 OCT 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .294 CABIN OZONE= .020 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .09 TOTAL OBS IN CABIN: 6
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
10/14/77	0529	0:40	410	35.30S	159.06E	-59.	.007	.104	.07	10/14/77	0619	1:30	410	36.49S	167.54E	-54.	.011	.123	.09
10/14/77	0539	0:50	410	35.60S	160.80E	-58.		.102		10/14/77	0634	1:45	410	36.71S	170.01E	-52.	.005	.280	.02
10/14/77	0544	0:55	410	35.73S	161.68E	-56.		.105		10/14/77	0639	1:50	410	36.78S	170.87E	-51.	.001	.294	.00
10/14/77	0554	1:05	410	35.99S	163.41E	-55.	.004	.104	.04	10/14/77	0649	2:00	400	36.76S	172.57E	-49.	.020	.214	.09

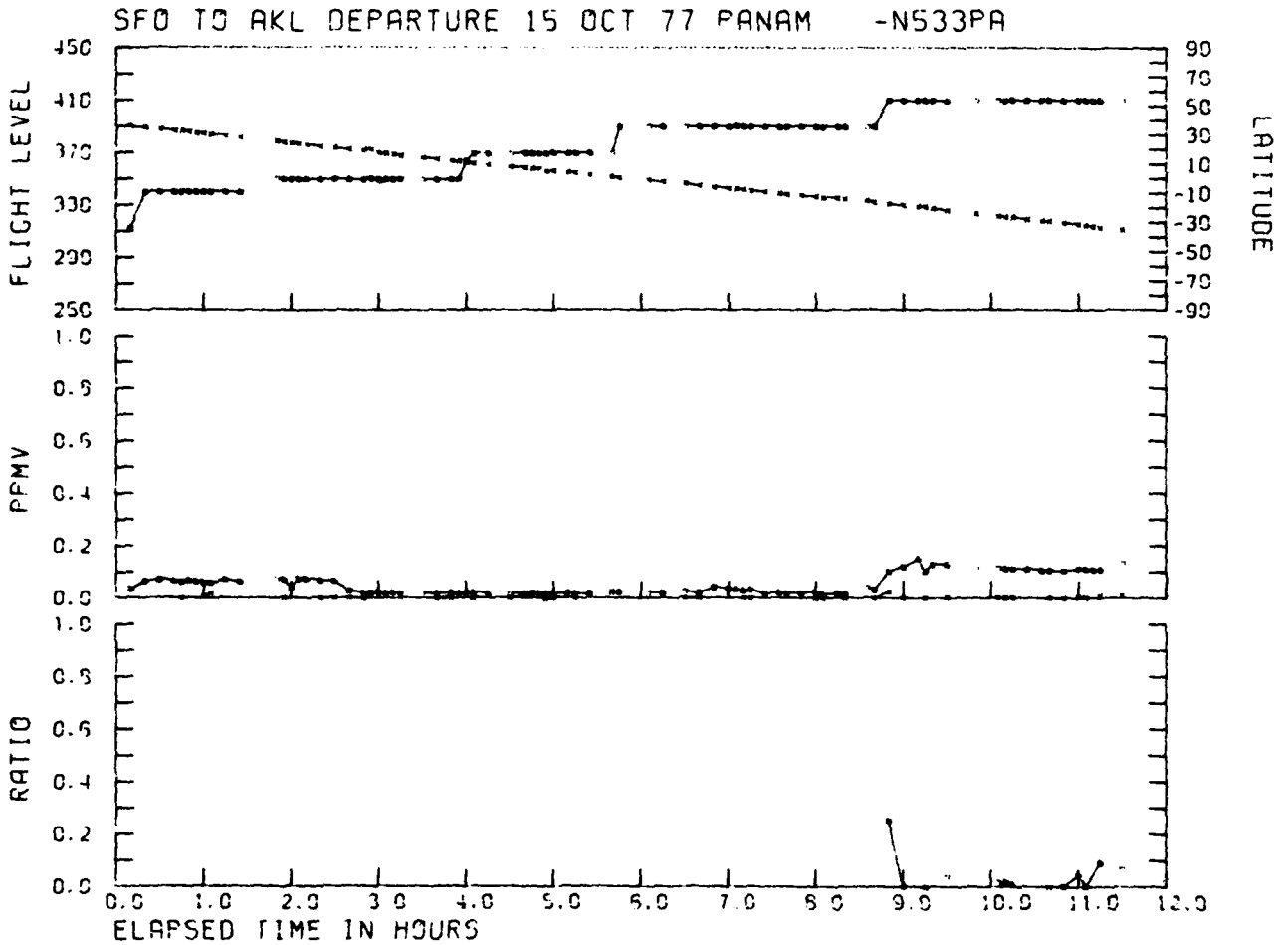
A457


AKL TO SFO DEPARTURE 14 OCT 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0
ELAPSED TIME IN HOURS

AKL TO SFO (PAGE 1 OF 1) DEPARTURE: 14 OCT 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .492 CABIN OZONE= .063 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .04 TOTAL OBS IN CABIN: 55
DATA SOURCE: GASP TAPE VL014, FILE 1

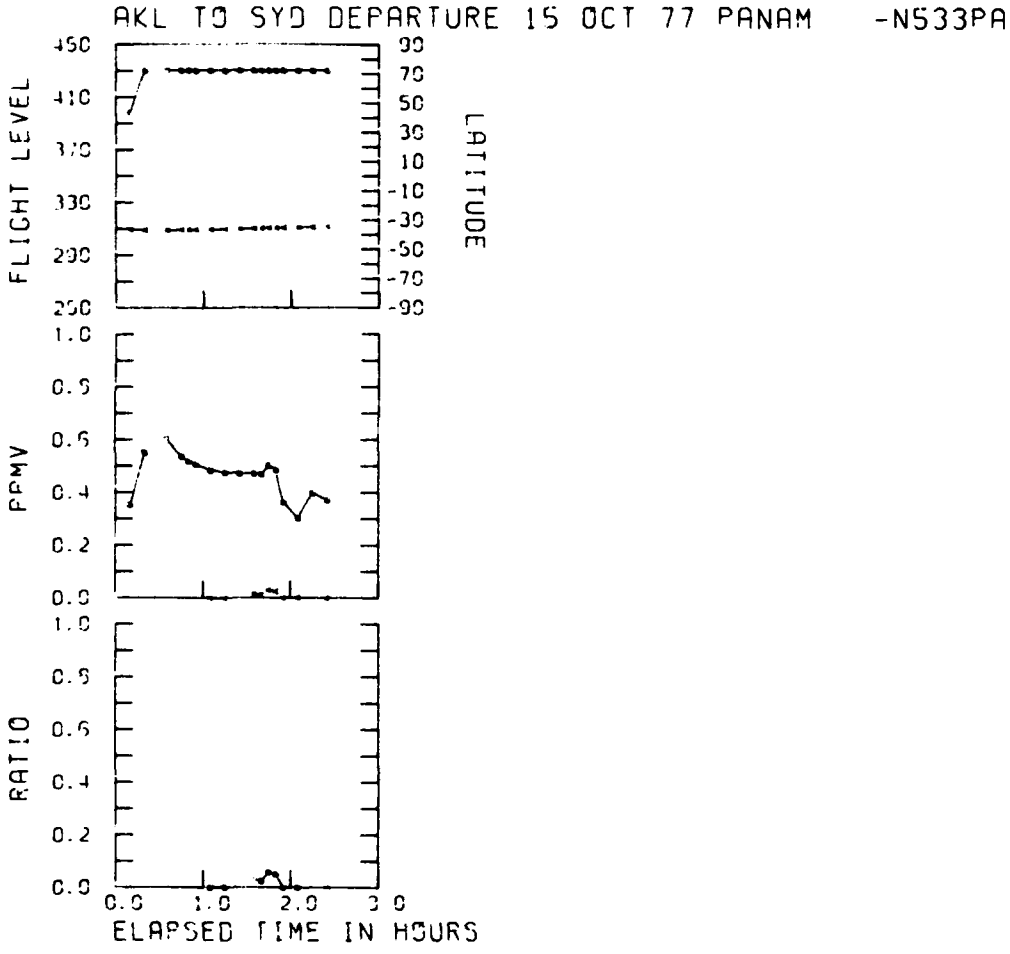
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
10/14/77	1056	0:10	326	35.24S	176.12E	-50.	.000	.146	.00
10/14/77	1106	0:20	341	33.99S	177.00E	-46.	.000	.492	.00
10/14/77	1116	0:30	350	32.73S	177.88E	-45.	.015	.402	.04
10/14/77	1126	0:40	350	31.46S	178.73E	-42.	.010	.357	.03
10/14/77	1131	0:45	350	30.83S	179.14E	-43.	.000	.349	.00
10/14/77	1136	0:50	350	30.20S	179.55E	-43.	.000	.337	.00
10/14/77	1141	0:55	350	29.56S	179.95E	-42.	.006	.303	.02
10/14/77	1146	1:00	350	28.92S	179.66W	-42.	.000	.200	.00
10/14/77	1201	1:15	350	27.04S	178.51W	-44.		.092	
10/14/77	1211	1:25	350	25.82S	177.80W	-46.		.090	
10/14/77	1221	1:35	350	24.63S	177.11W	-50.	.000	.045	
10/14/77	1226	1:40	370	24.04S	176.78W	-50.		.084	
10/14/77	1231	1:45	370	23.41S	176.43W	-50.	.000	.078	
10/14/77	1236	1:50	370	22.80S	176.10W	-51.	.000	.047	
10/14/77	1241	1:55	370	22.19S	175.76W	-51.	.006	.034	
10/14/77	1251	2:05	370	20.95S	175.05W	-50.	.001	.030	
10/14/77	1301	2:15	370	19.71S	174.21W	-49.	.000	.042	
10/14/77	1311	2:25	370	18.49S	173.40W	-49.		.041	
10/14/77	1321	2:35	370	17.24S	172.57W	-50.		.019	
10/14/77	1326	2:40	370	16.62S	172.16W	-49.		.023	
10/14/77	1331	2:45	370	15.99S	171.76W	-49.	.000	.012	
10/14/77	1336	2:50	370	15.37S	171.37W	-49.	.000	.011	
10/14/77	1351	3:05	370	13.72S	170.07W	-49.		.015	
10/14/77	1401	3:15	370	12.70S	169.03W	-49.	.000	.018	
10/14/77	1411	3:25	370	11.69S	168.01W	-50.	.000	.029	
10/14/77	1421	3:35	370	10.66S	166.98W	-50.	.002	.028	
10/14/77	1431	3:45	370	9.67S	166.00W	-50.	.000	.033	
10/14/77	1436	3:50	370	9.17S	165.51W	-50.	.008	.027	
10/14/77	1441	3:55	370	8.66S	165.02W	-49.	.000	.033	
10/14/77	1456	4:10	370	7.14S	163.56W	-50.		.030	
10/14/77	1506	4:20	370	6.13S	162.60W	-50.	.000	.019	
10/14/77	1516	4:30	370	5.13S	161.64W	-50.		.033	
10/14/77	1521	4:35	370	4.62S	161.16W	-50.	.000	.037	
10/14/77	1526	4:40	370	4.11S	160.68W	-49.	.000	.029	
10/14/77	1531	4:45	370	3.60S	160.19W	-49.	.000	.029	
10/14/77	1536	4:50	370	3.09S	159.71W	-49.	.000	.029	
10/14/77	1546	5:00	377	2.08S	158.74W	-51.		.041	
10/14/77	1556	5:10	391	1.06S	157.78W	-55.	.000	.019	
10/14/77	1606	5:20	390	.06S	156.83W	-55.	.000	.018	
10/14/77	1616	5:30	391	.91N	155.91W	-55.	.007	.019	
10/14/77	1621	5:35	391	1.41N	155.43W	-55.	.000	.017	
10/14/77	1631	5:45	390	2.41N	154.49W	-54.	.000	.018	
10/14/77	1636	5:50	390	2.91N	154.02W	-54.		.020	
10/14/77	1646	6:00	390	3.91N	153.07W	-54.	.000	.021	
10/14/77	1701	6:15	390	5.39N	151.66W	-55.	.000	.019	
10/14/77	1721	6:35	391	7.32N	149.81W	-56.	.000	.020	
10/14/77	1726	6:40	391	7.80N	149.35W	-55.	.000	.021	
10/14/77	1751	7:05	390	10.22N	147.01W	-55.		.015	
10/14/77	1801	7:15	390	11.19N	146.02W	-55.	.000	.019	
10/14/77	1811	7:25	390	12.16N	145.05W	-56.	.000	.019	
10/14/77	1822	7:36	410	13.32N	144.17W	-61.	.000	.018	
10/14/77	1832	7:46	410	14.41N	143.36W	-61.	.000	.021	
10/14/77	1842	7:56	410	15.51N	142.53W	-61.	.000	.021	
10/14/77	1902	8:16	410	17.70N	140.82W	-61.	.063	.023	
10/14/77	1907	8:21	410	18.26N	140.39W	-62.	.000	.025	
10/14/77	1912	8:26	410	18.80N	139.96W	-62.	.000	.028	
10/14/77	1922	8:36	410	19.91N	139.07W	-60.	.000	.070	
10/14/77	1957	9:11	410	23.89N	135.97W	-59.	.000	.086	
10/14/77	2007	9:21	410	25.00N	135.07W	-58.		.102	
10/14/77	2017	9:31	410	26.08N	134.17W	-58.		.106	
10/14/77	2022	9:36	410	26.61N	133.73W	-58.	.000	.110	.00
10/14/77	2027	9:41	410	27.14N	133.27W	-58.	.000	.105	.00
10/14/77	2032	9:46	410	27.68N	132.80W	-59.	.000	.101	.00
10/14/77	2037	9:51	410	28.21N	132.35W	-58.	.000	.069	
10/14/77	2047	10:01	410	29.26N	131.41W	-58.		.057	
10/14/77	2057	10:11	410	30.32N	130.45W	-59.		.060	
10/14/77	2107	10:21	410	31.40N	129.47W	-59.	.002	.060	
10/14/77	2117	10:31	410	32.46N	128.47W	-59.	.020	.061	
10/14/77	2122	10:36	410	32.99N	127.97W	-58.	.001	.058	
10/14/77	2127	10:41	410	33.51N	127.46W	-59.		.061	
10/14/77	2132	10:46	410	34.02N	126.96W	-59.		.083	
10/14/77	2138	10:52	410	34.61N	126.37W	-59.	.000	.086	
10/14/77	2148	11:02	410	35.62N	125.32W	-58.		.091	
10/14/77	2158	11:12	406	36.46N	124.06W	-58.	.002	.100	


SFO TO AKL DEPARTURE 15 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
12.0
ELAPSED TIME IN HOURS

SFO TO AKL (PAGE 1 OF 1) DEPARTURE: 15 OCT 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .151 CABIN OZONE= .034 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .25 TOTAL OBS IN CABIN: 39
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
10/15/77	1000	0:10	313	36.22N	124.64W	-45.		.034	
10/15/77	1010	0:20	340	35.21N	125.75W	-51.		.066	
10/15/77	1020	0:30	340	34.16N	126.82W	-48.		.072	
10/15/77	1030	0:40	340	33.09N	127.87W	-48.		.067	
10/15/77	1035	0:45	340	32.57N	128.37W	-48.	.000	.063	
10/15/77	1040	0:50	340	32.03N	128.88W	-49.		.067	
10/15/77	1045	0:55	340	31.50N	129.38W	-49.		.064	
10/15/77	1050	1:00	340	30.95N	129.88W	-48.	.006	.060	
10/15/77	1055	1:05	340	30.41N	130.37W	-49.	.019	.059	
10/15/77	1105	1:15	340	29.33N	131.34W	-48.		.071	
10/15/77	1115	1:25	340	28.26N	132.30W	-47.		.063	
10/15/77	1140	1:50	350	25.57N	134.59W	-47.		.075	
10/15/77	1145	1:55	350	25.02N	135.05W	-46.	.000	.070	
10/15/77	1150	2:00	350	24.48N	135.49W	-47.		.039	
10/15/77	1155	2:05	350	23.93N	135.94W	-46.		.074	
10/15/77	1200	2:10	350	23.38N	136.38W	-46.		.075	
10/15/77	1210	2:20	350	22.28N	137.25W	-46.	.000	.067	
10/15/77	1220	2:30	350	21.17N	138.11W	-46.	.000	.065	
10/15/77	1230	2:40	350	20.09N	138.93W	-46.	.000	.027	
10/15/77	1240	2:50	350	19.94N	139.04W	-46.	.000	.020	
10/15/77	1245	2:55	350	19.94N	139.04W	-45.		.020	
10/15/77	1250	3:00	350	18.01N	140.59W	-45.		.022	
10/15/77	1255	3:05	350	17.48N	141.00W	-45.		.019	
10/15/77	1300	3:10	350	16.95N	141.42W	-45.		.021	
10/15/77	1309	3:19	350	15.85N	142.26W	-45.		.019	
10/15/77	1320	3:30	350	14.76N	143.10W	-45.		.019	
10/15/77	1330	3:40	350	13.66N	143.93W	-44.	.000	.019	
10/15/77	1340	3:50	350	12.54N	144.76W	-44.	.000	.020	
10/15/77	1349	3:59	350	11.54N	145.67W	-44.		.018	
10/15/77	1354	4:04	363	11.06N	146.15W	-48.		.019	
10/15/77	1359	4:09	370	10.58N	146.63W	-49.	.000	.021	
10/15/77	1409	4:19	370	9.63N	147.57W	-49.		.018	
10/15/77	1420	4:30	370	8.66N	148.51W	-49.	.002	.018	
10/15/77	1430	4:40	370	7.67N	149.47W	-49.	.010	.018	
10/15/77	1435	4:45	370	7.18N	149.95W	-49.		.019	
10/15/77	1440	4:50	370	6.66N	150.44W	-49.		.017	
10/15/77	1449	4:59	370	5.68N	151.39W	-49.	.000	.019	
10/15/77	1454	5:04	370	5.17N	151.87W	-49.	.000	.016	
10/15/77	1500	5:10	370	4.67N	152.35W	-49.		.020	
10/15/77	1505	5:15	370	4.16N	152.83W	-49.	.000	.017	
10/15/77	1519	5:29	370	2.66N	154.26W	-49.		.018	
10/15/77	1530	5:40	370	1.66N	155.19W	-48.	.026	.021	
10/15/77	1539	5:49	390	.69N	156.12W	-54.		.024	
10/15/77	1555	6:05	390	.77S	157.50W	-54.		.021	
10/15/77	1605	6:15	390	1.75S	158.43W	-54.		.020	
10/15/77	1620	6:30	390	3.20S	159.81W	-55.	.000	.026	
10/15/77	1634	6:44	390	4.64S	161.18W	-54.	.000	.020	
10/15/77	1644	6:54	390	5.62S	162.11W	-55.	.034	.042	
10/15/77	1654	7:04	390	6.51S	163.09W	-55.		.035	
10/15/77	1659	7:09	390	6.95S	163.59W	-55.		.034	
10/15/77	1704	7:14	390	7.43S	164.06W	-55.	.000	.028	
10/15/77	1709	7:19	390	7.93S	164.49W	-55.	.000	.034	
10/15/77	1719	7:29	390	8.97S	165.32W	-55.		.018	
10/15/77	1729	7:39	390	9.92S	166.25W	-55.		.021	
10/15/77	1734	7:44	390	10.39S	166.71W	-55.		.019	
10/15/77	1744	7:54	390	11.31S	167.63W	-55.		.019	
10/15/77	1754	8:04	390	12.24S	168.56W	-56.	.000	.023	
10/15/77	1759	8:09	390	12.70S	169.03W	-56.	.000	.015	
10/15/77	1805	8:15	390	13.18S	169.52W	-56.		.020	
10/15/77	1810	8:20	390	13.65S	169.99W	-56.	.000	.018	
10/15/77	1825	8:35	390	15.18S	171.24W	-56.		.043	
10/15/77	1834	8:44	390	16.29S	171.95W	-55.	.000	.032	
10/15/77	1844	8:54	410	17.42S	172.68W	-59.	.026	.103	.25
10/15/77	1854	9:04	410	18.52S	173.41W	-57.	.000	.119	.00
10/15/77	1900	9:10	410	19.07S	173.78W	-57.		.151	
10/15/77	1905	9:15	410	19.62S	174.15W	-56.	.000	.103	.00
10/15/77	1910	9:20	410	20.16S	174.52W	-55.		.130	
10/15/77	1924	9:34	410	21.76S	175.53W	-53.	.005	.130	.04
10/15/77	1944	9:54	410	23.99S	176.75W	-49.		.117	
10/15/77	1959	10:09	410	25.63S	177.69W	-50.	.002	.115	.02
10/15/77	2004	10:14	410	26.16S	178.00W	-50.	.002	.114	.02
10/15/77	2009	10:19	410	26.69S	178.30W	-51.	.001	.111	.01
10/15/77	2019	10:29	410	27.74S	178.93W	-51.		.112	
10/15/77	2029	10:39	410	28.81S	179.59W	-51.		.108	
10/15/77	2034	10:44	410	29.35S	179.92W	-51.	.000	.105	.00
10/15/77	2044	10:54	410	29.93S	179.71E	-51.	.000	.105	.00
10/15/77	2054	11:04	410	31.48S	178.71E	-51.	.005	.113	.04
10/15/77	2059	11:09	410	32.03S	178.35E	-50.	.000	.109	.00
10/15/77	2104	11:14	410	32.59S	177.98E	-50.		.109	
10/15/77	2109	11:19	410	33.14S	177.60E	-50.	.010	.110	.09
10/15/77	2124	11:34	410	34.78S	176.46E	-50.	.009	.133	.07


AKL TO SYD DEPARTURE 15 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

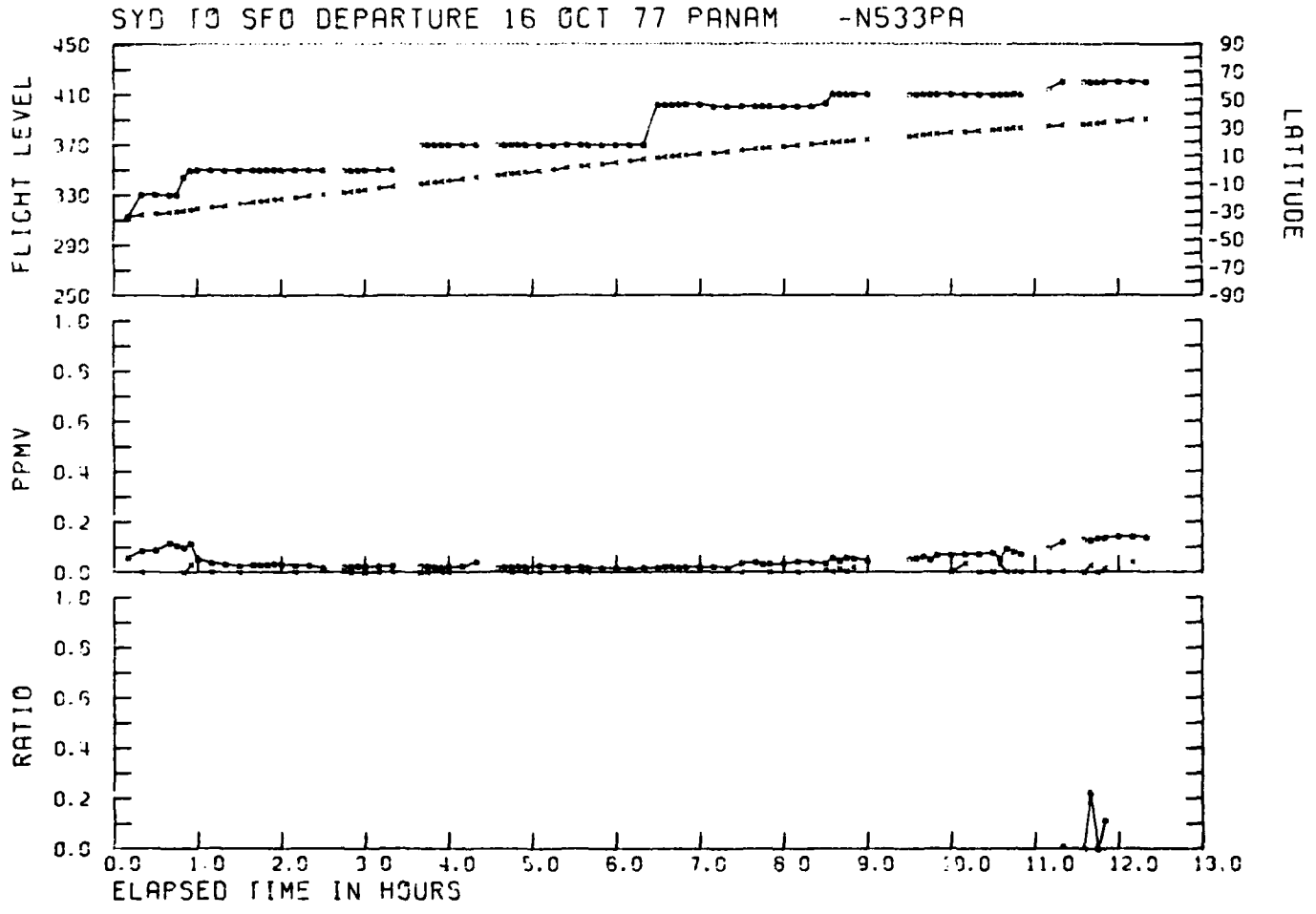
DEPARTURE: 15 OCT 77

AIRCRAFT:PANAM -N533PA

AMBIENT OZONE= .604 CABIN OZONE= .029 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .06 TOTAL OBS IN CABIN: 9

GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
10/15/77	2345	0:10	399	36.61S	173.21E	-57.		.353		10/16/77	0100	1:25	430	35.86S	162.34E	-55.		.472	
10/15/77	2355	0:20	430	36.80S	171.78E	-54.		.550		10/16/77	0110	1:35	430	35.64S	160.95E	-55.	.015	.472	.03
10/16/77	0010	0:35	430	36.65S	169.55E	-52.		.604		10/16/77	0115	1:40	430	35.53S	160.25E	-54.	.011	.469	.02
10/16/77	0020	0:45	430	36.53S	168.06E	-54.		.536		10/16/77	0120	1:45	430	35.41S	159.55E	-54.	.029	.502	.06
10/16/77	0025	0:50	430	36.46S	167.34E	-53.		.517		10/16/77	0125	1:50	430	35.29S	158.87E	-56.	.024	.485	.05
10/16/77	0030	0:55	430	36.39S	166.61E	-54.		.506		10/16/77	0130	1:55	430	35.18S	158.22E	-57.	.000	.363	.00
10/16/77	0040	1:05	430	36.23S	165.14E	-56.	.000	.484	.00	10/16/77	0140	2:05	430	34.94S	156.93E	-58.	.000	.502	.00
10/16/77	0050	1:15	430	36.05S	163.70E	-55.	.000	.475	.00	10/16/77	0150	2:15	430	34.69S	155.68E	-56.		.398	
										10/16/77	0200	2:25	430	34.43S	154.44E	-57.	.000	.371	.00

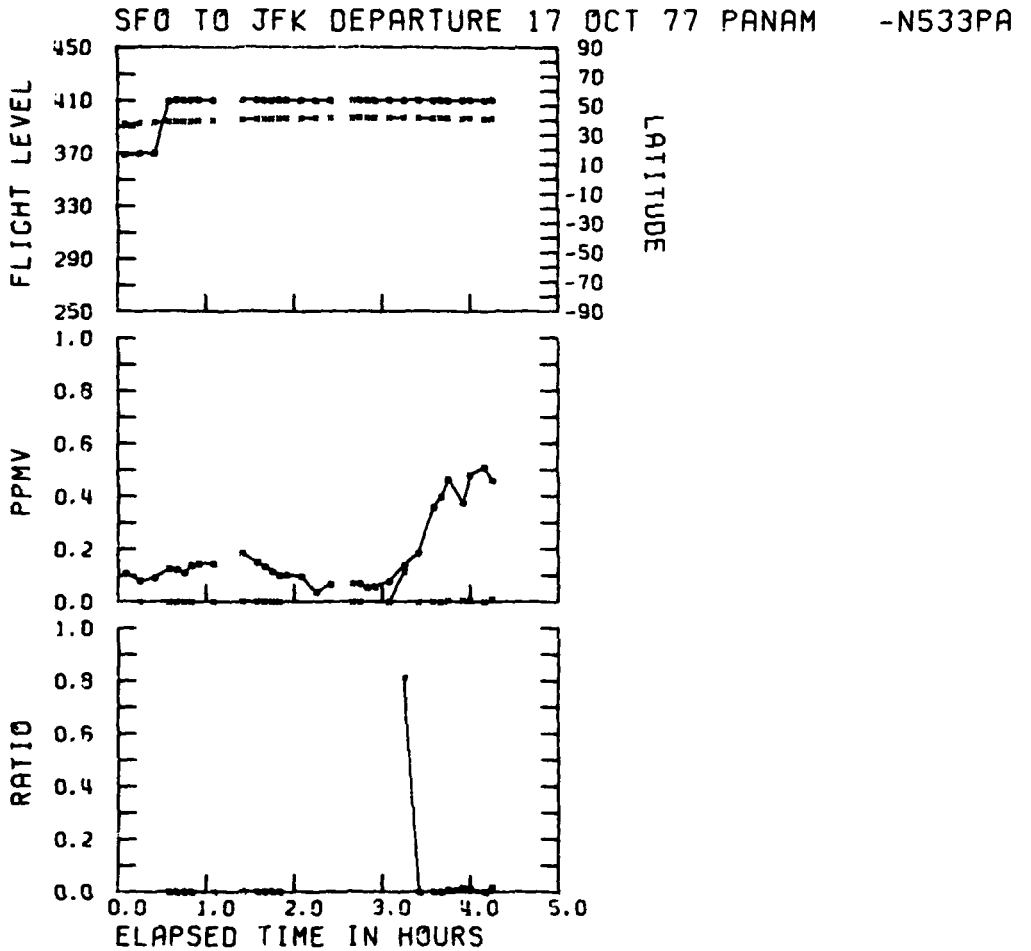

SYD TO SFO DEPARTURE 16 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0 13.0
ELAPSED TIME IN HOURS

A-464

SYD TO SFO (PAGE 1 OF 1) DEPARTURE: 16 OCT 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .141 CABIN OZONE= .040 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .29 TOTAL OBS IN CABIN: 47
DATA SOURCE: GASP TAPE VL014, FILE 1

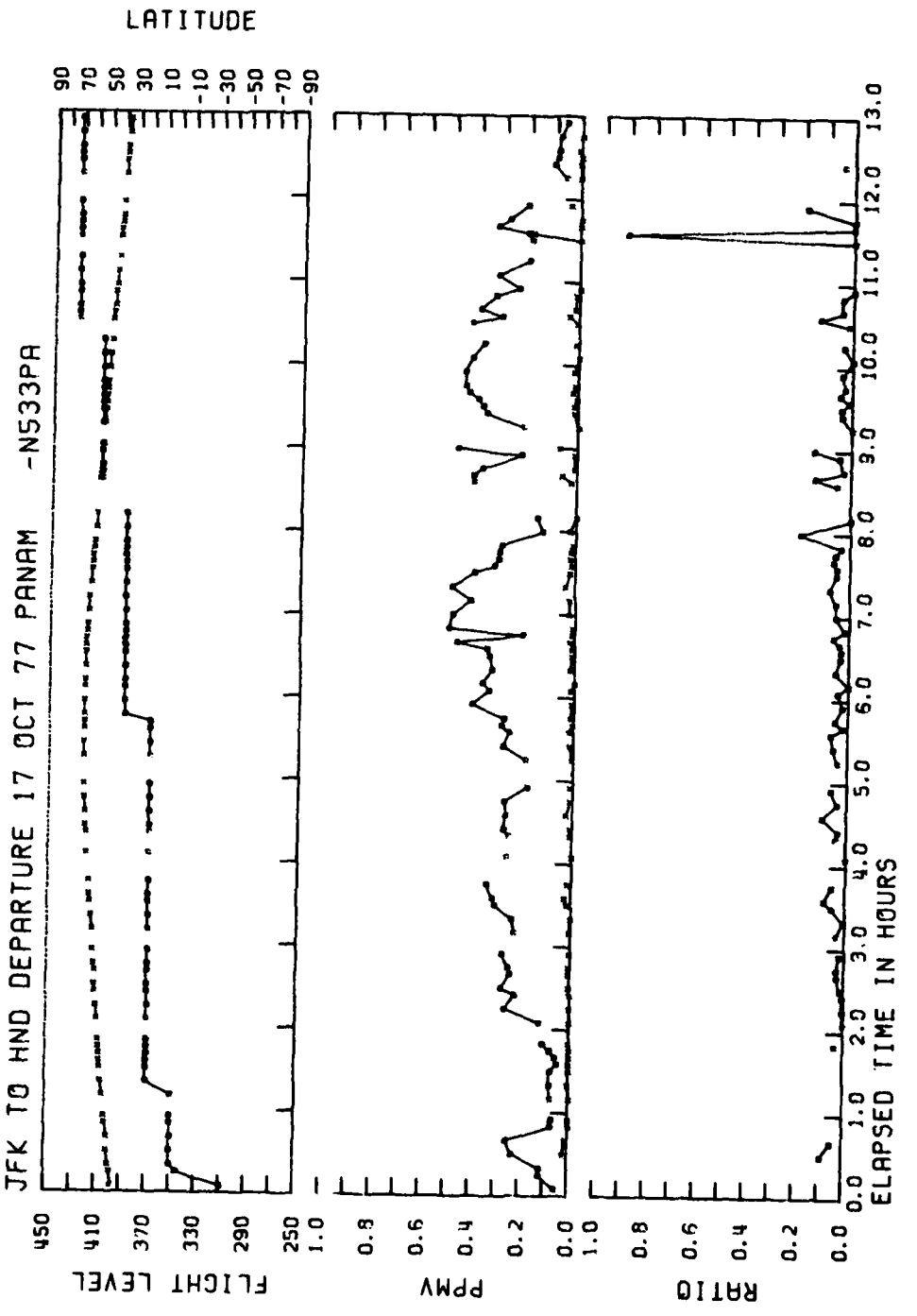
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
10/16/77	0848	0:10	311	32.93S	153.79E	-49.		.058	
10/16/77	0858	0:20	330	32.04S	155.25E	-49.	.000	.086	
10/16/77	0908	0:30	331	31.12S	156.66E	-49.		.087	
10/16/77	0918	0:40	330	30.18S	158.06E	-44.		.117	
10/16/77	0923	0:45	330	29.64S	158.70E	-42.		.106	
10/16/77	0928	0:50	344	29.08S	159.31E	-44.	.000	.098	
10/16/77	0933	0:55	350	28.49S	159.93E	-45.	.031	.114	.27
10/16/77	0938	1:00	350	27.90S	160.55E	-45.		.050	
10/16/77	0948	1:10	350	26.71S	161.76E	-44.	.000	.037	
10/16/77	0958	1:20	350	25.50S	162.96E	-44.		.033	
10/16/77	1008	1:30	350	24.31S	164.10E	-44.	.000	.026	
10/16/77	1018	1:40	350	23.09S	165.23E	-44.		.029	
10/16/77	1023	1:45	350	22.51S	165.76E	-44.		.029	
10/16/77	1028	1:50	350	21.93S	166.30E	-44.	.027	.030	
10/16/77	1033	1:55	350	21.38S	166.89E	-44.		.032	
10/16/77	1038	2:00	350	20.82S	167.47E	-44.		.032	
10/16/77	1048	2:10	350	19.73S	168.61E	-44.	.000	.026	
10/16/77	1058	2:20	350	18.63S	169.73E	-43.		.027	
10/16/77	1108	2:30	350	17.52S	170.83E	-43.	.005	.017	
10/16/77	1123	2:45	350	15.88S	172.44E	-43.	.005	.022	
10/16/77	1128	2:50	350	15.34S	172.95E	-43.	.000	.023	
10/16/77	1133	2:55	350	14.79S	173.47E	-43.		.025	
10/16/77	1138	3:00	350	14.25S	173.99E	-43.	.000	.023	
10/16/77	1148	3:10	350	13.16S	175.00E	-43.	.000	.025	
10/16/77	1158	3:20	350	12.07S	176.01E	-43.	.000	.025	
10/16/77	1218	3:40	370	9.94S	177.95E	-49.	.000	.025	
10/16/77	1223	3:45	370	9.40S	178.42E	-49.	.000	.024	
10/16/77	1228	3:50	370	8.89S	178.89E	-49.	.008	.020	
10/16/77	1233	3:55	370	8.34S	179.36E	-49.	.000	.018	
10/16/77	1238	4:00	370	7.78S	179.80E	-49.	.000	.021	
10/16/77	1248	4:10	370	6.65S	179.30W	-49.		.023	
10/16/77	1258	4:20	370	5.53S	178.42W	-49.		.040	
10/16/77	1313	4:35	370	3.86S	177.12W	-49.		.018	
10/16/77	1318	4:40	370	3.32S	176.67W	-49.		.020	
10/16/77	1323	4:45	370	2.83S	176.17W	-49.	.000	.020	
10/16/77	1328	4:50	370	2.33S	175.68W	-49.		.022	
10/16/77	1333	4:55	370	1.84S	175.19W	-49.	.000	.020	
10/16/77	1343	5:05	370	.86S	174.20W	-49.	.000	.026	
10/16/77	1353	5:15	370	.13N	173.26W	-49.		.022	
10/16/77	1403	5:25	370	1.27N	172.52W	-49.	.000	.019	
10/16/77	1413	5:35	370	2.41N	171.77W	-48.	.000	.020	
10/16/77	1418	5:40	370	2.98N	171.40W	-49.	.000	.016	
10/16/77	1428	5:50	369	4.11N	170.66W	-48.		.016	
10/16/77	1438	6:00	370	5.25N	169.91W	-48.		.015	
10/16/77	1448	6:10	370	6.39N	169.16W	-48.		.013	
10/16/77	1458	6:20	370	7.59N	168.52W	-48.		.017	
10/16/77	1508	6:30	402	8.64N	167.65W	-58.		.017	
10/16/77	1513	6:35	402	9.09N	167.13W	-58.		.022	
10/16/77	1518	6:40	402	9.52N	166.61W	-58.		.021	
10/16/77	1523	6:45	402	9.95N	166.10W	-58.		.018	
10/16/77	1528	6:50	402	10.38N	165.58W	-58.		.020	
10/16/77	1538	7:00	402	11.25N	164.53W	-58.		.019	
10/16/77	1548	7:10	400	12.11N	163.48W	-58.		.022	
10/16/77	1558	7:20	400	12.98N	162.41W	-59.		.016	
10/16/77	1608	7:30	400	13.86N	161.31W	-59.	.000	.037	
10/16/77	1618	7:40	400	14.74N	160.20W	-58.		.039	
10/16/77	1623	7:45	400	15.18N	159.63W	-57.		.031	
10/16/77	1628	7:50	400	15.61N	159.07W	-58.	.000	.033	
10/16/77	1638	8:00	400	16.48N	157.95W	-58.		.034	
10/16/77	1648	8:10	400	17.35N	156.79W	-57.	.000	.042	
10/16/77	1658	8:20	400	18.22N	155.63W	-57.		.038	
10/16/77	1708	8:30	403	19.08N	154.45W	-58.	.009	.035	
10/16/77	1713	8:35	410	19.51N	153.84W	-59.	.000	.056	
10/16/77	1718	8:40	410	19.94N	153.23W	-60.	.012	.045	
10/16/77	1723	8:45	410	20.37N	152.63W	-59.	.002	.057	
10/16/77	1728	8:50	410	20.79N	152.02W	-60.	.019	.054	
10/16/77	1738	9:00	410	21.63N	150.80W	-60.		.045	
10/16/77	1808	9:30	410	24.04N	147.12W	-59.		.052	
10/16/77	1813	9:35	410	24.43N	146.51W	-59.		.055	
10/16/77	1818	9:40	410	24.81N	145.88W	-58.		.062	
10/16/77	1823	9:45	410	25.19N	145.26W	-58.		.049	
10/16/77	1828	9:50	410	25.57N	144.63W	-58.		.068	
10/16/77	1838	10:00	410	26.32N	143.37W	-58.	.000	.068	
10/16/77	1848	10:10	410	27.05N	142.09W	-57.	.034	.071	
10/16/77	1858	10:20	410	27.77N	140.82W	-58.	.000	.071	
10/16/77	1908	10:30	410	28.46N	139.54W	-57.	.000	.077	
10/16/77	1913	10:35	410	28.81N	138.89W	-56.	.030	.053	
10/16/77	1918	10:40	410	29.15N	138.24W	-56.	.000	.093	
10/16/77	1923	10:45	410	29.49N	137.58W	-56.	.000	.080	
10/16/77	1928	10:50	410	29.81N	136.94W	-56.	.000	.072	
10/16/77	1948	11:10	414	31.12N	134.25W	-56.	.000	.094	
10/16/77	1958	11:20	420	31.74N	132.89W	-58.	.001	.120	.01
10/16/77	2013	11:35	420	32.66N	130.81W	-58.	.000	.130	.00
10/16/77	2018	11:40	420	32.96N	130.10W	-58.	.028	.126	.22
10/16/77	2023	11:45	420	33.34N	129.45W	-58.	.000	.136	.00
10/16/77	2028	11:50	420	33.75N	128.81W	-58.	.015	.135	.11
10/16/77	2038	12:00	420	34.55N	127.48W	-58.		.141	
10/16/77	2048	12:10	420	35.38N	126.08W	-56.	.040	.140	.29
10/16/77	2058	12:20	420	36.17N	124.63W	-56.		.138	


SFO TO JFK DEPARTURE 17 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

SFO TO JFK (PAGE 1 OF 1) DEPARTURE: 17 OCT 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .510 CABIN OZONE= .113 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .81 TOTAL OBS IN CABIN: 23
DATA SOURCE: GASP TAPE VL014, FILE 1

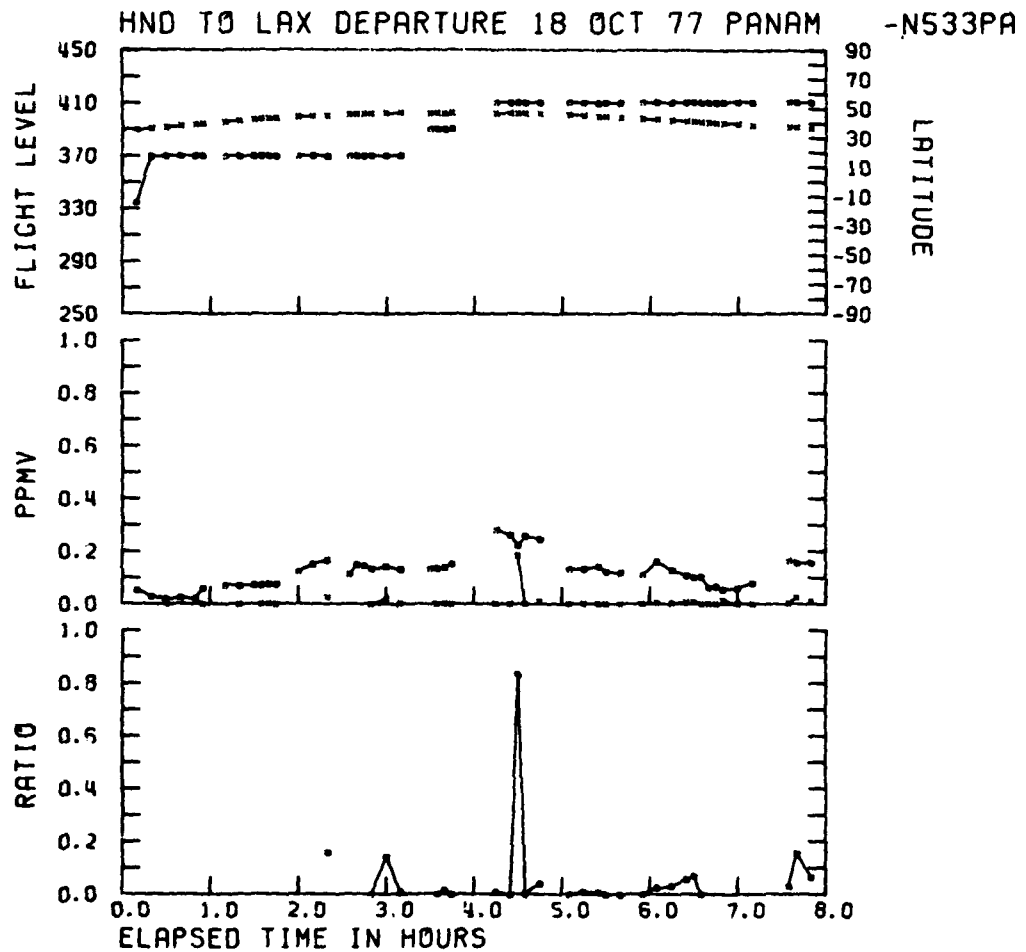
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
10/17/77	0136	0:09	369	38.25N	120.06W	-54.		.107	
10/17/77	0146	0:19	370	38.65N	118.36W	-54.	.000	.079	
10/17/77	0156	0:29	370	39.06N	116.72W	-51.		.091	
10/17/77	0206	0:39	410	39.44N	115.10W	-57.	.000	.126	.00
10/17/77	0211	0:44	410	39.63N	114.27W	-58.	.000	.122	.00
10/17/77	0216	0:49	410	39.80N	113.44W	-59.	.000	.109	.00
10/17/77	0221	0:54	410	39.97N	112.61W	-61.	.000	.138	.00
10/17/77	0226	0:59	410	40.14N	111.77W	-60.		.145	
10/17/77	0236	1:09	410	40.45N	110.10W	-61.	.000	.143	.00
10/17/77	0256	1:29	410	41.01N	106.63W	-58.	.000	.182	.00
10/17/77	0306	1:39	410	41.26N	104.78W	-60.	.000	.148	.00
10/17/77	0311	1:44	410	41.37N	103.86W	-62.	.000	.131	.00
10/17/77	0316	1:49	410	41.48N	102.93W	-60.	.000	.113	.00
10/17/77	0321	1:54	410	41.57N	102.01W	-62.	.000	.100	
10/17/77	0326	1:59	410	41.66N	101.10W	-60.		.100	
10/17/77	0336	2:09	410	41.82N	99.27W	-59.		.096	
10/17/77	0346	2:19	410	41.95N	97.39W	-58.		.037	
10/17/77	0356	2:29	410	42.05N	95.54W	-60.		.067	
10/17/77	0411	2:44	410	42.14N	92.75W	-59.	.000	.070	
10/17/77	0416	2:49	410	42.16N	91.81W	-58.	.000	.069	
10/17/77	0421	2:54	410	42.16N	90.88W	-57.		.053	
10/17/77	0426	2:59	410	42.17N	89.95W	-58.		.056	
10/17/77	0436	3:09	410	42.14N	88.16W	-58.	.000	.078	
10/17/77	0446	3:19	410	42.10N	86.40W	-57.	.113	.139	.81
10/17/77	0456	3:29	410	42.02N	84.58W	-54.	.000	.184	.00
10/17/77	0506	3:39	410	41.92N	82.80W	-52.	.000	.358	.00
10/17/77	0511	3:44	410	41.85N	81.90W	-51.	.000	.398	.00
10/17/77	0516	3:49	410	41.78N	81.00W	-48.	.004	.463	.01
10/17/77	0522	3:55	410	41.70N	80.08W	-48.	.006	.375	.02
10/17/77	0527	4:00	410	41.62N	79.16W	-47.	.006	.481	.01
10/17/77	0537	4:10	410	41.42N	77.35W	-46.	.000	.510	.00
10/17/77	0546	4:19	410	41.21N	75.61W	-47.	.009	.460	.02


LATITUDE
JFK TO HND DEPARTURE 17 OCT 77 PANAM -N533PA
FLIGHT LEVEL
PPMV
RATIO
ELAPSED TIME IN HOURS

JFK TO HND (PAGE 1 OF 1) DEPARTURE: 17 OCT 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .506 CABIN OZONE= .189 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .91 TOTAL OBS IN CABIN: 82
DATA SOURCE: GASP TAPE VL014, FILE 1

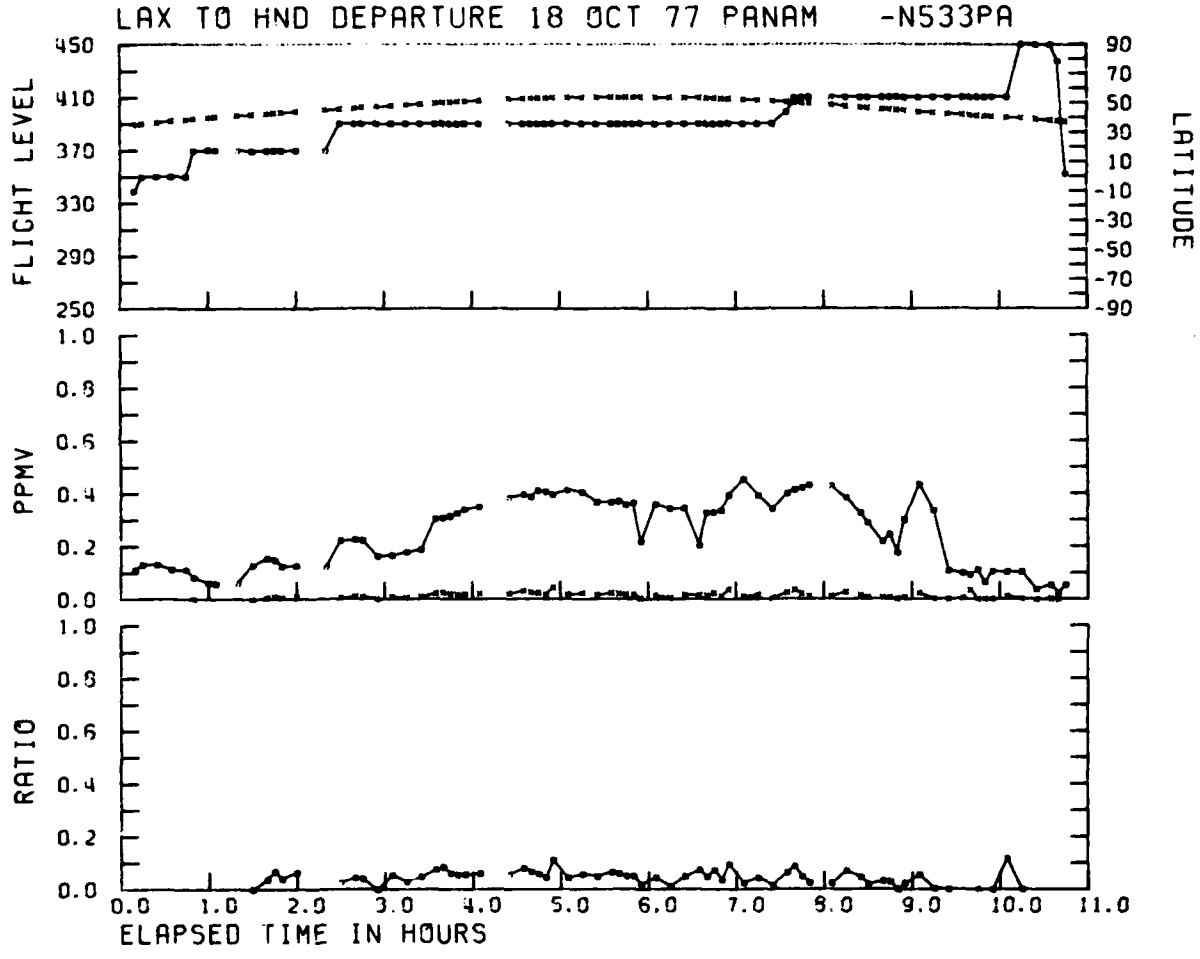
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
10/17/77	1749	0:05	309	41.97N	75.21W	-48.		.053	
10/17/77	1759	0:15	345	43.15N	75.75W	-55.		.115	
10/17/77	1808	0:24	350	44.22N	76.62W	-57.		.114	
10/17/77	1818	0:34	350	45.27N	77.69W	-51.	.020	.226	.09
10/17/77	1824	0:40	350	45.78N	78.23W	-50.	.012	.249	.05
10/17/77	1834	0:50	350	46.81N	79.35W	-49.	.000	.072	
10/17/77	1839	0:55	350	47.33N	79.93W	-49.	.000	.067	
10/17/77	1858	1:14	350	49.39N	82.42W	-48.	.000	.076	
10/17/77	1908	1:24	369	50.25N	84.00W	-50.	.006	.079	
10/17/77	1918	1:34	370	51.09N	85.69W	-49.	.000	.074	
10/17/77	1923	1:39	370	51.51N	86.56W	-48.	.000	.048	
10/17/77	1928	1:44	370	51.92N	87.46W	-48.	.000	.057	
10/17/77	1933	1:49	370	52.32N	88.37W	-48.	.000	.080	
10/17/77	1938	1:54	370	52.73N	89.30W	-47.	.004	.108	.04
10/17/77	1953	2:09	370	53.88N	92.19W	-47.	.000	.120	.00
10/17/77	2003	2:19	369	54.60N	94.18W	-48.	.002	.264	.01
10/17/77	2013	2:29	370	55.28N	96.16W	-49.	.002	.223	.01
10/17/77	2018	2:34	370	55.60N	97.17W	-48.	.004	.276	.01
10/17/77	2024	2:40	370	55.94N	98.19W	-49.	.007	.241	.03
10/17/77	2033	2:49	370	56.58N	100.15W	-48.	.008	.252	.03
10/17/77	2043	2:59	369	57.25N	102.03W	-49.	.006	.276	.02
10/17/77	2054	3:10	370	57.94N	103.82W	-52.	.008	.229	.03
10/17/77	2108	3:24	370	58.94N	106.65W	-49.	.002	.240	.01
10/17/77	2118	3:34	370	59.59N	108.59W	-48.	.017	.306	.06
10/17/77	2123	3:39	370	60.04N	109.40W	-48.	.027	.316	.09
10/17/77	2133	3:49	370	60.93N	111.10W	-46.	.019	.342	.06
10/17/77	2153	4:09	370	62.67N	115.14W	-48.	.000	.262	.00
10/17/77	2204	4:20	370	63.35N	117.63W	-47.	.011	.256	.04
10/17/77	2213	4:29	370	63.97N	120.17W	-46.	.010	.277	.04
10/17/77	2219	4:35	370	64.27N	121.52W	-49.	.026	.268	.10
10/17/77	2229	4:45	370	64.83N	124.28W	-49.	.011	.275	.04
10/17/77	2243	4:59	370	65.33N	128.62W	-51.	.012	.184	.07
10/17/77	2303	5:19	370	65.41N	134.86W	-52.	.008	.193	.04
10/17/77	2313	5:29	370	65.36N	137.96W	-52.	.017	.283	.06
10/17/77	2319	5:35	370	65.31N	139.50W	-53.	.018	.258	.07
10/17/77	2328	5:44	370	65.18N	142.57W	-55.	.006	.291	.02
10/17/77	2333	5:49	390	65.09N	144.11W	-52.	.015	.281	.05
10/17/77	2343	5:59	390	64.87N	147.16W	-49.	.010	.409	.02
10/17/77	2353	6:09	390	64.74N	149.88W	-48.	.015	.342	.04
10/17/77	2358	6:14	390	64.67N	151.41W	-46.	.000	.369	.00
10/18/77	0008	6:24	390	64.48N	154.51W	-47.	.018	.332	.05
10/18/77	0018	6:34	390	64.22N	157.61W	-46.	.012	.343	.03
10/18/77	0023	6:39	390	64.07N	159.11W	-45.	.012	.353	.03
10/18/77	0028	6:44	390	63.90N	160.58W	-45.	.019	.472	.04
10/18/77	0033	6:49	390	63.62N	161.91W	-44.	.013	.210	.06
10/18/77	0038	6:54	390	63.30N	163.20W	-44.	.010	.506	.02
10/18/77	0048	7:04	390	62.63N	165.78W	-44.	.027	.490	.06
10/18/77	0058	7:14	390	61.92N	168.23W	-46.	.024	.418	.06
10/18/77	0108	7:24	390	61.18N	170.52W	-47.	.039	.492	.08
10/18/77	0118	7:34	390	60.44N	172.75W	-49.	.023	.405	.06
10/18/77	0123	7:39	390	60.05N	173.81W	-51.	.018	.326	.06
10/18/77	0128	7:44	390	59.67N	174.83W	-52.	.021	.309	.07
10/18/77	0133	7:49	390	59.28N	175.82W	-52.	.018	.304	.06
10/18/77	0138	7:54	390	58.88N	176.80W	-54.	.011	.298	.04
10/18/77	0148	8:04	390	58.06N	178.69W	-55.	.027	.135	.20
10/18/77	0158	8:14	390	57.29N	179.43E	-53.	.000	.157	.00
10/18/77	0219	8:35	410	56.03N	175.37E	-50.	.024	.413	.06
10/18/77	0228	8:44	411	55.36N	173.48E	-49.	.061	.416	.15
10/18/77	0233	8:49	410	55.01N	172.53E	-49.	.012	.381	.03
10/18/77	0239	8:55	411	54.64N	171.58E	-48.	.011	.224	.05
10/18/77	0248	9:04	411	53.94N	169.81E	-48.	.072	.478	.15
10/18/77	0303	9:19	411	52.99N	167.08E	-50.	.000	.220	.00
10/18/77	0313	9:29	410	52.32N	165.31E	-49.	.015	.366	.04
10/18/77	0318	9:34	411	51.97N	164.44E	-49.	.017	.382	.04
10/18/77	0323	9:39	411	51.62N	163.59E	-48.	.006	.401	.01
10/18/77	0328	9:44	410	51.27N	162.77E	-46.	.022	.438	.05
10/18/77	0333	9:49	411	50.92N	161.98E	-47.	.014	.452	.03
10/18/77	0343	9:59	410	50.22N	160.47E	-46.	.019	.454	.04
10/18/77	0353	10:09	411	49.51N	159.03E	-49.	.000	.426	.00
10/18/77	0403	10:19	411	48.79N	157.66E	-51.	.014	.382	.04
10/18/77	0414	10:30	430	48.03N	156.28E	-51.	.009	.429	.02
10/18/77	0423	10:39	431	47.29N	155.02E	-52.	.041	.310	.13
10/18/77	0429	10:44	431	46.90N	154.38E	-50.	.018	.395	.05
10/18/77	0434	10:50	430	46.51N	153.74E	-51.	.015	.337	.04
10/18/77	0443	10:59	430	45.75N	152.56E	-54.	.000	.243	.00
10/18/77	0453	11:09	431	44.99N	151.41E	-54.		.326	
10/18/77	0503	11:19	430	44.22N	150.31E	-55.		.205	
10/18/77	0518	11:34	430	43.24N	148.65E	-54.	.000	.194	.00
10/18/77	0523	11:39	430	42.92N	148.09E	-56.	.189	.208	.91
10/18/77	0528	11:44	431	42.59N	147.54E	-56.	.001	.329	.00
10/18/77	0533	11:49	431	42.27N	147.01E	-56.	.000	.287	.00
10/18/77	0543	11:59	431	41.65N	146.00E	-58.	.041	.213	.19
10/18/77	0603	12:19	430	40.40N	144.07E	-58.	.005	.063	
10/18/77	0613	12:29	430	39.76N	143.13E	-58.	.005	.110	.05
10/18/77	0618	12:34	431	39.44N	142.67E	-58.	.001	.096	
10/18/77	0623	12:39	430	39.13N	142.22E	-58.	.009	.091	
10/18/77	0633	12:49	431	38.39N	141.44E	-58.	.000	.086	
10/18/77	0643	12:59	430	37.50N	140.98E	-59.		.062	


HND TO LAX DEPARTURE 18 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
ELAPSED TIME IN HOURS

HND TO LAX (PAGE 1 OF 1) DEPARTURE: 18 OCT 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .281 CABIN OZONE= .184 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .83 TOTAL OBS IN CABIN: 37
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
10/18/77	1011	0:10	334	35.84N	143.04E	-38.		.053	
10/18/77	1021	0:20	370	36.76N	144.87E	-48.		.028	
10/18/77	1031	0:30	370	37.65N	146.77E	-48.	.000	.020	
10/18/77	1041	0:40	370	38.52N	148.72E	-48.		.024	
10/18/77	1051	0:50	370	39.43N	150.78E	-48.		.020	
10/18/77	1056	0:55	370	39.89N	151.80E	-49.	.000	.060	
10/18/77	1111	1:10	370	41.22N	154.92E	-49.		.071	
10/18/77	1121	1:20	370	42.05N	157.04E	-49.	.000	.070	
10/18/77	1131	1:30	370	42.85N	159.28E	-49.		.072	
10/18/77	1136	1:35	370	43.22N	160.45E	-49.	.000	.072	
10/18/77	1141	1:40	370	43.52N	161.69E	-49.	.000	.075	
10/18/77	1146	1:45	370	43.80N	162.88E	-50.	.000	.075	
10/18/77	1201	2:00	370	44.56N	166.56E	-51.		.123	
10/18/77	1211	2:10	370	44.98N	168.99E	-51.		.151	
10/18/77	1221	2:20	370	45.49N	171.44E	-52.	.026	.166	.16
10/18/77	1236	2:35	370	46.25N	175.05E	-54.		.112	
10/18/77	1241	2:40	370	46.46N	176.28E	-54.		.150	
10/18/77	1246	2:45	370	46.65N	177.50E	-55.		.145	
10/18/77	1251	2:50	370	46.83N	178.74E	-56.	.000	.134	.00
10/18/77	1301	3:00	370	47.05N	178.78W	-57.	.020	.142	.14
10/18/77	1311	3:10	370	47.10N	176.19W	-57.	.001	.130	.01
10/18/77	1331	3:30	390	47.05N	171.38W	-57.		.133	
10/18/77	1336	3:35	390	47.01N	170.20W	-56.	.000	.134	.00
10/18/77	1341	3:40	390	47.04N	169.05W	-56.	.002	.140	.01
10/18/77	1346	3:45	390	47.07N	167.91W	-56.	.000	.151	.00
10/18/77	1416	4:15	410	47.04N	161.12W	-56.	.002	.281	.01
10/18/77	1426	4:25	410	46.93N	158.88W	-56.	.000	.261	.00
10/18/77	1431	4:30	410	46.86N	157.78W	-55.	.184	.221	.83
10/18/77	1436	4:35	410	46.77N	156.66W	-56.	.000	.258	.00
10/18/77	1446	4:45	410	46.55N	154.44W	-55.	.010	.245	.04
10/18/77	1506	5:05	410	46.01N	150.09W	-55.	.000	.131	.00
10/18/77	1516	5:15	410	45.50N	148.02W	-55.	.001	.132	.01
10/18/77	1526	5:25	410	44.94N	146.00W	-56.	.001	.143	.01
10/18/77	1531	5:30	410	44.66N	145.04W	-55.	.000	.122	.00
10/18/77	1541	5:40	410	44.07N	143.13W	-56.	.000	.119	.00
10/18/77	1556	5:55	410	43.15N	140.39W	-57.	.000	.110	.00
10/18/77	1606	6:05	410	42.66N	138.47W	-57.	.004	.160	.03
10/18/77	1616	6:15	410	42.14N	136.59W	-58.	.004	.127	.03
10/18/77	1626	6:25	410	41.60N	134.75W	-58.	.006	.107	.06
10/18/77	1631	6:30	411	41.32N	133.87W	-59.	.007	.101	.07
10/18/77	1636	6:35	410	41.03N	132.98W	-59.	.000	.104	.00
10/18/77	1641	6:40	410	40.73N	132.08W	-60.	.000	.062	
10/18/77	1646	6:45	410	40.43N	131.21W	-59.	.000	.067	
10/18/77	1651	6:50	410	40.12N	130.33W	-59.	.014	.055	
10/18/77	1701	7:00	410	39.49N	128.68W	-58.	.000	.059	
10/18/77	1711	7:10	410	38.76N	127.09W	-59.	.001	.080	
10/18/77	1736	7:35	410	37.40N	123.16W	-54.	.005	.165	.03
10/18/77	1741	7:40	410	37.22N	122.34W	-55.	.024	.156	.15
10/18/77	1751	7:50	410	36.48N	120.91W	-54.	.010	.156	.06


LAX TO HND DEPARTURE 18 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
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250
LATITUDE
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-10
-30
-50
-70
-90
PPMV
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0.2
0.0
RATIO
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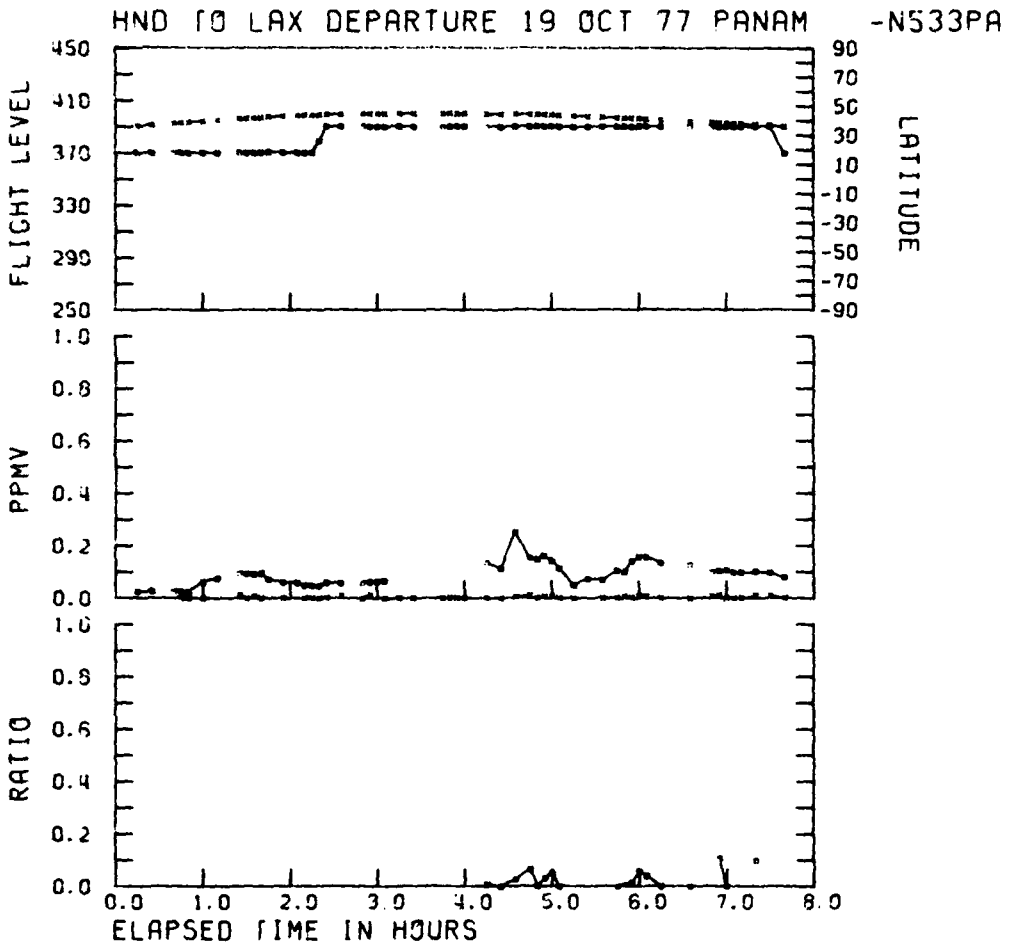
10.0
11.0
ELAPSED TIME IN HOURS

LAX TO HND (PAGE 1 OF 1) DEPARTURE: 18 OCT 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .454 CABIN OZONE= .044 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .12 TOTAL OBS IN CABIN: 69
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
10/18/77	2105	0:10	339	35.58N	120.37W	-51.		.112	
10/18/77	2110	0:15	350	36.17N	120.85W	-52.		.131	
10/18/77	2120	0:25	350	37.19N	122.10W	-53.		.132	
10/18/77	2130	0:35	350	38.17N	123.40W	-51.		.113	
10/18/77	2140	0:45	350	39.10N	124.69W	-51.		.112	
10/18/77	2146	0:51	370	39.55N	125.33W	-56.	.000	.083	
10/18/77	2155	1:00	370	40.40N	126.59W	-54.		.062	
10/18/77	2200	1:05	370	40.79N	127.28W	-54.		.058	
10/18/77	2215	1:20	370	41.76N	129.45W	-57.		.062	
10/18/77	2225	1:30	369	42.42N	130.90W	-56.	.000	.128	.00
10/18/77	2235	1:40	370	43.09N	132.40W	-55.	.006	.155	.04
10/18/77	2240	1:45	370	43.41N	133.15W	-55.	.010	.149	.07
10/18/77	2246	1:51	370	43.75N	133.94W	-55.	.005	.124	.04
10/18/77	2255	2:00	370	44.36N	135.47W	-54.	.008	.126	.06
10/18/77	2315	2:20	370	45.53N	138.63W	-54.		.122	
10/18/77	2325	2:30	390	46.11N	140.23W	-55.	.006	.222	.03
10/18/77	2335	2:40	390	46.81N	141.75W	-55.	.010	.226	.04
10/18/77	2340	2:45	390	47.14N	142.50W	-56.	.009	.222	.04
10/18/77	2350	2:55	390	47.80N	144.04W	-56.	.000	.163	.00
10/19/77	0000	3:05	390	48.44N	145.64W	-56.	.009	.166	.05
10/19/77	0010	3:15	390	49.06N	147.28W	-56.	.005	.178	.03
10/19/77	0020	3:25	390	49.64N	148.94W	-56.	.009	.188	.05
10/19/77	0030	3:35	390	50.22N	150.62W	-56.	.023	.305	.08
10/19/77	0035	3:40	390	50.52N	151.46W	-56.	.026	.308	.08
10/19/77	0040	3:45	390	50.81N	152.32W	-55.	.019	.315	.06
10/19/77	0045	3:50	390	51.09N	153.19W	-55.	.018	.326	.06
10/19/77	0050	3:55	390	51.37N	154.08W	-54.	.019	.340	.06
10/19/77	0100	4:05	390	51.91N	155.85W	-53.	.021	.350	.06
10/19/77	0120	4:25	390	52.91N	159.64W	-50.	.022	.386	.06
10/19/77	0130	4:35	390	53.24N	161.73W	-49.	.032	.397	.08
10/19/77	0135	4:40	390	53.37N	162.80W	-49.	.026	.389	.07
10/19/77	0140	4:45	390	53.49N	163.88W	-49.	.024	.412	.06
10/19/77	0145	4:50	390	53.61N	164.96W	-48.	.018	.407	.04
10/19/77	0150	4:55	390	53.71N	166.05W	-49.	.044	.396	.11
10/19/77	0200	5:05	390	53.89N	168.27W	-49.	.018	.413	.04
10/19/77	0210	5:15	390	54.00N	169.96W	-48.	.023	.405	.06
10/19/77	0220	5:25	390	54.08N	172.74W	-49.	.018	.367	.05
10/19/77	0230	5:35	390	54.10N	174.91W	-48.	.024	.367	.07
10/19/77	0235	5:40	390	54.10N	176.00W	-49.	.022	.371	.06
10/19/77	0240	5:45	390	54.08N	177.10W	-48.	.018	.357	.05
10/19/77	0245	5:50	390	54.06N	178.20W	-47.	.018	.363	.05
10/19/77	0250	5:55	390	54.03N	179.28W	-47.	.004	.218	.02
10/19/77	0300	6:05	390	53.98N	178.62E	-47.	.016	.359	.04
10/19/77	0310	6:15	390	53.92N	176.51E	-47.	.004	.343	.01
10/19/77	0320	6:25	390	53.82N	174.41E	-46.	.017	.345	.05
10/19/77	0330	6:35	390	53.69N	172.31E	-48.	.015	.203	.07
10/19/77	0335	6:40	390	53.61N	171.27E	-48.	.016	.328	.05
10/19/77	0340	6:45	390	53.53N	170.22E	-48.	.024	.330	.07
10/19/77	0345	6:50	390	53.28N	169.25E	-48.	.012	.336	.04
10/19/77	0350	6:55	390	52.99N	168.28E	-49.	.037	.393	.09
10/19/77	0400	7:05	390	52.44N	166.52E	-48.	.011	.454	.02
10/19/77	0410	7:15	390	51.85N	164.80E	-48.	.017	.392	.04
10/19/77	0420	7:25	390	51.28N	163.21E	-49.	.006	.342	.02
10/19/77	0430	7:35	399	50.67N	161.63E	-48.	.026	.401	.06
10/19/77	0435	7:40	410	50.36N	160.86E	-48.	.036	.414	.09
10/19/77	0440	7:45	410	50.11N	160.26E	-48.	.020	.421	.05
10/19/77	0445	7:50	410	49.68N	159.36E	-48.	.011	.431	.03
10/19/77	0500	8:05	410	48.57N	157.26E	-47.	.010	.428	.02
10/19/77	0510	8:15	410	47.80N	155.89E	-47.	.027	.384	.07
10/19/77	0520	8:25	410	47.01N	154.56E	-46.	.015	.326	.05
10/19/77	0525	8:30	410	46.62N	153.93E	-46.	.006	.289	.02
10/19/77	0535	8:40	410	45.85N	152.72E	-46.	.007	.218	.03
10/19/77	0540	8:45	410	45.47N	152.13E	-46.	.007	.245	.03
10/19/77	0545	8:50	410	45.07N	151.53E	-48.	.000	.174	.00
10/19/77	0550	8:55	410	44.69N	150.98E	-47.	.007	.300	.02
10/19/77	0600	9:05	410	43.90N	149.81E	-48.	.024	.435	.06
10/19/77	0610	9:15	410	43.23N	148.62E	-48.	.001	.335	.00
10/19/77	0620	9:25	410	42.57N	147.51E	-51.	.000	.107	.00
10/19/77	0630	9:35	410	41.95N	146.47E	-52.	.004	.098	
10/19/77	0635	9:40	410	41.64N	145.99E	-52.	.036	.093	
10/19/77	0640	9:45	410	41.34N	145.51E	-52.	.000	.112	.00
10/19/77	0645	9:50	410	41.04N	145.04E	-52.	.000	.063	
10/19/77	0650	9:55	410	40.73N	144.56E	-53.	.000	.104	.00
10/19/77	0700	10:05	410	40.13N	143.66E	-54.	.012	.103	.12
10/19/77	0710	10:15	450	39.50N	142.75E	-62.	.000	.103	.00
10/19/77	0720	10:25	450	38.85N	141.84E	-63.	.000	.037	
10/19/77	0730	10:35	450	38.15N	141.05E	-64.	.000	.054	
10/19/77	0735	10:40	437	37.68N	140.80E	-61.	.000	.023	
10/19/77	0740	10:45	352	37.25N	140.53E	-42.		.054	


HND TO LAX DEPARTURE 19 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
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LATITUDE
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PPMV
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0.4
0.2
0.0
RATIO
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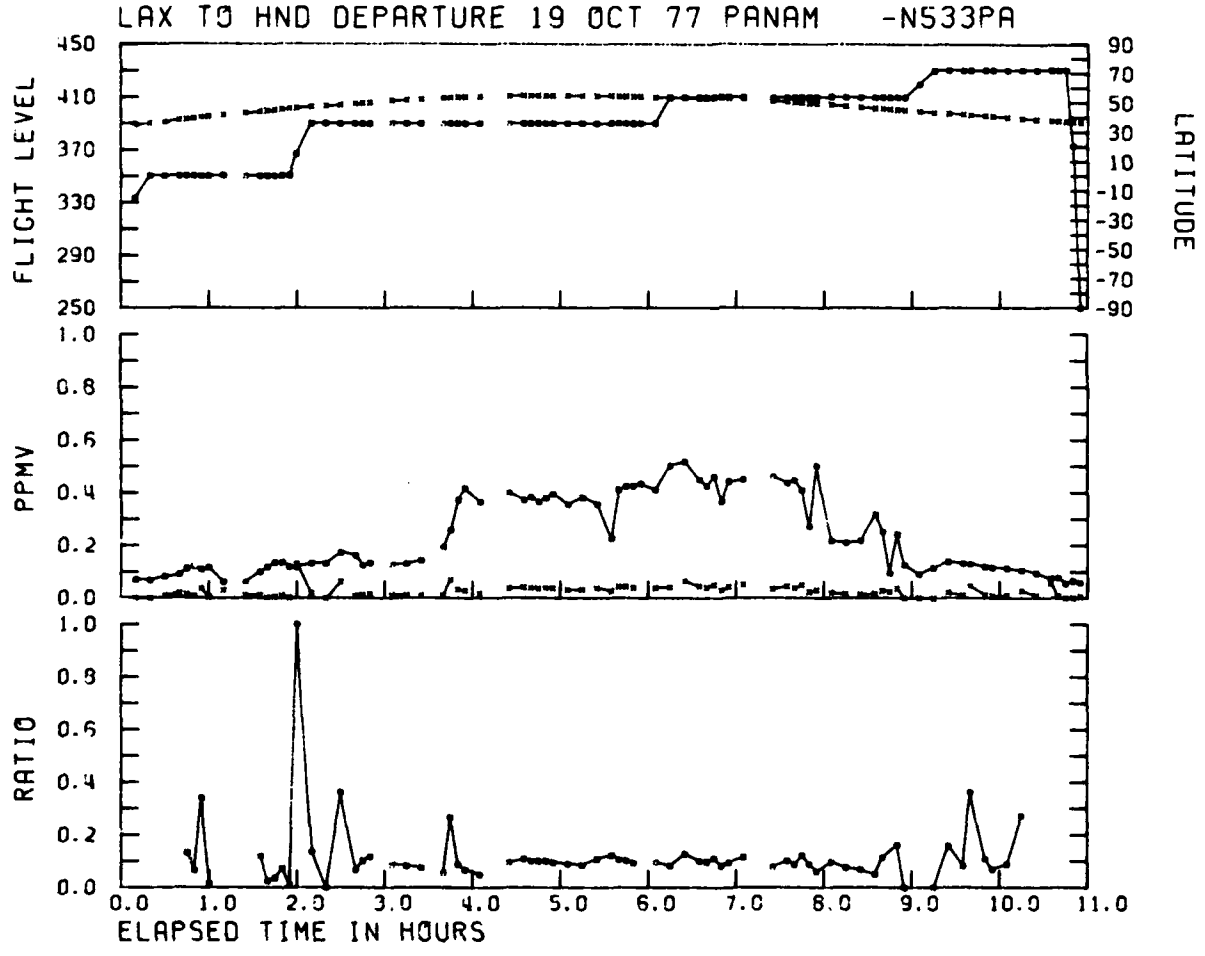
8.0
ELAPSED TIME IN HOURS

HND TO LAX (PAGE 1 OF 1) DEPARTURE: 19 OCT 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .252 CABIN OZONE= .014 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .11 TOTAL OBS IN CABIN: 47
DATA SOURCE: GASP TAPE VL014, FILE 1 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
10/19/77	1011	0:15	370	36.48N	143.56E	-48.		.025	
10/19/77	1021	0:25	370	37.30N	145.50E	-49.		.026	
10/19/77	1036	0:40	370	38.47N	148.54E	-49.		.027	
10/19/77	1041	0:45	370	38.85N	149.58E	-49.	.000	.025	
10/19/77	1046	0:50	370	39.22N	150.63E	-50.	.000	.024	
10/19/77	1056	1:00	370	39.95N	152.77E	-49.	.000	.062	
10/19/77	1106	1:10	370	40.63N	154.98E	-49.		.076	
10/19/77	1121	1:25	370	41.60N	158.41E	-48.	.014	.096	
10/19/77	1126	1:30	370	41.89N	159.58E	-48.	.000	.094	
10/19/77	1131	1:35	370	42.19N	160.76E	-47.	.008	.092	
10/19/77	1136	1:40	371	42.47N	161.95E	-49.	.000	.095	
10/19/77	1141	1:45	371	42.74N	163.15E	-50.		.072	
10/19/77	1151	1:55	370	43.24N	165.59E	-53.	.000	.059	
10/19/77	1204A	2:08	370	43.83N	168.93E	-54.		.058	
10/19/77	1209A	2:13	370	44.01N	170.09E	-55.	.002	.049	
10/19/77	1214A	2:18	370	44.19N	171.40E	-55.	.000	.048	
10/19/77	1219A	2:23	379	44.34N	172.58E	-58.	.001	.047	
10/19/77	1224	2:28	390	44.49N	173.80E	-60.	.000	.058	
10/19/77	1234	2:38	390	44.73N	176.27E	-60.	.010	.057	
10/19/77	1249	2:53	391	45.00N	179.97W	-61.	.000	.060	
10/19/77	1254	2:58	390	45.05N	178.74W	-61.	.012	.062	
10/19/77	1259	3:03	390	45.08N	177.48W	-60.		.064	
10/19/77	1304	3:08	390	45.10N	176.22W	-60.	.000	.066	
10/19/77	1314	3:18	390	45.10N	173.75W	-59.	.000		
10/19/77	1324	3:28	390	45.05N	171.36W	-57.	.000		
10/19/77	1344	3:48	390	45.10N	166.70W	-54.	.000		
10/19/77	1349	3:53	390	45.11N	165.61W	-55.	.000		
10/19/77	1354	3:58	390	45.11N	164.51W	-54.	.000		
10/19/77	1359	4:03	390	45.10N	163.37W	-54.	.000		
10/19/77	1414	4:18	390	45.00N	160.04W	-56.	.001	.136	.01
10/19/77	1424	4:28	390	44.86N	157.82W	-54.	.000	.114	.00
10/19/77	1434	4:38	390	44.68N	155.65W	-55.	.007	.252	.03
10/19/77	1444	4:48	390	44.45N	153.48W	-59.	.010	.154	.06
10/19/77	1449	4:53	390	44.33N	152.43W	-61.	.000	.147	.00
10/19/77	1454	4:58	390	44.19N	151.34W	-62.	.005	.161	.03
10/19/77	1459	5:03	390	44.04N	150.26W	-64.	.007	.141	.05
10/19/77	1504	5:08	390	43.87N	149.14W	-65.	.000	.114	.00
10/19/77	1514	5:18	390	43.50N	146.98W	-65.	.000	.050	
10/19/77	1524	5:28	390	43.08N	144.80W	-65.		.074	
10/19/77	1534	5:38	390	42.66N	142.80W	-65.	.000	.069	
10/19/77	1544	5:48	390	42.19N	140.78W	-65.	.000	.105	.00
10/19/77	1549	5:53	390	41.96N	139.83W	-64.	.006	.099	
10/19/77	1554	5:58	390	41.71N	138.85W	-60.	.002	.140	.01
10/19/77	1559	6:03	390	41.46N	137.88W	-61.	.009	.156	.06
10/19/77	1604	6:08	390	41.20N	136.94W	-58.	.006	.155	.04
10/19/77	1614	6:18	390	40.68N	135.14W	-59.	.000	.134	.00
10/19/77	1634	6:38	390	39.56N	131.61W	-62.	.000	.127	.00
10/19/77	1649	6:53	390	38.76N	128.98W	-57.	.007	.098	
10/19/77	1654	6:58	390	38.54N	128.07W	-57.	.011	.104	.11
10/19/77	1659	7:03	390	38.31N	127.17W	-55.	.000	.106	.00
10/19/77	1704	7:08	390	38.08N	126.28W	-54.	.000	.098	
10/19/77	1709	7:13	390	37.89N	125.40W	-54.	.000	.097	
10/19/77	1719	7:23	390	37.50N	123.56W	-54.	.010	.101	.10
10/19/77	1729	7:33	390	36.87N	121.94W	-53.	.009	.096	
10/19/77	1739	7:43	370	35.99N	120.52W	-48.	.000	.079	

A-175


LAX TO HND DEPARTURE 19 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
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LATITUDE
90
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-10
-30
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-70
-90
PPMV
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RATIO
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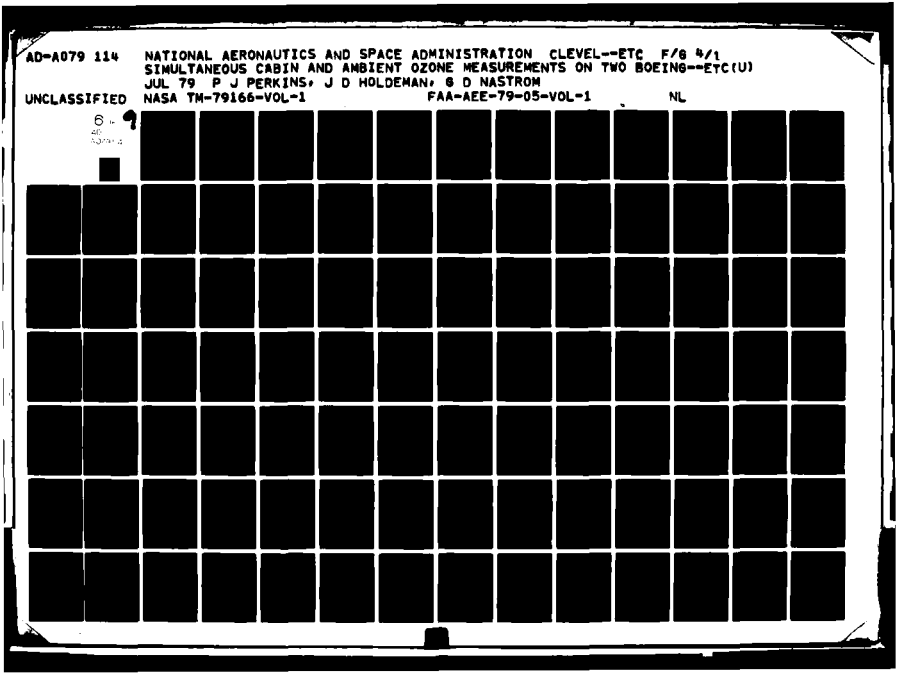
ELAPSED TIME IN HOURS

AD-A079 114 NATIONAL AERONAUTICS AND SPACE ADMINISTRATION CLEVEL--ETC F/G 4/1
SIMULTANEOUS CABIN AND AMBIENT OZONE MEASUREMENTS ON TWO BOEING--ETC(U)
JUL 79 P J PERKINS, J D HOLDEMAN, G D NASTROM

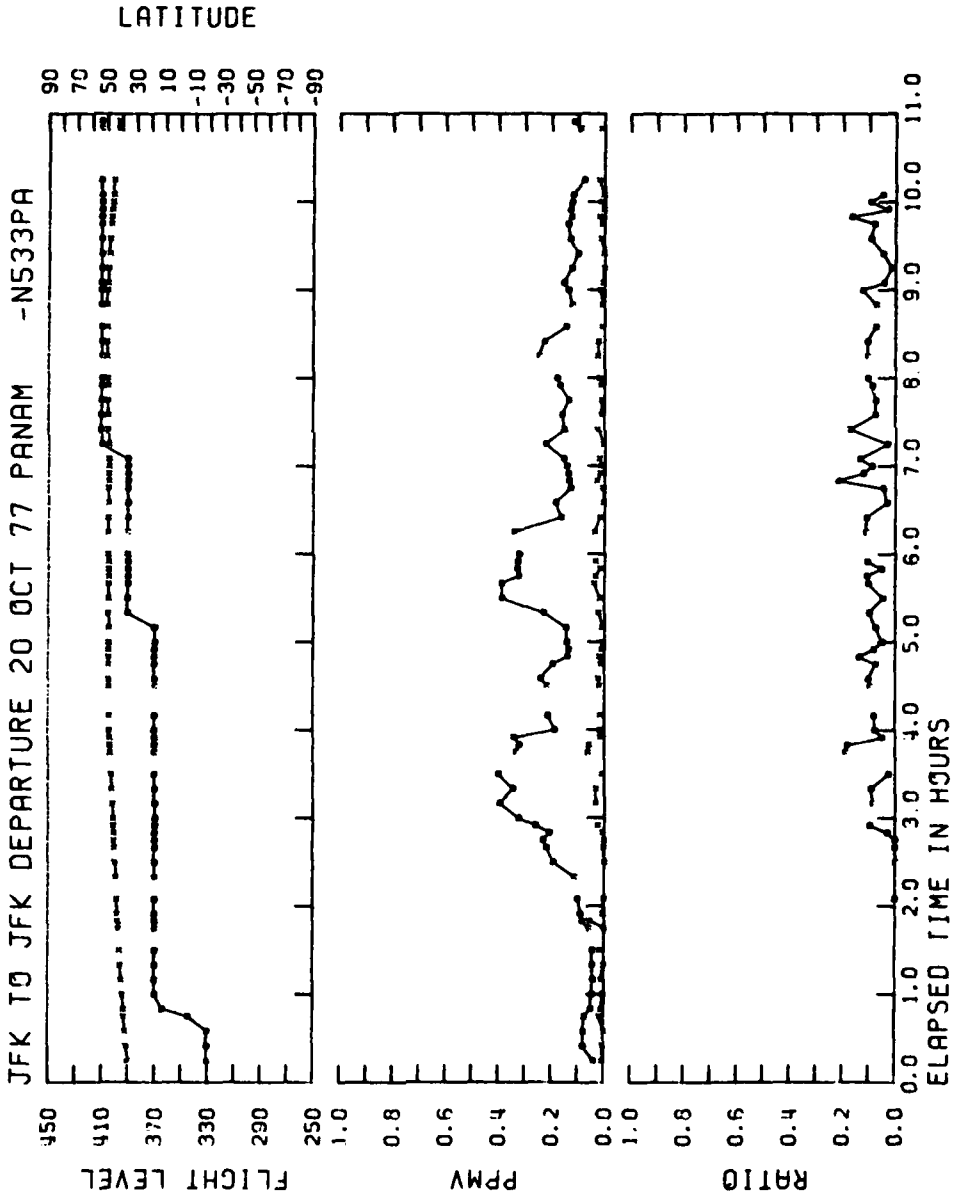
UNCLASSIFIED NASA TM-79166-VOL-1 FAA-AEE-79-05-VOL-1 NL



LAX TO HND (PAGE 1 OF 1) DEPARTURE: 19 OCT 77 AIRCRAFT:PANAM -N533PA

MAXIMUN VALUES: AMBIENT OZONE= .519 CABIN OZONE= .130 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.10 TOTAL OBS IN CABIN: 81
DATA SOURCE: GASP TAPE VL014, FILE 1 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

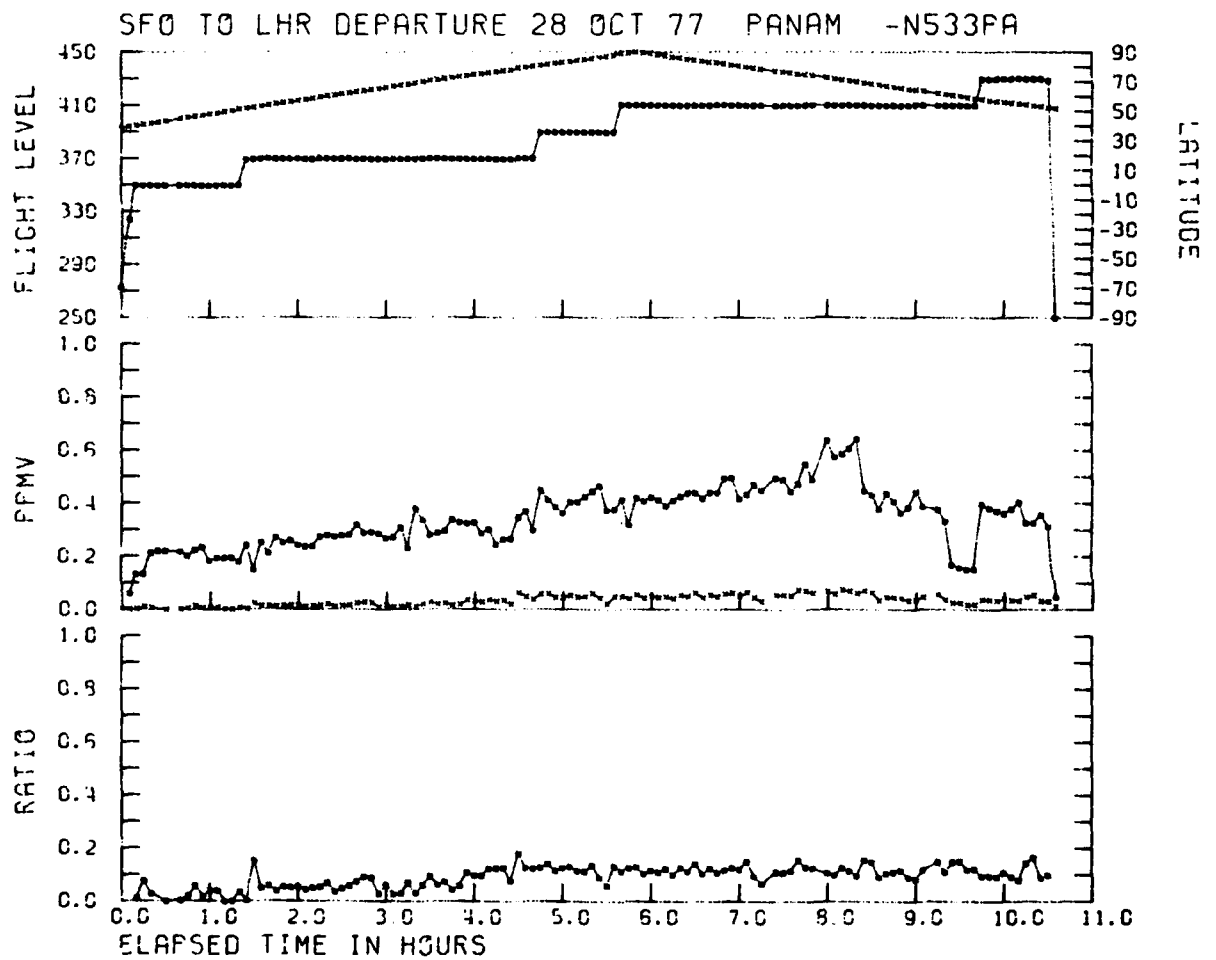
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
10/19/77	2033	0:10	333	35.38N	120.30W	-42.	.000	.070	
10/19/77	2043	0:20	351	36.37N	121.31W	-48.	.000	.068	
10/19/77	2053	0:30	350	37.38N	122.26W	-52.	.012	.083	
10/19/77	2103	0:40	350	38.55N	123.00W	-55.	.019	.091	
10/19/77	2108	0:45	350	39.16N	123.36W	-54.	.015	.113	.13
10/19/77	2113	0:50	351	39.75N	123.71W	-54.	.008	.122	.07
10/19/77	2118	0:55	350	40.34N	124.06W	-56.	.037	.109	.34
10/19/77	2123	1:00	350	40.89N	124.46W	-55.	.002	.116	.02
10/19/77	2133	1:10	351	41.93N	125.41W	-59.	.030	.062	
10/19/77	2148	1:25	350	43.43N	126.86W	-59.	.012	.063	
10/19/77	2158	1:35	350	44.36N	127.98W	-60.	.012	.100	
10/19/77	2203	1:40	351	44.83N	128.56W	-60.	.003	.119	.03
10/19/77	2208	1:45	350	45.31N	129.15W	-58.	.005	.136	.04
10/19/77	2213	1:50	351	45.78N	129.76W	-57.	.010	.136	.07
10/19/77	2218	1:55	351	46.22N	130.42W	-56.	.001	.119	.01
10/19/77	2223	2:00	367	46.63N	131.13W	-58.	.130	.118	1.10
10/19/77	2233	2:10	390	47.43N	132.57W	-59.	.018	.133	.14
10/19/77	2243	2:20	390	48.22N	134.04W	-61.	.000	.132	.00
10/19/77	2253	2:30	390	48.98N	135.57W	-61.	.063	.174	.36
10/19/77	2303	2:40	390	49.72N	137.12W	-61.	.011	.163	.07
10/19/77	2308	2:45	390	50.07N	137.91W	-59.	.013	.126	.10
10/19/77	2313	2:50	390	50.43N	138.70W	-59.	.016	.135	.12
10/19/77	2329	3:06	390	51.48N	141.42W	-59.	.011	.127	.09
10/19/77	2339	3:16	390	52.10N	143.27W	-57.	.011	.132	.08
10/19/77	2349	3:26	390	52.70N	145.20W	-56.	.011	.144	.08
10/20/77	0004	3:41	390	53.52N	148.14W	-52.	.011	.194	.06
10/20/77	0009	3:46	390	53.78N	149.17W	-51.	.069	.259	.27
10/20/77	0014	3:51	390	54.04N	150.26W	-49.	.033	.373	.09
10/20/77	0019	3:56	390	54.19N	151.41W	-48.	.028	.416	.07
10/20/77	0029	4:06	390	54.47N	153.68W	-47.	.018	.365	.05
10/20/77	0049	4:26	390	54.89N	158.21W	-48.	.039	.401	.10
10/20/77	0059	4:36	390	55.03N	160.49W	-47.	.041	.373	.11
10/20/77	0104	4:41	390	55.07N	161.62W	-48.	.039	.384	.10
10/20/77	0109	4:46	390	55.09N	162.75W	-47.	.037	.366	.10
10/20/77	0114	4:51	390	55.11N	163.87W	-47.	.039	.380	.10
10/20/77	0119	4:56	390	55.12N	164.99W	-46.	.038	.396	.10
10/20/77	0129	5:06	390	55.10N	167.23W	-49.	.032	.356	.09
10/20/77	0139	5:16	390	55.04N	169.47W	-49.	.033	.383	.09
10/20/77	0149	5:26	390	54.91N	171.69W	-48.	.039	.357	.11
10/20/77	0159	5:36	390	54.74N	173.88W	-49.	.028	.227	.12
10/20/77	0204	5:41	390	54.64N	174.93W	-49.	.044	.412	.11
10/20/77	0209	5:46	390	54.54N	175.99W	-51.	.044	.426	.10
10/20/77	0214	5:51	390	54.42N	177.06W	-49.	.040	.426	.09
10/20/77	0219	5:56	390	54.29N	178.10W	-51.		.434	
10/20/77	0229	6:06	390	54.01N	179.81E	-51.	.040	.411	.10
10/20/77	0239	6:16	410	53.97N	177.70E	-50.	.042	.504	.08
10/20/77	0249	6:26	410	53.90N	175.58E	-50.	.067	.519	.13
10/20/77	0259	6:36	410	53.78N	173.43E	-50.	.046	.451	.10
10/20/77	0304	6:41	410	53.71N	172.35E	-49.	.042	.427	.10
10/20/77	0309	6:46	410	53.63N	171.28E	-48.	.052	.463	.11
10/20/77	0314	6:51	410	53.54N	170.21E	-49.	.031	.367	.08
10/20/77	0319	6:56	410	53.34N	169.21E	-48.	.042	.442	.10
10/20/77	0329	7:06	410	52.77N	167.29E	-47.	.052	.451	.12
10/20/77	0349	7:26	410	51.53N	163.61E	-47.	.036	.463	.08
10/20/77	0359	7:36	410	50.86N	161.85E	-46.	.045	.438	.10
10/20/77	0404	7:41	410	50.52N	161.00E	-48.	.039	.448	.09
10/20/77	0409	7:46	410	50.17N	160.14E	-48.	.050	.410	.12
10/20/77	0414	7:51	410	49.83N	159.38E	-48.	.024	.272	.09
10/20/77	0419	7:56	410	49.45N	158.64E	-49.	.030	.501	.06
10/20/77	0429	8:06	410	48.69N	157.22E	-48.	.021	.217	.10
10/20/77	0439	8:16	410	47.94N	155.86E	-51.	.016	.211	.08
10/20/77	0449	8:26	410	47.21N	154.61E	-52.	.015	.219	.07
10/20/77	0459	8:36	410	46.51N	153.46E	-52.	.016	.318	.05
10/20/77	0504	8:41	410	46.15N	152.90E	-52.	.029	.253	.11
10/20/77	0509	8:46	410	45.80N	152.34E	-54.	.025	.096	
10/20/77	0514	8:51	410	45.44N	151.79E	-54.	.039	.242	.16
10/20/77	0519	8:56	410	45.08N	151.26E	-55.	.000	.126	.00
10/20/77	0529	9:06	420	44.36N	150.21E	-55.	.001	.092	
10/20/77	0539	9:16	430	43.64N	149.18E	-56.	.000	.116	.00
10/20/77	0549	9:26	430	42.93N	148.19E	-56.	.022	.139	.16
10/20/77	0559	9:36	430	42.23N	147.24E	-56.	.011	.132	.08
10/20/77	0604	9:41	430	41.88N	146.78E	-56.	.047	.130	.36
10/20/77	0614	9:51	430	41.18N	145.87E	-58.	.013	.120	.11
10/20/77	0619	9:56	430	40.81N	145.41E	-57.	.008	.116	.07
10/20/77	0629	10:06	430	40.07N	144.47E	-57.	.010	.113	.09
10/20/77	0639	10:16	430	39.35N	143.55E	-58.	.029	.106	.27
10/20/77	0649	10:26	430	38.61N	142.64E	-59.	.010	.095	
10/20/77	0659	10:36	430	37.89N	141.75E	-59.	.060	.076	
10/20/77	0704	10:41	430	37.56N	141.32E	-59.	.006	.078	
10/20/77	0709	10:46	430	37.22N	140.88E	-59.	.000	.056	
10/20/77	0714	10:51	373	36.90N	140.40E	-45.	.000	.066	
10/20/77	0719A	10:56	228	36.50N	140.15E	-23.	.005	.058	


JFK TO JFK DEPARTURE 20 OCT 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0
ELAPSED TIME IN HOURS

JFK TO JFK (PAGE 1 OF 1) DEPARTURE: 20 OCT 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .401 CABIN OZONE= .063 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .21 TOTAL OBS IN CABIN: 69
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
10/20/77	1003	0:15	330	36.20N	143.80E	-34.	.006	.039	
10/20/77	1013	0:25	330	37.09N	145.64E	-36.	.006	.079	
10/20/77	1024	0:36	330	37.95N	147.54E	-39.	.000	.076	
10/20/77	1033	0:45	345	38.77N	149.43E	-43.	.018	.074	
10/20/77	1038	0:50	364	39.16N	150.43E	-45.	.011	.050	
10/20/77	1048	1:00	370	39.88N	152.54E	-45.	.004	.046	
10/20/77	1058	1:10	370	40.58N	154.72E	-45.	.011	.042	
10/20/77	1108	1:20	370	41.22N	156.93E	-45.	.000	.044	
10/20/77	1118	1:30	370	41.84N	159.21E	-45.	.017	.044	
10/20/77	1133	1:45	370	42.68N	162.69E	-46.	.001	.059	
10/20/77	1138	1:50	370	42.94N	163.88E	-46.	.055	.084	
10/20/77	1143	1:55	370	43.19N	165.09E	-46.	.004	.089	
10/20/77	1153	2:05	370	43.65N	167.53E	-47.	.000	.100	
10/20/77	1208	2:20	370	44.33N	171.13E	-47.		.113	
10/20/77	1218	2:30	370	44.88N	173.49E	-45.	.000	.194	.00
10/20/77	1228	2:40	370	45.36N	175.85E	-40.	.000	.218	.00
10/20/77	1233	2:45	370	45.59N	177.05E	-41.	.000	.231	.00
10/20/77	1238	2:50	370	45.80N	178.26E	-41.	.006	.208	.03
10/20/77	1243	2:55	370	46.00N	179.45E	-41.	.025	.260	.10
10/20/77	1248	3:00	370	46.22N	179.39W	-40.		.324	
10/20/77	1258	3:10	370	46.75N	177.15W	-42.	.034	.396	.09
10/20/77	1309	3:21	370	47.24N	174.83W	-45.	.031	.345	.09
10/20/77	1318	3:30	370	47.66N	172.58W	-44.	.010	.401	.02
10/20/77	1333	3:45	370	48.21N	169.17W	-44.	.063	.334	.19
10/20/77	1338	3:50	370	48.36N	168.04W	-45.	.058	.321	.18
10/20/77	1343	3:55	370	48.50N	166.91W	-45.	.017	.341	.05
10/20/77	1348	4:00	370	48.63N	165.76W	-45.	.014	.186	.08
10/20/77	1358	4:10	370	48.86N	163.43W	-47.	.017	.214	.08
10/20/77	1418	4:30	370	49.17N	158.55W	-51.	.021	.218	.10
10/20/77	1423	4:35	370	49.20N	157.31W	-50.	.025	.242	.10
10/20/77	1433	4:45	370	49.22N	154.82W	-53.	.014	.194	.07
10/20/77	1438	4:50	370	49.21N	153.55W	-54.	.019	.140	.14
10/20/77	1443	4:55	370	49.18N	152.25W	-55.	.011	.136	.08
10/20/77	1449	5:01	370	49.14N	150.91W	-55.	.007	.143	.05
10/20/77	1458	5:10	370	49.14N	148.39W	-55.	.011	.146	.08
10/20/77	1508	5:20	390	49.18N	145.88W	-53.	.023	.231	.10
10/20/77	1518	5:30	390	49.18N	143.48W	-52.	.018	.388	.05
10/20/77	1528	5:40	390	49.13N	141.07W	-50.	.040	.390	.10
10/20/77	1533	5:45	390	49.09N	139.91W	-51.	.035	.326	.11
10/20/77	1538	5:50	390	49.14N	138.75W	-50.	.017	.331	.05
10/20/77	1543	5:55	390	49.21N	137.61W	-50.	.035	.329	.11
10/20/77	1548	6:00	390	49.27N	136.48W	-51.		.324	
10/20/77	1603	6:15	390	49.39N	133.12W	-53.	.038	.343	.11
10/20/77	1613	6:25	390	49.40N	130.90W	-59.	.018	.166	.11
10/20/77	1623	6:35	390	49.34N	128.70W	-63.	.006	.187	.03
10/20/77	1633	6:45	390	49.17N	126.58W	-64.	.006	.129	.05
10/20/77	1638	6:50	390	49.08N	125.50W	-66.	.029	.135	.21
10/20/77	1643	6:55	390	49.07N	124.45W	-65.	.017	.139	.12
10/20/77	1648	7:00	390	49.08N	123.36W	-61.	.013	.145	.09
10/20/77	1653	7:05	390	49.12N	122.29W	-62.	.021	.156	.13
10/20/77	1703	7:15	410	49.30N	120.12W	-60.	.007	.224	.03
10/20/77	1713	7:25	410	49.43N	117.95W	-58.	.026	.152	.17
10/20/77	1723	7:35	410	49.52N	115.75W	-58.	.012	.160	.08
10/20/77	1734	7:46	410	49.70N	113.55W	-57.	.010	.135	.07
10/20/77	1743	7:55	410	49.85N	111.31W	-58.	.015	.170	.09
10/20/77	1748	8:00	410	49.92N	110.16W	-57.	.019	.181	.10
10/20/77	1803	8:15	410	50.28N	106.71W	-54.	.026	.248	.10
10/20/77	1813	8:25	410	50.57N	104.45W	-55.	.024	.228	.11
10/20/77	1823	8:35	410	50.52N	102.14W	-55.	.011	.146	.08
10/20/77	1838	8:50	410	50.34N	98.60W	-56.	.009	.123	.07
10/20/77	1848	9:00	410	49.95N	96.36W	-56.	.017	.137	.12
10/20/77	1853	9:05	410	49.72N	95.27W	-55.	.007	.155	.05
10/20/77	1903	9:15	410	49.23N	93.12W	-57.	.002	.125	.02
10/20/77	1913	9:25	410	48.68N	91.05W	-58.	.005	.102	.05
10/20/77	1924	9:36	410	48.10N	89.03W	-58.	.012	.130	.09
10/20/77	1933	9:45	410	47.46N	87.14W	-57.	.011	.139	.08
10/20/77	1938	9:50	410	47.12N	86.20W	-57.	.021	.126	.17
10/20/77	1943	9:55	410	46.78N	85.26W	-56.	.004	.131	.03
10/20/77	1948	10:00	410	46.42N	84.35W	-58.	.012	.125	.10
10/20/77	1953	10:05	410	46.04N	83.46W	-57.	.006	.121	.05
10/20/77	2003	10:15	410	45.27N	81.67W	-56.	.021	.077	
10/20/77	2038	10:50	410	42.27N	75.95W	-52.	.014	.092	
10/20/77	2043	10:55	410	41.79N	75.24W	-52.		.116	


SFO TO LHR DEPARTURE 28 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
ELAPSED TIME IN HOURS

SFO TO LHR (PAGE 1 OF 2) DEPARTURE: 28 OCT 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .642 CABIN OZONE= .073 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .18 TOTAL OBS IN CABIN:123
DATA SOURCE: GASP TAPE VL009, FILE 1 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
10/28/77	2105A	0:00	273	38.85N	122.05W	-37.	.004		
10/28/77	2110A	0:05	324	39.67N	122.13W	-49.	.000	.058	
10/28/77	2115A	0:10	350	40.35N	122.19W	-50.	.002	.132	.01
10/28/77	2120A	0:15	350	41.22N	122.28W	-51.	.010	.133	.08
10/28/77	2125A	0:20	350	41.90N	122.34W	-52.	.006	.213	.03
10/28/77	2130	0:25	350	42.77N	122.43W	-52.		.220	
10/28/77	2135A	0:30	350	43.44N	122.50W	-51.	.000	.219	.00
10/28/77	2145A	0:40	350	45.06N	122.67W	-51.	.000	.216	.00
10/28/77	2150A	0:45	350	45.80N	122.75W	-53.	.004	.201	.02
10/28/77	2155A	0:50	350	46.55N	122.84W	-54.	.013	.224	.06
10/28/77	2200A	0:55	350	47.31N	122.93W	-52.	.004	.234	.02
10/28/77	2205A	1:00	349	48.06N	123.02W	-56.	.007	.183	.04
10/28/77	2210A	1:05	350	48.71N	123.10W	-56.	.008	.193	.04
10/28/77	2215A	1:10	350	49.55N	123.09W	-57.	.000	.193	.00
10/28/77	2220A	1:15	349	50.22N	122.99W	-57.	.000	.193	.00
10/28/77	2225A	1:20	350	51.09N	122.88W	-58.	.006	.179	.03
10/28/77	2230A	1:25	369	51.74N	122.78W	-53.	.000	.241	.00
10/28/77	2235A	1:30	369	52.58N	122.67W	-55.	.023	.149	.15
10/28/77	2240A	1:35	370	53.24N	122.71W	-53.	.012	.251	.05
10/28/77	2245A	1:40	370	54.07N	122.75W	-52.	.012	.211	.06
10/28/77	2250A	1:45	370	54.83N	122.78W	-54.	.010	.270	.04
10/28/77	2255A	1:50	370	55.59N	122.82W	-53.	.013	.251	.05
10/28/77	2300A	1:55	370	56.35N	122.86W	-54.	.013	.259	.05
10/28/77	2305A	2:00	370	57.12N	122.91W	-57.	.013	.241	.05
10/28/77	2310A	2:05	370	57.80N	122.93W	-57.	.010	.236	.04
10/28/77	2315A	2:10	370	58.68N	122.97W	-55.	.012	.238	.05
10/28/77	2320A	2:15	370	59.33N	122.92W	-53.	.015	.273	.05
10/28/77	2325A	2:20	370	60.18N	122.80W	-51.	.019	.278	.07
10/28/77	2330A	2:25	370	60.85N	122.70W	-52.	.010	.273	.04
10/28/77	2335A	2:30	370	61.71N	122.57W	-51.	.013	.278	.05
10/28/77	2340A	2:35	370	62.37N	122.46W	-51.	.016	.280	.06
10/28/77	2345A	2:40	370	63.20N	122.32W	-51.	.024	.318	.07
10/28/77	2350A	2:45	370	63.93N	122.19W	-51.	.026	.289	.09
10/28/77	2355A	2:50	369	64.66N	122.05W	-51.	.025	.290	.09
10/29/77	0000A	2:55	370	65.40N	121.97W	-50.	.008	.285	.03
10/29/77	0005A	3:00	370	66.14N	121.97W	-51.	.017	.268	.06
10/29/77	0010A	3:05	370	66.79N	121.96W	-51.	.007	.272	.03
10/29/77	0015A	3:10	370	67.62N	121.94W	-51.	.009	.307	.03
10/29/77	0020A	3:15	370	68.24N	121.93W	-52.	.016	.232	.07
10/29/77	0025A	3:20	370	69.04N	121.91W	-51.	.012	.379	.03
10/29/77	0030A	3:25	370	69.67N	121.90W	-52.	.021	.336	.06
10/29/77	0035A	3:30	370	70.47N	121.88W	-51.	.026	.280	.09
10/29/77	0040A	3:35	370	71.11N	121.87W	-53.	.017	.287	.06
10/29/77	0045A	3:40	370	71.92N	121.86W	-53.	.021	.295	.07
10/29/77	0050A	3:45	370	72.64N	121.86W	-53.	.015	.338	.04
10/29/77	0055A	3:50	370	73.35N	121.86W	-53.	.019	.327	.06
10/29/77	0100A	3:55	370	74.04N	121.86W	-55.	.035	.323	.11
10/29/77	0105A	4:00	370	74.73N	121.86W	-55.	.032	.327	.10
10/29/77	0110A	4:05	370	75.32N	121.86W	-56.	.027	.287	.10
10/29/77	0115A	4:10	370	76.10N	121.86W	-55.	.037	.302	.12
10/29/77	0120A	4:15	370	76.71N	121.85W	-56.	.030	.244	.12
10/29/77	0125A	4:20	370	77.48N	121.83W	-54.	.033	.264	.13
10/29/77	0130A	4:25	370	78.07N	121.82W	-54.	.021	.266	.08
10/29/77	0135A	4:30	370	78.83N	121.78W	-54.	.062	.345	.18
10/29/77	0140A	4:35	370	79.44N	121.74W	-54.	.046	.368	.12
10/29/77	0145A	4:40	370	80.21N	121.69W	-52.	.036	.296	.12
10/29/77	0150A	4:45	390	80.90N	121.63W	-52.	.057	.447	.13
10/29/77	0155A	4:50	390	81.59N	121.56W	-52.	.058	.412	.14
10/29/77	0200A	4:55	390	82.27N	121.48W	-51.	.045	.386	.12
10/29/77	0205A	5:00	390	82.95N	121.40W	-52.	.046	.363	.13
10/29/77	0210A	5:05	390	83.57N	121.32W	-51.	.053	.404	.13
10/29/77	0215A	5:10	390	84.37N	121.21W	-52.	.046	.404	.11
10/29/77	0220A	5:15	390	84.98N	121.11W	-52.	.048	.425	.11
10/29/77	0225A	5:20	390	85.76N	120.96W	-52.	.060	.445	.13
10/29/77	0230A	5:25	390	86.37N	120.80W	-52.	.043	.465	.09
10/29/77	0235A	5:30	390	87.14N	120.51W	-53.	.022	.375	.06
10/29/77	0240A	5:35	390	87.75N	120.13W	-53.	.050	.378	.13
10/29/77	0245A	5:40	410	88.52N	119.17W	-53.	.047	.410	.11
10/29/77	0250A	5:45	410	89.21N	116.60W	-54.	.040	.319	.12
10/29/77	0255A	5:50	410	89.87N	85.83W	-55.	.054	.420	.13
10/29/77	0300A	5:55	410	89.44N	14.90E	-55.	.042	.408	.10
10/29/77	0305A	6:00	410	88.81N	4.23E	-55.	.049	.423	.12
10/29/77	0310A	6:05	410	88.13N	4.67E	-56.	.045	.412	.11
10/29/77	0315A	6:10	410	87.47N	4.87E	-55.	.047	.390	.12
10/29/77	0322A	6:17	410	86.55N	5.02E	-56.	.041	.410	.10
10/29/77	0327A	6:22	410	86.00N	5.08E	-57.	.054	.427	.13
10/29/77	0332A	6:27	410	85.22N	5.16E	-56.	.050	.439	.11
10/29/77	0338A	6:33	410	84.42N	5.24E	-56.	.062	.439	.14
10/29/77	0343A	6:38	410	83.85N	5.28E	-56.	.044	.419	.11
10/29/77	0348A	6:43	410	83.08N	5.35E	-56.	.054	.441	.12
10/29/77	0353A	6:48	410	82.52N	5.39E	-56.	.048	.440	.11
10/29/77	0358A	6:53	410	81.76N	5.44E	-55.	.058	.492	.12
10/29/77	0403A	6:58	410	81.09N	5.48E	-55.	.062	.496	.12
10/29/77	0408A	7:03	410	80.42N	5.51E	-56.	.050	.418	.12
10/29/77	0413A	7:08	410	79.77N	5.53E	-55.	.065	.432	.15
10/29/77	0418A	7:13	410	79.10N	5.54E	-55.	.045	.470	.10
10/29/77	0423A	7:18	410	78.55N	5.55E	-53.	.030	.443	.07
10/29/77	0433A	7:28	410	77.09N	5.54E	-52.	.055	.495	.11
10/29/77	0438A	7:33	410	76.52N	5.53E	-52.	.053	.489	.11
10/29/77	0443A	7:38	410	75.75N	5.52E	-51.	.051	.446	.11
10/29/77	0448A	7:43	410	75.19N	5.52E	-52.	.073	.473	.15
10/29/77	0453A	7:48	410	74.42N	5.51E	-51.	.071	.548	.13

A-81

SFO TO LHR (PAGE 2 OF 2) DEPARTURE: 28 OCT 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .642 CABIN OZONE= .073 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .18 TOTAL OBS IN CABIN:123
DATA SOURCE: GASP TAPE VL009, FILE 1 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
10/29/77	0458A	7:53	410	73.85N	5.51E	-52.	.061	.490	.12
10/29/77	0508A	8:03	410	72.36N	5.52E	-49.	.068	.637	.11
10/29/77	0513A	8:08	410	71.78N	5.52E	-52.	.057	.574	.10
10/29/77	0518A	8:13	410	70.99N	5.54E	-51.	.073	.585	.12
10/29/77	0523A	8:18	410	70.41N	5.54E	-51.	.069	.606	.11
10/29/77	0528A	8:23	410	69.62N	5.56E	-51.	.062	.642	.10
10/29/77	0533A	8:28	410	69.05N	5.57E	-52.	.070	.448	.16
10/29/77	0538A	8:33	410	68.26N	5.57E	-54.	.064	.433	.15
10/29/77	0543A	8:38	410	67.67N	5.58E	-55.	.035	.379	.09
10/29/77	0548A	8:43	410	66.87N	5.58E	-54.	.046	.437	.11
10/29/77	0553A	8:48	410	66.17N	5.58E	-54.	.045	.408	.11
10/29/77	0558A	8:53	410	65.47N	5.57E	-55.	.043	.365	.12
10/29/77	0603A	8:58	410	64.79N	5.57E	-56.	.035	.385	.09
10/29/77	0608A	9:03	410	64.08N	5.56E	-56.	.037	.443	.08
10/29/77	0613A	9:08	410	63.50N	5.56E	-56.	.046	.387	.12
10/29/77	0623A	9:18	410	61.97N	5.40E	-59.	.056	.376	.15
10/29/77	0628A	9:23	410	61.38N	5.18E	-59.	.037	.333	.11
10/29/77	0633A	9:28	410	60.59N	4.91E	-62.	.025	.168	.15
10/29/77	0638A	9:33	410	60.02N	4.80E	-64.	.024	.159	.15
10/29/77	0643A	9:38	410	59.23N	5.05E	-65.	.018	.151	.12
10/29/77	0648A	9:43	410	58.54N	5.18E	-64.	.019	.153	.12
10/29/77	0653A	9:48	430	57.87N	5.16E	-61.	.038	.395	.10
10/29/77	0658A	9:53	430	57.20N	5.13E	-60.	.036	.382	.10
10/29/77	0703A	9:58	430	56.54N	5.11E	-61.	.034	.372	.09
10/29/77	0708A	10:03	430	55.98N	5.08E	-61.	.039	.361	.11
10/29/77	0713A	10:08	430	55.28N	4.75E	-59.	.035	.379	.09
10/29/77	0718A	10:13	430	54.82N	4.30E	-61.	.032	.403	.08
10/29/77	0723A	10:18	430	54.18N	3.68E	-61.	.047	.327	.14
10/29/77	0728A	10:23	430	53.69N	3.21E	-60.	.054	.327	.16
10/29/77	0733A	10:28	430	53.02N	2.60E	-60.	.032	.357	.09
10/29/77	0738A	10:33	429	52.54N	2.18E	-61.	.031	.314	.10
10/29/77	0743A	10:38	244	51.90N	1.55E	-33.	.013	.049	

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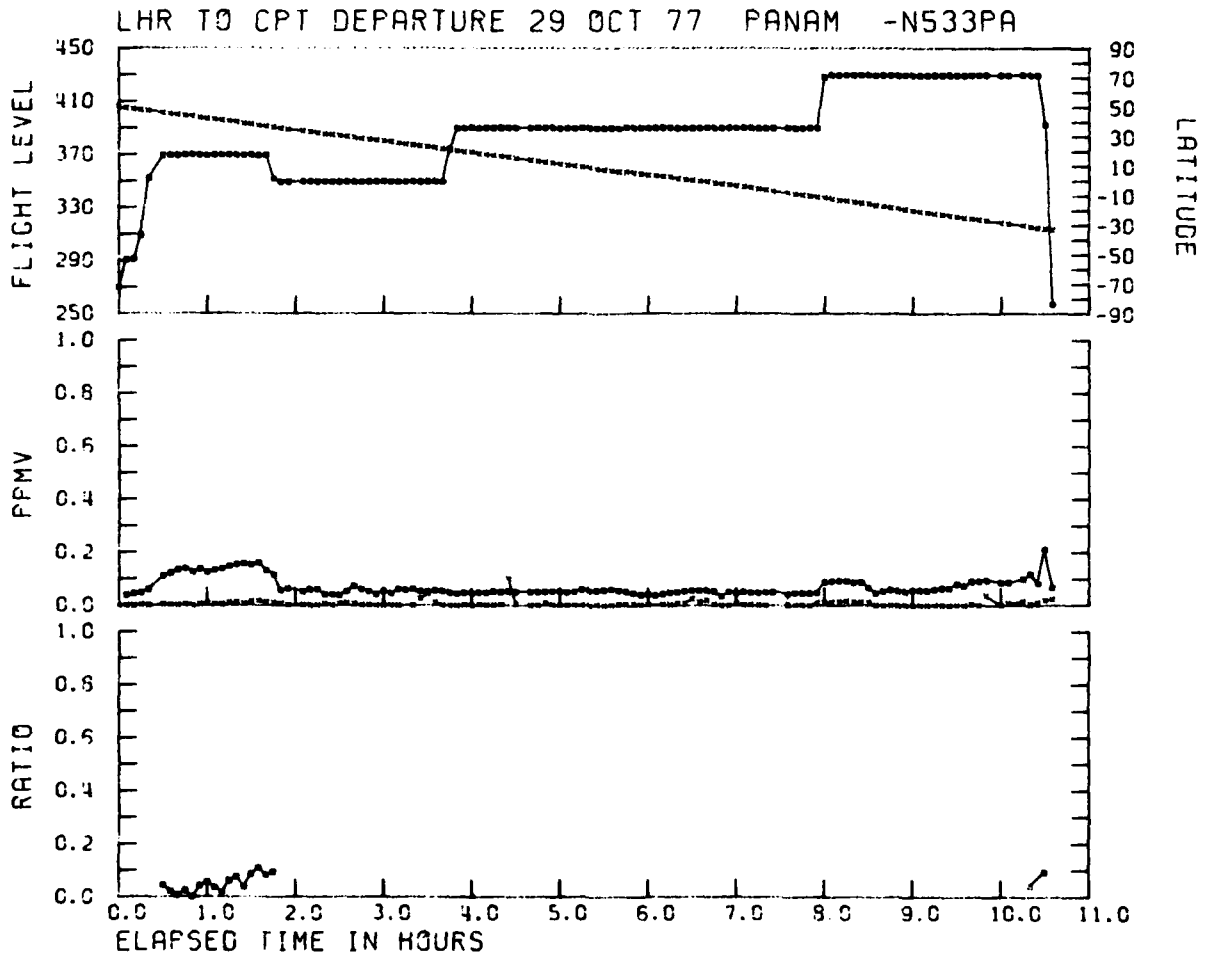
LHR TO CPT DEPARTURE 29 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
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3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
ELAPSED TIME IN HOURS

LHR TO CPT (PAGE 1 OF 2) DEPARTURE: 29 OCT 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .212 CABIN OZONE= .043 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .11 TOTAL OBS IN CABIN:120
DATA SOURCE: GASP TAPE VL009, FILE 2 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
10/29/77	1023	0:00	270	50.18N	.08W	-40.	.000		
10/29/77	1029A	0:06	291	49.44N	.39E	-46.	.000	.039	
10/29/77	1034A	0:11	291	48.91N	.73E	-46.	.000	.044	
10/29/77	1039A	0:16	309	48.17N	1.01E	-51.	.001	.047	
10/29/77	1044A	0:21	352	47.61N	1.05E	-61.	.000	.059	
10/29/77	1054A	0:31	370	46.20N	1.03E	-62.	.005	.111	.05
10/29/77	1059A	0:36	370	45.54N	1.15E	-61.	.003	.122	.02
10/29/77	1104A	0:41	370	44.92N	1.42E	-60.	.001	.134	.01
10/29/77	1109A	0:46	370	44.29N	1.69E	-60.	.003	.138	.02
10/29/77	1114A	0:51	370	43.62N	1.87E	-61.	.000	.126	.00
10/29/77	1119A	0:56	370	43.05N	1.92E	-60.	.006	.138	.04
10/29/77	1124A	1:01	370	42.29N	1.99E	-60.	.007	.125	.06
10/29/77	1129A	1:06	370	41.72N	2.05E	-60.	.005	.133	.04
10/29/77	1134A	1:11	370	40.97N	2.21E	-60.	.002	.138	.02
10/29/77	1139A	1:16	370	40.42N	2.41E	-59.	.009	.147	.06
10/29/77	1144A	1:21	370	39.67N	2.67E	-59.	.012	.155	.08
10/29/77	1149A	1:26	370	39.12N	2.86E	-59.	.006	.157	.04
10/29/77	1154A	1:31	370	38.38N	3.11E	-59.	.013	.152	.09
10/29/77	1159A	1:36	370	37.74N	3.33E	-58.	.018	.162	.11
10/29/77	1204A	1:41	370	37.08N	3.54E	-59.	.011	.132	.08
10/29/77	1209A	1:46	351	36.42N	3.72E	-56.	.011	.118	.10
10/29/77	1214A	1:51	350	35.75N	3.85E	-54.	.007	.058	
10/29/77	1219A	1:56	350	35.19N	3.85E	-55.	.003	.064	
10/29/77	1229A	2:06	350	33.77N	3.84E	-55.	.001	.052	
10/29/77	1234A	2:11	350	33.21N	3.83E	-54.	.000	.060	
10/29/77	1239A	2:16	350	32.45N	3.83E	-54.	.001	.061	
10/29/77	1244A	2:21	350	31.95N	3.61E	-54.	.007	.041	
10/29/77	1249A	2:26	350	31.30N	3.26E	-54.	.001	.041	
10/29/77	1254A	2:31	350	30.72N	2.95E	-54.	.008	.039	
10/29/77	1259A	2:36	350	30.08N	2.83E	-53.	.008	.052	
10/29/77	1304A	2:41	349	29.43N	2.75E	-51.	.009	.074	
10/29/77	1309A	2:46	350	28.80N	2.68E	-50.	.001	.061	
10/29/77	1314A	2:51	350	28.26N	2.62E	-50.	.002	.054	
10/29/77	1319A	2:56	350	27.53N	2.53E	-49.	.000	.043	
10/29/77	1324A	3:01	350	26.99N	2.49E	-50.	.000	.053	
10/29/77	1329A	3:06	349	26.26N	2.47E	-50.	.001	.046	
10/29/77	1334A	3:11	350	25.71N	2.45E	-49.	.001	.062	
10/29/77	1339A	3:16	350	24.98N	2.43E	-48.		.059	
10/29/77	1344A	3:21	350	24.45N	2.42E	-48.	.001	.062	
10/29/77	1349A	3:26	349	23.73N	2.40E	-47.	.026	.053	
10/29/77	1354A	3:31	350	23.09N	2.38E	-47.	.043	.052	
10/29/77	1359A	3:36	350	22.46N	2.36E	-47.	.014	.057	
10/29/77	1404A	3:41	349	21.81N	2.35E	-46.	.000	.054	
10/29/77	1409A	3:46	374	21.15N	2.34E	-53.	.001	.049	
10/29/77	1414A	3:51	390	20.63N	2.34E	-57.	.000	.046	
10/29/77	1419A	3:56	390	19.89N	2.33E	-57.	.003	.049	
10/29/77	1424A	4:01	390	19.34N	2.31E	-57.	.000	.047	
10/29/77	1429A	4:06	390	18.60N	2.30E	-57.	.004	.050	
10/29/77	1434A	4:11	390	18.05N	2.29E	-56.	.002	.049	
10/29/77	1439A	4:16	390	17.30N	2.27E	-56.	.002	.053	
10/29/77	1444A	4:21	390	16.75N	2.26E	-56.	.003	.051	
10/29/77	1449A	4:26	390	15.98N	2.24E	-56.		.053	
10/29/77	1454A	4:31	390	15.43N	2.24E	-56.	.006	.051	
10/29/77	1504A	4:41	390	14.02N	2.21E	-56.	.000	.051	
10/29/77	1509A	4:46	390	13.47N	2.20E	-56.	.000	.051	
10/29/77	1514A	4:51	390	12.72N	2.23E	-55.	.009	.051	
10/29/77	1519A	4:56	390	12.18N	2.24E	-55.	.003	.054	
10/29/77	1524A	5:01	390	11.45N	2.26E	-56.	.002	.054	
10/29/77	1529A	5:06	390	10.92N	2.28E	-56.	.001	.050	
10/29/77	1534A	5:11	390	10.22N	2.29E	-56.	.001	.052	
10/29/77	1539A	5:16	390	9.69N	2.31E	-56.	.001	.061	
10/29/77	1544A	5:21	390	8.94N	2.33E	-56.	.000	.057	
10/29/77	1549A	5:26	390	8.29N	2.34E	-56.	.003	.057	
10/29/77	1554A	5:31	390	7.66N	2.36E	-56.	.000	.059	
10/29/77	1559A	5:36	390	7.03N	2.38E	-56.	.001	.061	
10/29/77	1604A	5:41	390	6.40N	2.39E	-56.	.005	.057	
10/29/77	1609A	5:46	390	5.90N	2.57E	-56.	.005	.053	
10/29/77	1614A	5:51	390	5.22N	2.82E	-55.	.008	.049	
10/29/77	1619A	5:56	390	4.73N	3.01E	-56.	.001	.040	
10/29/77	1624A	6:01	390	4.05N	3.26E	-55.	.003	.042	
10/29/77	1629A	6:06	390	3.55N	3.45E	-56.		.038	
10/29/77	1634A	6:11	390	2.86N	3.71E	-56.	.003	.042	
10/29/77	1639A	6:16	390	2.35N	3.90E	-55.	.003	.049	
10/29/77	1644A	6:21	390	1.65N	4.16E	-55.	.009	.051	
10/29/77	1649A	6:26	390	1.05N	4.38E	-54.	.009	.054	
10/29/77	1654A	6:31	390	.43N	4.61E	-54.	.025	.057	
10/29/77	1659A	6:36	390	.18S	4.84E	-54.	.014	.056	
10/29/77	1704A	6:41	390	.80S	5.07E	-54.	.019	.056	
10/29/77	1709A	6:46	390	1.34S	5.28E	-54.	.004	.053	
10/29/77	1714A	6:51	390	2.09S	5.56E	-54.	.000	.035	
10/29/77	1719A	6:56	390	2.64S	5.76E	-54.	.000	.052	
10/29/77	1724A	7:01	390	3.40S	6.04E	-54.	.005	.047	
10/29/77	1729A	7:06	390	3.95S	6.25E	-54.	.002	.051	
10/29/77	1734A	7:11	390	4.72S	6.54E	-54.	.004	.049	
10/29/77	1739A	7:16	390	5.30S	6.69E	-54.	.002	.048	
10/29/77	1744A	7:21	390	6.11S	6.89E	-55.	.000	.050	
10/29/77	1752A	7:29	390	7.21S	7.16E	-55.		.050	
10/29/77	1758A	7:35	390	8.04S	7.36E	-56.	.001	.045	
10/29/77	1803A	7:40	390	8.61S	7.50E	-56.	.003	.048	
10/29/77	1808A	7:45	390	9.42S	7.70E	-56.	.001	.047	
10/29/77	1813A	7:50	390	9.99S	7.85E	-56.	.000	.047	
10/29/77	1818A	7:55	390	10.81S	8.06E	-56.	.011	.048	

A486

LHR TO CPT (PAGE 2 OF 2) DEPARTURE: 29 OCT 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .212 CABIN OZONE= .043 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .11 TOTAL OBS IN CABIN:120
DATA SOURCE: GASP TAPE VL009, FILE 2 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
10/29/77	1823A	8:00	428	11.36S	8.20E	-65.	.011	.088	
10/29/77	1828A	8:05	430	12.16S	8.42E	-65.	.012	.092	
10/29/77	1833A	8:10	430	12.86S	8.60E	-65.	.016	.093	
10/29/77	1838A	8:15	430	13.56S	8.79E	-65.	.017	.092	
10/29/77	1843A	8:20	430	14.28S	8.98E	-65.	.013	.087	
10/29/77	1848A	8:25	430	15.00S	9.18E	-65.	.011	.087	
10/29/77	1853A	8:30	430	15.60S	9.34E	-64.	.014	.068	
10/29/77	1858A	8:35	430	16.46S	9.57E	-62.	.000	.047	
10/29/77	1903A	8:40	430	17.07S	9.74E	-62.	.000	.055	
10/29/77	1908A	8:45	430	17.93S	9.98E	-62.	.000	.060	
10/29/77	1913A	8:50	430	18.51S	10.24E	-62.	.000	.056	
10/29/77	1918A	8:55	430	19.33S	10.63E	-61.	.000	.052	
10/29/77	1923A	9:00	430	19.91S	10.91E	-62.	.000	.059	
10/29/77	1928A	9:05	430	20.72S	11.30E	-62.	.000	.057	
10/29/77	1933A	9:10	430	21.41S	11.64E	-61.	.000	.056	
10/29/77	1938A	9:15	430	22.09S	11.98E	-61.	.000	.060	
10/29/77	1943A	9:20	430	22.78S	12.32E	-61.	.000	.064	
10/29/77	1948A	9:25	430	23.46S	12.67E	-61.	.000	.066	
10/29/77	1953A	9:30	430	24.03S	12.96E	-61.	.000	.082	
10/29/77	1958A	9:35	430	24.82S	13.37E	-59.	.000	.074	
10/29/77	2003A	9:40	430	25.38S	13.66E	-59.	.005	.091	
10/29/77	2008A	9:45	430	26.18S	14.08E	-60.	.001	.091	
10/29/77	2013A	9:50	430	26.74S	14.39E	-61.	.037	.095	
10/29/77	2023A	10:00	430	28.23S	15.19E	-59.	.001	.086	
10/29/77	2028A	10:05	430	28.80S	15.49E	-59.	.009	.087	
10/29/77	2038A	10:15	430	30.26S	16.30E	-61.	.014	.099	
10/29/77	2043A	10:20	430	30.94S	16.68E	-58.	.005	.119	.04
10/29/77	2048A	10:25	430	31.63S	17.08E	-59.	.011	.084	
10/29/77	2053A	10:30	393	32.17S	17.46E	-56.	.020	.212	.09
10/29/77	2058A	10:35	257	32.86S	18.04E	-32.	.024	.069	

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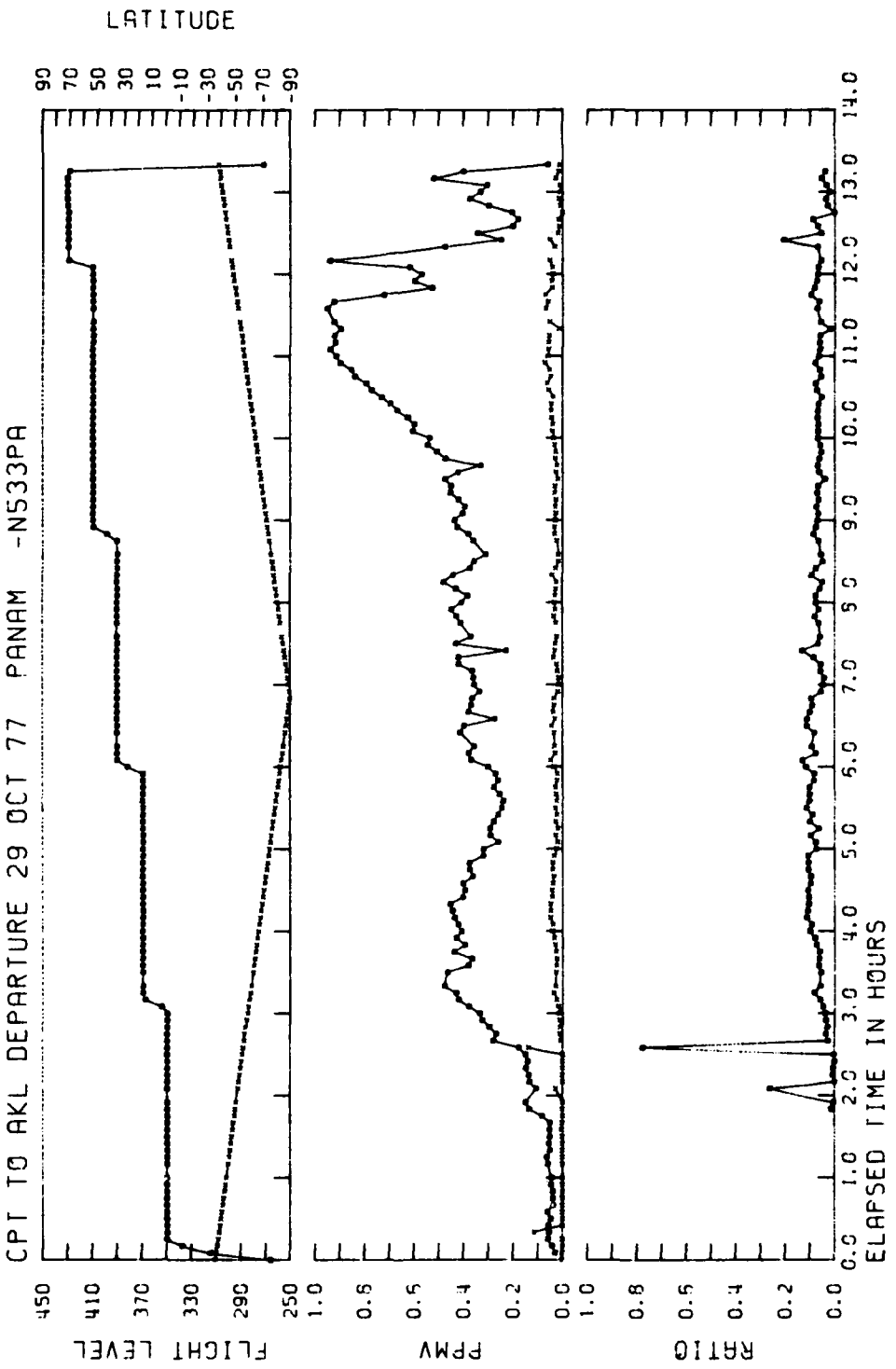
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
CPT TO AKL DEPARTURE 29 OCT 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
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10.0
11.0
12.0
13.0
14.0
ELAPSED TIME IN HOURS

DEPARTURE: 29 OCT 77

AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .951 CABIN OZONE= .071 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .26 TOTAL OBS IN CABIN:153
DATA SOURCE: GASP TAPE VL009, FILE 3 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
10/29/77	2324A	0:00	266	35.61S	18.62E	-33.	.000			10/30/77	0329A	4:05	369	67.65S	18.60E	-59.	.039	.422	.09
10/29/77	2329A	0:05	314	36.29S	18.62E	-47.	.000	.029		10/30/77	0334A	4:10	369	68.38S	18.60E	-60.	.049	.436	.11
10/29/77	2334A	0:10	337	36.85S	18.62E	-53.	.000	.043		10/30/77	0339A	4:15	369	68.96S	18.60E	-60.	.048	.445	.11
10/29/77	2339A	0:15	350	37.58S	18.62E	-55.	.001	.059		10/30/77	0344A	4:20	369	69.70S	18.60E	-60.	.046	.453	.10
10/29/77	2344A	0:20	349	38.17S	18.64E	-56.		.054		10/30/77	0349A	4:25	369	70.29S	18.60E	-62.	.042	.403	.10
10/29/77	2349A	0:25	349	38.89S	18.62E	-56.	.000	.058		10/30/77	0354A	4:30	369	71.05S	18.60E	-63.	.043	.395	.11
10/29/77	2354A	0:30	350	39.47S	18.62E	-55.	.000	.048		10/30/77	0359A	4:35	369	71.73S	18.60E	-63.	.039	.402	.10
10/29/77	2359A	0:35	350	40.21S	18.61E	-55.	.000	.061		10/30/77	0404A	4:40	369	72.40S	18.60E	-65.	.035	.363	.10
10/30/77	0004A	0:40	350	40.87S	18.61E	-55.	.001	.038		10/30/77	0409A	4:45	369	73.08S	18.60E	-64.	.040	.375	.11
10/30/77	0009A	0:45	350	41.52S	18.61E	-56.	.000	.039		10/30/77	0414A	4:50	369	73.76S	18.60E	-64.	.040	.376	.11
10/30/77	0014A	0:50	350	42.18S	18.61E	-55.	.000	.040		10/30/77	0419A	4:55	369	74.35S	18.60E	-66.	.034	.321	.11
10/30/77	0019A	0:55	350	42.83S	18.61E	-55.	.000	.047		10/30/77	0424A	5:00	369	75.10S	18.60E	-66.	.024	.320	.08
10/30/77	0024A	1:00	350	43.40S	18.61E	-56.	.000	.044		10/30/77	0429A	5:05	369	75.68S	18.60E	-69.	.020	.261	.08
10/30/77	0034A	1:10	350	44.78S	18.61E	-56.	.000	.060		10/30/77	0434A	5:10	369	76.42S	18.60E	-67.	.029	.292	.10
10/30/77	0039A	1:15	349	45.34S	18.61E	-55.	.001	.064		10/30/77	0439A	5:15	369	77.00S	18.60E	-68.	.019	.294	.06
10/30/77	0044A	1:20	350	46.04S	18.61E	-56.	.001	.051		10/30/77	0444A	5:20	369	77.75S	18.60E	-69.	.028	.279	.10
10/30/77	0049A	1:25	350	46.59S	18.61E	-55.	.000	.056		10/30/77	0449A	5:25	369	78.34S	18.60E	-70.	.023	.261	.09
10/30/77	0054A	1:30	350	47.29S	18.61E	-56.	.001	.052		10/30/77	0454	5:30	369	79.10S	18.60E	-69.	.028	.246	.11
10/30/77	0059A	1:35	350	47.92S	18.61E	-56.	.005	.053		10/30/77	0459A	5:35	369	79.76S	18.60E	-70.	.025	.240	.10
10/30/77	0104A	1:40	349	48.54S	18.61E	-56.	.001	.051		10/30/77	0504A	5:40	369	80.42S	18.60E	-71.	.027	.256	.10
10/30/77	0109A	1:45	349	49.17S	18.61E	-55.	.000	.083		10/30/77	0509A	5:45	369	81.09S	18.60E	-70.	.028	.278	.10
10/30/77	0114A	1:50	350	49.83S	18.61E	-54.	.002	.135	.01	10/30/77	0514A	5:50	369	81.75S	18.60E	-69.	.022	.261	.08
10/30/77	0119A	1:55	349	50.40S	18.61E	-55.	.001	.150	.00	10/30/77	0519A	5:55	369	82.33S	18.60E	-69.	.022	.272	.08
10/30/77	0129A	2:05	350	51.80S	18.61E	-55.	.028	.107	.26	10/30/77	0524A	6:00	381	83.08S	18.60E	-69.	.035	.301	.12
10/30/77	0134A	2:10	349	52.39S	18.61E	-54.	.000	.134	.00	10/30/77	0529A	6:05	390	83.67S	18.60E	-69.	.048	.370	.13
10/30/77	0139A	2:15	349	53.13S	18.61E	-53.	.001	.137	.01	10/30/77	0534	6:10	390	84.42S	18.60E	-69.	.029	.379	.08
10/30/77	0144A	2:20	349	53.72S	18.61E	-53.	.001	.148	.01	10/30/77	0539A	6:15	390	85.01S	18.60E	-69.	.033	.358	.09
10/30/77	0149A	2:25	349	54.46S	18.61E	-54.	.000	.140	.00	10/30/77	0544A	6:20	390	86.41S	18.60E	-68.	.034	.413	.08
10/30/77	0154A	2:30	350	55.13S	18.61E	-55.	.000	.150	.00	10/30/77	0554A	6:30	390	86.99S	18.60E	-69.	.045	.398	.11
10/30/77	0159A	2:35	349	55.79S	18.61E	-54.		.176		10/30/77	0559A	6:35	390	87.74S	18.59E	-70.	.031	.275	.11
10/30/77	0204A	2:40	349	56.44S	18.61E	-55.	.008	.280	.03	10/30/77	0604A	6:40	390	88.38S	18.59E	-69.	.038	.380	.10
10/30/77	0209A	2:45	350	57.09S	18.61E	-57.	.009	.268	.03	10/30/77	0609A	6:45	390	89.03S	18.58E	-69.	.033	.370	.09
10/30/77	0214A	2:50	349	57.66S	18.61E	-58.	.009	.294	.03	10/30/77	0614A	6:50	390	89.69S	18.51E	-68.	.034	.365	.09
10/30/77	0219A	2:55	350	58.40S	18.61E	-56.	.012	.325	.04	10/30/77	0619A	6:55	390	89.68S	174.93W	-69.	.019	.337	.06
10/30/77	0224A	3:00	349	58.99S	18.61E	-57.	.013	.335	.04	10/30/77	0624A	7:00	390	89.05S	172.57E	-68.	.017	.358	.05
10/30/77	0229A	3:05	354	59.74S	18.62E	-56.	.018	.380	.05	10/30/77	0629A	7:05	390	88.40S	172.55E	-69.	.016	.361	.04
10/30/77	0234A	3:10	367	60.34S	18.61E	-57.	.025	.421	.06	10/30/77	0634A	7:10	390	87.74S	172.55E	-68.	.021	.365	.06
10/30/77	0239A	3:15	369	61.10S	18.60E	-56.	.036	.431	.08	10/30/77	0642	7:18	390	86.67S	172.54E	-66.	.024	.420	.06
10/30/77	0244A	3:20	369	61.70S	18.60E	-57.	.028	.477	.06	10/30/77	0647A	7:23	390	86.09S	172.54E	-66.	.036	.420	.09
10/30/77	0254A	3:30	369	63.10S	18.60E	-58.	.026	.465	.06	10/30/77	0652A	7:28	390	85.36S	172.54E	-66.	.030	.228	.13
10/30/77	0259A	3:35	369	63.76S	18.60E	-59.	.025	.381	.06	10/30/77	0657A	7:33	390	84.78S	172.54E	-65.	.030	.431	.07
10/30/77	0304A	3:40	369	64.42S	18.60E	-59.	.023	.366	.06	10/30/77	0703A	7:39	390	83.93S	172.54E	-65.	.022	.371	.06
10/30/77	0309A	3:45	369	65.09S	18.60E	-58.	.027	.438	.06	10/30/77	0712A	7:48	390	82.73S	172.54E	-64.	.027	.412	.07
10/30/77	0314A	3:50	369	65.76S	18.60E	-58.	.029	.395	.07	10/30/77	0717A	7:53	390	82.06S	172.54E	-64.	.035	.428	.08
10/30/77	0319A	3:55	369	66.33S	18.60E	-57.	.034	.429	.08	10/30/77	0722A	7:58	390	81.47S	172.54E	-65.	.029	.449	.06
10/30/77	0324A	4:00	369	67.07S	18.60E	-59.	.041	.409	.10	10/30/77	0727A	8:03	390	80.81S	172.54E	-67.	.031	.409	.08

CPT TO AKL (PAGE 2 OF 2) DEPARTURE: 29 OCT 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .951 CABIN OZONE= .071 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .26 TOTAL OBS IN CABIN:153
DATA SOURCE: GASP TAPE VL009, FILE 3 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
10/30/77	0732A	8:08	390	80.08S	172.54E	-66.	.030	.383	.08
10/30/77	0737A	8:13	390	79.46S	172.54E	-63.	.027	.431	.06
10/30/77	0742	8:18	390	78.71S	172.54E	-62.	.024	.480	.05
10/30/77	0747A	8:23	390	78.10S	172.54E	-63.	.042	.442	.09
10/30/77	0752A	8:28	390	77.34S	172.54E	-67.	.030	.376	.08
10/30/77	0757A	8:33	390	76.76S	172.53E	-67.	.019	.359	.05
10/30/77	0803A	8:39	390	75.89S	172.53E	-70.	.018	.313	.06
10/30/77	0812A	8:48	390	74.66S	172.53E	-70.	.024	.361	.07
10/30/77	0817A	8:53	398	73.99S	172.53E	-71.	.033	.382	.09
10/30/77	0822A	8:58	409	73.39S	172.53E	-71.	.033	.426	.08
10/30/77	0827A	9:03	410	72.70S	172.53E	-70.	.031	.437	.07
10/30/77	0832A	9:08	409	71.95S	172.53E	-69.	.028	.405	.07
10/30/77	0837A	9:13	409	71.35S	172.53E	-69.	.030	.396	.08
10/30/77	0842	9:18	409	70.60S	172.53E	-68.	.028	.421	.07
10/30/77	0847A	9:23	409	70.01S	172.53E	-68.	.033	.453	.07
10/30/77	0852A	9:28	409	69.29S	172.53E	-69.	.031	.451	.07
10/30/77	0857A	9:33	409	68.72S	172.53E	-68.	.020	.476	.04
10/30/77	0902	9:38	409	68.00S	172.53E	-68.	.027	.424	.06
10/30/77	0907A	9:43	409	67.43S	172.53E	-67.	.023	.331	.07
10/30/77	0912	9:48	409	66.71S	172.53E	-65.	.030	.473	.06
10/30/77	0917A	9:53	409	66.12S	172.53E	-65.	.028	.508	.06
10/30/77	0922A	9:58	409	65.38S	172.53E	-64.	.033	.546	.06
10/30/77	0927A	10:03	409	64.71S	172.53E	-63.	.037	.537	.07
10/30/77	0932A	10:08	409	64.13S	172.53E	-63.	.041	.605	.07
10/30/77	0937A	10:13	409	63.39S	172.53E	-62.	.040	.598	.07
10/30/77	0942A	10:18	409	62.81S	172.53E	-61.	.044	.625	.07
10/30/77	0947A	10:23	409	62.07S	172.53E	-58.	.046	.668	.07
10/30/77	0952A	10:28	409	61.48S	172.53E	-57.	.046	.695	.07
10/30/77	0957	10:33	409	60.75S	172.53E	-56.	.038	.730	.05
10/30/77	1002A	10:38	409	60.16S	172.53E	-54.	.056	.770	.07
10/30/77	1007A	10:43	409	59.42S	172.53E	-53.	.062	.792	.08
10/30/77	1012A	10:48	410	58.81S	172.53E	-52.	.047	.838	.06
10/30/77	1017	10:53	409	58.06S	172.53E	-51.	.052	.853	.06
10/30/77	1022A	10:58	409	57.45S	172.53E	-49.	.071	.897	.08
10/30/77	1027A	11:03	409	56.71S	172.53E	-48.	.058	.913	.06
10/30/77	1032A	11:08	410	56.03S	172.53E	-47.	.056	.937	.06
10/30/77	1037A	11:13	409	55.35S	172.53E	-47.	.058	.919	.06
10/30/77	1042A	11:18	409	54.74S	172.53E	-46.	.056	.923	.06
10/30/77	1047A	11:23	409	53.99S	172.53E	-46.	.017	.897	.02
10/30/77	1052A	11:28	409	53.39S	172.53E	-46.	.053	.924	.06
10/30/77	1102A	11:38	409	51.99S	172.53E	-45.	.069	.951	.07
10/30/77	1107A	11:43	409	51.39S	172.53E	-41.	.059	.924	.06
10/30/77	1112A	11:48	409	50.65S	172.53E	-41.	.070	.721	.10
10/30/77	1117A	11:53	410	50.04S	172.53E	-42.	.044	.527	.08
10/30/77	1123A	11:59	409	49.15S	172.53E	-42.	.044	.598	.07
10/30/77	1128A	12:04	410	48.46S	172.53E	-42.	.039	.570	.07
10/30/77	1133A	12:09	410	47.78S	172.53E	-43.	.041	.617	.07
10/30/77	1136A	12:14	429	47.09S	172.53E	-46.	.052	.940	.06
10/30/77	1147A	12:23	429	45.89S	172.53E	-46.	.033	.476	.07
10/30/77	1152A	12:28	429	45.30S	172.53E	-46.	.052	.249	.21
10/30/77	1157	12:33	429	44.57S	172.53E	-46.	.019	.344	.06
10/30/77	1202A	12:38	430	43.98S	172.61E	-49.	.014	.202	.07
10/30/77	1207A	12:43	429	43.23S	172.77E	-49.	.016	.181	.09
10/30/77	1212A	12:48	429	42.64S	172.88E	-55.	.001	.205	.00
10/30/77	1217	12:53	430	41.95S	173.09E	-56.	.009	.298	.03
10/30/77	1222A	12:58	430	41.36S	173.27E	-50.	.014	.375	.04
10/30/77	1227A	13:03	430	40.61S	173.52E	-52.	.007	.333	.02
10/30/77	1232A	13:08	430	39.98S	173.82E	-54.	.011	.306	.03
10/30/77	1237A	13:13	430	39.35S	174.12E	-55.	.028	.521	.05
10/30/77	1242A	13:18	428	38.79S	174.37E	-55.	.016	.401	.04
10/30/77	1247A	13:23	272	38.09S	174.64E	-38.	.012	.060	

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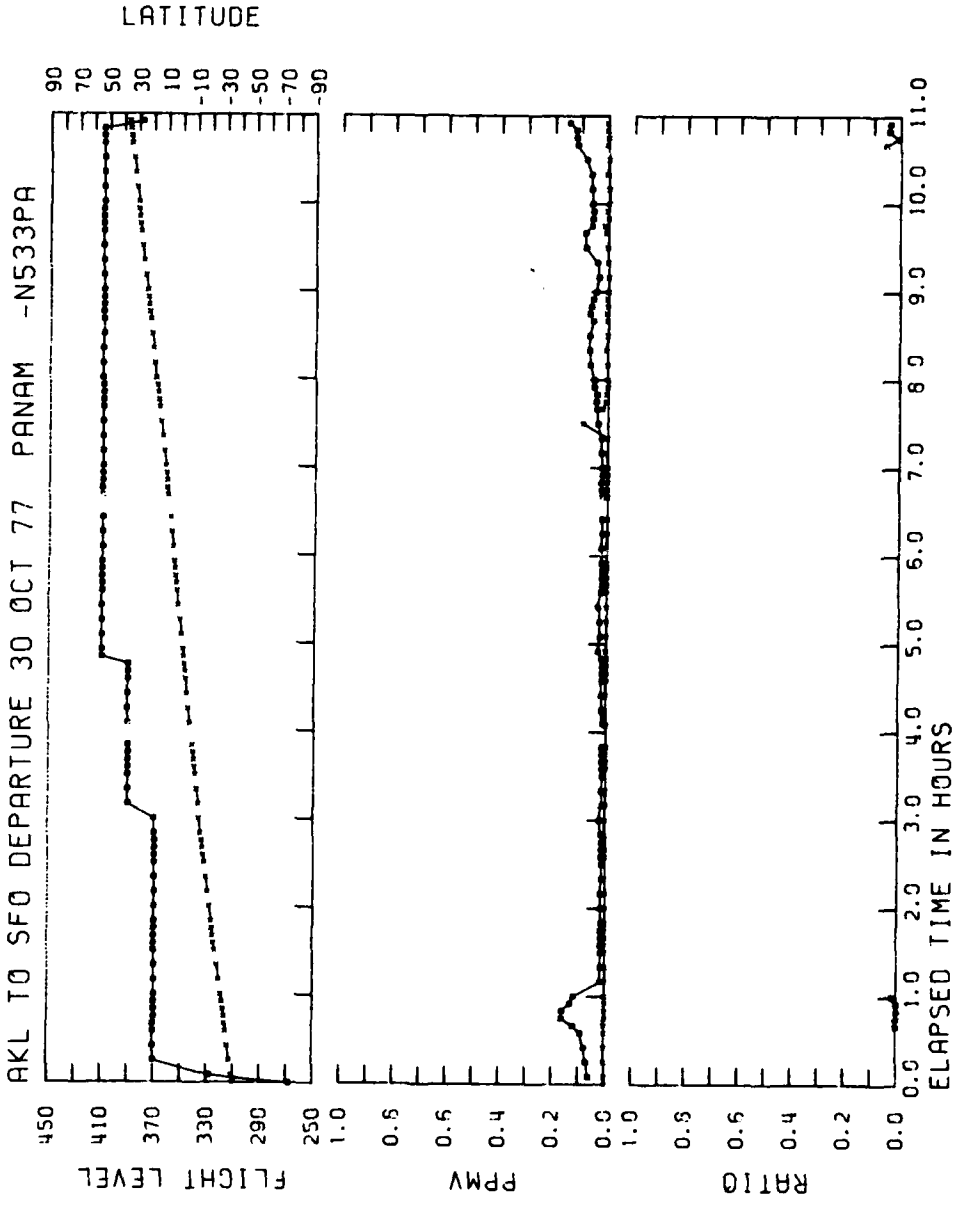
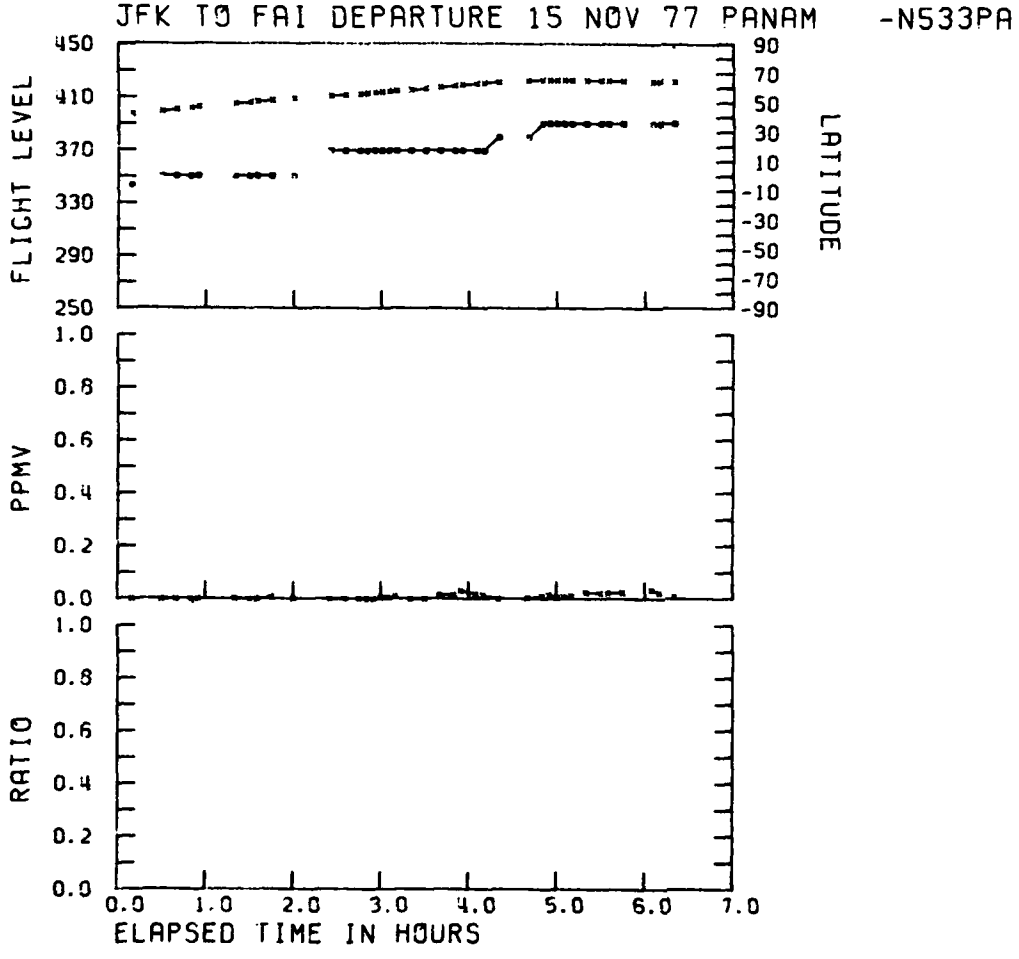

AKL TO SFO DEPARTURE 30 OCT 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0
ELAPSED TIME IN HOURS

AKL TO SFO (PAGE 1 OF 1) DEPARTURE: 30 OCT 77 AIRCRAFT: PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE= .162 CABIN OZONE= .094 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .05 TOTAL OBS IN CABIN: 88
DATA SOURCE: GASP TAPE VL009, FILE 4 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

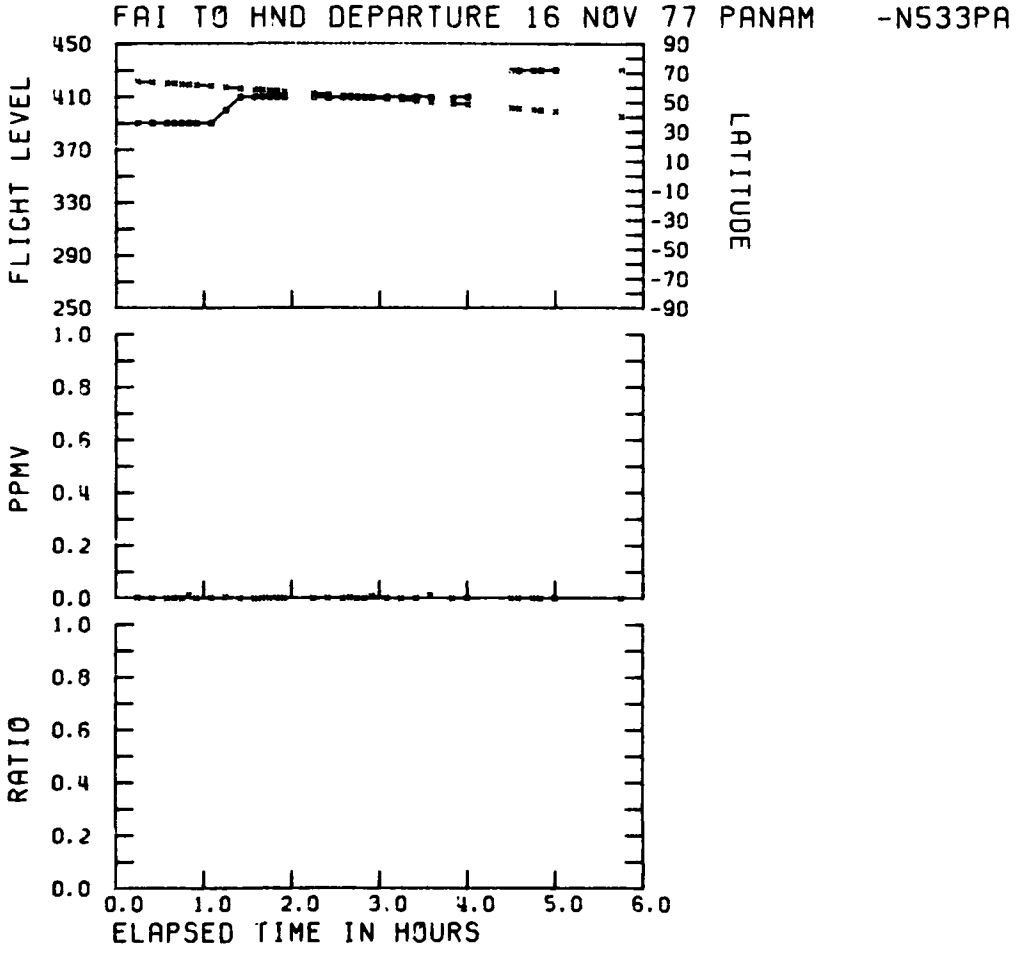
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	AMB.	RATIO
10/30/77	1539A	0:00	268	35.76S	175.74E	-35.	.000		
10/30/77	1545A	0:06	328	35.02S	176.28E	-51.	.000	.062	
10/30/77	1555A	0:16	370	33.80S	177.14E	-60.	.002	.068	
10/30/77	1605A	0:26	370	32.50S	178.03E	-59.	.000	.076	
10/30/77	1615A	0:36	370	31.20S	178.90E	-58.	.000	.089	
10/30/77	1620A	0:41	370	30.54S	179.32E	-57.	.000	.117	.00
10/30/77	1625A	0:46	370	29.90S	179.73E	-55.	.000	.162	.00
10/30/77	1630A	0:51	370	29.27S	179.87W	-55.	.000	.161	.00
10/30/77	1637A	0:58	370	28.40S	179.33W	-51.	.000	.132	.00
10/30/77	1643A	1:04	370	27.57S	178.83W	-51.	.002	.118	.02
10/30/77	1653A	1:14	370	26.21S	178.03W	-51.	.000	.018	
10/30/77	1703A	1:24	370	24.85S	177.24W	-51.	.001	.017	
10/30/77	1713A	1:34	370	23.49S	176.47W	-50.	.002	.017	
10/30/77	1718A	1:39	370	22.81S	176.10W	-50.	.000	.016	
10/30/77	1723A	1:44	370	22.14S	175.73W	-49.	.000	.014	
10/30/77	1728A	1:49	370	21.46S	175.37W	-50.	.000	.015	
10/30/77	1733A	1:54	370	20.80S	174.96W	-50.	.003	.016	
10/30/77	1743A	2:04	370	19.54S	174.09W	-50.	.000	.016	
10/30/77	1753A	2:14	370	18.29S	173.26W	-50.	.000	.018	
10/30/77	1803A	2:24	370	17.04S	172.44W	-49.	.003	.014	
10/30/77	1813A	2:34	370	15.82S	171.65W	-50.	.013	.013	
10/30/77	1818A	2:39	370	15.21S	171.26W	-50.	.003	.016	
10/30/77	1823A	2:44	370	14.61S	170.88W	-51.	.002	.014	
10/30/77	1828A	2:49	370	14.07S	170.43W	-51.	.006	.015	
10/30/77	1833A	2:54	370	13.57S	169.92W	-50.	.004	.016	
10/30/77	1843A	3:04	370	12.59S	168.88W	-50.	.001	.022	
10/30/77	1853A	3:14	390	11.59S	167.86W	-55.	.000	.015	
10/30/77	1903A	3:24	390	10.57S	166.86W	-55.	.003	.017	
10/30/77	1913A	3:34	390	9.53S	165.86W	-55.	.010	.014	
10/30/77	1918A	3:39	390	9.02S	165.36W	-55.	.000	.015	
10/30/77	1923A	3:44	390	8.51S	164.87W	-55.	.001	.016	
10/30/77	1928A	3:49	390	7.99S	164.38W	-55.	.004	.016	
10/30/77	1933A	3:54	390	7.48S	163.88W	-55.	.000	.016	
10/30/77	1948A	4:09	390	5.94S	162.41W	-54.	.001	.014	
10/30/77	1958A	4:19	390	4.92S	161.45W	-54.	.006	.016	
10/30/77	2008A	4:29	390	3.91S	160.48W	-55.	.001	.017	
10/30/77	2018A	4:39	390	2.89S	159.52W	-54.	.000	.017	
10/30/77	2023A	4:44	390	2.40S	159.04W	-55.	.000	.016	
10/30/77	2028A	4:49	390	1.89S	158.56W	-55.	.000	.017	
10/30/77	2033A	4:54	410	1.40S	158.10W	-60.	.000	.018	
10/30/77	2038A	4:59	410	.90S	157.62W	-60.	.003	.032	
10/30/77	2048A	5:09	410	.10N	156.68W	-60.	.001	.025	
10/30/77	2058A	5:19	410	1.09N	155.74W	-59.	.000	.026	
10/30/77	2108A	5:29	410	2.08N	154.80W	-60.	.002	.034	
10/30/77	2118A	5:39	410	3.08N	153.85W	-60.	.000	.022	
10/30/77	2123A	5:44	410	3.58N	153.38W	-60.	.000	.017	
10/30/77	2128A	5:49	410	4.08N	152.91W	-60.	.000	.019	
10/30/77	2133A	5:54	410	4.58N	152.43W	-59.	.000	.017	
10/30/77	2138A	5:59	410	5.08N	151.95W	-60.	.000	.019	
10/30/77	2148A	6:09	410	6.08N	151.00W	-59.	.006	.023	
10/30/77	2158A	6:19	410	7.08N	150.04W	-59.	.000	.019	
10/30/77	2208A	6:29	410	8.07N	149.08W	-59.	.000	.022	
10/30/77	2223A	6:44	410	9.54N	147.65W	-59.	.000	.021	
10/30/77	2228A	6:49	410	10.03N	147.17W	-60.	.000	.021	
10/30/77	2233A	6:54	410	10.52N	146.68W	-60.	.000	.024	
10/30/77	2238A	6:59	410	11.01N	146.20W	-60.	.000	.020	
10/30/77	2243A	7:04	410	11.51N	145.70W	-61.	.000	.020	
10/30/77	2253A	7:14	410	12.52N	144.77W	-61.	.007	.025	
10/30/77	2303A	7:24	410	13.63N	143.94W	-60.	.003	.025	
10/30/77	2313A	7:34	410	14.74N	143.11W	-59.	.094	.038	
10/30/77	2323A	7:44	410	15.83N	142.28W	-58.	.021	.043	
10/30/77	2328A	7:49	410	16.37N	141.87W	-58.	.008	.046	
10/30/77	2333A	7:54	410	16.91N	141.45W	-57.	.006	.042	
10/30/77	2338A	7:59	410	17.46N	141.02W	-57.	.001	.053	
10/30/77	2343A	8:04	410	18.01N	140.59W	-57.	.001	.052	
10/30/77	2353A	8:14	410	19.07N	139.74W	-56.	.000	.066	
10/31/77	0003A	8:24	410	20.00N	139.00W	-56.	.006	.069	
10/31/77	0013A	8:34	410	21.25N	138.05W	-57.	.003	.071	
10/31/77	0023A	8:44	410	22.33N	137.21W	-56.	.004	.057	
10/31/77	0028A	8:49	410	22.87N	136.78W	-57.	.007	.071	
10/31/77	0033A	8:54	410	23.41N	136.35W	-56.	.003	.065	
10/31/77	0038A	8:59	410	23.96N	135.91W	-56.	.004	.059	
10/31/77	0043A	9:04	410	24.51N	135.46W	-56.	.002	.048	
10/31/77	0053A	9:14	410	25.60N	134.57W	-56.	.000	.038	
10/31/77	0103A	9:24	410	26.67N	133.67W	-57.	.001	.041	
10/31/77	0113A	9:34	410	27.76N	132.74W	-56.	.003	.084	
10/31/77	0123A	9:44	410	28.80N	131.82W	-57.	.010	.087	
10/31/77	0128A	9:49	410	29.33N	131.34W	-57.	.015	.063	
10/31/77	0133A	9:54	410	29.84N	130.88W	-57.	.001	.059	
10/31/77	0138A	9:59	410	30.36N	130.41W	-57.	.005	.057	
10/31/77	0143A	10:04	410	30.90N	129.92W	-57.	.000	.063	
10/31/77	0153A	10:14	410	31.98N	128.92W	-57.	.000	.065	
10/31/77	0203A	10:24	410	33.06N	127.90W	-56.	.008	.067	
10/31/77	0213A	10:34	410	34.15N	126.83W	-55.	.001	.085	
10/31/77	0223A	10:44	410	35.22N	125.73W	-54.	.006	.116	.05
10/31/77	0228A	10:49	410	35.71N	125.06W	-54.	.001	.121	.01
10/31/77	0233A	10:54	410	36.16N	124.35W	-53.	.005	.122	.04
10/31/77	0238A	10:59	381	36.61N	123.60W	-52.	.006	.148	.04


JFK TO FAI DEPARTURE 15 NOV 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
ELAPSED TIME IN HOURS

JFK TO FAI (PAGE 1 OF 1) DEPARTURE: 15 NOV 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .034 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 39
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
11/15/77	1646	0:10	343	42.41N	75.43W	-57.	.000		
11/15/77	1706	0:30	350	44.48N	77.29W	-57.	.000		
11/15/77	1716	0:40	350	45.54N	78.30W	-57.	.000		
11/15/77	1726	0:50	350	46.59N	79.35W	-55.	.000		
11/15/77	1731	0:55	350	47.09N	79.88W	-55.	.000		
11/15/77	1756	1:20	350	49.65N	82.85W	-52.	.002		
11/15/77	1806	1:30	350	50.49N	84.48W	-53.	.000		
11/15/77	1811	1:35	350	50.90N	85.31W	-53.	.000		
11/15/77	1821	1:45	350	51.72N	87.00W	-54.	.007		
11/15/77	1836	2:00	350	52.87N	89.62W	-55.	.000		
11/15/77	1901	2:25	370	54.70N	94.44W	-52.	.000		
11/15/77	1911	2:35	369	55.42N	96.60W	-49.	.000		
11/15/77	1921	2:45	370	56.15N	98.83W	-48.	.002		
11/15/77	1926	2:50	369	56.51N	99.94W	-49.	.000		
11/15/77	1931	2:55	369	56.88N	101.09W	-47.	.000		
11/15/77	1936	3:00	369	57.31N	102.16W	-47.	.004		
11/15/77	1941	3:05	370	57.74N	103.27W	-46.	.005		
11/15/77	1946	3:10	369	58.14N	104.35W	-46.	.010		
11/15/77	1956	3:20	370	58.93N	106.57W	-46.	.000		
11/15/77	2006	3:30	369	59.75N	108.88W	-46.	.000		
11/15/77	2016	3:40	369	60.79N	110.84W	-47.	.015		
11/15/77	2026	3:50	370	61.79N	112.93W	-46.	.015		
11/15/77	2031	3:55	370	62.28N	114.01W	-47.	.030		
11/15/77	2041	4:05	369	63.07N	116.52W	-47.	.017		
11/15/77	2046	4:10	369	63.44N	117.92W	-47.	.014		
11/15/77	2056	4:20	380	64.11N	120.69W	-47.	.000		
11/15/77	2116	4:40	380	65.25N	126.45W	-48.	.004		
11/15/77	2126	4:50	390	65.41N	129.65W	-49.	.010		
11/15/77	2131	4:55	390	65.45N	131.24W	-48.	.016		
11/15/77	2136	5:00	390	65.47N	132.85W	-48.	.005		
11/15/77	2141	5:05	390	65.47N	134.48W	-48.	.008		
11/15/77	2146	5:10	390	65.45N	136.10W	-48.	.011		
11/15/77	2156	5:20	390	65.37N	139.35W	-50.	.025		
11/15/77	2206	5:30	390	65.24N	142.56W	-49.	.022		
11/15/77	2211	5:35	390	65.17N	144.18W	-50.	.024		
11/15/77	2221	5:45	390	64.90N	147.31W	-51.	.025		
11/15/77	2241	6:05	390	64.60N	153.59W	-50.	.034		
11/15/77	2246	6:10	390	64.49N	155.13W	-50.	.024		
11/15/77	2256	6:20	390	64.46N	152.79W	-50.	.010		

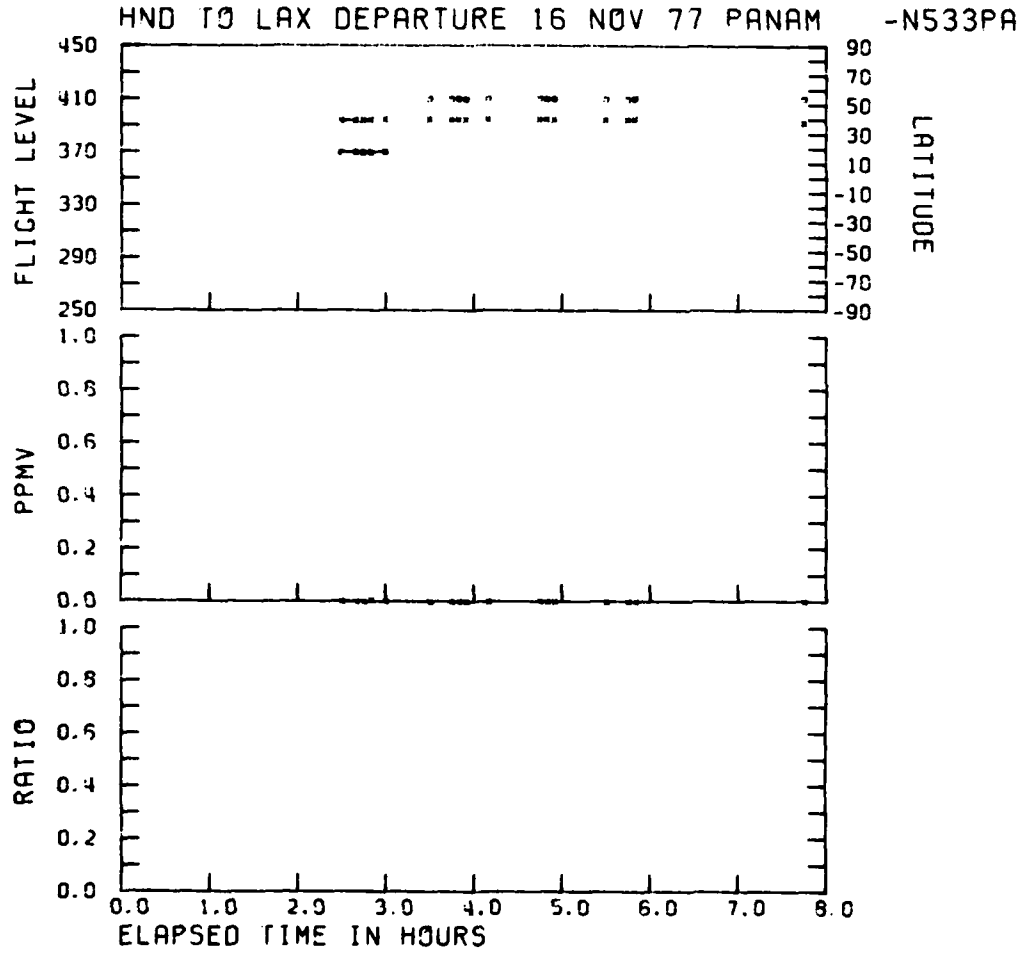

FAI TØ HND DEPARTURE 16 NØV 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
ELAPSED TIME IN HOURS

A-106

FAI T@ HND (PAGE 1 OF 1) DEPARTURE: 16 NOV 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .011 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 34
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
11/16/77	0225	0:15	390	64.30N	156.86W	-51.	.001		
11/16/77	0235	0:25	390	63.99N	159.87W	-51.	.000		
11/16/77	0245	0:35	390	63.45N	162.67W	-52.	.000		
11/16/77	0250	0:40	390	63.13N	163.97W	-50.	.001		
11/16/77	0255	0:45	390	62.79N	165.24W	-52.	.000		
11/16/77	0300	0:50	390	62.45N	166.47W	-52.	.011		
11/16/77	0305	0:55	390	62.10N	167.67W	-51.	.000		
11/16/77	0315	1:05	390	61.37N	169.98W	-54.	.000		
11/16/77	0325	1:15	400	60.63N	172.24W	-52.	.005		
11/16/77	0335	1:25	410	59.85N	174.39W	-54.	.000		
11/16/77	0345	1:35	410	59.07N	176.40W	-55.	.000		
11/16/77	0350	1:40	410	58.67N	177.38W	-54.	.000		
11/16/77	0355	1:45	410	58.25N	178.34W	-55.	.000		
11/16/77	0400	1:50	410	57.83N	179.27W	-54.	.000		
11/16/77	0405	1:55	410	57.42N	179.81E	-54.	.000		
11/16/77	0425	2:15	410	56.17N	175.68E	-52.	.000		
11/16/77	0435	2:25	409	55.48N	173.71E	-51.	.000		
11/16/77	0445	2:35	410	54.75N	171.79E	-51.	.000		
11/16/77	0450	2:40	410	54.38N	170.85E	-52.	.002		
11/16/77	0455	2:45	410	54.00N	169.92E	-52.	.000		
11/16/77	0500	2:50	410	53.67N	168.94E	-50.	.000		
11/16/77	0505	2:55	410	53.35N	167.99E	-51.	.007		
11/16/77	0515	3:05	410	52.69N	166.17E	-51.	.000		
11/16/77	0525	3:15	410	52.01N	164.42E	-51.	.000		
11/16/77	0535	3:25	410	51.30N	162.71E	-49.	.000		
11/16/77	0545	3:35	410	50.58N	161.11E	-50.	.011		
11/16/77	0600	3:50	410	49.44N	158.79E	-50.	.000		
11/16/77	0610	4:00	410	48.68N	157.37E	-49.	.000		
11/16/77	0640	4:30	430	46.37N	153.41E	-55.	.000		
11/16/77	0645	4:35	430	45.98N	152.79E	-53.	.000		
11/16/77	0655	4:45	430	45.18N	151.56E	-56.	.000		
11/16/77	0700	4:50	430	44.78N	150.97E	-60.	.000		
11/16/77	0710	5:00	430	43.96N	149.82E	-59.	.000		
11/16/77	0755	5:45	430	40.45N	145.12E	-63.	.000		

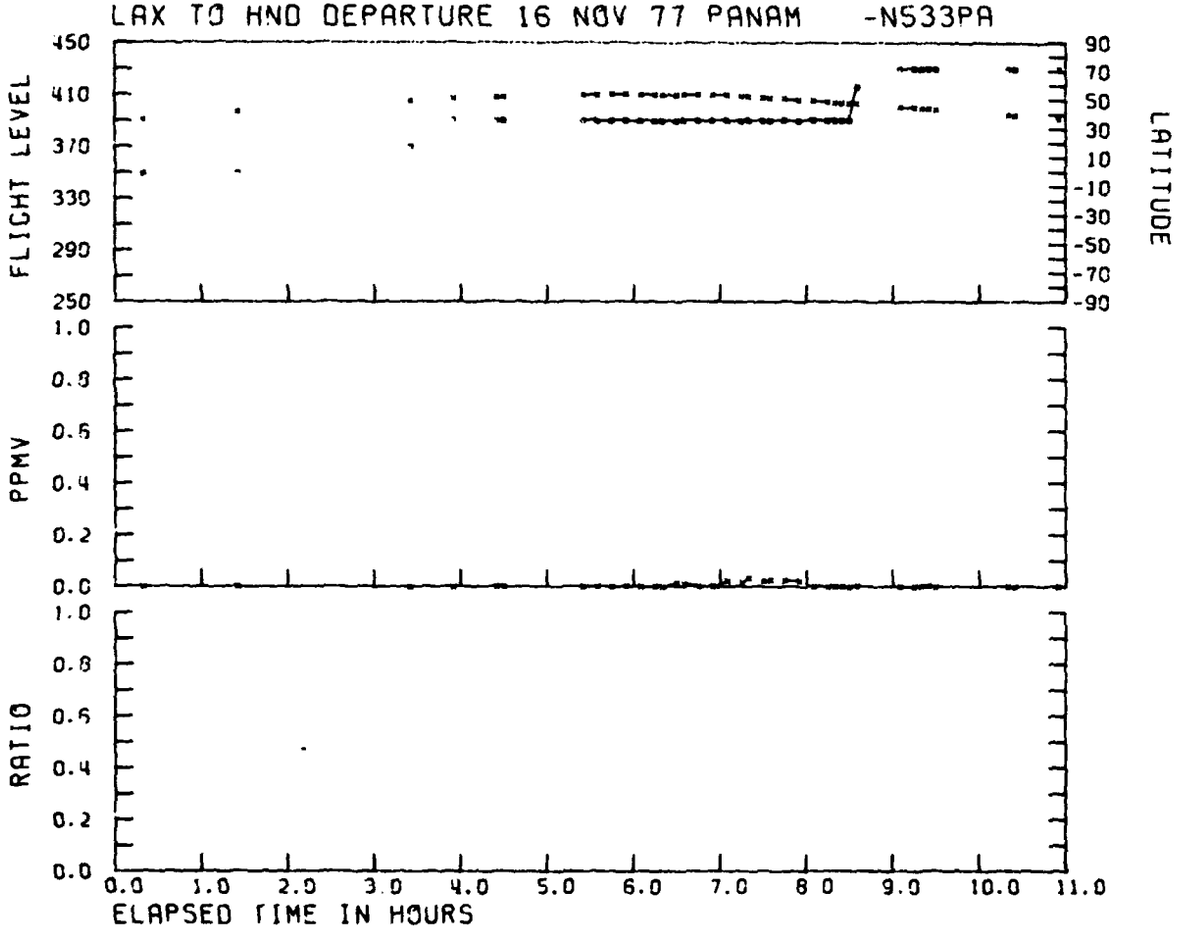

HND TO LAX DEPARTURE 16 NOV 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
ELAPSED TIME IN HOURS

A-198

HND TO LAX (PAGE 1 OF 1) DEPARTURE: 16 NOV 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .005 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 17
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
11/16/77	1345	2:30	370	39.42N	173.23E	-49.	.000		
11/16/77	1355	2:40	370	39.63N	175.24E	-50.	.000		
11/16/77	1400	2:45	370	39.73N	176.26E	-51.	.000		
11/16/77	1405	2:50	370	39.81N	177.27E	-50.	.005		
11/16/77	1415	3:00	370	39.96N	179.27E	-54.	.000		
11/16/77	1445	3:30	410	40.11N	174.66W	-59.	.000		
11/16/77	1500	3:45	410	40.06N	171.57W	-61.	.000		
11/16/77	1505	3:50	410	40.02N	170.55W	-60.	.000		
11/16/77	1510	3:55	410	40.02N	169.60W	-62.	.000		
11/16/77	1525	4:10	410	40.09N	166.74W	-62.	.000		
11/16/77	1600	4:45	410	40.00N	160.07W	-57.	.000		
11/16/77	1605	4:50	410	40.03N	159.11W	-56.	.000		
11/16/77	1610	4:55	410	40.06N	158.18W	-61.	.000		
11/16/77	1645	5:30	410	40.06N	151.62W	-57.	.000		
11/16/77	1700	5:45	410	40.05N	148.71W	-61.	.000		
11/16/77	1705	5:50	410	40.07N	147.74W	-61.	.000		
11/16/77	1900	7:45	410	37.85N	125.93W	-64.	.000		

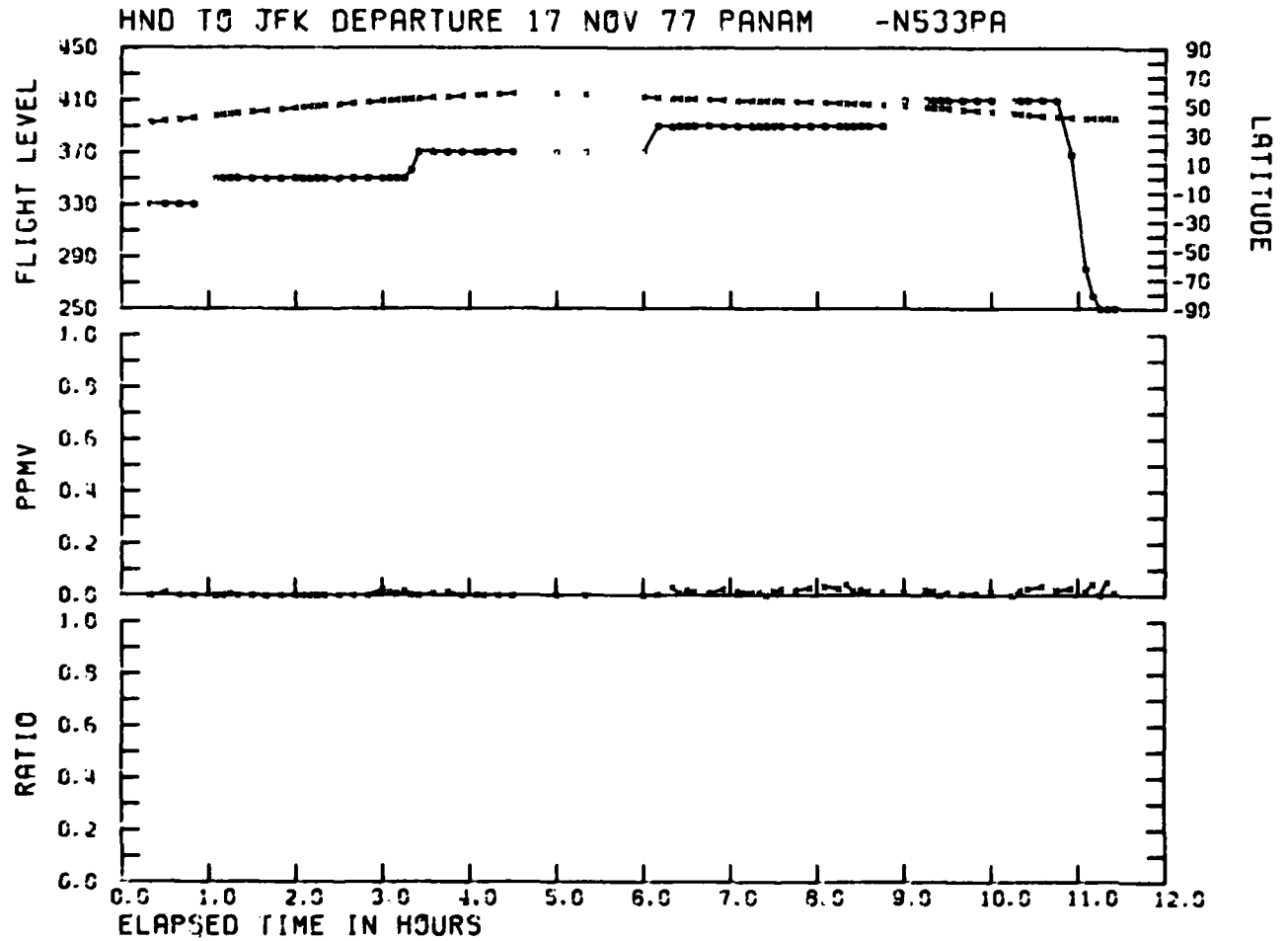

LAX TO HNO DEPARTURE 16 NOV 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0
ELAPSED TIME IN HOURS

A-800

LAX TO HND (PAGE 1 OF 1) DEPARTURE: 16 NOV 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .034 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 38
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
11/16/77	2243	0:20	349	36.88N	121.39W	-53.	.000		
11/16/77	2348	1:25	349	42.30N	129.06W	-55.	.000		
11/17/77	0148	3:25	370	49.87N	145.72W	-61.	.000		
11/17/77	0219	3:56	390	51.22N	150.90W	-67.	.000		
11/17/77	0249	4:26	390	52.36N	156.20W	-67.	.000		
11/17/77	0254	4:31	390	52.52N	157.11W	-67.	.000		
11/17/77	0352	5:29	390	53.87N	167.96W	-63.	.000		
11/17/77	0402	5:39	390	53.99N	169.90W	-59.	.000		
11/17/77	0412	5:49	390	54.06N	171.98W	-52.	.000		
11/17/77	0422	5:59	390	54.10N	174.13W	-52.	.001		
11/17/77	0432	6:09	390	54.10N	176.31W	-51.	.000		
11/17/77	0442	6:19	390	54.05N	178.52W	-50.	.000		
11/17/77	0447	6:24	390	54.02N	179.56W	-49.	.000		
11/17/77	0457	6:34	390	53.97N	178.09E	-49.	.015		
11/17/77	0502	6:39	390	53.94N	176.96E	-49.	.012		
11/17/77	0512	6:49	390	53.84N	174.72E	-49.	.000		
11/17/77	0522	6:59	390	53.70N	172.49E	-50.	.000		
11/17/77	0532	7:09	390	53.52N	170.28E	-49.	.021		
11/17/77	0542	7:19	390	52.98N	168.25E	-49.	.016		
11/17/77	0547	7:24	390	52.68N	167.28E	-48.	.034		
11/17/77	0557	7:34	390	52.05N	165.38E	-48.	.024		
11/17/77	0602	7:39	390	51.73N	164.46E	-48.	.027		
11/17/77	0612	7:49	390	51.08N	162.69E	-49.	.024		
11/17/77	0622	7:59	390	50.43N	161.03E	-49.	.021		
11/17/77	0632	8:09	390	49.74N	159.47E	-51.	.000		
11/17/77	0642	8:19	390	49.01N	158.06E	-52.	.000		
11/17/77	0647	8:24	390	48.64N	157.39E	-54.	.000		
11/17/77	0652	8:29	390	48.29N	156.75E	-55.	.000		
11/17/77	0657	8:34	390	47.94N	156.14E	-54.	.000		
11/17/77	0702	8:39	416	47.59N	155.54E	-56.	.000		
11/17/77	0732	9:09	430	45.40N	152.03E	-62.	.000		
11/17/77	0742	9:19	430	44.68N	150.96E	-62.	.000		
11/17/77	0747	9:24	430	44.32N	150.45E	-64.	.000		
11/17/77	0752	9:29	430	43.95N	149.93E	-65.	.000		
11/17/77	0757	9:34	430	43.60N	149.42E	-66.	.000		
11/17/77	0847	10:24	430	39.91N	144.57E	-62.	.000		
11/17/77	0852	10:29	430	39.53N	144.08E	-62.	.000		
11/17/77	0922	10:59	430	37.05N	141.34E	-62.	.000		


HND TO JFK DEPARTURE 17 NOV 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
12.0
ELAPSED TIME IN HOURS

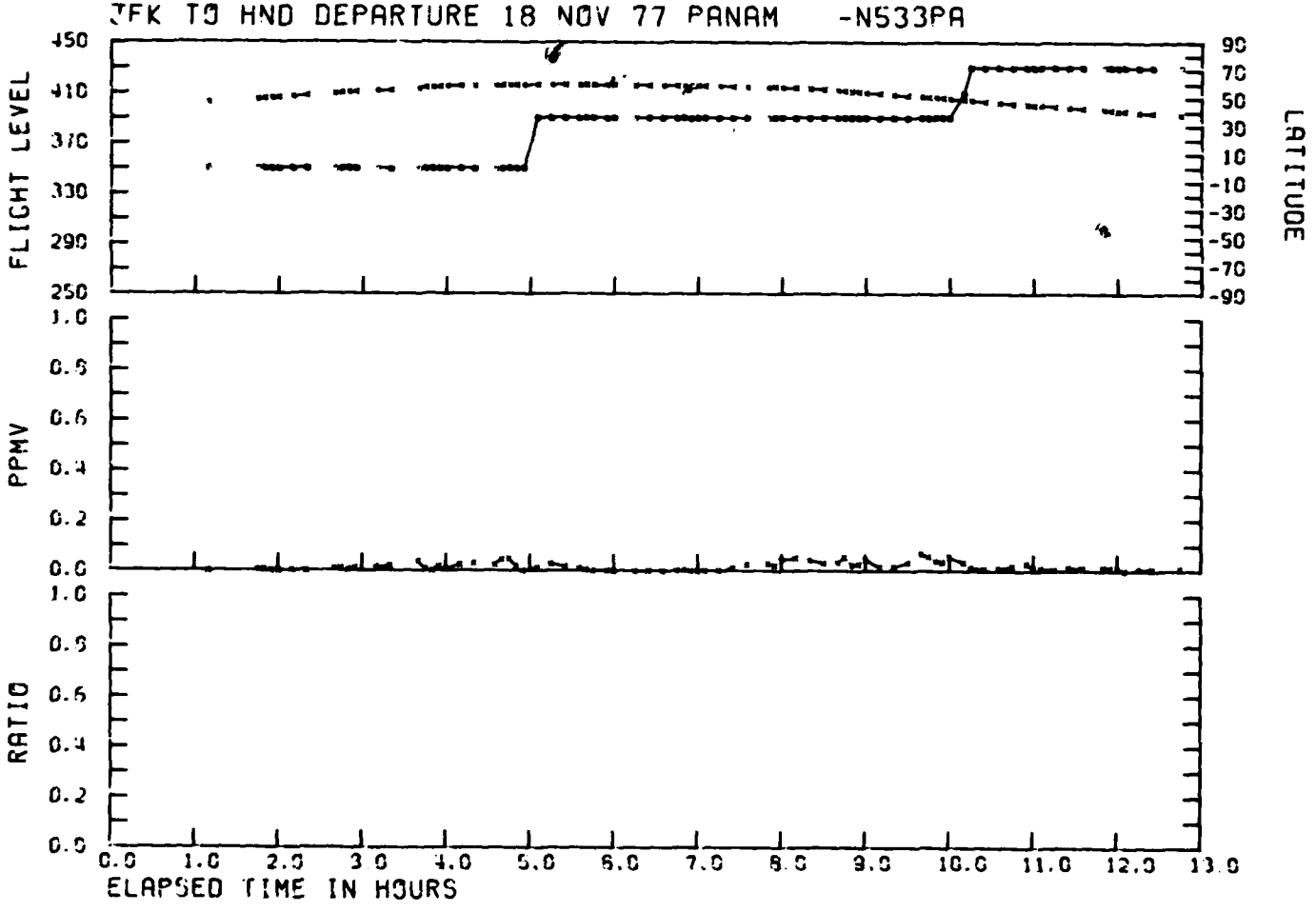
A-502

HND TO JFK (PAGE 1 OF 1) DEPARTURE: 17 NOV 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .050 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 76
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
11/17/77	1242	0:24	330	38.64N	146.03E	-44.	.000		
11/17/77	1252	0:34	330	39.76N	147.53E	-41.	.011		
11/17/77	1302	0:44	330	40.88N	149.10E	-42.	.002		
11/17/77	1312	0:54	330	41.96N	150.77E	-42.	.000		
11/17/77	1327	1:09	350	43.52N	153.49E	-48.	.000		
11/17/77	1332	1:14	350	44.03N	154.44E	-48.	.000		
11/17/77	1337	1:19	350	44.53N	155.40E	-48.	.006		
11/17/77	1342	1:24	350	45.03N	156.38E	-49.	.000		
11/17/77	1352	1:34	350	45.98N	158.40E	-50.	.000		
11/17/77	1402	1:44	350	46.92N	160.47E	-49.	.000		
11/17/77	1412	1:54	350	47.88N	162.51E	-48.	.000		
11/17/77	1422	2:04	351	48.78N	164.56E	-46.	.000		
11/17/77	1427	2:09	350	49.18N	165.53E	-45.	.000		
11/17/77	1432	2:14	350	49.56N	166.48E	-46.	.000		
11/17/77	1437	2:19	350	49.95N	167.48E	-46.	.000		
11/17/77	1442	2:24	350	50.31N	168.44E	-46.	.000		
11/17/77	1452	2:34	350	51.02N	170.36E	-46.	.002		
11/17/77	1502	2:44	350	51.88N	172.12E	-47.	.000		
11/17/77	1512	2:54	350	52.69N	173.94E	-48.	.000		
11/17/77	1522	3:04	350	53.41N	175.86E	-47.	.021		
11/17/77	1527	3:09	350	53.75N	176.86E	-48.	.011		
11/17/77	1532	3:14	350	54.08N	177.89E	-49.	.006		
11/17/77	1537	3:19	350	54.42N	178.93E	-49.	.018		
11/17/77	1542	3:24	356	54.75N	179.99W	-52.	.002		
11/17/77	1547	3:29	370	55.07N	178.90W	-51.	.000		
11/17/77	1557	3:39	370	55.70N	176.64W	-56.	.007		
11/17/77	1607	3:49	370	56.29N	174.27W	-62.	.014		
11/17/77	1617	3:59	370	56.86N	171.79W	-62.	.000		
11/17/77	1627	4:09	370	57.39N	169.20W	-61.	.002		
11/17/77	1632	4:14	370	57.67N	167.88W	-61.	.000		
11/17/77	1642	4:24	370	58.19N	165.12W	-62.	.000		
11/17/77	1652	4:34	370	58.64N	162.23W	-64.	.000		
11/17/77	1722	5:04	370	58.58N	153.21W	-64.	.000		
11/17/77	1742	5:24	370	58.05N	147.26W	-65.	.000		
11/17/77	1822	6:04	371	56.22N	136.18W	-54.	.000		
11/17/77	1832	6:14	390	55.63N	133.68W	-54.	.004		
11/17/77	1842	6:24	390	55.05N	131.25W	-50.	.031		
11/17/77	1847	6:29	390	54.94N	130.36W	-48.	.009		
11/17/77	1852	6:34	390	54.80N	129.12W	-50.	.021		
11/17/77	1857	6:39	390	54.66N	127.88W	-49.	.013		
11/17/77	1907	6:49	390	54.33N	125.48W	-48.	.010		
11/17/77	1917	6:59	390	53.97N	123.12W	-47.	.023		
11/17/77	1927	7:09	390	53.75N	120.73W	-45.	.017		
11/17/77	1937	7:19	390	53.58N	118.36W	-48.	.010		
11/17/77	1942	7:24	390	53.48N	117.18W	-49.	.011		
11/17/77	1947	7:29	390	53.39N	115.99W	-49.	.000		
11/17/77	1952	7:34	390	53.29N	114.80W	-47.	.016		
11/17/77	1957	7:39	390	53.18N	113.62W	-48.	.024		
11/17/77	2007	7:49	390	52.93N	111.30W	-49.	.021		
11/17/77	2017	7:59	390	52.64N	109.03W	-49.	.028		
11/17/77	2027	8:09	390	52.30N	106.79W	-50.	.034		
11/17/77	2037	8:19	390	51.94N	104.63W	-51.	.026		
11/17/77	2042	8:24	390	51.74N	103.54W	-51.	.042		
11/17/77	2047	8:29	390	51.54N	102.47W	-51.	.016		
11/17/77	2052	8:34	390	51.32N	101.42W	-51.	.022		
11/17/77	2057	8:39	390	51.10N	100.37W	-51.	.013		
11/17/77	2107	8:49	390	50.61N	98.30W	-52.	.013		
11/17/77	2122	9:04	410	49.83N	95.29W	-49.	.010		
11/17/77	2137	9:19	410	48.97N	92.41W	-46.	.021		
11/17/77	2142	9:24	410	48.66N	91.44W	-46.	.016		
11/17/77	2147	9:29	410	48.34N	90.49W	-46.	.001		
11/17/77	2152	9:34	410	48.02N	89.55W	-46.	.010		
11/17/77	2202	9:44	410	47.36N	87.72W	-43.	.007		
11/17/77	2212	9:54	410	46.67N	85.91W	-43.	.006		
11/17/77	2222	10:04	410	45.94N	84.14W	-44.	.014		
11/17/77	2237	10:19	410	44.81N	81.58W	-42.	.001		
11/17/77	2242	10:24	410	44.39N	80.77W	-42.	.019		
11/17/77	2247	10:29	410	43.91N	80.06W	-43.	.027		
11/17/77	2257	10:39	410	42.89N	78.77W	-43.	.036		
11/17/77	2307	10:49	410	42.33N	76.94W	-44.	.020		
11/17/77	2317	10:59	368	41.75N	75.19W	-42.	.027		
11/17/77	2327	11:09	281	41.36N	74.06W	-45.	.012		
11/17/77	2332	11:14	260	41.51N	74.17W	-42.	.042		
11/17/77	2337	11:19	240	41.39N	74.22W	-36.	.000		
11/17/77	2342	11:24	241	41.51N	74.18W	-36.	.050		
11/17/77	2347	11:29	210	41.19N	74.13W	-29.	.009		

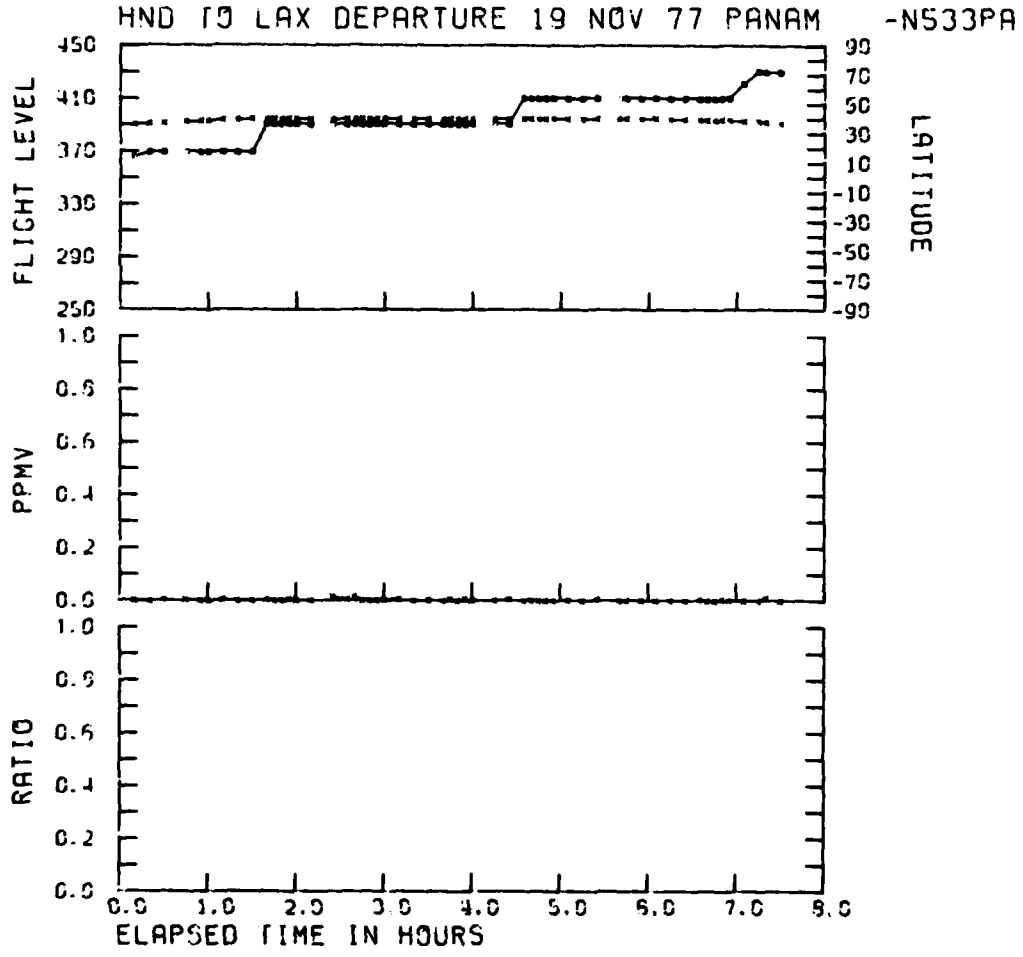
A-503


JFK TO HND DEPARTURE 18 NOV 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0 13.0
ELAPSED TIME IN HOURS

JFK TO HND (PAGE 1 OF 1) DEPARTURE: 18 NOV 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .068 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 81
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
11/18/77	1755	1:10	350	46.81N	84.10W	-46.	.000		
11/18/77	1830	1:45	350	49.41N	89.61W	-51.	.007		
11/18/77	1835	1:50	350	49.77N	90.46W	-52.	.006		
11/18/77	1840	1:55	350	50.12N	91.32W	-52.	.000		
11/18/77	1845	2:00	350	50.47N	92.22W	-54.	.000		
11/18/77	1855	2:10	350	51.15N	93.98W	-54.	.003		
11/18/77	1905	2:20	350	51.95N	95.80W	-58.	.000		
11/18/77	1925	2:40	350	53.44N	99.59W	-59.	.009		
11/18/77	1930	2:45	350	53.80N	100.60W	-59.	.011		
11/18/77	1935	2:50	350	54.13N	101.64W	-59.	.006		
11/18/77	1940	2:55	350	54.42N	102.71W	-58.	.011		
11/18/77	1955	3:10	350	55.27N	105.96W	-56.	.015		
11/18/77	2005	3:20	349	55.88N	108.17W	-54.	.020		
11/18/77	2025	3:40	350	57.10N	112.57W	-53.	.038		
11/18/77	2030	3:45	350	57.47N	113.63W	-51.	.008		
11/18/77	2035	3:50	350	57.82N	114.71W	-52.	.000		
11/18/77	2040	3:55	350	58.17N	115.81W	-51.	.017		
11/18/77	2045	4:00	350	58.50N	116.92W	-51.	.006		
11/18/77	2055	4:10	350	58.72N	119.45W	-51.	.024		
11/18/77	2105	4:20	350	58.85N	122.05W	-51.	.032		
11/18/77	2120	4:35	350	59.14N	125.82W	-52.	.026		
11/18/77	2125	4:40	350	59.23N	127.05W	-51.	.046		
11/18/77	2130	4:45	350	59.31N	128.30W	-54.	.049		
11/18/77	2135	4:50	350	59.38N	129.55W	-57.	.018		
11/18/77	2140	4:55	350	59.44N	130.80W	-56.	.000		
11/18/77	2150	5:05	390	59.52N	133.24W	-59.	.012		
11/18/77	2200	5:15	390	59.55N	135.59W	-66.	.028		
11/18/77	2210	5:25	390	59.54N	137.98W	-66.	.017		
11/18/77	2220	5:35	390	59.52N	140.32W	-66.	.011		
11/18/77	2225	5:40	390	59.53N	141.48W	-67.	.005		
11/18/77	2230	5:45	390	59.53N	142.64W	-67.	.000		
11/18/77	2240	5:55	390	59.50N	144.94W	-66.	.001		
11/18/77	2245	6:00	390	59.47N	146.10W	-66.	.000		
11/18/77	2300	6:15	390	59.32N	149.72W	-66.	.000		
11/18/77	2310	6:25	390	59.16N	152.15W	-66.	.000		
11/18/77	2320	6:35	390	58.95N	154.58W	-67.	.000		
11/18/77	2330	6:45	390	58.73N	157.04W	-66.	.001		
11/18/77	2335	6:50	390	58.73N	158.34W	-65.	.004		
11/18/77	2340	6:55	390	58.71N	159.63W	-64.	.000		
11/18/77	2345	7:00	390	58.69N	160.97W	-58.	.000		
11/18/77	2350	7:05	390	58.64N	162.33W	-55.	.000		
11/19/77	0000	7:15	390	58.47N	164.99W	-51.	.002		
11/19/77	0010	7:25	390	58.25N	167.65W	-50.	.012		
11/19/77	0020	7:35	390	57.99N	170.31W	-50.	.028		
11/19/77	0035	7:50	390	57.86N	174.30W	-47.	.030		
11/19/77	0040	7:55	390	57.79N	175.64W	-46.	.022		
11/19/77	0045	8:00	390	57.70N	176.98W	-46.	.046		
11/19/77	0055	8:10	390	57.48N	179.65W	-46.	.051		
11/19/77	0105	8:20	390	56.91N	178.13E	-47.	.042		
11/19/77	0115	8:30	390	56.23N	175.97E	-47.	.031		
11/19/77	0125	8:40	390	55.52N	173.90E	-46.	.033		
11/19/77	0130	8:45	390	55.15N	172.90E	-47.	.054		
11/19/77	0135	8:50	390	54.78N	171.92E	-48.	.024		
11/19/77	0140	8:55	390	54.40N	170.97E	-48.	.028		
11/19/77	0145	9:00	390	54.01N	170.03E	-46.	.046		
11/19/77	0155	9:10	390	53.34N	168.06E	-46.	.017		
11/19/77	0205	9:20	390	52.67N	166.23E	-46.	.017		
11/19/77	0215	9:30	390	51.97N	164.43E	-46.	.035		
11/19/77	0225	9:40	390	51.25N	162.72E	-48.	.068		
11/19/77	0230	9:45	390	50.88N	161.90E	-48.	.058		
11/19/77	0235	9:50	390	50.52N	161.10E	-48.	.041		
11/19/77	0240	9:55	390	50.15N	160.31E	-47.	.036		
11/19/77	0245	10:00	390	49.78N	159.56E	-48.	.056		
11/19/77	0255	10:10	409	49.03N	158.10E	-49.	.035		
11/19/77	0300	10:15	430	48.64N	157.39E	-51.	.014		
11/19/77	0310	10:25	430	47.90N	156.07E	-51.	.008		
11/19/77	0320	10:35	430	47.14N	154.77E	-51.	.010		
11/19/77	0330	10:45	430	46.37N	153.52E	-51.	.020		
11/19/77	0340	10:55	430	45.63N	152.37E	-52.	.030		
11/19/77	0345	11:00	430	45.25N	151.80E	-51.	.014		
11/19/77	0350	11:05	430	44.87N	151.24E	-52.	.013		
11/19/77	0400	11:15	430	44.16N	150.22E	-56.	.006		
11/19/77	0410	11:25	430	43.49N	149.09E	-54.	.016		
11/19/77	0420	11:35	430	42.83N	147.95E	-54.	.011		
11/19/77	0435	11:50	430	41.85N	146.32E	-54.	.014		
11/19/77	0440	11:55	430	41.51N	145.78E	-54.	.011		
11/19/77	0445	12:00	430	41.17N	145.25E	-55.	.011		
11/19/77	0450	12:05	430	40.83N	144.72E	-55.	.001		
11/19/77	0500	12:15	430	40.15N	143.70E	-54.	.008		
11/19/77	0510	12:25	430	39.48N	142.72E	-56.	.008		
11/19/77	0530	12:45	430	37.95N	141.08E	-56.	.011		


HND TO LAX DEPARTURE 19 NOV 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
ELAPSED TIME IN HOURS

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HNO TO LAX (PAGE 1 OF 1) DEPARTURE: 19 NOV 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .017 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 55
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
11/19/77	0824	0:10	366	36.47N	143.76E	-49.	.000		
11/19/77	0834	0:20	369	37.03N	145.86E	-48.	.000		
11/19/77	0844	0:30	370	37.55N	147.99E	-47.	.005		
11/19/77	0859	0:45	370	38.31N	151.27E	-48.	.005		
11/19/77	0909	0:55	369	38.81N	153.48E	-48.	.000		
11/19/77	0914	1:00	370	39.04N	154.59E	-49.	.000		
11/19/77	0924	1:10	370	39.47N	156.82E	-49.	.005		
11/19/77	0934	1:20	370	39.86N	159.09E	-49.	.000		
11/19/77	0944	1:30	370	40.05N	161.41E	-49.	.000		
11/19/77	0954	1:40	391	40.10N	163.74E	-52.	.004		
11/19/77	0959	1:45	391	40.11N	164.91E	-51.	.000		
11/19/77	1004	1:50	391	40.10N	166.08E	-52.	.000		
11/19/77	1009	1:55	391	40.08N	167.25E	-51.	.005		
11/19/77	1014	2:00	391	40.06N	168.42E	-51.	.000		
11/19/77	1024	2:10	391	40.03N	170.75E	-51.	.000		
11/19/77	1039	2:25	391	40.10N	174.20E	-51.	.015		
11/19/77	1049	2:35	391	40.10N	176.49E	-50.	.005		
11/19/77	1054	2:40	391	40.08N	177.63E	-50.	.017		
11/19/77	1059	2:45	391	40.04N	178.78E	-48.	.000		
11/19/77	1104	2:50	391	40.00N	179.93E	-48.	.000		
11/19/77	1109	2:55	391	40.04N	178.93W	-47.	.000		
11/19/77	1114	3:00	391	40.07N	177.79W	-48.	.004		
11/19/77	1124	3:10	391	40.11N	175.51W	-46.	.006		
11/19/77	1134	3:20	391	40.09N	173.25W	-45.	.000		
11/19/77	1144	3:30	391	40.04N	171.03W	-45.	.001		
11/19/77	1154	3:40	391	40.04N	168.84W	-46.	.000		
11/19/77	1159	3:45	391	40.07N	167.74W	-45.	.006		
11/19/77	1204	3:50	391	40.09N	166.66W	-46.	.000		
11/19/77	1209	3:55	391	40.10N	165.57W	-46.	.006		
11/19/77	1214	4:00	391	40.11N	164.49W	-46.	.000		
11/19/77	1229	4:15	391	40.05N	161.28W	-47.	.000		
11/19/77	1239	4:25	391	40.03N	159.18W	-47.	.005		
11/19/77	1249	4:35	410	40.09N	157.11W	-52.	.000		
11/19/77	1254	4:40	410	40.10N	156.07W	-51.	.000		
11/19/77	1259	4:46	410	40.11N	155.05W	-52.	.000		
11/19/77	1304	4:50	410	40.10N	154.04W	-52.	.000		
11/19/77	1309	4:55	410	40.09N	153.03W	-54.	.000		
11/19/77	1319	5:05	410	40.04N	151.07W	-56.	.001		
11/19/77	1329	5:15	410	40.03N	149.15W	-58.	.000		
11/19/77	1339	5:25	410	40.09N	147.22W	-59.	.005		
11/19/77	1354	5:40	410	40.10N	144.36W	-63.	.000		
11/19/77	1359	5:45	410	40.09N	143.38W	-64.	.000		
11/19/77	1409	5:55	410	40.05N	141.43W	-64.	.000		
11/19/77	1419	6:05	410	40.00N	140.00W	-65.	.000		
11/19/77	1429	6:15	410	39.85N	137.69W	-65.	.000		
11/19/77	1439	6:25	410	39.69N	135.81W	-68.	.000		
11/19/77	1449	6:35	410	39.49N	133.87W	-67.	.004		
11/19/77	1454	6:40	410	39.38N	132.94W	-68.	.000		
11/19/77	1459	6:45	410	39.27N	132.01W	-66.	.000		
11/19/77	1504	6:50	410	39.15N	131.09W	-67.	.006		
11/19/77	1509	6:55	410	39.02N	130.15W	-67.	.000		
11/19/77	1519	7:05	421	38.54N	128.30W	-69.	.000		
11/19/77	1529	7:15	430	38.03N	126.50W	-65.	.000		
11/19/77	1534	7:20	430	37.73N	125.64W	-67.	.009		
11/19/77	1544	7:30	430	37.01N	124.06W	-67.	.000		

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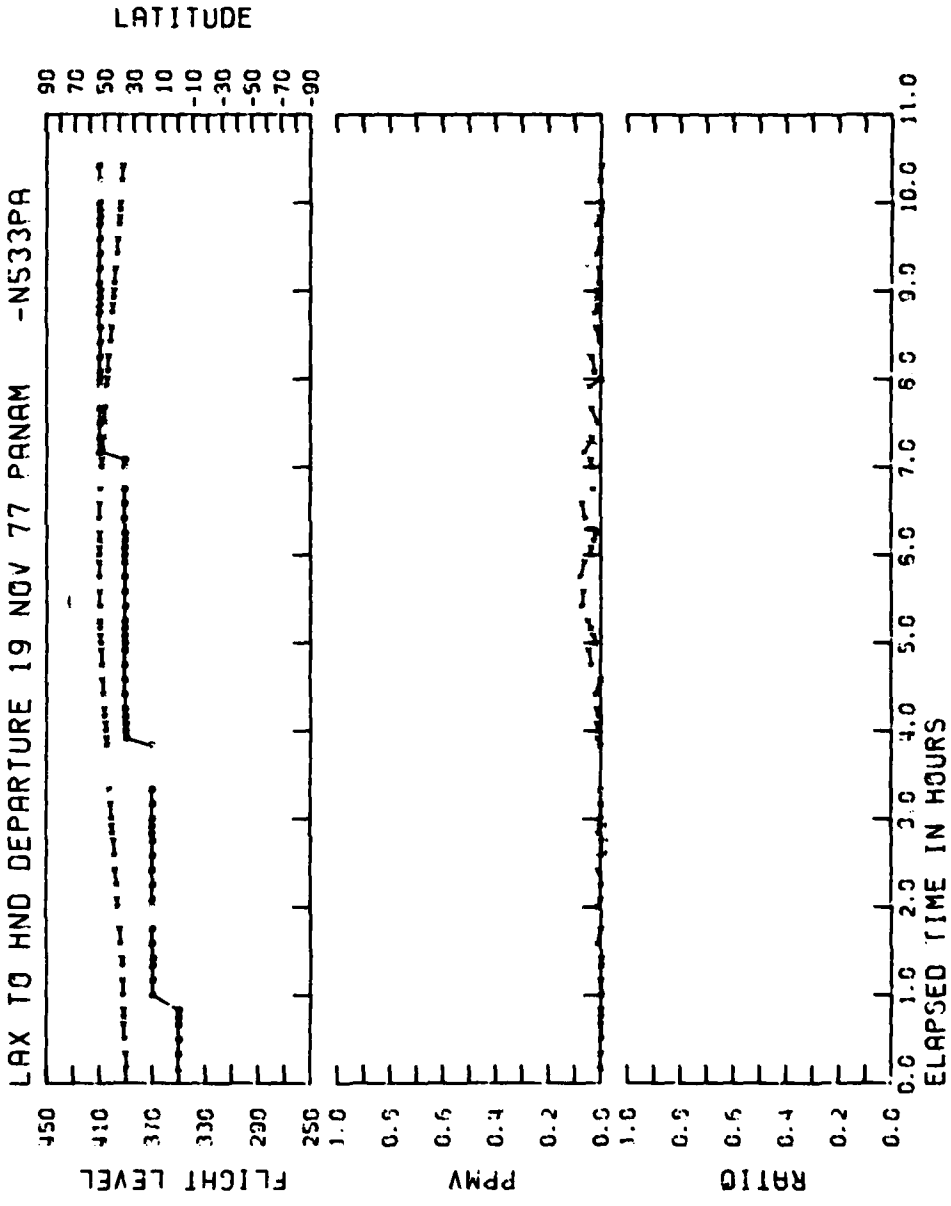
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
LAX TO HND DEPARTURE 19 NOV 77 PANAM -N533PA
450 410 370 330 290 250
FLIGHT LEVEL
1.0 0.8 0.6 0.4 0.2 0.0
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0
ELAPSED TIME IN HOURS

LAX TO HND (PAGE 1 OF 1) DEPARTURE: 19 NOV 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .078 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 74
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
11/19/77	2040	0:10	350	35.54N	120.44W	-56.	.001		
11/19/77	2050	0:20	350	36.35N	121.47W	-56.	.000		
11/19/77	2100	0:30	350	37.08N	122.56W	-56.	.000		
11/19/77	2110	0:40	350	37.43N	123.90W	-56.	.000		
11/19/77	2115	0:45	350	37.58N	124.60W	-56.	.000		
11/19/77	2121	0:51	350	37.72N	125.30W	-57.	.000		
11/19/77	2131	1:01	370	38.08N	126.65W	-62.	.000		
11/19/77	2140	1:10	370	38.46N	128.00W	-61.	.000		
11/19/77	2150	1:20	370	38.83N	129.35W	-61.	.000		
11/19/77	2155	1:25	370	39.01N	130.02W	-61.	.000		
11/19/77	2205	1:35	370	39.73N	131.06W	-62.	.011		
11/19/77	2215	1:45	370	40.43N	132.09W	-62.	.000		
11/19/77	2230	2:00	370	41.51N	133.79W	-61.	.011		
11/19/77	2235	2:05	370	41.87N	134.37W	-61.	.000		
11/19/77	2245	2:15	370	42.58N	135.55W	-61.	.000		
11/19/77	2255	2:25	370	43.31N	136.82W	-60.	.009		
11/19/77	2305	2:35	370	44.02N	138.12W	-59.	.000		
11/19/77	2315	2:45	370	44.75N	139.51W	-58.	.000		
11/19/77	2320	2:50	370	45.11N	140.23W	-59.	.008		
11/19/77	2325	2:55	370	45.46N	140.98W	-59.	.000		
11/19/77	2330	3:00	370	45.80N	141.74W	-59.	.000		
11/19/77	2340	3:10	370	46.49N	143.32W	-59.	.000		
11/19/77	2350	3:20	370	47.17N	144.97W	-58.	.000		
11/20/77	0020	3:50	370	49.14N	150.39W	-54.	.002		
11/20/77	0025	3:55	390	49.48N	151.35W	-53.	.012		
11/20/77	0030	4:00	390	49.81N	152.32W	-54.	.010		
11/20/77	0035	4:05	390	50.13N	153.30W	-53.	.016		
11/20/77	0040	4:10	390	50.44N	154.30W	-52.	.011		
11/20/77	0045	4:15	391	50.75N	155.32W	-52.	.015		
11/20/77	0055	4:25	391	51.34N	157.41W	-50.	.020		
11/20/77	0105	4:35	391	51.89N	159.57W	-49.	.002		
11/20/77	0115	4:45	391	52.42N	161.74W	-49.	.037		
11/20/77	0125	4:55	391	52.93N	164.04W	-46.	.047		
11/20/77	0130	5:00	391	53.16N	165.18W	-46.	.025		
11/20/77	0135	5:05	391	53.38N	166.32W	-46.	.030		
11/20/77	0140	5:10	391	53.59N	167.51W	-46.	.039		
11/20/77	0145	5:15	391	53.79N	168.66W	-45.	.050		
11/20/77	0155	5:25	391	54.04N	171.03W	-45.	.074		
11/20/77	0205	5:35	391	54.09N	173.39W	-45.	.067		
11/20/77	0215	5:45	391	54.10N	175.73W	-44.	.078		
11/20/77	0225	5:55	391	54.06N	178.08W	-45.	.063		
11/20/77	0230	6:00	391	54.03N	179.25W	-44.	.040		
11/20/77	0235	6:05	391	54.00N	179.98W	-46.	.037		
11/20/77	0240	6:10	391	53.98N	178.39E	-46.	.028		
11/20/77	0245	6:15	391	53.94N	177.22E	-45.	.020		
11/20/77	0255	6:25	391	53.85N	174.90E	-46.	.061		
11/20/77	0305	6:35	391	53.71N	172.59E	-45.	.070		
11/20/77	0315	6:45	391	53.53N	170.35E	-45.	.031		
11/20/77	0330	7:00	391	52.71N	167.36E	-48.	.036		
11/20/77	0335	7:05	391	52.40N	166.42E	-47.	.039		
11/20/77	0340	7:10	410	52.09N	165.49E	-49.	.064		
11/20/77	0350	7:20	410	51.46N	163.70E	-49.	.035		
11/20/77	0400	7:30	410	50.81N	162.00E	-50.	.012		
11/20/77	0410	7:40	410	50.14N	160.32E	-50.	.037		
11/20/77	0425	7:55	410	48.99N	158.04E	-52.	.043		
11/20/77	0430	8:00	410	48.60N	157.32E	-52.	.000		
11/20/77	0435	8:05	410	48.21N	156.61E	-52.	.027		
11/20/77	0445	8:15	410	47.43N	155.26E	-52.	.036		
11/20/77	0455	8:25	410	46.65N	153.96E	-53.	.007		
11/20/77	0505	8:35	410	45.86N	152.72E	-51.	.021		
11/20/77	0515	8:45	410	45.05N	151.51E	-49.	.022		
11/20/77	0520	8:50	410	44.64N	150.91E	-49.	.012		
11/20/77	0525	8:55	410	44.23N	150.33E	-48.	.014		
11/20/77	0530	9:00	410	43.84N	149.71E	-47.	.015		
11/20/77	0535	9:05	410	43.48N	149.07E	-49.	.009		
11/20/77	0545	9:15	410	42.76N	147.82E	-49.	.007		
11/20/77	0555	9:25	410	42.02N	146.59E	-51.	.017		
11/20/77	0605	9:35	410	41.28N	145.41E	-52.	.004		
11/20/77	0615	9:45	410	40.56N	144.31E	-54.	.018		
11/20/77	0620	9:50	410	40.20N	143.78E	-53.	.007		
11/20/77	0625	9:55	410	39.84N	143.24E	-54.	.002		
11/20/77	0630	10:00	410	39.48N	142.73E	-56.	.001		
11/20/77	0645	10:15	410	38.41N	141.25E	-54.	.004		
11/20/77	0655	10:25	410	37.47N	140.68E	-56.	.000		

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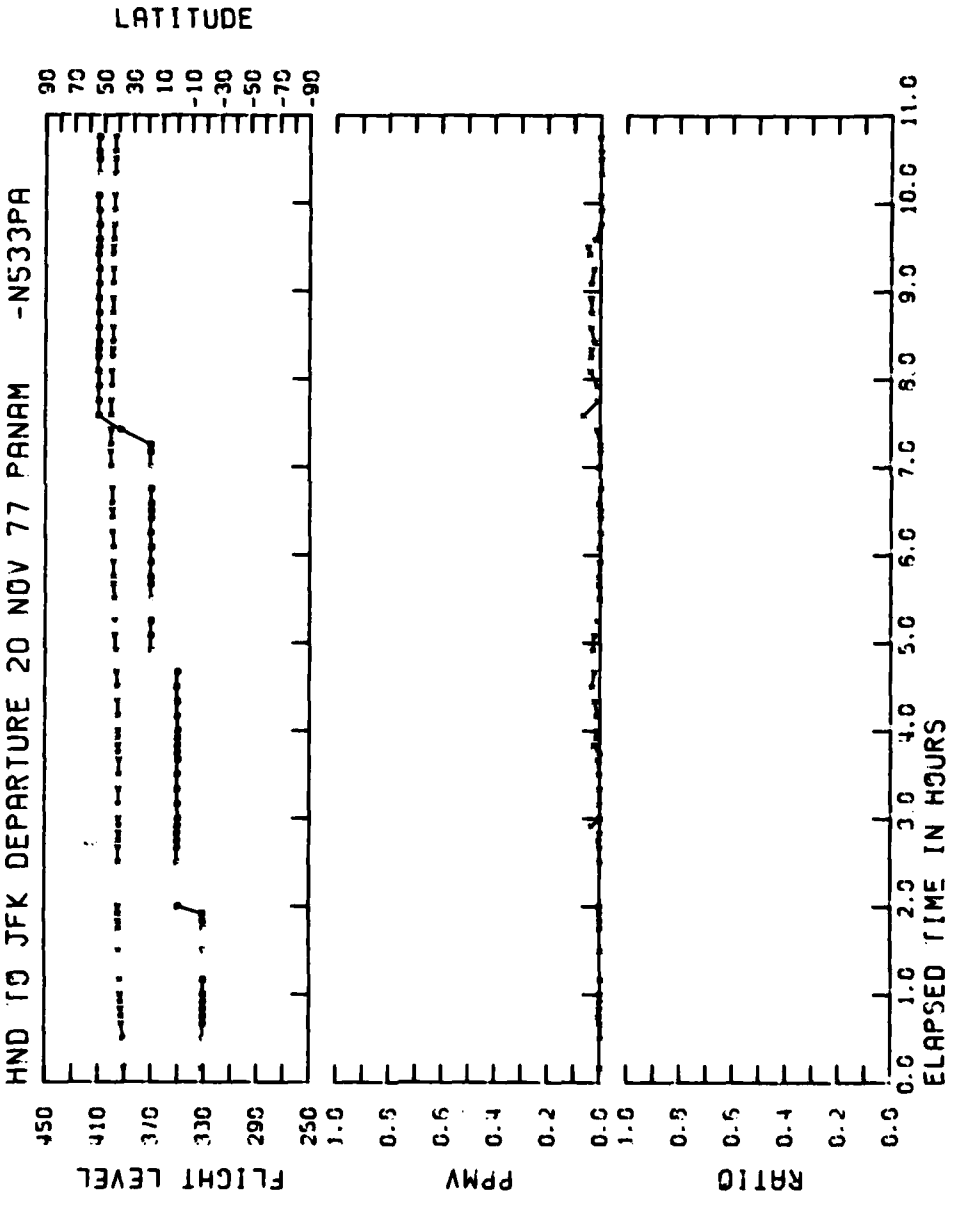
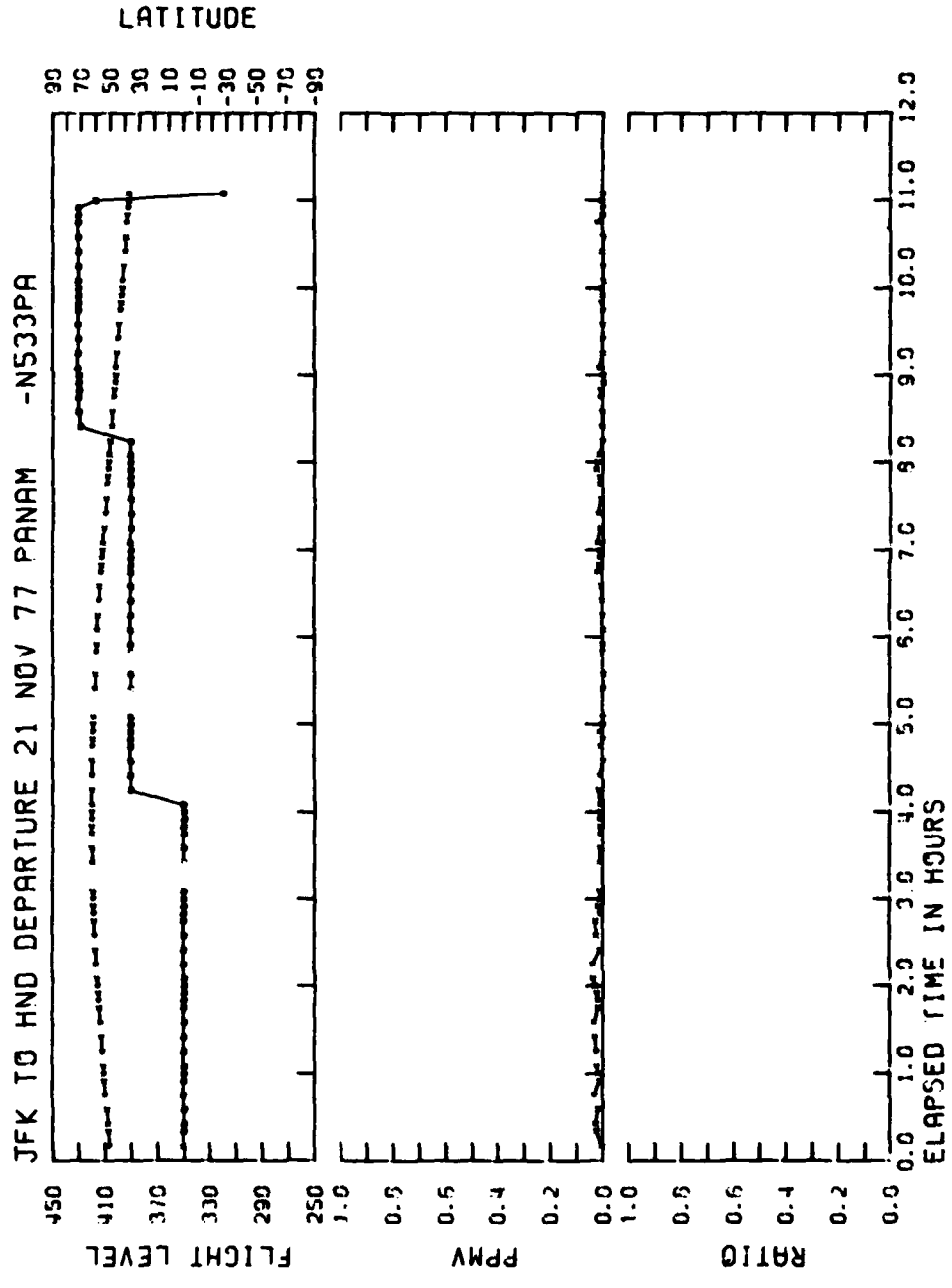

LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
HND TO JFK DEPARTURE 20 NOV 77 PANAM -N533PA
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0
ELAPSED TIME IN HOURS

HND TO JFK (PAGE 1 OF 1) DEPARTURE: 20 NOV 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .064 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 70
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
11/20/77	1226	0:10	331	35.93N	143.75E	-47.	.000		
11/20/77	1246	0:30	331	37.32N	147.79E	-48.	.000		
11/20/77	1256	0:40	331	37.97N	149.88E	-47.	.000		
11/20/77	1301	0:45	331	38.25N	150.98E	-48.	.003		
11/20/77	1306	0:50	331	38.50N	152.06E	-47.	.000		
11/20/77	1311	0:55	331	38.75N	153.16E	-47.	.000		
11/20/77	1316	1:00	331	38.98N	154.28E	-47.	.000		
11/20/77	1326	1:10	331	39.42N	156.53E	-47.	.000		
11/20/77	1346	1:30	331	40.05N	161.11E	-47.	.000		
11/20/77	1401	1:45	330	40.11N	164.60E	-49.	.000		
11/20/77	1406	1:50	331	40.10N	165.73E	-49.	.000		
11/20/77	1411	1:55	331	40.09N	166.87E	-50.	.000		
11/20/77	1416	2:00	350	40.06N	167.99E	-50.	.000		
11/20/77	1446	2:30	350	40.09N	174.66E	-51.	.000		
11/20/77	1456	2:40	350	40.07N	176.84E	-51.	.000		
11/20/77	1501	2:45	350	40.05N	177.94E	-52.	.003		
11/20/77	1506	2:50	350	40.01N	179.02E	-52.	.000		
11/20/77	1511	2:55	350	39.97N	179.89W	-53.	.033		
11/20/77	1516	3:00	350	40.01N	178.83W	-54.	.000		
11/20/77	1526	3:10	350	40.06N	176.66W	-48.	.000		
11/20/77	1536	3:20	350	40.06N	174.45W	-47.	.000		
11/20/77	1546	3:30	350	40.02N	172.23W	-46.	.003		
11/20/77	1556	3:40	350	39.94N	170.03W	-46.	.007		
11/20/77	1601	3:45	350	40.08N	168.98W	-46.	.002		
11/20/77	1606	3:50	350	40.21N	167.94W	-45.	.021		
11/20/77	1611	3:55	350	40.34N	166.90W	-44.	.013		
11/20/77	1616	4:00	350	40.45N	165.87W	-43.	.009		
11/20/77	1626	4:10	350	40.66N	163.78W	-44.	.014		
11/20/77	1636	4:20	350	40.83N	161.68W	-44.	.022		
11/20/77	1646	4:30	350	41.03N	159.59W	-44.	.031		
11/20/77	1658	4:42	350	41.59N	157.17W	-43.	.022		
11/20/77	1712	4:56	370	42.15N	154.41W	-45.	.029		
11/20/77	1722	5:06	370	42.52N	152.41W	-46.	.022		
11/20/77	1732	5:16	370	42.84N	150.44W	-46.	.012		
11/20/77	1747	5:31	370	43.26N	147.49W	-50.	.005		
11/20/77	1757	5:41	370	43.49N	145.52W	-54.	.005		
11/20/77	1802	5:46	370	43.59N	144.55W	-57.	.005		
11/20/77	1812	5:56	370	43.77N	142.54W	-56.	.002		
11/20/77	1822	6:06	370	43.90N	140.62W	-56.	.005		
11/20/77	1832	6:16	370	44.13N	138.67W	-58.	.000		
11/20/77	1842	6:26	370	44.38N	136.64W	-59.	.000		
11/20/77	1847	6:31	370	44.49N	135.63W	-58.	.000		
11/20/77	1852	6:36	370	44.59N	134.63W	-58.	.007		
11/20/77	1902	6:46	370	44.78N	132.57W	-57.	.000		
11/20/77	1917	7:01	370	45.09N	129.35W	-56.	.001		
11/20/77	1927	7:11	370	45.43N	127.25W	-52.	.000		
11/20/77	1932	7:16	370	45.50N	126.14W	-52.	.001		
11/20/77	1942	7:26	393	45.41N	123.86W	-53.	.014		
11/20/77	1952	7:36	410	45.28N	121.64W	-54.	.064		
11/20/77	2002	7:46	410	45.11N	119.50W	-54.	.011		
11/20/77	2012	7:56	410	44.91N	117.35W	-52.	.014		
11/20/77	2022	8:06	410	44.64N	115.25W	-52.	.039		
11/20/77	2032	8:16	410	44.29N	113.12W	-51.	.036		
11/20/77	2037	8:21	410	44.14N	112.07W	-50.	.034		
11/20/77	2042	8:26	410	44.15N	111.00W	-50.	.025		
11/20/77	2052	8:36	410	44.15N	108.85W	-50.	.037		
11/20/77	2102	8:46	409	44.10N	106.67W	-51.	.035		
11/20/77	2112	8:56	410	44.11N	104.52W	-49.	.036		
11/20/77	2122	9:06	410	44.08N	102.38W	-49.	.036		
11/20/77	2132	9:16	410	44.00N	100.23W	-49.	.027		
11/20/77	2142	9:26	410	43.89N	98.10W	-50.	.042		
11/20/77	2147	9:31	410	43.81N	96.99W	-52.	.047		
11/20/77	2152	9:36	410	43.68N	95.89W	-52.	.021		
11/20/77	2202	9:46	410	43.36N	93.82W	-56.	.000		
11/20/77	2212	9:56	410	43.07N	91.70W	-59.	.000		
11/20/77	2222	10:06	410	43.00N	89.59W	-62.	.000		
11/20/77	2237	10:21	410	42.83N	86.51W	-66.	.000		
11/20/77	2247	10:31	410	42.67N	84.48W	-67.	.000		
11/20/77	2252	10:36	410	42.58N	83.50W	-67.	.000		
11/20/77	2302	10:46	409	42.37N	81.53W	-68.	.001		

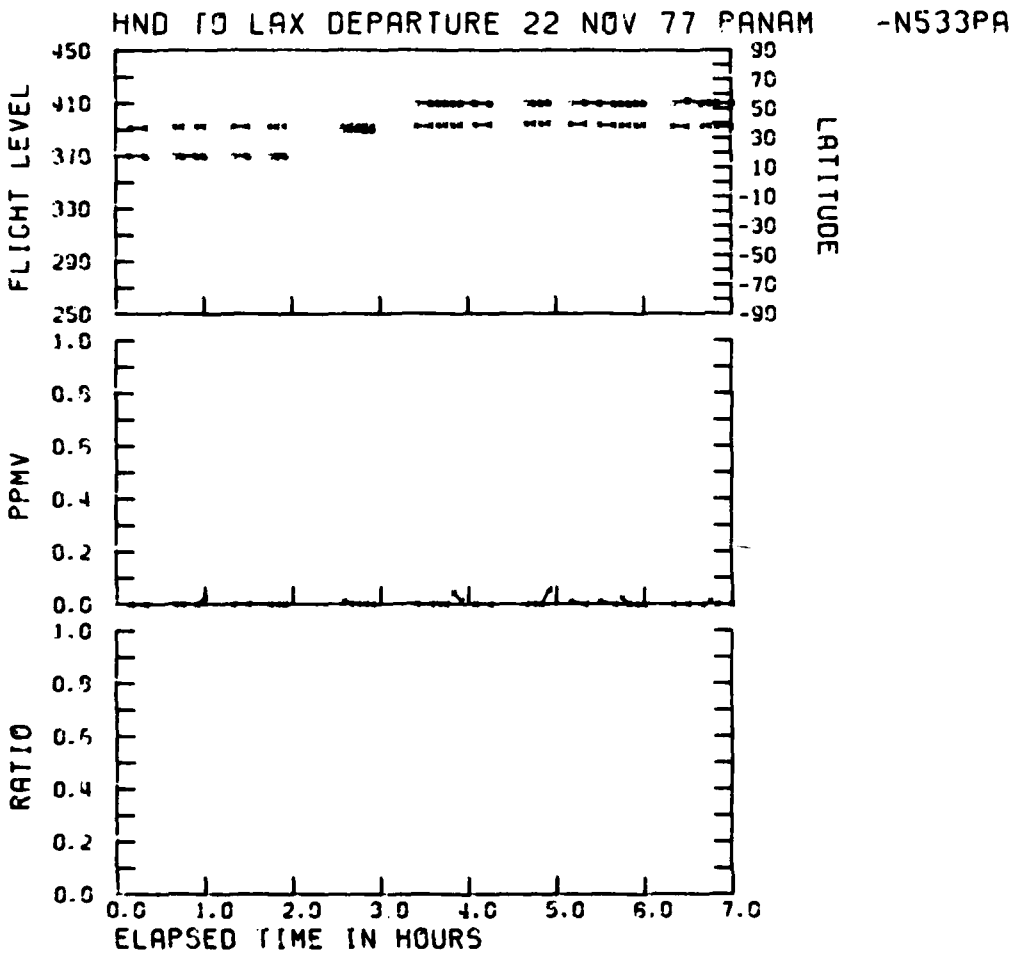
A-511


LATITUDE
JFK TO HND DEPARTURE 21 NOV 77 PANAM -N533PA
FLIGHT LEVEL
PPMV
RATIO
ELAPSED TIME IN HOURS

JFK TO HND (PAGE 1 OF 1) DEPARTURE: 21 NOV 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .040 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 84
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
11/21/77	1821	0:10	350	51.03N	85.57W	-46.	.006		
11/21/77	1831	0:20	350	51.84N	87.29W	-47.	.026		
11/21/77	1836	0:25	350	52.22N	88.14W	-48.	.030		
11/21/77	1846	0:35	350	52.97N	89.89W	-49.	.020		
11/21/77	1856	0:45	350	53.71N	91.74W	-50.	.033		
11/21/77	1906	0:55	350	54.43N	93.69W	-52.	.013		
11/21/77	1911	1:00	350	54.77N	94.67W	-54.	.022		
11/21/77	1916	1:05	350	55.11N	95.66W	-51.	.026		
11/21/77	1926	1:15	350	55.77N	97.68W	-50.	.025		
11/21/77	1936	1:25	350	56.45N	99.74W	-51.	.032		
11/21/77	1946	1:35	350	57.16N	101.79W	-51.	.036		
11/21/77	1956	1:45	350	57.93N	103.80W	-49.	.018		
11/21/77	2001	1:50	350	58.31N	104.84W	-48.	.021		
11/21/77	2006	1:55	350	58.68N	105.88W	-47.	.025		
11/21/77	2011	2:00	350	59.04N	106.94W	-48.	.033		
11/21/77	2016	2:05	350	59.40N	108.02W	-48.	.040		
11/21/77	2026	2:15	350	59.81N	110.50W	-47.	.039		
11/21/77	2036	2:25	350	60.32N	112.99W	-47.	.011		
11/21/77	2046	2:35	350	60.83N	115.54W	-48.	.028		
11/21/77	2056	2:45	350	61.29N	118.13W	-50.	.029		
11/21/77	2101	2:50	350	61.51N	119.47W	-50.	.011		
11/21/77	2106	2:55	350	61.71N	120.88W	-50.	.018		
11/21/77	2111	3:00	350	61.89N	122.23W	-52.	.010		
11/21/77	2116	3:05	350	62.06N	123.64W	-52.	.014		
11/21/77	2136	3:25	350	62.58N	129.45W	-53.	.011		
11/21/77	2146	3:35	350	62.77N	132.50W	-52.	.011		
11/21/77	2156	3:45	350	62.90N	135.54W	-52.	.009		
11/21/77	2201	3:50	350	62.93N	137.09W	-52.	.010		
11/21/77	2206	3:55	350	62.96N	138.66W	-54.	.013		
11/21/77	2211	4:00	350	62.96N	140.26W	-55.	.010		
11/21/77	2216	4:05	351	62.95N	141.82W	-58.	.013		
11/21/77	2226	4:15	390	62.77N	144.83W	-58.	.016		
11/21/77	2236	4:25	390	62.67N	147.75W	-65.	.010		
11/21/77	2246	4:35	390	62.51N	150.56W	-67.	.000		
11/21/77	2256	4:45	390	62.29N	153.46W	-66.	.008		
11/21/77	2301	4:50	390	62.16N	154.88W	-64.	.000		
11/21/77	2306	4:55	390	62.01N	156.28W	-65.	.011		
11/21/77	2311	5:00	390	61.85N	157.64W	-65.	.000		
11/21/77	2316	5:05	390	61.68N	158.98W	-65.	.002		
11/21/77	2336	5:25	390	60.87N	164.22W	-64.	.000		
11/21/77	2346	5:35	390	60.38N	166.76W	-63.	.000		
11/22/77	0001	5:50	390	59.60N	170.38W	-63.	.000		
11/22/77	0006	5:55	390	59.37N	171.67W	-63.	.000		
11/22/77	0016	6:05	390	58.89N	174.08W	-61.	.000		
11/22/77	0026	6:15	390	58.36N	176.44W	-61.	.000		
11/22/77	0036	6:25	390	57.79N	178.75W	-57.	.004		
11/22/77	0046	6:35	390	57.17N	179.00E	-55.	.006		
11/22/77	0056	6:45	390	56.50N	176.80E	-52.	.021		
11/22/77	0101	6:50	390	56.16N	175.75E	-52.	.014		
11/22/77	0106	6:55	390	55.81N	174.72E	-50.	.012		
11/22/77	0111	7:00	390	55.44N	173.70E	-49.	.012		
11/22/77	0116	7:05	390	55.07N	172.70E	-48.	.022		
11/22/77	0126	7:15	390	54.32N	170.77E	-49.	.010		
11/22/77	0136	7:25	390	53.61N	168.82E	-48.	.019		
11/22/77	0146	7:35	390	52.92N	166.89E	-49.	.010		
11/22/77	0156	7:45	390	52.21N	165.05E	-50.	.010		
11/22/77	0201	7:50	390	51.86N	164.17E	-52.	.011		
11/22/77	0206	7:55	390	51.50N	163.31E	-53.	.025		
11/22/77	0211	8:00	391	51.14N	162.47E	-51.	.021		
11/22/77	0216	8:05	390	50.77N	161.65E	-52.	.014		
11/22/77	0226	8:15	390	50.03N	160.06E	-52.	.000		
11/22/77	0236	8:25	428	49.25N	158.53E	-54.	.005		
11/22/77	0246	8:35	430	48.49N	157.12E	-55.	.004		
11/22/77	0256	8:45	430	47.72N	155.76E	-55.	.010		
11/22/77	0301	8:50	430	47.35N	155.12E	-55.	.010		
11/22/77	0306	8:55	430	46.96N	154.47E	-56.	.000		
11/22/77	0311	9:00	430	46.57N	153.84E	-55.	.001		
11/22/77	0316	9:05	430	46.19N	153.23E	-56.	.014		
11/22/77	0326	9:15	430	45.41N	152.04E	-57.	.000		
11/22/77	0336	9:25	430	44.63N	150.89E	-57.	.000		
11/22/77	0346	9:35	430	43.85N	149.78E	-56.	.003		
11/22/77	0356	9:45	430	43.09N	148.71E	-56.	.000		
11/22/77	0401	9:50	430	42.72N	148.19E	-57.	.005		
11/22/77	0406	9:55	430	42.34N	147.68E	-58.	.003		
11/22/77	0411	10:00	430	41.95N	147.15E	-58.	.006		
11/22/77	0416	10:05	430	41.57N	146.66E	-55.	.000		
11/22/77	0426	10:15	430	40.80N	145.68E	-57.	.000		
11/22/77	0436	10:25	430	40.01N	144.69E	-57.	.005		
11/22/77	0446	10:35	430	39.25N	143.73E	-58.	.000		
11/22/77	0456	10:45	430	38.45N	142.76E	-56.	.020		
11/22/77	0501	10:50	430	38.04N	142.28E	-55.	.000		
11/22/77	0506	10:55	430	37.67N	141.79E	-55.	.000		
11/22/77	0511	11:00	416	37.33N	141.27E	-56.	.004		
11/22/77	0516	11:05	319	37.03N	140.79E	-49.	.000		

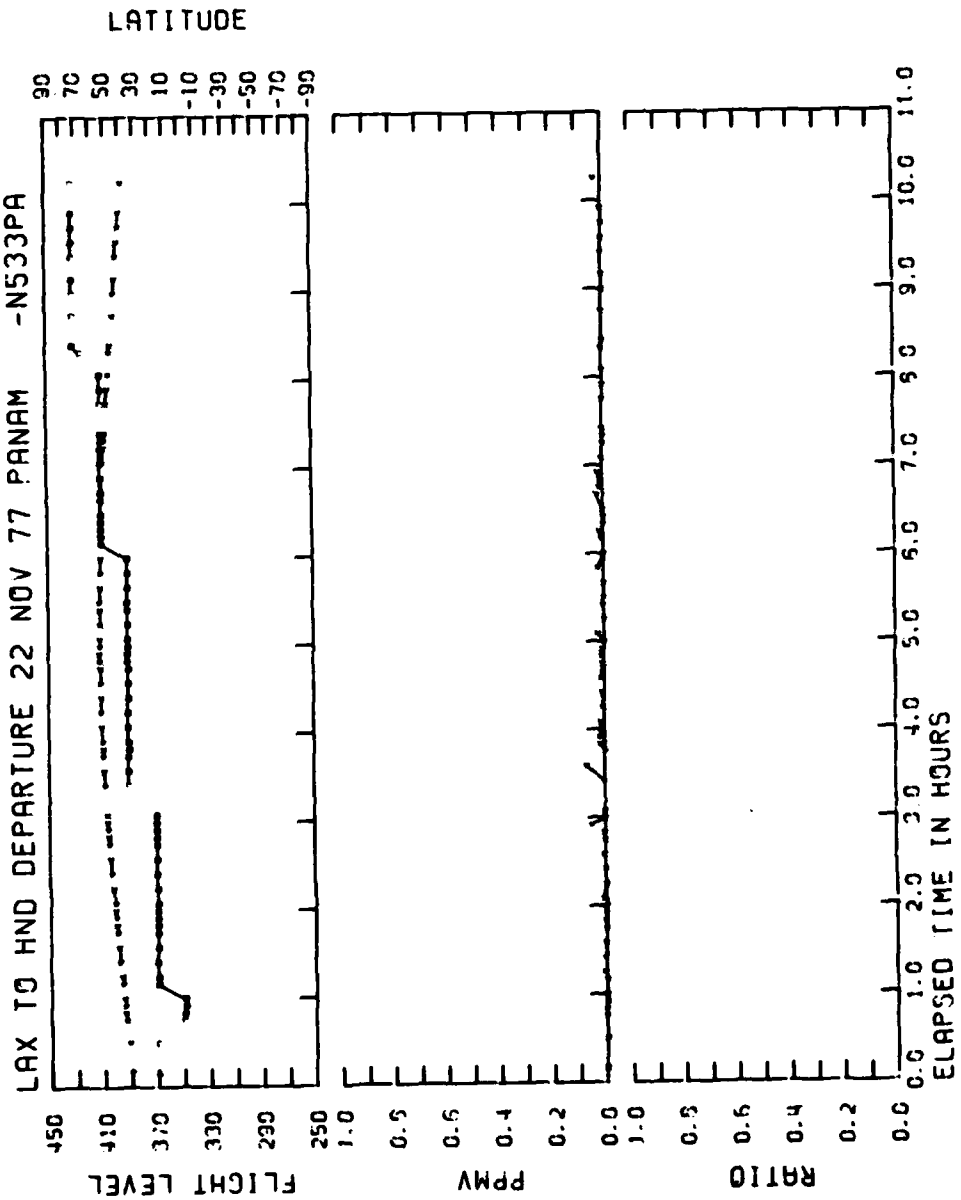

HND TO LAX DEPARTURE 22 NOV 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
ELAPSED TIME IN HOURS

A-514

HNO TO LAX (PAGE 1 OF 1) DEPARTURE: 22 NOV 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .053 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 42
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
11/22/77	0911	0:10	370	37.25N	151.88E	-58.	.000		
11/22/77	0921	0:20	370	37.51N	154.06E	-54.	.000		
11/22/77	0941	0:40	370	37.90N	158.49E	-55.	.000		
11/22/77	0946	0:45	370	37.97N	159.59E	-56.	.000		
11/22/77	0956	0:55	370	38.06N	161.79E	-54.	.000		
11/22/77	1001	1:00	370	38.09N	162.89E	-53.	.025		
11/22/77	1021	1:20	370	38.08N	167.22E	-52.	.000		
11/22/77	1031	1:30	370	38.02N	169.33E	-51.	.000		
11/22/77	1046	1:45	370	38.08N	172.46E	-48.	.000		
11/22/77	1051	1:50	370	38.09N	173.50E	-47.	.000		
11/22/77	1056	1:55	370	38.10N	174.53E	-49.	.000		
11/22/77	1136	2:35	390	38.08N	177.26W	-46.	.012		
11/22/77	1141	2:40	390	38.10N	176.24W	-46.	.000		
11/22/77	1146	2:45	390	38.10N	175.20W	-46.	.000		
11/22/77	1151	2:50	390	38.10N	174.15W	-45.	.000		
11/22/77	1156	2:55	390	38.09N	173.10W	-46.	.000		
11/22/77	1226	3:25	410	38.40N	166.93W	-47.	.000		
11/22/77	1236	3:35	410	38.62N	164.88W	-48.	.000		
11/22/77	1241	3:40	410	38.72N	163.85W	-47.	.000		
11/22/77	1246	3:45	410	38.80N	162.82W	-46.	.000		
11/22/77	1251	3:50	410	38.88N	161.79W	-46.	.043		
11/22/77	1256	3:55	410	38.95N	160.78W	-48.	.012		
11/22/77	1306	4:05	410	39.17N	158.77W	-48.	.000		
11/22/77	1316	4:15	410	39.42N	156.75W	-49.	.000		
11/22/77	1341	4:40	410	39.89N	151.65W	-57.	.000		
11/22/77	1346	4:45	410	39.96N	150.63W	-56.	.000		
11/22/77	1351	4:50	410	39.97N	149.58W	-57.	.001		
11/22/77	1356	4:55	410	39.91N	148.59W	-59.	.053		
11/22/77	1411	5:10	410	39.67N	145.58W	-58.	.010		
11/22/77	1421	5:20	410	39.47N	143.64W	-59.	.000		
11/22/77	1431	5:30	410	39.23N	141.70W	-59.	.010		
11/22/77	1441	5:40	410	38.98N	139.74W	-56.	.000		
11/22/77	1446	5:45	410	38.92N	138.76W	-57.	.023		
11/22/77	1451	5:50	410	38.85N	137.78W	-56.	.001		
11/22/77	1456	5:55	410	38.77N	136.81W	-56.	.000		
11/22/77	1501	6:00	410	38.69N	135.87W	-57.	.000		
11/22/77	1521	6:20	410	38.28N	132.07W	-59.	.000		
11/22/77	1531	6:30	412	38.06N	130.16W	-56.	.000		
11/22/77	1541	6:40	410	37.95N	128.20W	-56.	.000		
11/22/77	1546	6:45	410	37.91N	127.21W	-56.	.009		
11/22/77	1551	6:50	410	37.86N	126.19W	-56.	.000		
11/22/77	1601	7:00	410	37.65N	124.24W	-56.	.000		

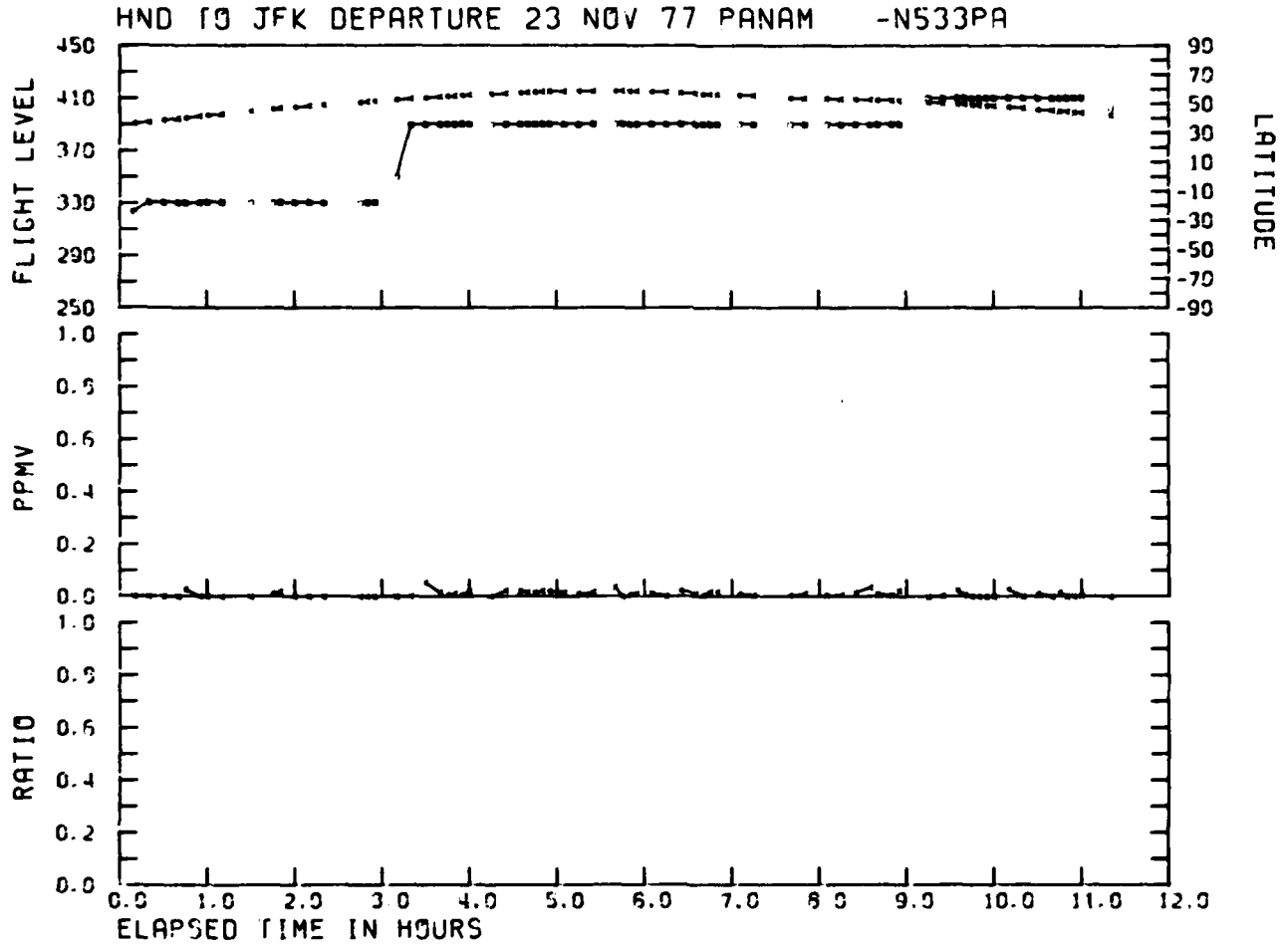

LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
LAX TO HND DEPARTURE 22 NOV 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
ELAPSED TIME IN HOURS

LAX TO HND (PAGE 1 OF 1) DEPARTURE: 22 NOV 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .069 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 68
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
11/22/77	2047	0:10	370	35.51N	120.61W	-57.	.000			11/23/77	0132	4:55	390	55.09N	163.49W	-54.	.007		
11/22/77	2107	0:30	370	37.51N	122.35W	-57.	.000			11/23/77	0137	5:00	390	55.10N	164.72W	-56.	.000		
11/22/77	2122	0:45	350	39.19N	123.35W	-58.	.000			11/23/77	0142	5:05	391	55.10N	165.97W	-55.	.024		
11/22/77	2127	0:50	349	39.73N	123.67W	-61.	.000			11/23/77	0152	5:15	390	55.05N	168.43W	-57.	.000		
11/22/77	2132	0:55	349	40.27N	123.99W	-60.	.000			11/23/77	0202	5:25	390	54.95N	170.86W	-59.	.000		
11/22/77	2137	1:00	349	40.78N	124.33W	-59.	.000			11/23/77	0209	5:32	390	54.83N	172.46W	-57.	.000		
11/22/77	2147	1:10	370	41.74N	125.19W	-55.	.000			11/23/77	0219	5:42	390	54.62N	174.89W	-56.	.000		
11/22/77	2152	1:15	369	42.22N	125.65W	-51.	.005			11/23/77	0229	5:52	390	54.35N	177.32W	-55.	.023		
11/22/77	2202	1:25	370	43.22N	126.60W	-50.	.005			11/23/77	0239	6:02	390	54.04N	179.69W	-53.	.000		
11/22/77	2212	1:35	369	44.14N	127.67W	-51.	.004			11/23/77	0249	6:12	410	53.96N	177.76E	-53.	.007		
11/22/77	2222	1:45	370	45.04N	128.77W	-53.	.002			11/23/77	0254	6:17	410	53.92N	176.51E	-54.	.015		
11/22/77	2227	1:50	370	45.48N	129.33W	-54.	.004			11/23/77	0259	6:22	410	53.87N	175.30E	-53.	.000		
11/22/77	2232	1:55	369	45.91N	129.88W	-54.	.002			11/23/77	0304	6:27	410	53.81N	174.09E	-55.	.000		
11/22/77	2237	2:00	370	46.30N	130.50W	-56.	.000			11/23/77	0309	6:32	410	53.73N	172.91E	-54.	.002		
11/22/77	2242	2:05	370	46.68N	131.16W	-57.	.011			11/23/77	0319	6:42	410	53.55N	170.58E	-54.	.026		
11/22/77	2252	2:15	369	47.44N	132.52W	-59.	.000			11/23/77	0324	6:47	410	53.35N	169.48E	-54.	.012		
11/22/77	2302	2:25	370	48.18N	133.92W	-58.	.000			11/23/77	0334	6:57	410	52.74N	167.46E	-55.	.019		
11/22/77	2312	2:35	369	48.98N	135.35W	-57.	.005			11/23/77	0344	7:07	410	52.11N	165.53E	-54.	.004		
11/22/77	2322	2:45	369	49.62N	136.85W	-56.	.002			11/23/77	0354	7:17	410	51.47N	163.74E	-54.	.000		
11/22/77	2327	2:50	369	49.97N	137.63W	-56.	.004			11/23/77	0359	7:22	409	51.15N	162.86E	-55.	.000		
11/22/77	2332	2:55	369	50.32N	138.40W	-56.	.052			11/23/77	0404	7:27	410	50.81N	162.00E	-56.	.001		
11/22/77	2337	3:00	370	50.65N	139.18W	-56.	.000			11/23/77	0424	7:47	410	49.39N	158.80E	-56.	.000		
11/22/77	2342	3:05	369	50.99N	139.97W	-56.	.000			11/23/77	0434	7:57	410	48.63N	157.38E	-55.	.000		
11/23/77	0002	3:25	390	52.19N	143.49W	-55.	.004			11/23/77	0444	8:07	410	47.91N	156.08E	-58.	.000		
11/23/77	0012	3:35	390	52.77N	145.38W	-53.	.069			11/23/77	0459	8:22	425	46.79N	154.20E	-57.	.003		
11/23/77	0022	3:45	390	53.32N	147.32W	-52.	.000			11/23/77	0504	8:27	430	46.40N	153.57E	-57.	.000		
11/23/77	0027	3:50	390	53.58N	148.32W	-50.	.019			11/23/77	0524	8:47	430	44.84N	151.20E	-55.	.000		
11/23/77	0032	3:55	390	53.84N	149.35W	-52.	.018			11/23/77	0539	9:02	430	43.71N	149.48E	-53.	.000		
11/23/77	0042	4:05	390	54.21N	151.56W	-48.	.014			11/23/77	0549	9:12	430	43.01N	148.25E	-52.	.000		
11/23/77	0052	4:15	390	54.49N	153.88W	-49.	.006			11/23/77	0604	9:27	430	41.92N	146.44E	-51.	.000		
11/23/77	0102	4:25	390	54.72N	156.20W	-53.	.010			11/23/77	0614	9:37	430	41.20N	145.29E	-52.	.000		
11/23/77	0112	4:35	390	54.91N	158.58W	-52.	.013			11/23/77	0624	9:47	430	40.47N	144.17E	-54.	.000		
11/23/77	0122	4:45	390	55.04N	161.05W	-52.	.005			11/23/77	0634	9:57	430	39.73N	143.09E	-53.	.000		
11/23/77	0127	4:50	391	55.07N	162.25W	-53.	.008			11/23/77	0654	10:17	430	38.18N	141.06E	-53.	.028		

A-517

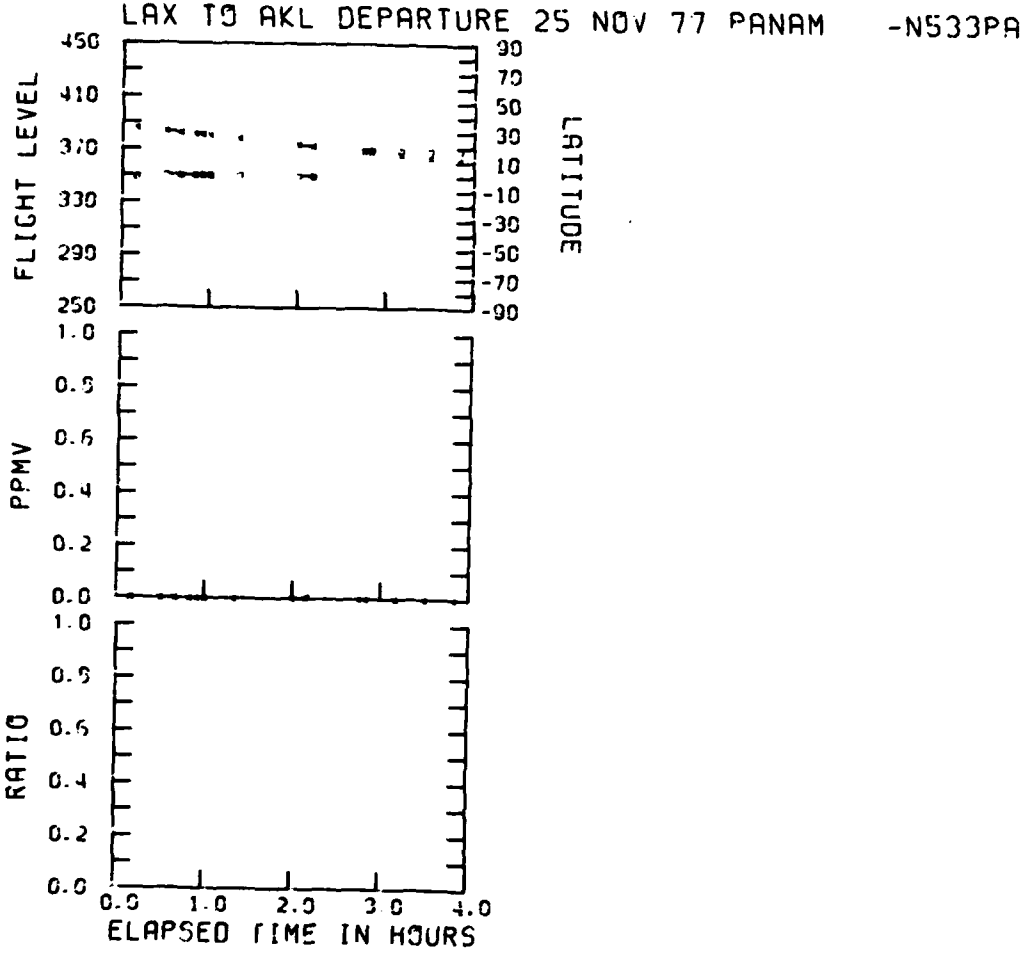

HND TO JFK DEPARTURE 23 NOV 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
12.0
ELAPSED TIME IN HOURS

A-518

HND TO JFK (PAGE 1 OF 1) DEPARTURE: 23 NOV 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .054 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 74
DATA SOURCE: GASP TAPE VL014, FILE 1

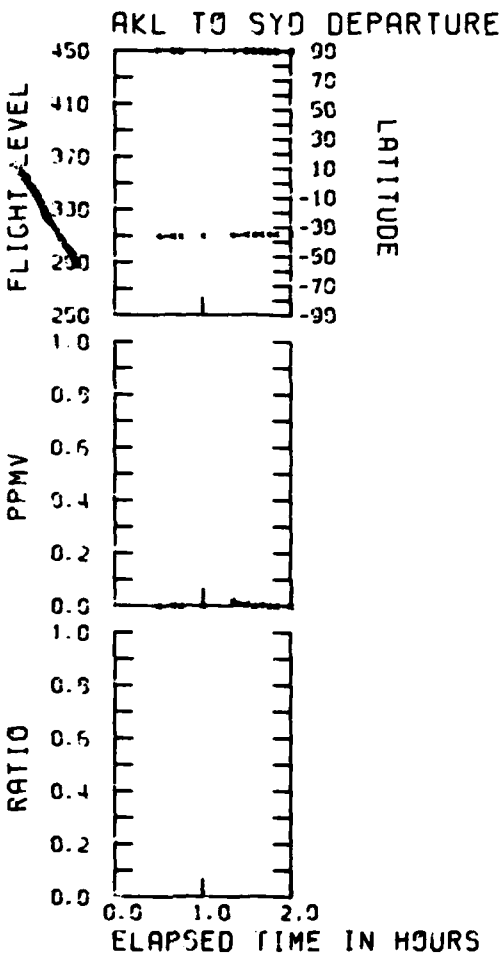
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	OZONE(PPMV) AMB.	RATIO
11/23/77	1329	0:10	324	36.74N	143.18E	-43.	.000		
11/23/77	1339	0:20	331	37.65N	144.81E	-43.	.001		
11/23/77	1349	0:30	330	38.85N	146.29E	-42.	.000		
11/23/77	1359	0:40	330	40.02N	147.85E	-42.	.000		
11/23/77	1404	0:45	330	40.59N	148.66E	-43.	.028		
11/23/77	1414	0:55	330	41.72N	150.33E	-42.	.000		
11/23/77	1419	1:00	331	42.25N	151.21E	-45.	.000		
11/23/77	1429	1:10	331	43.27N	152.99E	-48.	.000		
11/23/77	1449	1:30	331	45.22N	156.76E	-50.	.000		
11/23/77	1504	1:45	330	46.56N	159.66E	-52.	.013		
11/23/77	1509	1:50	330	47.01N	160.60E	-54.	.019		
11/23/77	1519	2:00	331	47.90N	162.49E	-52.	.000		
11/23/77	1529	2:10	331	48.73N	164.35E	-53.	.000		
11/23/77	1539	2:20	330	49.49N	166.19E	-52.	.000		
11/23/77	1604	2:45	330	51.25N	170.71E	-53.	.000		
11/23/77	1609	2:50	331	51.67N	171.57E	-57.	.000		
11/23/77	1614	2:55	331	52.02N	172.42E	-56.	.000		
11/23/77	1629	3:10	350	53.05N	175.14E	-59.	.000		
11/23/77	1639	3:20	390	53.69N	176.97E	-54.	.001		
11/23/77	1649	3:30	390	54.45N	178.69E	-53.	.054		
11/23/77	1659	3:40	390	55.00N	179.29W	-54.	.016		
11/23/77	1704	3:45	390	55.26N	178.27W	-55.	.006		
11/23/77	1709	3:50	390	55.51N	177.25W	-54.	.011		
11/23/77	1714	3:55	390	55.75N	176.24W	-54.	.006		
11/23/77	1719	4:00	390	56.02N	175.20W	-54.	.018		
11/23/77	1734	4:15	390	56.76N	172.00W	-54.	.001		
11/23/77	1744	4:25	390	57.19N	169.90W	-54.	.023		
11/23/77	1754	4:35	390	57.65N	167.68W	-53.	.022		
11/23/77	1759	4:40	390	57.86N	166.57W	-54.	.017		
11/23/77	1804	4:45	390	58.07N	165.44W	-55.	.016		
11/23/77	1809	4:50	390	58.26N	164.33W	-56.	.021		
11/23/77	1814	4:55	390	58.45N	163.16W	-56.	.019		
11/23/77	1824	5:05	390	58.67N	160.84W	-52.	.016		
11/23/77	1834	5:15	390	58.71N	158.40W	-52.	.010		
11/23/77	1844	5:25	390	58.73N	155.98W	-54.	.017		
11/23/77	1859	5:40	390	58.76N	152.41W	-52.	.036		
11/23/77	1904	5:45	390	58.75N	151.17W	-53.	.000		
11/23/77	1909	5:50	390	58.73N	149.93W	-54.	.008		
11/23/77	1914	5:55	390	58.69N	148.71W	-56.	.012		
11/23/77	1924	6:05	390	58.41N	146.29W	-53.	.012		
11/23/77	1934	6:15	390	58.01N	143.89W	-49.	.002		
11/23/77	1944	6:25	390	57.57N	141.54W	-52.	.022		
11/23/77	1954	6:35	390	57.08N	139.18W	-51.	.012		
11/23/77	1959	6:40	390	56.84N	137.99W	-52.	.006		
11/23/77	2004	6:45	390	56.69N	136.74W	-52.	.019		
11/23/77	2009	6:50	390	56.53N	135.50W	-52.	.019		
11/23/77	2024	7:05	390	55.95N	131.74W	-52.	.010		
11/23/77	2034	7:15	390	55.49N	129.29W	-53.	.004		
11/23/77	2059	7:40	390	54.07N	123.12W	-55.	.005		
11/23/77	2109	7:50	390	53.79N	120.54W	-56.	.011		
11/23/77	2124	8:05	390	53.61N	116.62W	-54.	.005		
11/23/77	2134	8:15	390	53.42N	114.08W	-51.	.007		
11/23/77	2144	8:25	390	53.17N	111.53W	-49.	.016		
11/23/77	2154	8:35	390	52.88N	109.04W	-46.	.035		
11/23/77	2159	8:40	390	52.71N	107.81W	-47.	.010		
11/23/77	2209	8:50	390	52.33N	105.33W	-48.	.004		
11/23/77	2214	8:55	390	52.13N	104.14W	-47.	.022		
11/23/77	2234	9:15	410	51.20N	99.51W	-49.	.000		
11/23/77	2244	9:25	410	50.67N	97.25W	-49.	.004		
11/23/77	2254	9:35	410	50.09N	95.06W	-48.	.023		
11/23/77	2259	9:40	410	49.79N	93.98W	-48.	.007		
11/23/77	2304	9:45	410	49.48N	92.94W	-49.	.001		
11/23/77	2309	9:50	410	49.17N	91.92W	-48.	.000		
11/23/77	2314	9:55	410	48.85N	90.92W	-50.	.000		
11/23/77	2319	10:00	410	48.52N	89.90W	-49.	.000		
11/23/77	2329	10:10	410	47.83N	87.95W	-51.	.027		
11/23/77	2339	10:20	410	47.10N	86.13W	-49.	.000		
11/23/77	2349	10:30	410	46.32N	84.40W	-51.	.012		
11/23/77	2359	10:40	410	45.50N	82.69W	-51.	.000		
11/24/77	0004	10:45	410	45.09N	81.86W	-51.	.016		
11/24/77	0009	10:50	410	44.66N	81.03W	-50.	.000		
11/24/77	0014	10:55	410	44.22N	80.19W	-52.	.000		
11/24/77	0019	11:00	410	43.81N	79.36W	-53.	.004		
11/24/77	0039	11:20	402	42.31N	75.88W	-58.	.000		


LAX TO AKL DEPARTURE 25 NOV 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
ELAPSED TIME IN HOURS

LAX TO AKL (PAGE 1 OF 1) DEPARTURE: 25 NOV 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .008 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 14
DATA SOURCE: GASP TAPE VL014, FILE 1

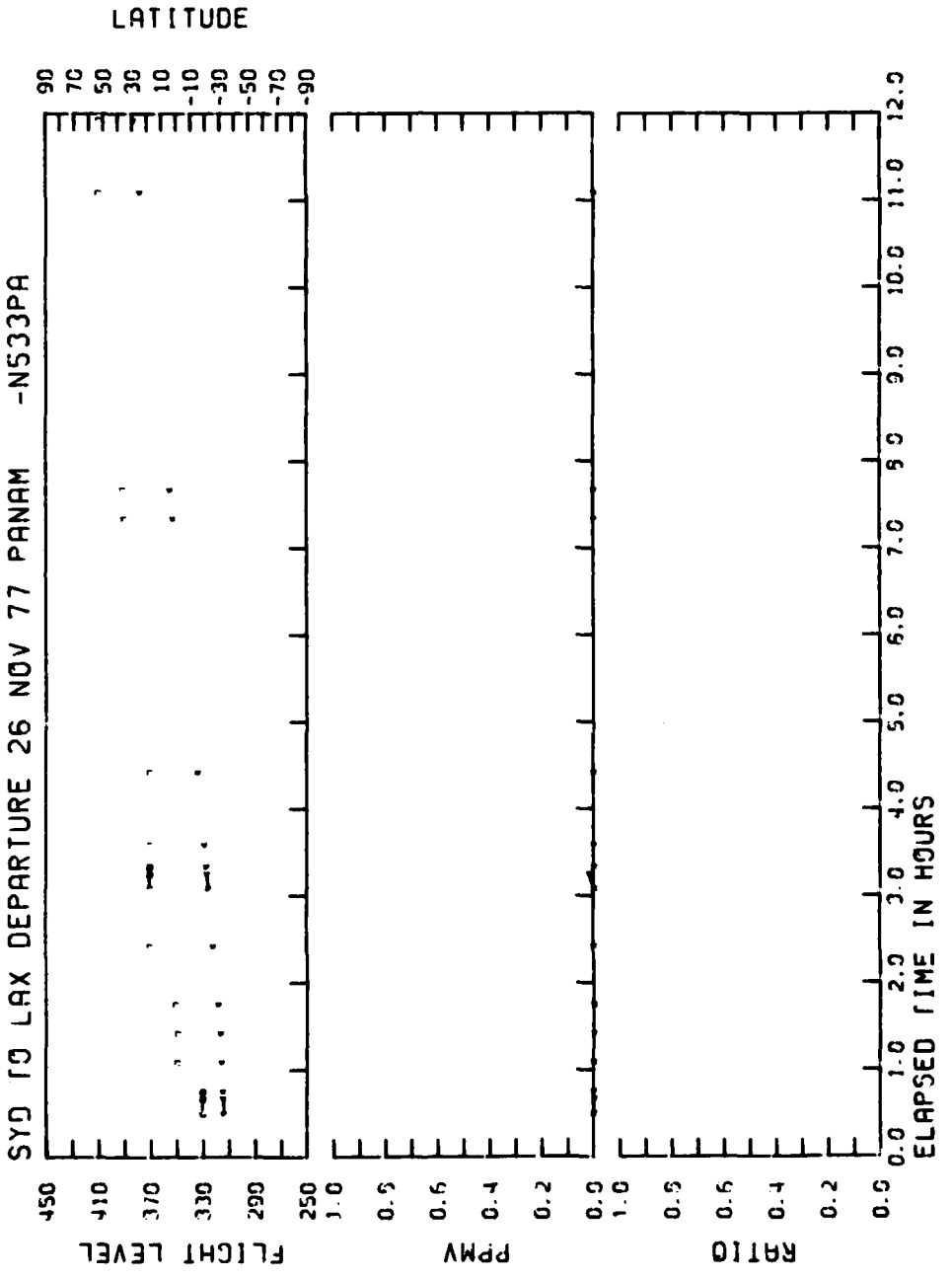
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
11/25/77	0829	0:10	348	31.80N	121.10W	-51.	.000		
11/25/77	0849	0:30	350	30.09N	123.66W	-52.	.000		
11/25/77	0859	0:40	350	29.21N	124.95W	-49.	.000		
11/25/77	0909	0:50	350	28.32N	126.23W	-48.	.000		
11/25/77	0914	0:55	350	27.85N	126.89W	-46.	.000		
11/25/77	0919	1:00	350	27.39N	127.52W	-46.	.000		
11/25/77	0939	1:20	350	25.45N	130.11W	-46.	.000		
11/25/77	1019	2:00	350	21.58N	134.87W	-46.	.000		
11/25/77	1029	2:10	350	20.63N	135.97W	-45.	.008		
11/25/77	1104	2:45	370	17.38N	139.60W	-52.	.000		
11/25/77	1109	2:50	370	16.92N	140.10W	-52.	.000		
11/25/77	1129	3:10	370	15.13N	142.00W	-51.	.000		
11/25/77	1149	3:30	370	13.28N	143.91W	-51.	.000		
11/25/77	1209	3:50	370	11.36N	145.85W	-50.	.000		


AKL TO SYD DEPARTURE 25 NOV 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
ELAPSED TIME IN HOURS

AKL TO SYD (PAGE 1 OF 1) DEPARTURE: 25 NOV 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .019 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 11
DATA SOURCE: GASP TAPE VL014, FILE 1

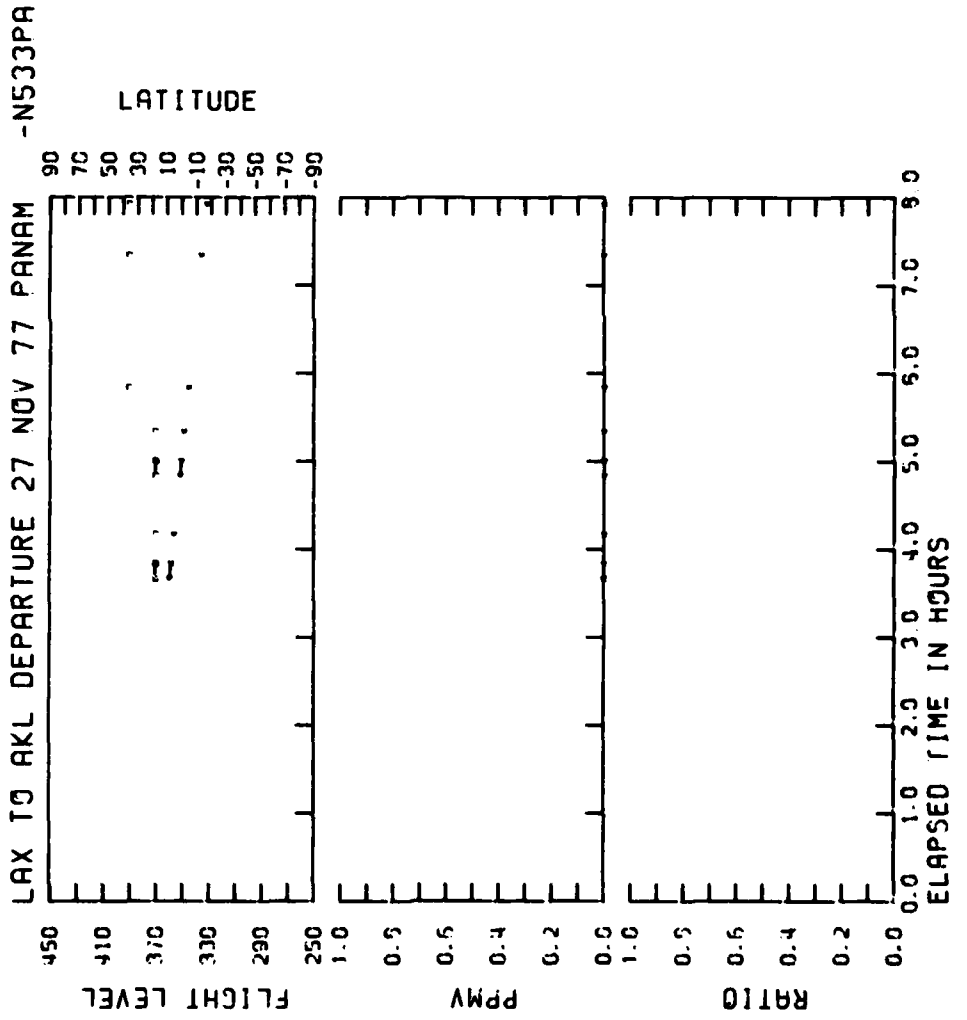
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
11/25/77	2248	0:30	450	36.58S	168.49E	-54.	.000		
11/25/77	2258	0:40	450	36.42S	166.91E	-55.	.000		
11/25/77	2303	0:45	450	36.33S	166.10E	-54.	.000		
11/25/77	2318	1:00	450	36.03S	163.65E	-53.	.000		
11/25/77	2338	1:20	450	35.54S	160.39E	-55.	.019		
11/25/77	2348	1:30	450	35.25S	158.76E	-56.	.005		
11/25/77	2353	1:35	450	35.10S	157.95E	-57.	.000		
11/25/77	2358	1:40	450	34.94S	157.14E	-57.	.003		
11/26/77	0003	1:45	450	34.78S	156.34E	-57.	.000		
11/26/77	0008	1:50	450	34.62S	155.55E	-57.	.000		
11/26/77	0018	2:00	450	34.29S	153.98E	-60.	.000		


LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
SYD TO LAX DEPARTURE 26 NOV 77 PANAM -N533PA
450 410 370 330 290 250
FLIGHT LEVEL
1.0 0.8 0.6 0.4 0.2 0.0
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0
ELAPSED TIME IN HOURS

SYD TO LAX (PAGE 1 OF 1) DEPARTURE: 26 NOV 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .035 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 16
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
11/26/77	0812	0:30	330	32.16S	157.21E	-50.	.000			11/26/77	1100	3:18	371	20.69S	178.81W	-48.	.018		
11/26/77	0822	0:40	330	31.69S	158.64E	-50.	.000			11/26/77	1105	3:23	371	20.26S	178.22W	-49.	.000		
11/26/77	0827	0:45	330	31.48S	159.34E	-49.	.000			11/26/77	1120	3:38	371	18.96S	176.46W	-48.	.000		
11/26/77	0847	1:05	350	30.72S	162.27E	-47.	.000			11/26/77	1210	4:28	371	14.52S	170.76W	-46.	.000		
11/26/77	0907	1:25	350	29.82S	165.44E	-46.	.000			11/26/77	1505	7:23	390	2.77N	153.98W	-53.	.000		
11/26/77	0930	1:48	351	28.43S	169.08E	-42.	.000			11/26/77	1523	7:41	392	4.56N	152.27W	-55.	.000		
11/26/77	1010	2:28	371	24.99S	174.85E	-47.	.000			11/26/77	1848	11:06	409	24.93N	130.71W	-58.	.000		
11/26/77	1050	3:08	371	21.57S	179.95E	-49.	.000			11/26/77	1938	11:56	409	29.37N	124.65W	-59.	.035		


LAX TO AKL DEPARTURE 27 NOV 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0
ELAPSED TIME IN HOURS

AIRCRAFT:PANAM -N533PA

DEPARTURE: 27 NOV 77

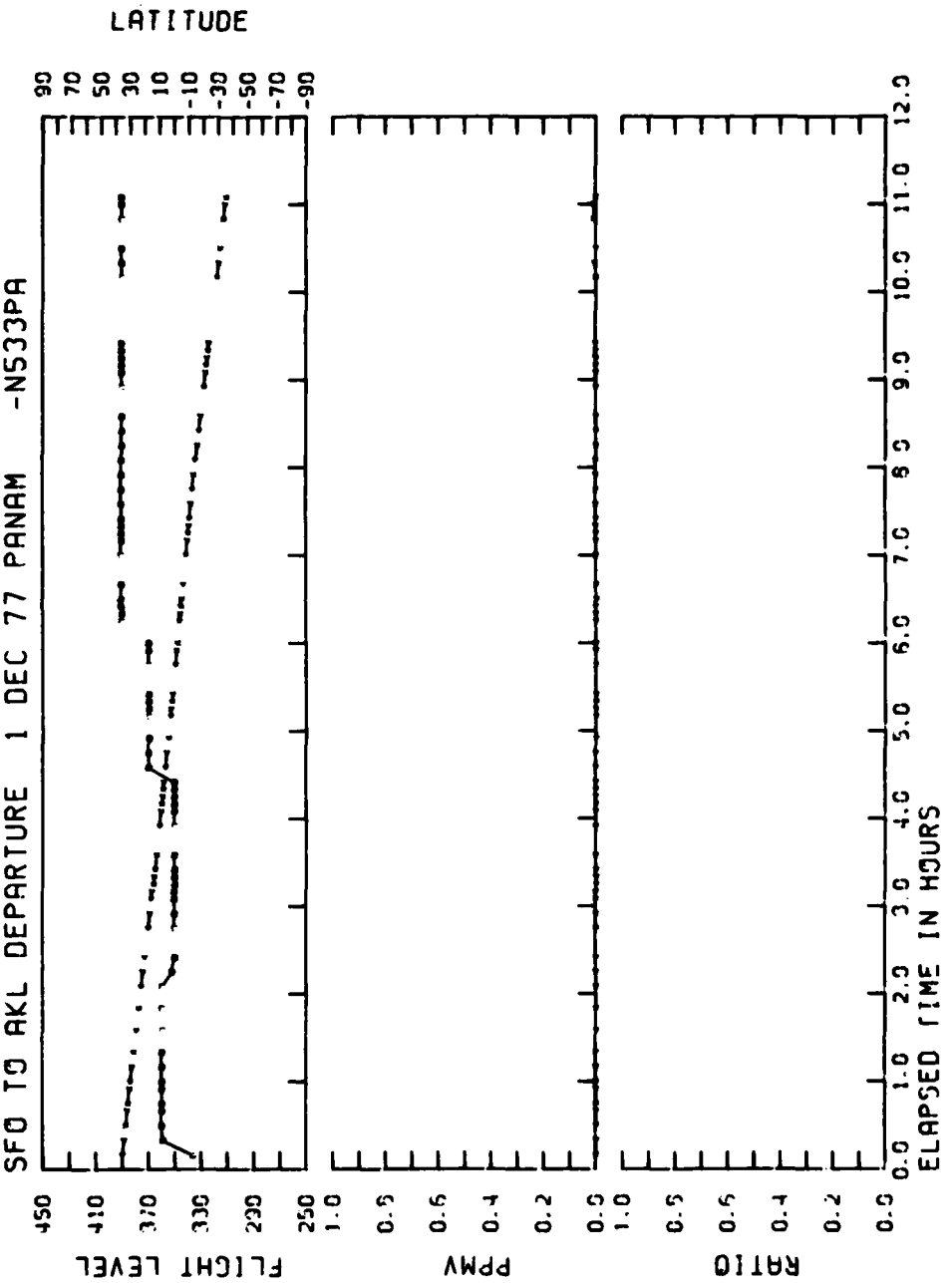
TOTAL OBS IN CABIN: 9

LAX TO AKL (PAGE 1 OF 1)

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE=0.000 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 0.00

DATA SOURCE: GASP TAPE VL014, FILE 1

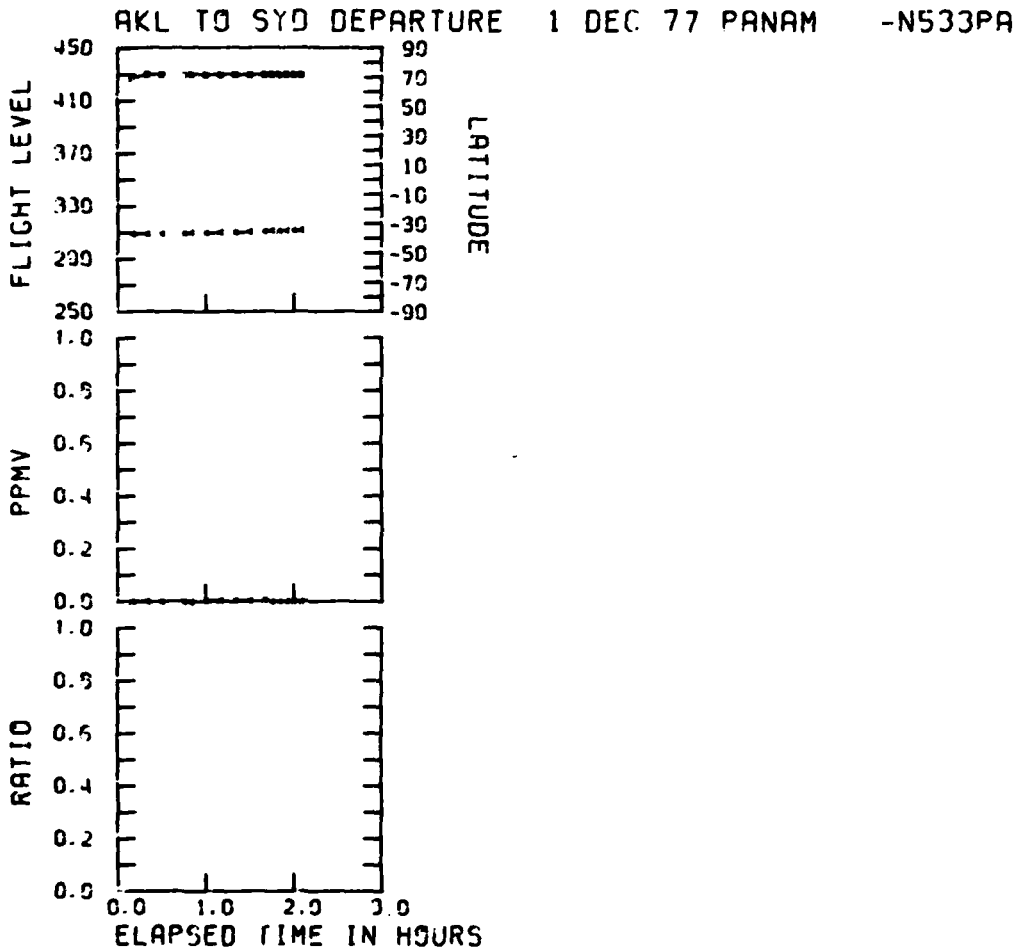
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	OZONE(PPMV) AMB.	RATIO
11/27/77	1228	3:40	370	8.31N	148.85W	-49.	.000		
11/27/77	1238	3:50	370	7.36N	149.77W	-50.	.000		
11/27/77	1258	4:10	370	5.43N	151.62W	-49.	.000		
11/27/77	1338	4:50	370	1.37N	155.47W	-48.	.000		
11/27/77	1348	5:00	370	.37N	156.42W	-47.	.000		
11/27/77	1408	5:20	370	1.58S	158.27W	-48.	.000		
11/27/77	1438	5:50	390	4.56S	161.10W	-54.	.000		
11/27/77	1608	7:20	390	13.30S	169.46W	-54.	.000		
11/27/77	1643	7:55	390	17.13S	172.49W	-54.	.000		


LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
SFO TO AKL DEPARTURE 1 DEC 77 PANAM -N533PA
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0
ELAPSED TIME IN HOURS

SFO TO AKL (PAGE 1 OF 1) DEPARTURE: 1 DEC 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .007 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 67
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
12/ 1/77	0657	0:10	337	35.69N	125.00W	-49.	.000		
12/ 1/77	0707	0:20	359	34.66N	126.12W	-53.	.000		
12/ 1/77	0717	0:30	360	33.57N	127.25W	-52.	.000		
12/ 1/77	0727	0:40	360	32.49N	128.34W	-51.	.000		
12/ 1/77	0733	0:46	360	31.95N	128.88W	-51.	.000		
12/ 1/77	0742	0:55	360	30.85N	129.94W	-51.	.000		
12/ 1/77	0747	1:00	360	30.29N	130.46W	-51.	.000		
12/ 1/77	0757	1:10	360	29.17N	131.49W	-50.	.000		
12/ 1/77	0807	1:20	360	28.05N	132.48W	-49.	.000		
12/ 1/77	0823	1:36	360	26.37N	133.93W	-48.	.000		
12/ 1/77	0838	1:51	360	24.65N	135.35W	-48.	.000		
12/ 1/77	0852	2:05	360	22.92N	136.75W	-46.	.000		
12/ 1/77	0902	2:15	352	21.75N	137.66W	-47.	.000		
12/ 1/77	0914	2:27	350	20.45N	138.65W	-48.	.000		
12/ 1/77	0934	2:47	350	18.16N	140.48W	-45.	.000		
12/ 1/77	0944	2:57	350	17.01N	141.38W	-43.	.000		
12/ 1/77	0954	3:07	350	15.84N	142.28W	-42.	.000		
12/ 1/77	0959	3:12	350	15.25N	142.73W	-42.	.000		
12/ 1/77	1004	3:17	350	14.66N	143.17W	-43.	.000		
12/ 1/77	1009	3:22	350	14.08N	143.61W	-43.	.000		
12/ 1/77	1014	3:27	350	13.49N	144.05W	-44.	.000		
12/ 1/77	1024	3:37	350	12.33N	144.91W	-45.	.001		
12/ 1/77	1044	3:57	350	10.30N	146.91W	-45.	.000		
12/ 1/77	1054	4:07	350	9.29N	147.90W	-45.	.000		
12/ 1/77	1059	4:12	350	8.78N	148.39W	-44.	.000		
12/ 1/77	1104	4:17	350	8.27N	148.89W	-44.	.000		
12/ 1/77	1109	4:22	350	7.77N	149.38W	-44.	.000		
12/ 1/77	1114	4:27	350	7.32N	149.81W	-44.	.000		
12/ 1/77	1124	4:37	370	6.14N	150.67W	-47.	.000		
12/ 1/77	1134	4:47	370	5.22N	151.66W	-48.	.000		
12/ 1/77	1144	4:57	370	4.30N	152.70W	-49.	.000		
12/ 1/77	1159	5:12	370	2.77N	154.14W	-49.	.000		
12/ 1/77	1204	5:17	370	2.27N	154.62W	-49.	.000		
12/ 1/77	1209	5:22	370	1.77N	155.09W	-49.	.000		
12/ 1/77	1214	5:27	370	1.27N	155.57W	-49.	.000		
12/ 1/77	1234	5:47	370	.69S	157.42W	-49.	.000		
12/ 1/77	1244	5:57	370	1.66S	158.35W	-49.	.000		
12/ 1/77	1249	6:02	370	2.14S	158.80W	-49.	.000		
12/ 1/77	1304	6:17	390	3.59S	160.17W	-56.	.000		
12/ 1/77	1309	6:22	390	4.07S	160.63W	-56.	.000		
12/ 1/77	1314	6:27	390	4.55S	161.09W	-56.	.000		
12/ 1/77	1319	6:32	390	5.03S	161.55W	-56.	.000		
12/ 1/77	1329	6:42	390	6.01S	162.48W	-55.	.000		
12/ 1/77	1349	7:02	391	7.93S	164.31W	-54.	.000		
12/ 1/77	1359	7:12	390	8.90S	165.25W	-54.	.000		
12/ 1/77	1404	7:17	390	9.40S	165.74W	-54.	.000		
12/ 1/77	1409	7:22	390	9.90S	166.23W	-54.	.000		
12/ 1/77	1414	7:27	390	10.38S	166.70W	-53.	.000		
12/ 1/77	1424	7:37	390	11.34S	167.66W	-54.	.000		
12/ 1/77	1434	7:47	390	12.29S	168.61W	-54.	.000		
12/ 1/77	1444	7:57	390	13.22S	169.60W	-54.	.000		
12/ 1/77	1454	8:07	390	14.43S	170.79W	-54.	.000		
12/ 1/77	1504	8:17	390	15.60S	171.48W	-53.	.000		
12/ 1/77	1514	8:27	390	16.75S	172.21W	-53.	.000		
12/ 1/77	1524	8:37	390	17.91S	172.97W	-54.	.000		
12/ 1/77	1544	8:57	390	20.13S	174.47W	-53.	.000		
12/ 1/77	1554	9:07	390	21.20S	175.20W	-54.	.000		
12/ 1/77	1559	9:12	390	21.78S	175.51W	-53.	.000		
12/ 1/77	1604	9:17	390	22.37S	175.84W	-53.	.000		
12/ 1/77	1609	9:22	390	22.95S	176.16W	-52.	.000		
12/ 1/77	1614	9:27	390	23.54S	176.49W	-52.	.000		
12/ 1/77	1659	10:12	390	28.88S	179.64W	-51.	.001		
12/ 1/77	1709	10:22	390	30.07S	179.60E	-51.	.006		
12/ 1/77	1719	10:32	390	31.25S	178.83E	-51.	.000		
12/ 1/77	1739	10:52	390	33.63S	177.20E	-52.	.007		
12/ 1/77	1749	11:02	390	34.79S	176.36E	-52.	.006		
12/ 1/77	1754	11:07	390	35.38S	175.93E	-54.	.000		

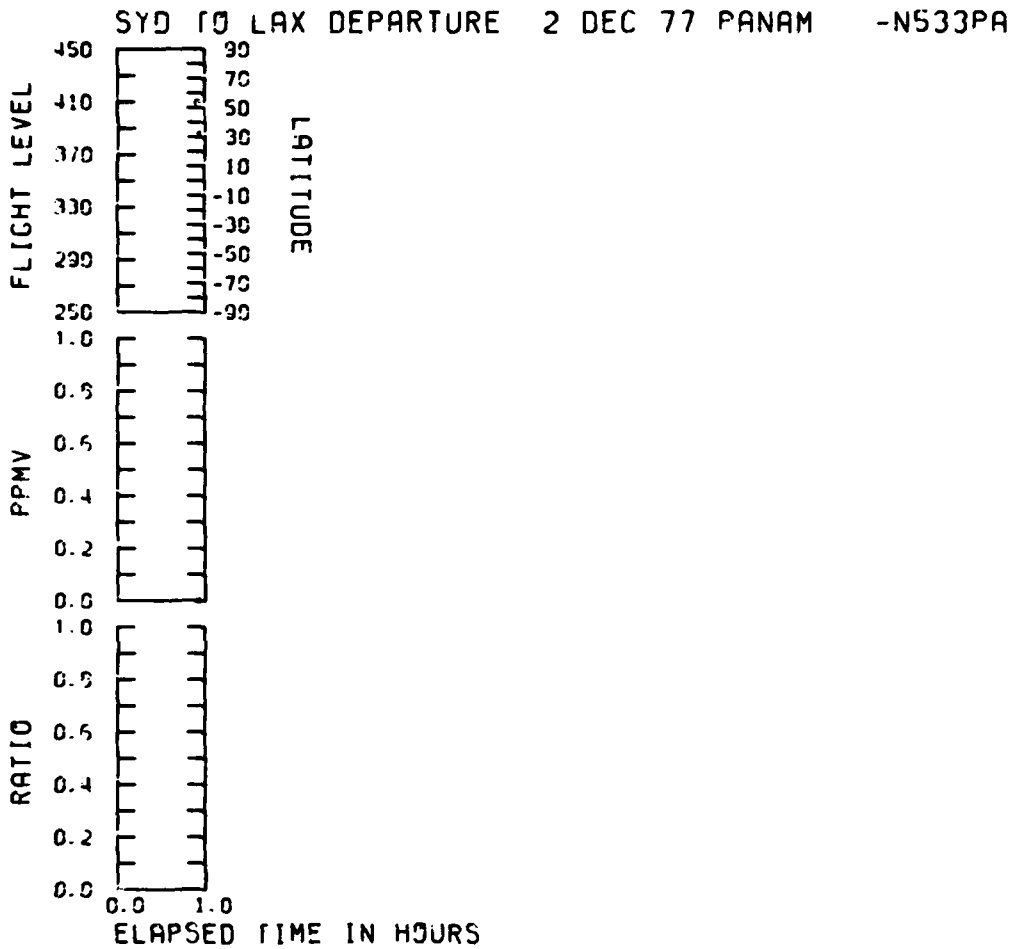

AKL TO SYD DEPARTURE 1 DEC 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

A-530

AKL TO SYD (PAGE 1 OF 1) DEPARTURE: 1 DEC 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .006 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 15
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
12/ 1/77	2030	0:10	427	36.84S	171.65E	-55.	.000		
12/ 1/77	2040	0:20	430	36.72S	170.02E	-57.	.000		
12/ 1/77	2050	0:30	430	36.57S	168.42E	-58.	.000		
12/ 1/77	2105	0:45	430	36.32S	166.04E	-57.	.000		
12/ 1/77	2110	0:50	430	36.23S	165.26E	-57.	.000		
12/ 1/77	2120	1:00	430	36.03S	163.69E	-56.	.004		
12/ 1/77	2130	1:10	430	35.81S	162.15E	-58.	.005		
12/ 1/77	2140	1:20	430	35.57S	160.64E	-59.	.006		
12/ 1/77	2150	1:30	430	35.32S	159.18E	-63.	.003		
12/ 1/77	2200	1:40	430	35.06S	157.75E	-60.	.006		
12/ 1/77	2205	1:45	430	34.93S	157.03E	-58.	.000		
12/ 1/77	2210	1:50	430	34.79S	156.33E	-59.	.000		
12/ 1/77	2215	1:55	430	34.64S	155.64E	-60.	.000		
12/ 1/77	2220	2:00	430	34.50S	154.94E	-59.	.001		
12/ 1/77	2225	2:05	430	34.34S	154.25E	-60.	.000		

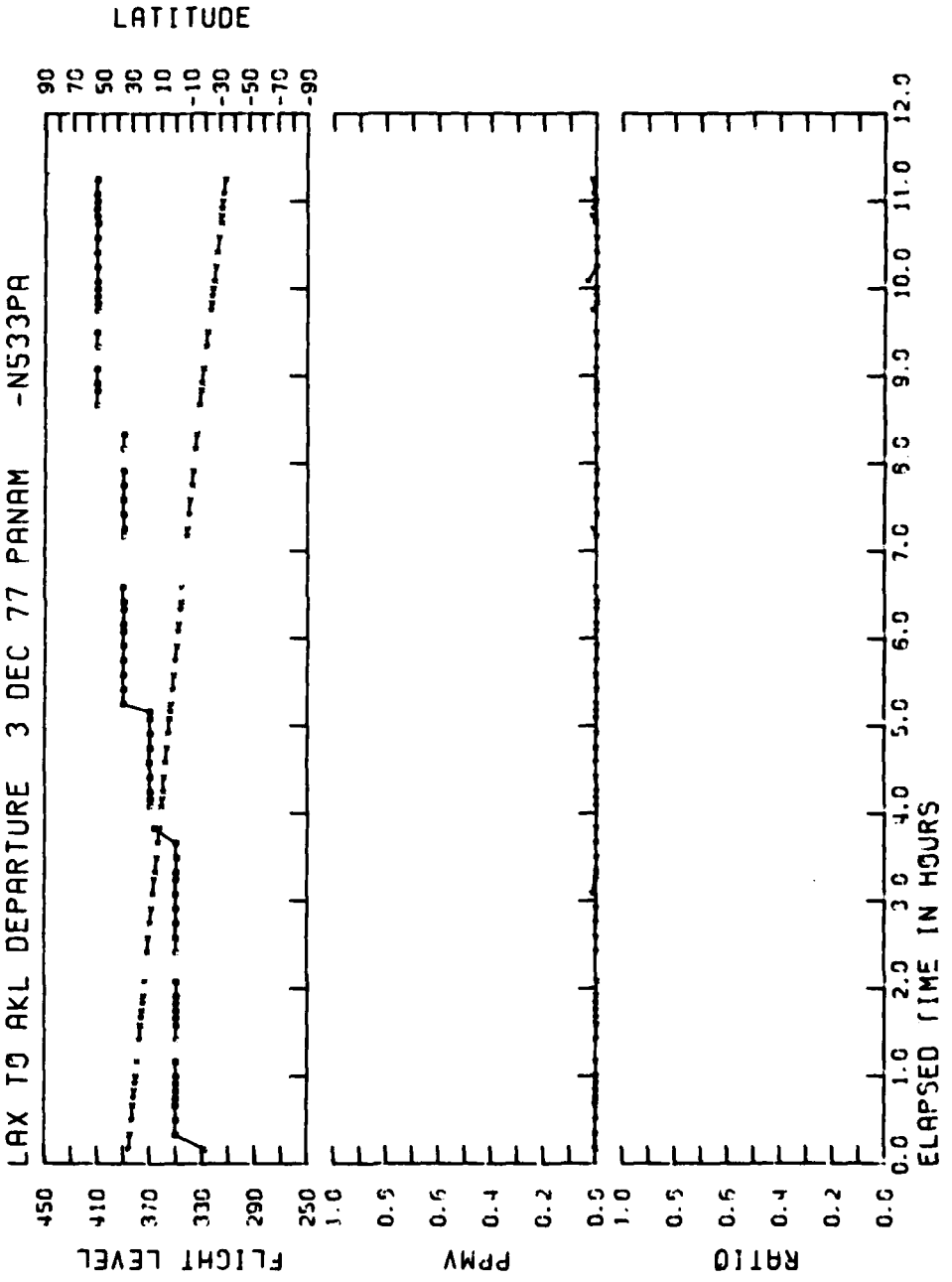

SYD TO LAX DEPARTURE 2 DEC 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
ELAPSED TIME IN HOURS

A-532

SYD TO LAX (PAGE 1 OF 1) DEPARTURE: 2 DEC 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE=0.000 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 0.00 TOTAL OBS IN CABIN: 1
DATA SOURCE: GASP TAPE VL014, FILE 1

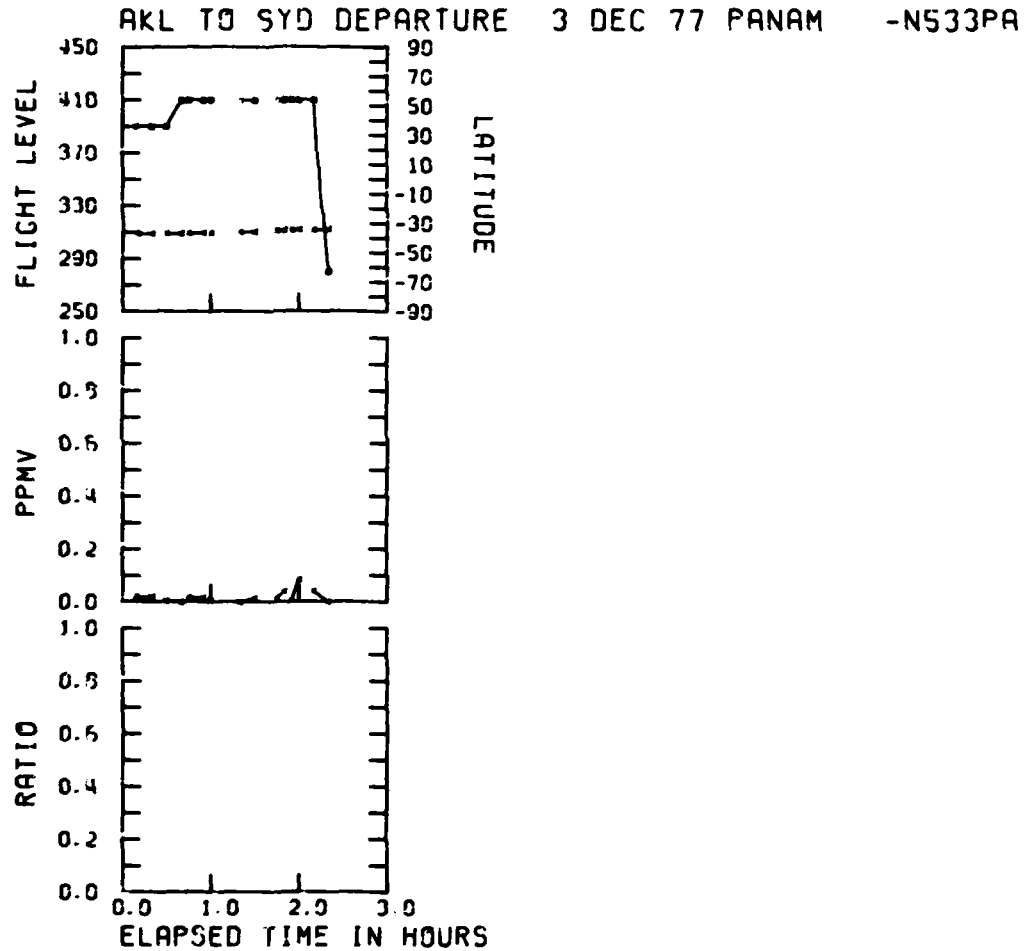
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	OZONE(PPMV) AMB.	RATIO
12/ 2/77	2324	0:55	410	32.48N	119.50W	-57.	.000		


LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
LAX TO AKL DEPARTURE 3 DEC 77 PANAM -N533PA
450
410
370
330
290
250
FLIGHT LEVEL
1.0
0.8
0.6
0.4
0.2
0.0
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
12.0
ELAPSED TIME IN HOURS

LAX TO AKL (PAGE 1 OF 1) DEPARTURE: 3 DEC 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .033 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 73
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	OZONE(PPMV) AMB.	RATIO
12/ 3/77	0837	0:10	328	32.03N	120.48W	-42.	.000		
12/ 3/77	0847	0:20	350	31.25N	121.89W	-46.	.000		
12/ 3/77	0857	0:30	350	30.36N	123.25W	-46.	.000		
12/ 3/77	0907	0:40	350	29.47N	124.57W	-46.	.001		
12/ 3/77	0912	0:45	350	29.02N	125.22W	-47.	.000		
12/ 3/77	0917	0:50	350	28.57N	125.87W	-46.	.000		
12/ 3/77	0922	0:55	350	28.11N	126.52W	-46.	.000		
12/ 3/77	0927	1:00	350	27.66N	127.15W	-46.	.000		
12/ 3/77	0937	1:10	350	26.74N	128.40W	-46.	.000		
12/ 3/77	0952	1:25	350	25.36N	130.22W	-46.	.000		
12/ 3/77	1002	1:35	350	24.44N	131.40W	-46.	.000		
12/ 3/77	1007	1:40	350	23.98N	131.98W	-46.	.000		
12/ 3/77	1012	1:45	350	23.51N	132.56W	-46.	.000		
12/ 3/77	1017	1:50	350	23.03N	133.14W	-47.	.002		
12/ 3/77	1022	1:55	350	22.55N	133.72W	-46.	.000		
12/ 3/77	1032	2:05	350	21.59N	134.87W	-46.	.000		
12/ 3/77	1052	2:25	350	19.69N	137.05W	-49.	.000		
12/ 3/77	1103	2:36	350	18.64N	138.22W	-50.	.000		
12/ 3/77	1113	2:46	350	17.74N	139.22W	-48.	.000		
12/ 3/77	1123	2:56	350	16.84N	140.19W	-44.	.000		
12/ 3/77	1133	3:06	350	15.90N	141.19W	-42.	.013		
12/ 3/77	1143	3:16	350	14.93N	142.21W	-41.	.000		
12/ 3/77	1148	3:21	350	14.44N	142.72W	-40.	.000		
12/ 3/77	1158	3:31	350	13.45N	143.73W	-42.	.000		
12/ 3/77	1208	3:41	350	12.48N	144.73W	-42.	.000		
12/ 3/77	1218	3:51	367	11.51N	145.70W	-47.	.000		
12/ 3/77	1233	4:06	370	10.07N	147.12W	-48.	.000		
12/ 3/77	1238	4:11	370	9.61N	147.59W	-47.	.000		
12/ 3/77	1243	4:16	370	9.14N	148.04W	-47.	.000		
12/ 3/77	1253	4:26	370	8.21N	148.95W	-48.	.000		
12/ 3/77	1303	4:36	370	7.27N	149.86W	-48.	.000		
12/ 3/77	1313	4:46	370	6.33N	150.76W	-48.	.000		
12/ 3/77	1323	4:56	370	5.40N	151.65W	-48.	.000		
12/ 3/77	1333	5:06	370	4.46N	152.55W	-48.	.000		
12/ 3/77	1338	5:11	370	3.99N	153.00W	-48.	.000		
12/ 3/77	1343	5:16	390	3.52N	153.44W	-54.	.000		
12/ 3/77	1353	5:26	390	2.59N	154.31W	-53.	.000		
12/ 3/77	1403	5:36	390	1.67N	155.18W	-54.	.000		
12/ 3/77	1413	5:46	390	.74N	156.07W	-54.	.000		
12/ 3/77	1423	5:56	390	.21S	156.97W	-54.	.000		
12/ 3/77	1433	6:06	390	1.16S	157.87W	-54.	.000		
12/ 3/77	1438	6:11	390	1.63S	158.31W	-54.	.000		
12/ 3/77	1448	6:21	390	2.56S	159.20W	-54.	.001		
12/ 3/77	1453	6:26	390	3.03S	159.64W	-54.	.000		
12/ 3/77	1503	6:36	390	3.97S	160.54W	-54.	.000		
12/ 3/77	1538	7:11	390	7.24S	163.65W	-54.	.000		
12/ 3/77	1543	7:16	390	7.65S	164.14W	-54.	.011		
12/ 3/77	1553	7:26	390	8.64S	165.00W	-54.	.000		
12/ 3/77	1603	7:36	390	9.62S	165.95W	-55.	.000		
12/ 3/77	1613	7:46	390	10.59S	166.91W	-54.	.000		
12/ 3/77	1623	7:56	390	11.56S	167.88W	-54.	.000		
12/ 3/77	1637	8:10	390	12.90S	169.23W	-54.	.000		
12/ 3/77	1647	8:20	390	13.85S	170.21W	-54.	.006		
12/ 3/77	1707	8:40	410	16.04S	171.79W	-59.	.000		
12/ 3/77	1717	8:50	410	17.16S	172.52W	-58.	.000		
12/ 3/77	1722	8:55	410	17.72S	172.89W	-58.	.000		
12/ 3/77	1732	9:05	410	18.85S	173.63W	-58.	.000		
12/ 3/77	1747	9:20	410	20.55S	174.78W	-59.	.000		
12/ 3/77	1757	9:30	410	21.68S	175.48W	-58.	.000		
12/ 3/77	1812	9:45	410	23.47S	176.46W	-57.	.015		
12/ 3/77	1817	9:50	410	24.06S	176.79W	-57.	.000		
12/ 3/77	1822	9:55	410	24.64S	177.12W	-57.	.001		
12/ 3/77	1827	10:00	410	25.23S	177.45W	-56.	.000		
12/ 3/77	1832	10:05	410	25.81S	177.79W	-56.	.033		
12/ 3/77	1842	10:15	410	26.96S	178.46W	-56.	.000		
12/ 3/77	1852	10:25	410	28.10S	179.15W	-57.	.000		
12/ 3/77	1902	10:35	410	29.22S	179.84W	-56.	.000		
12/ 3/77	1912	10:45	410	30.34S	179.45E	-55.	.007		
12/ 3/77	1917	10:50	410	30.90S	179.09E	-55.	.016		
12/ 3/77	1922	10:55	410	31.46S	178.73E	-56.	.010		
12/ 3/77	1927	11:00	410	32.01S	178.36E	-56.	.001		
12/ 3/77	1932	11:05	410	32.56S	178.00E	-56.	.009		
12/ 3/77	1942	11:15	410	33.67S	177.24E	-57.	.015		

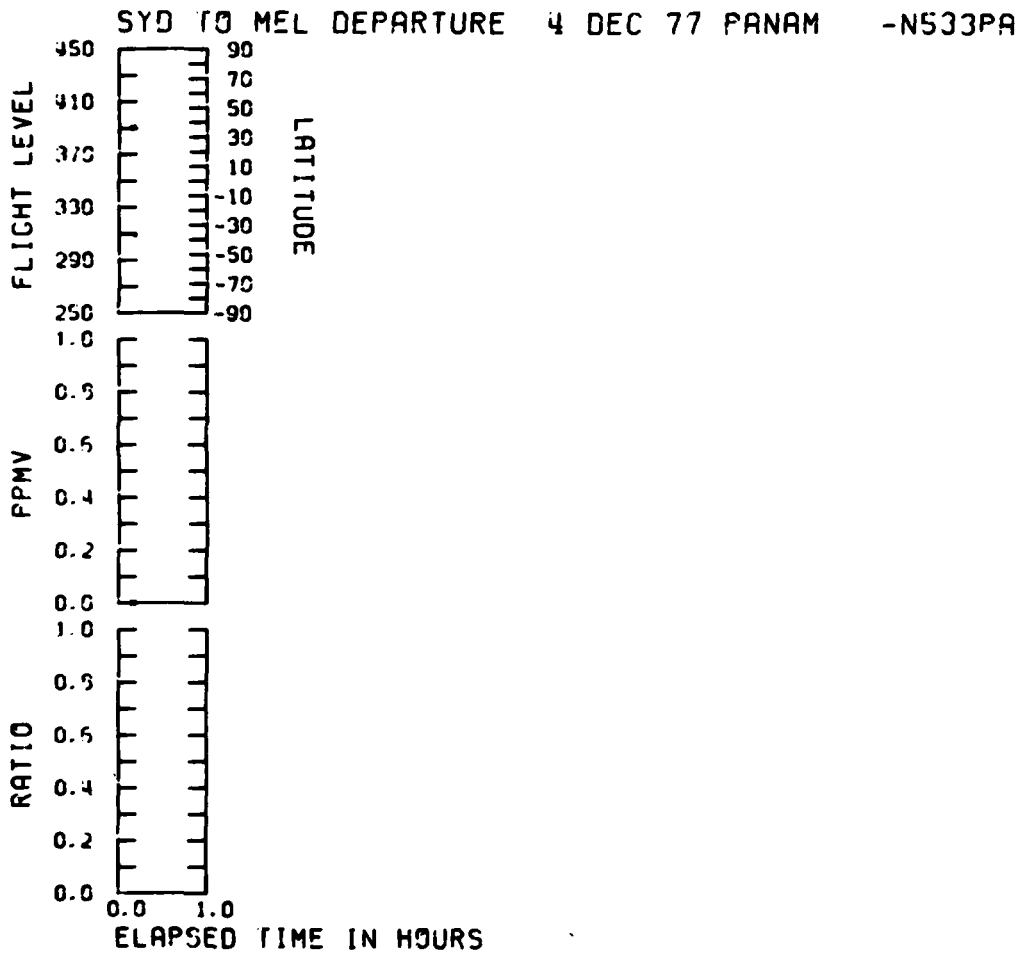

AKL TO SYD DEPARTURE 3 DEC 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

A-536

AKL TO SYD (PAGE 1 OF 1) DEPARTURE: 3 DEC 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .083 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 15
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
12/ 3/77	2215	0:10	390	36.84S	171.64E	-62.	.018		
12/ 3/77	2225	0:20	390	36.72S	170.08E	-61.	.019		
12/ 3/77	2235	0:30	390	36.58S	168.53E	-59.	.004		
12/ 3/77	2245	0:40	410	36.56S	166.93E	-60.	.000		
12/ 3/77	2250	0:45	410	36.65S	166.14E	-59.	.016		
12/ 3/77	2300	0:55	410	36.50S	164.60E	-58.	.014		
12/ 3/77	2305	1:00	410	36.35S	163.85E	-59.	.005		
12/ 3/77	2325	1:20	410	35.67S	160.89E	-61.	.000		
12/ 3/77	2336	1:31	410	35.35S	159.42E	-58.	.014		
12/ 3/77	2350	1:45	410	34.95S	157.27E	-58.	.015		
12/ 3/77	2355	1:50	410	34.80S	156.54E	-58.	.040		
12/ 4/77	0000	1:55	410	34.65S	155.83E	-58.	.004		
12/ 4/77	0005	2:00	410	34.50S	155.14E	-58.	.083		
12/ 4/77	0015	2:10	410	34.24S	153.75E	-59.	.041		
12/ 4/77	0025	2:20	280	34.14S	152.45E	-34.	.000		

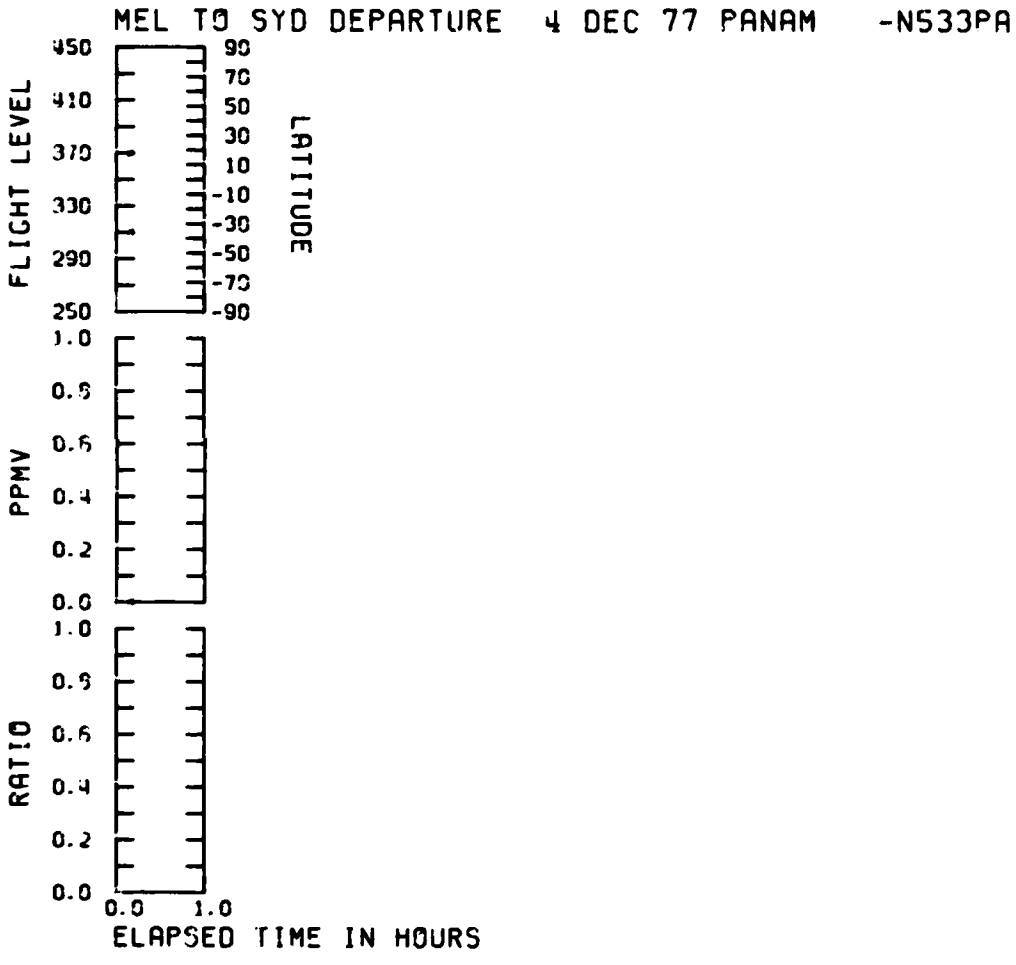

SYD TO MEL DEPARTURE 4 DEC 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
ELAPSED TIME IN HOURS

A-538

SYD TO MEL (PAGE 1 OF 1) DEPARTURE: 4 DEC 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE=0.000 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 0.00 TOTAL OBS IN CABIN: 1
DATA SOURCE: GASP TAPE VL014, FILE 1

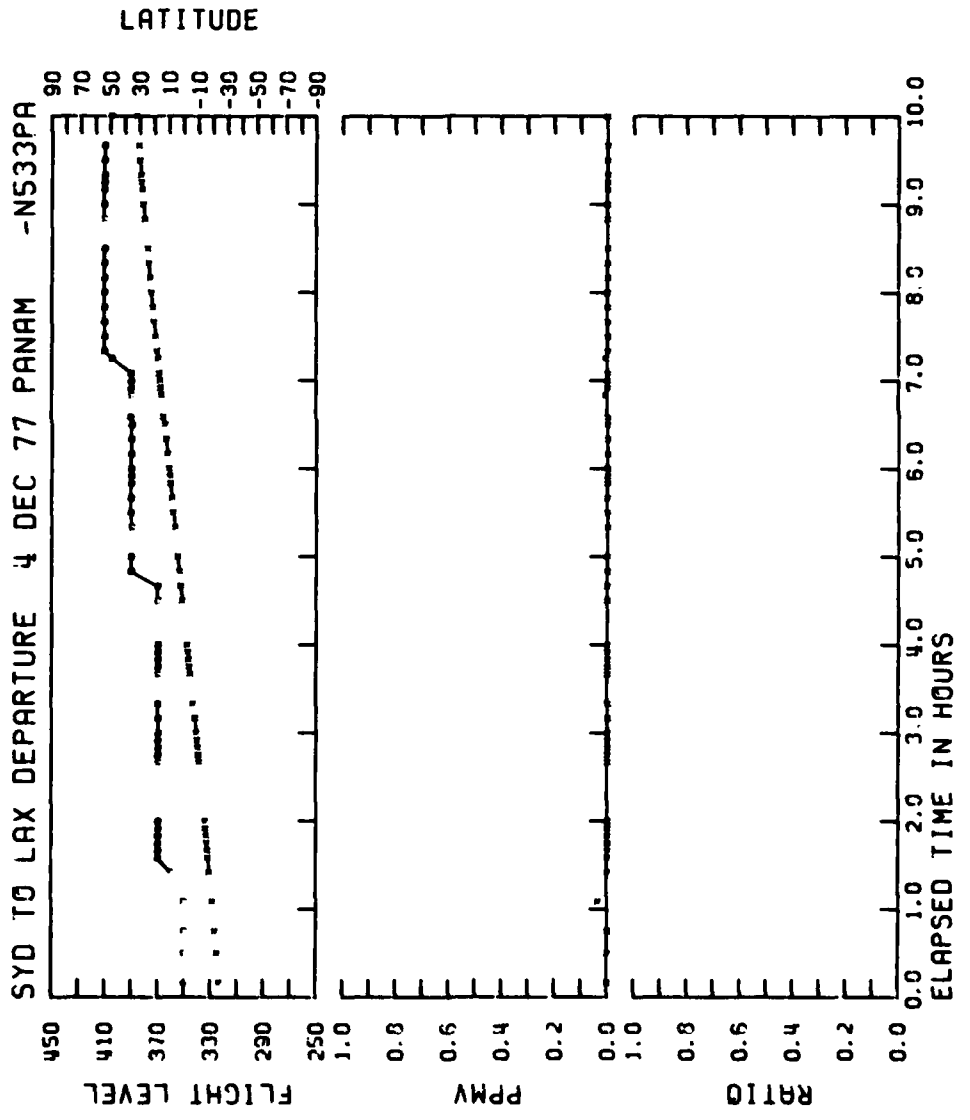
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	OZONE(PPMV) AMB.	RATIO
12/ 4/77	0349	0:10	390	36.76S	146.66E	-54.	.000		


MEL TO SYD DEPARTURE 4 DEC 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
ELAPSED TIME IN HOURS

MEL TO SYD (PAGE 1 OF 1) DEPARTURE: 4 DEC 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .001 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 1
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	OZONE(PPMV) AMB.	RATIO
12/ 4/77	0632	0:10	370	35.83S	147.49E	-54.	.001		

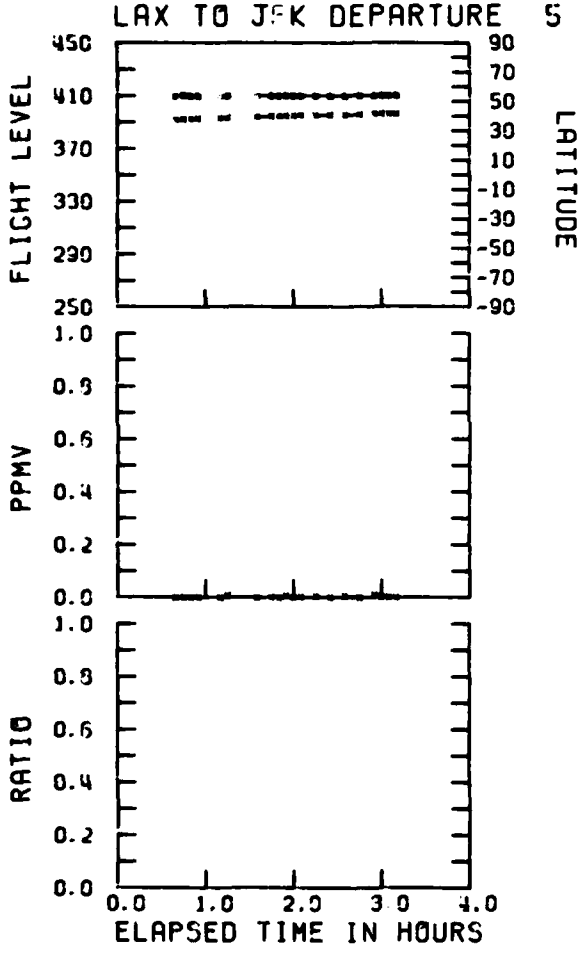

SYD TO LAX DEPARTURE 4 DEC 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0
ELAPSED TIME IN HOURS

SYD TO LAX (PAGE 1 OF 1) DEPARTURE: 4 DEC 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .037 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 58
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
12/ 4/77	1247	0:10	350	23.86S	176.00E	-47.	.000		
12/ 4/77	1307	0:30	350	22.23S	178.75E	-44.	.000		
12/ 4/77	1322	0:45	350	20.89S	179.25W	-44.	.000		
12/ 4/77	1342	1:05	350	19.03S	176.70W	-43.	.037		
12/ 4/77	1402	1:25	360	17.22S	174.33W	-46.	.000		
12/ 4/77	1412	1:35	370	16.30S	173.16W	-48.	.000		
12/ 4/77	1417	1:40	370	15.85S	172.59W	-48.	.000		
12/ 4/77	1422	1:45	370	15.40S	172.02W	-48.	.000		
12/ 4/77	1427	1:50	370	14.95S	171.46W	-48.	.000		
12/ 4/77	1432	1:55	370	14.51S	170.90W	-48.	.000		
12/ 4/77	1437	2:00	370	14.04S	170.38W	-48.	.000		
12/ 4/77	1517	2:40	370	10.08S	166.41W	-47.	.000		
12/ 4/77	1522	2:45	370	9.60S	165.94W	-48.	.000		
12/ 4/77	1527	2:50	370	9.13S	165.47W	-47.	.000		
12/ 4/77	1532	2:55	370	8.64S	165.00W	-48.	.000		
12/ 4/77	1537	3:00	370	8.15S	164.52W	-47.	.000		
12/ 4/77	1547	3:10	370	7.16S	163.57W	-48.	.000		
12/ 4/77	1557	3:20	370	6.14S	162.60W	-47.	.000		
12/ 4/77	1617	3:40	370	4.00S	160.57W	-48.	.000		
12/ 4/77	1622	3:45	370	3.46S	160.05W	-48.	.000		
12/ 4/77	1627	3:50	370	2.92S	159.55W	-48.	.000		
12/ 4/77	1632	3:55	370	2.39S	159.04W	-48.	.001		
12/ 4/77	1637	4:00	370	1.87S	158.54W	-48.	.000		
12/ 4/77	1707	4:30	370	1.25N	155.59W	-48.	.000		
12/ 4/77	1717	4:40	370	2.28N	154.61W	-48.	.000		
12/ 4/77	1727	4:50	390	3.32N	153.63W	-54.	.000		
12/ 4/77	1737	5:00	390	4.35N	152.65W	-53.	.000		
12/ 4/77	1757	5:20	390	6.37N	150.72W	-54.	.000		
12/ 4/77	1807	5:30	390	7.37N	149.76W	-55.	.000		
12/ 4/77	1817	5:40	390	8.39N	148.78W	-55.	.000		
12/ 4/77	1827	5:50	390	9.41N	147.78W	-54.	.000		
12/ 4/77	1832	5:55	390	9.91N	147.28W	-54.	.000		
12/ 4/77	1837	6:00	390	10.43N	146.78W	-54.	.000		
12/ 4/77	1847	6:10	390	11.45N	145.76W	-54.	.000		
12/ 4/77	1857	6:20	390	12.47N	144.74W	-53.	.000		
12/ 4/77	1907	6:30	390	13.48N	143.71W	-53.	.001		
12/ 4/77	1912	6:35	390	13.98N	143.20W	-53.	.000		
12/ 4/77	1927	6:50	390	15.47N	141.65W	-52.	.008		
12/ 4/77	1932	6:55	390	15.96N	141.12W	-52.	.000		
12/ 4/77	1937	7:00	390	16.46N	140.60W	-51.	.000		
12/ 4/77	1942	7:05	390	16.94N	140.08W	-51.	.000		
12/ 4/77	1952	7:15	405	17.89N	139.05W	-53.	.009		
12/ 4/77	2001	7:24	410	18.75N	138.10W	-54.	.000		
12/ 4/77	2011	7:34	410	19.69N	137.05W	-55.	.000		
12/ 4/77	2021	7:44	410	20.61N	136.00W	-55.	.000		
12/ 4/77	2031	7:54	410	21.31N	135.19W	-57.	.000		
12/ 4/77	2041	8:04	410	22.41N	133.88W	-57.	.000		
12/ 4/77	2051	8:14	410	23.30N	132.81W	-57.	.000		
12/ 4/77	2101	8:24	410	24.18N	131.72W	-57.	.000		
12/ 4/77	2111	8:34	410	25.06N	130.61W	-58.	.000		
12/ 4/77	2131	8:54	410	26.80N	128.32W	-59.	.000		
12/ 4/77	2141	9:04	410	27.67N	127.14W	-58.	.000		
12/ 4/77	2151	9:14	410	28.51N	125.96W	-57.	.000		
12/ 4/77	2156	9:19	410	28.93N	125.35W	-58.	.000		
12/ 4/77	2201	9:24	410	29.36N	124.74W	-58.	.000		
12/ 4/77	2211	9:34	410	30.20N	123.49W	-57.	.000		
12/ 4/77	2221	9:44	410	31.02N	122.24W	-57.	.000		
12/ 4/77	2238	10:01	405	32.33N	120.01W	-56.	.000		

A-543

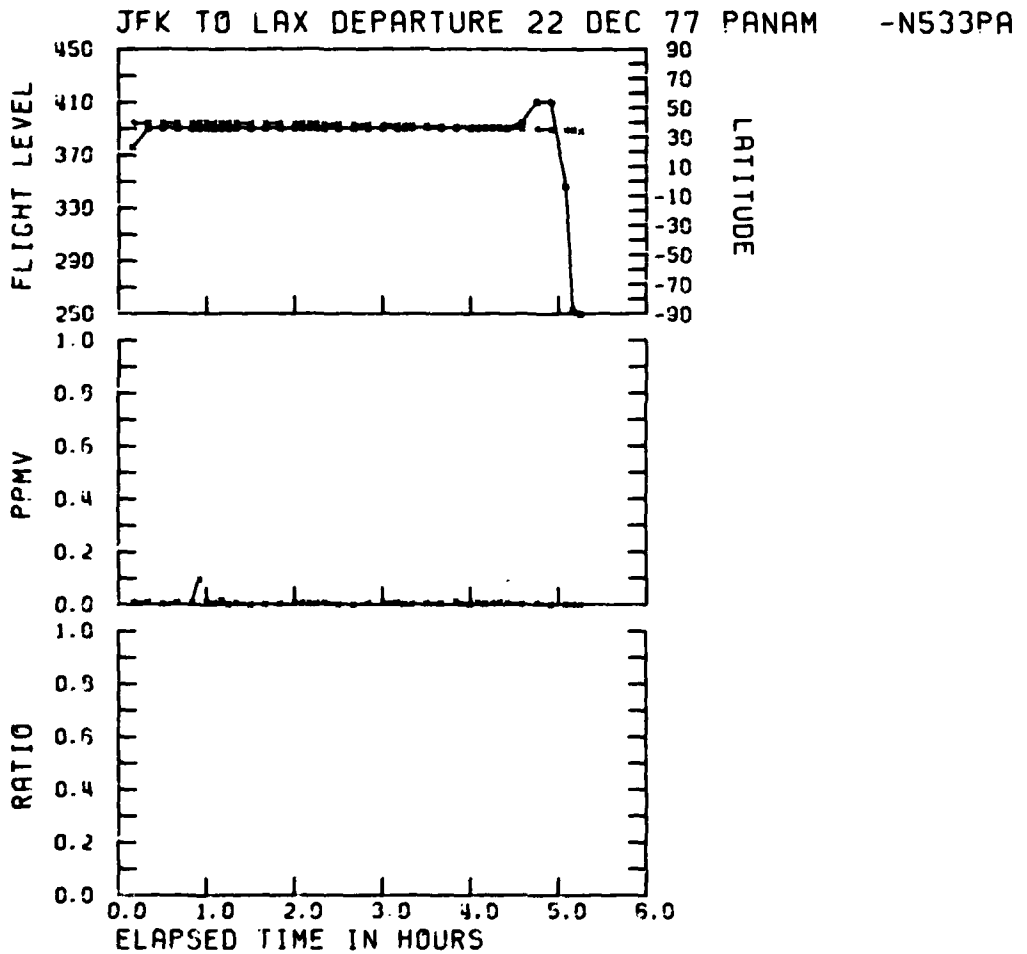

LAX TO JFK DEPARTURE 5 DEC 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
ELAPSED TIME IN HOURS

LAX TO JFK (PAGE 1 OF 1) DEPARTURE: 5 DEC 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .010 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 20
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
12/ 5/77	1323	0:40	410	37.77N	106.11W	-55.	.000		
12/ 5/77	1328	0:45	410	37.99N	105.25W	-53.	.000		
12/ 5/77	1333	0:50	410	38.21N	104.33W	-50.	.000		
12/ 5/77	1338	0:55	410	38.42N	103.44W	-50.	.000		
12/ 5/77	1353	1:10	410	39.01N	100.71W	-47.	.000		
12/ 5/77	1358	1:15	410	39.19N	99.80W	-47.	.010		
12/ 5/77	1418	1:35	410	39.85N	95.96W	-47.	.000		
12/ 5/77	1428	1:45	410	40.13N	94.07W	-48.	.001		
12/ 5/77	1433	1:50	410	40.26N	93.09W	-46.	.000		
12/ 5/77	1438	1:55	410	40.38N	92.11W	-47.	.007		
12/ 5/77	1443	2:00	410	40.50N	91.15W	-46.	.001		
12/ 5/77	1448	2:05	410	40.61N	90.16W	-48.	.002		
12/ 5/77	1458	2:15	410	40.81N	88.12W	-49.	.005		
12/ 5/77	1508	2:25	410	40.97N	86.09W	-50.	.000		
12/ 5/77	1518	2:35	410	41.09N	84.08W	-51.	.006		
12/ 5/77	1528	2:45	410	41.28N	82.03W	-52.	.000		
12/ 5/77	1538	2:55	410	41.46N	79.93W	-52.	.010		
12/ 5/77	1543	3:00	410	41.54N	78.88W	-56.	.002		
12/ 5/77	1548	3:05	410	41.63N	77.82W	-54.	.001		
12/ 5/77	1554	3:11	410	41.53N	76.44W	-54.	.000		

A-545


JFK TO LAX DEPARTURE 22 DEC 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
ELAPSED TIME IN HOURS

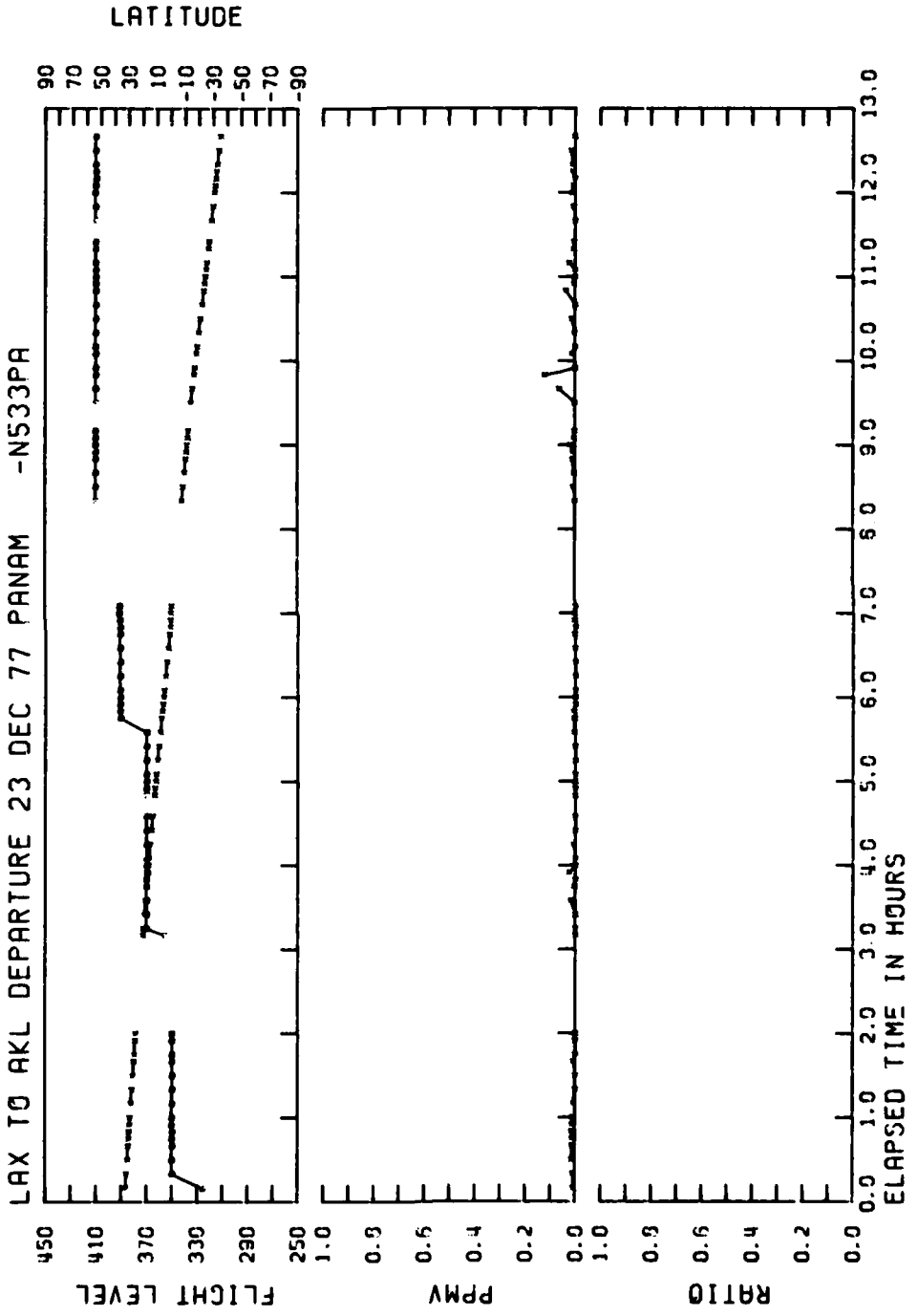
A-646

JFK TO LAX (PAGE 1 OF 1) DEPARTURE: 22 DEC 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .095 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 41
DATA SOURCE: GASP TAPE VL014, FILE 1 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
12/22/77	2355	0:10	376	40.06N	75.98W	-52.	.010		
12/23/77	0009	0:24	390	39.98N	78.28W	-55.	.010		
12/23/77	0019	0:34	391	40.01N	79.85W	-58.	.004		
12/23/77	0029	0:44	391	40.01N	81.40W	-61.	.010		
12/23/77	0039	0:54	391	39.99N	82.94W	-63.	.010		
12/23/77	0044	0:59	391	39.99N	83.70W	-61.	.095		
12/23/77	0049	1:04	391	39.98N	84.45W	-63.	.010		
12/23/77	0054	1:09	391	39.96N	85.19W	-64.	.005		
12/23/77	0059	1:14	391	39.94N	85.93W	-63.	.017		
12/23/77	0104	1:19	390	39.92N	86.66W	-66.	.000		
12/23/77	0109	1:24	390	39.89N	87.38W	-64.	.006		
12/23/77	0119	1:34	390	39.82N	88.76W	-66.	.000		
12/23/77	0129	1:44	390	39.74N	90.13W	-65.	.001		
12/23/77	0139	1:54	390	39.64N	91.52W	-63.	.004		
12/23/77	0149	2:04	391	39.52N	92.89W	-64.	.005		
12/23/77	0154	2:09	391	39.46N	93.56W	-64.	.005		
12/23/77	0159	2:14	391	39.39N	94.25W	-62.	.004		
12/23/77	0204	2:19	390	39.31N	94.94W	-64.	.006		
12/23/77	0209	2:24	391	39.24N	95.63W	-62.	.008		
12/23/77	0219	2:34	390	39.07N	97.00W	-61.	.000		
12/23/77	0229	2:44	390	38.89N	98.32W	-62.	.000		
12/23/77	0239	2:54	390	38.70N	99.67W	-58.	.005		
12/23/77	0249	3:04	390	38.49N	101.00W	-58.	.008		
12/23/77	0259	3:14	390	38.27N	102.28W	-58.	.008		
12/23/77	0304	3:19	390	38.15N	102.93W	-57.	.002		
12/23/77	0309	3:24	391	38.04N	103.56W	-60.	.002		
12/23/77	0319	3:34	391	37.79N	104.83W	-59.	.006		
12/23/77	0329	3:44	391	37.53N	106.11W	-57.	.006		
12/23/77	0339	3:54	390	37.25N	107.36W	-58.	.012		
12/23/77	0349	4:04	390	36.97N	108.57W	-58.	.002		
12/23/77	0354	4:09	390	36.83N	109.17W	-59.	.008		
12/23/77	0359	4:14	391	36.69N	109.75W	-60.	.004		
12/23/77	0404	4:19	391	36.55N	110.31W	-60.	.006		
12/23/77	0409	4:24	391	36.40N	110.88W	-60.	.010		
12/23/77	0414	4:29	390	36.26N	111.42W	-60.	.007		
12/23/77	0424	4:39	395	35.97N	112.50W	-60.	.002		
12/23/77	0434	4:49	410	35.65N	113.64W	-62.	.007		
12/23/77	0444	4:59	410	35.31N	114.80W	-62.	.000		
12/23/77	0454	5:09	346	34.97N	115.89W	-49.	.000		
12/23/77	0459	5:14	253	34.78N	116.49W	-35.	.001		
12/23/77	0504A	5:19	194	34.28N	117.06W	-22.	.000		

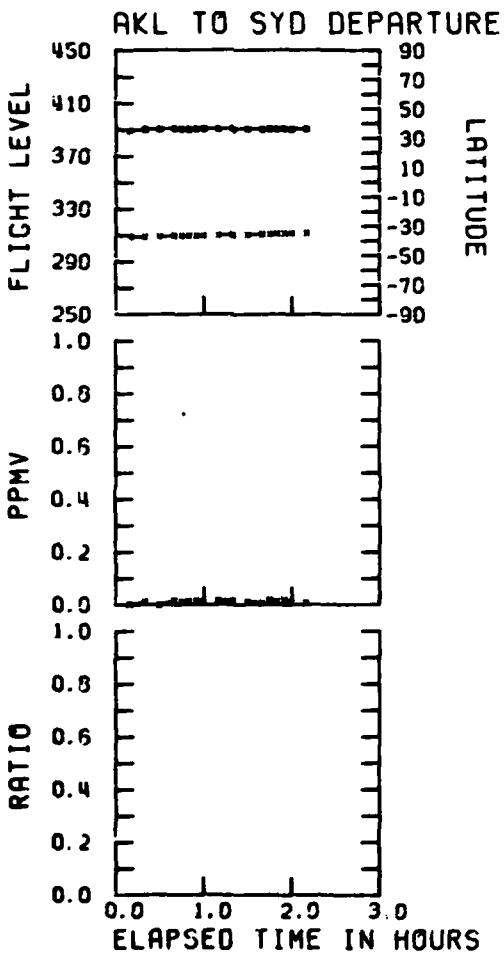
A-547


LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
LAX TO AKL DEPARTURE 23 DEC 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
12.0
13.0
ELAPSED TIME IN HOURS

LAX TO AKL (PAGE 1 OF 1) DEPARTURE: 23 DEC 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .121 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 80
DATA SOURCE: GASP TAPE VL014, FILE 1 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

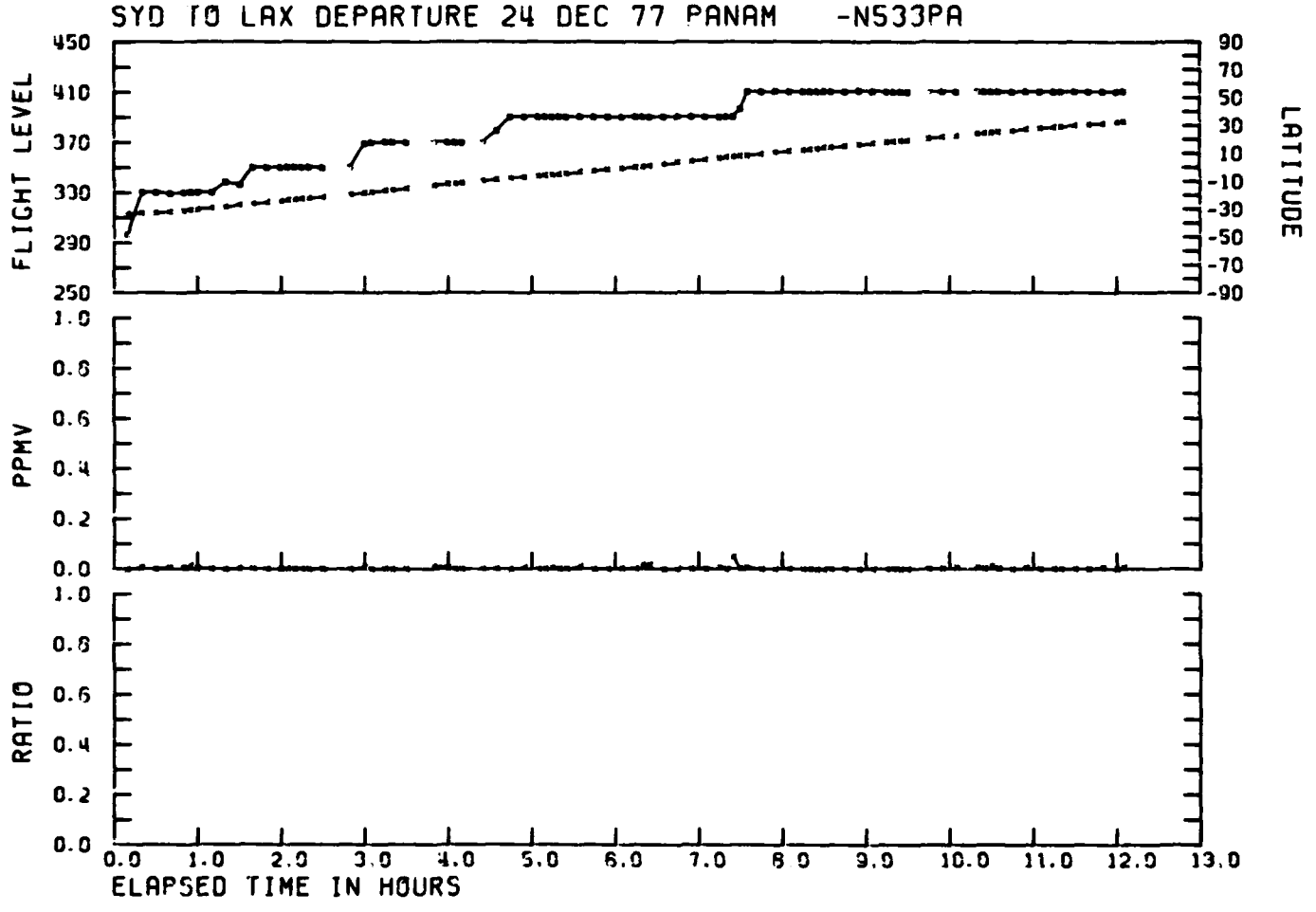
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	AMB.	RATIO
12/23/77	0839	0:10	326	32.84N	119.77W	-43.	.009		
12/23/77	0849	0:20	350	32.19N	120.60W	-50.	.009		
12/23/77	0859	0:30	350	31.52N	121.46W	-50.	.014		
12/23/77	0909	0:40	349	30.92N	122.39W	-50.	.012		
12/23/77	0914	0:45	350	30.62N	122.86W	-50.	.013		
12/23/77	0919	0:50	349	30.31N	123.33W	-49.	.014		
12/23/77	0924	0:55	350	29.99N	123.80W	-50.	.013		
12/23/77	0929	1:00	350	29.67N	124.28W	-50.	.009		
12/23/77	0939	1:10	350	29.01N	125.23W	-50.	.007		
12/23/77	0949	1:20	350	28.36N	126.17W	-49.	.000		
12/23/77	0959	1:30	350	27.70N	127.09W	-49.	.000		
12/23/77	1009	1:40	350	27.04N	128.00W	-48.	.007		
12/23/77	1014	1:45	350	26.71N	128.45W	-48.	.000		
12/23/77	1024	1:55	350	26.04N	129.34W	-47.	.000		
12/23/77	1029	2:00	350	25.69N	129.79W	-47.	.000		
12/23/77	1139	3:10	356	20.59N	136.02W	-44.	.000		
12/23/77	1144	3:15	370	20.20N	136.47W	-48.	.000		
12/23/77	1154	3:25	370	19.41N	137.36W	-48.	.000		
12/23/77	1204	3:35	370	18.62N	138.25W	-48.	.018		
12/23/77	1214	3:45	370	17.81N	139.14W	-48.	.004		
12/23/77	1219	3:50	370	17.40N	139.58W	-48.	.000		
12/23/77	1224	3:55	370	16.98N	140.03W	-48.	.024		
12/23/77	1229	4:00	370	16.57N	140.48W	-48.	.000		
12/23/77	1234	4:05	370	16.15N	140.92W	-49.	.000		
12/23/77	1244	4:15	370	15.31N	141.81W	-49.	.007		
12/23/77	1254	4:25	370	14.43N	142.73W	-49.	.000		
12/23/77	1304	4:35	370	13.54N	143.64W	-48.	.000		
12/23/77	1319	4:50	370	12.22N	144.99W	-48.	.001		
12/23/77	1324	4:55	370	11.77N	145.44W	-48.	.000		
12/23/77	1329	5:00	370	11.31N	145.89W	-49.	.000		
12/23/77	1334	5:05	370	10.85N	146.36W	-48.	.000		
12/23/77	1344	5:15	370	9.96N	147.24W	-49.	.000		
12/23/77	1354	5:25	370	9.05N	148.13W	-49.	.000		
12/23/77	1404	5:35	370	8.13N	149.02W	-49.	.005		
12/23/77	1414	5:45	391	7.22N	149.91W	-55.	.004		
12/23/77	1419	5:50	391	6.75N	150.36W	-55.	.007		
12/23/77	1424	5:55	391	6.29N	150.80W	-55.	.000		
12/23/77	1429	6:00	391	5.82N	151.25W	-55.	.000		
12/23/77	1434	6:05	391	5.35N	151.69W	-55.	.000		
12/23/77	1444	6:15	391	4.42N	152.59W	-54.	.000		
12/23/77	1454	6:25	391	3.50N	153.46W	-54.	.000		
12/23/77	1504	6:35	391	2.54N	154.36W	-53.	.002		
12/23/77	1514	6:45	391	1.57N	155.28W	-54.	.004		
12/23/77	1519	6:50	391	1.09N	155.73W	-54.	.000		
12/23/77	1524	6:55	391	.62N	156.18W	-54.	.004		
12/23/77	1529	7:00	391	.15N	156.63W	-54.	.005		
12/23/77	1534	7:05	391	.32S	157.07W	-54.	.000		
12/23/77	1650	8:21	410	7.38S	163.78W	-60.	.001		
12/23/77	1700	8:31	410	8.34S	164.70W	-60.	.007		
12/23/77	1710	8:41	410	9.29S	165.63W	-59.	.004		
12/23/77	1720	8:51	410	10.24S	166.57W	-59.	.010		
12/23/77	1725	8:56	410	10.70S	167.02W	-59.	.009		
12/23/77	1730	9:01	410	11.18S	167.50W	-59.	.019		
12/23/77	1735	9:06	410	11.64S	167.96W	-59.	.005		
12/23/77	1740	9:11	410	12.11S	168.43W	-59.	.002		
12/23/77	1800	9:31	410	13.94S	170.30W	-59.	.002		
12/23/77	1810	9:41	410	14.97S	171.11W	-60.	.063		
12/23/77	1820	9:51	410	16.10S	171.83W	-60.	.121		
12/23/77	1825	9:56	410	16.66S	172.19W	-60.	.000		
12/23/77	1835	10:06	410	17.81S	172.94W	-59.	.012		
12/23/77	1840	10:11	410	18.40S	173.33W	-59.	.000		
12/23/77	1850	10:21	410	19.53S	174.09W	-59.	.002		
12/23/77	1900	10:31	410	20.67S	174.87W	-59.	.014		
12/23/77	1910	10:41	410	21.79S	175.54W	-58.	.000		
12/23/77	1920	10:51	410	22.98S	176.19W	-58.	.037		
12/23/77	1925	10:56	410	23.54S	176.50W	-59.	.005		
12/23/77	1930	11:01	410	24.13S	176.83W	-60.	.000		
12/23/77	1935	11:06	410	24.69S	177.15W	-60.	.001		
12/23/77	1940	11:11	410	25.28S	177.49W	-60.	.024		
12/23/77	1950	11:21	410	26.39S	178.13W	-60.	.006		
12/23/77	1955A	11:26	410	27.00S	178.49W	-60.	.004		
12/23/77	2010	11:41	410	28.64S	179.48W	-61.	.000		
12/23/77	2020	11:51	410	29.70S	179.86E	-61.	.007		
12/23/77	2030	12:01	410	30.76S	179.19E	-61.	.010		
12/23/77	2035	12:06	410	31.27S	178.85E	-60.	.007		
12/23/77	2040	12:11	410	31.78S	178.52E	-61.	.001		
12/23/77	2045	12:16	410	32.28S	178.18E	-61.	.010		
12/23/77	2050	12:21	410	32.80S	177.84E	-61.	.011		
12/23/77	2100	12:31	410	33.87S	177.10E	-58.	.016		
12/23/77	2110	12:41	410	35.00S	176.30E	-56.	.002		


AKL TO SYD DEPARTURE 23 DEC 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

AKL TO SYD (PAGE 1 OF 1) DEPARTURE: 23 DEC 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .019 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 17
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
12/23/77	2337	0:10	389	36.91S	172.59E	-48.	.002		
12/23/77	2347	0:20	391	36.80S	171.06E	-50.	.012		
12/23/77	2357	0:30	391	36.67S	169.52E	-52.	.000		
12/24/77	0007	0:40	391	36.53S	167.99E	-54.	.016		
12/24/77	0012	0:45	391	36.45S	167.23E	-54.	.011		
12/24/77	0017	0:50	390	36.37S	166.47E	-56.	.013		
12/24/77	0022	0:55	391	36.28S	165.71E	-58.	.016		
12/24/77	0027	1:00	391	36.19S	164.96E	-62.	.011		
12/24/77	0037	1:10	391	35.99S	163.44E	-63.	.017		
12/24/77	0047	1:20	391	35.77S	161.91E	-63.	.017		
12/24/77	0057	1:30	391	35.53S	160.41E	-63.	.013		
12/24/77	0107	1:40	390	35.28S	158.93E	-64.	.007		
12/24/77	0112	1:45	391	35.14S	158.19E	-62.	.019		
12/24/77	0117	1:50	390	35.00S	157.46E	-59.	.012		
12/24/77	0122	1:55	390	34.86S	156.73E	-57.	.019		
12/24/77	0128	2:01	391	34.71S	155.96E	-57.	.010		
12/24/77	0137	2:10	391	34.39S	154.50E	-58.	.007		

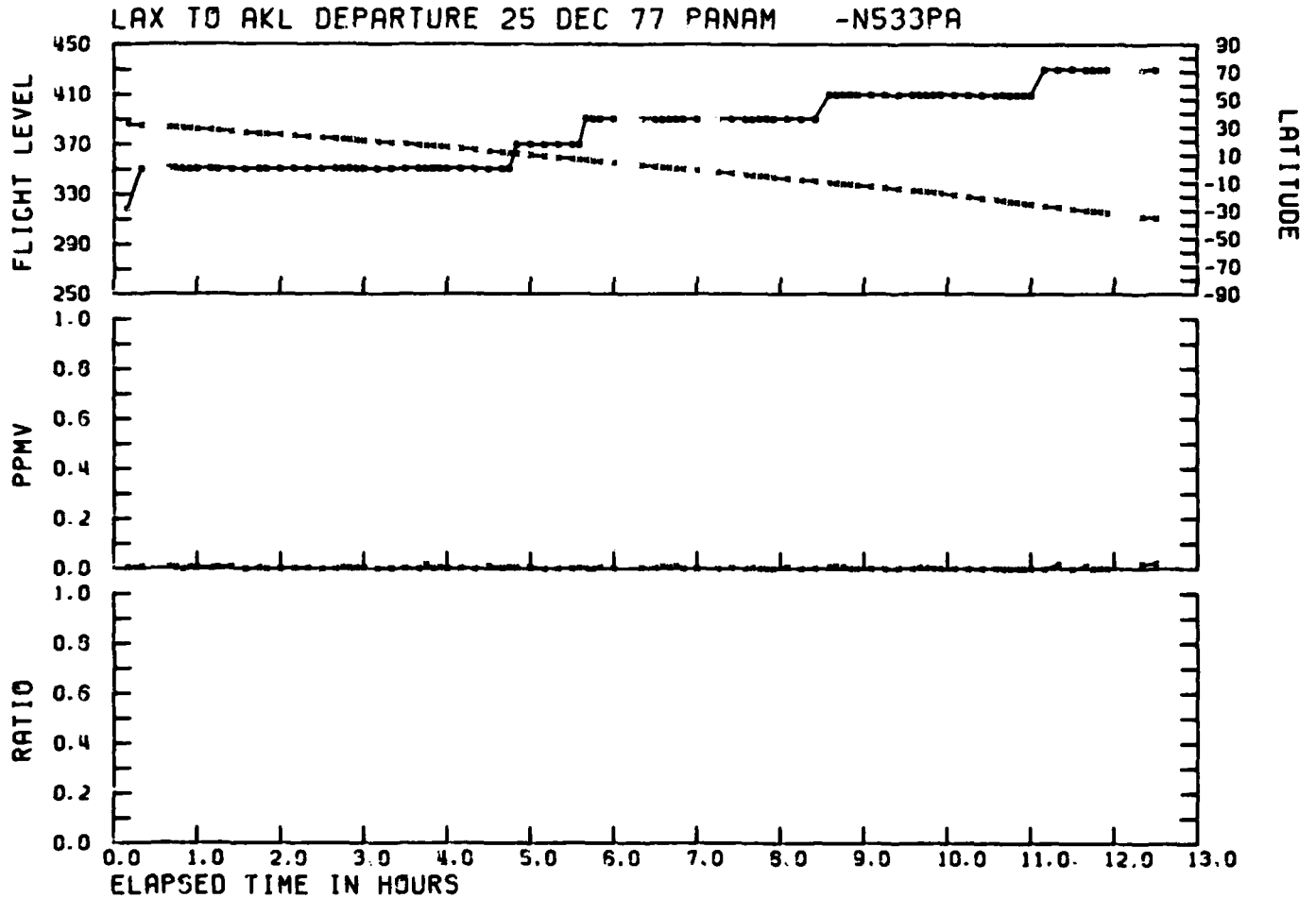

SYD TO LAX DEPARTURE 24 DEC 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0 13.0
ELAPSED TIME IN HOURS

SYD TO LAX (PAGE 1 OF 1) DEPARTURE: 24 DEC 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .049 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 85
DATA SOURCE: GASP TAPE VL014. FILE 1 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
12/24/77	0639	0:10	297	33.15S	153.86E	-39.	.000		
12/24/77	0649	0:20	330	32.65S	155.53E	-48.	.007		
12/24/77	0659	0:30	330	32.12S	157.23E	-48.	.001		
12/24/77	0709	0:40	330	31.55S	158.89E	-48.	.007		
12/24/77	0719	0:50	330	30.75S	160.32E	-48.	.008		
12/24/77	0724	0:55	330	30.32S	161.01E	-47.	.014		
12/24/77	0729	1:00	330	29.88S	161.70E	-46.	.003		
12/24/77	0739	1:10	330	28.98S	163.05E	-44.	.000		
12/24/77	0749	1:20	339	28.06S	164.41E	-42.	.000		
12/24/77	0802	1:33	336	26.83S	166.13E	-41.	.002		
12/24/77	0812	1:43	350	25.88S	167.44E	-44.	.002		
12/24/77	0822	1:53	350	24.91S	168.73E	-44.	.000		
12/24/77	0832	2:03	350	23.95S	169.97E	-44.	.002		
12/24/77	0837	2:08	350	23.46S	170.60E	-43.	.001		
12/24/77	0842	2:13	350	22.97S	171.22E	-43.	.000		
12/24/77	0847	2:18	350	22.48S	171.83E	-43.	.000		
12/24/77	0852	2:23	350	22.00S	172.42E	-42.	.000		
12/24/77	0902	2:33	350	21.06S	173.55E	-42.	.001		
12/24/77	0922	2:53	350	19.18S	175.73E	-42.	.000		
12/24/77	0932	3:03	369	18.17S	176.77E	-46.	.008		
12/24/77	0937	3:08	370	17.66S	177.27E	-47.	.000		
12/24/77	0947	3:18	370	16.61S	178.19E	-46.	.001		
12/24/77	0952	3:23	370	16.07S	178.63E	-46.	.000		
12/24/77	1002	3:33	370	14.97S	179.47E	-46.	.000		
12/24/77	1022	3:53	370	12.84S	179.71E	-47.	.011		
12/24/77	1032	4:03	370	11.98S	179.13W	-47.	.004		
12/24/77	1037	4:08	370	11.57S	178.55W	-47.	.000		
12/24/77	1042A	4:13	370	11.09S	178.07W	-47.	.000		
12/24/77	1057	4:28	370	9.64S	176.61W	-47.	.000		
12/24/77	1107	4:38	379	8.68S	175.60W	-51.	.001		
12/24/77	1117	4:48	390	7.74S	174.61W	-55.	.000		
12/24/77	1127	4:58	390	6.80S	173.63W	-55.	.006		
12/24/77	1137	5:08	390	6.19S	172.44W	-55.	.000		
12/24/77	1142	5:13	390	5.76S	171.88W	-54.	.001		
12/24/77	1147	5:18	390	5.32S	171.34W	-54.	.005		
12/24/77	1152	5:23	391	4.84S	170.84W	-54.	.001		
12/24/77	1157	5:28	390	4.35S	170.33W	-54.	.002		
12/24/77	1207	5:38	390	3.37S	169.30W	-54.	.010		
12/24/77	1217	5:48	390	2.38S	168.27W	-54.	.000		
12/24/77	1227	5:58	390	1.41S	167.24W	-54.	.000		
12/24/77	1237	6:08	390	.54S	166.10W	-54.	.004		
12/24/77	1247	6:18	390	.22N	164.89W	-53.	.002		
12/24/77	1252	6:23	390	.72N	164.41W	-54.	.017		
12/24/77	1257	6:28	390	1.25N	163.96W	-54.	.017		
12/24/77	1308	6:39	391	2.44N	163.07W	-54.	.000		
12/24/77	1318	6:49	390	3.39N	162.09W	-54.	.000		
12/24/77	1328	6:59	390	4.50N	161.32W	-54.	.000		
12/24/77	1338	7:09	390	5.60N	160.46W	-54.	.000		
12/24/77	1348	7:19	390	6.63N	159.46W	-54.	.006		
12/24/77	1353	7:24	390	7.14N	158.97W	-54.	.000		
12/24/77	1358	7:29	390	7.64N	158.47W	-54.	.049		
12/24/77	1403	7:34	397	8.14N	157.98W	-55.	.002		
12/24/77	1408	7:39	410	8.64N	157.48W	-59.	.005		
12/24/77	1418	7:49	410	9.64N	156.47W	-59.	.000		
12/24/77	1428	7:59	410	10.63N	155.43W	-59.	.000		
12/24/77	1438	8:09	410	11.59N	154.36W	-59.	.000		
12/24/77	1448	8:19	410	12.54N	153.30W	-59.	.000		
12/24/77	1453	8:24	410	13.01N	152.76W	-59.	.000		
12/24/77	1458	8:29	410	13.49N	152.22W	-60.	.000		
12/24/77	1503	8:34	410	13.97N	151.67W	-59.	.000		
12/24/77	1508	8:39	410	14.46N	151.10W	-58.	.000		
12/24/77	1518	8:49	410	15.41N	149.97W	-57.	.000		
12/24/77	1528	8:59	411	16.31N	148.75W	-57.	.000		
12/24/77	1538	9:09	410	17.19N	147.53W	-57.	.000		
12/24/77	1548	9:19	410	18.09N	146.28W	-57.	.000		
12/24/77	1553	9:24	410	18.55N	145.63W	-56.	.000		
12/24/77	1558	9:29	410	19.00N	144.98W	-55.	.000		
12/24/77	1603	9:34	410	19.45N	144.34W	-55.	.000		
12/24/77	1618	9:49	410	20.80N	142.37W	-55.	.000		
12/24/77	1628	9:59	410	21.75N	140.96W	-53.	.002		
12/24/77	1638	10:09	410	22.68N	139.52W	-52.	.006		
12/24/77	1653	10:24	410	24.10N	137.29W	-53.	.005		
12/24/77	1658	10:29	410	24.56N	136.53W	-53.	.002		
12/24/77	1703	10:34	410	25.02N	135.78W	-53.	.012		
12/24/77	1708	10:39	410	25.47N	135.02W	-54.	.002		
12/24/77	1718	10:49	410	26.38N	133.44W	-56.	.000		
12/24/77	1728	10:59	410	27.29N	131.84W	-56.	.004		
12/24/77	1738	11:09	410	28.17N	130.24W	-56.	.000		
12/24/77	1748	11:19	410	28.94N	128.59W	-57.	.001		
12/24/77	1753	11:24	410	29.36N	127.61W	-57.	.001		
12/24/77	1803	11:34	410	30.08N	125.91W	-57.	.000		
12/24/77	1813	11:44	410	30.77N	124.19W	-59.	.000		
12/24/77	1823	11:54	410	31.43N	122.42W	-59.	.005		
12/24/77	1833	12:04	410	32.21N	120.71W	-58.	.001		
12/24/77	1838	12:09	410	32.69N	119.91W	-58.	.006		

A-553


LAX TO AKL DEPARTURE 25 DEC 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
12.0
13.0
ELAPSED TIME IN HOURS

LAX TO AKL (PAGE 1 OF 2) DEPARTURE: 25 DEC 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .022 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 93
DATA SOURCE: GASP TAPE VL014, FILE 1 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
12/25/77	0712	0:10	319	32.47N	120.29W	-41.	.006		
12/25/77	0722	0:20	350	31.69N	121.24W	-47.	.008		
12/25/77	0742	0:40	351	30.37N	123.24W	-49.	.008		
12/25/77	0747	0:45	351	30.05N	123.72W	-49.	.007		
12/25/77	0752	0:50	351	29.71N	124.21W	-49.	.000		
12/25/77	0757	0:55	351	29.38N	124.71W	-49.	.007		
12/25/77	0802	1:00	351	29.03N	125.21W	-48.	.005		
12/25/77	0812A	1:10	351	28.32N	126.22W	-49.	.003		
12/25/77	0818	1:16	350	27.96N	126.74W	-48.	.006		
12/25/77	0828	1:26	350	27.27N	127.69W	-46.	.009		
12/25/77	0838	1:36	351	26.57N	128.64W	-46.	.000		
12/25/77	0848	1:46	351	25.86N	129.57W	-46.	.005		
12/25/77	0853	1:51	351	25.52N	130.01W	-46.	.000		
12/25/77	0903	2:01	351	24.81N	130.93W	-45.	.000		
12/25/77	0913	2:11	351	24.11N	131.81W	-45.	.003		
12/25/77	0923	2:21	351	23.39N	132.70W	-44.	.003		
12/25/77	0933	2:31	351	22.69N	133.56W	-45.	.000		
12/25/77	0943	2:41	351	21.95N	134.43W	-43.	.000		
12/25/77	0948	2:46	350	21.58N	134.88W	-42.	.005		
12/25/77	0953	2:51	351	21.20N	135.32W	-42.	.003		
12/25/77	0958	2:56	350	20.82N	135.76W	-41.	.005		
12/25/77	1003	3:01	351	20.44N	136.19W	-41.	.002		
12/25/77	1013	3:11	350	19.69N	137.06W	-41.	.002		
12/25/77	1023	3:21	351	18.93N	137.91W	-40.	.001		
12/25/77	1033	3:31	350	18.16N	138.76W	-40.	.002		
12/25/77	1043	3:41	351	17.37N	139.62W	-40.	.000		
12/25/77	1048	3:46	350	16.96N	140.06W	-40.	.017		
12/25/77	1053	3:51	351	16.55N	140.50W	-41.	.000		
12/25/77	1058	3:56	351	16.12N	140.96W	-41.	.005		
12/25/77	1103	4:01	350	15.69N	141.41W	-41.	.000		
12/25/77	1113	4:11	350	14.82N	142.33W	-41.	.002		
12/25/77	1123	4:21	350	13.93N	143.25W	-43.	.000		
12/25/77	1133	4:31	350	13.04N	144.16W	-43.	.012		
12/25/77	1143	4:41	350	12.13N	145.08W	-43.	.002		
12/25/77	1148	4:46	351	11.68N	145.53W	-43.	.006		
12/25/77	1154	4:52	370	11.08N	146.13W	-48.	.005		
12/25/77	1204	5:02	370	10.16N	147.04W	-48.	.005		
12/25/77	1214	5:12	370	9.22N	147.97W	-48.	.000		
12/25/77	1224	5:22	370	8.28N	148.88W	-48.	.001		
12/25/77	1234	5:32	370	7.33N	149.80W	-48.	.001		
12/25/77	1239	5:37	370	6.86N	150.25W	-48.	.004		
12/25/77	1244	5:42	391	6.39N	150.70W	-54.	.000		
12/25/77	1249	5:47	390	5.93N	151.15W	-54.	.001		
12/25/77	1254	5:52	390	5.47N	151.59W	-54.	.006		
12/25/77	1304	6:02	390	4.55N	152.46W	-53.	.001		
12/25/77	1324	6:22	390	2.68N	154.23W	-53.	.004		
12/25/77	1334	6:32	390	1.77N	155.10W	-54.	.004		
12/25/77	1339	6:37	390	1.31N	155.53W	-55.	.010		
12/25/77	1344	6:42	390	.85N	155.96W	-54.	.006		
12/25/77	1349	6:47	390	.39N	156.40W	-55.	.010		
12/25/77	1354	6:52	390	.07S	156.84W	-55.	.000		
12/25/77	1404	7:02	390	.98S	157.72W	-55.	.000		
12/25/77	1417	7:15	390	2.18S	158.83W	-55.	.000		
12/25/77	1427	7:25	390	3.15S	159.76W	-55.	.002		
12/25/77	1437	7:35	390	4.12S	160.68W	-55.	.002		
12/25/77	1442	7:40	390	4.59S	161.13W	-55.	.005		
12/25/77	1447	7:45	390	5.07S	161.59W	-55.	.000		
12/25/77	1452	7:50	390	5.52S	162.02W	-55.	.000		
12/25/77	1457	7:55	390	5.98S	162.45W	-55.	.000		
12/25/77	1507	8:05	391	6.94S	163.26W	-55.	.007		
12/25/77	1517	8:15	390	7.81S	164.25W	-55.	.000		
12/25/77	1527	8:25	390	8.77S	165.13W	-55.	.001		
12/25/77	1537	8:35	410	9.69S	166.02W	-59.	.010		
12/25/77	1542	8:40	410	10.14S	166.46W	-60.	.012		
12/25/77	1547	8:45	410	10.60S	166.92W	-59.	.010		
12/25/77	1552	8:50	410	11.06S	167.38W	-59.	.000		
12/25/77	1557	8:55	410	11.53S	167.85W	-59.	.000		
12/25/77	1607	9:05	410	12.46S	168.79W	-59.	.000		
12/25/77	1617	9:15	409	13.38S	169.72W	-59.	.000		
12/25/77	1627	9:25	410	14.27S	170.63W	-59.	.001		
12/25/77	1637	9:35	410	15.31S	171.47W	-59.	.000		
12/25/77	1642	9:40	410	15.80S	171.88W	-59.	.006		
12/25/77	1647	9:45	409	16.35S	172.28W	-59.	.004		
12/25/77	1652	9:50	410	16.91S	172.61W	-59.	.000		
12/25/77	1657	9:55	410	17.48S	172.95W	-59.	.000		
12/25/77	1707	10:05	410	18.65S	173.65W	-58.	.000		
12/25/77	1717	10:15	409	19.79S	174.35W	-59.	.000		
12/25/77	1727	10:25	410	20.97S	175.08W	-59.	.000		
12/25/77	1737	10:35	409	22.16S	175.75W	-59.	.000		
12/25/77	1742	10:40	410	22.74S	176.06W	-59.	.000		
12/25/77	1747	10:45	410	23.33S	176.39W	-59.	.000		
12/25/77	1752A	10:50	410	23.88S	176.69W	-60.	.000		
12/25/77	1800	10:58	409	24.85S	177.24W	-60.	.000		
12/25/77	1805	11:03	409	25.43S	177.57W	-59.	.000		
12/25/77	1815	11:13	430	26.58S	178.24W	-64.	.000		
12/25/77	1825	11:23	430	27.68S	178.89W	-63.	.018		
12/25/77	1835	11:33	430	28.76S	179.55W	-63.	.000		
12/25/77	1845	11:43	430	29.85S	179.76E	-61.	.011		
12/25/77	1850	11:48	430	30.38S	179.43E	-62.	.000		
12/25/77	1855	11:53	430	30.90S	179.09E	-59.	.001		
12/25/77	1900	11:58	430	31.47S	178.72E	-60.	.000		
12/25/77	1925	12:23	430	34.15S	176.90E	-58.	.020		

LAX TO AKL (PAGE 2 OF 2) DEPARTURE: 25 DEC 77 AIRCRAFT:PANAM -N533PA

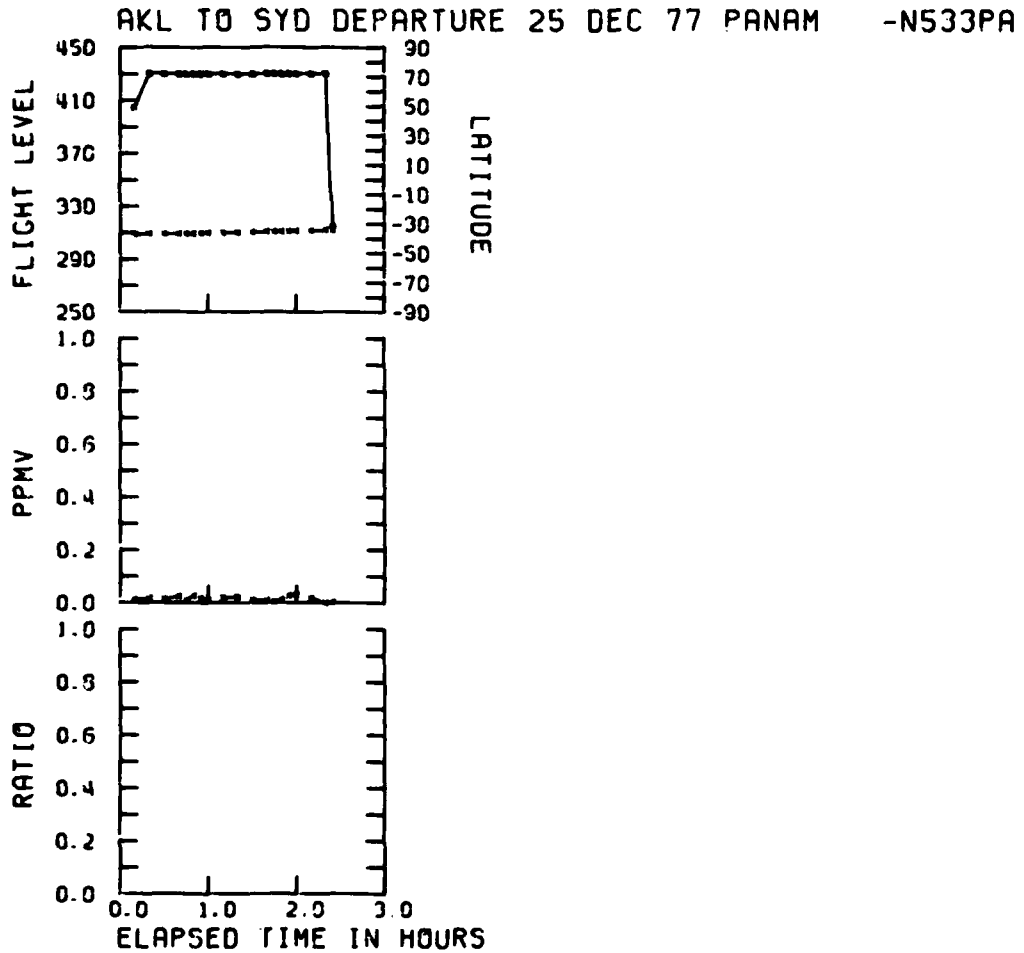
MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .022 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 93
DATA SOURCE: GASP TAPE VL014, FILE 1 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	OZONE(PPMV) AMB.	RATIO
12/25/77	1935	12:33	430	35.25S	176.11E	-54.	.022		

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	OZONE(PPMV) AMB.	RATIO
12/25/77	1935	12:33	430	35.25S	176.11E	-54.	.022		

A-557

FOLDOUT FRAME


AKL TO SYD DEPARTURE 25 DEC 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

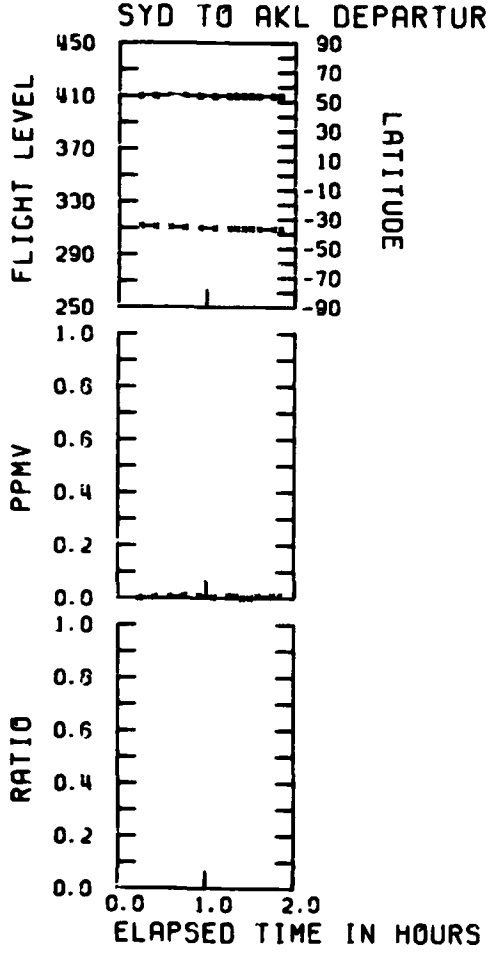
A-568

AKL TO SYD (PAGE 1 OF 1) DEPARTURE: 25 DEC 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .030 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 19
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
12/25/77	2147	0:10	405	36.92S	172.64E	-56.	.014		
12/25/77	2157	0:20	430	36.80S	171.09E	-55.	.017		
12/25/77	2207	0:30	430	36.68S	169.54E	-59.	.015		
12/25/77	2217	0:40	430	36.53S	167.98E	-59.	.025		
12/25/77	2222	0:45	430	36.44S	167.22E	-58.	.011		
12/25/77	2227	0:50	430	36.36S	166.48E	-61.	.028		
12/25/77	2232	0:55	430	36.27S	165.74E	-63.	.018		
12/25/77	2237	1:00	430	36.18S	165.00E	-63.	.009		
12/25/77	2247	1:10	430	35.99S	163.51E	-64.	.020		
12/25/77	2257	1:20	430	35.78S	162.06E	-66.	.022		
12/25/77	2307	1:30	430	35.55S	160.59E	-63.	.011		
12/25/77	2317	1:40	430	35.31S	159.15E	-62.	.009		
12/25/77	2322	1:45	430	35.18S	158.42E	-62.	.004		
12/25/77	2327	1:50	430	35.04S	157.69E	-62.	.013		
12/25/77	2332	1:55	430	34.90S	156.96E	-61.	.028		
12/25/77	2337	2:00	430	34.75S	156.24E	-61.	.030		
12/25/77	2347	2:10	430	34.45S	154.84E	-59.	.019		
12/25/77	2357	2:20	430	34.21S	153.43E	-59.	.000		
12/26/77	0002	2:25	315	34.12S	152.71E	-43.	.004		

A-559

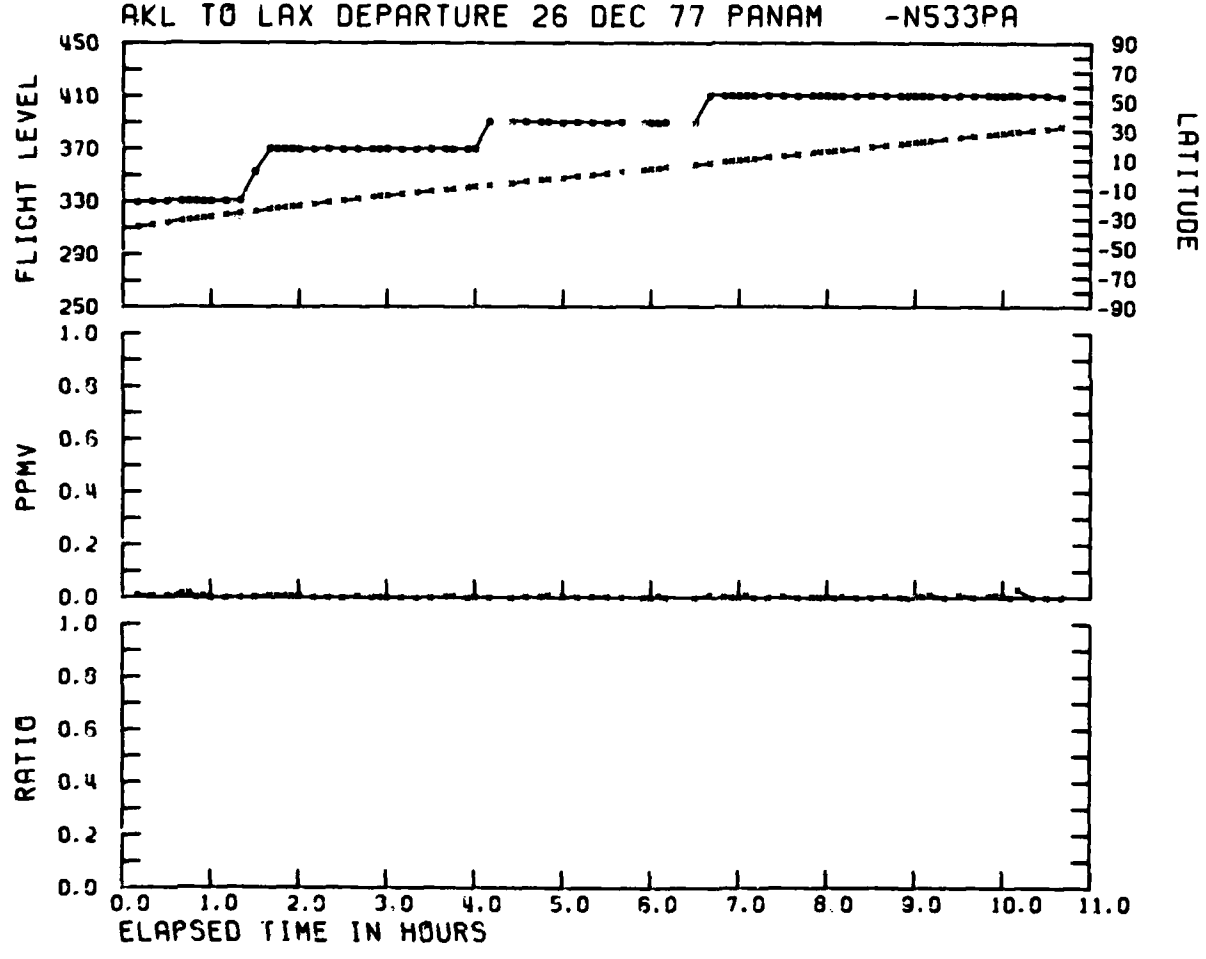

SYD TO AKL DEPARTURE 26 DEC 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
ELAPSED TIME IN HOURS

A-680

SYD TO AKL (PAGE 1 OF 1) DEPARTURE: 26 DEC 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .010 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 13
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
12/26/77	0534	0:15	410	34.42S	154.62E	-58.	.001		
12/26/77	0544	0:25	410	34.79S	156.36E	-60.	.006		
12/26/77	0555	0:36	410	35.15S	158.26E	-61.	.007		
12/26/77	0605	0:46	410	35.46S	160.01E	-61.	.010		
12/26/77	0615	0:56	410	35.75S	161.78E	-61.	.009		
12/26/77	0625	1:06	410	36.00S	163.52E	-62.	.004		
12/26/77	0635	1:16	410	36.23S	165.26E	-64.	.010		
12/26/77	0640	1:21	410	36.34S	166.15E	-65.	.006		
12/26/77	0645	1:26	410	36.43S	167.04E	-65.	.001		
12/26/77	0650	1:31	410	36.53S	167.93E	-63.	.001		
12/26/77	0655	1:36	410	36.61S	168.82E	-59.	.007		
12/26/77	0705	1:46	410	36.77S	170.67E	-58.	.007		
12/26/77	0710	1:51	410	36.83S	171.57E	-57.	.010		

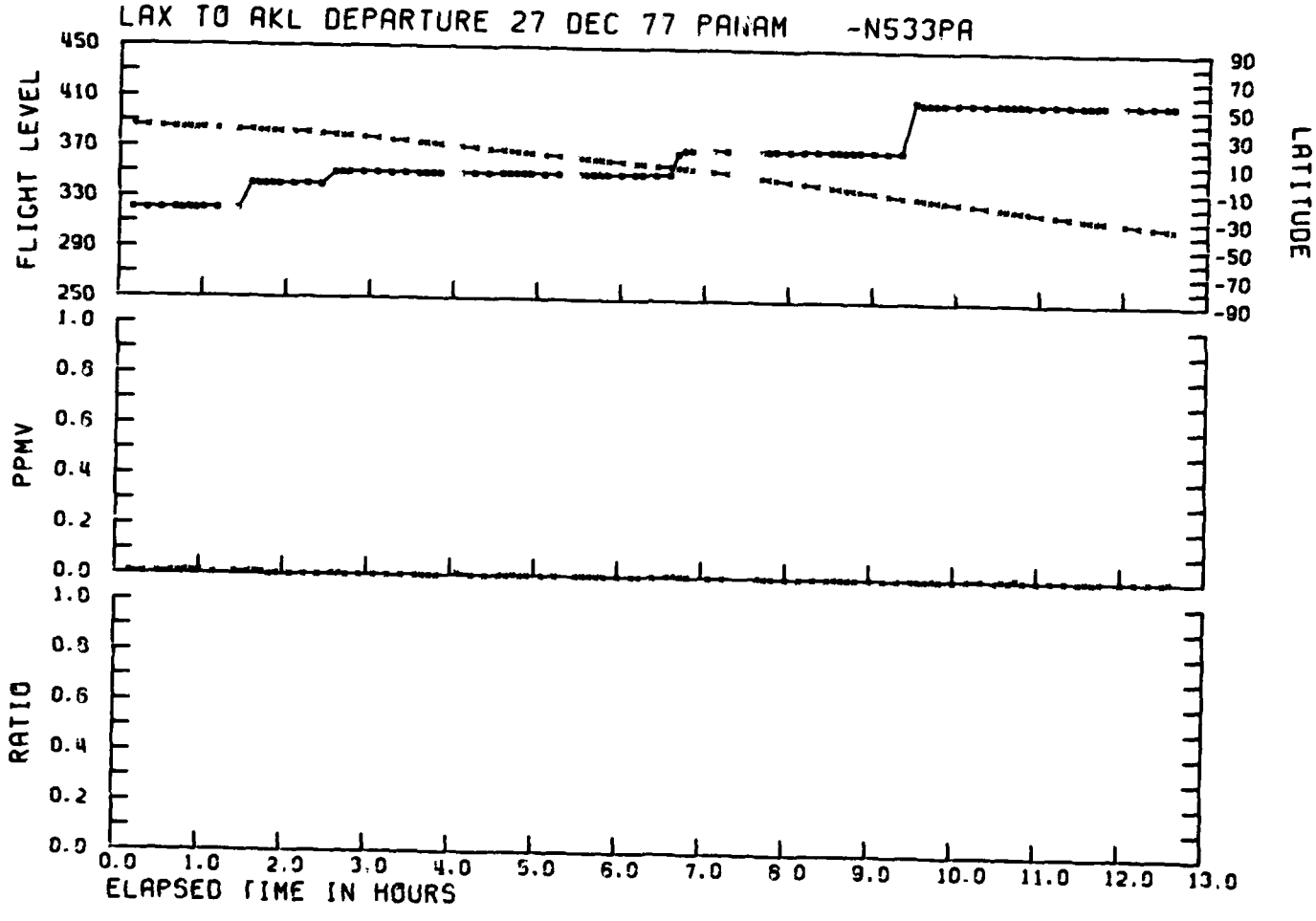

AKL TO LAX DEPARTURE 26 DEC 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
ELAPSED TIME IN HOURS

A-682

DEPARTURE: 26 DEC 77 AIRCRAFT:PANAM -N533PA

AMBIENT OZONE=.0000 CABIN OZONE= .031 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 78
TAPE VOL14, FILE 1 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

		ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
[illegible]	[illegible]	0:13	330	34.83S	176.42E	-46.	.009			12/26/77	1522	5:41	390	2.16N	154.72W	-53.	.000		
[illegible]	[illegible]	0:23	330	33.50S	177.35E	-46.	.007			12/26/77	1537	5:56	390	3.68N	153.25W	-54.	.000		
[illegible]	[illegible]	0:33	331	32.17S	178.26E	-45.	.008			12/26/77	1542	6:01	390	4.12N	152.71W	-54.	.000		
[illegible]	[illegible]	0:43	330	30.89S	179.10E	-42.	.015			12/26/77	1547	6:06	390	4.60N	152.22W	-55.	.008		
[illegible]	[illegible]	0:48	331	30.24S	179.52E	-42.	.018			12/26/77	1552	6:11	390	5.13N	151.80W	-54.	.000		
[illegible]	[illegible]	0:53	331	29.58S	179.93E	-41.	.002			12/26/77	1612	6:31	390	7.11N	150.01W	-54.	.000		
[illegible]	[illegible]	0:58	330	28.94S	179.66W	-39.	.007			12/26/77	1622	6:41	410	8.13N	149.02W	-60.	.010		
[illegible]	[illegible]	1:03	330	28.31S	179.28W	-39.	.000			12/26/77	1632	6:51	410	9.12N	148.06W	-60.	.004		
[illegible]	[illegible]	1:13	330	27.05S	178.52W	-38.	.000			12/26/77	1637	6:56	410	9.60N	147.59W	-60.	.001		
[illegible]	[illegible]	1:23	331	25.77S	177.77W	-37.	.001			12/26/77	1642	7:01	410	10.09N	147.11W	-60.	.002		
[illegible]	[illegible]	1:33	353	24.49S	177.04W	-43.	.004			12/26/77	1647	7:06	410	10.57N	146.63W	-61.	.009		
[illegible]	[illegible]	1:43	370	23.23S	176.33W	-47.	.008			12/26/77	1652	7:11	410	11.07N	146.14W	-61.	.000		
[illegible]	[illegible]	1:48	370	22.61S	175.99W	-48.	.006			12/26/77	1702	7:21	410	12.07N	145.14W	-59.	.000		
[illegible]	[illegible]	1:53	370	22.00S	175.66W	-47.	.006			12/26/77	1712	7:31	410	13.05N	144.14W	-59.	.007		
[illegible]	[illegible]	1:58	370	21.38S	175.32W	-48.	.006			12/26/77	1722	7:41	410	14.04N	143.14W	-59.	.001		
[illegible]	[illegible]	2:03	370	20.80S	174.95W	-47.	.006			12/26/77	1732	7:51	410	15.04N	142.10W	-58.	.004		
[illegible]	[illegible]	2:13	370	19.66S	174.17W	-46.	.002			12/26/77	1737	7:56	410	15.55N	141.56W	-57.	.000		
[illegible]	[illegible]	2:23	370	18.50S	173.40W	-46.	.000			12/26/77	1742	8:01	410	16.06N	141.02W	-57.	.004		
[illegible]	[illegible]	2:33	370	17.32S	172.62W	-47.	.000			12/26/77	1747	8:06	410	16.57N	140.48W	-57.	.000		
[illegible]	[illegible]	2:43	370	16.16S	171.87W	-48.	.005			12/26/77	1752	8:11	410	17.08N	139.92W	-56.	.005		
[illegible]	[illegible]	2:53	370	14.97S	171.11W	-48.	.001			12/26/77	1802	8:21	410	18.14N	138.78W	-56.	.001		
[illegible]	[illegible]	2:58	370	14.44S	170.77W	-48.	.001			12/26/77	1812	8:31	410	19.21N	137.59W	-54.	.000		
[illegible]	[illegible]	3:03	370	13.88S	170.23W	-48.	.000			12/26/77	1822	8:41	410	20.28N	136.39W	-51.	.006		
[illegible]	[illegible]	3:13	370	12.89S	169.22W	-48.	.001			12/26/77	1832	8:51	410	21.32N	135.18W	-51.	.002		
[illegible]	[illegible]	3:23	370	11.91S	168.23W	-49.	.000			12/26/77	1837	8:56	410	21.85N	134.56W	-50.	.000		
[illegible]	[illegible]	3:33	370	10.91S	167.23W	-48.	.000			12/26/77	1842	9:01	410	22.38N	133.93W	-50.	.005		
[illegible]	[illegible]	3:43	370	9.91S	166.24W	-48.	.005			12/26/77	1847	9:06	410	22.91N	133.29W	-49.	.005		
[illegible]	[illegible]	3:48	370	9.42S	165.75W	-48.	.006			12/26/77	1852	9:11	410	23.44N	132.64W	-49.	.011		
[illegible]	[illegible]	3:58	370	8.42S	164.78W	-49.	.001			12/26/77	1902	9:21	410	24.51N	131.31W	-48.	.000		
[illegible]	[illegible]	4:03	370	7.91S	164.30W	-49.	.002			12/26/77	1912	9:31	410	25.57N	129.95W	-50.	.011		
[illegible]	[illegible]	4:13	391	6.92S	163.35W	-55.	.000			12/26/77	1922	9:41	410	26.61N	128.57W	-52.	.001		
[illegible]	[illegible]	4:28	390	5.40S	161.90W	-55.	.000			12/26/77	1932	9:51	410	27.62N	127.21W	-53.	.007		
[illegible]	[illegible]	4:38	390	4.35S	161.02W	-55.	.002			12/26/77	1937	9:56	410	28.12N	126.51W	-53.	.009		
[illegible]	[illegible]	4:48	390	3.31S	160.13W	-55.	.004			12/26/77	1942	10:01	410	28.61N	125.81W	-52.	.005		
[illegible]	[illegible]	4:53	390	2.84S	159.59W	-55.	.009			12/26/77	1947	10:06	410	29.09N	125.12W	-53.	.001		
12/26/77	1442	5:01	390	1.99S	158.68W	-55.	.005			12/26/77	1952	10:11	410	29.58N	124.41W	-54.	.031		
12/26/77	1452	5:11	390	.97S	157.68W	-55.	.000			12/26/77	2002	10:21	410	30.55N	122.96W	-57.	.000		
12/26/77	1502	5:21	390	.09N	156.68W	-54.	.004			12/26/77	2012	10:31	410	31.56N	121.50W	-57.	.000		
12/26/77	1512	5:31	390	1.13N	155.69W	-54.	.002			12/26/77	2022	10:41	409	32.67N	120.18W	-61.	.000		


LAX TO AKL DEPARTURE 27 DEC 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0 12.0 13.0
ELAPSED TIME IN HOURS

A-984

LAX TO AKL (PAGE 1 OF 2) DEPARTURE: 27 DEC 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .011 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 93
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
12/27/77	0752	0:10	321	32.79N	120.05W	-42.	.011		
12/27/77	0802	0:20	320	32.29N	121.13W	-42.	.007		
12/27/77	0812	0:30	321	31.79N	122.19W	-42.	.008		
12/27/77	0822	0:40	321	31.28N	123.25W	-42.	.011		
12/27/77	0827	0:45	320	31.07N	123.83W	-42.	.011		
12/27/77	0832	0:50	321	30.93N	124.46W	-42.	.011		
12/27/77	0837	0:55	321	30.78N	125.09W	-42.	.011		
12/27/77	0842	1:00	321	30.64N	125.73W	-44.	.010		
12/27/77	0852	1:10	321	30.34N	126.96W	-44.	.005		
12/27/77	0907	1:25	321	29.87N	128.82W	-42.	.011		
12/27/77	0917	1:35	340	29.51N	130.16W	-41.	.009		
12/27/77	0922	1:40	340	29.32N	130.82W	-42.	.008		
12/27/77	0927	1:45	341	29.13N	131.48W	-44.	.008		
12/27/77	0932	1:50	341	28.94N	132.16W	-43.	.000		
12/27/77	0937	1:55	340	28.73N	132.84W	-42.	.003		
12/27/77	0947	2:05	341	28.33N	134.17W	-42.	.001		
12/27/77	0957	2:15	341	27.91N	135.49W	-43.	.000		
12/27/77	1007	2:25	340	27.47N	136.81W	-42.	.002		
12/27/77	1017	2:35	350	26.65N	137.92W	-48.	.006		
12/27/77	1022	2:40	350	26.23N	138.48W	-51.	.005		
12/27/77	1027	2:45	350	25.81N	139.03W	-51.	.001		
12/27/77	1037	2:55	350	24.98N	140.12W	-51.	.000		
12/27/77	1047	3:05	350	24.15N	141.18W	-50.	.000		
12/27/77	1057	3:15	350	23.33N	142.20W	-50.	.000		
12/27/77	1107	3:25	350	22.50N	143.21W	-49.	.000		
12/27/77	1117	3:35	350	21.66N	144.22W	-49.	.000		
12/27/77	1122	3:40	350	21.24N	144.71W	-49.	.000		
12/27/77	1127	3:45	350	20.79N	145.18W	-48.	.000		
12/27/77	1132	3:50	350	20.29N	145.61W	-48.	.000		
12/27/77	1147	4:05	350	18.81N	146.87W	-46.	.009		
12/27/77	1157	4:15	350	17.87N	147.66W	-46.	.000		
12/27/77	1207	4:25	350	16.91N	148.45W	-45.	.000		
12/27/77	1217	4:35	350	15.95N	149.23W	-45.	.001		
12/27/77	1222	4:40	350	15.47N	149.63W	-45.	.000		
12/27/77	1227	4:45	350	14.98N	150.02W	-45.	.003		
12/27/77	1232	4:50	350	14.59N	150.48W	-45.	.000		
12/27/77	1237	4:55	350	14.19N	150.95W	-45.	.000		
12/27/77	1247	5:05	350	13.39N	151.88W	-45.	.000		
12/27/77	1257	5:15	350	12.58N	152.82W	-44.	.000		
12/27/77	1312	5:30	350	11.34N	154.23W	-43.	.001		
12/27/77	1317	5:35	350	10.92N	154.70W	-43.	.002		
12/27/77	1322	5:40	350	10.50N	155.17W	-43.	.002		
12/27/77	1327	5:45	350	10.08N	155.64W	-43.	.000		
12/27/77	1332	5:50	350	9.63N	156.10W	-43.	.000		
12/27/77	1342	6:00	350	8.72N	157.01W	-43.	.000		
12/27/77	1352	6:10	350	7.80N	157.93W	-43.	.000		
12/27/77	1357	6:15	350	7.34N	158.39W	-43.	.000		
12/27/77	1407	6:25	350	6.41N	159.31W	-42.	.000		
12/27/77	1417	6:35	350	5.77N	160.46W	-40.	.005		
12/27/77	1422	6:40	367	5.39N	161.02W	-45.	.007		
12/27/77	1427	6:45	370	4.87N	161.43W	-47.	.006		
12/27/77	1432	6:50	370	4.33N	161.88W	-47.	.004		
12/27/77	1447	7:05	370	2.73N	163.19W	-47.	.000		
12/27/77	1457	7:15	370	1.64N	164.08W	-46.	.000		
12/27/77	1522	7:40	370	1.26S	165.87W	-46.	.005		
12/27/77	1527	7:45	370	1.89S	166.10W	-46.	.000		
12/27/77	1532	7:50	370	2.53S	166.33W	-46.	.000		
12/27/77	1542	8:00	370	3.79S	166.79W	-46.	.000		
12/27/77	1552	8:10	370	5.04S	167.24W	-46.	.000		
12/27/77	1602	8:20	370	6.35S	167.72W	-46.	.000		
12/27/77	1612	8:30	370	7.64S	168.19W	-46.	.000		
12/27/77	1617	8:35	370	8.28S	168.43W	-46.	.002		
12/27/77	1622	8:40	370	8.91S	168.66W	-48.	.000		
12/27/77	1627	8:45	370	9.58S	168.69W	-48.	.000		
12/27/77	1632	8:50	370	10.20S	168.76W	-48.	.000		
12/27/77	1642	9:00	370	11.30S	169.59W	-48.	.000		
12/27/77	1652	9:10	370	12.50S	170.21W	-48.	.000		
12/27/77	1702	9:20	370	14.34S	170.71W	-48.	.000		
12/27/77	1712	9:30	410	14.86S	171.00W	-58.	.000		
12/27/77	1717	9:35	409	15.40S	171.38W	-58.	.000		
12/27/77	1722	9:40	409	15.96S	171.74W	-57.	.001		
12/27/77	1727	9:45	409	16.51S	172.11W	-57.	.004		
12/27/77	1732	9:50	409	17.05S	172.46W	-57.	.000		
12/27/77	1742	10:00	409	18.17S	173.19W	-56.	.000		
12/27/77	1752	10:10	409	19.29S	173.93W	-56.	.002		
12/27/77	1802	10:20	409	20.41S	174.69W	-56.	.004		
12/27/77	1812	10:30	409	21.54S	175.43W	-56.	.000		
12/27/77	1817	10:35	409	22.14S	175.75W	-57.	.004		
12/27/77	1822	10:40	409	22.72S	176.07W	-56.	.000		
12/27/77	1827	10:45	409	23.30S	176.39W	-56.	.010		
12/27/77	1832	10:50	409	23.87S	176.70W	-56.	.000		
12/27/77	1842	11:00	409	25.02S	177.34W	-56.	.000		
12/27/77	1852	11:10	409	26.16S	177.99W	-55.	.000		
12/27/77	1902	11:20	409	27.28S	178.64W	-55.	.000		
12/27/77	1912	11:30	409	28.37S	179.29W	-56.	.000		
12/27/77	1917	11:35	409	28.91S	179.62W	-56.	.002		
12/27/77	1922	11:40	409	29.44S	179.95W	-54.	.000		
12/27/77	1927	11:45	409	29.97S	179.72E	-55.	.000		
12/27/77	1942	12:00	409	31.52S	178.73E	-56.	.001		
12/27/77	1952	12:10	409	32.50S	178.08E	-56.	.000		
12/27/77	2003	12:21	409	33.66S	177.32E	-56.	.002		
12/27/77	2013	12:31	409	34.66S	176.67E	-56.	.000		

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LAX TO AKL (PAGE 2 OF 2) DEPARTURE: 27 DEC 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .011 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 93
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	OZONE(PPMV) AMB.	RATIO
12/27/77	2018	12:36	409	35.16S	176.32E	-57.	.005		

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	OZONE(PPMV) AMB.	RATIO
12/27/77	2018	12:36	409	35.16S	176.32E	-57.	.005		

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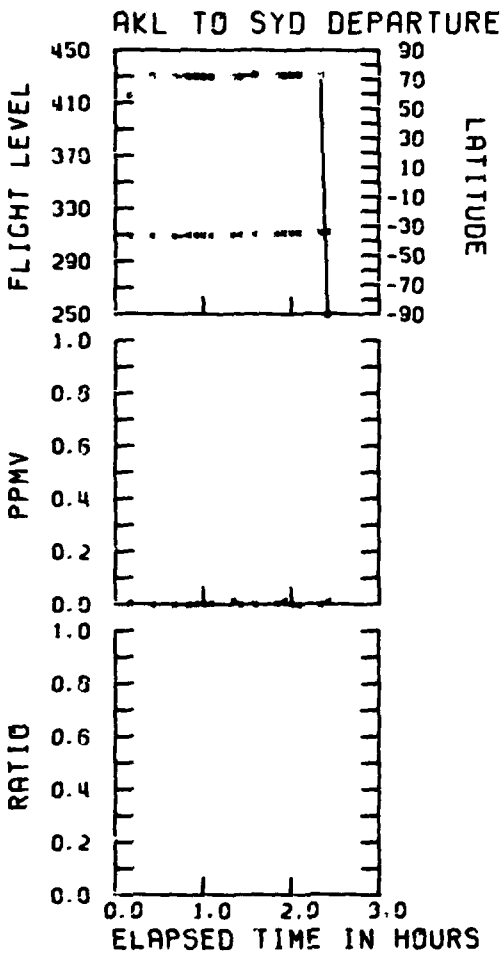
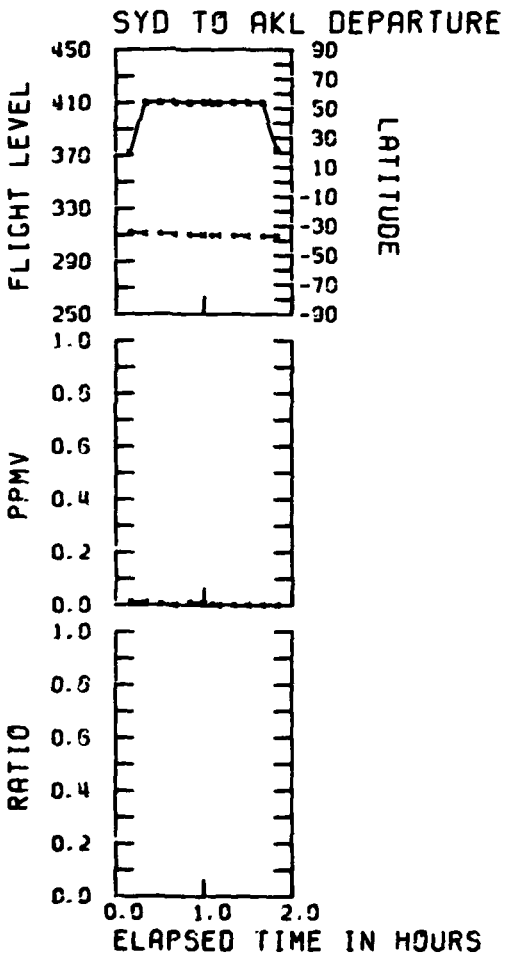

AKL TO SYD DEPARTURE 27 DEC 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

A-588

AKL TO SYD (PAGE 1 OF 1) DEPARTURE: 27 DEC 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .014 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 16
DATA SOURCE: GASP TAPE VL014, FILE 1 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	OZONE(PPMV) AMB.	RATIO
12/27/77	2255	0:10	416	36.89S	172.59E	-58.	.004		
12/27/77	2314	0:29	430	36.69S	169.66E	-59.	.000		
12/27/77	2325	0:40	430	36.54S	168.12E	-59.	.000		
12/27/77	2335	0:50	430	36.38S	166.58E	-58.	.000		
12/27/77	2344	0:59	430	36.20S	165.05E	-57.	.001		
12/27/77	2349	1:04	430	36.10S	164.31E	-56.	.000		
12/27/77	2354	1:09	430	36.00S	163.58E	-56.	.004		
12/28/77	0005	1:20	430	35.79S	162.13E	-56.	.014		
12/28/77	0014	1:29	430	35.56S	160.66E	-55.	.000		
12/28/77	0024	1:39	432	35.32S	159.23E	-55.	.000		
12/28/77	0035	1:50	431	35.06S	157.82E	-52.	.003		
12/28/77	0044	1:59	431	34.79S	156.43E	-53.	.014		
12/28/77	0049	2:04	431	34.65S	155.75E	-52.	.001		
12/28/77	0054	2:09	432	34.50S	155.07E	-54.	.000		
12/28/77	0105	2:20	431	34.24S	153.65E	-51.	.000		
12/28/77	0112A	2:27	226	34.05S	152.53E	-33.	.012		


SYD TO AKL DEPARTURE 28 DEC 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
ELAPSED TIME IN HOURS

SYD TO AKL (PAGE 1 OF 1) DEPARTURE: 28 DEC 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .014 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 12
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
12/28/77	0533	0:10	372	34.22S	153.38E	-46.	.014		
12/28/77	0547	0:24	410	34.69S	155.89E	-47.	.011		
12/28/77	0557	0:34	410	35.04S	157.67E	-49.	.005		
12/28/77	0607	0:44	410	35.38S	159.49E	-49.	.001		
12/28/77	0617	0:54	410	35.69S	161.34E	-53.	.011		
12/28/77	0627	1:04	410	35.96S	163.18E	-52.	.007		
12/28/77	0632	1:09	410	36.09S	164.11E	-52.	.005		
12/28/77	0637	1:14	410	36.21S	165.03E	-52.	.000		
12/28/77	0647	1:24	410	36.42S	166.85E	-54.	.000		
12/28/77	0657	1:34	410	36.60S	168.68E	-55.	.000		
12/28/77	0707	1:44	410	36.76S	170.49E	-56.	.000		
12/28/77	0717	1:54	375	36.90S	172.30E	-51.	.001		

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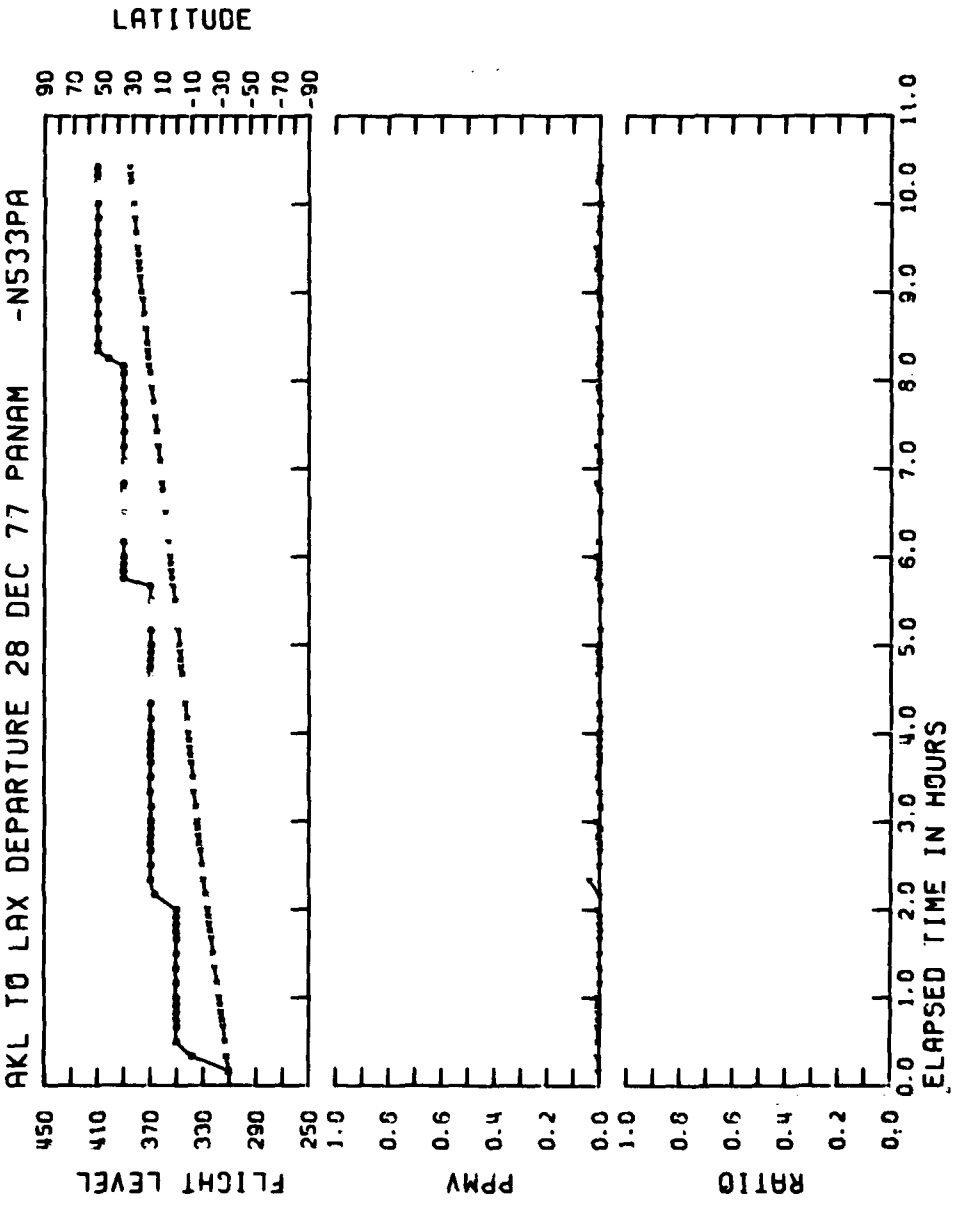
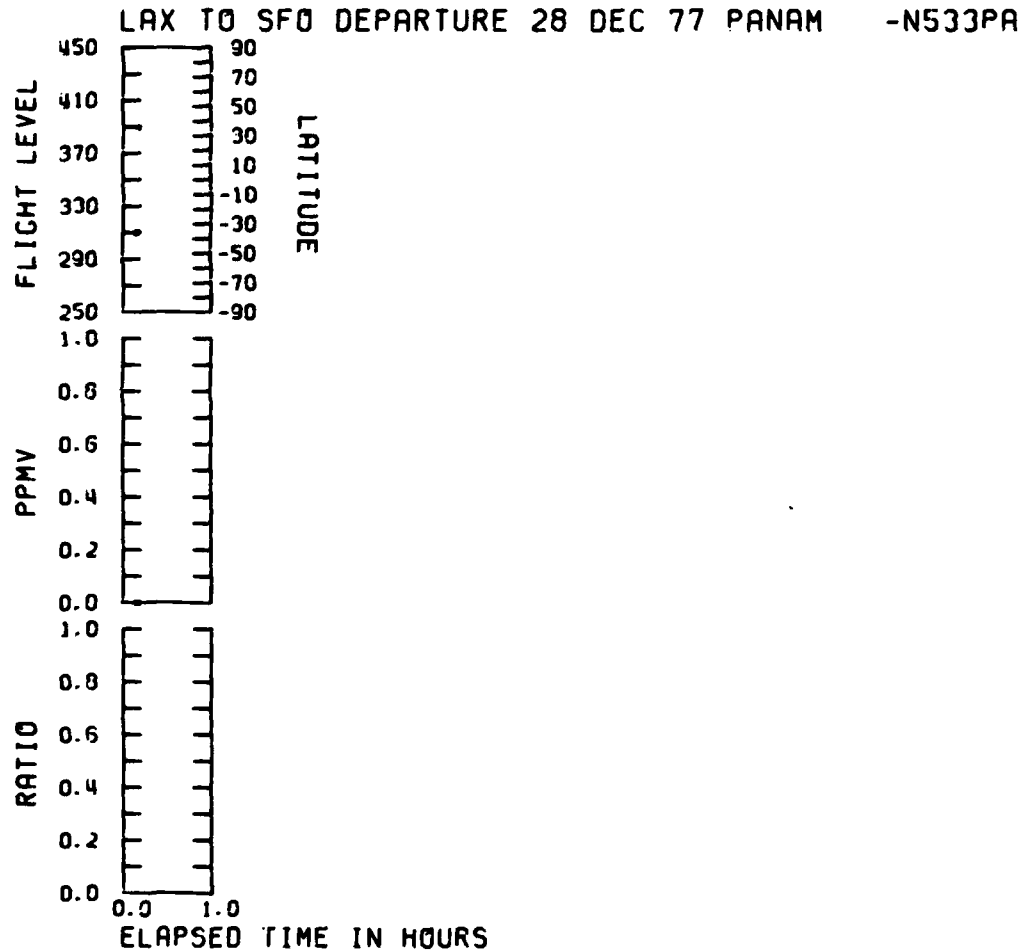

AKL TO LAX DEPARTURE 28 DEC 77 PANAM -N533PA
LATITUDE
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0 11.0
ELAPSED TIME IN HOURS

AKL TO LAX (PAGE 1 OF 1) DEPARTURE: 28 DEC 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .037 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 76
DATA SOURCE: GASP TAPE VL014, FILE 1 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

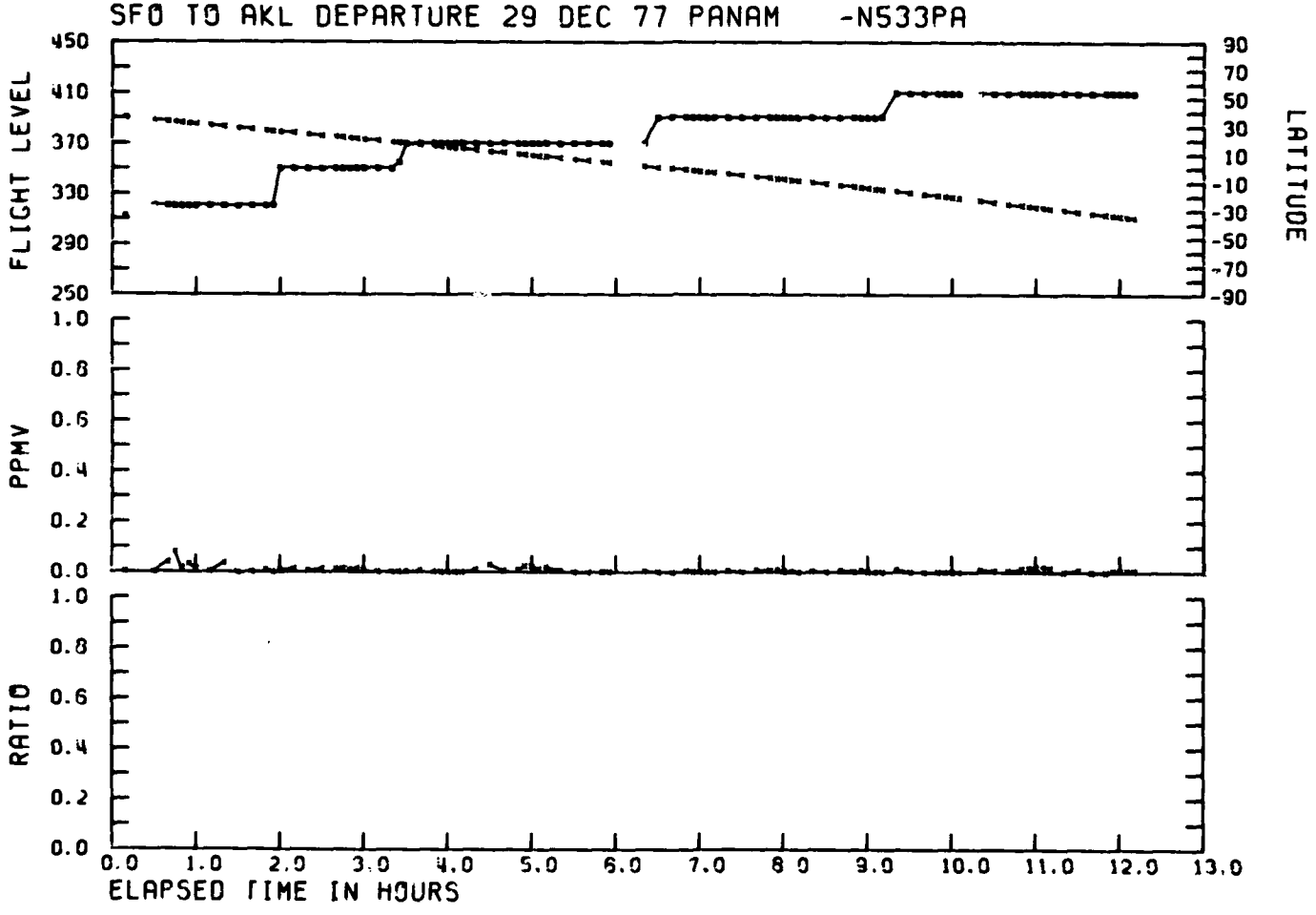
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	AMB.	RATIO
12/28/77	0947	0:10	311	35.06S	176.25E	-40.	.005		
12/28/77	0957	0:20	338	33.85S	177.11E	-41.	.008		
12/28/77	1007	0:30	351	32.56S	178.00E	-43.	.007		
12/28/77	1017	0:40	350	31.24S	178.88E	-41.	.008		
12/28/77	1022	0:45	351	30.59S	179.31E	-41.	.007		
12/28/77	1027	0:50	350	29.93S	179.73E	-42.	.006		
12/28/77	1032	0:55	351	29.26S	179.85W	-42.	.008		
12/28/77	1037	1:00	351	28.60S	179.43W	-41.	.007		
12/28/77	1047	1:10	350	27.26S	178.62W	-42.	.000		
12/28/77	1057	1:20	351	25.93S	177.84W	-42.	.000		
12/28/77	1107	1:30	350	24.62S	177.09W	-42.	.000		
12/28/77	1117	1:40	350	23.30S	176.35W	-42.	.001		
12/28/77	1122	1:45	351	22.63S	175.98W	-41.	.000		
12/28/77	1127	1:50	350	21.97S	175.63W	-41.	.000		
12/28/77	1132	1:55	351	21.33S	175.27W	-42.	.000		
12/28/77	1137	2:00	350	20.71S	174.86W	-42.	.007		
12/28/77	1147	2:10	367	19.50S	174.03W	-46.	.002		
12/28/77	1157	2:20	370	18.29S	173.21W	-47.	.037		
12/28/77	1207	2:30	370	17.08S	172.42W	-48.	.001		
12/28/77	1217	2:40	370	15.87S	171.63W	-47.	.000		
12/28/77	1222	2:45	370	15.26S	171.24W	-47.	.002		
12/28/77	1227	2:50	370	14.67S	170.87W	-48.	.004		
12/28/77	1232	2:55	370	14.13S	170.43W	-47.	.000		
12/28/77	1237	3:00	370	13.63S	169.92W	-48.	.010		
12/28/77	1247	3:10	370	12.66S	168.92W	-48.	.000		
12/28/77	1257	3:20	370	11.71S	167.90W	-48.	.000		
12/28/77	1307	3:30	370	10.91S	166.82W	-48.	.006		
12/28/77	1317	3:40	370	9.79S	165.99W	-48.	.001		
12/28/77	1322	3:45	370	9.27S	165.52W	-48.	.002		
12/28/77	1327	3:50	370	8.76S	165.02W	-48.	.000		
12/28/77	1332	3:55	370	8.25S	164.52W	-48.	.000		
12/28/77	1337	4:00	370	7.74S	164.03W	-48.	.000		
12/28/77	1347	4:10	370	6.73S	163.06W	-49.	.002		
12/28/77	1357	4:20	370	5.70S	162.09W	-49.	.002		
12/28/77	1417	4:40	370	3.64S	160.11W	-49.	.007		
12/28/77	1422	4:45	370	3.14S	159.63W	-49.	.000		
12/28/77	1427	4:50	370	2.65S	159.13W	-49.	.001		
12/28/77	1432	4:55	370	2.22S	158.58W	-49.	.005		
12/28/77	1437	5:00	370	1.69S	158.10W	-49.	.001		
12/28/77	1447	5:10	370	.62S	157.12W	-49.	.000		
12/28/77	1507	5:30	370	1.52N	155.17W	-48.	.001		
12/28/77	1517	5:40	370	2.59N	154.16W	-49.	.000		
12/28/77	1522	5:45	390	3.12N	153.66W	-54.	.009		
12/28/77	1527	5:50	390	3.65N	153.15W	-53.	.002		
12/28/77	1532	5:55	390	4.18N	152.64W	-54.	.002		
12/28/77	1537	6:00	390	4.72N	152.13W	-54.	.010		
12/28/77	1547	6:10	390	5.78N	151.10W	-54.	.006		
12/28/77	1607	6:30	390	7.93N	149.02W	-53.	.000		
12/28/77	1622	6:45	390	9.52N	147.46W	-54.	.000		
12/28/77	1627	6:50	390	10.06N	146.93W	-55.	.010		
12/28/77	1642	7:05	390	11.67N	145.33W	-56.	.002		
12/28/77	1652	7:15	390	12.76N	144.23W	-56.	.010		
12/28/77	1703	7:26	390	13.97N	142.98W	-56.	.001		
12/28/77	1713	7:36	390	15.08N	141.83W	-57.	.000		
12/28/77	1723	7:46	390	16.17N	140.66W	-57.	.002		
12/28/77	1733	7:56	390	17.27N	139.48W	-57.	.005		
12/28/77	1743	8:06	391	18.37N	138.28W	-60.	.001		
12/28/77	1748	8:11	390	18.89N	137.70W	-60.	.006		
12/28/77	1753	8:16	402	19.40N	137.12W	-62.	.000		
12/28/77	1758	8:21	410	19.94N	136.52W	-62.	.000		
12/28/77	1803	8:26	410	20.47N	135.91W	-63.	.000		
12/28/77	1813	8:36	410	21.50N	134.72W	-65.	.007		
12/28/77	1823	8:46	410	22.55N	133.48W	-64.	.000		
12/28/77	1833	8:56	410	23.60N	132.19W	-64.	.002		
12/28/77	1841A	9:04	411	24.41N	131.18W	-64.	.005		
12/28/77	1847	9:10	410	24.96N	130.49W	-63.	.000		
12/28/77	1852	9:15	410	25.44N	129.86W	-65.	.011		
12/28/77	1857	9:20	410	25.94N	129.21W	-63.	.002		
12/28/77	1902	9:25	410	26.42N	128.58W	-63.	.006		
12/28/77	1907	9:30	410	26.90N	127.93W	-64.	.016		
12/28/77	1917	9:40	410	27.86N	126.63W	-62.	.005		
12/28/77	1927	9:50	410	28.80N	125.30W	-58.	.001		
12/28/77	1937	10:00	410	29.73N	123.96W	-58.	.000		
12/28/77	1952	10:15	410	31.10N	121.91W	-57.	.006		
12/28/77	1957	10:20	410	31.54N	121.22W	-55.	.002		
12/28/77	2002	10:25	410	31.98N	120.53W	-56.	.000		


LAX TO SFO DEPARTURE 28 DEC 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
ELAPSED TIME IN HOURS

LAX TO SFO (PAGE 1 OF 1) DEPARTURE: 28 DEC 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE=0.000 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 0.00 TOTAL OBS IN CABIN: 1
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	OZONE(PPMV) AMB.	RATIO
12/28/77	2252	0:13	311	35.27N	120.59W	-52.	.000		


SFO TO AKL DEPARTURE 29 DEC 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
12.0
13.0
ELAPSED TIME IN HOURS

A-676

SFO TO AKL (PAGE 1 OF 1) DEPARTURE: 29 DEC 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .080 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 92
DATA SOURCE: GASP TAPE VL014, FILE 1 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	AMB.	RATIO
12/29/77	0706	0:10	313	36.47N	124.13W	-51.	.003		
12/29/77	0726	0:30	321	34.57N	126.21W	-51.	.003		
12/29/77	0736	0:40	321	33.61N	127.21W	-51.	.040		
12/29/77	0741	0:45	321	33.15N	127.68W	-51.	.080		
12/29/77	0746	0:50	320	32.67N	128.17W	-50.	.017		
12/29/77	0751	0:55	321	32.20N	128.63W	-50.	.033		
12/29/77	0756	1:00	321	31.74N	129.09W	-49.	.014		
12/29/77	0806	1:10	321	30.81N	129.98W	-49.	.003		
12/29/77	0816	1:20	321	29.88N	130.84W	-48.	.036		
12/29/77	0826	1:30	320	28.93N	131.70W	-47.	.000		
12/29/77	0836	1:40	321	27.97N	132.55W	-46.	.000		
12/29/77	0846	1:50	321	27.04N	133.36W	-44.	.010		
12/29/77	0851	1:55	321	26.57N	133.75W	-44.	.000		
12/29/77	0856	2:00	350	26.12N	134.14W	-50.	.008		
12/29/77	0906	2:10	350	25.22N	134.88W	-50.	.013		
12/29/77	0916	2:20	350	24.31N	135.63W	-49.	.006		
12/29/77	0926	2:30	350	23.39N	136.37W	-49.	.014		
12/29/77	0936	2:40	350	22.45N	137.12W	-49.	.012		
12/29/77	0941	2:45	350	21.98N	137.48W	-48.	.013		
12/29/77	0946	2:50	350	21.52N	137.84W	-49.	.010		
12/29/77	0951	2:55	350	21.06N	138.20W	-49.	.014		
12/29/77	0956	3:00	350	20.60N	138.55W	-49.	.006		
12/29/77	1006	3:10	350	19.66N	139.27W	-49.	.000		
12/29/77	1016	3:20	350	18.72N	140.03W	-49.	.000		
12/29/77	1021A	3:25	355	18.25N	140.40W	-51.	.002		
12/29/77	1026A	3:30	370	17.79N	140.76W	-54.	.004		
12/29/77	1036	3:40	370	16.85N	141.50W	-54.	.006		
12/29/77	1046	3:50	370	15.92N	142.22W	-53.	.002		
12/29/77	1051	3:55	370	15.44N	142.58W	-53.	.000		
12/29/77	1056	4:00	370	14.95N	142.95W	-52.	.000		
12/29/77	1101	4:05	370	14.46N	143.32W	-52.	.000		
12/29/77	1106	4:10	370	13.98N	143.69W	-52.	.000		
12/29/77	1116	4:20	370	12.97N	144.43W	-50.	.010		
12/29/77	1126	4:30	370	11.97N	145.24W	-48.	.031		
12/29/77	1136	4:40	370	11.05N	146.16W	-48.	.005		
12/29/77	1146	4:50	370	10.11N	147.08W	-49.	.010		
12/29/77	1151	4:55	370	9.65N	147.54W	-49.	.024		
12/29/77	1156	5:00	370	9.18N	148.00W	-49.	.023		
12/29/77	1201	5:05	370	8.72N	148.45W	-49.	.011		
12/29/77	1206	5:10	370	8.25N	148.91W	-49.	.020		
12/29/77	1216	5:20	370	7.30N	149.83W	-48.	.005		
12/29/77	1226	5:30	370	6.37N	150.73W	-49.	.000		
12/29/77	1236	5:40	370	5.43N	151.63W	-48.	.000		
12/29/77	1246	5:50	370	4.49N	152.52W	-49.	.001		
12/29/77	1251	5:55	370	4.02N	152.96W	-49.	.000		
12/29/77	1316	6:20	370	1.69N	155.17W	-49.	.005		
12/29/77	1326	6:30	391	.76N	156.05W	-55.	.000		
12/29/77	1336	6:40	391	.16S	156.92W	-54.	.000		
12/29/77	1346	6:50	390	1.09S	157.81W	-55.	.002		
12/29/77	1351	6:55	390	1.55S	158.24W	-56.	.000		
12/29/77	1356	7:00	391	2.02S	158.69W	-55.	.000		
12/29/77	1401	7:05	390	2.49S	159.14W	-55.	.001		
12/29/77	1406	7:10	390	2.97S	159.58W	-55.	.000		
12/29/77	1416	7:20	390	3.90S	160.48W	-55.	.005		
12/29/77	1426	7:30	391	4.85S	161.38W	-54.	.000		
12/29/77	1436	7:40	391	5.83S	162.31W	-54.	.009		
12/29/77	1446	7:50	391	6.87S	163.16W	-54.	.006		
12/29/77	1451	7:55	390	7.34S	163.64W	-54.	.010		
12/29/77	1456	8:00	390	7.81S	164.14W	-54.	.002		
12/29/77	1501	8:05	390	8.29S	164.62W	-54.	.004		
12/29/77	1506	8:10	390	8.82S	165.04W	-54.	.000		
12/29/77	1516	8:20	391	9.87S	165.85W	-54.	.005		
12/29/77	1526	8:30	390	10.92S	166.67W	-54.	.000		
12/29/77	1536	8:40	390	11.97S	167.49W	-55.	.009		
12/29/77	1546	8:50	391	13.02S	168.33W	-54.	.001		
12/29/77	1551	8:55	390	13.54S	168.75W	-54.	.006		
12/29/77	1556	9:00	390	14.07S	169.17W	-53.	.001		
12/29/77	1601	9:05	390	14.60S	169.61W	-53.	.001		
12/29/77	1606	9:10	391	15.13S	170.04W	-53.	.000		
12/29/77	1616	9:20	410	16.19S	170.91W	-58.	.012		
12/29/77	1626	9:30	410	17.24S	171.79W	-58.	.000		
12/29/77	1636	9:40	410	18.29S	172.68W	-58.	.000		
12/29/77	1646	9:50	410	19.34S	173.59W	-58.	.000		
12/29/77	1651	9:55	410	19.86S	174.04W	-58.	.000		
12/29/77	1656	10:00	410	20.38S	174.50W	-58.	.000		
12/29/77	1701	10:05	410	20.95S	174.86W	-58.	.000		
12/29/77	1716	10:20	410	22.73S	175.92W	-58.	.010		
12/29/77	1726	10:30	410	23.90S	176.64W	-58.	.007		
12/29/77	1736	10:40	410	25.07S	177.36W	-57.	.007		
12/29/77	1746	10:50	410	26.24S	178.04W	-56.	.014		
12/29/77	1751	10:55	410	26.83S	178.39W	-56.	.017		
12/29/77	1756	11:00	410	27.40S	178.73W	-56.	.019		
12/29/77	1801	11:05	410	27.97S	179.07W	-56.	.021		
12/29/77	1806	11:10	410	28.54S	179.42W	-56.	.017		
12/29/77	1816	11:20	410	29.66S	179.88E	-56.	.001		
12/29/77	1826	11:30	410	30.79S	179.17E	-55.	.010		
12/29/77	1836	11:40	410	31.91S	178.43E	-54.	.000		
12/29/77	1846	11:50	410	33.00S	177.70E	-54.	.000		
12/29/77	1851	11:55	410	33.56S	177.31E	-54.	.005		
12/29/77	1856	12:00	410	34.13S	176.92E	-54.	.007		
12/29/77	1901	12:05	410	34.69S	176.52E	-53.	.007		
12/29/77	1906	12:10	410	35.25S	176.12E	-53.	.006		

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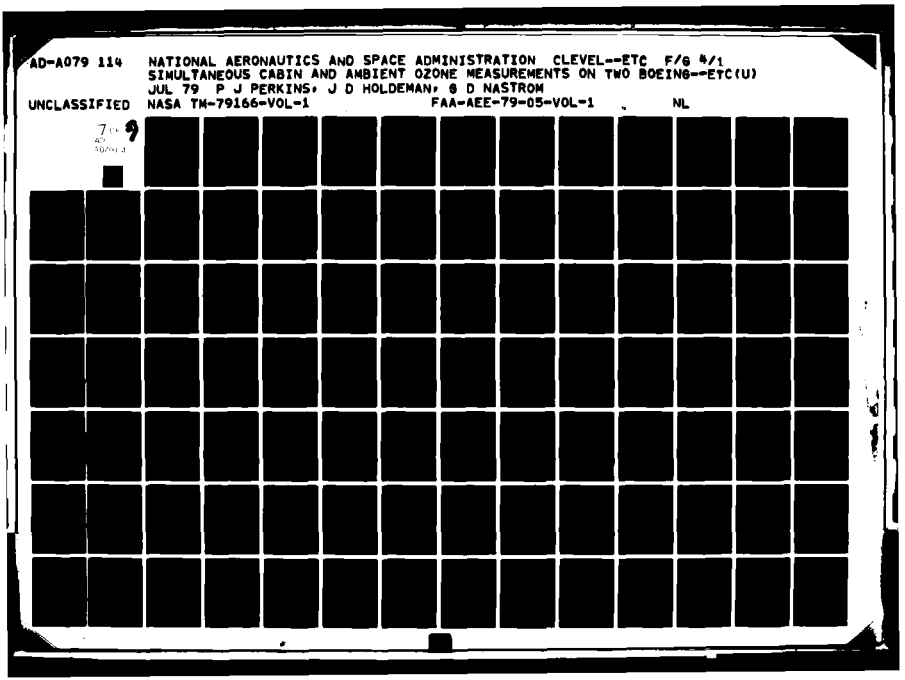
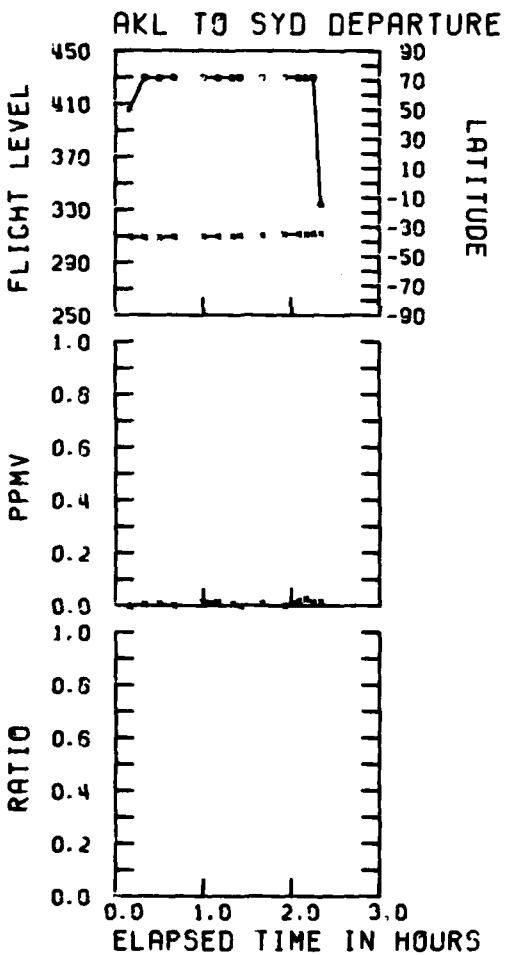
AD-A079 114 NATIONAL AERONAUTICS AND SPACE ADMINISTRATION CLEVEL--ETC F/G 4/1
SIMULTANEOUS CABIN AND AMBIENT OZONE MEASUREMENTS ON TWO BOEING--ETC(U)
JUL 79 P J PERKINS, J D HOLDEMAN, G D NASTROM

UNCLASSIFIED NASA TM-79166-VOL-1 FAA-AEE-79-05-VOL-1 NL




AKL TO SYD DEPARTURE 29 DEC 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

AKL TO SYD (PAGE 1 OF 1) DEPARTURE: 29 DEC 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .027 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 14
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
12/29/77	2120	0:10	406	36.93S	172.76E	-48.	.000			12/29/77	2238	1:28	430	35.67S	161.25E	-53.	.000		
12/29/77	2130	0:20	430	36.81S	171.29E	-51.	.005			12/29/77	2253	1:43	430	35.29S	159.02E	-55.	.011		
12/29/77	2140	0:30	430	36.70S	169.82E	-49.	.008			12/29/77	2308	1:58	430	34.88S	156.84E	-56.	.000		
12/29/77	2153	0:43	430	36.52S	167.90E	-50.	.000			12/29/77	2318	2:08	430	34.58S	155.37E	-57.	.019		
12/29/77	2213	1:03	430	36.18S	164.88E	-50.	.015			12/29/77	2323	2:13	430	34.42S	154.62E	-58.	.027		
12/29/77	2223	1:13	430	35.99S	163.43E	-51.	.013			12/29/77	2328	2:18	430	34.28S	153.87E	-58.	.015		
12/29/77	2233	1:23	430	35.78S	161.98E	-52.	.010			12/29/77	2333	2:23	335	34.19S	153.11E	-51.	.015		

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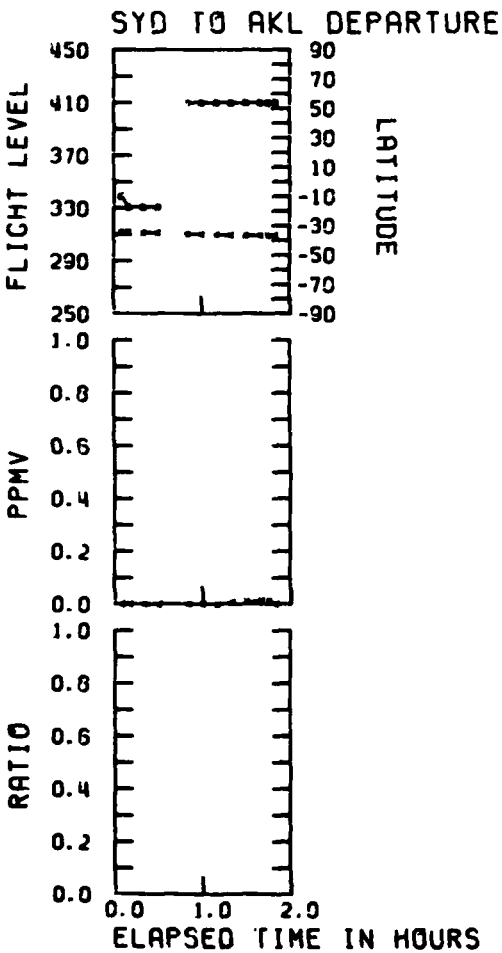
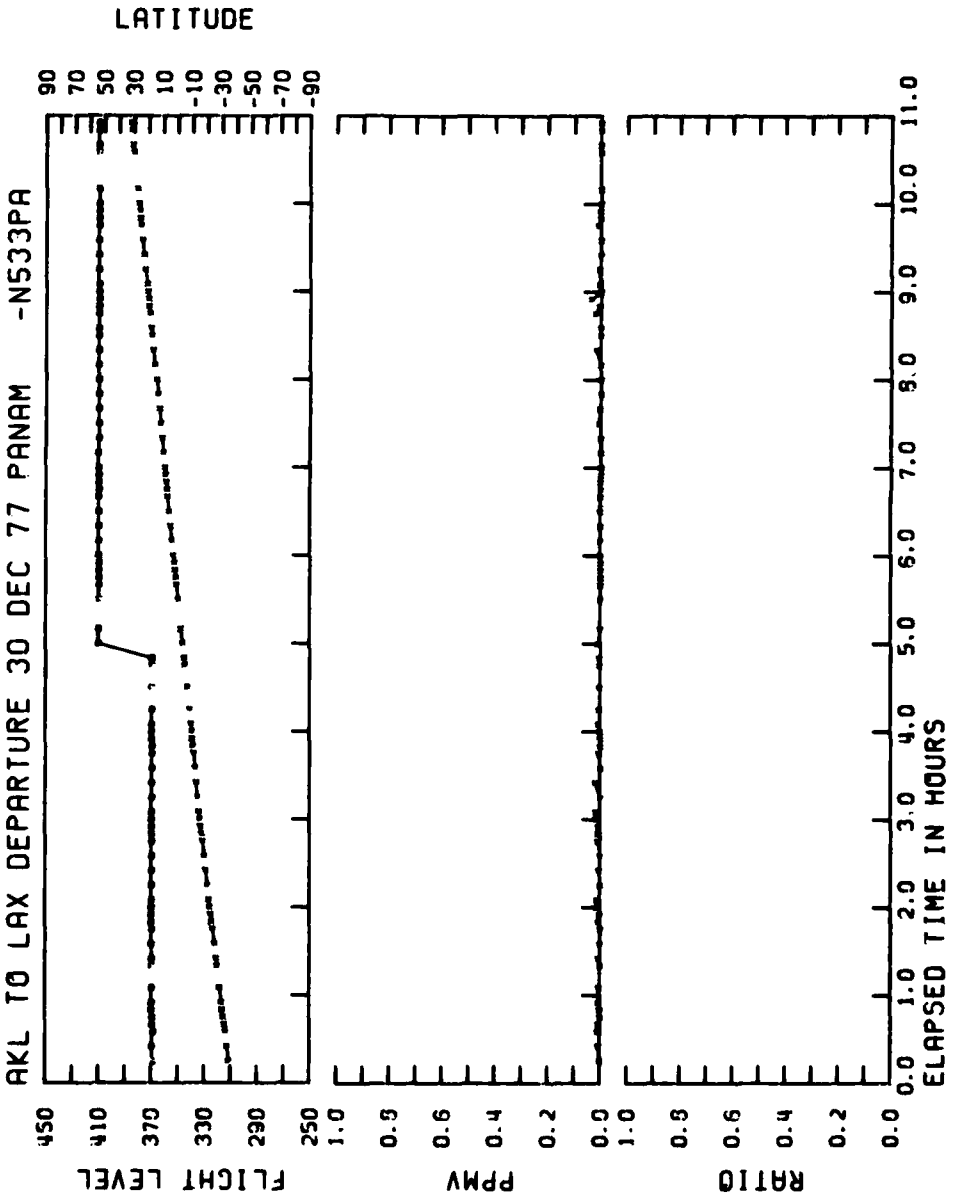

SYD TO AKL DEPARTURE 30 DEC 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
ELAPSED TIME IN HOURS

A-680

SYD TO AKL (PAGE 1 OF 1) DEPARTURE: 30 DEC 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .012 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 12
DATA SOURCE: GASP TAPE VL014, FILE 1 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
12/30/77	0535A	0:06	339	34.17S	153.07E	-51.	.000		
12/30/77	0541	0:12	331	34.30S	154.02E	-49.	.000		
12/30/77	0551	0:22	331	34.66S	155.74E	-49.	.000		
12/30/77	0601	0:32	331	35.00S	157.46E	-50.	.000		
12/30/77	0621	0:52	410	35.62S	160.96E	-55.	.000		
12/30/77	0631	1:02	410	35.90S	162.76E	-53.	.000		
12/30/77	0641	1:12	410	36.15S	164.59E	-51.	.000		
12/30/77	0651	1:22	410	36.37S	166.47E	-51.	.007		
12/30/77	0701	1:32	410	36.57S	168.38E	-49.	.010		
12/30/77	0711	1:42	410	36.74S	170.30E	-47.	.012		
12/30/77	0716	1:47	410	36.81S	171.25E	-47.	.012		
12/30/77	0721	1:52	410	36.88S	172.23E	-48.	.000		

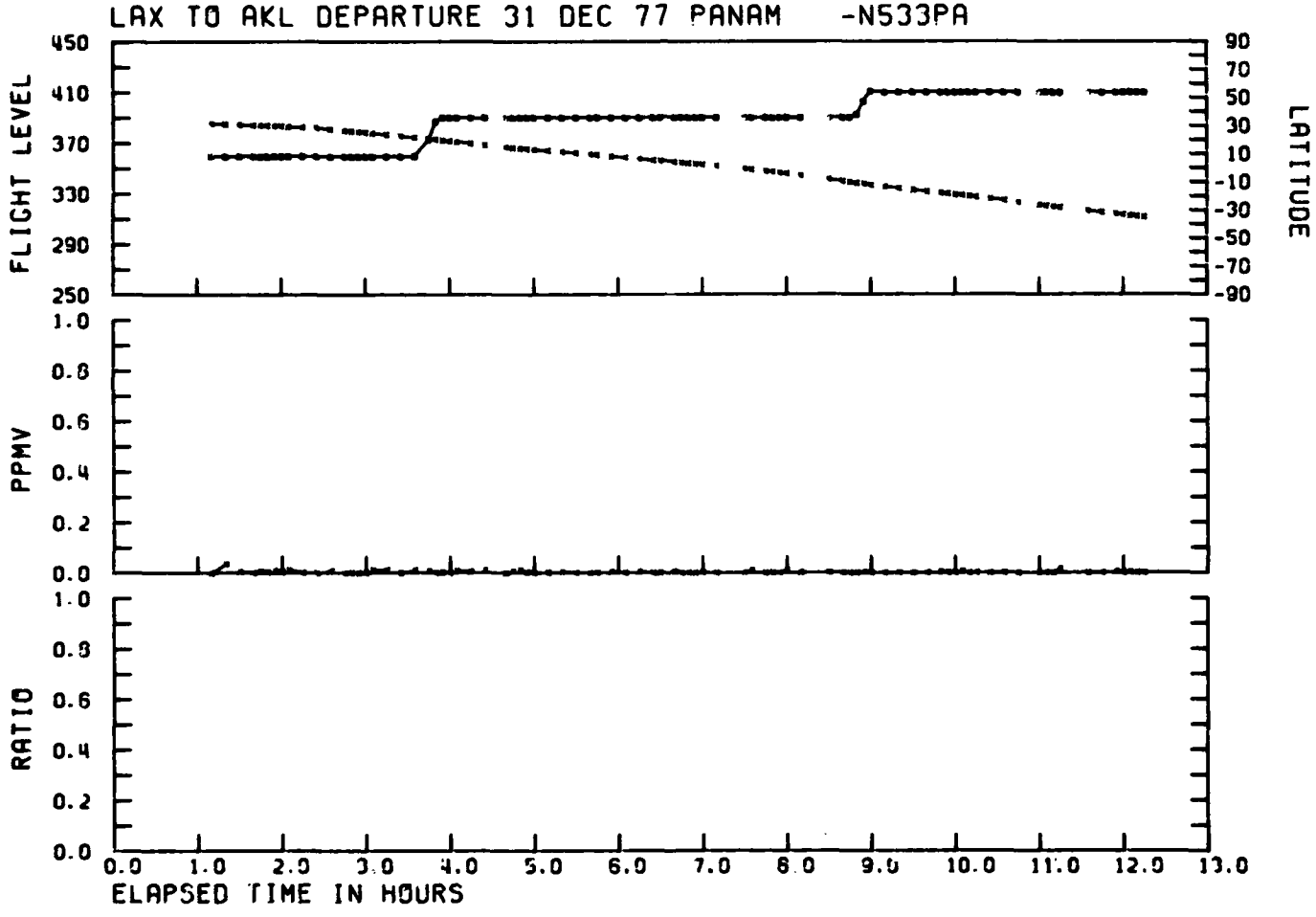

LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
AKL TO LAX DEPARTURE 30 DEC 77 PANAM -N533PA
450
410
370
330
290
250
FLIGHT LEVEL
1.0
0.8
0.6
0.4
0.2
0.0
PPMV
RATIO
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
ELAPSED TIME IN HOURS

AKL TO LAX (PAGE 1 OF 1) DEPARTURE: 30 DEC 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .036 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 79
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
12/30/77	0940	0:15	369	34.68S	176.53E	-43.	.002		
12/30/77	0950	0:25	370	33.51S	177.35E	-45.	.008		
12/30/77	1000	0:35	369	32.30S	178.17E	-46.	.012		
12/30/77	1005	0:40	370	31.69S	178.58E	-46.	.008		
12/30/77	1010	0:45	369	31.08S	178.97E	-45.	.000		
12/30/77	1015	0:50	370	30.48S	179.36E	-46.	.001		
12/30/77	1020	0:55	370	29.89S	179.74E	-47.	.005		
12/30/77	1030	1:05	370	28.69S	179.51W	-47.	.004		
12/30/77	1045	1:20	370	26.85S	178.40W	-48.	.000		
12/30/77	1050	1:25	370	26.24S	178.04W	-48.	.008		
12/30/77	1100	1:35	370	25.12S	177.39W	-48.	.001		
12/30/77	1110	1:45	370	23.79S	176.64W	-48.	.000		
12/30/77	1115	1:50	370	23.19S	176.31W	-48.	.006		
12/30/77	1120	1:55	370	22.59S	175.98W	-48.	.000		
12/30/77	1125	2:00	370	21.98S	175.65W	-48.	.011		
12/30/77	1130	2:05	370	21.38S	175.32W	-48.	.012		
12/30/77	1140	2:15	370	20.24S	174.57W	-48.	.000		
12/30/77	1150	2:25	370	19.11S	173.81W	-48.	.005		
12/30/77	1200	2:35	370	17.99S	173.06W	-47.	.001		
12/30/77	1210	2:45	370	16.85S	172.32W	-47.	.009		
12/30/77	1215	2:50	370	16.27S	171.94W	-47.	.009		
12/30/77	1220	2:55	369	15.70S	171.57W	-48.	.005		
12/30/77	1225	3:00	370	15.14S	171.21W	-47.	.015		
12/30/77	1230	3:05	370	14.57S	170.85W	-47.	.015		
12/30/77	1240	3:15	369	13.60S	169.95W	-47.	.000		
12/30/77	1250	3:25	370	12.66S	168.99W	-47.	.018		
12/30/77	1300	3:35	370	11.69S	168.01W	-47.	.000		
12/30/77	1310	3:45	370	10.74S	167.06W	-47.	.007		
12/30/77	1315	3:50	370	10.27S	166.60W	-47.	.002		
12/30/77	1320	3:55	370	9.97S	166.00W	-47.	.000		
12/30/77	1325	4:00	370	9.69S	165.39W	-48.	.001		
12/30/77	1330	4:05	370	9.20S	164.93W	-47.	.006		
12/30/77	1340	4:15	369	8.17S	164.08W	-48.	.004		
12/30/77	1356	4:31	370	6.51S	162.73W	-48.	.004		
12/30/77	1414	4:49	370	4.67S	161.02W	-49.	.004		
12/30/77	1419	4:54	370	4.16S	160.54W	-49.	.005		
12/30/77	1429	5:04	410	3.12S	159.58W	-61.	.005		
12/30/77	1439	5:14	410	2.07S	158.62W	-59.	.000		
12/30/77	1459	5:34	410	0.00N	156.71W	-59.	.000		
12/30/77	1509	5:44	410	1.03N	155.77W	-59.	.000		
12/30/77	1514	5:49	410	1.54N	155.30W	-58.	.000		
12/30/77	1519	5:54	410	2.06N	154.82W	-58.	.000		
12/30/77	1524	5:59	410	2.57N	154.33W	-59.	.000		
12/30/77	1529	6:04	410	3.08N	153.85W	-59.	.000		
12/30/77	1539	6:14	410	4.09N	152.90W	-59.	.000		
12/30/77	1549	6:24	410	5.10N	151.94W	-58.	.000		
12/30/77	1559	6:34	410	6.10N	151.00W	-59.	.002		
12/30/77	1609	6:44	410	7.05N	150.07W	-59.	.001		
12/30/77	1614	6:49	410	7.54N	149.59W	-59.	.000		
12/30/77	1619	6:54	410	8.03N	149.12W	-59.	.000		
12/30/77	1624	6:59	410	8.53N	148.64W	-60.	.000		
12/30/77	1629	7:04	410	9.01N	148.17W	-59.	.000		
12/30/77	1639	7:14	410	9.97N	147.23W	-60.	.000		
12/30/77	1649	7:24	410	10.94N	146.27W	-59.	.000		
12/30/77	1659	7:34	410	11.91N	145.30W	-60.	.007		
12/30/77	1709	7:44	410	12.90N	144.29W	-58.	.004		
12/30/77	1719	7:54	410	13.91N	143.26W	-58.	.000		
12/30/77	1729	8:04	410	14.91N	142.23W	-58.	.000		
12/30/77	1739	8:14	410	15.89N	141.20W	-57.	.000		
12/30/77	1749	8:24	410	16.89N	140.13W	-56.	.016		
12/30/77	1759	8:34	410	17.90N	139.04W	-56.	.000		
12/30/77	1804	8:39	410	18.41N	138.48W	-56.	.000		
12/30/77	1814	8:49	410	19.42N	137.36W	-57.	.020		
12/30/77	1819	8:54	410	19.92N	136.80W	-55.	.005		
12/30/77	1824	8:59	410	20.40N	136.24W	-54.	.036		
12/30/77	1829	9:04	410	20.89N	135.68W	-54.	.000		
12/30/77	1834	9:09	410	21.37N	135.12W	-53.	.006		
12/30/77	1844	9:19	410	22.36N	133.95W	-54.	.004		
12/30/77	1854	9:29	410	23.38N	132.71W	-56.	.000		
12/30/77	1904	9:39	410	24.41N	131.44W	-57.	.000		
12/30/77	1914	9:49	410	25.43N	130.13W	-56.	.011		
12/30/77	1919	9:54	410	25.94N	129.47W	-57.	.002		
12/30/77	1924	9:59	410	26.44N	128.81W	-58.	.004		
12/30/77	1929	10:04	410	26.93N	128.14W	-59.	.000		
12/30/77	1939	10:14	410	27.91N	126.80W	-60.	.001		
12/30/77	2004	10:39	410	30.34N	123.29W	-59.	.000		
12/30/77	2009	10:44	410	30.81N	122.57W	-59.	.000		
12/30/77	2019	10:54	410	31.73N	121.13W	-60.	.000		
12/30/77	2024	10:59	410	32.15N	120.37W	-60.	.000		

A-683

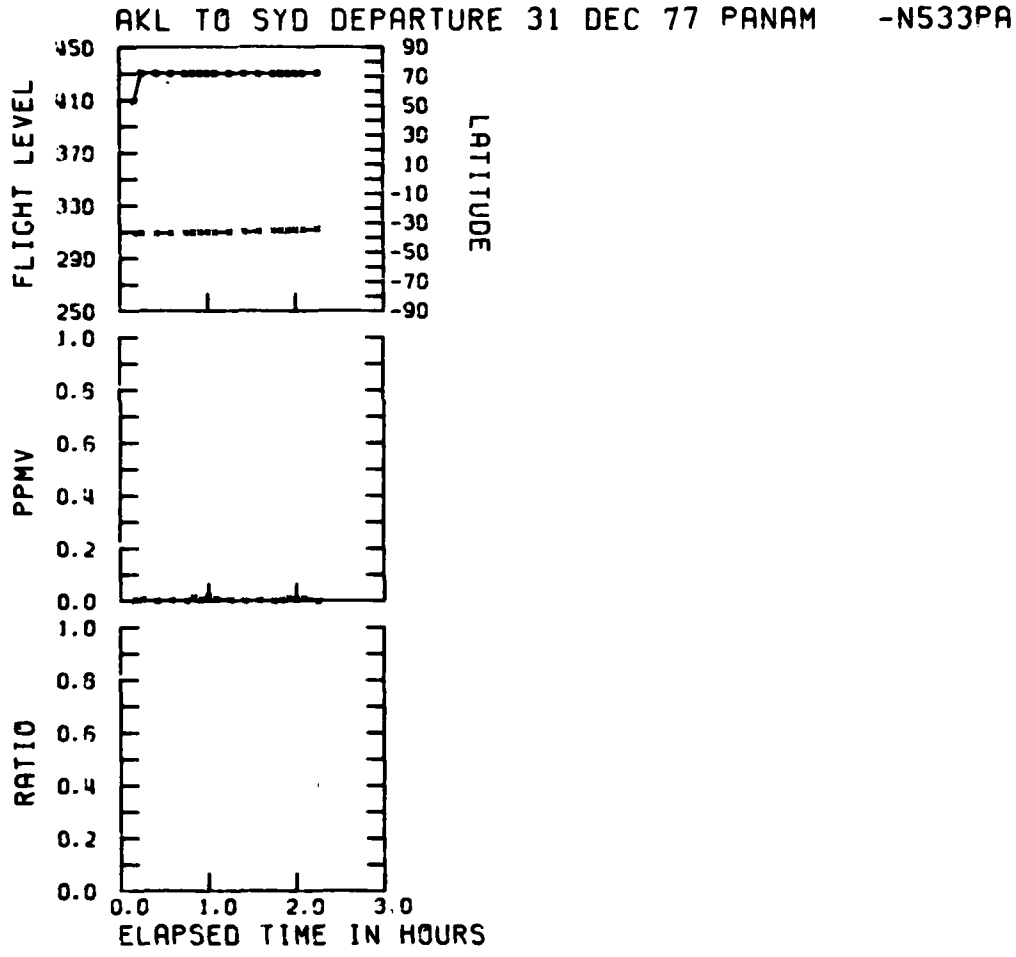

LAX TO AKL DEPARTURE 31 DEC 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
12.0
13.0
ELAPSED TIME IN HOURS

A-594

LAX TO AKL (PAGE 1 OF 1) DEPARTURE: 31 DEC 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .036 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 85
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
12/31/77	0812	1:10	360	32.02N	128.85W	-55.	.000		
12/31/77	0822	1:20	359	31.63N	130.26W	-54.	.036		
12/31/77	0832	1:30	360	31.24N	131.67W	-52.	.006		
12/31/77	0842	1:40	360	30.83N	133.05W	-55.	.000		
12/31/77	0847	1:45	359	30.62N	133.73W	-56.	.006		
12/31/77	0852	1:50	359	30.41N	134.40W	-55.	.004		
12/31/77	0857	1:55	360	30.20N	135.06W	-54.	.009		
12/31/77	0902	2:00	359	29.98N	135.72W	-54.	.004		
12/31/77	0907	2:05	360	29.76N	136.39W	-54.	.012		
12/31/77	0917	2:15	360	29.32N	137.69W	-51.	.001		
12/31/77	0927	2:25	360	28.87N	138.95W	-51.	.000		
12/31/77	0937	2:35	359	27.93N	139.85W	-50.	.009		
12/31/77	0947	2:45	359	26.97N	140.69W	-49.	.000		
12/31/77	0952	2:50	359	26.49N	141.10W	-47.	.000		
12/31/77	0957	2:55	359	25.99N	141.52W	-46.	.000		
12/31/77	1002	3:00	359	25.50N	141.94W	-46.	.000		
12/31/77	1007	3:05	359	25.00N	142.35W	-46.	.012		
12/31/77	1017	3:15	360	23.99N	143.18W	-48.	.012		
12/31/77	1027	3:25	359	22.97N	144.00W	-46.	.000		
12/31/77	1037	3:35	360	21.96N	144.80W	-45.	.011		
12/31/77	1047	3:45	373	20.92N	145.61W	-51.	.008		
12/31/77	1052	3:50	387	20.41N	146.00W	-53.	.000		
12/31/77	1057	3:55	390	19.89N	146.40W	-54.	.002		
12/31/77	1102	4:00	390	19.38N	146.79W	-54.	.001		
12/31/77	1107	4:05	390	18.86N	147.18W	-54.	.009		
12/31/77	1117	4:15	390	17.81N	147.96W	-54.	.006		
12/31/77	1127	4:25	390	16.73N	148.75W	-53.	.012		
12/31/77	1142	4:40	390	15.09N	149.93W	-55.	.000		
12/31/77	1147	4:45	390	14.65N	150.42W	-55.	.007		
12/31/77	1152	4:50	390	14.21N	150.93W	-54.	.012		
12/31/77	1157	4:55	390	13.79N	151.42W	-54.	.002		
12/31/77	1202	5:00	390	13.36N	151.92W	-54.	.000		
12/31/77	1212	5:10	390	12.51N	152.90W	-55.	.001		
12/31/77	1222	5:20	390	11.67N	153.85W	-54.	.004		
12/31/77	1232	5:30	390	10.83N	154.80W	-54.	.000		
12/31/77	1242	5:40	390	9.96N	155.77W	-54.	.000		
12/31/77	1247	5:45	390	9.50N	156.24W	-53.	.000		
12/31/77	1257	5:55	390	8.56N	157.18W	-53.	.005		
12/31/77	1307	6:05	390	7.63N	158.10W	-53.	.000		
12/31/77	1317	6:15	390	6.70N	159.02W	-52.	.006		
12/31/77	1327	6:25	390	5.76N	159.93W	-52.	.000		
12/31/77	1332	6:30	390	5.29N	160.39W	-53.	.002		
12/31/77	1342	6:40	390	4.35N	161.30W	-53.	.005		
12/31/77	1347	6:45	390	3.88N	161.74W	-53.	.000		
12/31/77	1352	6:50	390	3.42N	162.19W	-54.	.000		
12/31/77	1357	6:55	390	2.95N	162.63W	-54.	.000		
12/31/77	1402	7:00	390	2.49N	163.07W	-54.	.002		
12/31/77	1412	7:10	390	1.57N	163.94W	-54.	.000		
12/31/77	1432	7:30	390	.36S	165.55W	-55.	.002		
12/31/77	1438	7:36	390	1.06S	165.80W	-54.	.010		
12/31/77	1447	7:45	390	2.23S	166.23W	-54.	.000		
12/31/77	1452	7:50	390	2.87S	166.46W	-54.	.000		
12/31/77	1457	7:55	390	3.48S	166.68W	-54.	.000		
12/31/77	1502	8:00	390	4.12S	166.91W	-54.	.010		
12/31/77	1512	8:10	390	5.40S	167.37W	-54.	.002		
12/31/77	1532	8:30	390	7.99S	168.32W	-54.	.002		
12/31/77	1542	8:40	390	9.29S	168.80W	-53.	.001		
12/31/77	1547	8:45	390	9.94S	169.04W	-53.	.000		
12/31/77	1552	8:50	392	10.61S	169.29W	-54.	.000		
12/31/77	1557	8:55	403	11.25S	169.53W	-57.	.004		
12/31/77	1606	9:04	411	12.37S	169.95W	-59.	.000		
12/31/77	1612	9:10	410	13.13S	170.30W	-55.	.000		
12/31/77	1622	9:20	410	14.43S	170.64W	-58.	.000		
12/31/77	1632	9:30	410	15.60S	171.37W	-59.	.000		
12/31/77	1642	9:40	410	16.71S	172.16W	-58.	.000		
12/31/77	1652	9:50	410	17.82S	172.95W	-58.	.004		
12/31/77	1657	9:55	410	18.39S	173.32W	-58.	.000		
12/31/77	1702	10:00	410	18.97S	173.71W	-58.	.000		
12/31/77	1707	10:05	410	19.52S	174.08W	-57.	.006		
12/31/77	1712	10:10	410	20.11S	174.42W	-57.	.000		
12/31/77	1717	10:15	410	20.67S	174.78W	-57.	.001		
12/31/77	1727	10:25	410	21.85S	175.57W	-57.	.000		
12/31/77	1737	10:35	410	23.11S	176.26W	-57.	.000		
12/31/77	1747	10:45	410	24.36S	176.96W	-57.	.000		
12/31/77	1802	11:00	410	26.21S	178.02W	-57.	.000		
12/31/77	1807	11:05	410	26.82S	178.38W	-58.	.000		
12/31/77	1812	11:10	410	27.43S	178.74W	-57.	.000		
12/31/77	1817	11:15	410	28.02S	179.10W	-57.	.015		
12/31/77	1837	11:35	410	30.38S	179.43E	-57.	.000		
12/31/77	1847	11:45	410	31.56S	178.66E	-55.	.000		
12/31/77	1857	11:55	410	32.70S	177.90E	-55.	.005		
12/31/77	1902	12:00	410	33.27S	177.52E	-55.	.000		
12/31/77	1907	12:05	410	33.83S	177.13E	-55.	.002		
12/31/77	1912	12:10	410	34.38S	176.74E	-54.	.000		
12/31/77	1917	12:15	410	34.92S	176.36E	-53.	.000		

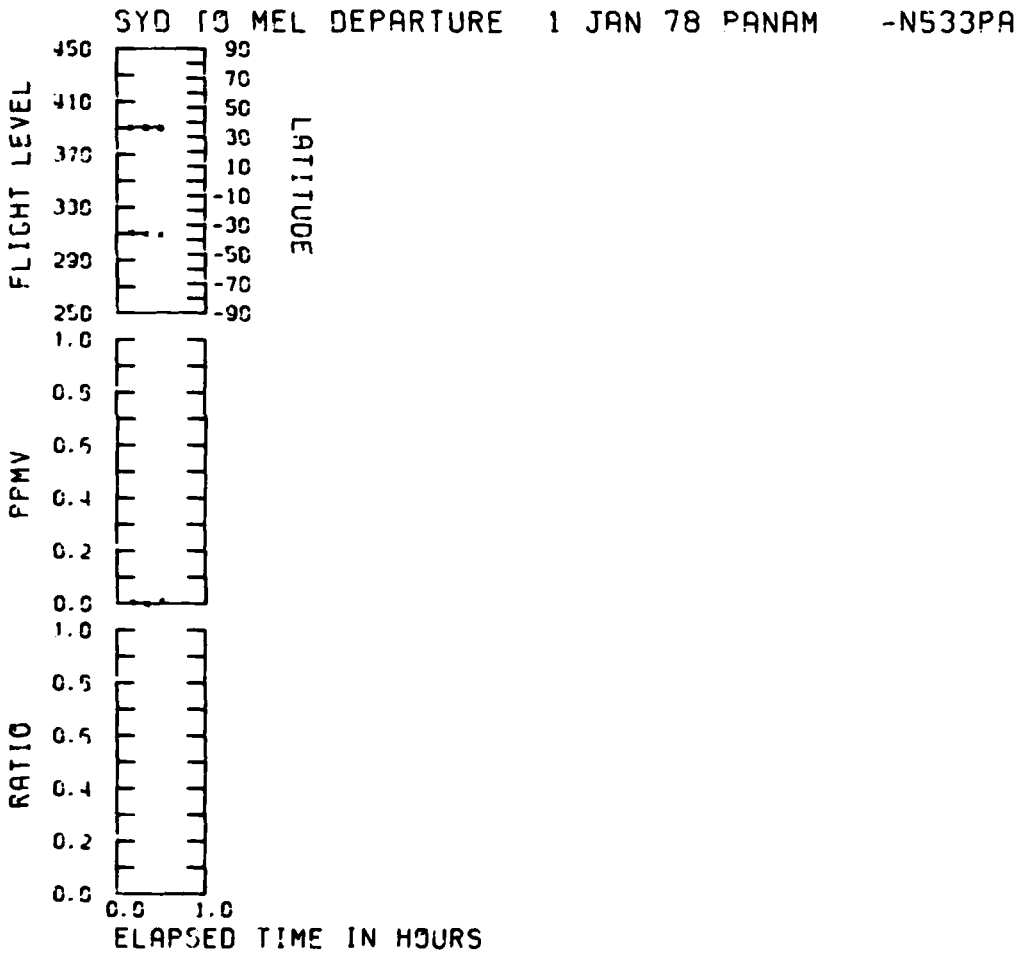

AKL TO SYD DEPARTURE 31 DEC 77 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

A-588

AKL TO SYD (PAGE 1 OF 1) DEPARTURE: 31 DEC 77 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .018 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 18
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
12/31/77	2148	0:10	409	36.90S	172.52E	-55.	.004		
12/31/77	2153	0:15	430	36.85S	171.82E	-56.	.006		
12/31/77	2203	0:25	430	36.75S	170.40E	-57.	.000		
12/31/77	2213	0:35	430	36.63S	168.96E	-56.	.003		
12/31/77	2223	0:45	430	36.48S	167.48E	-56.	.000		
12/31/77	2228	0:50	430	36.40S	166.75E	-56.	.013		
12/31/77	2233	0:55	430	36.31S	166.00E	-57.	.006		
12/31/77	2238	1:00	430	36.22S	165.27E	-57.	.018		
12/31/77	2243	1:05	430	36.13S	164.51E	-57.	.008		
12/31/77	2253	1:15	430	35.92S	163.00E	-57.	.003		
12/31/77	2303	1:25	430	35.70S	161.48E	-57.	.000		
12/31/77	2313	1:35	430	35.45S	159.94E	-57.	.004		
12/31/77	2323	1:45	430	35.18S	158.39E	-56.	.000		
12/31/77	2328	1:50	430	35.04S	157.65E	-58.	.003		
12/31/77	2333	1:55	430	34.89S	156.87E	-57.	.011		
12/31/77	2338	2:00	430	34.73S	156.12E	-57.	.006		
12/31/77	2343	2:05	430	34.57S	155.34E	-57.	.010		
12/31/77	2353	2:15	430	34.28S	153.86E	-58.	.000		


SYD TO MEL DEPARTURE 1 JAN 78 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
ELAPSED TIME IN HOURS

SYD TO MEL (PAGE 1 OF 1)

DEPARTURE: 1 JAN 78

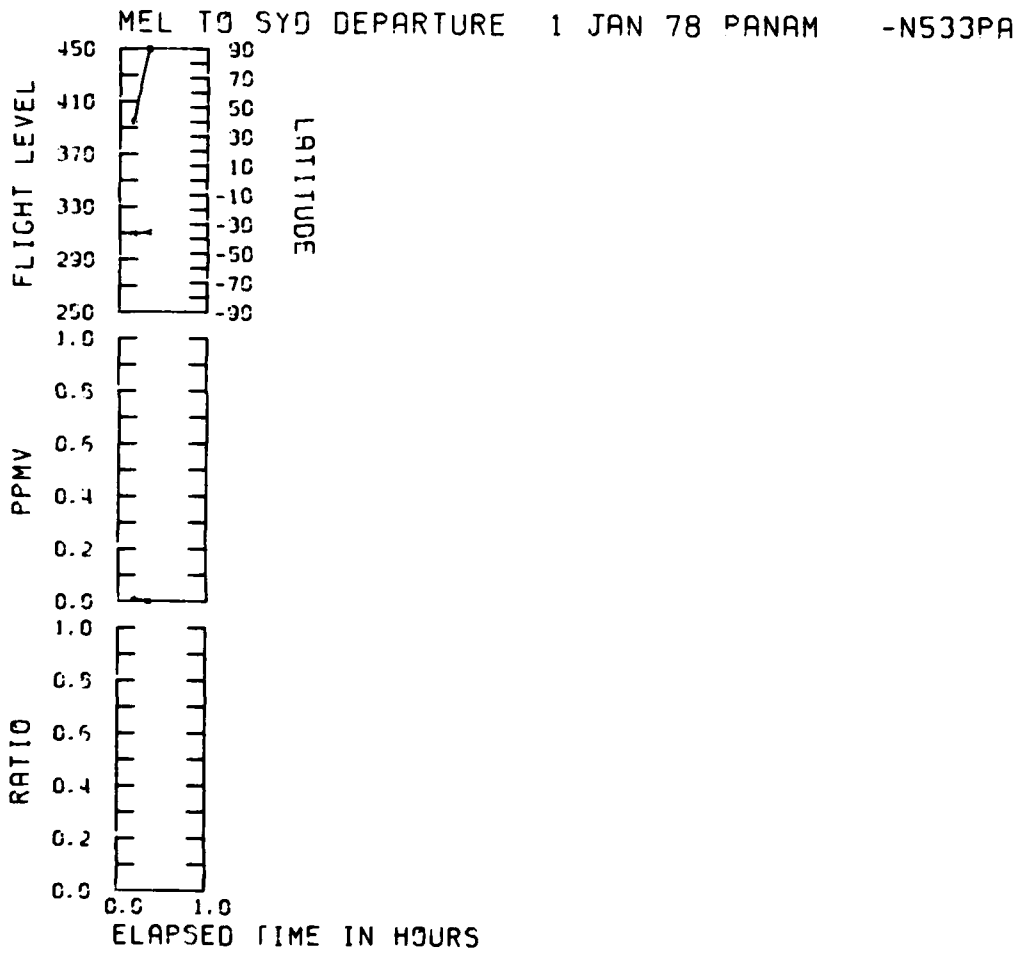
AIRCRAFT:PANAM -N533PA

TOTAL OBS IN CABIN: 3

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .009 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00

DATA SOURCE: GASP TAPE VL014, FILE 1

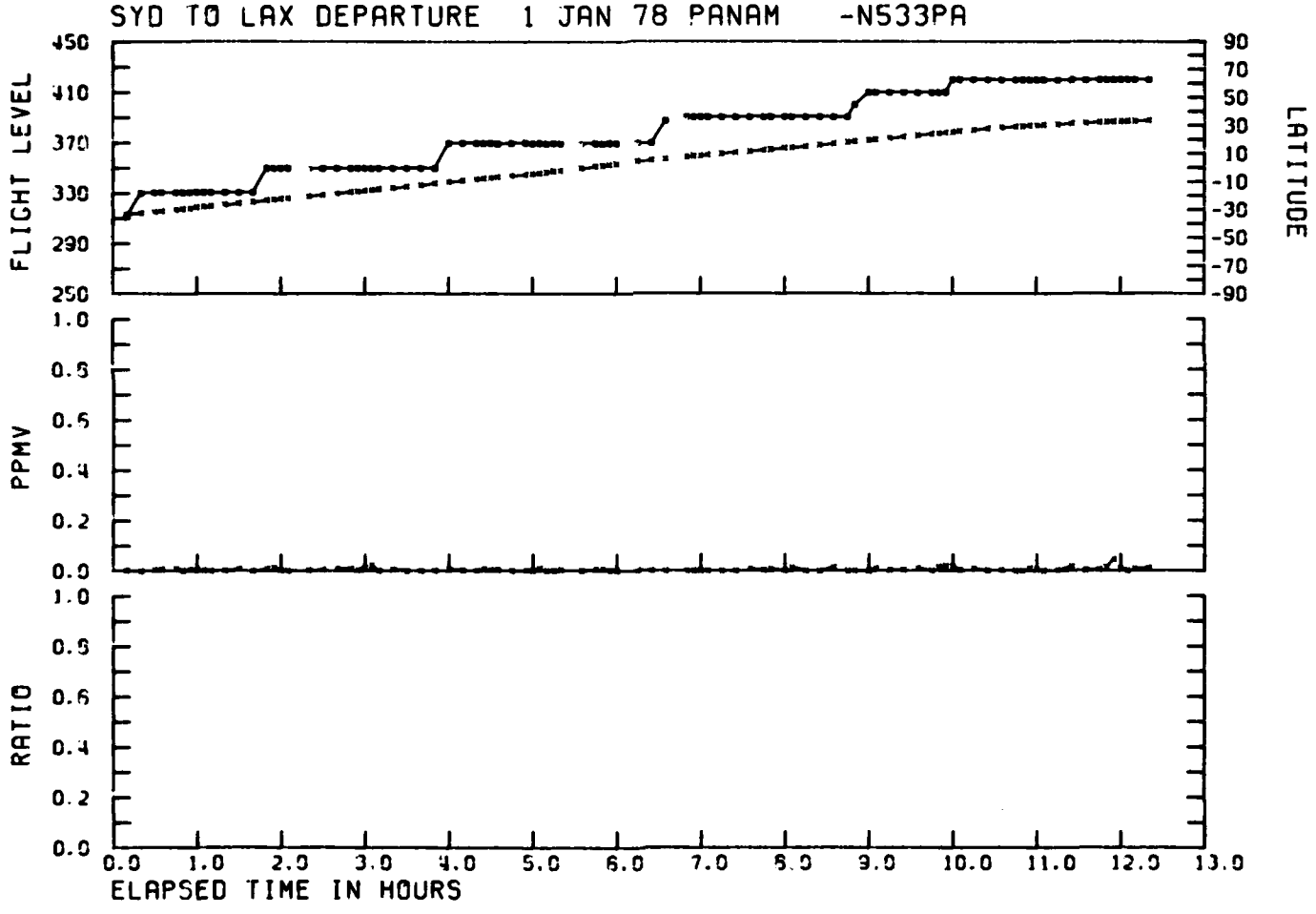
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	OZONE(PPMV) AMB.	RATIO
1/ 1/78	0210	0:10	391	35.35S	149.78E	-58.	.005		
1/ 1/78	0221	0:21	391	35.94S	148.39E	-60.	.000		
1/ 1/78	0230	0:30	390	36.55S	147.12E	-61.	.009		


MEL TO SYD DEPARTURE 1 JAN 78 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
ELAPSED TIME IN HOURS

MEL TO SYD (PAGE 1 OF 1) DEPARTURE: 1 JAN 78 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .008 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 2
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
1/ 1/78	0412	0:10	395	36.33S	146.65E	-64.	.008		
1/ 1/78	0422	0:20	451	35.53S	148.14E	-61.	.000		


SYD TO LAX DEPARTURE 1 JAN 78 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
12.0
13.0
ELAPSED TIME IN HOURS

A-592

SYD TO LAX (PAGE 1 OF 2) DEPARTURE: 1 JAN 78 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .044 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 94
DATA SOURCE: RASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
1/ 1/78	1135	0:10	311	32.88S	153.80E	-43.	.003		
1/ 1/78	1145	0:20	330	32.05S	155.22E	-49.	.000		
1/ 1/78	1155	0:30	331	31.17S	156.58E	-49.	.006		
1/ 1/78	1200	0:35	331	30.73S	157.24E	-49.	.008		
1/ 1/78	1210	0:45	331	29.81S	158.52E	-48.	.010		
1/ 1/78	1215	0:50	331	29.31S	159.06E	-47.	.002		
1/ 1/78	1220	0:55	331	28.82S	159.59E	-47.	.007		
1/ 1/78	1225	1:00	331	28.31S	160.13E	-46.	.003		
1/ 1/78	1230	1:05	330	27.80S	160.65E	-47.	.003		
1/ 1/78	1235	1:10	331	27.30S	161.16E	-47.	.000		
1/ 1/78	1245	1:20	331	26.27S	162.20E	-46.	.002		
1/ 1/78	1255	1:30	330	25.24S	163.21E	-44.	.009		
1/ 1/78	1305	1:40	331	24.21S	164.19E	-41.	.001		
1/ 1/78	1315	1:50	350	23.19S	165.14E	-44.	.009		
1/ 1/78	1320	1:55	350	22.70S	165.59E	-44.	.013		
1/ 1/78	1325	2:00	350	22.19S	166.05E	-43.	.002		
1/ 1/78	1330	2:05	350	21.70S	166.55E	-44.	.000		
1/ 1/78	1345	2:20	349	20.25S	168.07E	-42.	.003		
1/ 1/78	1355	2:30	350	19.26S	169.08E	-42.	.005		
1/ 1/78	1405	2:40	350	18.28S	170.07E	-42.	.010		
1/ 1/78	1415	2:50	350	17.30S	171.05E	-42.	.009		
1/ 1/78	1420	2:55	350	16.80S	171.53E	-42.	.003		
1/ 1/78	1425	3:00	350	16.30S	172.03E	-43.	.012		
1/ 1/78	1430	3:05	350	15.79S	172.52E	-43.	.022		
1/ 1/78	1435	3:10	350	15.29S	173.00E	-42.	.000		
1/ 1/78	1445	3:20	350	14.28S	173.95E	-41.	.006		
1/ 1/78	1455	3:30	350	13.30S	174.88E	-42.	.000		
1/ 1/78	1505	3:40	350	12.33S	175.77E	-41.	.000		
1/ 1/78	1518	3:53	350	11.02S	176.97E	-41.	.001		
1/ 1/78	1528	4:03	370	9.86S	177.63E	-46.	.006		
1/ 1/78	1538	4:13	370	9.03S	178.66E	-46.	.002		
1/ 1/78	1548	4:23	370	8.03S	179.60E	-47.	.001		
1/ 1/78	1553	4:28	370	7.50S	179.97W	-47.	.006		
1/ 1/78	1558	4:33	370	6.96S	179.55W	-47.	.004		
1/ 1/78	1603	4:38	369	6.42S	179.13W	-47.	.004		
1/ 1/78	1613	4:48	370	5.48S	178.23W	-47.	.000		
1/ 1/78	1620	4:55	370	4.88S	177.51W	-47.	.001		
1/ 1/78	1626	5:01	369	4.34S	176.81W	-47.	.001		
1/ 1/78	1631	5:06	370	3.92S	176.28W	-47.	.009		
1/ 1/78	1638	5:13	369	3.16S	175.81W	-47.	.000		
1/ 1/78	1644	5:19	370	2.41S	175.48W	-47.	.000		
1/ 1/78	1649	5:24	369	1.82S	175.16W	-47.	.004		
1/ 1/78	1703	5:38	370	.13S	174.00W	-48.	.002		
1/ 1/78	1713	5:48	370	1.13N	173.25W	-48.	.006		
1/ 1/78	1718	5:53	369	1.69N	172.81W	-48.	.006		
1/ 1/78	1723	5:58	370	2.24N	172.38W	-48.	.001		
1/ 1/78	1728	6:03	369	2.79N	171.95W	-48.	.001		
1/ 1/78	1743	6:18	370	4.44N	170.67W	-49.	.000		
1/ 1/78	1753	6:28	370	5.45N	169.70W	-49.	.000		
1/ 1/78	1803	6:38	387	6.36N	168.60W	-54.	.000		
1/ 1/78	1818	6:53	390	7.73N	166.96W	-55.	.000		
1/ 1/78	1823	6:58	390	8.18N	166.41W	-55.	.000		
1/ 1/78	1828	7:03	390	8.64N	165.85W	-55.	.000		
1/ 1/78	1833	7:08	390	9.10N	165.28W	-55.	.000		
1/ 1/78	1843	7:18	390	10.02N	164.14W	-55.	.000		
1/ 1/78	1853	7:28	390	10.87N	162.94W	-55.	.000		
1/ 1/78	1903	7:38	390	11.70N	161.75W	-54.	.008		
1/ 1/78	1913	7:48	390	12.55N	160.52W	-54.	.002		
1/ 1/78	1918	7:53	390	12.98N	159.90W	-54.	.006		
1/ 1/78	1928	8:03	390	13.83N	158.64W	-54.	.001		
1/ 1/78	1933	8:08	390	14.25N	158.00W	-54.	.012		
1/ 1/78	1943	8:18	390	15.12N	156.74W	-54.	.000		
1/ 1/78	1953	8:28	390	16.14N	155.62W	-54.	.000		
1/ 1/78	2003	8:38	390	17.16N	154.49W	-54.	.015		
1/ 1/78	2013	8:48	390	18.16N	153.35W	-55.	.000		
1/ 1/78	2018	8:53	400	18.66N	152.77W	-57.	.000		
1/ 1/78	2028	9:03	410	19.66N	151.60W	-59.	.000		
1/ 1/78	2033	9:08	410	20.10N	151.07W	-60.	.010		
1/ 1/78	2043	9:18	410	21.16N	149.79W	-60.	.004		
1/ 1/78	2053	9:28	410	22.14N	148.55W	-60.	.004		
1/ 1/78	2103	9:38	410	23.12N	147.27W	-60.	.010		
1/ 1/78	2113	9:48	410	24.09N	145.98W	-60.	.000		
1/ 1/78	2118	9:53	410	24.57N	145.32W	-59.	.017		
1/ 1/78	2123	9:58	410	25.06N	144.64W	-60.	.019		
1/ 1/78	2128	10:03	420	25.56N	143.94W	-60.	.016		
1/ 1/78	2133	10:08	420	26.04N	143.25W	-59.	.003		
1/ 1/78	2143	10:18	420	27.00N	141.85W	-59.	.009		
1/ 1/78	2153	10:28	420	27.95N	140.42W	-58.	.000		
1/ 1/78	2203	10:38	420	28.87N	138.97W	-57.	.003		
1/ 1/78	2213	10:48	420	29.46N	137.27W	-58.	.000		
1/ 1/78	2218	10:53	420	29.75N	136.42W	-57.	.000		
1/ 1/78	2223	10:58	420	30.03N	135.57W	-56.	.009		
1/ 1/78	2228	11:03	420	30.30N	134.73W	-55.	.005		
1/ 1/78	2233	11:08	420	30.57N	133.89W	-55.	.000		
1/ 1/78	2243	11:18	420	31.08N	132.19W	-56.	.003		
1/ 1/78	2253	11:28	420	31.57N	130.48W	-56.	.019		
1/ 1/78	2303	11:38	420	32.03N	128.79W	-57.	.004		
1/ 1/78	2313	11:48	420	32.47N	127.09W	-57.	.005		
1/ 1/78	2318	11:53	420	32.67N	126.26W	-58.	.014		
1/ 1/78	2323	11:58	420	32.86N	125.42W	-58.	.044		
1/ 1/78	2328	12:03	420	33.06N	124.57W	-58.	.009		
1/ 1/78	2333	12:08	420	33.23N	123.71W	-59.	.000		

SYD TO LAX (PAGE 2 OF 2) DEPARTURE: 1 JAN 78 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .044 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 94
DATA SOURCE: GASP TAPE VL014, FILE 1

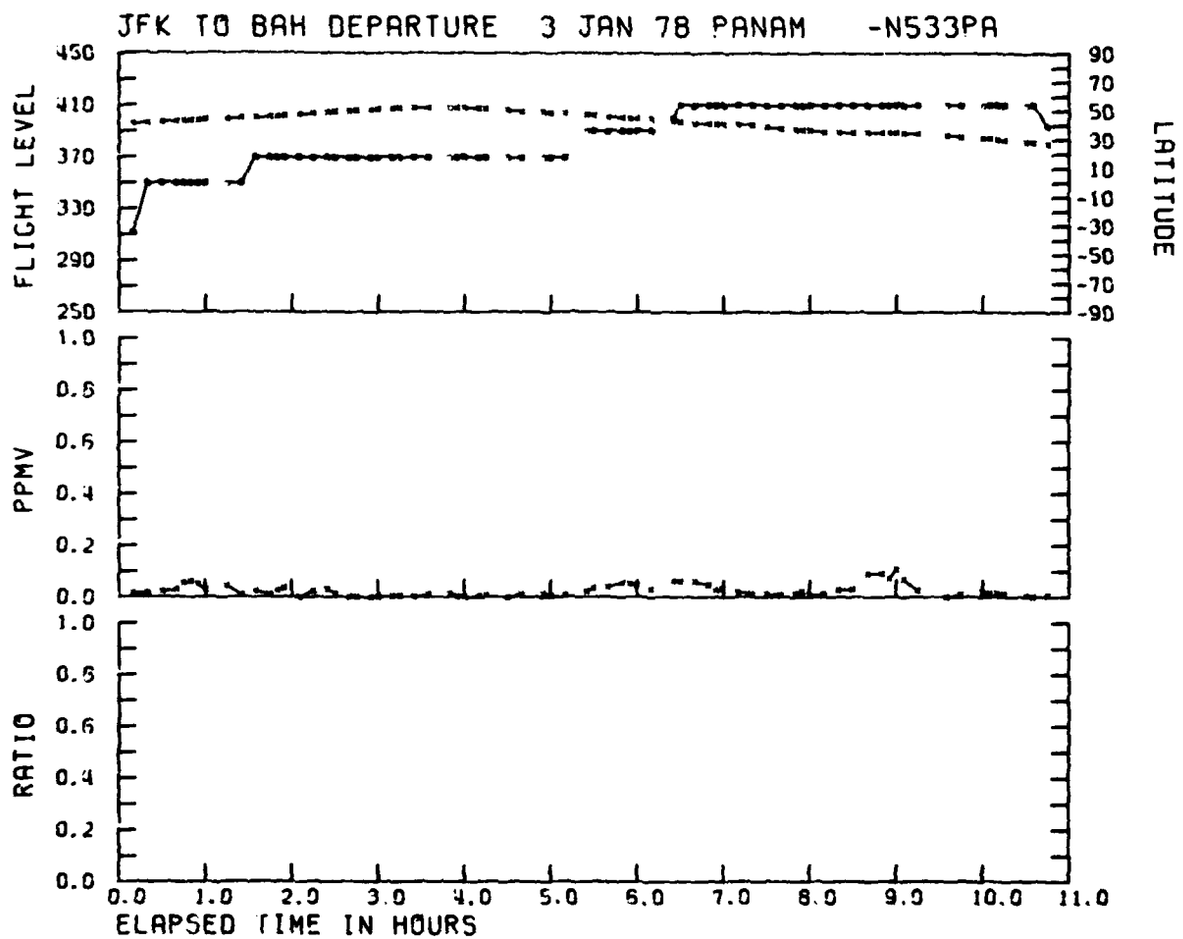
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	OZONE(PPMV) AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	OZONE(PPMV) AMB.	RATIO
1/ 1/78	2338	12:13	420	33.36N	122.85W	-61.	.008			1/ 1/78	2348	12:23	420	33.61N	121.10W	-57.	.011		

BEST AVAILABLE COPY

LAX TO JFK (PAGE 1 OF 1) DEPARTURE: 2 JAN 78 AIRCRAFT:PANAM -N533PA

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .073 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 25
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
1/ 2/78	0311	0:06	290	34.56N	117.17W	-44.	.005		
1/ 2/78	0323	0:18	404	35.02N	115.13W	-56.	.000		
1/ 2/78	0333	0:28	410	35.47N	113.39W	-53.	.005		
1/ 2/78	0353	0:48	410	36.35N	109.95W	-53.	.016		
1/ 2/78	0403	0:58	410	36.78N	108.13W	-53.	.016		
1/ 2/78	0408	1:03	410	36.97N	107.25W	-52.	.025		
1/ 2/78	0413	1:08	410	37.17N	106.33W	-54.	.014		
1/ 2/78	0423	1:18	410	37.54N	104.48W	-51.	.009		
1/ 2/78	0433	1:28	410	37.90N	102.56W	-51.	.011		
1/ 2/78	0443	1:38	410	38.22N	100.60W	-51.	.007		
1/ 2/78	0453	1:48	410	38.51N	98.62W	-52.	.000		
1/ 2/78	0458	1:53	410	38.64N	97.63W	-54.	.073		
1/ 2/78	0503	1:58	410	38.76N	96.62W	-54.	.005		
1/ 2/78	0508	2:03	410	38.88N	95.61W	-51.	.009		
1/ 2/78	0513	2:08	410	38.98N	94.59W	-52.	.012		
1/ 2/78	0523	2:18	410	39.17N	92.45W	-51.	.007		
1/ 2/78	0533	2:28	410	39.32N	90.33W	-52.	.009		
1/ 2/78	0543	2:38	410	39.44N	88.21W	-52.	.012		
1/ 2/78	0553	2:48	410	39.52N	86.07W	-50.	.019		
1/ 2/78	0558	2:53	410	39.54N	85.02W	-50.	.015		
1/ 2/78	0603	2:58	410	39.62N	83.94W	-50.	.020		
1/ 2/78	0608	3:03	410	39.75N	82.89W	-49.	.021		
1/ 2/78	0613	3:08	410	39.89N	81.81W	-49.	.010		
1/ 2/78	0623	3:18	410	40.12N	79.68W	-49.	.000		
1/ 2/78	0633	3:28	409	40.30N	77.58W	-52.	.016		


JFK TO BAH DEPARTURE 3 JAN 78 PANAM -N533PA
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
7.0
8.0
9.0
10.0
11.0
ELAPSED TIME IN HOURS

A-608

JFK TO BAH (PAGE 1 OF 1) DEPARTURE: 3 JAN 78 AIRCRAFT:PANAM -N533PA

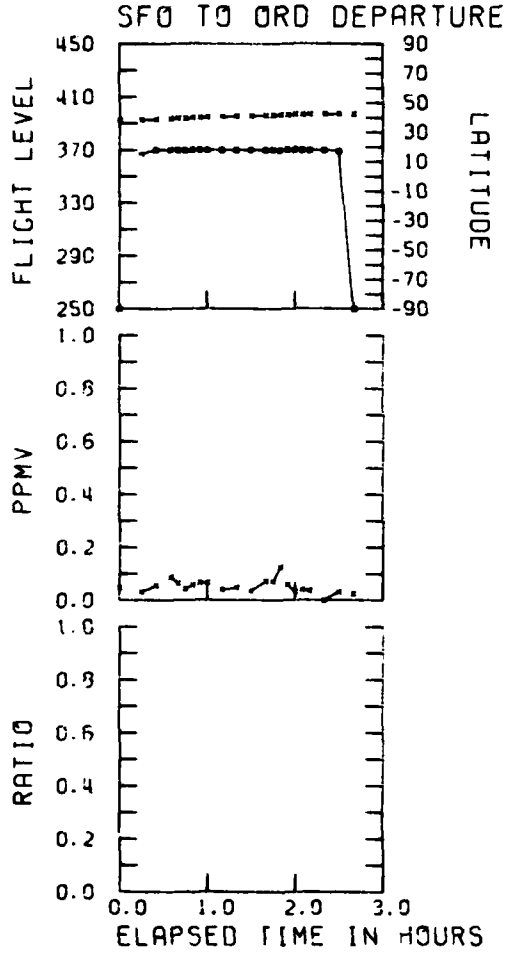
MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .106 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 74
DATA SOURCE: GASP TAPE VL014, FILE 1

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
1/ 3/78	0023	0:10	312	41.22N	70.59W	-48.	.016		
1/ 3/78	0033	0:20	350	41.81N	68.59W	-46.	.017		
1/ 3/78	0043	0:30	350	42.38N	66.51W	-46.	.024		
1/ 3/78	0053	0:40	350	42.92N	64.42W	-42.	.030		
1/ 3/78	0058	0:45	350	43.17N	63.39W	-42.	.056		
1/ 3/78	0103	0:50	350	43.42N	62.33W	-42.	.061		
1/ 3/78	0108	0:55	350	43.67N	61.26W	-43.	.049		
1/ 3/78	0117	1:04	350	44.16N	59.14W	-45.	.028		
1/ 3/78	0128	1:15	350	44.66N	57.07W	-49.	.044		
1/ 3/78	0138	1:25	350	45.13N	54.97W	-55.	.008		
1/ 3/78	0148	1:35	370	45.54N	52.87W	-54.	.024		
1/ 3/78	0158	1:45	370	45.90N	50.77W	-57.	.010		
1/ 3/78	0203	1:50	370	46.12N	49.73W	-60.	.026		
1/ 3/78	0208	1:55	370	46.56N	48.84W	-59.	.033		
1/ 3/78	0218	2:05	370	47.40N	46.93W	-62.	.000		
1/ 3/78	0228	2:15	370	48.23N	44.90W	-64.	.023		
1/ 3/78	0238	2:25	370	49.04N	42.80W	-63.	.031		
1/ 3/78	0243	2:30	370	49.41N	41.75W	-66.	.014		
1/ 3/78	0253	2:40	370	50.12N	39.61W	-66.	.002		
1/ 3/78	0258	2:45	370	50.40N	38.48W	-66.	.000		
1/ 3/78	0308	2:55	370	50.91N	36.22W	-65.	.000		
1/ 3/78	0317	3:04	370	51.38N	33.87W	-66.	.000		
1/ 3/78	0323	3:10	370	51.60N	32.68W	-67.	.005		
1/ 3/78	0328	3:15	370	51.80N	31.49W	-66.	.004		
1/ 3/78	0338	3:25	370	52.08N	29.03W	-66.	.001		
1/ 3/78	0352	3:39	370	52.14N	25.22W	-66.	.011		
1/ 3/78	0403	3:50	370	52.12N	22.71W	-67.	.013		
1/ 3/78	0408	3:55	370	52.09N	21.47W	-67.	.000		
1/ 3/78	0417	4:04	370	51.89N	19.01W	-66.	.000		
1/ 3/78	0423	4:10	370	51.67N	17.83W	-67.	.005		
1/ 3/78	0428	4:15	370	51.44N	16.68W	-67.	.007		
1/ 3/78	0447	4:34	370	50.38N	12.28W	-67.	.001		
1/ 3/78	0457	4:44	370	49.78N	10.19W	-67.	.011		
1/ 3/78	0508	4:55	370	49.15N	8.19W	-68.	.014		
1/ 3/78	0517	5:04	370	48.59N	6.18W	-68.	.004		
1/ 3/78	0523	5:10	370	48.31N	5.17W	-69.	.007		
1/ 3/78	0538	5:25	390	47.43N	2.24W	-63.	.022		
1/ 3/78	0547	5:34	390	46.66N	.59W	-65.	.036		
1/ 3/78	0557	5:44	390	45.80N	1.09E	-58.	.039		
1/ 3/78	0607	5:54	390	45.19N	2.95E	-60.	.056		
1/ 3/78	0612	5:59	390	44.88N	3.88E	-58.	.051		
1/ 3/78	0617	6:04	390	44.56N	4.79E	-58.	.047		
1/ 3/78	0623	6:10	390	44.27N	5.73E	-58.	.033		
1/ 3/78	0638	6:25	400	43.18N	8.40E	-55.	.063		
1/ 3/78	0647	6:34	410	42.31N	10.03E	-59.	.060		
1/ 3/78	0657	6:44	410	41.48N	11.71E	-59.	.061		
1/ 3/78	0707	6:54	410	40.85N	13.45E	-61.	.047		
1/ 3/78	0712	6:59	410	40.81N	14.46E	-61.	.026		
1/ 3/78	0717	7:04	410	40.76N	15.46E	-60.	.031		
1/ 3/78	0723	7:10	410	40.70N	16.44E	-61.	.019		
1/ 3/78	0737	7:24	410	40.02N	19.13E	-61.	.012		
1/ 3/78	0747	7:34	410	39.06N	20.52E	-59.	.014		
1/ 3/78	0757	7:44	410	37.95N	21.69E	-59.	.009		
1/ 3/78	0807	7:54	410	37.17N	23.20E	-59.	.015		
1/ 3/78	0812	7:59	410	36.90N	24.04E	-58.	.021		
1/ 3/78	0817	8:04	410	36.49N	24.75E	-53.	.007		
1/ 3/78	0827	8:14	410	35.37N	25.93E	-52.	.011		
1/ 3/78	0837	8:24	410	35.03N	27.53E	-51.	.029		
1/ 3/78	0847	8:34	410	34.98N	29.32E	-49.	.031		
1/ 3/78	0857	8:44	410	34.94N	31.11E	-49.	.092		
1/ 3/78	0907	8:54	410	34.91N	32.85E	-49.	.091		
1/ 3/78	0912	8:59	410	34.86N	33.72E	-48.	.072		
1/ 3/78	0917	9:04	410	34.66N	34.54E	-50.	.106		
1/ 3/78	0922	9:09	410	34.44N	35.36E	-49.	.070		
1/ 3/78	0928	9:15	410	34.27N	36.20E	-52.	.025		
1/ 3/78	0948	9:35	410	32.92N	38.60E	-52.	.001		
1/ 3/78	0958	9:45	410	31.72N	38.71E	-53.	.011		
1/ 3/78	1013	10:00	410	30.93N	41.13E	-56.	.020		
1/ 3/78	1018	10:05	410	30.55N	41.86E	-57.	.014		
1/ 3/78	1023	10:10	410	30.16N	42.61E	-56.	.014		
1/ 3/78	1032	10:19	410	29.40N	44.09E	-57.	.012		
1/ 3/78	1043	10:30	410	28.64N	45.68E	-57.	.006		
1/ 3/78	1052	10:39	410	27.91N	47.22E	-58.	.001		
1/ 3/78	1102	10:49	394	27.22N	48.83E	-55.	.007		

APPENDIX B - DATA PLOTS AND

TABLES OF GASP OZONE DATA

FOR BOEING 747-100 (N4711U)



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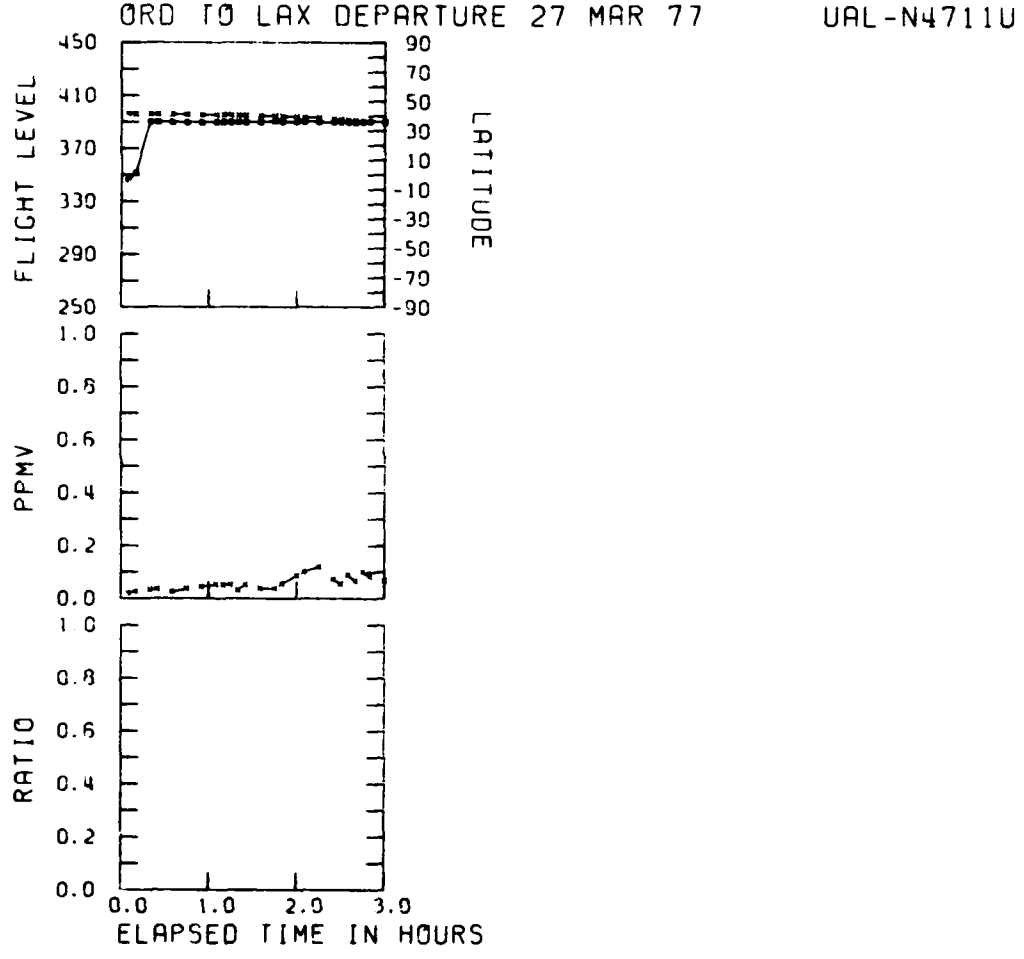
SFO TO ORD (PAGE 1 OF 1) DEPARTURE: 26 MAR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .125 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 22
DATA SOURCE: GASP TAPE VL012, FILE 2 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

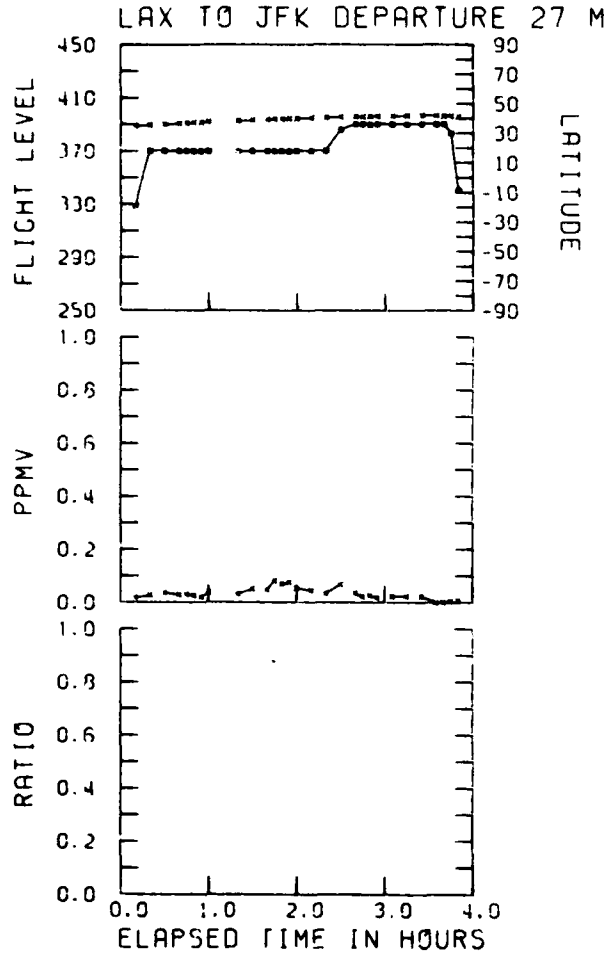
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
3/26/77	1846	0:00	208	38.09N	120.97W	-20.	.046		
3/26/77	1901	0:15	366	38.51N	118.58W	-55.	.031		
3/26/77	1911	0:25	370	38.90N	117.11W	-56.	.055		
3/26/77	1921	0:35	370	39.28N	115.61W	-56.	.088		
3/26/77	1926	0:40	370	39.47N	114.85W	-56.	.064		
3/26/77	1931	0:45	370	39.65N	114.08W	-56.	.044		
3/26/77	1936	0:50	370	39.83N	113.27W	-57.	.058		
3/26/77	1941	0:55	370	40.01N	112.48W	-57.	.067		
3/26/77	1946	1:00	370	40.18N	111.66W	-55.	.067		
3/26/77	1956	1:10	370	40.53N	109.96W	-55.	.041		
3/26/77	2006	1:20	370	40.87N	108.15W	-55.	.048		
3/26/77	2016	1:30	370	41.17N	106.35W	-52.	.036		
3/26/77	2026	1:40	370	41.46N	104.44W	-51.	.072		
3/26/77	2031	1:45	370	41.60N	103.44W	-52.	.071		
3/26/77	2036	1:50	370	41.73N	102.41W	-49.	.125		
3/26/77	2041	1:55	370	41.85N	101.36W	-55.	.059		
3/26/77	2046	2:00	370	41.97N	100.26W	-55.	.032		
3/26/77	2053	2:07	370	42.12N	98.66W	-57.	.040		
3/26/77	2100	2:14	370	42.25N	97.06W	-58.	.035		
3/26/77	2110	2:24	370	42.41N	94.77W	-58.	.000		
3/26/77	2120	2:34	369	42.52N	92.48W	-57.	.031		
3/26/77	2130A	2:44	239	42.53N	90.38W	-29.	.024		


ORD TO LAX DEPARTURE 27 MAR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

ORD TO LAX (PAGE 1 OF 1) DEPARTURE: 27 MAR 77 AIRCRAFT: UAL-N711U

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .120 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 25
DATA SOURCE: GASP TAPE VL012, FILE 2 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

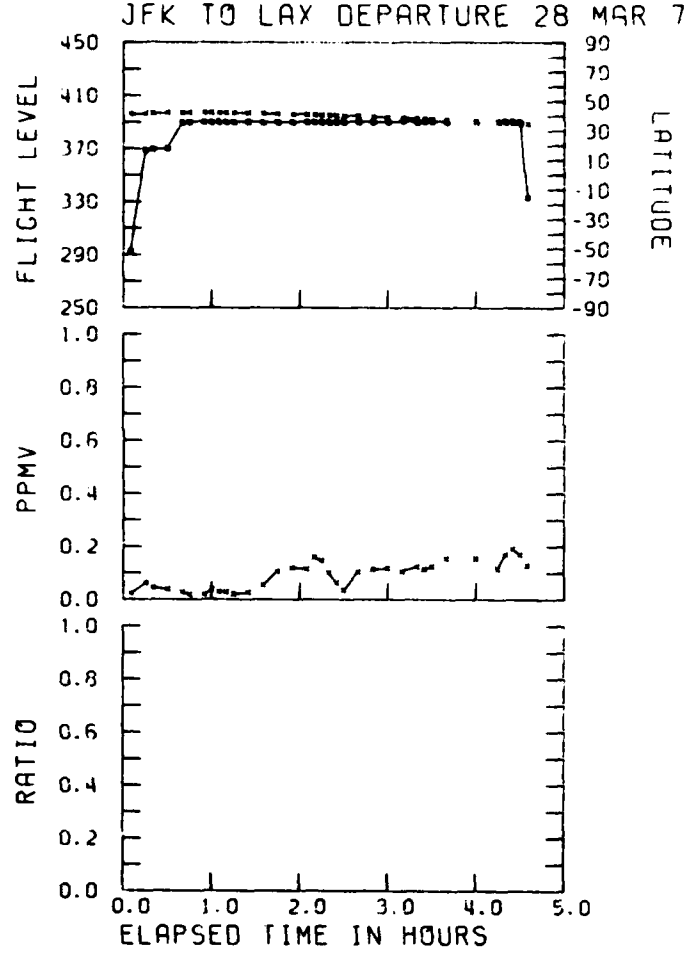
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
3/27/77	0103	0:07	34~	41.61N	90.11W	-52.	.022		
3/27/77	0110	0:14	352	41.46N	91.04W	-53.	.027		
3/27/77	0117	0:21	390	41.41N	91.96W	-62.	.034		
3/27/77	0124	0:28	390	41.35N	92.90W	-63.	.035		
3/27/77	0134	0:38	390	41.25N	94.21W	-63.	.027		
3/27/77	0144	0:48	390	41.13N	95.51W	-62.	.038		
3/27/77	0154	0:58	390	41.00N	96.79W	-62.	.046		
3/27/77	0204	1:08	390	40.85N	98.14W	-60.	.053		
3/27/77	0209	1:13	390	40.76N	98.84W	-60.	.053		
3/27/77	0214	1:18	390	40.67N	99.54W	-58.	.052		
3/27/77	0219	1:23	390	40.57N	100.23W	-57.	.033		
3/27/77	0224	1:28	390	40.47N	100.91W	-57.	.053		
3/27/77	0231	1:35	390	40.33N	101.88W	-57.	.039		
3/27/77	0241A	1:45	391	40.10N	103.32W	-54.	.038		
3/27/77	0247	1:51	390	39.95N	104.16W	-55.	.057		
3/27/77	0257	2:01	390	39.55N	105.63W	-54.	.088		
3/27/77	0302	2:06	390	39.27N	106.37W	-54.	.102		
3/27/77	0312	2:16	390	38.69N	107.89W	-55.	.120		
3/27/77	0322	2:26	390	38.06N	109.43W	-56.	.074		
3/27/77	0327	2:31	390	37.73N	110.20W	-55.	.056		
3/27/77	0332	2:36	390	37.38N	110.95W	-54.	.090		
3/27/77	0337	2:41	390	37.02N	111.71W	-53.	.067		
3/27/77	0342	2:46	390	36.63N	112.49W	-52.	.101		
3/27/77	0349	2:53	390	36.10N	113.56W	-56.	.083		
3/27/77	0359	3:03	390	35.30N	115.08W	-58.	.069		


LAX TO JFK DEPARTURE 27 MAR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
ELAPSED TIME IN HOURS

LAX TO JFK (PAGE 1 OF 1) DEPARTURE: 27 MAR 77 AIRCRAFT: UAL-N.711U

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .081 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 29
DATA SOURCE: GASP TAPE VL012, FILE 2

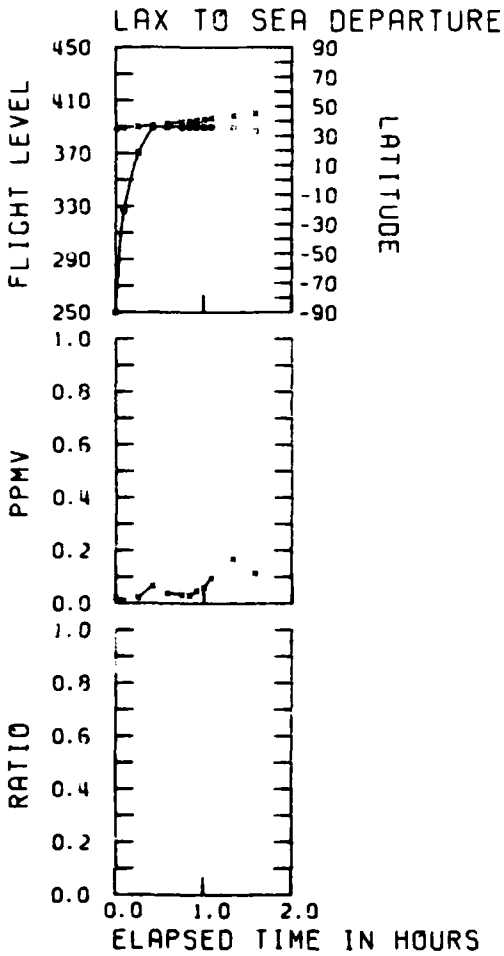
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
3/27/77	2041	0:10	328	35.03N	116.48W	-50.	.019		
3/27/77	2051	0:20	370	35.69N	115.05W	-57.	.027		
3/27/77	2101	0:30	370	36.23N	113.44W	-57.	.036		
3/27/77	2111	0:40	370	36.75N	111.81W	-57.	.029		
3/27/77	2116	0:45	370	37.01N	110.98W	-57.	.030		
3/27/77	2121	0:50	370	37.25N	110.16W	-57.	.026		
3/27/77	2126	0:55	370	37.49N	109.33W	-58.	.021		
3/27/77	2131	1:00	370	37.72N	108.49W	-57.	.038		
3/27/77	2152	1:21	370	38.58N	105.16W	-56.	.032		
3/27/77	2201	1:30	370	38.97N	103.48W	-55.	.051		
3/27/77	2211	1:40	370	39.35N	101.74W	-54.	.048		
3/27/77	2216	1:45	370	39.53N	100.83W	-54.	.081		
3/27/77	2221	1:50	370	39.71N	99.92W	-54.	.070		
3/27/77	2226	1:55	370	39.88N	98.99W	-53.	.076		
3/27/77	2231	2:00	370	40.04N	98.06W	-53.	.054		
3/27/77	2241	2:10	370	40.36N	96.11W	-53.	.045		
3/27/77	2251	2:20	370	40.64N	94.12W	-54.	.035		
3/27/77	2301	2:30	386	40.95N	92.11W	-58.	.068		
3/27/77	2311	2:40	390	41.25N	90.02W	-61.	.035		
3/27/77	2316	2:45	390	41.35N	88.95W	-61.	.022		
3/27/77	2321	2:50	390	41.41N	87.88W	-61.	.026		
3/27/77	2326	2:55	390	41.54N	86.83W	-61.	.018		
3/27/77	2336	3:05	390	41.77N	84.72W	-61.	.024		
3/27/77	2346	3:15	390	41.96N	82.62W	-61.	.023		
3/27/77	2356	3:25	390	42.11N	80.48W	-61.	.024		
3/28/77	0006	3:35	390	41.99N	78.35W	-62.	.000		
3/28/77	0011	3:40	390	41.75N	77.32W	-61.	.000		
3/28/77	0016	3:45	383	41.43N	76.34W	-60.	.004		
3/28/77	0021	3:50	341	41.21N	75.33W	-50.	.006		


JFK TO LAX DEPARTURE 28 MAR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

JFK TO LAX (PAGE 1 OF 1) DEPARTURE: 28 MAR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .192 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 35
DATA SOURCE: GASP TAPE VL012, FILE 2

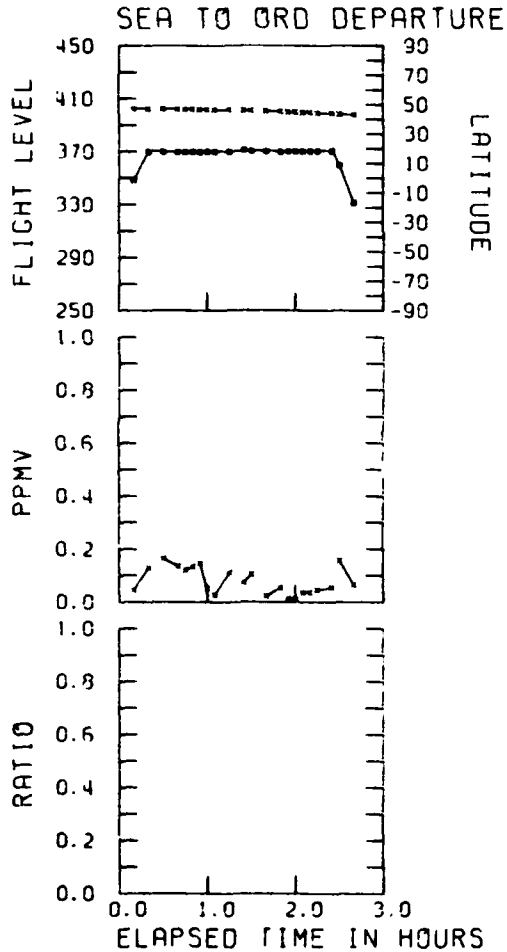
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
3/28/77	1731	0:07	293	41.53N	75.10W	-35.	.024		
3/28/77	1742	0:18	369	41.87N	76.78W	-55.	.063		
3/28/77	1747	0:23	370	41.99N	77.53W	-55.	.045		
3/28/77	1757	0:33	370	42.21N	79.06W	-56.	.038		
3/28/77	1807	0:43	390	42.41N	80.56W	-61.	.028		
3/28/77	1812	0:48	390	42.50N	81.32W	-61.	.018		
3/28/77	1822	0:58	390	42.52N	82.88W	-61.	.019		
3/28/77	1827	1:03	390	42.47N	83.68W	-61.	.039		
3/28/77	1832	1:08	390	42.41N	84.47W	-61.	.029		
3/28/77	1837	1:13	390	42.34N	85.28W	-61.	.028		
3/28/77	1842	1:18	390	42.26N	86.12W	-61.	.021		
3/28/77	1849	1:25	390	42.13N	87.36W	-58.	.027		
3/28/77	1859	1:35	390	41.93N	89.11W	-49.	.055		
3/28/77	1909	1:45	390	41.70N	90.84W	-46.	.107		
3/28/77	1919	1:55	390	41.45N	92.56W	-47.	.120		
3/28/77	1929	2:05	390	41.17N	94.25W	-45.	.115		
3/28/77	1934	2:10	390	41.02N	95.08W	-45.	.160		
3/28/77	1939	2:15	390	40.87N	95.89W	-45.	.146		
3/28/77	1944	2:20	390	40.72N	96.71W	-47.	.101		
3/28/77	1949	2:25	390	40.55N	97.52W	-45.	.063		
3/28/77	1956	2:32	390	40.32N	98.65W	-49.	.036		
3/28/77	2006	2:42	390	39.98N	100.19W	-47.	.104		
3/28/77	2016	2:52	390	39.61N	101.73W	-46.	.115		
3/28/77	2026	3:02	390	39.23N	103.21W	-49.	.118		
3/28/77	2037	3:13	391	38.83N	104.72W	-47.	.107		
3/28/77	2046	3:22	390	38.42N	106.13W	-48.	.124		
3/28/77	2051	3:27	391	38.21N	106.85W	-42.	.115		
3/28/77	2056	3:32	391	37.99N	107.58W	-42.	.125		
3/28/77	2106	3:42	390	37.53N	109.02W	-42.	.155		
3/28/77	2126	4:02	390	36.58N	111.81W	-43.	.155		
3/28/77	2141	4:17	390	35.84N	113.83W	-46.	.116		
3/28/77	2146	4:22	390	35.58N	114.50W	-47.	.170		
3/28/77	2151	4:27	390	35.31N	115.18W	-48.	.192		
3/28/77	2156	4:32	390	35.05N	115.85W	-49.	.169		
3/28/77	2202	4:38	333	34.77N	116.51W	-48.	.129		


LAX TO SEA DEPARTURE 29 MAR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
ELAPSED TIME IN HOURS

LAX TO SEA (PAGE 1 OF 1) DEPARTURE: 29 MAR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .168 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 14
DATA SOURCE: GASP TAPE VL012, FILE 2

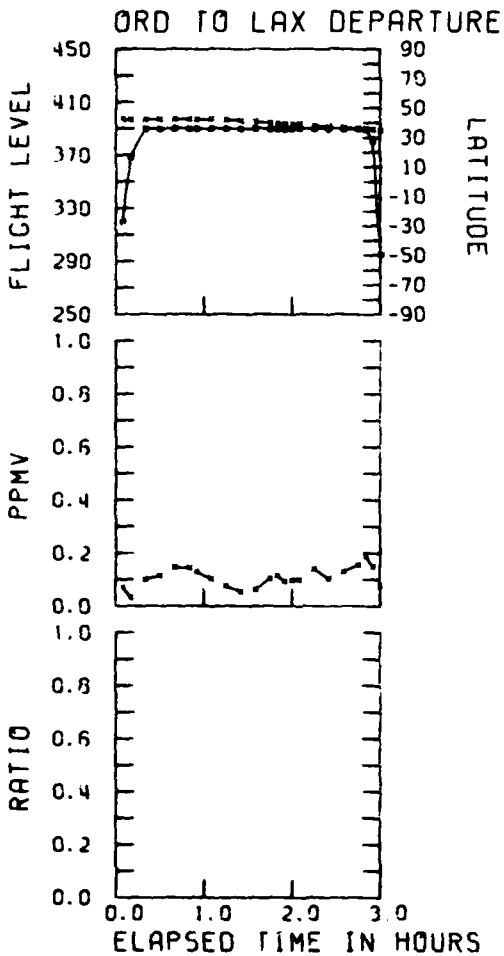
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
3/29/77	0157	0:00	226	34.49N	118.74W	-28.	.022		
3/29/77	0204	0:07	327	35.19N	118.95W	-51.	.010		
3/29/77	0215	0:18	371	36.25N	119.34W	-53.	.022		
3/29/77	0224	0:27	390	37.34N	119.75W	-49.	.066		
3/29/77	0234	0:37	390	38.45N	120.18W	-50.	.038		
3/29/77	0244	0:47	390	39.56N	120.63W	-50.	.033		
3/29/77	0249	0:52	390	40.12N	120.85W	-48.	.031		
3/29/77	0254	0:57	390	40.68N	121.09W	-49.	.048		
3/29/77	0259	1:02	390	41.29N	121.21W	-48.	.061		
3/29/77	0304	1:07	390	41.90N	121.31W	-48.	.095		
3/29/77	0318	1:21	390	43.64N	121.60W	-47.	.168		
3/29/77	0333	1:36	387	45.41N	122.22W	-49.	.114		


SEA TO ORD DEPARTURE 29 MAR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

SEA TO OHU (PAGE 1 OF 1) DEPARTURE: 29 MAR 77 AIRCRAFT: UAL-N711U

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .164 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 24
DATA SOURCE: GASP TAPE VL012, FILE 2

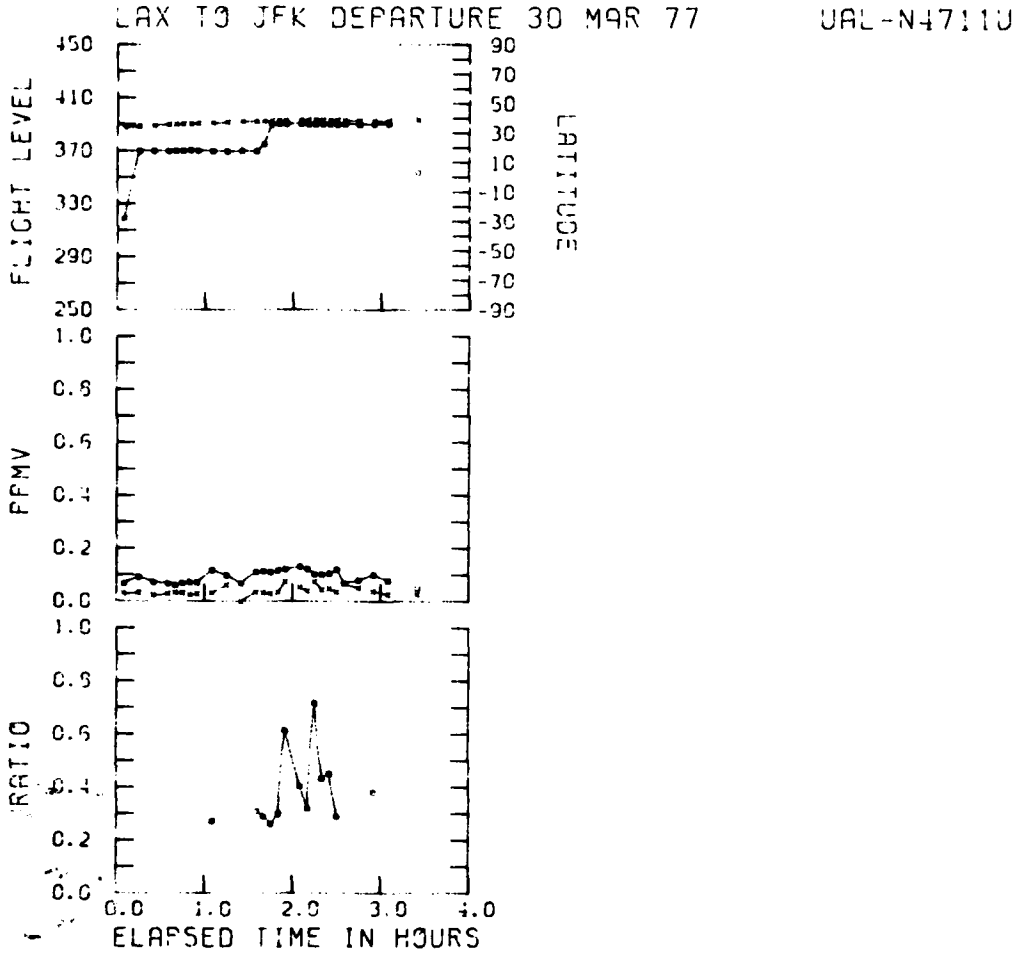
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
3/29/77	1635	0:10	348	47.26N	119.20W	-53.	.046		
3/29/77	1645	0:20	370	47.20N	117.25W	-51.	.128		
3/29/77	1655	0:30	370	47.10N	115.27W	-55.	.164		
3/29/77	1705	0:40	370	46.97N	113.37W	-57.	.135		
3/29/77	1710	0:45	370	46.90N	112.44W	-54.	.121		
3/29/77	1715	0:50	370	46.81N	111.49W	-55.	.134		
3/29/77	1720	0:55	370	46.73N	110.58W	-56.	.146		
3/29/77	1725	1:00	370	46.63N	109.65W	-52.	.052		
3/29/77	1732	1:07	370	46.49N	108.37W	-55.	.026		
3/29/77	1742	1:17	370	46.26N	106.59W	-58.	.111		
3/29/77	1750	1:25	371	46.06N	105.15W	-57.	.074		
3/29/77	1756	1:31	371	45.91N	104.17W	-53.	.105		
3/29/77	1806	1:41	370	45.62N	102.43W	-53.	.022		
3/29/77	1816	1:51	370	45.30N	100.67W	-50.	.054		
3/29/77	1821	1:56	370	45.12N	99.78W	-49.	.013		
3/29/77	1826	2:01	370	44.94N	98.90W	-47.	.011		
3/29/77	1831	2:06	370	44.74N	97.99W	-44.	.035		
3/29/77	1836	2:11	370	44.54N	97.07W	-44.	.035		
3/29/77	1843	2:18	371	44.23N	95.76W	-42.	.046		
3/29/77	1850	2:25	370	43.90N	94.43W	-39.	.054		
3/29/77	1857	2:32	360	43.54N	93.09W	-41.	.156		
3/29/77	1907	2:42	331	43.01N	91.22W	-42.	.064		


ORD TO LAX DEPARTURE 29 MAR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

ORD TO LAX (PAGE 1 OF 1) DEPARTURE: 29 MAR 77 AIRCRAFT: UAL-N711U

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .188 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 23
DATA SOURCE: GASP TAPE VL012, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
3/29/77	2239	0:07	320	42.18N	89.86W	-43.	.072		
3/29/77	2246	0:14	368	42.26N	90.91W	-45.	.031		
3/29/77	2256	0:24	390	42.35N	92.48W	-45.	.101		
3/29/77	2306	0:34	390	42.41N	94.09W	-43.	.114		
3/29/77	2316	0:44	390	42.45N	95.77W	-40.	.147		
3/29/77	2326	0:54	390	42.47N	97.48W	-40.	.143		
3/29/77	2331	0:59	390	42.47N	98.35W	-40.	.129		
3/29/77	2341	1:09	390	42.48N	100.12W	-42.	.104		
3/29/77	2351	1:19	390	42.05N	101.75W	-42.	.075		
3/30/77	0001	1:29	390	41.43N	103.28W	-43.	.054		
3/30/77	0011	1:39	390	40.78N	104.79W	-43.	.064		
3/30/77	0021	1:49	390	40.11N	106.29W	-43.	.103		
3/30/77	0026	1:54	390	39.77N	107.02W	-44.	.114		
3/30/77	0031	1:59	390	39.42N	107.75W	-45.	.093		
3/30/77	0036	2:04	390	39.07N	108.48W	-44.	.099		
3/30/77	0041	2:09	390	38.72N	109.18W	-44.	.100		
3/30/77	0051	2:19	390	38.02N	110.55W	-47.	.140		
3/30/77	0101	2:29	390	37.32N	111.92W	-46.	.103		
3/30/77	0111	2:39	390	36.61N	113.25W	-45.	.129		
3/30/77	0121	2:49	390	35.92N	114.52W	-46.	.156		
3/30/77	0126	2:54	390	35.57N	115.13W	-47.	.188		
3/30/77	0131	2:59	380	35.22N	115.73W	-50.	.149		
3/30/77	0136	3:04	295	34.88N	116.31W	-43.	.078		


LAX TO JFK DEPARTURE 30 MAR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
ELAPSED TIME IN HOURS

LAX TO JFK (PAGE 1 OF 1)

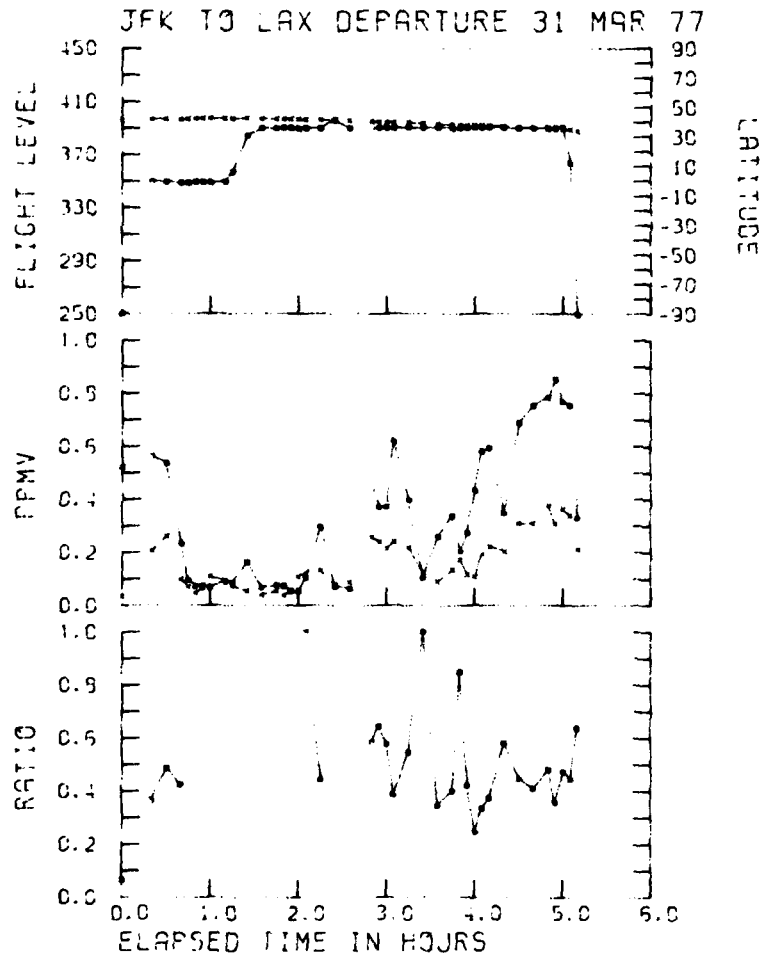
DEPARTURE: 30 MAR 77

AIRCRAFT: UAL-N..7110

MAXIMUM VALUES: AMBIENT OZONE= .131 CABIN OZONE= .074 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .72 TOTAL OBS IN CABIN: 27

DATA SOURCE: GASP TAPE VL012, FILE 2 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

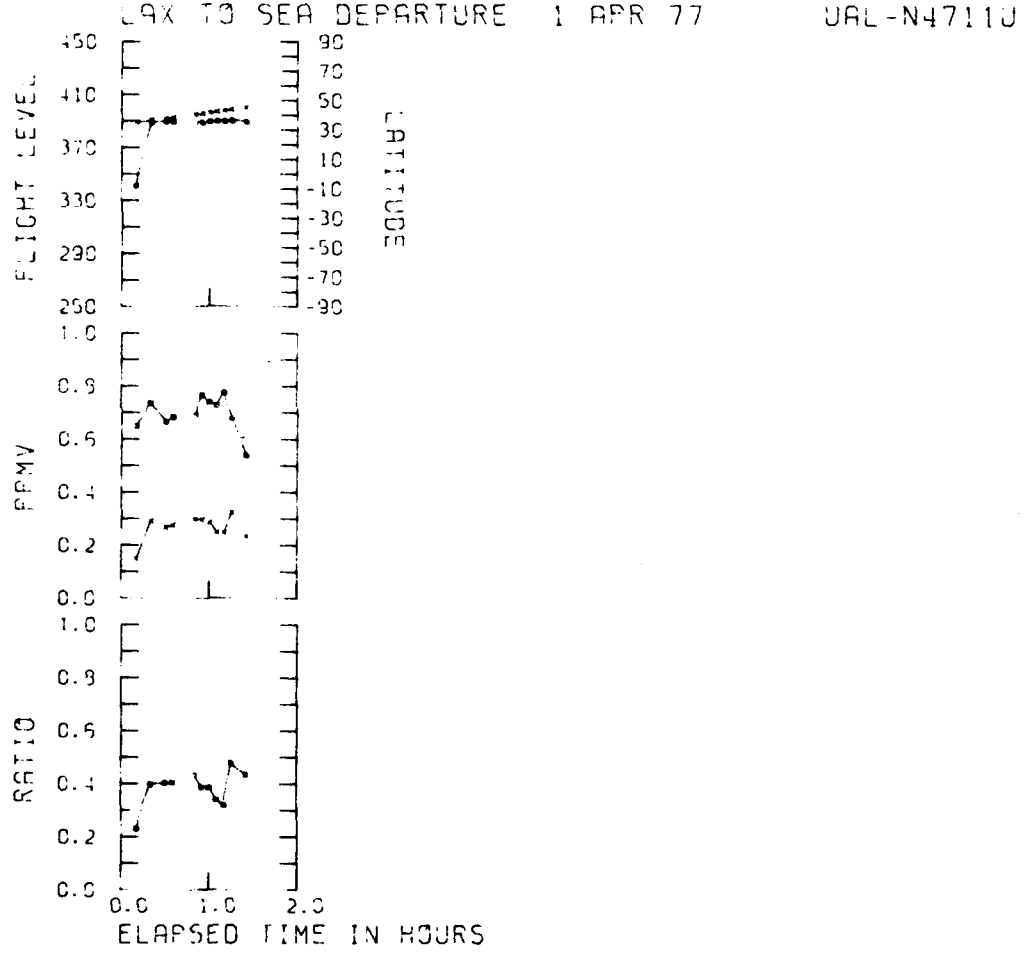
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	AMB.	RATIO
3/30/77	2041	0:05	319	34.10N	115.70W	-48.	.030	.068	
3/30/77	2051	0:15	370	34.64N	113.91W	-54.	.033	.091	
3/30/77	2101	0:25	370	35.16N	112.07W	-53.	.024	.073	
3/30/77	2111	0:35	370	35.65N	110.19W	-53.	.027	.066	
3/30/77	2116	0:40	370	35.89N	109.24W	-52.	.032	.060	
3/30/77	2121	0:45	370	36.13N	108.27W	-53.	.031	.068	
3/30/77	2126	0:50	370	36.34N	107.34W	-54.	.024	.072	
3/30/77	2131	0:55	370	36.55N	106.40W	-54.	.027	.071	
3/30/77	2141	1:05	370	36.95N	104.49W	-55.	.032	.118	.27
3/30/77	2151	1:15	370	37.33N	102.52W	-54.	.062	.099	
3/30/77	2201	1:25	370	37.68N	100.52W	-53.	.000	.070	
3/30/77	2211	1:35	370	38.00N	98.47W	-50.	.034	.110	.31
3/30/77	2216	1:40	375	38.15N	97.42W	-49.	.033	.114	.29
3/30/77	2221	1:45	390	38.28N	96.37W	-50.	.029	.111	.26
3/30/77	2226	1:50	390	38.41N	95.33W	-49.	.035	.117	.30
3/30/77	2231	1:55	390	38.52N	94.30W	-49.	.074	.121	.61
3/30/77	2241	2:05	390	38.73N	92.22W	-51.	.053	.133	.40
3/30/77	2246	2:10	390	38.82N	91.11W	-50.	.039	.122	.32
3/30/77	2251A	2:15	390	38.82N	90.02W	-49.	.074	.103	.72
3/30/77	2300A	2:24	390	38.80N	88.11W	-50.	.044	.101	.43
3/30/77	2305A	2:29	390	38.78N	87.08W	-50.	.047	.104	.45
3/30/77	2310A	2:34	390	38.75N	86.04W	-49.	.035	.121	.29
3/30/77	2315A	2:39	390	38.65N	85.05W	-50.	.068	.078	
3/30/77	2324	2:46	390	38.41N	83.28W	-53.	.050	.080	
3/30/77	2334	2:56	390	38.29N	81.26W	-52.	.038	.106	
3/30/77	2345	3:07	390	38.14N	79.23W	-58.	.026	.076	
3/31/77	0004	3:28	354	39.01N	75.31W	-52.	.027	.052	


JFK TO LAX DEPARTURE 31 MAR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
6.0
ELAPSED TIME IN HOURS

JFK TO LAX (PAGE 1 OF 1) DEPARTURE: 31 MAR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .854 CABIN OZONE= .377 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.18 TOTAL OBS IN CABIN: 41
DATA SOURCE: GASP TAPE VL012, FILE 2 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

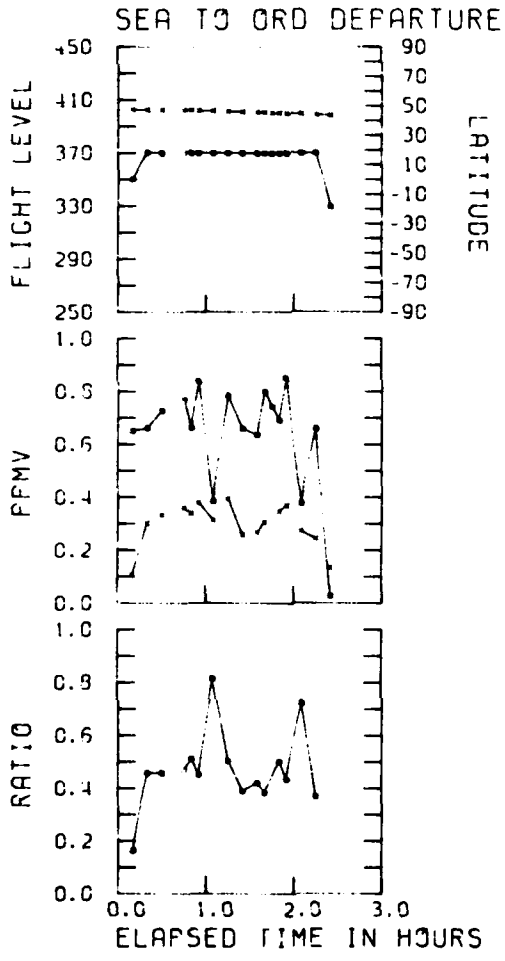
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
3/31/77	1736	0:00	226	41.24N	74.19W	-25.	.035	.522	.07
3/31/77	1756	0:20	349	41.99N	77.05W	-41.	.205	.562	.36
3/31/77	1806	0:30	349	42.17N	78.58W	-46.	.262	.538	.49
3/31/77	1816	0:40	349	42.32N	80.07W	-46.	.100	.235	.43
3/31/77	1821	0:45	349	42.39N	80.83W	-49.	.070	.097	
3/31/77	1826	0:50	350	42.44N	81.56W	-48.	.046	.072	
3/31/77	1831	0:55	349	42.50N	82.30W	-50.	.066	.074	
3/31/77	1836	1:00	349	42.54N	83.04W	-50.	.110	.069	
3/31/77	1846	1:10	350	42.63N	84.52W	-52.	.093	.091	
3/31/77	1851	1:15	357	42.66N	85.24W	-53.	.073	.085	
3/31/77	1901	1:25	384	42.72N	86.76W	-50.	.055	.164	.34
3/31/77	1911	1:35	390	42.62N	88.30W	-49.	.039	.068	
3/31/77	1921	1:45	390	42.40N	89.76W	-51.	.054	.076	
3/31/77	1926	1:50	390	42.29N	90.47W	-51.	.039	.075	
3/31/77	1931	1:55	390	42.17N	91.18W	-52.	.056	.054	
3/31/77	1936	2:00	390	42.05N	91.90W	-52.	.109	.055	
3/31/77	1941	2:05	390	41.92N	92.61W	-51.	.122	.104	1.17
3/31/77	1952	2:16	390	41.65N	94.14W	-51.	.132	.296	.45
3/31/77	2002	2:26	396	41.37N	95.55W	-48.	.078	.071	
3/31/77	2012	2:36	390	41.08N	96.96W	-50.	.086	.062	
3/31/77	2027	2:51	390	40.61N	99.02W	-51.	.258	.441	.59
3/31/77	2032	2:56	391	40.45N	99.71W	-52.	.240	.373	.64
3/31/77	2037	3:01	390	40.28N	100.39W	-52.	.216	.373	.58
3/31/77	2042	3:06	390	40.11N	101.05W	-52.	.240	.619	.39
3/31/77	2052	3:16	391	39.76N	102.37W	-55.	.219	.401	.55
3/31/77	2102	3:26	390	39.39N	103.69W	-53.	.123	.104	1.18
3/31/77	2112	3:36	391	39.00N	105.01W	-51.	.091	.260	.35
3/31/77	2122	3:46	390	38.59N	106.35W	-49.	.136	.336	.40
3/31/77	2127	3:51	391	38.38N	107.00W	-50.	.174	.205	.85
3/31/77	2132	3:56	391	38.17N	107.65W	-50.	.116	.274	.42
3/31/77	2137	4:01	391	37.95N	108.30W	-51.	.108	.433	.25
3/31/77	2142	4:06	391	37.74N	108.93W	-50.	.195	.581	.34
3/31/77	2147	4:11	391	37.51N	109.58W	-50.	.222	.595	.37
3/31/77	2157	4:21	390	37.03N	110.90W	-51.	.203	.350	.58
3/31/77	2207	4:31	390	36.53N	112.23W	-47.	.310	.688	.45
3/31/77	2217	4:41	390	36.02N	113.53W	-48.	.310	.755	.41
3/31/77	2227	4:51	391	35.49N	114.82W	-47.	.377	.785	.48
3/31/77	2232	4:56	391	35.22N	115.46W	-46.	.307	.854	.36
3/31/77	2237	5:01	391	34.95N	116.10W	-46.	.364	.770	.47
3/31/77	2242	5:06	364	34.60N	116.68W	-46.	.339	.757	.45
3/31/77	2247A	5:11	219	34.04N	117.01W	-32.	.212	.333	.64


LAX TO SEA DEPARTURE 1 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
ALTITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
RPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
ELAPSED TIME IN HOURS

LAX TO SEA (PAGE 1 OF 1) DEPARTURE: 1 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .776 CABIN OZONE= .323 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .48 TOTAL OBS IN CABIN: 11
DATA SOURCE: GASP TAPE VL012, FILE 2

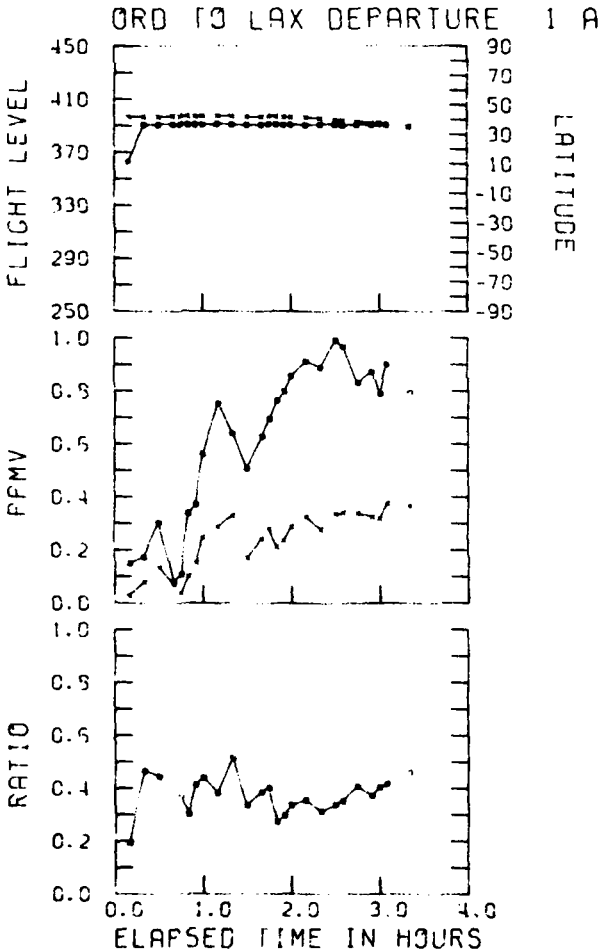
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/ 1/77	0206	0:10	341	35.58N	119.13W	-46.	.150	.651	.23
4/ 1/77	0216	0:20	389	36.86N	119.53W	-49.	.293	.736	.40
4/ 1/77	0226	0:30	390	38.12N	119.91W	-51.	.269	.667	.40
4/ 1/77	0231	0:35	390	38.75N	120.11W	-55.	.277	.685	.40
4/ 1/77	0246	0:50	389	40.60N	120.70W	-54.	.298	.690	.43
4/ 1/77	0251	0:55	389	41.18N	120.90W	-50.	.296	.765	.39
4/ 1/77	0256	1:00	390	41.78N	121.11W	-55.	.286	.740	.39
4/ 1/77	0301	1:05	390	42.37N	121.32W	-55.	.248	.728	.34
4/ 1/77	0308	1:12	390	43.24N	121.64W	-57.	.248	.776	.32
4/ 1/77	0314	1:18	390	43.87N	121.87W	-59.	.323	.678	.48
4/ 1/77	0324	1:28	389	45.03N	122.03W	-61.	.234	.539	.43


SEA TO ORD DEPARTURE 1 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

SEA TO ORD (PAGE 1 OF 1) DEPARTURE: 1 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .851 CABIN OZONE= .395 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .82 TOTAL OBS IN CABIN: 16
DATA SOURCE: GASP TAPE VL012, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/ 1/77	1636	0:10	351	47.38N	119.05W	-51.	.107	.651	.16
4/ 1/77	1646	0:20	370	47.32N	117.04W	-48.	.302	.661	.46
4/ 1/77	1656	0:30	370	47.22N	114.97W	-48.	.333	.727	.46
4/ 1/77	1711	0:45	370	47.00N	111.90W	-47.	.361	.768	.47
4/ 1/77	1716	0:50	370	46.91N	110.88W	-47.	.339	.663	.51
4/ 1/77	1721	0:55	370	46.81N	109.86W	-46.	.379	.838	.45
4/ 1/77	1731	1:05	370	46.58N	107.82W	-48.	.315	.386	.82
4/ 1/77	1741	1:15	370	46.31N	105.78W	-48.	.395	.783	.50
4/ 1/77	1752	1:26	370	46.00N	103.72W	-48.	.258	.660	.39
4/ 1/77	1801	1:35	370	45.67N	101.73W	-49.	.268	.637	.42
4/ 1/77	1806	1:40	370	45.48N	100.71W	-47.	.307	.799	.38
4/ 1/77	1811	1:45	370	45.28N	99.69W	-49.		.744	
4/ 1/77	1816	1:50	370	45.07N	98.68W	-48.	.348	.693	.50
4/ 1/77	1821	1:55	370	44.85N	97.68W	-49.	.370	.851	.43
4/ 1/77	1831	2:05	370	44.38N	95.64W	-50.	.273	.378	.72
4/ 1/77	1841	2:15	370	43.86N	93.58W	-49.	.244	.660	.37
4/ 1/77	1851	2:25	330	43.29N	91.53W	-51.	.135	.028	


ORD TO LAX DEPARTURE 1 APR 77 UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
ELAPSED TIME IN HOURS

ORD TO LAX (PAGE 1 OF 1)

DEPARTURE: 1 APR 77

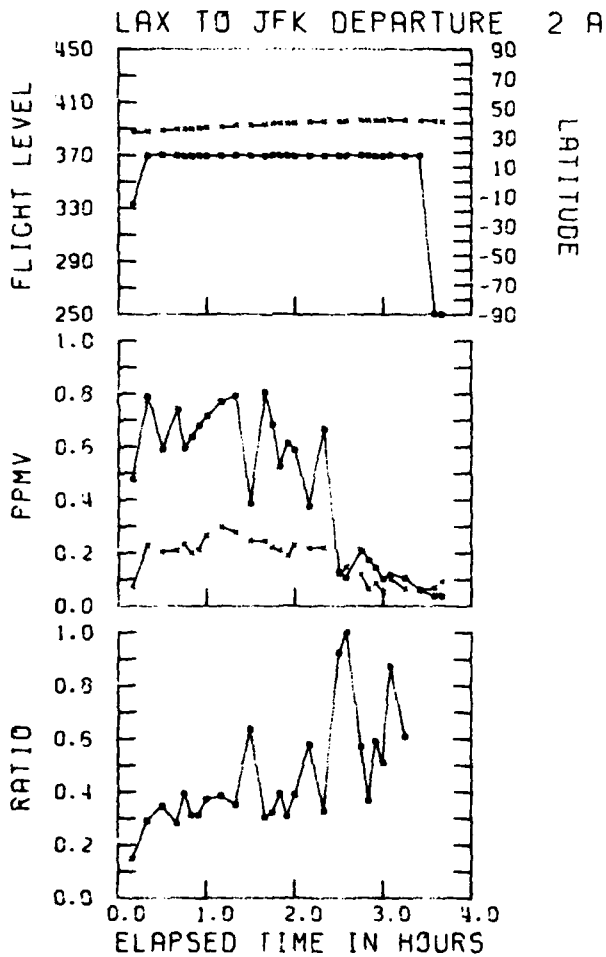
MAXIMUM VALUES: AMBIENT OZONE= .991 CABIN OZONE= .375 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .51

DATA SOURCE: GASP TAPE VL012, FILE 2

AIRCRAFT: UAL-N4711U

TOTAL OBS IN CABIN: 25

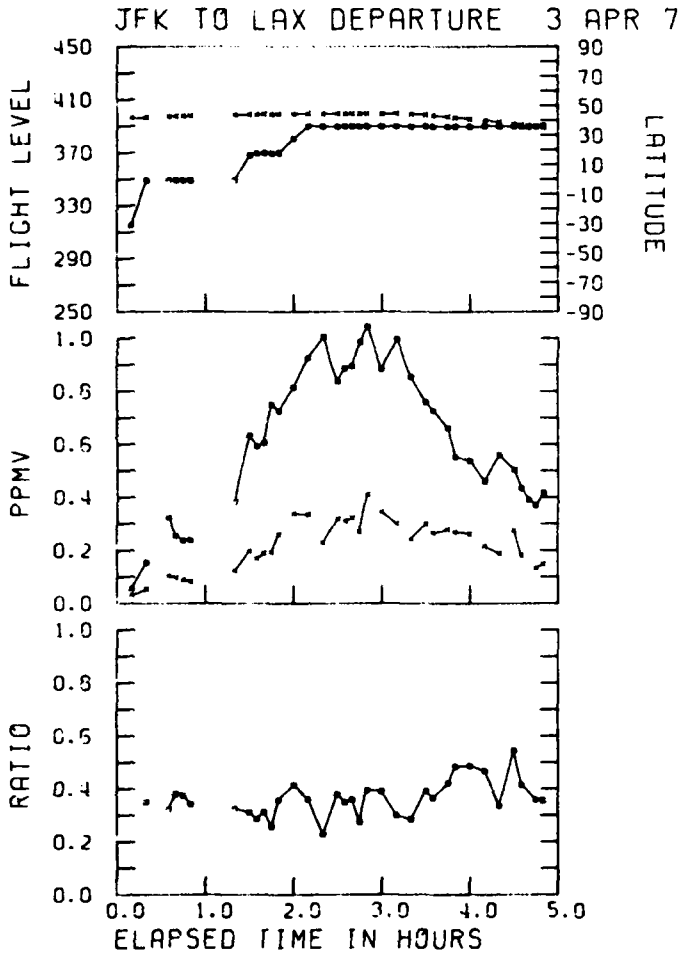
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/ 1/77	2215	0:10	363	42.12N	90.20W	-54.	.029	.150	.19
4/ 1/77	2225	0:20	391	42.21N	91.52W	-49.	.080	.172	.47
4/ 1/77	2235	0:30	391	42.30N	92.94W	-51.	.135	.303	.45
4/ 1/77	2245	0:40	391	42.38N	94.36W	-52.	.071	.080	
4/ 1/77	2250	0:45	391	42.40N	95.09W	-49.	.040	.108	.37
4/ 1/77	2255	0:50	391	42.43N	95.82W	-47.	.102	.337	.30
4/ 1/77	2300	0:55	391	42.45N	96.57W	-47.	.153	.371	.41
4/ 1/77	2305	1:00	391	42.46N	97.32W	-47.	.247	.562	.44
4/ 1/77	2315	1:10	391	42.47N	98.83W	-44.	.288	.753	.38
4/ 1/77	2325	1:20	391	42.40N	100.39W	-46.	.329	.640	.51
4/ 1/77	2335	1:30	391	42.30N	101.97W	-46.	.171	.508	.34
4/ 1/77	2345	1:40	391	42.18N	103.57W	-46.	.243	.629	.39
4/ 1/77	2350	1:45	391	42.11N	104.39W	-46.	.279	.696	.40
4/ 1/77	2355	1:50	391	42.03N	105.22W	-46.	.210	.763	.28
4/ 2/77	0000	1:55	391	41.95N	106.06W	-45.	.237	.794	.30
4/ 2/77	0005	2:00	391	41.86N	106.90W	-46.	.288	.856	.34
4/ 2/77	0015	2:10	390	41.65N	108.61W	-46.	.325	.912	.36
4/ 2/77	0025	2:20	391	40.90N	109.98W	-45.	.279	.889	.31
4/ 2/77	0035	2:30	391	39.93N	111.19W	-45.	.336	.991	.34
4/ 2/77	0040	2:35	391	39.44N	111.78W	-44.	.342	.968	.35
4/ 2/77	0050	2:45	391	38.47N	112.92W	-46.	.339	.832	.41
4/ 2/77	0100	2:55	391	37.36N	113.84W	-47.	.325	.871	.37
4/ 2/77	0105	3:00	391	36.81N	114.27W	-45.	.319	.790	.40
4/ 2/77	0110	3:05	390	36.25N	114.70W	-45.	.375	.899	.42
4/ 2/77	0125	3:20	390	34.90N	116.33W	-47.	.366	.794	.46


LAX TO JFK DEPARTURE 2 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
ELAPSED TIME IN HOURS

LAX TO JFK (PAGE 1 OF 1) DEPARTURE: 2 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .807 CABIN OZONE= .296 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.38 TOTAL OBS IN CABIN: 29
DATA SOURCE: GASP TAPE VL012, FILE 2 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

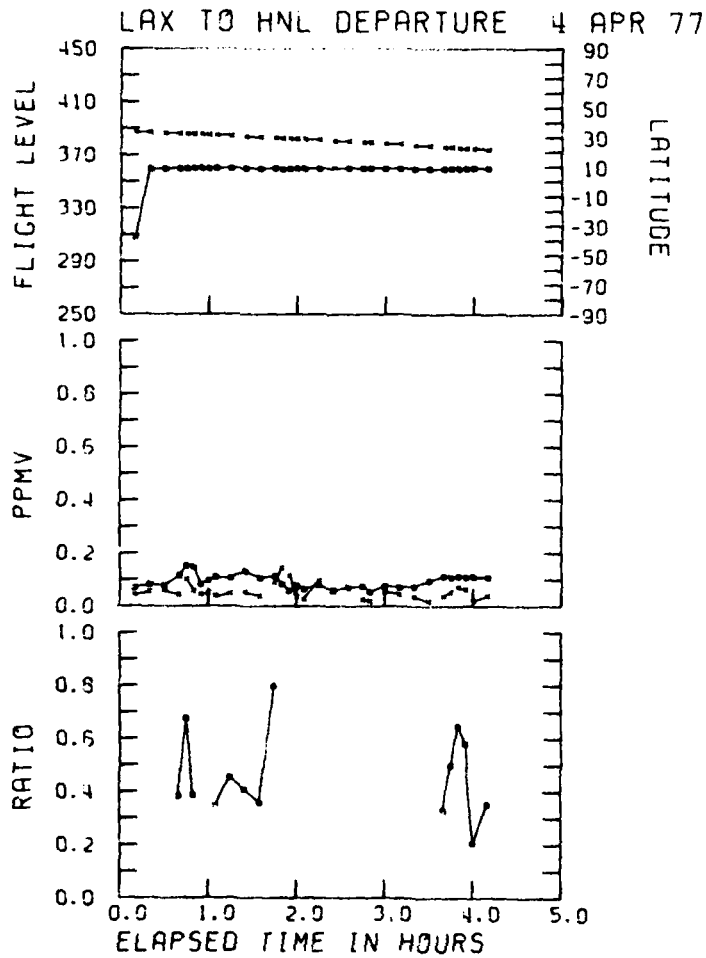
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/ 2/77	2040	0:10	333	33.84N	115.82W	-45.	.072	.478	.15
4/ 2/77	2050	0:20	370	34.31N	114.19W	-46.	.230	.791	.29
4/ 2/77	2100	0:30	370	34.97N	112.57W	-46.	.204	.589	.35
4/ 2/77	2110	0:40	370	35.61N	110.90W	-47.	.209	.743	.28
4/ 2/77	2115	0:45	370	35.93N	110.03W	-46.	.235	.596	.39
4/ 2/77	2120	0:50	370	36.25N	109.16W	-48.	.200	.638	.31
4/ 2/77	2125	0:55	370	36.56N	108.27W	-47.	.213	.680	.31
4/ 2/77	2130	1:00	370	36.87N	107.37W	-46.	.267	.717	.37
4/ 2/77	2140	1:10	370	37.48N	105.50W	-46.	.296	.769	.38
4/ 2/77	2150	1:20	370	38.05N	103.60W	-43.	.278	.793	.35
4/ 2/77	2200	1:30	370	38.61N	101.63W	-47.	.245	.385	.64
4/ 2/77	2210	1:40	370	39.14N	99.62W	-44.	.245	.807	.30
4/ 2/77	2215	1:45	370	39.39N	98.60W	-46.	.221	.686	.32
4/ 2/77	2220	1:50	370	39.63N	97.56W	-45.	.207	.524	.40
4/ 2/77	2225	1:55	370	39.87N	96.50W	-43.	.190	.614	.31
4/ 2/77	2230	2:00	370	40.10N	95.45W	-43.	.229	.584	.39
4/ 2/77	2240	2:10	370	40.53N	93.28W	-43.	.218	.376	.58
4/ 2/77	2250	2:20	370	40.92N	91.10W	-46.	.217	.666	.33
4/ 2/77	2300	2:30	370	41.25N	88.86W	-45.	.122	.132	.92
4/ 2/77	2305	2:35	370	41.40N	87.74W	-47.	.146	.106	1.38
4/ 2/77	2315	2:45	370	41.68N	85.46W	-47.	.119	.209	.57
4/ 2/77	2320	2:50	370	41.80N	84.31W	-49.	.064	.174	.37
4/ 2/77	2325	2:55	370	41.88N	83.15W	-53.	.085	.144	.59
4/ 2/77	2330	3:00	370	42.00N	81.99W	-55.	.052	.102	.51
4/ 2/77	2335	3:05	370	42.08N	80.83W	-56.	.103	.118	.87
4/ 2/77	2345	3:15	370	42.09N	78.50W	-56.	.064	.105	.61
4/ 2/77	2355	3:25	370	41.55N	76.39W	-58.	.062	.060	
4/ 3/77	0005A	3:35	250	40.94N	74.49W	-27.	.068	.037	
4/ 3/77	0011	3:41	210	40.99N	74.35W	-17.	.091	.036	


JFK TO LAX DEPARTURE 3 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

JFK TO LAX (PAGE 1 OF 1) DEPARTURE: 3 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE=1.044 CABIN OZONE= .411 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .55 TOTAL OBS IN CABIN: 34
DATA SOURCE: GASP TAPE VL012, FILE 2

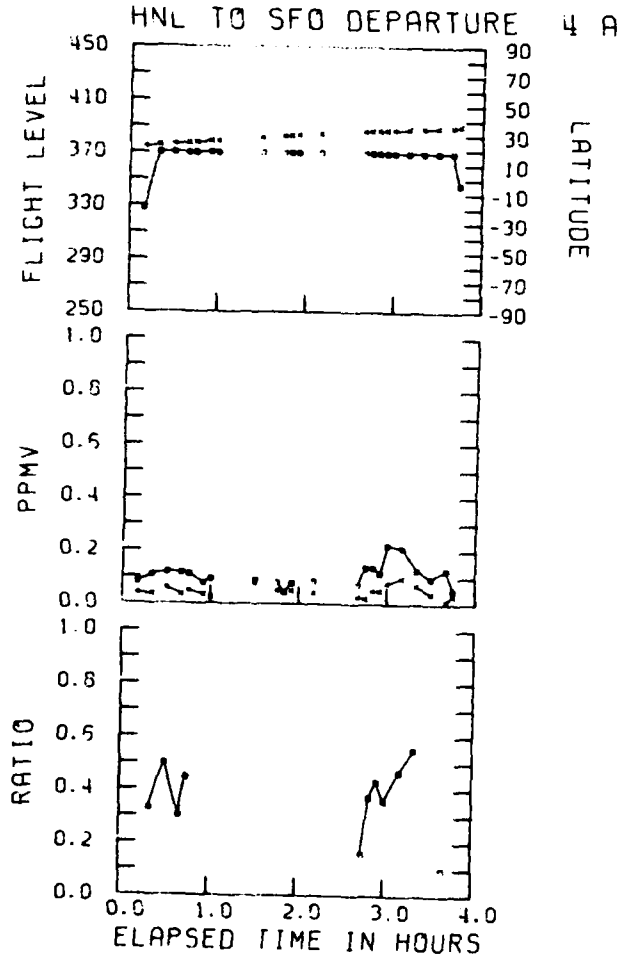
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/ 3/77	1745	0:10	315	41.66N	75.26W	-43.	.032	.057	
4/ 3/77	1755	0:20	349	42.13N	76.49W	-46.	.054	.154	.35
4/ 3/77	1810	0:35	349	42.69N	78.30W	-48.	.104	.322	.32
4/ 3/77	1815	0:40	349	42.80N	78.93W	-49.	.097	.255	.38
4/ 3/77	1820	0:45	349	42.91N	79.56W	-50.	.089	.238	.37
4/ 3/77	1825	0:50	349	43.03N	80.18W	-49.	.082	.239	.34
4/ 3/77	1855	1:20	349	43.84N	84.02W	-51.	.124	.383	.32
4/ 3/77	1905	1:30	368	44.07N	85.34W	-51.	.197	.633	.31
4/ 3/77	1910	1:35	370	44.13N	86.07W	-52.	.170	.594	.29
4/ 3/77	1915	1:40	370	44.19N	86.80W	-50.	.189	.606	.31
4/ 3/77	1920	1:45	370	44.25N	87.56W	-50.	.194	.750	.26
4/ 3/77	1925	1:50	370	44.30N	88.33W	-51.	.260	.726	.36
4/ 3/77	1935	2:00	381	44.38N	89.88W	-50.	.338	.815	.41
4/ 3/77	1945	2:10	390	44.45N	91.46W	-49.	.334	.926	.36
4/ 3/77	1956	2:21	390	44.50N	93.13W	-49.	.230	1.006	.23
4/ 3/77	2006	2:31	390	44.52N	94.75W	-49.	.318	.838	.38
4/ 3/77	2011	2:36	390	44.52N	95.58W	-50.	.310	.887	.35
4/ 3/77	2016	2:41	390	44.52N	96.42W	-50.	.322	.894	.36
4/ 3/77	2021	2:46	390	44.51N	97.26W	-49.	.270	.986	.27
4/ 3/77	2026	2:51	390	44.49N	98.12W	-49.	.411	1.044	.39
4/ 3/77	2036	3:01	390	44.43N	99.88W	-51.	.345	.884	.39
4/ 3/77	2046	3:11	390	44.35N	101.67W	-48.	.299	.996	.30
4/ 3/77	2056	3:21	390	44.23N	103.50W	-51.	.243	.854	.28
4/ 3/77	2106	3:31	390	43.88N	105.27W	-52.	.298	.759	.39
4/ 3/77	2111	3:36	390	43.44N	106.05W	-53.	.267	.729	.37
4/ 3/77	2121	3:46	390	42.53N	107.58W	-55.	.279	.662	.42
4/ 3/77	2126	3:51	390	42.05N	108.35W	-57.	.268	.553	.48
4/ 3/77	2136	4:01	390	41.02N	109.84W	-57.	.262	.538	.49
4/ 3/77	2146	4:11	390	39.86N	111.18W	-59.	.215	.460	.47
4/ 3/77	2156	4:21	390	38.69N	112.48W	-56.	.188	.559	.34
4/ 3/77	2206	4:31	390	37.50N	113.73W	-56.	.275	.504	.55
4/ 3/77	2211	4:36	390	36.89N	114.35W	-58.	.180	.434	.41
4/ 3/77	2216	4:41	390	36.29N	114.95W	-60.		.391	
4/ 3/77	2221	4:46	390	35.69N	115.54W	-60.	.133	.370	.36
4/ 3/77	2226	4:51	390	35.10N	116.10W	-58.	.148	.416	.36


LAX TO HNL DEPARTURE 4 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

LAX TO HNL (PAGE 1 OF 1) DEPARTURE: 4 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .151 CABIN OZONE= .145 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .40 TOTAL OBS IN CABIN: 31
DATA SOURCE: GASP TAPE VL012, FILE 2

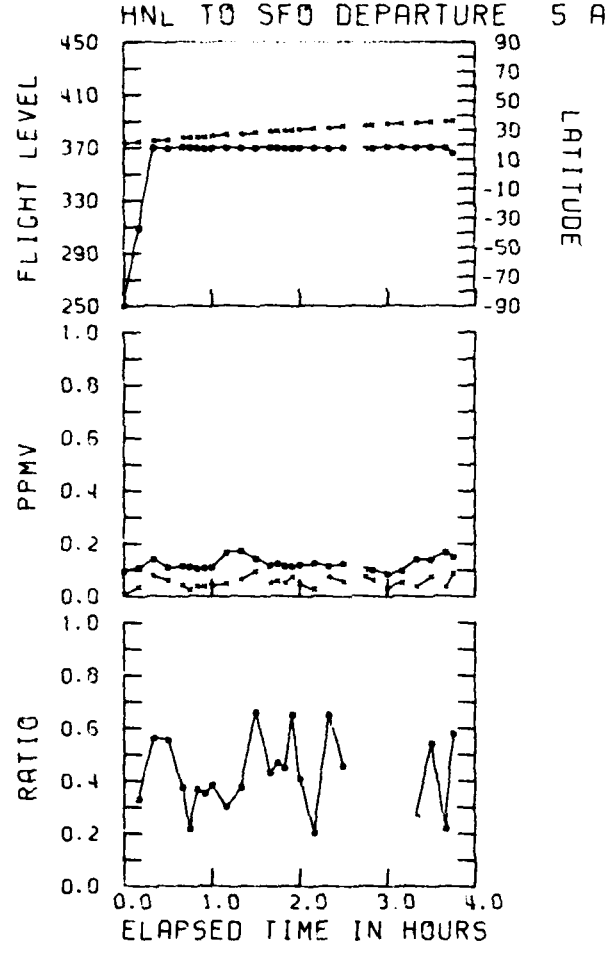
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/ 4/77	0057	0:10	308	33.54N	122.10W	-46.	.044	.070	
4/ 4/77	0107	0:20	359	33.23N	123.77W	-58.	.056	.082	
4/ 4/77	0117	0:30	360	32.88N	125.35W	-59.	.059	.076	
4/ 4/77	0127	0:40	360	32.51N	126.91W	-58.	.044	.115	.38
4/ 4/77	0132	0:45	360	32.33N	127.65W	-58.	.102	.151	.68
4/ 4/77	0137	0:50	360	32.13N	128.39W	-58.	.057	.147	.39
4/ 4/77	0142	0:55	360	31.94N	129.13W	-58.	.045	.083	
4/ 4/77	0147	1:00	360	31.74N	129.86W	-58.	.050	.097	
4/ 4/77	0155	1:08	360	31.43N	130.99W	-58.	.038	.109	.35
4/ 4/77	0204	1:17	360	31.02N	132.40W	-58.	.048	.106	.45
4/ 4/77	0214	1:27	360	30.59N	133.81W	-56.	.054	.132	.41
4/ 4/77	0224	1:37	360	30.16N	135.19W	-57.	.038	.106	.36
4/ 4/77	0234	1:47	360	29.70N	136.56W	-57.	.092	.115	.80
4/ 4/77	0239	1:52	360	29.47N	137.25W	-57.	.145	.084	
4/ 4/77	0244	1:57	360	29.23N	137.94W	-57.	.115	.058	
4/ 4/77	0249	2:02	360	28.99N	138.62W	-58.	.037	.078	
4/ 4/77	0254	2:07	360	28.75N	139.30W	-57.	.027	.06[illegible]	
4/ 4/77	0304	2:17	360	28.25N	140.64W	-57.	.096	.079	
4/ 4/77	0314	2:27	360	27.73N	141.97W	-57.	.062	.058	
4/ 4/77	0324	2:37	360	27.21N	143.30W	-56.		.071	
4/ 4/77	0334	2:47	360	26.69N	144.57W	-56.	.025	.074	
4/ 4/77	0339	2:52	360	26.42N	145.21W	-56.	.018	.053	
4/ 4/77	0349	3:02	360	25.87N	146.48W	-56.	.054	.076	
4/ 4/77	0359	3:12	360	25.32N	147.73W	-55.	.045	.071	
4/ 4/77	0409	3:22	360	24.75N	148.98W	-55.	.036	.074	
4/ 4/77	0419	3:32	360	24.16N	150.23W	-54.	.018	.097	
4/ 4/77	0429	3:42	360	23.57N	151.46W	-54.	.037	.112	.33
4/ 4/77	0434	3:47	360	23.28N	152.07W	-54.	.055	.110	.50
4/ 4/77	0439	3:52	360	22.98N	152.67W	-54.	.073	.113	.65
4/ 4/77	0444	3:57	360	22.67N	153.28W	-54.	.064	.110	.58
4/ 4/77	0449	4:02	360	22.36N	153.88W	-53.	.023	.111	.21
4/ 4/77	0459	4:12	360	21.70N	155.06W	-53.	.038	.10[illegible]	.35


HNL TO SFO DEPARTURE 4 APR 77 UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
ELAPSED TIME IN HOURS

HNL TO SFO (PAGE 1 OF 1) DEPARTURE: 4 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .223 CABIN OZONE= .099 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .55 TOTAL OBS IN CABIN: 22
DATA SOURCE: GASP TAPE VL012, FILE 2

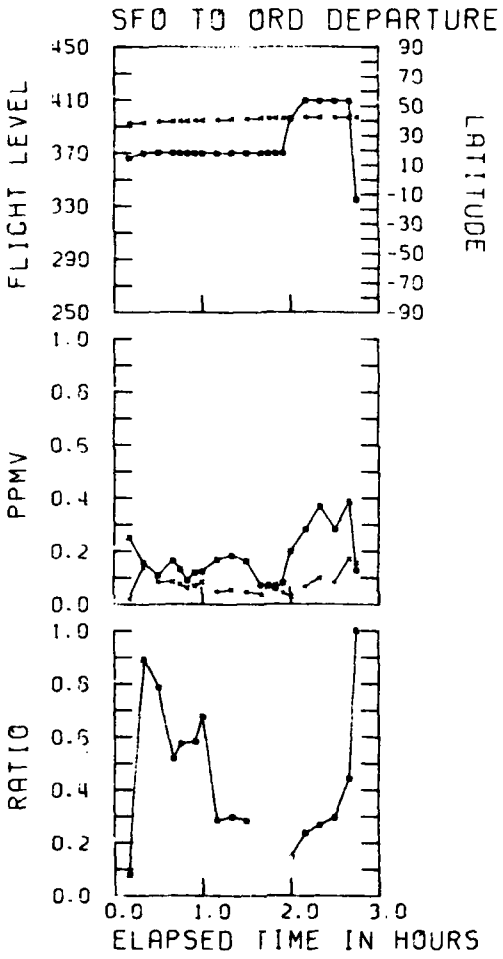
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/ 4/77	2007	0:10	328	22.35N	155.72W	-47.	.039	.080	
4/ 4/77	2017	0:20	370	23.10N	154.46W	-57.	.036	.109	.33
4/ 4/77	2027	0:30	370	23.89N	153.16W	-57.	.059	.118	.50
4/ 4/77	2037	0:40	370	24.65N	151.86W	-57.	.035	.116	.30
4/ 4/77	2042	0:45	370	25.04N	151.19W	-58.	.050	.112	.45
4/ 4/77	2052	0:55	370	25.79N	149.85W	-58.	.035	.079	
4/ 4/77	2057	1:00	370	26.18N	149.16W	-58.	.025	.093	
4/ 4/77	2127	1:30	370	28.41N	144.90W	-58.	.079	.090	
4/ 4/77	2142	1:45	370	29.47N	142.71W	-59.	.051	.082	
4/ 4/77	2147	1:50	370	29.81N	141.97W	-59.	.047	.044	
4/ 4/77	2152	1:55	370	30.14N	141.24W	-59.	.049	.078	
4/ 4/77	2207	2:10	370	31.12N	139.02W	-59.	.043	.086	
4/ 4/77	2237	2:40	370	32.94N	134.50W	-59.	.028	.073	
4/ 4/77	2242	2:45	370	33.23N	133.74W	-59.	.022	.134	.16
4/ 4/77	2247	2:50	370	33.51N	132.97W	-58.	.051	.137	.37
4/ 4/77	2252	2:55	370	33.79N	132.18W	-57.	.050	.116	.43
4/ 4/77	2257	3:00	370	34.05N	131.43W	-57.	.080	.223	.36
4/ 4/77	2307	3:10	370	34.58N	129.86W	-58.	.099	.212	.47
4/ 4/77	2317	3:20	370	35.07N	128.30W	-59.	.071	.124	.57
4/ 4/77	2327	3:30	370	35.55N	126.71W	-61.	.040	.094	
4/ 4/77	2337	3:40	370	36.14N	125.17W	-61.	.013	.124	.10
4/ 4/77	2342	3:45	346	36.48N	124.41W	-57.	.032	.055	


HNL TO SFO DEPARTURE 5 APR 77 UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
ELAPSED TIME IN HOURS

HNL TO SFO (PAGE 1 OF 1) DEPARTURE: 5 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .171 CABIN OZONE= .095 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .72 TOTAL OBS IN CABIN: 28
DATA SOURCE: GASP TAPE VL012, FILE 2

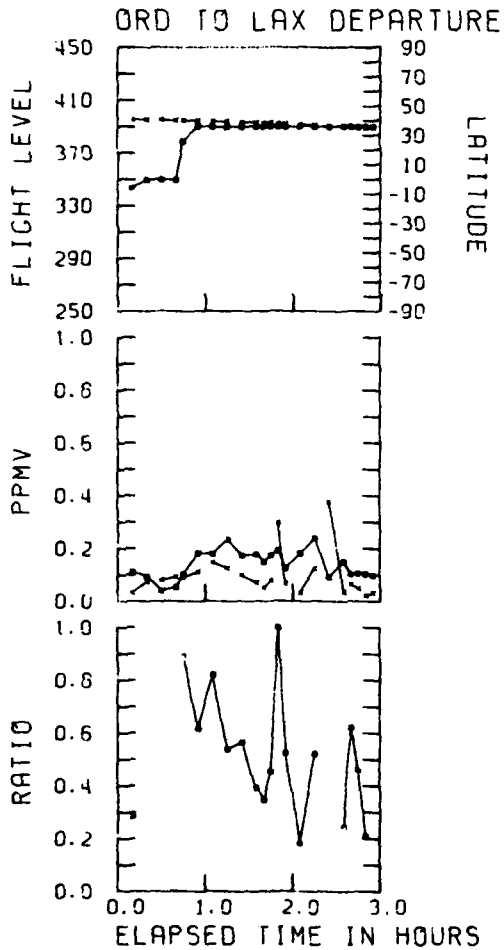
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/ 5/77	2005	0:00	207	21.54N	156.83W	-15.	.007	.093	
4/ 5/77	2015	0:10	309	22.23N	155.73W	-41.	.036	.109	.33
4/ 5/77	2025	0:20	370	23.07N	154.57W	-56.	.078	.139	.56
4/ 5/77	2035	0:30	370	23.84N	153.29W	-57.	.061	.110	.55
4/ 5/77	2045	0:40	370	24.61N	152.00W	-58.	.043	.115	.37
4/ 5/77	2050	0:45	370	24.99N	151.34W	-58.	.024	.110	.22
4/ 5/77	2055	0:50	370	25.38N	150.67W	-58.	.038	.104	.37
4/ 5/77	2100	0:55	370	25.76N	150.00W	-58.	.038	.108	.35
4/ 5/77	2105	1:00	370	26.14N	149.32W	-58.	.042	.110	.38
4/ 5/77	2115	1:10	370	26.89N	147.95W	-58.	.050	.166	.30
4/ 5/77	2125	1:20	370	27.65N	146.54W	-58.	.064	.171	.37
4/ 5/77	2135	1:30	370	28.40N	145.08W	-58.	.095	.144	.66
4/ 5/77	2145	1:40	370	29.15N	143.58W	-59.	.050	.116	.43
4/ 5/77	2150	1:45	370	29.52N	142.82W	-59.	.057	.122	.47
4/ 5/77	2155	1:50	370	29.89N	142.03W	-59.	.051	.114	.45
4/ 5/77	2200	1:55	370	30.21N	141.33W	-59.	.074	.114	.65
4/ 5/77	2205	2:00	370	30.59N	140.49W	-59.	.049	.120	.41
4/ 5/77	2215	2:10	370	31.26N	138.97W	-59.	.025	.123	.20
4/ 5/77	2225	2:20	370	31.91N	137.44W	-59.	.074	.114	.65
4/ 5/77	2235	2:30	370	32.54N	135.90W	-59.	.057	.125	.46
4/ 5/77	2250	2:45	370	33.45N	133.55W	-59.	.074	.103	.72
4/ 5/77	2255	2:50	370	33.73N	132.78W	-59.	.061	.099	
4/ 5/77	2305	3:00	370	34.24N	131.17W	-59.	.033	.086	
4/ 5/77	2315	3:10	370	34.69N	129.57W	-60.	.051	.095	
4/ 5/77	2325	3:20	370	35.17N	127.99W	-59.	.037	.141	.26
4/ 5/77	2335	3:30	370	35.66N	126.44W	-59.	.076	.140	.54
4/ 5/77	2345	3:40	370	36.28N	125.00W	-58.	.036	.166	.22
4/ 5/77	2350	3:45	366	36.62N	124.29W	-58.	.086	.149	.58


SFO TO ORD DEPARTURE 6 APR 77 UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

SFO TO ORD (PAGE 1 OF 1) DEPARTURE: 6 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .386 CABIN OZONE= .171 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.22 TOTAL OBS IN CABIN: 21
DATA SOURCE: GASP TAPE VL012, FILE 2

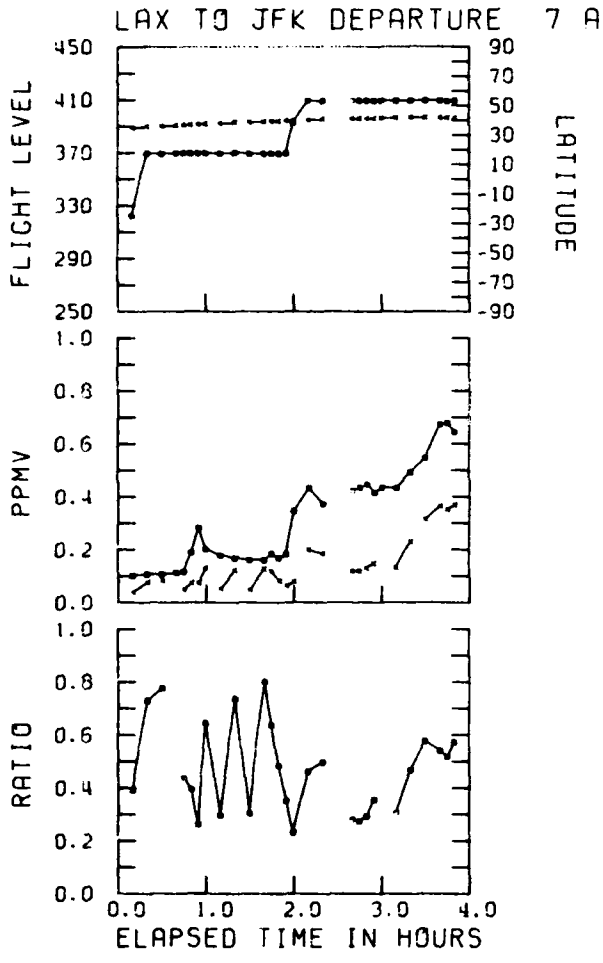
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/ 6/77	1853	0:12	366	38.39N	119.18W	-57.	.020	.252	.08
4/ 6/77	1903	0:22	370	38.70N	117.51W	-55.	.140	.157	.89
4/ 6/77	1913	0:32	370	39.13N	115.84W	-55.	.085	.108	.79
4/ 6/77	1923	0:42	370	39.54N	114.14W	-57.	.085	.164	.52
4/ 6/77	1928	0:47	370	39.74N	113.27W	-54.	.076	.132	.58
4/ 6/77	1933	0:52	370	39.93N	112.40W	-56.	.062	.091	
4/ 6/77	1938	0:57	370	40.13N	111.50W	-55.	.070	.120	.58
4/ 6/77	1943	1:02	370	40.31N	110.60W	-55.	.084	.124	.68
4/ 6/77	1953	1:12	370	40.65N	108.86W	-59.	.048	.168	.29
4/ 6/77	2003	1:22	370	40.96N	107.10W	-60.	.055	.184	.30
4/ 6/77	2013	1:32	370	41.23N	105.34W	-61.	.046	.162	.28
4/ 6/77	2023	1:42	370	41.49N	103.55W	-63.	.037	.073	
4/ 6/77	2028	1:47	370	41.60N	102.64W	-63.	.071	.068	
4/ 6/77	2033	1:52	370	41.71N	101.72W	-63.	.072	.060	
4/ 6/77	2038	1:57	370	41.82N	100.80W	-62.	.042	.080	
4/ 6/77	2043	2:02	396	41.91N	99.89W	-64.	.029	.198	.15
4/ 6/77	2054	2:13	409	42.09N	97.95W	-61.	.067	.282	.24
4/ 6/77	2104	2:23	409	42.22N	96.10W	-59.	.098	.368	.27
4/ 6/77	2114	2:33	410	42.34N	94.15W	-54.	.083	.281	.30
4/ 6/77	2124	2:43	410	42.42N	92.17W	-53.	.171	.386	.44
4/ 6/77	2129	2:48	335	42.44N	91.14W	-56.	.156	.128	1.22


ORD TO LAX DEPARTURE 7 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

ORD TO LAX (PAGE 1 OF 1) DEPARTURE: 7 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .238 CABIN OZONE= .377 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.57 TOTAL OBS IN CABIN: 22
DATA SOURCE: GASP TAPE VL012. FILE 2

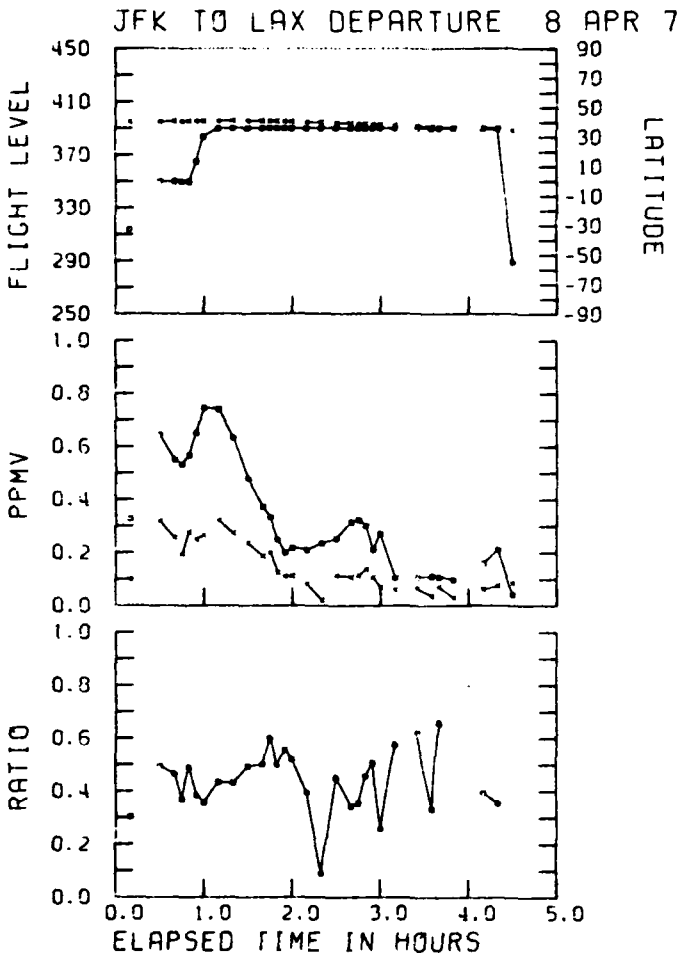
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/ 7/77	0114	0:10	344	41.22N	90.41W	-57.	.032	.112	.29
4/ 7/77	0124	0:20	350	41.01N	91.93W	-59.	.075	.093	
4/ 7/77	0134	0:30	350	40.78N	93.46W	-58.	.082	.041	
4/ 7/77	0144	0:40	350	40.53N	94.99W	-58.	.093	.053	
4/ 7/77	0149	0:45	379	40.45N	95.76W	-63.	.091	.102	.89
4/ 7/77	0159	0:55	390	40.17N	97.30W	-63.	.113	.183	.62
4/ 7/77	0209	1:05	390	39.86N	98.85W	-64.	.147	.179	.82
4/ 7/77	0219	1:15	390	39.51N	100.41W	-64.	.126	.234	.54
4/ 7/77	0229	1:25	390	39.14N	101.99W	-63.	.099	.175	.57
4/ 7/77	0239	1:35	390	38.75N	103.55W	-56.	.070	.178	.39
4/ 7/77	0244	1:40	390	38.55N	104.32W	-57.	.052	.150	.35
4/ 7/77	0249	1:45	390	38.34N	105.10W	-56.	.079	.174	.45
4/ 7/77	0254	1:50	390	38.12N	105.88W	-55.	.299	.191	1.57
4/ 7/77	0259	1:55	390	37.89N	106.68W	-55.	.065	.124	.52
4/ 7/77	0309	2:05	390	37.43N	108.19W	-54.	.033	.181	.18
4/ 7/77	0319	2:15	390	36.96N	109.70W	-55.	.124	.238	.52
4/ 7/77	0329	2:25	390	36.46N	111.19W	-55.	.377	.091	
4/ 7/77	0339	2:35	390	36.01N	112.68W	-56.	.037	.151	.25
4/ 7/77	0344	2:40	390	35.79N	113.42W	-55.	.064	.103	.62
4/ 7/77	0349	2:45	390	35.55N	114.17W	-54.	.049	.106	.46
4/ 7/77	0354	2:50	390	35.31N	114.92W	-54.	.022	.104	.21
4/ 7/77	0359	2:55	390	35.06N	115.67W	-55.	.032	.098	


LAX TO JFK DEPARTURE 7 APR 77 UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
ELAPSED TIME IN HOURS

LAX TO JFK (PAGE 1 OF 1) DEPARTURE: 7 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .678 CABIN OZONE= .369 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .80 TOTAL OBS IN CABIN: 27
DATA SOURCE: GASP TAPE VL012, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/ 7/77	2048	0:10	322	35.03N	116.37W	-47.	.040	.102	.39
4/ 7/77	2058	0:20	369	35.60N	114.77W	-58.	.078	.107	.73
4/ 7/77	2108	0:30	369	36.17N	113.13W	-57.	.083	.107	.78
4/ 7/77	2118	0:40	370	36.68N	111.54W	-58.		.113	
4/ 7/77	2123	0:45	370	36.92N	110.76W	-58.	.051	.117	.44
4/ 7/77	2128	0:50	370	37.17N	109.96W	-56.	.075	.189	.40
4/ 7/77	2133	0:55	370	37.41N	109.13W	-57.	.074	.282	.26
4/ 7/77	2138	1:00	370	37.64N	108.30W	-56.	.130	.202	.64
4/ 7/77	2148	1:10	369	38.10N	106.62W	-54.	.053	.179	.30
4/ 7/77	2158	1:20	370	38.54N	104.91W	-55.	.123	.167	.74
4/ 7/77	2208	1:30	369	38.94N	103.19W	-56.	.049	.161	.30
4/ 7/77	2218	1:40	369	39.27N	101.42W	-57.	.128	.160	.80
4/ 7/77	2223	1:45	370	39.41N	100.53W	-57.	.117	.184	.64
4/ 7/77	2228	1:50	369	39.56N	99.64W	-59.	.081	.168	.48
4/ 7/77	2233	1:55	369	39.72N	98.75W	-59.	.064	.182	.35
4/ 7/77	2238	2:00	393	39.88N	97.85W	-60.	.080	.346	.23
4/ 7/77	2248	2:10	409	40.20N	96.11W	-61.	.200	.433	.46
4/ 7/77	2258	2:20	409	40.50N	94.32W	-61.	.185	.373	.50
4/ 7/77	2318	2:40	409	41.03N	90.62W	-59.	.119	.424	.28
4/ 7/77	2323	2:45	409	41.15N	89.67W	-58.	.119	.435	.27
4/ 7/77	2328	2:50	409	41.27N	88.71W	-57.	.131	.447	.29
4/ 7/77	2333	2:55	409	41.40N	87.75W	-52.	.148	.416	.36
4/ 7/77	2338	3:00	409	41.52N	86.82W	-52.		.435	
4/ 7/77	2348	3:10	409	41.73N	84.88W	-52.	.133	.434	.31
4/ 7/77	2358	3:20	409	41.92N	82.88W	-49.	.231	.493	.47
4/ 8/77	0008	3:30	410	41.96N	80.86W	-44.	.315	.546	.58
4/ 8/77	0018	3:40	409	41.80N	78.82W	-46.	.365	.674	.54
4/ 8/77	0023	3:45	409	41.77N	77.79W	-47.	.352	.678	.52
4/ 8/77	0028	3:50	409	41.68N	76.78W	-47.	.369	.645	.57


JFK TO LAX DEPARTURE 8 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

JFK TO LAX (PAGE 1 OF 1)

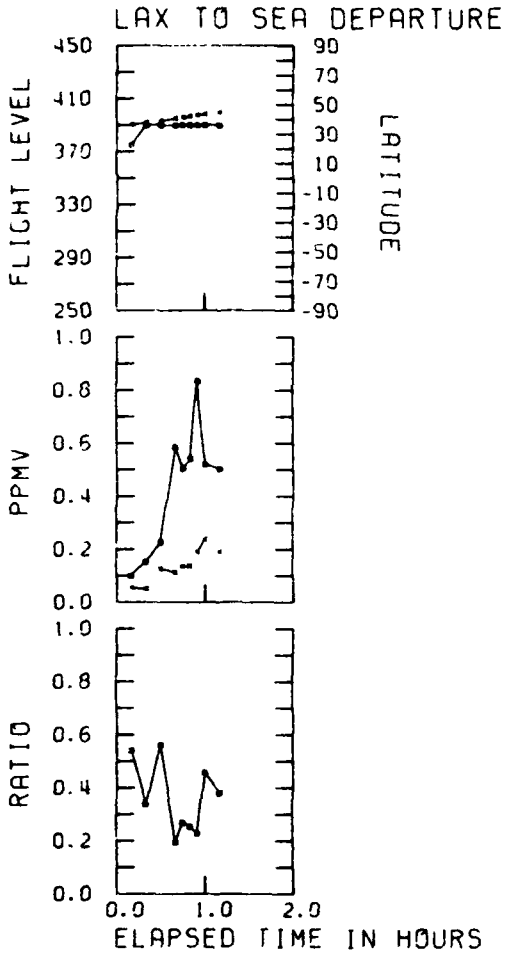
DEPARTURE: 8 APR 77

AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .746 CABIN OZONE= .322 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .66 TOTAL OBS IN CABIN: 31

DATA SOURCE: GASP TAPE VL012, FILE 2

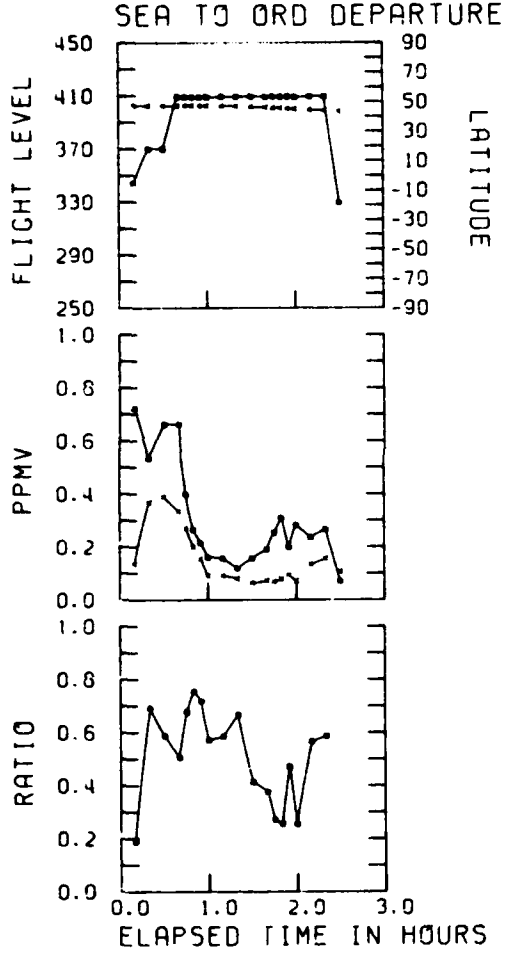
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/ 8/77	1732	0:10	314	40.38N	76.03W	-47.	.100	.328	.30
4/ 8/77	1752	0:30	350	40.70N	79.09W	-47.	.319	.645	.49
4/ 8/77	1802	0:40	350	40.83N	80.68W	-47.	.256	.550	.47
4/ 8/77	1807	0:45	350	40.89N	81.47W	-48.	.196	.532	.37
4/ 8/77	1812	0:50	350	40.95N	82.27W	-48.	.277	.566	.49
4/ 8/77	1817	0:55	365	40.99N	83.07W	-48.	.251	.652	.38
4/ 8/77	1822	1:00	384	41.04N	83.87W	-49.	.266	.746	.36
4/ 8/77	1832	1:10	390	41.10N	85.49W	-51.	.322	.741	.43
4/ 8/77	1842	1:20	390	41.14N	87.15W	-55.	.273	.633	.43
4/ 8/77	1852	1:30	390	41.16N	88.81W	-57.	.236	.479	.49
4/ 8/77	1902	1:40	390	41.09N	90.47W	-59.	.187	.373	.50
4/ 8/77	1907	1:45	390	40.97N	91.32W	-61.	.200	.334	.60
4/ 8/77	1912	1:50	390	40.86N	92.12W	-62.	.125	.250	.50
4/ 8/77	1917	1:55	390	40.74N	92.94W	-63.	.111	.200	.56
4/ 8/77	1922	2:00	390	40.62N	93.78W	-63.	.113	.217	.52
4/ 8/77	1932	2:10	390	40.34N	95.44W	-64.	.083	.216	.40
4/ 8/77	1942	2:20	390	40.03N	97.14W	-64.	.021	.234	.09
4/ 8/77	1952	2:30	390	39.69N	98.88W	-62.	.114	.253	.45
4/ 8/77	2002	2:40	390	39.34N	100.51W	-59.	.108	.314	.34
4/ 8/77	2007	2:45	390	39.14N	101.34W	-59.	.115	.324	.35
4/ 8/77	2012	2:50	390	38.95N	102.17W	-59.	.136	.302	.46
4/ 8/77	2017	2:55	390	38.75N	102.97W	-59.	.107	.211	.51
4/ 8/77	2022	3:00	390	38.55N	103.75W	-59.	.070	.271	.26
4/ 8/77	2032	3:10	390	38.14N	105.30W	-61.	.061	.106	.58
4/ 8/77	2042	3:20	390	37.51N	107.53W	-62.	.067	.108	.62
4/ 8/77	2047	3:25	390	37.51N	108.96W	-62.	.037	.111	.33
4/ 8/77	2057	3:35	390	37.07N	109.70W	-63.	.071	.107	.66
4/ 8/77	2102	3:40	390	36.84N	111.10W	-63.	.031	.093	
4/ 8/77	2112	3:50	390	36.38N	113.94W	-63.	.063	.160	.39
4/ 8/77	2132	4:10	390	35.57N	115.34W	-63.	.075	.211	.36
4/ 8/77	2142	4:20	390	35.15N	116.64W	-60.	.086	.044	
4/ 8/77	2152	4:30	289	34.59N					


LAX TO SEA DEPARTURE 9 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
ELAPSED TIME IN HOURS

LAX TO SEA (PAGE 1 OF 1) DEPARTURE: 9 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .434 CABIN OZONE= .237 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .56 TOTAL OBS IN CABIN: 9
DATA SOURCE: GASP TAPE VL012, FILE 2

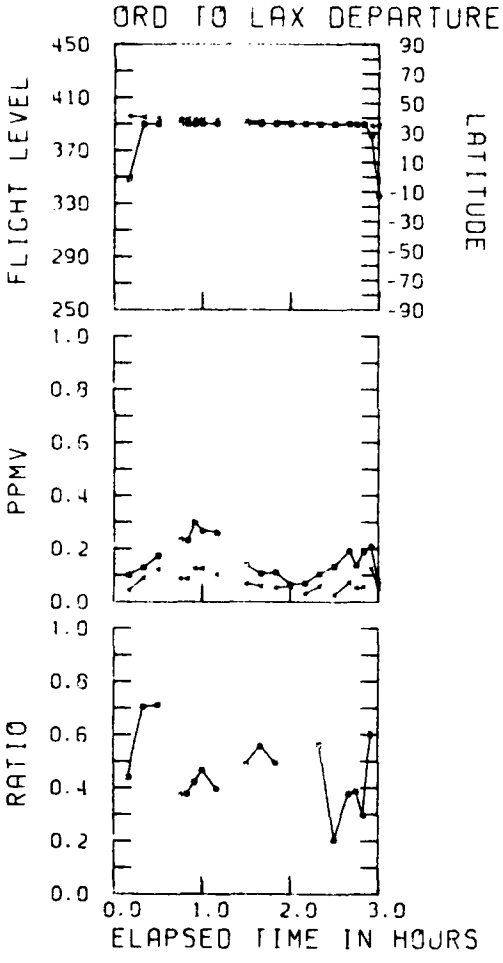
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/ 9/77	0224	0:13	375	36.47N	119.37W	-61.	.054	.100	
4/ 9/77	0234	0:23	390	37.86N	119.79W	-62.	.051	.151	.34
4/ 9/77	0244	0:33	390	39.25N	120.23W	-62.	.127	.226	.56
4/ 9/77	0254	0:43	390	40.67N	120.69W	-55.	.113	.584	.19
4/ 9/77	0259	0:48	390	41.39N	120.94W	-54.	.135	.504	.27
4/ 9/77	0304	0:53	390	42.07N	121.17W	-52.	.137	.541	.25
4/ 9/77	0309	0:58	390	42.78N	121.43W	-52.	.190	.834	.23
4/ 9/77	0314	1:03	390	43.47N	121.68W	-52.	.237	.520	.46
4/ 9/77	0324	1:13	390	44.86N	122.21W	-49.	.191	.503	.38


SEA TO ORD DEPARTURE 9 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

SEA TO OKO (PAGE 1 OF 1) DEPARTURE: 9 APR 77 AIRCRAFT: DAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .723 CABIN OZONE= .389 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .75 TOTAL OBS IN CABIN: 19
DATA SOURCE: GASP TAPE VL012, FILE 2

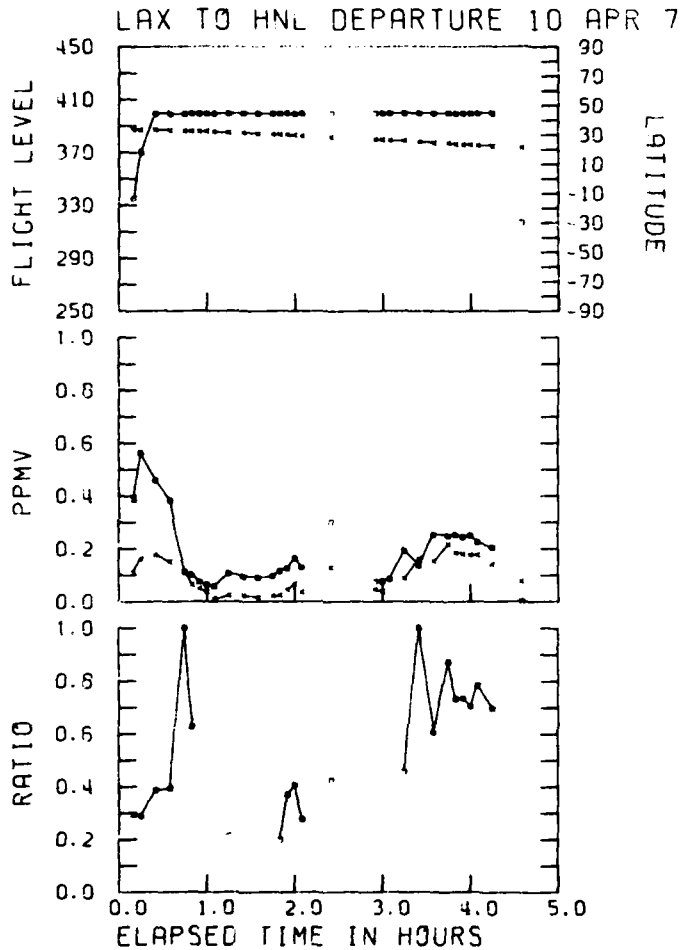
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/ 9/77	1625	0:10	344	47.46N	119.13W	-48.	.136	.723	.19
4/ 9/77	1635	0:20	370	47.51N	117.03W	-50.	.368	.533	.69
4/ 9/77	1645	0:30	370	47.53N	114.88W	-52.	.389	.662	.59
4/ 9/77	1655	0:40	410	47.50N	112.79W	-54.	.335	.661	.51
4/ 9/77	1700	0:45	409	47.48N	111.77W	-62.	.270	.399	.68
4/ 9/77	1705	0:50	409	47.44N	110.77W	-65.	.200	.265	.75
4/ 9/77	1710	0:55	409	47.40N	109.77W	-65.	.155	.216	.72
4/ 9/77	1715	1:00	409	47.35N	108.74W	-67.	.092	.161	.57
4/ 9/77	1725	1:10	409	47.22N	106.67W	-67.	.092	.157	.59
4/ 9/77	1739	1:24	409	46.97N	103.68W	-69.	.080	.120	.67
4/ 9/77	1744	1:34	410	46.66N	101.97W	-68.	.065	.157	.41
4/ 9/77	1759	1:44	409	46.20N	100.14W	-68.	.072	.191	.38
4/ 9/77	1804	1:49	410	45.95N	99.24W	-67.	.069	.254	.27
4/ 9/77	1809	1:54	410	45.71N	98.35W	-66.	.079	.308	.26
4/ 9/77	1814	1:59	410	45.45N	97.47W	-66.	.094	.200	.47
4/ 9/77	1819	2:04	409	45.18N	96.57W	-65.	.072	.282	.26
4/ 9/77	1829	2:14	410	44.62N	94.78W	-65.	.134	.237	.57
4/ 9/77	1839	2:24	410	44.04N	93.08W	-65.	.156	.266	.59
4/ 9/77	1849	2:34	330	43.43N	91.36W	-52.	.107	.071	


ORD TO LAX DEPARTURE 9 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

ORD TO LAX (PAGE 1 OF 1) DEPARTURE: 9 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .299 CABIN OZONE= .126 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .71 TOTAL OBS IN CABIN: 20
DATA SOURCE: GASP TAPE VL012, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/ 9/77	2214	0:10	348	41.20N	90.60W	-57.	.045	.102	.44
4/ 9/77	2225	0:21	390	40.71N	92.23W	-65.	.091	.129	.71
4/ 9/77	2234	0:30	390	40.21N	93.80W	-64.	.123	.173	.71
4/ 9/77	2249	0:45	390	39.42N	96.13W	-63.	.087	.233	.37
4/ 9/77	2254	0:50	390	39.15N	96.88W	-62.	.087	.231	.38
4/ 9/77	2259	0:55	390	38.91N	97.67W	-60.	.126	.299	.42
4/ 9/77	2304	1:00	390	38.80N	98.47W	-61.	.125	.268	.47
4/ 9/77	2314	1:10	390	38.55N	100.09W	-62.	.103	.260	.40
4/ 9/77	2334	1:30	390	38.01N	103.25W	-61.	.068	.139	.49
4/ 9/77	2345	1:41	390	37.71N	104.79W	-63.	.059	.106	.56
4/ 9/77	2355	1:51	390	37.40N	106.30W	-62.	.055	.111	.50
4/10/77	0004	2:00	390	37.08N	107.75W	-61.	.059	.066	
4/10/77	0014	2:10	390	36.75N	109.18W	-62.	.032	.070	
4/10/77	0024	2:20	390	36.40N	110.58W	-62.	.059	.105	.56
4/10/77	0034	2:30	390	36.05N	111.93W	-62.	.027	.133	.20
4/10/77	0044	2:40	390	35.67N	113.30W	-61.	.072	.191	.38
4/10/77	0049	2:45	390	35.47N	113.95W	-63.	.053	.137	.39
4/10/77	0054	2:50	390	35.22N	114.58W	-62.	.056	.184	.30
4/10/77	0059	2:55	381	34.94N	115.20W	-59.	.125	.208	.60
4/10/77	0104	3:00	336	34.66N	115.81W	-52.	.054	.078	


LAX TO HNL DEPARTURE 10 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
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0.0
RATIO
1.0
0.8
0.6
0.4
0.2
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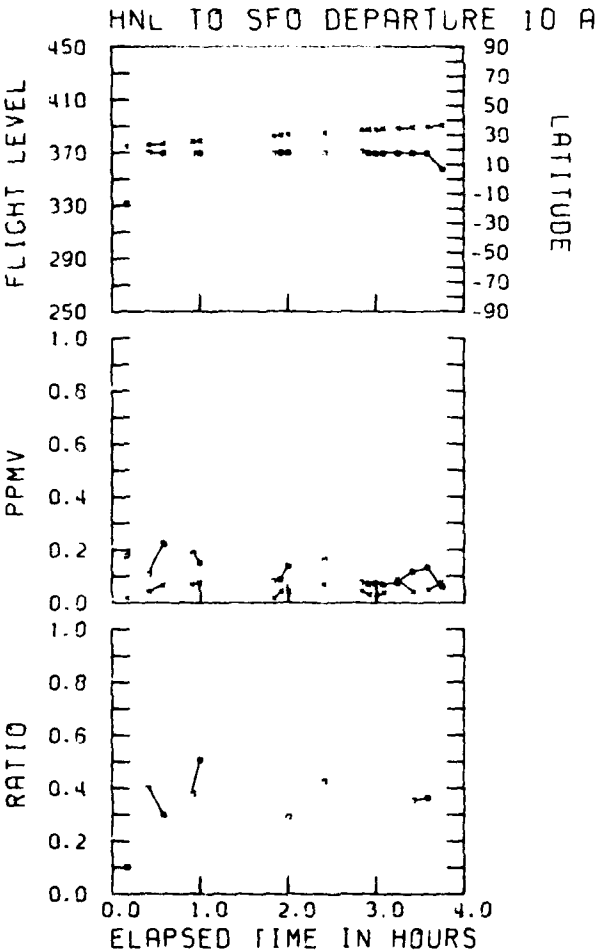
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

LAX TO HNL (PAGE 1 OF 1) DEPARTURE: 10 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .561 CABIN OZONE= .217 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.18 TOTAL OBS IN CABIN: 30
DATA SOURCE: GASP TAPE VL012, FILE 2

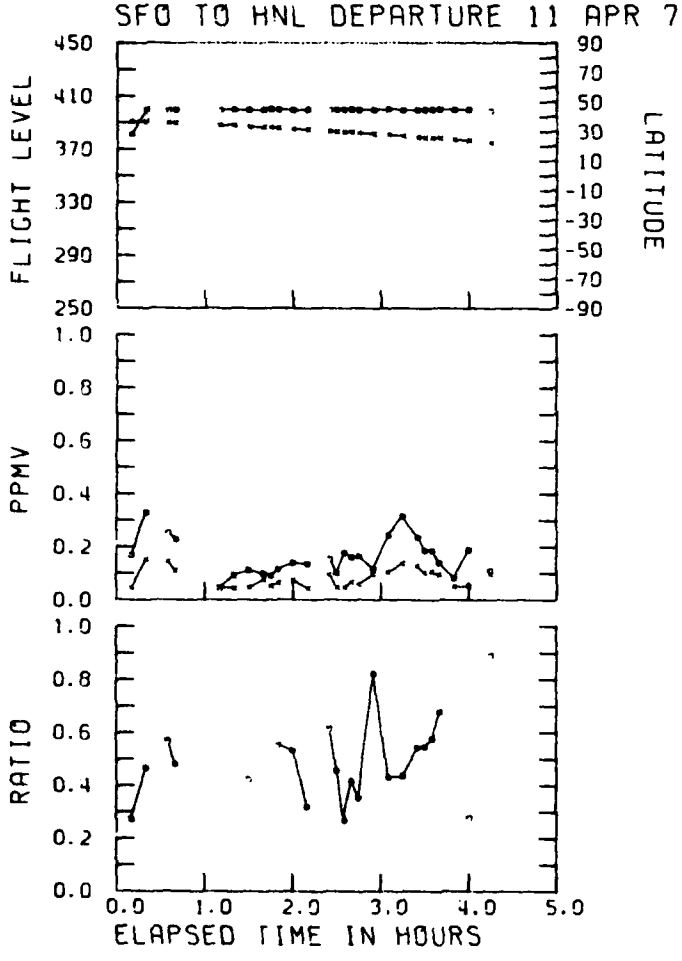
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/10/77	0414	0:10	335	33.70N	120.97W	-48.	.114	.387	.29
4/10/77	0419	0:15	370	33.62N	121.74W	-51.	.162	.561	.29
4/10/77	0429	0:25	399	33.42N	123.24W	-56.	.177	.458	.39
4/10/77	0439	0:35	399	33.07N	124.73W	-59.	.151	.383	.39
4/10/77	0449	0:45	399	32.71N	126.19W	-64.	.115	.111	1.04
4/10/77	0454	0:50	399	32.53N	126.91W	-65.	.064	.102	.63
4/10/77	0459	0:55	399	32.34N	127.64W	-64.	.049	.075	
4/10/77	0504	1:00	399	32.14N	128.36W	-65.	.038	.065	
4/10/77	0509	1:05	399	31.96N	129.07W	-66.	.011	.057	
4/10/77	0519	1:15	399	31.57N	130.49W	-66.	.023	.107	.21
4/10/77	0529	1:25	400	31.16N	131.93W	-65.	.023	.095	
4/10/77	0539	1:35	400	30.74N	133.33W	-65.	.015	.091	
4/10/77	0549	1:45	399	30.30N	134.73W	-65.	.022	.097	
4/10/77	0554	1:50	399	30.08N	135.44W	-65.	.023	.115	.20
4/10/77	0559	1:55	400	29.84N	136.15W	-64.	.047	.127	.37
4/10/77	0604	2:00	399	29.60N	136.86W	-63.	.067	.165	.41
4/10/77	0609	2:05	400	29.37N	137.55W	-65.	.036	.130	.28
4/10/77	0629	2:25	400	28.39N	140.26W	-62.	.129	.303	.43
4/10/77	0659	2:55	400	26.83N	144.22W	-63.	.046	.076	
4/10/77	0704	3:00	400	26.57N	144.85W	-63.	.038	.076	
4/10/77	0709	3:05	400	26.29N	145.52W	-63.		.086	
4/10/77	0719	3:15	400	25.74N	146.79W	-63.	.089	.194	.46
4/10/77	0729	3:25	400	25.17N	148.05W	-62.	.162	.137	1.18
4/10/77	0739	3:35	400	24.60N	149.29W	-60.	.153	.253	.60
4/10/77	0749	3:45	399	24.04N	150.50W	-59.	.217	.249	.87
4/10/77	0754	3:50	400	23.75N	151.09W	-60.	.186	.254	.73
4/10/77	0759	3:55	400	23.46N	151.68W	-59.	.179	.244	.73
4/10/77	0804	4:00	400	23.18N	152.26W	-59.	.177	.251	.71
4/10/77	0809	4:05	400	22.90N	152.83W	-59.	.177	.226	.78
4/10/77	0819	4:15	400	22.33N	153.96W	-58.	.142	.204	.70
4/10/77	0839	4:35	317	21.18N	156.18W	-44.	.076	.003	


HNL TO SFO DEPARTURE 10 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
ELAPSED TIME IN HOURS

HNL TO SFO (PAGE 1 OF 1) DEPARTURE: 10 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .224 CABIN OZONE= .089 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .51 TOTAL OBS IN CABIN: 17
DATA SOURCE: GASP TAPE VL012, FILE 2 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

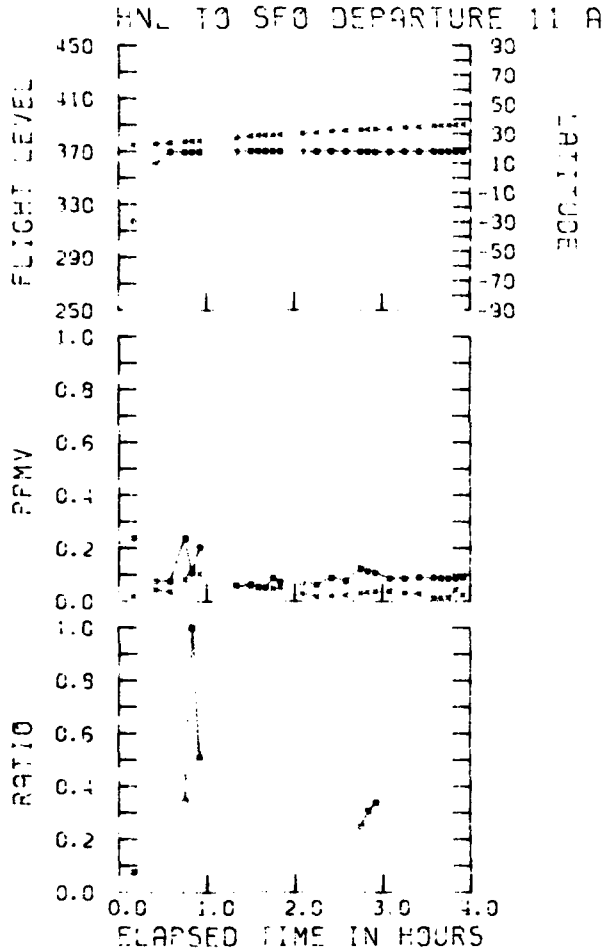
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/10/77	2006	0:10	332	22.35N	155.79W	-46.	.019	.181	.10
4/10/77	2021	0:25	370	23.53N	153.80W	-55.	.043	.108	.40
4/10/77	2031	0:35	370	24.32N	152.46W	-56.	.067	.224	.30
4/10/77	2051	0:55	370	25.82N	149.85W	-58.	.071	.188	.38
4/10/77	2056	1:00	370	26.17N	149.22W	-58.	.077	.152	.51
4/10/77	2146	1:50	370	29.59N	142.55W	-59.	.019	.084	
4/10/77	2151	1:55	370	29.92N	141.83W	-58.	.043	.087	
4/10/77	2156	2:00	370	30.24N	141.13W	-58.	.040	.137	.29
4/10/77	2221	2:25	370	31.78N	137.58W	-60.	.070	.164	.43
4/10/77	2248A	2:52	371	33.40N	133.44W	-60.	.043	.077	
4/10/77	2253	2:57	370	33.64N	132.62W	-60.	.030	.072	
4/10/77	2258	3:02	370	33.92N	131.82W	-60.	.027	.074	
4/10/77	2303	3:07	370	34.21N	130.99W	-60.	.037	.069	
4/10/77	2313	3:17	370	34.74N	129.37W	-60.	.089	.075	
4/10/77	2323	3:27	370	35.26N	127.70W	-60.	.042	.111	.38
4/10/77	2333	3:37	370	35.75N	126.02W	-60.	.048	.132	.36
4/10/77	2343	3:47	358	36.44N	124.50W	-58.	.076	.060	


SFO TO HNL DEPARTURE 11 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

SFO TO HNL (PAGE 1 OF 1) DEPARTURE: 11 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .330 CABIN OZONE= .154 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .89 TOTAL OBS IN CABIN: 27
DATA SOURCE: GASP TAPE VL012, FILE 2

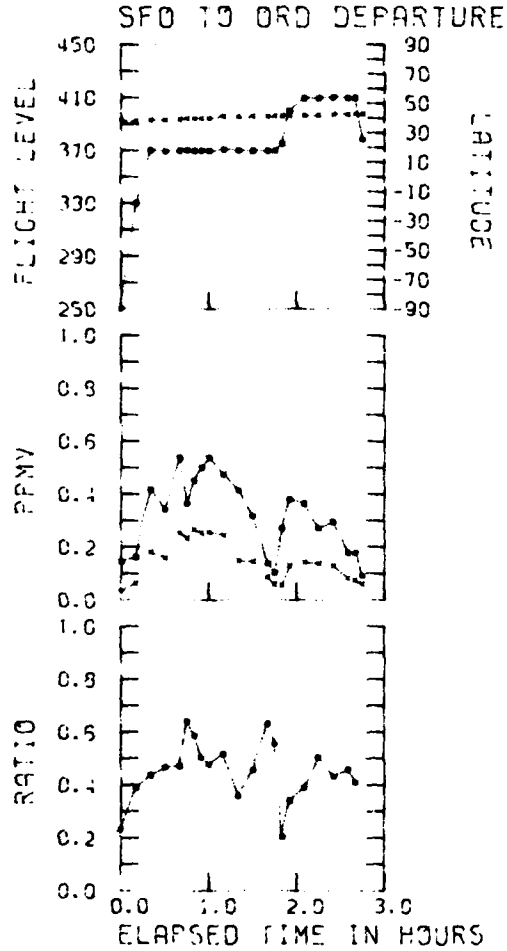
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/11/77	0211	0:10	381	37.03N	124.89W	-61.	.046	.169	.27
4/11/77	0221	0:20	400	36.64N	126.30W	-62.	.154	.330	.47
4/11/77	0236	0:35	399	36.00N	128.47W	-63.	.144	.253	.57
4/11/77	0241	0:40	400	35.78N	129.19W	-64.	.110	.229	.48
4/11/77	0311	1:10	400	34.41N	133.29W	-65.	.048	.044	
4/11/77	0321	1:20	400	33.91N	134.66W	-64.	.044	.093	
4/11/77	0331	1:30	400	33.38N	136.06W	-64.	.047	.111	.42
4/11/77	0341	1:40	400	32.83N	137.43W	-64.	.076	.099	
4/11/77	0346	1:45	400	32.56N	138.09W	-64.	.052	.091	
4/11/77	0351	1:50	400	32.28N	138.77W	-64.	.063	.114	.55
4/11/77	0401	2:00	400	31.70N	140.13W	-64.	.074	.139	.53
4/11/77	0411	2:10	400	31.11N	141.44W	-64.	.043	.135	.32
4/11/77	0426	2:25	400	30.21N	143.37W	-63.	.094	.153	.61
4/11/77	0431	2:30	400	29.91N	144.01W	-64.	.046	.101	.46
4/11/77	0436	2:35	400	29.59N	144.66W	-64.	.047	.176	.27
4/11/77	0441	2:40	400	29.28N	145.27W	-64.	.067	.161	.42
4/11/77	0446	2:45	400	28.97N	145.91W	-64.	.058	.164	.35
4/11/77	0456	2:55	400	28.32N	147.16W	-64.	.096	.117	.82
4/11/77	0506	3:05	400	27.67N	148.39W	-62.	.105	.244	.43
4/11/77	0516	3:15	399	26.99N	149.63W	-61.	.137	.315	.43
4/11/77	0526	3:25	400	26.31N	150.84W	-61.	.128	.236	.54
4/11/77	0531	3:30	400	25.97N	151.43W	-61.	.102	.187	.55
4/11/77	0536	3:35	400	25.63N	152.01W	-61.	.107	.186	.58
4/11/77	0541	3:40	400	25.29N	152.60W	-60.	.094	.139	.68
4/11/77	0551	3:50	400	24.58N	153.79W	-60.	.051	.087	
4/11/77	0601	4:00	400	23.83N	154.95W	-60.	.053	.190	.28
4/11/77	0616	4:15	399	22.45N	156.36W	-60.	.098	.110	.89


HNL TO SFO DEPARTURE 11 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
RATIO
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
90
70
50
30
10
-10
-30
-50
-70
-90
0.0
1.0
2.0
3.0
4.0
ELAPSED TIME IN HOURS

HNL TO SFO (PAGE 1 OF 1) DEPARTURE: 11 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .239 CABIN OZONE= .127 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.17 TOTAL OBS IN CABIN: 27
DATA SOURCE: GASP TAPE VL012, FILE 2

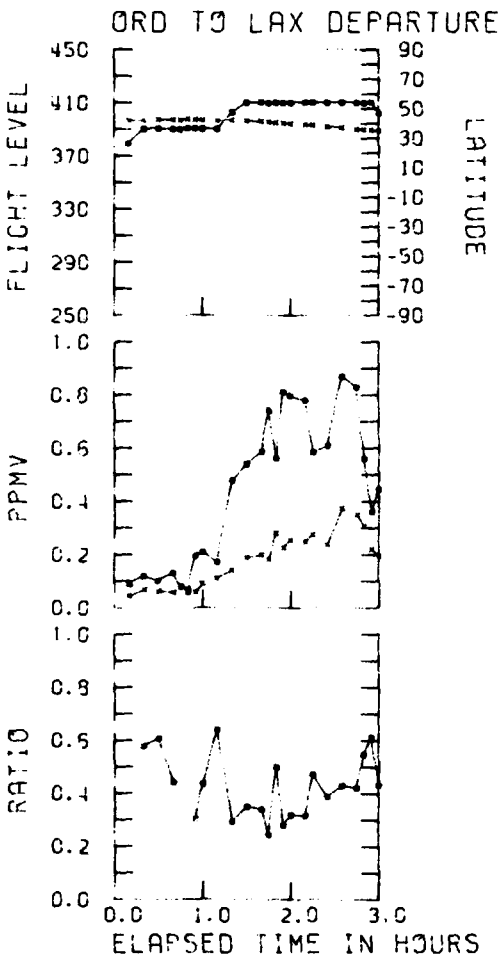
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/11/77	0904	0:10	318	22.30N	155.83W	-44.	.018	.238	.08
4/11/77	0919	0:25	360	23.45N	153.91W	-53.	.044	.076	
4/11/77	0929	0:35	370	24.23N	152.61W	-56.	.036	.077	
4/11/77	0939	0:45	370	25.00N	151.30W	-56.	.083	.239	.35
4/11/77	0944	0:50	370	25.36N	150.66W	-57.	.127	.109	1.17
4/11/77	0949	0:55	370	25.72N	150.03W	-57.	.105	.205	.51
4/11/77	1014	1:20	370	27.50N	146.71W	-59.	.061	.061	
4/11/77	1024	1:30	370	28.19N	145.36W	-59.	.055	.061	
4/11/77	1029	1:35	370	28.53N	144.68W	-59.	.047	.054	
4/11/77	1034	1:40	370	28.87N	144.00W	-59.	.050	.050	
4/11/77	1039	1:45	370	29.20N	143.31W	-59.	.047	.086	
4/11/77	1044	1:50	370	29.53N	142.62W	-58.	.053	.074	
4/11/77	1059	2:05	370	30.49N	140.52W	-59.	.030	.071	
4/11/77	1109	2:15	370	31.10N	139.11W	-59.	.018	.064	
4/11/77	1119	2:25	370	31.70N	137.69W	-60.	.019	.087	
4/11/77	1129	2:35	370	32.28N	136.26W	-60.	.023	.077	
4/11/77	1139	2:45	370	32.84N	134.80W	-60.	.031	.124	.25
4/11/77	1144	2:50	370	33.11N	134.08W	-60.	.035	.114	.31
4/11/77	1149	2:55	370	33.38N	133.36W	-60.	.037	.109	.34
4/11/77	1159	3:05	370	33.89N	131.93W	-61.	.039	.088	
4/11/77	1209	3:15	370	34.38N	130.48W	-61.	.031	.086	
4/11/77	1219	3:25	370	34.85N	129.02W	-61.	.028	.091	
4/11/77	1229	3:35	370	35.32N	127.51W	-62.	.012	.088	
4/11/77	1234	3:40	370	35.53N	126.77W	-62.	.013	.086	
4/11/77	1239	3:45	370	35.75N	126.02W	-62.	.013	.086	
4/11/77	1244	3:50	370	36.02N	125.30W	-62.	.043	.087	
4/11/77	1249	3:55	370	36.34N	124.62W	-62.	.024	.091	


SFO TO ORD DEPARTURE 11 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
ALTITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPNV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

SFO TO ORD (PAGE 1 OF 1) DEPARTURE: 11 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .539 CABIN OZONE= .266 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .64 TOTAL OBS IN CABIN: 22
DATA SOURCE: GASP TAPE VL012, FILE 2

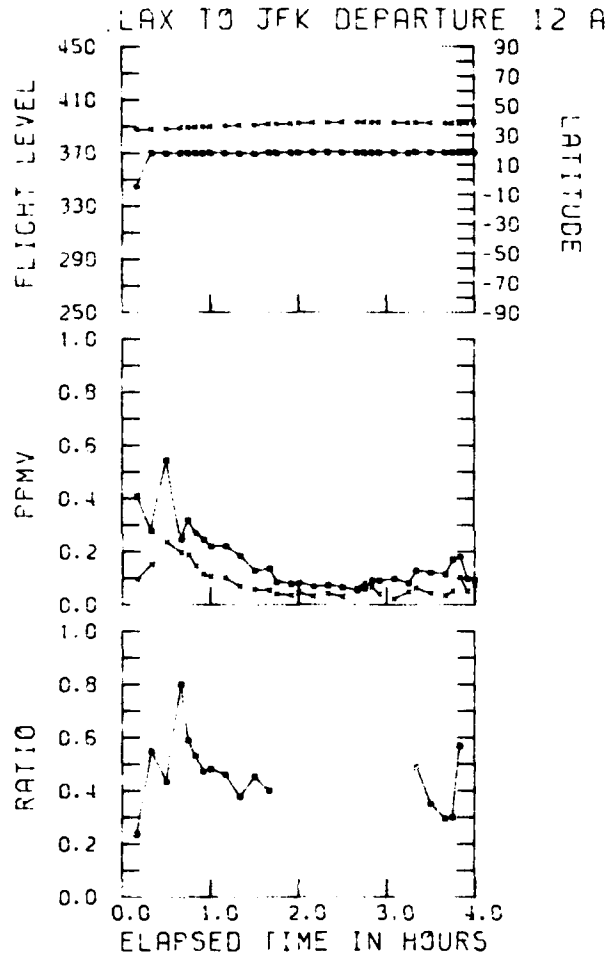
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/11/77	1841	0:00	214	38.01N	121.33W	-25.	.034	.146	.23
4/11/77	1851	0:10	330	38.28N	119.80W	-51.	.063	.162	.39
4/11/77	1903	0:22	370	38.61N	117.71W	-55.	.183	.416	.44
4/11/77	1913	0:32	370	38.98N	116.01W	-55.	.161	.344	.47
4/11/77	1923	0:42	370	39.40N	114.34W	-54.	.254	.539	.47
4/11/77	1928	0:47	370	39.60N	113.49W	-55.	.235	.367	.64
4/11/77	1933	0:52	370	39.79N	112.63W	-55.	.266	.451	.59
4/11/77	1938	0:57	370	39.98N	111.77W	-53.	.253	.501	.50
4/11/77	1943	1:02	370	40.16N	110.91W	-54.	.258	.539	.48
4/11/77	1953	1:12	370	40.50N	109.16W	-52.	.246	.476	.52
4/11/77	2003	1:22	370	40.82N	107.40W	-56.	.148	.414	.36
4/11/77	2013	1:32	370	41.11N	105.63W	-59.	.146	.320	.46
4/11/77	2023	1:42	370	41.37N	103.85W	-60.	.088	.139	.63
4/11/77	2028	1:47	370	41.49N	102.94W	-63.	.058	.104	.56
4/11/77	2033	1:52	375	41.60N	102.02W	-59.	.055	.270	.20
4/11/77	2038	1:57	400	41.71N	101.11W	-61.	.130	.382	.34
4/11/77	2048	2:07	410	41.91N	99.22W	-60.	.143	.366	.39
4/11/77	2058	2:17	410	42.07N	97.30W	-63.	.139	.275	.51
4/11/77	2108	2:27	410	42.21N	95.38W	-62.	.128	.295	.43
4/11/77	2118	2:37	409	42.31N	93.48W	-65.	.081	.178	.46
4/11/77	2123	2:42	409	42.35N	92.53W	-66.	.073	.178	.41
4/11/77	2128	2:47	378	42.38N	91.57W	-61.	.060	.094	


ORD TO LAX DEPARTURE 12 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

ORD TO LAX (PAGE 1 OF 1) DEPARTURE: 12 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .068 CABIN OZONE= .372 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .64 TOTAL OBS IN CABIN: 24
DATA SOURCE: GASP TAPE VL012, FILE 2

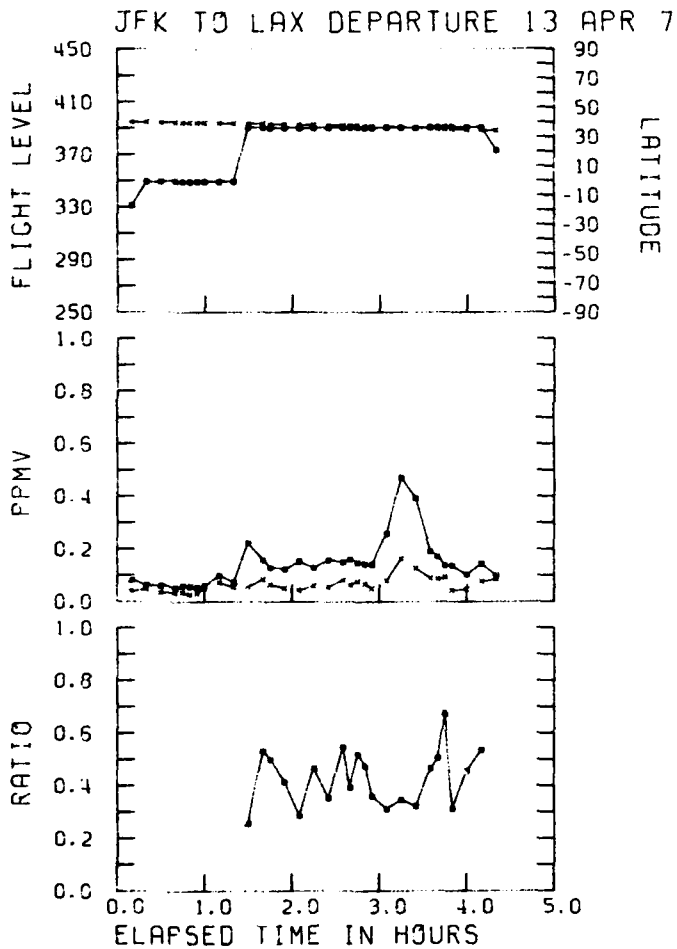
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/12/77	0108	0:12	380	42.11N	91.04W	-62.	.044	.089		4/12/77	0243	1:47	410	40.89N	106.23W	-52.	.182	.741	.25
4/12/77	0118	0:22	390	42.37N	92.68W	-64.	.069	.119	.58	4/12/77	0248	1:52	410	40.62N	107.01W	-51.	.281	.563	.50
4/12/77	0128	0:32	390	42.61N	94.34W	-64.	.062	.102	.61	4/12/77	0253	1:57	410	40.26N	107.71W	-52.	.226	.811	.28
4/12/77	0138	0:42	390	42.58N	95.97W	-63.	.058	.131	.44	4/12/77	0258	2:02	410	39.88N	108.39W	-51.	.254	.798	.32
4/12/77	0143	0:47	390	42.55N	96.78W	-65.	.064	.080		4/12/77	0308	2:12	410	39.06N	109.80W	-52.	.247	.780	.32
4/12/77	0148	0:52	390	42.52N	97.59W	-65.	.067	.059		4/12/77	0313	2:17	410	38.67N	110.45W	-51.	.274	.584	.47
4/12/77	0153	0:57	391	42.48N	98.38W	-63.	.059	.194	.30	4/12/77	0323	2:27	410	37.86N	111.77W	-50.	.237	.609	.39
4/12/77	0158	1:02	390	42.33N	99.14W	-64.	.091	.209	.44	4/12/77	0333	2:37	410	37.03N	113.07W	-51.	.372	.668	.43
4/12/77	0208	1:12	390	42.11N	100.74W	-67.	.111	.173	.64	4/12/77	0343	2:47	410	36.19N	114.35W	-51.	.349	.830	.42
4/12/77	0218	1:22	403	42.01N	102.40W	-57.	.140	.477	.29	4/12/77	0348	2:52	410	35.77N	114.96W	-53.	.306	.560	.55
4/12/77	0228	1:32	410	41.85N	104.03W	-57.	.189	.541	.35	4/12/77	0353	2:57	410	35.35N	115.56W	-54.	.221	.361	.61
4/12/77	0238	1:42	410	41.24N	105.48W	-55.	.200	.587	.34	4/12/77	0358	3:02	402	34.94N	116.20W	-54.	.193	.445	.43


LAX TO JFK DEPARTURE 12 APR 77
UAL-N4711U
FLIGHT LEVEL
LATITUDE
450
410
370
330
290
250
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
ELAPSED TIME IN HOURS

DEPARTURE: 12 APR 77 AIRCRAFT: UAL-N4711U

*** MEAN VALUES: AMBIENT OZONE= .544 CABIN OZONE= .237 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .80 TOTAL OBS IN CABIN: 31
DATA SOURCE: GASP TAPE VL012, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/12/77	2046	0:10	345	33.86N	116.40W	-52.	.097	.410	.24
4/12/77	2056	0:20	370	34.28N	114.93W	-53.	.153	.279	.55
4/12/77	2106	0:30	370	34.74N	113.39W	-53.	.237	.544	.44
4/12/77	2116	0:40	370	35.20N	111.77W	-57.	.198	.247	.80
4/12/77	2121	0:45	370	35.42N	110.93W	-56.	.187	.317	.59
4/12/77	2126	0:50	370	35.64N	110.09W	-56.	.144	.271	.53
4/12/77	2131	0:55	370	35.86N	109.25W	-56.	.116	.245	.47
4/12/77	2136	1:00	370	36.07N	108.39W	-57.	.106	.220	.48
4/12/77	2146	1:10	370	36.48N	106.66W	-57.	.102	.221	.46
4/12/77	2156	1:20	370	36.86N	104.91W	-58.	.070	.185	.38
4/12/77	2206	1:30	370	37.22N	103.11W	-59.	.059	.130	.45
4/12/77	2216	1:40	370	37.55N	101.32W	-59.	.054	.135	.40
4/12/77	2221	1:45	370	37.71N	100.41W	-60.	.041	.086	
4/12/77	2231	1:55	371	38.01N	98.54W	-61.	.036	.079	
4/12/77	2236	2:00	370	38.14N	97.58W	-60.	.046	.081	
4/12/77	2246	2:10	370	38.37N	95.71W	-60.	.031	.068	
4/12/77	2256	2:20	371	38.57N	93.88W	-59.	.041	.073	
4/12/77	2306	2:30	370	38.74N	92.06W	-59.	.030	.065	
4/12/77	2316	2:40	370	38.87N	90.29W	-59.	.062	.055	
4/12/77	2321	2:45	370	38.85N	89.41W	-59.	.080	.061	
4/12/77	2326	2:50	370	38.83N	88.52W	-59.	.066	.091	
4/12/77	2331	2:55	370	38.79N	87.63W	-59.	.039	.091	
4/12/77	2341	3:05	370	38.71N	85.86W	-59.	.022	.098	
4/12/77	2351	3:15	370	38.59N	84.09W	-59.	.049	.082	
4/13/77	0000	3:24	371	38.45N	82.33W	-59.	.062	.127	.49
4/13/77	0010	3:34	370	38.29N	80.57W	-58.	.042	.120	.35
4/13/77	0016	3:40	370	38.19N	79.70W	-57.	.034	.115	.30
4/13/77	0021	3:45	371	38.09N	78.83W	-58.	.051	.170	.30
4/13/77	0026	3:50	370	38.02N	77.98W	-58.	.103	.181	.57
4/13/77	0031	3:55	370	38.38N	77.25W	-57.	.050	.099	
4/13/77	0040	4:04	371	39.01N	75.71W	-58.	.075	.095	


JFK TO LAX DEPARTURE 13 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
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1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

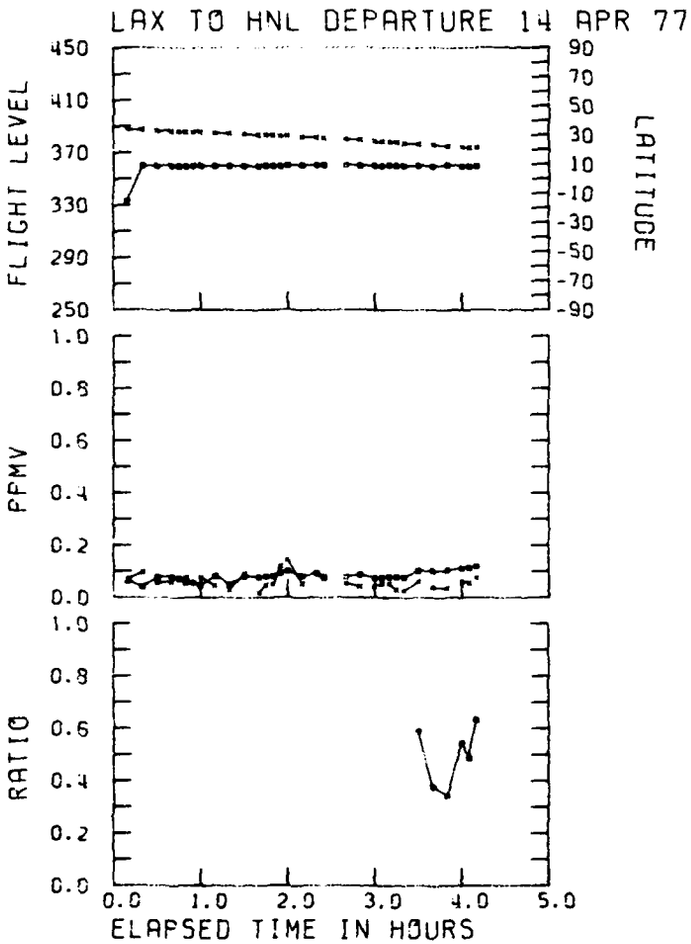
JFK TO LAX (PAGE 1 OF 1)

MAXIMUM VALUES: AMBIENT OZONE= .471 DEPARTURE: 13 APR 77

DATA SOURCE: GASP TAPE VL012, FILE 2 CABIN OZONE= .163 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .67 AIRCRAFT: UAL-N4711U

TOTAL OBS IN CABIN: 32

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/13/77	1740	0:10	331	40.03N	76.67W	-51.	.040	.082	
4/13/77	1750	0:20	349	39.99N	78.33W	-55.	.047	.061	
4/13/77	1800	0:30	349	40.01N	79.97W	-54.	.035	.060	
4/13/77	1810	0:40	349	39.94N	81.58W	-55.	.034	.053	
4/13/77	1815	0:45	349	39.87N	82.39W	-55.	.035	.060	
4/13/77	1820	0:50	349	39.80N	83.19W	-54.	.027	.058	
4/13/77	1825	0:55	349	39.72N	84.00W	-55.	.032	.054	
4/13/77	1830	1:00	349	39.63N	84.80W	-55.	.052	.060	
4/13/77	1840	1:10	349	39.44N	86.41W	-55.	.073	.099	
4/13/77	1850	1:20	349	39.23N	88.00W	-56.	.055	.074	
4/13/77	1900	1:30	390	39.00N	89.59W	-61.	.057	.222	.26
4/13/77	1910	1:40	390	38.77N	91.13W	-63.	.085	.160	.53
4/13/77	1915	1:45	390	38.69N	91.90W	-64.	.065	.130	.50
4/13/77	1925	1:55	390	38.52N	93.41W	-65.	.051	.123	.41
4/13/77	1935	2:05	390	38.34N	94.92W	-64.	.044	.153	.29
4/13/77	1945	2:15	390	38.13N	96.38W	-65.	.060	.129	.47
4/13/77	1955	2:25	390	37.92N	97.80W	-64.	.056	.158	.35
4/13/77	2005	2:35	390	37.68N	99.23W	-64.	.082	.150	.55
4/13/77	2010	2:40	390	37.56N	99.94W	-62.	.063	.160	.39
4/13/77	2015	2:45	390	37.43N	100.66W	-62.	.077	.148	.52
4/13/77	2020	2:50	390	37.29N	101.39W	-63.	.068	.143	.48
4/13/77	2025	2:55	390	37.14N	102.13W	-63.	.051	.141	.36
4/13/77	2035	3:05	391	36.84N	103.61W	-60.	.081	.259	.31
4/13/77	2045	3:15	390	36.50N	105.13W	-59.	.163	.471	.35
4/13/77	2055	3:25	390	36.25N	106.65W	-60.	.127	.393	.32
4/13/77	2105	3:35	391	35.86N	108.14W	-61.	.089	.191	.47
4/13/77	2110	3:40	391	35.66N	108.89W	-62.	.087	.172	.51
4/13/77	2115	3:45	391	35.49N	109.67W	-63.	.093	.138	.67
4/13/77	2120	3:50	391	35.32N	110.46W	-62.	.043	.137	.31
4/13/77	2130	4:00	391	35.04N	112.05W	-62.	.047	.103	.46
4/13/77	2140	4:10	390	34.67N	113.59W	-62.	.077	.144	.53
4/13/77	2150	4:20	373	34.29N	115.07W	-60.	.086	.099	

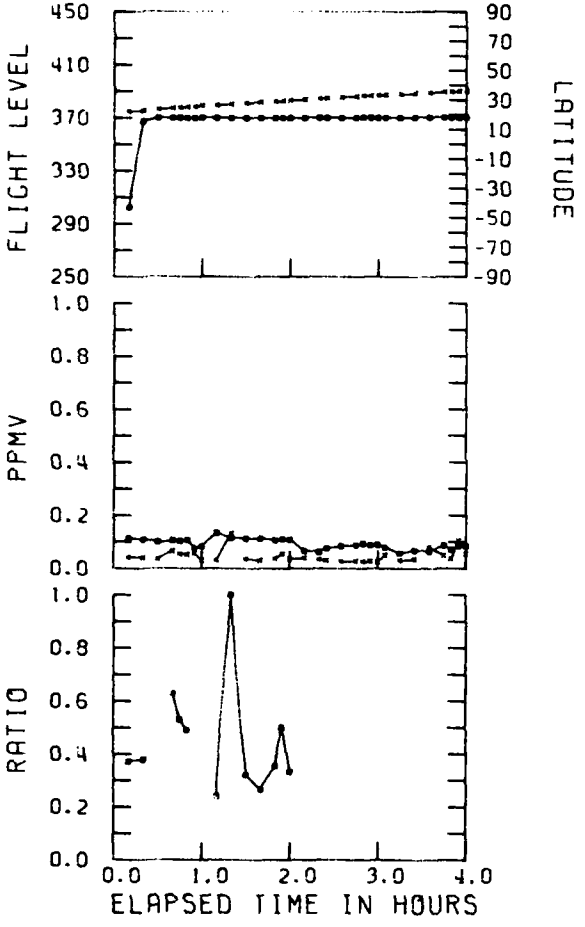

LAX TO HNL DEPARTURE 14 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

LAX TO HNL (PAGE 1 OF 1) DEPARTURE: 14 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .120 CABIN OZONE= .143 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.42 TOTAL OBS IN CABIN: 31
DATA SOURCE: GASP TAPE VL012, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/14/77	0101	0:10	333	33.88N	120.99W	-53.	.072	.063		4/14/77	0301	2:10	360	28.83N	139.09W	-56.	.052	.083	
4/14/77	0111	0:20	360	33.57N	122.40W	-59.	.096	.040		4/14/77	0311	2:20	361	28.29N	140.55W	-56.	.087	.093	
4/14/77	0121	0:30	360	33.23N	123.87W	-59.	.055	.077		4/14/77	0317	2:26	360	27.95N	141.43W	-56.	.073	.079	
4/14/77	0131	0:40	360	32.88N	125.36W	-59.	.062	.080		4/14/77	0332	2:41	361	27.09N	143.61W	-56.	.053	.080	
4/14/77	0136	0:45	360	32.70N	126.12W	-58.	.073	.073		4/14/77	0342	2:51	360	26.49N	145.05W	-55.	.041	.066	
4/14/77	0141	0:50	360	32.52N	126.89W	-58.	.077	.058		4/14/77	0352	3:01	360	25.87N	146.48W	-55.	.042	.074	
4/14/77	0146	0:55	360	32.33N	127.67W	-57.		.056		4/14/77	0357	3:06	360	25.56N	147.20W	-55.	.052	.076	
4/14/77	0151	1:00	360	32.13N	128.43W	-57.	.078	.045		4/14/77	0402	3:11	360	25.24N	147.92W	-54.	.052	.078	
4/14/77	0201	1:10	360	31.72N	129.98W	-57.	.046	.083		4/14/77	0407	3:16	360	24.92N	148.63W	-54.	.029	.078	
4/14/77	0211	1:20	360	31.28N	131.53W	-56.	.030	.050		4/14/77	0412	3:21	360	24.59N	149.33W	-54.	.027	.077	
4/14/77	0221	1:30	360	30.82N	133.07W	-56.	.091	.082		4/14/77	0422	3:31	360	23.94N	150.71W	-53.	.060	.102	.59
4/14/77	0231	1:40	360	30.35N	134.60W	-56.	.017	.077		4/14/77	0432	3:41	359	23.29N	152.06W	-52.	.039	.103	.38
4/14/77	0236	1:45	360	30.11N	135.36W	-56.	.047	.081		4/14/77	0442	3:51	361	22.63N	153.37W	-52.	.036	.105	.34
4/14/77	0241	1:50	360	29.86N	136.11W	-56.	.051	.082		4/14/77	0452	4:01	360	21.98N	154.65W	-52.	.062	.114	.54
4/14/77	0246	1:55	360	29.61N	136.86W	-56.	.119	.093		4/14/77	0457	4:06	360	21.66N	155.28W	-51.	.055	.113	.49
4/14/77	0251	2:00	360	29.36N	137.60W	-55.	.143	.101	1.42	4/14/77	0502	4:11	360	21.36N	155.91W	-51.	.076	.120	.63

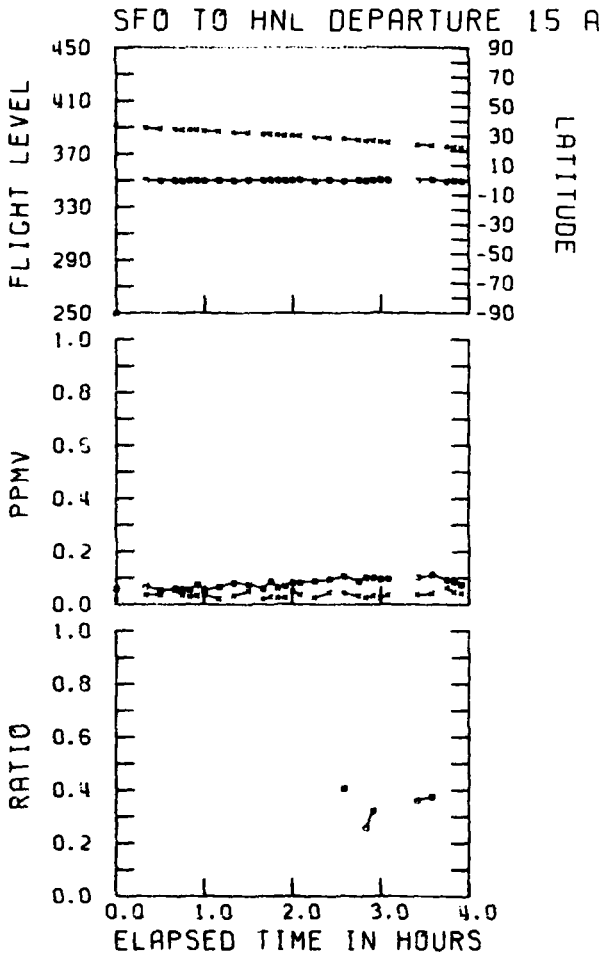
HNL TO SFO DEPARTURE 14 APR 77 UAL-N4711U



HNL TO SFO (PAGE 1 OF 1) DEPARTURE: 14 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .133 CABIN OZONE= .132 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.15 TOTAL OBS IN CABIN: 31
DATA SOURCE: GASP TAPE VL012, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/14/77	2009	0:10	302	22.35N	155.70W	-38.	.042	.113	.37
4/14/77	2019	0:20	367	23.00N	154.63W	-53.	.041	.108	.38
4/14/77	2029	0:30	370	23.86N	153.21W	-53.	.036	.099	
4/14/77	2039	0:40	370	24.59N	151.97W	-54.	.066	.105	.63
4/14/77	2044	0:45	370	24.95N	151.36W	-54.	.054	.102	.53
4/14/77	2049	0:50	370	25.30N	150.75W	-54.	.052	.106	.49
4/14/77	2054	0:55	370	25.64N	150.14W	-55.	.056	.078	
4/14/77	2059	1:00	370	25.98N	149.54W	-55.	.030	.083	
4/14/77	2109	1:10	370	26.65N	148.31W	-56.	.032	.133	.24
4/14/77	2119	1:20	370	27.30N	147.11W	-57.	.132	.115	1.15
4/14/77	2129	1:30	370	27.95N	145.87W	-57.	.036	.112	.32
4/14/77	2139	1:40	370	28.59N	144.59W	-57.	.030	.112	.27
4/14/77	2149	1:50	370	29.21N	143.32W	-57.	.038	.107	.36
4/14/77	2154	1:55	370	29.51N	142.68W	-57.	.055	.110	.50
4/14/77	2159	2:00	370	29.82N	142.02W	-57.	.036	.108	.33
4/14/77	2209	2:10	370	30.43N	140.69W	-57.	.039	.066	
4/14/77	2219	2:20	370	31.04N	139.33W	-57.	.033	.062	
4/14/77	2224	2:25	370	31.34N	138.64W	-57.	.029	.075	
4/14/77	2234	2:35	370	31.93N	137.24W	-57.	.026	.084	
4/14/77	2244	2:45	370	32.50N	135.82W	-56.	.027	.087	
4/14/77	2249	2:50	370	32.79N	135.09W	-56.	.026	.093	
4/14/77	2254	2:55	370	33.08N	134.35W	-56.	.027	.087	
4/14/77	2259	3:00	370	33.35N	133.63W	-56.	.025	.089	
4/14/77	2304	3:05	370	33.62N	132.88W	-57.	.050	.079	
4/14/77	2314	3:15	370	34.16N	131.38W	-57.	.030	.057	
4/14/77	2324	3:25	370	34.64N	129.82W	-57.	.035	.068	
4/14/77	2334	3:35	370	35.09N	128.25W	-57.	.080	.063	
4/14/77	2344	3:45	370	35.56N	126.68W	-57.	.049	.087	
4/14/77	2349	3:50	370	35.79N	125.90W	-57.	.037	.071	
4/14/77	2354	3:55	370	36.13N	125.18W	-57.	.104	.084	
4/14/77	2359	4:00	370	36.46N	124.45W	-57.	.056	.085	


SFO TO HNL DEPARTURE 15 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
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70
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30
10
-10
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-70
-90
PPMV
1.0
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RATIO
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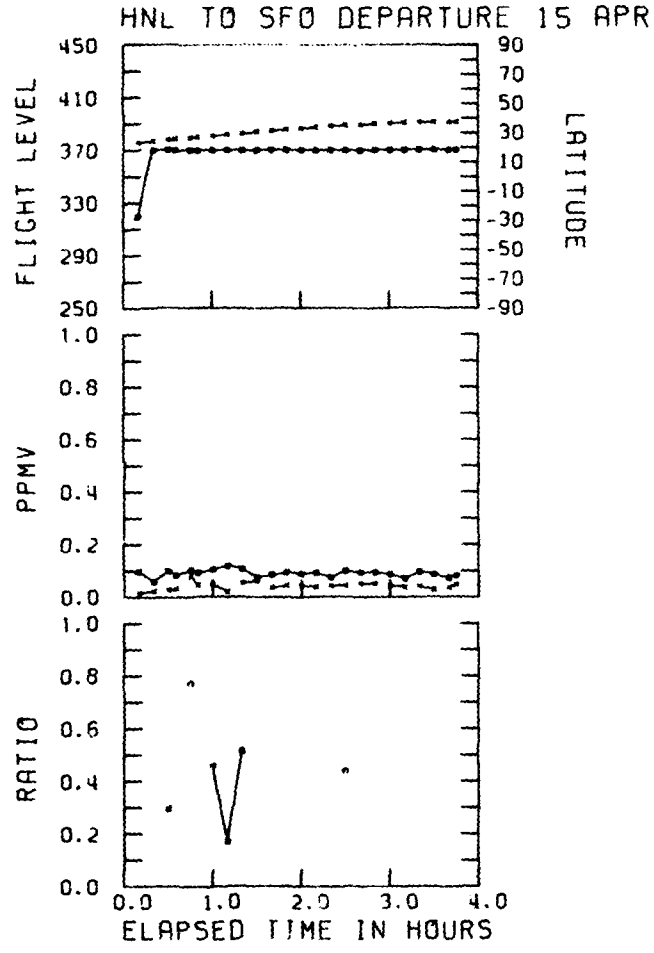
4.0
ELAPSED TIME IN HOURS

SFO TO HNL (PAGE 1 OF 1) DEPARTURE: 15 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .112 CABIN OZONE= .063 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .41 TOTAL OBS IN CABIN: 30
DATA SOURCE: GASP TAPE VL012, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/15/77	0401	0:00	215	37.09N	123.62W	-21.	.019	.060	
4/15/77	0421	0:20	350	35.66N	126.32W	-52.	.037	.067	
4/15/77	0431	0:30	350	35.22N	127.82W	-52.	.036	.052	
4/15/77	0441	0:40	350	34.76N	129.31W	-52.	.053	.059	
4/15/77	0446	0:45	350	34.52N	130.05W	-52.	.035	.057	
4/15/77	0451	0:50	350	34.27N	130.79W	-52.	.030	.055	
4/15/77	0456	0:55	350	34.02N	131.53W	-52.	.033	.075	
4/15/77	0501	1:00	350	33.77N	132.26W	-52.	.037	.052	
4/15/77	0511	1:10	350	33.24N	133.73W	-52.	.022	.067	
4/15/77	0521	1:20	350	32.69N	135.17W	-51.	.032	.080	
4/15/77	0531	1:30	350	32.13N	136.61W	-51.	.051	.075	
4/15/77	0541	1:40	350	31.53N	138.05W	-52.	.021	.059	
4/15/77	0546	1:45	350	31.23N	138.77W	-51.	.029	.087	
4/15/77	0551	1:50	350	30.92N	139.49W	-52.	.025	.063	
4/15/77	0556	1:55	350	30.61N	140.21W	-52.	.025	.070	
4/15/77	0601	2:00	350	30.30N	140.92W	-51.	.050	.082	
4/15/77	0606	2:05	350	29.97N	141.63W	-52.	.037	.083	
4/15/77	0617	2:16	349	29.29N	143.10W	-51.	.026	.087	
4/15/77	0627	2:26	350	28.62N	144.49W	-51.	.044	.095	
4/15/77	0637	2:36	349	27.92N	145.87W	-51.	.043	.106	.41
4/15/77	0647	2:46	350	27.22N	147.22W	-51.	.030	.086	
4/15/77	0652	2:51	350	26.86N	147.89W	-50.	.026	.101	.26
4/15/77	0657	2:56	350	26.50N	148.55W	-50.	.032	.100	
4/15/77	0702	3:01	350	26.14N	149.21W	-51.	.025	.094	
4/15/77	0707	3:06	350	25.78N	149.86W	-50.	.034	.096	
4/15/77	0727	3:26	350	24.33N	152.40W	-50.	.037	.103	.36
4/15/77	0737	3:36	350	23.59N	153.64W	-49.	.042	.112	.38
4/15/77	0747	3:46	349	22.90N	154.88W	-48.	.063	.093	
4/15/77	0752	3:51	350	22.55N	155.48W	-46.	.048	.087	
4/15/77	0757	3:56	349	22.21N	156.09W	-45.	.041	.074	

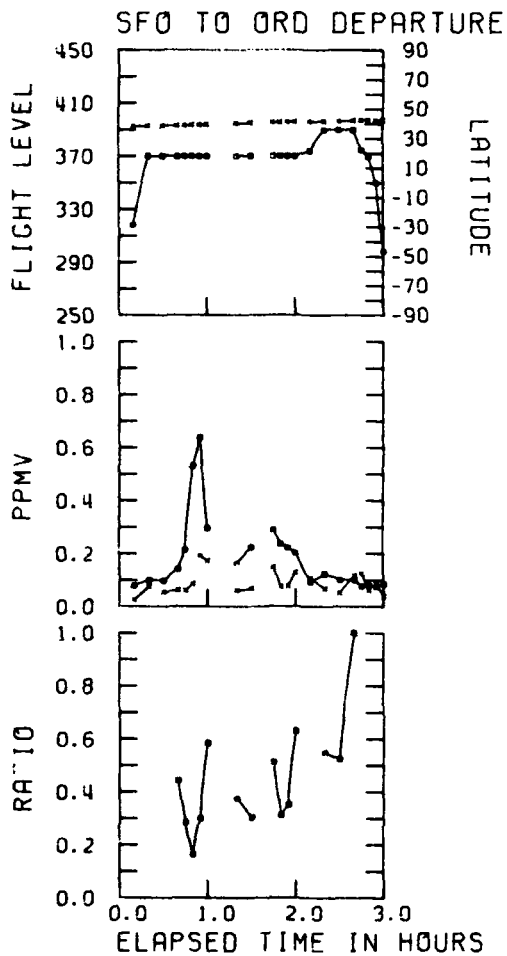

HNL TO SFO DEPARTURE 15 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
ELAPSED TIME IN HOURS

HNL TO SFO (PAGE 1 OF 1) DEPARTURE: 15 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .118 CABIN OZONE= .078 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .77 TOTAL OBS IN CABIN: 24
DATA SOURCE: GASP TAPE VL012, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/15/77	1031	0:10	319	23.14N	156.58W	-43.	.017	.097	
4/15/77	1041	0:20	370	24.31N	155.99W	-50.	.024	.059	
4/15/77	1051	0:30	370	25.24N	154.80W	-54.	.030	.101	.30
4/15/77	1057	0:36	370	25.82N	154.04W	-56.	.032	.083	
4/15/77	1107	0:46	370	26.72N	152.84W	-56.	.078	.101	.77
4/15/77	1113	0:52	370	27.17N	152.23W	-56.	.045	.092	
4/15/77	1123	1:02	370	28.05N	151.01W	-57.	.048	.105	.46
4/15/77	1133	1:12	370	28.93N	149.75W	-56.	.020	.118	.17
4/15/77	1143	1:22	370	29.81N	148.45W	-57.	.055	.107	.51
4/15/77	1153	1:32	370	30.68N	147.13W	-58.	.062	.076	
4/15/77	1203	1:42	370	31.53N	145.79W	-57.	.037	.086	
4/15/77	1213	1:52	370	32.38N	144.41W	-57.	.045	.095	
4/15/77	1223	2:02	370	33.21N	143.01W	-57.	.044	.089	
4/15/77	1233	2:12	370	34.02N	141.57W	-57.	.039	.092	
4/15/77	1243	2:22	370	34.83N	140.10W	-57.	.042	.074	
4/15/77	1253	2:32	370	35.31N	138.41W	-57.	.044	.100	
4/15/77	1302	2:41	370	35.75N	136.68W	-57.	.051	.093	
4/15/77	1313	2:52	370	36.16N	134.94W	-57.	.051	.094	
4/15/77	1323	3:02	370	36.54N	133.16W	-57.	.043	.087	
4/15/77	1333	3:12	370	36.90N	131.38W	-58.	.039	.072	
4/15/77	1343	3:22	370	37.23N	129.59W	-58.	.042	.096	
4/15/77	1353	3:32	370	37.34N	127.76W	-58.	.027	.085	
4/15/77	1402	3:41	370	37.39N	125.91W	-57.	.035	.072	
4/15/77	1407	3:46	370	37.40N	124.99W	-58.	.047	.081	

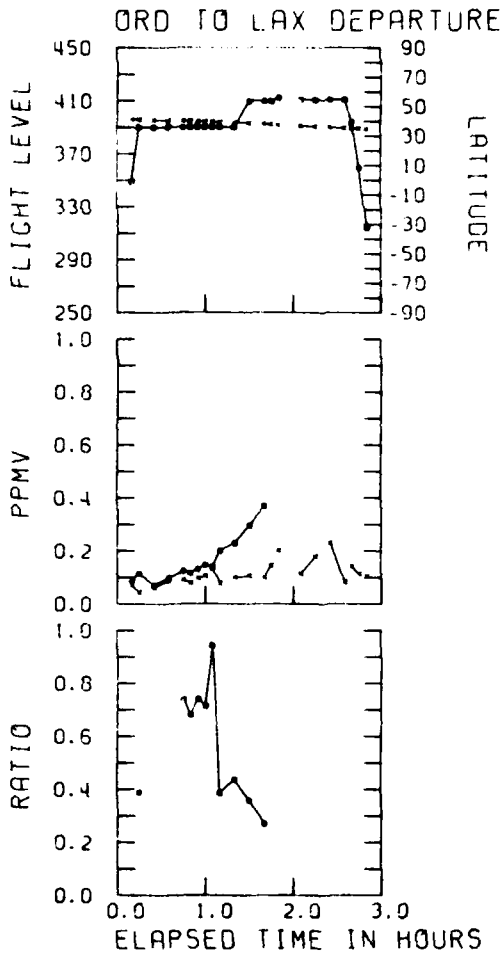
B-16

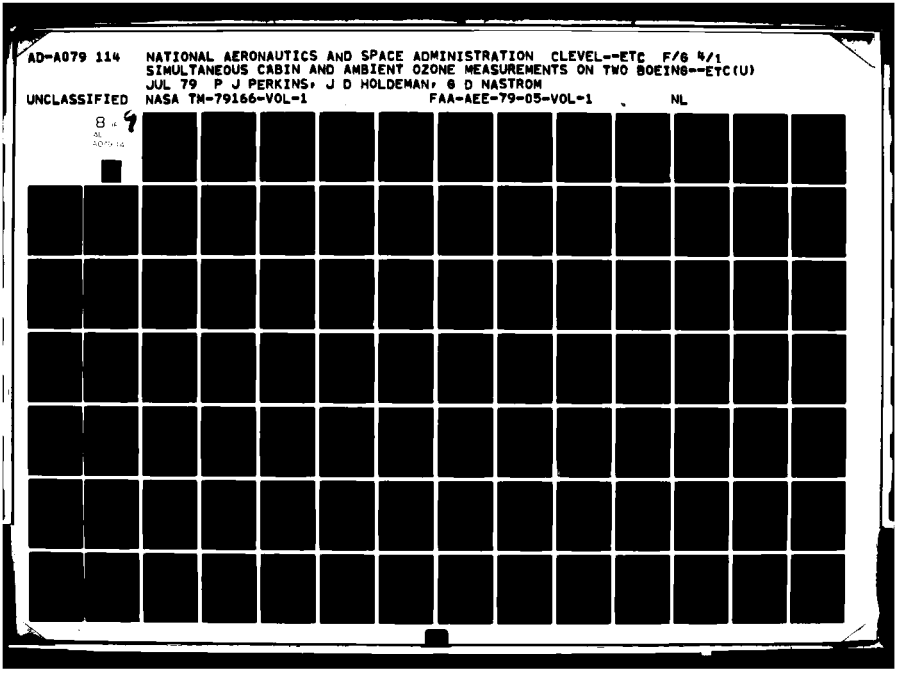

SFO TO ORD DEPARTURE 15 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

SFO TO ORD (PAGE 1 OF 1) DEPARTURE: 15 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .639 CABIN OZONE= .192 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .63 TOTAL OBS IN CABIN: 22
DATA SOURCE: GASP TAPE VL012, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/15/77	1850	0:10	318	38.33N	119.54W	-47.	.026	.079	
4/15/77	1900	0:20	370	38.59N	117.86W	-59.	.075	.099	
4/15/77	1910	0:30	370	38.83N	116.14W	-60.	.056	.097	
4/15/77	1920	0:40	370	39.06N	114.46W	-61.	.063	.142	.44
4/15/77	1925	0:45	370	39.19N	113.65W	-57.	.061	.214	.29
4/15/77	1930	0:50	370	39.39N	112.88W	-59.	.087	.531	.16
4/15/77	1935	0:55	370	39.57N	112.10W	-54.	.192	.639	.30
4/15/77	1940	1:00	370	39.75N	111.33W	-59.	.173	.296	.58
4/15/77	2000	1:20	370	40.40N	108.26W	-57.	.061	.163	.37
4/15/77	2010	1:30	370	40.70N	106.64W	-60.	.068	.223	.30
4/15/77	2025	1:45	370	41.11N	104.20W	-55.	.148	.289	.51
4/15/77	2030	1:50	370	41.24N	103.38W	-57.	.074	.237	.31
4/15/77	2035	1:55	370	41.36N	102.55W	-58.	.078	.222	.35
4/15/77	2040	2:00	370	41.47N	101.71W	-58.	.128	.203	.63
4/15/77	2050	2:10	374	41.70N	99.90W	-60.	.107	.092	
4/15/77	2100	2:20	390	41.90N	98.05W	-64.	.068	.124	.55
4/15/77	2110	2:30	390	42.07N	96.17W	-64.	.053	.101	.52
4/15/77	2120	2:40	390	42.57N	94.47W	-64.	.117	.100	
4/15/77	2125	2:45	375	42.65N	93.58W	-61.	.124	.077	
4/15/77	2130	2:50	370	42.45N	92.75W	-59.	.063	.080	
4/15/77	2135	2:55	350	42.37N	91.90W	-55.	.085	.075	
4/15/77	2140	3:00	298	42.45N	91.06W	-42.	.040	.085	

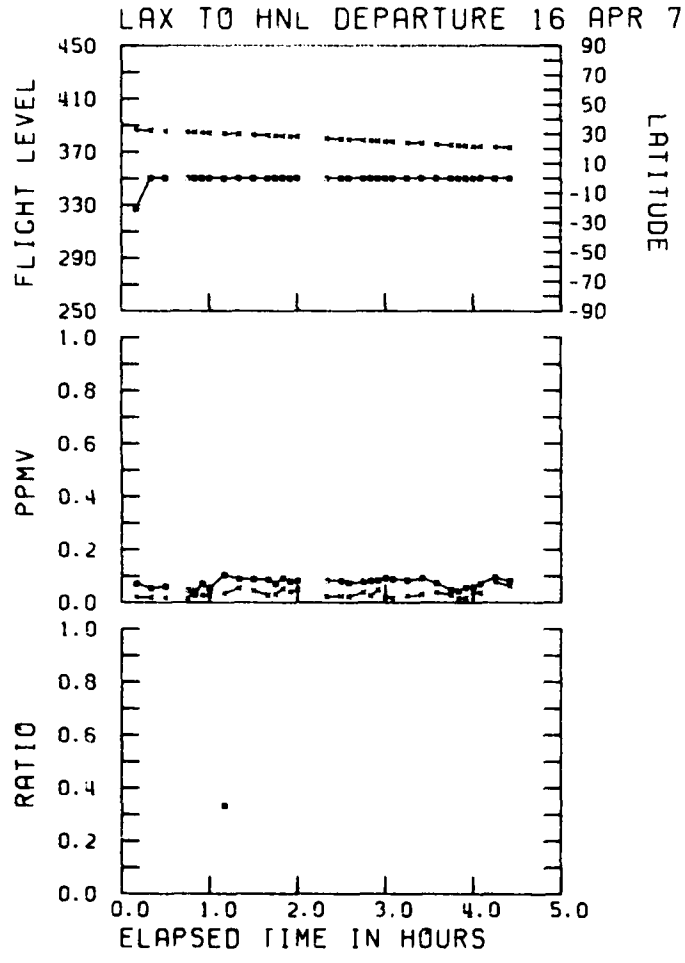

ORD TO LAX DEPARTURE 16 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS


AD-A079 114 NATIONAL AERONAUTICS AND SPACE ADMINISTRATION CLEVEL--ETC F/G 4/1
SIMULTANEOUS CABIN AND AMBIENT OZONE MEASUREMENTS ON TWO BOEING--ETC(U)
JUL 79 P J PERKINS, J D HOLDEMAN, G D NASTROM
UNCLASSIFIED NASA TM-79166-VOL-1 FAA-AEE-79-05-VOL-1 NL
8 of 9
AD A079 114

ORD TO LAX (PAGE 1 OF 1) DEPARTURE: 16 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .370 CABIN OZONE= .230 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .94 TOTAL OBS IN CABIN: 22
DATA SOURCE: GASP TAPE VL012, FILE 2 AN "A" AFTER THE GMT BELOW DENOTES MORE THAN ONE OBSERVATION WAS AVERAGED

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/16/77	0123	0:10	369	41.39N	90.66W	-55.	.070	.091		4/16/77	0243	1:30	410	38.75N	103.58W	-59.	.106	.296	.36
4/16/77	0132	0:19	390	41.23N	91.46W	-64.	.044	.113	.39	4/16/77	0253	1:40	410	38.29N	105.22W	-57.	.100	.370	.27
4/16/77	0138	0:25	390	40.98N	93.11W	-64.	.063	.069		4/16/77	0259	1:46	410	37.98N	106.30W	-55.	.145		
4/16/77	0148	0:35	390	40.70N	94.76W	-64.	.087	.098		4/16/77	0306A	1:53	412	37.65N	107.42W	-54.	.202		
4/16/77	0158	0:45	390	40.40N	96.40W	-62.	.091	.123	.74	4/16/77	0319	2:06	411	37.02N	109.40W	-53.	.114		
4/16/77	0203	0:50	390	40.24N	97.21W	-61.	.079	.116	.68	4/16/77	0329	2:16	411	36.48N	111.00W	-50.	.179		
4/16/77	0208	0:55	390	40.08N	98.01W	-61.	.097	.131	.74	4/16/77	0339	2:26	411	36.01N	112.55W	-55.	.230		
4/16/77	0213	1:00	390	39.90N	98.83W	-61.	.105	.147	.71	4/16/77	0349	2:36	411	35.54N	114.13W	-58.	.082		
4/16/77	0218	1:05	390	39.72N	99.65W	-60.	.131	.139	.94	4/16/77	0354	2:41	394	35.30N	114.89W	-62.	.141		
4/16/77	0227A	1:14	390	39.38N	101.10W	-58.	.077	.200	.39	4/16/77	0359	2:46	360	35.05N	115.67W	-55.	.113		
4/16/77	0233	1:20	390	39.17N	101.93W	-58.	.100	.229	.44	4/16/77	0404	2:51	314	34.80N	116.43W	-46.	.104		


LAX TO HNL DEPARTURE 16 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

LAX TO HNL (PAGE 1 OF 1) DEPARTURE: 16 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .105 CABIN OZONE= .078 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .33 TOTAL OBS IN CABIN: 33
DATA SOURCE: GASP TAPE VL012, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/16/77	1818	0:10	327	33.10N	121.52W	-47.	.021	.071	
4/16/77	1828	0:20	350	32.63N	122.96W	-53.	.020	.054	
4/16/77	1838	0:30	350	32.16N	124.43W	-53.	.019	.061	
4/16/77	1853	0:45	350	31.61N	126.74W	-53.	.016	.047	
4/16/77	1858	0:50	350	31.42N	127.51W	-53.	.045	.031	
4/16/77	1903	0:55	350	31.22N	128.27W	-53.	.028	.071	
4/16/77	1908	1:00	350	31.02N	129.03W	-54.	.028	.053	
4/16/77	1918	1:10	350	30.60N	130.54W	-53.	.035	.105	.33
4/16/77	1928	1:20	350	30.16N	132.05W	-53.	.054	.089	
4/16/77	1938	1:30	350	29.71N	133.53W	-53.	.045	.088	
4/16/77	1948	1:40	350	29.25N	134.98W	-53.	.029	.087	
4/16/77	1953	1:45	350	29.01N	135.70W	-53.	.031	.072	
4/16/77	1958	1:50	351	28.77N	136.41W	-53.	.052	.092	
4/16/77	2003	1:55	350	28.53N	137.12W	-53.	.042	.080	
4/16/77	2008	2:00	350	28.29N	137.80W	-52.	.049	.083	
4/16/77	2028	2:20	350	27.28N	140.56W	-53.	.023	.083	
4/16/77	2038	2:30	350	26.75N	141.92W	-53.	.024	.081	
4/16/77	2043	2:35	350	26.49N	142.59W	-53.	.023	.075	
4/16/77	2053	2:45	350	25.96N	143.88W	-52.	.038	.078	
4/16/77	2058	2:50	350	25.69N	144.53W	-52.	.026	.082	
4/16/77	2103	2:55	350	25.42N	145.17W	-52.	.049	.084	
4/16/77	2108	3:00	350	25.15N	145.81W	-51.	.022	.092	
4/16/77	2113	3:05	350	24.87N	146.45W	-51.	.016	.088	
4/16/77	2123	3:15	350	24.32N	147.69W	-51.	.026	.084	
4/16/77	2133	3:25	350	23.75N	148.93W	-50.	.031	.092	
4/16/77	2143	3:35	350	23.18N	150.14W	-47.	.038	.074	
4/16/77	2153	3:45	350	22.61N	151.35W	-46.	.029	.048	
4/16/77	2158	3:50	350	22.32N	151.94W	-45.	.016	.043	
4/16/77	2203	3:55	350	22.03N	152.52W	-44.	.017	.057	
4/16/77	2208	4:00	350	21.74N	153.09W	-43.	.040	.059	
4/16/77	2213	4:05	350	21.51N	153.67W	-42.	.036	.071	
4/16/77	2223	4:15	350	21.31N	154.82W	-42.	.078	.096	
4/16/77	2233	4:25	350	20.97N	155.93W	-42.	.063	.082	

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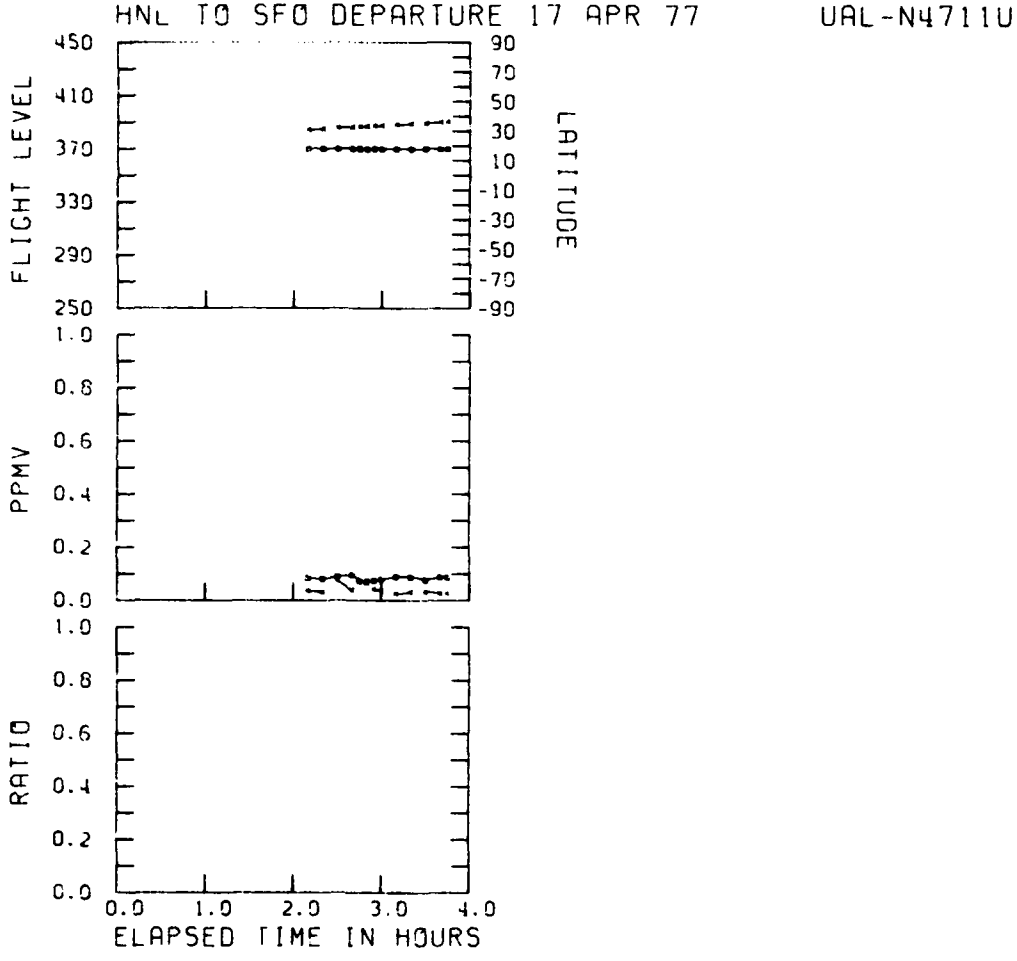
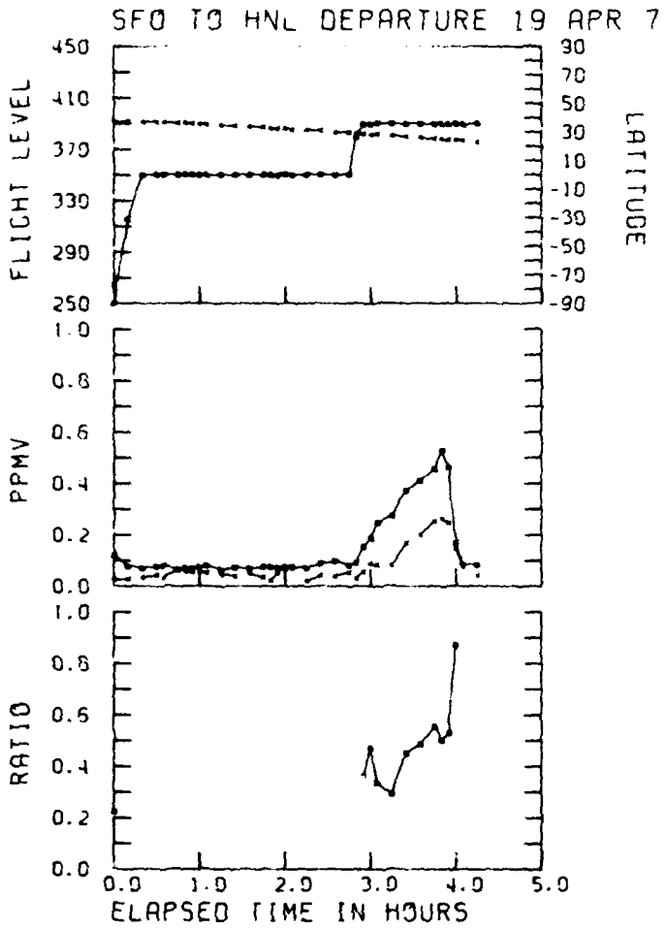

HNL TO SFO DEPARTURE 17 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
ELAPSED TIME IN HOURS

HNL TO SFO (PAGE 1 OF 1) DEPARTURE: 17 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .096 CABIN OZONE= .076 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)=***** TOTAL OBS IN CABIN: 13
DATA SOURCE: GASP TAPE VL012, FILE 2

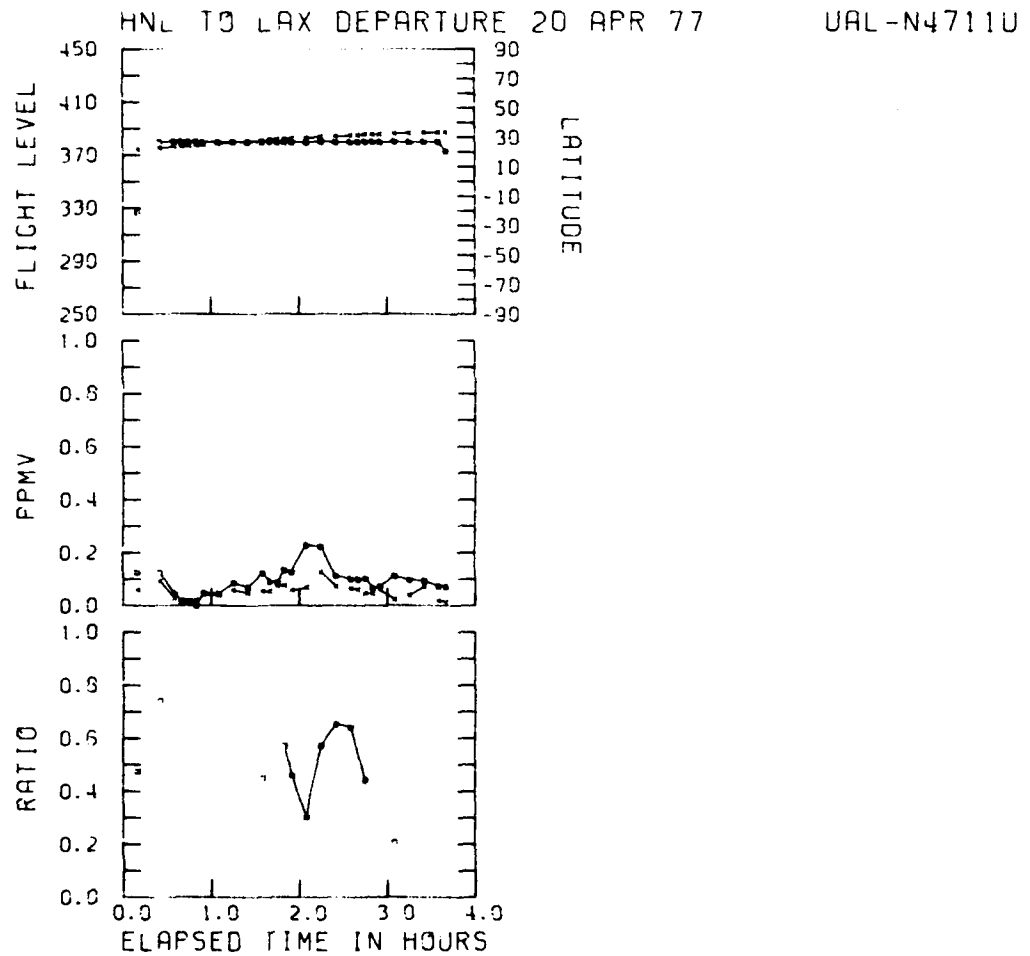
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/17/77	0314	2:10	370	31.05N	139.33W	-60.	.038	.085	
4/17/77	0324	2:20	370	31.66N	137.89W	-59.	.032	.081	
4/17/77	0334	2:30	370	32.27N	136.42W	-59.	.076	.089	
4/17/77	0344	2:40	370	32.86N	134.93W	-59.	.040	.096	
4/17/77	0349	2:45	370	33.16N	134.17W	-59.	.070	.076	
4/17/77	0354	2:50	370	33.45N	133.40W	-59.	.076	.070	
4/17/77	0359	2:55	370	33.73N	132.63W	-59.	.043	.076	
4/17/77	0404	3:00	370	34.01N	131.84W	-59.	.036	.080	
4/17/77	0414	3:10	370	34.56N	130.25W	-59.	.027	.089	
4/17/77	0424	3:20	370	35.08N	128.64W	-58.	.032	.088	
4/17/77	0434	3:30	370	35.59N	126.98W	-58.	.034	.078	
4/17/77	0444	3:40	370	36.16N	125.34W	-58.	.027	.088	
4/17/77	0449	3:45	370	36.52N	124.56W	-58.	.027	.087	


SFO TO HNL DEPARTURE 19 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

SFO TO HNL (PAGE 1 OF 1) DEPARTURE: 19 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .528 CABIN OZONE= .264 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .87 TOTAL OBS IN CABIN: 35
DATA SOURCE: GASP TAPE VL012, FILE 2

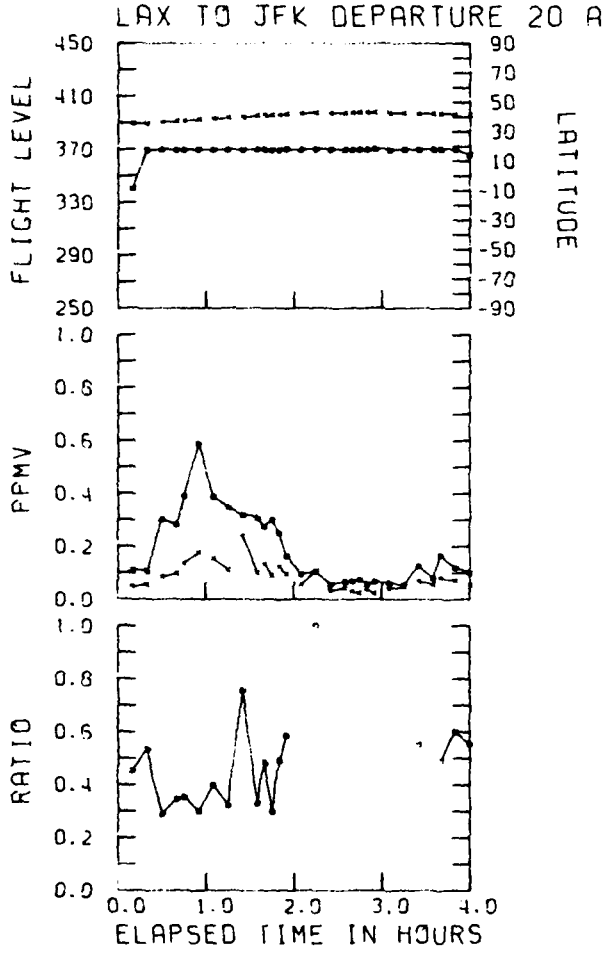
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/19/77	1745	0:00	217	37.63N	123.74W	-24.	.027	.121	.22
4/19/77	1755	0:10	316	37.76N	125.17W	-48.	.029	.078	
4/19/77	1805	0:20	350	37.60N	126.64W	-56.	.035	.070	
4/19/77	1815	0:30	350	37.17N	128.14W	-56.	.045	.078	
4/19/77	1820	0:35	350	36.95N	128.88W	-56.	.034	.080	
4/19/77	1830	0:45	350	36.49N	130.36W	-56.	.066	.066	
4/19/77	1835	0:50	350	36.25N	131.09W	-56.	.056	.071	
4/19/77	1840	0:55	350	36.01N	131.81W	-57.	.054	.069	
4/19/77	1845	1:00	350	35.76N	132.53W	-56.	.059	.074	
4/19/77	1850	1:05	350	35.51N	133.25W	-56.	.052	.081	
4/19/77	1900	1:15	350	34.99N	134.67W	-56.	.048	.065	
4/19/77	1910	1:25	350	34.45N	136.09W	-55.	.038	.073	
4/19/77	1920	1:35	350	33.90N	137.48W	-56.	.050	.069	
4/19/77	1930	1:45	350	33.33N	138.85W	-55.	.034	.076	
4/19/77	1935	1:50	350	33.04N	139.53W	-55.	.022	.075	
4/19/77	1940	1:55	350	32.75N	140.21W	-55.	.052	.071	
4/19/77	1945	2:00	350	32.46N	140.88W	-55.	.079	.071	
4/19/77	1950	2:05	350	32.16N	141.54W	-55.	.077	.072	
4/19/77	2000	2:15	350	31.55N	142.87W	-55.	.023	.072	
4/19/77	2010	2:25	350	30.92N	144.18W	-55.	.040	.087	
4/19/77	2020	2:35	350	30.27N	145.48W	-55.	.039	.098	
4/19/77	2030	2:45	350	29.62N	146.76W	-54.	.055	.082	
4/19/77	2035	2:50	380	29.28N	147.40W	-62.	.030	.091	
4/19/77	2040	2:55	390	28.95N	148.02W	-64.	.055	.152	.36
4/19/77	2045	3:00	390	28.62N	148.63W	-64.	.088	.187	.47
4/19/77	2050	3:05	390	28.29N	149.24W	-64.	.083	.248	.33
4/19/77	2100	3:15	390	27.59N	150.48W	-64.	.079	.272	.29
4/19/77	2110	3:25	390	26.92N	151.66W	-60.	.168	.372	.45
4/19/77	2120	3:35	390	26.24N	152.80W	-59.	.199	.411	.48
4/19/77	2130	3:45	390	25.59N	153.88W	-57.	.252	.455	.55
4/19/77	2135	3:50	390	25.26N	154.42W	-55.	.264	.528	.50
4/19/77	2140	3:55	390	24.93N	154.94W	-55.	.245	.462	.53
4/19/77	2145	4:00	390	24.61N	155.46W	-51.	.147	.169	.87
4/19/77	2150	4:05	390	24.15N	155.84W	-51.	.074	.086	
4/19/77	2200	4:15	390	23.01N	156.38W	-51.	.041	.082	


HNL TO LAX DEPARTURE 20 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
ELAPSED TIME IN HOURS

HNL TO LAX (PAGE 1 OF 1) DEPARTURE: 20 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .228 CABIN OZONE= .127 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .74 TOTAL OBS IN CABIN: 27
DATA SOURCE: GASP TAPE VL012, FILE 2

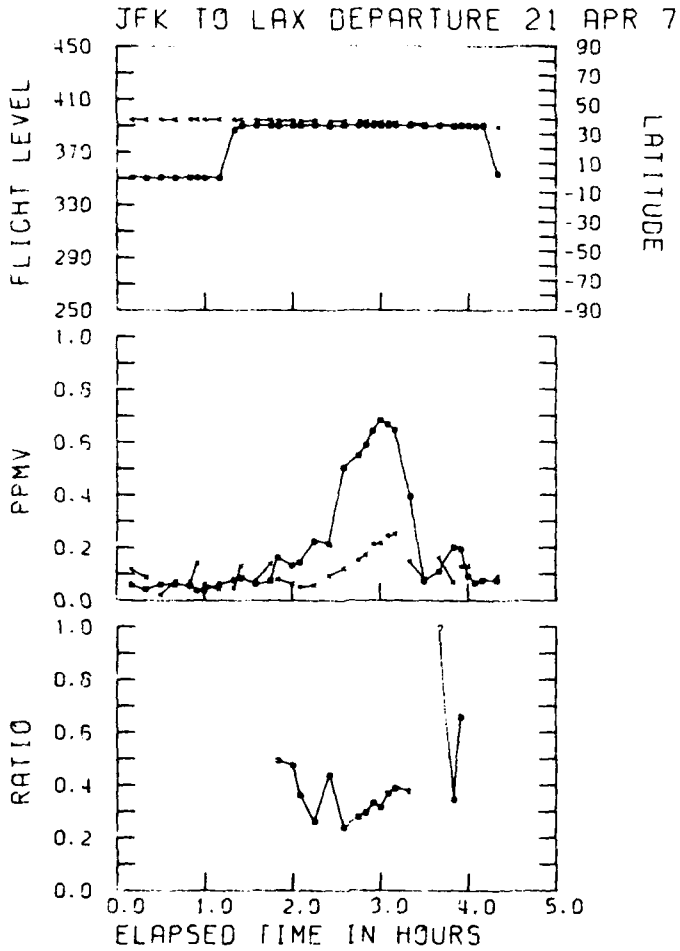
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/20/77	0016	0:10	327	21.97N	155.16W	-44.	.060	.126	.48	4/20/77	0201	1:55	380	29.36N	137.56W	-58.	.058	.126	.46
4/20/77	0031	0:25	380	22.88N	152.87W	-54.	.092	.124	.74	4/20/77	0211	2:05	380	29.93N	135.88W	-57.	.069	.228	.30
4/20/77	0041	0:35	380	23.65N	151.31W	-55.	.028	.044		4/20/77	0221	2:15	380	30.46N	134.23W	-59.	.127	.222	.57
4/20/77	0046	0:40	380	24.03N	150.51W	-56.	.022	.012		4/20/77	0231	2:25	380	30.94N	132.67W	-60.	.073	.112	.65
4/20/77	0051	0:45	380	24.41N	149.71W	-55.		.015		4/20/77	0241	2:35	380	31.40N	131.09W	-61.	.064	.100	
4/20/77	0056	0:50	380	24.79N	148.89W	-55.	.021	0.000		4/20/77	0246	2:40	380	31.63N	130.30W	-60.	.060	.099	
4/20/77	0101	0:55	380	25.17N	148.07W	-55.	.042	.048		4/20/77	0251	2:45	380	31.84N	129.50W	-61.	.045	.102	.44
4/20/77	0111	1:05	380	25.92N	146.36W	-55.	.041	.045		4/20/77	0256	2:50	380	32.06N	128.70W	-62.	.045	.067	
4/20/77	0121	1:15	380	26.67N	144.60W	-55.	.059	.086		4/20/77	0301	2:55	380	32.27N	127.89W	-62.	.060	.073	
4/20/77	0131	1:25	380	27.40N	142.81W	-55.	.048	.070		4/20/77	0311	3:05	380	32.66N	126.27W	-62.	.023	.111	.21
4/20/77	0141	1:35	380	28.08N	141.08W	-56.	.055	.122	.45	4/20/77	0321	3:15	380	33.04N	124.65W	-62.	.039	.096	
4/20/77	0146	1:40	380	28.41N	140.20W	-57.	.052	.089		4/20/77	0331	3:25	380	33.32N	123.00W	-62.	.071	.093	
4/20/77	0151	1:45	380	28.74N	139.31W	-57.	.075	.087		4/20/77	0341	3:35	380	33.57N	121.33W	-62.	.019	.073	
4/20/77	0156	1:50	380	29.06N	138.42W	-58.	.076	.133	.57	4/20/77	0346	3:40	373	33.68N	120.48W	-61.	.013	.071	


LAX TO JFK DEPARTURE 20 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
ELAPSED TIME IN HOURS

LAX TO JFK (PAGE 1 OF 1) DEPARTURE: 20 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .588 CABIN OZONE= .241 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.01 TOTAL OBS IN CABIN: 29
DATA SOURCE: GASP TAPE VL012, FILE 2

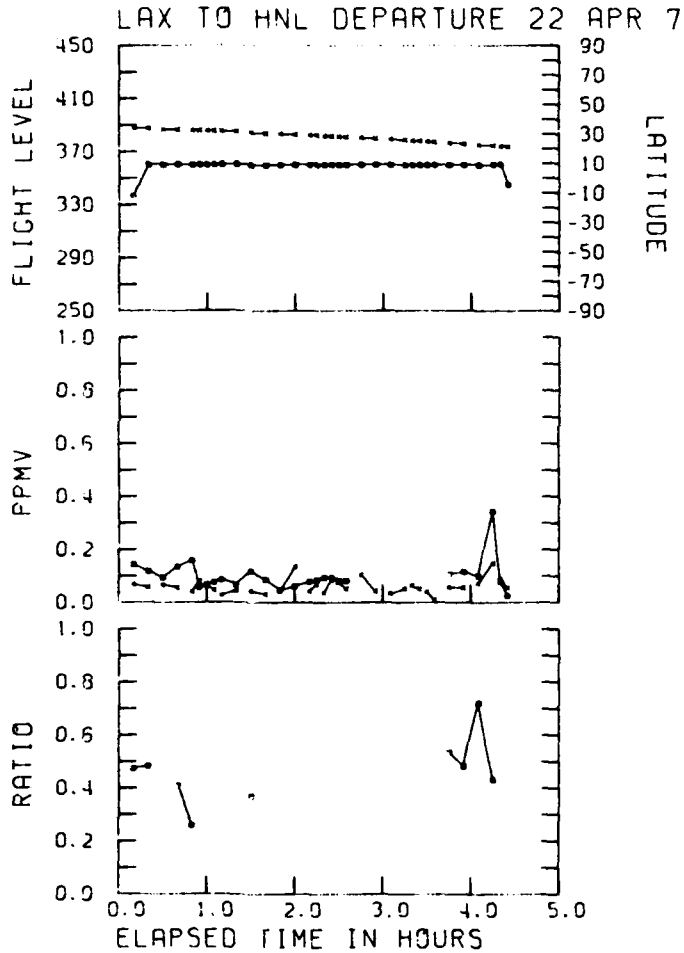
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/20/77	2041	0:10	340	35.15N	116.24W	-55.	.051	.112	.46
4/20/77	2051	0:20	370	35.87N	114.87W	-62.	.056	.105	.53
4/20/77	2101	0:30	370	36.58N	113.48W	-59.	.087	.303	.29
4/20/77	2111	0:40	370	37.27N	112.04W	-58.	.097	.281	.35
4/20/77	2116	0:45	370	37.61N	111.32W	-57.	.138	.391	.35
4/20/77	2126	0:55	370	38.28N	109.85W	-55.	.177	.588	.30
4/20/77	2136	1:05	370	38.94N	108.34W	-57.	.154	.388	.40
4/20/77	2146	1:15	370	39.59N	106.77W	-55.	.112	.348	.32
4/20/77	2156	1:25	370	40.23N	105.13W	-58.	.241	.319	.76
4/20/77	2206	1:35	370	40.85N	103.47W	-58.	.102	.309	.33
4/20/77	2211	1:40	370	41.15N	102.63W	-58.	.133	.276	.48
4/20/77	2216	1:45	370	41.45N	101.76W	-57.	.089	.299	.30
4/20/77	2221	1:50	370	41.74N	100.89W	-57.	.125	.254	.49
4/20/77	2226	1:55	370	42.02N	100.00W	-57.	.096	.164	.59
4/20/77	2236	2:05	370	42.50N	98.17W	-57.	.059	.096	
4/20/77	2246	2:15	370	42.72N	96.27W	-58.	.104	.103	1.01
4/20/77	2256	2:25	370	42.85N	94.40W	-58.	.035	.058	
4/20/77	2306	2:35	370	42.96N	92.50W	-58.	.042	.066	
4/20/77	2311	2:40	370	43.00N	91.53W	-58.	.031	.070	
4/20/77	2316	2:45	370	43.03N	90.56W	-57.	.024	.074	
4/20/77	2321	2:50	370	43.06N	89.58W	-57.	.037	.057	
4/20/77	2326	2:55	370	43.10N	88.60W	-57.	.023	.067	
4/20/77	2336	3:05	370	42.92N	86.65W	-56.	.042	.063	
4/20/77	2346	3:15	370	42.58N	84.75W	-57.	.048	.054	
4/20/77	2356	3:25	370	42.36N	82.83W	-57.	.069	.125	.55
4/21/77	0006	3:35	370	42.16N	80.94W	-58.	.057	.081	
4/21/77	0011	3:40	370	42.07N	79.99W	-57.	.080	.163	.49
4/21/77	0021	3:50	370	41.80N	78.09W	-58.	.072	.120	.60
4/21/77	0031	4:00	366	41.41N	76.25W	-58.	.056	.101	.55


JFK TO LAX DEPARTURE 21 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

JFK TO LAX (PAGE 1 OF 1) DEPARTURE: 21 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .683 CABIN OZONE= .251 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.47 TOTAL OBS IN CABIN: 33
DATA SOURCE: GASP TAPE VL012, FILE 2

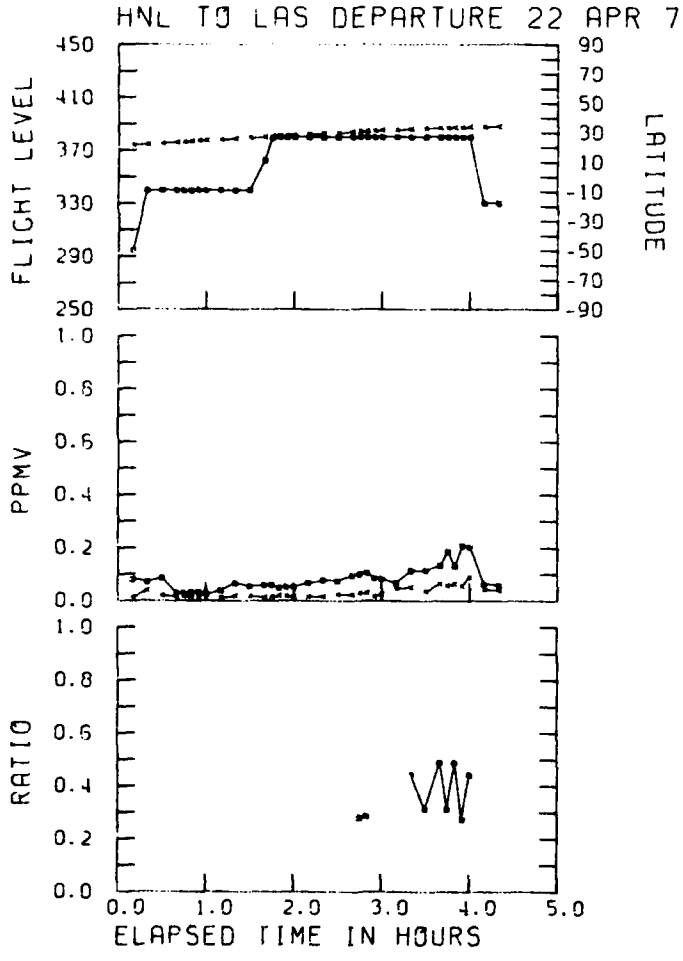
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/21/77	1747	0:14	351	40.10N	77.51W	-50.	.120	.060	
4/21/77	1757	0:24	350	40.10N	79.19W	-51.	.088	.042	
4/21/77	1807	0:34	351	40.11N	80.85W	-50.	.023	.061	
4/21/77	1817	0:44	350	40.11N	82.51W	-50.	.073	.061	
4/21/77	1827	0:54	350	40.10N	84.11W	-50.	.072	.056	
4/21/77	1832	0:59	351	40.08N	84.92W	-50.	.141	.037	
4/21/77	1837	1:04	350	40.06N	85.71W	-50.	.062	.039	
4/21/77	1847	1:14	350	40.00N	87.28W	-50.	.043	.060	
4/21/77	1857	1:24	387	39.91N	88.85W	-60.	.047	.078	
4/21/77	1902	1:29	390	39.87N	89.58W	-61.	.132	.086	
4/21/77	1912	1:39	390	39.76N	91.06W	-61.	.076	.063	
4/21/77	1922	1:49	390	39.64N	92.52W	-61.	.138	.074	
4/21/77	1927	1:54	390	39.57N	93.25W	-61.	.081	.164	.49
4/21/77	1937	2:04	390	39.41N	94.76W	-61.	.064	.134	.48
4/21/77	1942	2:09	390	39.32N	95.54W	-60.	.052	.144	.36
4/21/77	1948	2:15	390	39.22N	96.41W	-59.	.059	.225	.26
4/21/77	1958	2:25	390	39.01N	97.96W	-61.	.094	.215	.44
4/21/77	2008	2:35	390	38.77N	99.59W	-55.	.121	.502	.24
4/21/77	2018	2:45	390	38.51N	101.19W	-55.	.153	.549	.28
4/21/77	2023	2:50	390	38.37N	102.01W	-53.	.174	.589	.30
4/21/77	2028	2:55	390	38.22N	102.84W	-52.	.213	.642	.33
4/21/77	2033	3:00	390	38.07N	103.67W	-54.	.216	.683	.32
4/21/77	2038	3:05	390	37.90N	104.50W	-54.	.246	.668	.37
4/21/77	2043	3:10	390	37.74N	105.32W	-55.	.251	.646	.39
4/21/77	2053	3:20	390	37.39N	106.93W	-60.	.149	.395	.38
4/21/77	2103	3:30	390	37.02N	108.49W	-64.	.081	.073	
4/21/77	2113	3:40	390	36.65N	110.00W	-63.	.163	.111	1.47
4/21/77	2123	3:50	390	36.26N	111.48W	-63.	.070	.203	.34
4/21/77	2128	3:55	390	36.07N	112.21W	-63.	.130	.197	.66
4/21/77	2133	4:00	390	35.86N	112.93W	-64.	.130	.093	
4/21/77	2138	4:05	390	35.65N	113.65W	-65.	.067	.067	
4/21/77	2143	4:10	390	35.44N	114.38W	-64.	.076	.078	
4/21/77	2153	4:20	353	35.01N	115.78W	-56.	.092	.075	


LAX TO HNL DEPARTURE 22 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

LAX TO HNL (PAGE 1 OF 1) DEPARTURE: 22 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .343 CABIN OZONE= .148 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .54 TOTAL OBS IN CABIN: 34
DATA SOURCE: GASP TAPE VL012, FILE 2

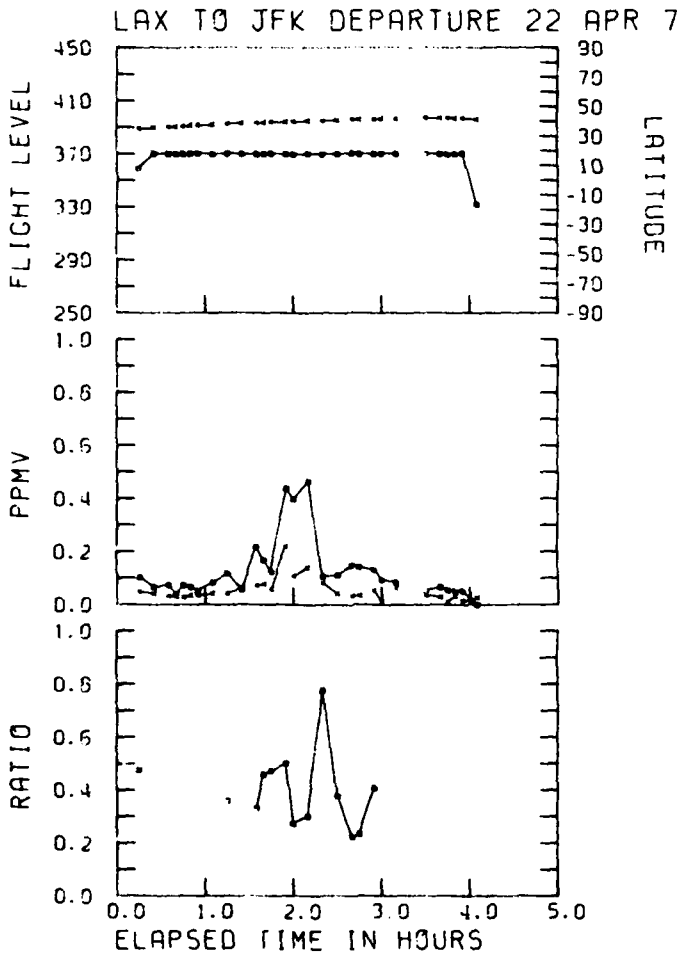
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/22/77	0054	0:10	337	34.07N	121.07W	-51.	.068	.143	.48
4/22/77	0104	0:20	360	33.70N	122.39W	-58.	.057	.118	.48
4/22/77	0114	0:30	360	33.30N	123.74W	-58.	.066	.094	
4/22/77	0124	0:40	360	32.93N	125.12W	-58.	.055	.134	.41
4/22/77	0134	0:50	360	32.59N	126.55W	-57.	.041	.158	.26
4/22/77	0139	0:55	360	32.41N	127.29W	-57.	.080	.058	
4/22/77	0144	1:00	360	32.23N	128.03W	-57.	.069	.064	
4/22/77	0149	1:05	360	32.05N	128.73W	-57.	.045	.076	
4/22/77	0154	1:10	360	31.86N	129.44W	-58.	.027	.086	
4/22/77	0204	1:20	360	31.47N	130.84W	-58.	.044	.068	
4/22/77	0215	1:31	360	31.03N	132.37W	-57.	.044	.119	.37
4/22/77	0225	1:41	360	30.62N	133.72W	-57.	.031	.087	
4/22/77	0235	1:51	360	30.19N	135.09W	-57.	.044	.048	
4/22/77	0245	2:01	360	29.73N	136.49W	-57.	.135	.061	
4/22/77	0255	2:11	360	29.26N	137.85W	-56.	.041	.079	
4/22/77	0300	2:16	360	29.02N	138.54W	-56.	.068	.085	
4/22/77	0305	2:21	360	28.77N	139.23W	-56.	.037	.094	
4/22/77	0310	2:26	360	28.52N	139.92W	-56.	.085	.094	
4/22/77	0315	2:31	360	28.26N	140.60W	-56.	.077	.082	
4/22/77	0320	2:36	360	28.00N	141.28W	-56.	.051	.082	
4/22/77	0330	2:46	360	27.47N	142.64W	-59.	.104		
4/22/77	0340	2:56	360	26.92N	144.00W	-55.	.042		
4/22/77	0350	3:06	360	26.35N	145.37W	-55.	.033		
4/22/77	0400	3:16	360	25.77N	146.72W	-54.	.051		
4/22/77	0405	3:21	360	25.47N	147.40W	-54.	.064		
4/22/77	0410	3:26	360	25.16N	148.07W	-54.	.050		
4/22/77	0415	3:31	360	24.86N	148.75W	-54.	.040		
4/22/77	0420	3:36	360	24.54N	149.42W	-53.	.009		
4/22/77	0430	3:46	360	23.92N	150.74W	-54.	.058	.108	.54
4/22/77	0440	3:56	360	23.30N	152.02W	-52.	.056	.116	.48
4/22/77	0450	4:06	360	22.68N	153.26W	-52.	.072	.100	
4/22/77	0500	4:16	360	22.05N	154.48W	-49.	.148	.343	.43
4/22/77	0505	4:21	360	21.77N	155.08W	-49.	.086	.079	
4/22/77	0510	4:26	345	21.54N	155.67W	-45.	.056	.026	


HNL TO LAS DEPARTURE 22 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

HNL TO LAS (PAGE 1 OF 1) DEPARTURE: 22 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .208 CABIN OZONE= .090 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .49 TOTAL OBS IN CABIN: 34
DATA SOURCE: GASP TAPE VL012, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/22/77	0943	0:10	295	21.92N	155.33W	-34.	.014	.080	
4/22/77	0953	0:20	340	22.36N	153.91W	-47.	.039	.070	
4/22/77	1003	0:30	340	23.04N	152.56W	-47.	.020	.085	
4/22/77	1013	0:40	340	23.67N	151.26W	-48.	.014	.029	
4/22/77	1018	0:45	340	23.99N	150.61W	-48.	.017	.028	
4/22/77	1023	0:50	340	24.30N	149.96W	-48.	.011	.032	
4/22/77	1028	0:55	340	24.61N	149.30W	-48.	.011	.033	
4/22/77	1033	1:00	340	24.92N	148.63W	-48.	.030	.023	
4/22/77	1043	1:10	340	25.55N	147.25W	-48.	.012	.038	
4/22/77	1053	1:20	340	26.16N	145.87W	-49.	.018	.065	
4/22/77	1103	1:30	340	26.78N	144.43W	-49.	.017	.054	
4/22/77	1113	1:40	363	27.38N	142.99W	-55.	.013	.059	
4/22/77	1118	1:45	379	27.66N	142.28W	-60.	.016	.060	
4/22/77	1123	1:50	380	27.95N	141.55W	-60.	.018	.048	
4/22/77	1128	1:55	380	28.23N	140.82W	-60.	.017	.052	
4/22/77	1133	2:00	380	28.51N	140.09W	-61.	.013	.051	
4/22/77	1143	2:10	380	29.06N	138.60W	-61.	.015	.067	
4/22/77	1153	2:20	380	29.60N	137.09W	-61.	.015	.077	
4/22/77	1203	2:30	380	30.13N	135.55W	-61.	.024	.074	
4/22/77	1213	2:40	380	30.64N	133.98W	-61.	.023	.095	
4/22/77	1218	2:45	380	30.90N	133.18W	-62.	.028	.100	
4/22/77	1223	2:50	380	31.15N	132.35W	-62.	.030	.105	.29
4/22/77	1228	2:55	380	31.39N	131.56W	-62.	.016	.085	
4/22/77	1233	3:00	380	31.63N	130.74W	-61.	.024	.082	
4/22/77	1243	3:10	380	32.09N	129.11W	-62.	.048	.067	
4/22/77	1253	3:20	380	32.51N	127.52W	-62.	.050	.113	.44
4/22/77	1303	3:30	380	32.92N	125.92W	-63.	.036	.115	.31
4/22/77	1313	3:40	380	33.29N	124.32W	-62.	.065	.133	.49
4/22/77	1318	3:45	380	33.47N	123.53W	-60.	.058	.186	.31
4/22/77	1323	3:50	380	33.65N	122.73W	-60.	.064	.131	.49
4/22/77	1328	3:55	380	33.78N	121.92W	-61.	.057	.208	.27
4/22/77	1333	4:00	380	33.88N	121.11W	-61.	.090	.203	.44
4/22/77	1343	4:10	330	34.08N	119.45W	-50.	.042	.063	
4/22/77	1353	4:20	330	34.42N	117.86W	-50.	.040	.058	


LAX TO JFK DEPARTURE 22 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
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RATIO
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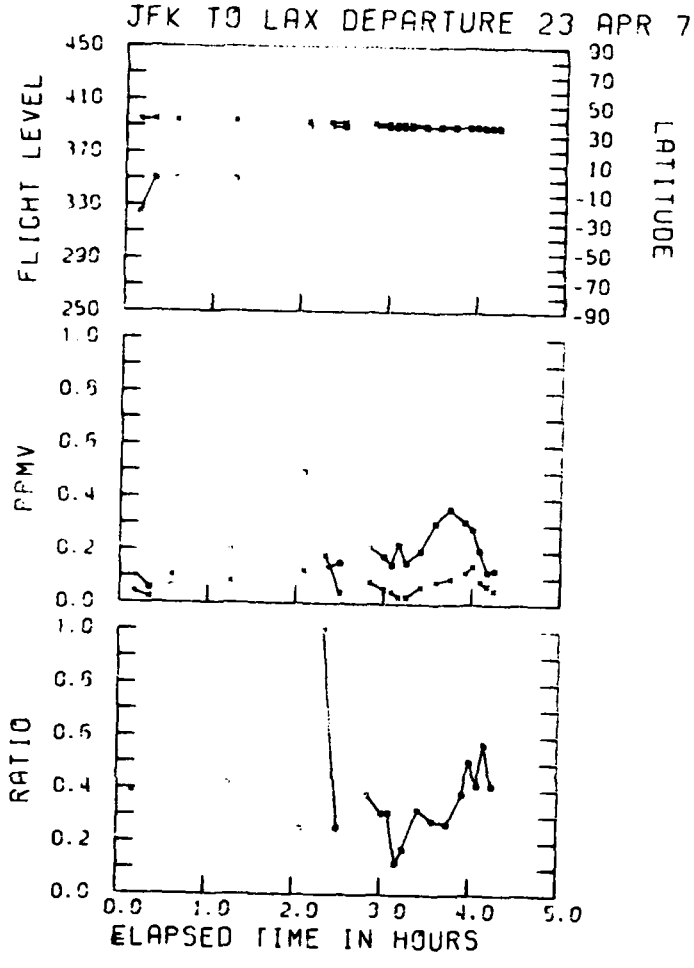
5.0
ELAPSED TIME IN HOURS

LAX TO JFK (PAGE 1 OF 1) DEPARTURE: 22 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .465 CABIN OZONE= .219 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .78 TOTAL OBS IN CABIN: 29
DATA SOURCE: GASP TAPE VL012, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/22/77	2045	0:15	359	35.26N	115.73W	-57.	.049	.103	.48
4/22/77	2055	0:25	370	35.83N	114.16W	-60.	.042	.066	
4/22/77	2105	0:35	370	36.39N	112.55W	-60.	.033	.073	
4/22/77	2110	0:40	370	36.66N	111.73W	-60.	.031	.039	
4/22/77	2115	0:45	370	36.92N	110.89W	-60.	.028	.072	
4/22/77	2120	0:50	370	37.17N	110.08W	-60.	.035	.066	
4/22/77	2126	0:56	370	37.42N	109.24W	-60.	.035	.052	
4/22/77	2135	1:05	370	37.89N	107.61W	-60.	.042	.083	
4/22/77	2146	1:16	370	38.35N	105.89W	-61.	.042	.117	.36
4/22/77	2155	1:25	370	38.77N	104.21W	-62.	.063	.056	
4/22/77	2205	1:35	370	39.16N	102.57W	-61.	.072	.217	.33
4/22/77	2210	1:40	370	39.34N	101.76W	-60.	.077	.168	.46
4/22/77	2216	1:46	370	39.52N	100.95W	-60.	.059	.125	.47
4/22/77	2225	1:55	370	39.84N	99.33W	-57.	.219	.437	.50
4/22/77	2230	2:00	370	40.00N	98.51W	-57.	.109	.398	.27
4/22/77	2240	2:10	370	40.30N	96.84W	-55.	.140	.465	.30
4/22/77	2250	2:20	370	40.57N	95.17W	-57.	.083	.107	.78
4/22/77	2300	2:30	370	40.83N	93.44W	-59.	.042	.111	.38
4/22/77	2310	2:40	370	41.07N	91.65W	-58.	.033	.147	.22
4/22/77	2315	2:45	370	41.18N	90.74W	-58.	.033	.141	.23
4/22/77	2325	2:55	370	41.43N	88.88W	-58.	.053	.130	.41
4/22/77	2330	3:00	370	41.56N	87.94W	-58.	.010	.093	
4/22/77	2340	3:10	370	41.80N	86.05W	-58.	.062	.083	
4/23/77	0000	3:30	370	42.20N	82.17W	-57.	.036	.054	
4/23/77	0010	3:40	370	42.35N	80.18W	-57.	.028	.066	
4/23/77	0015	3:45	370	42.41N	79.18W	-56.	.011	.055	
4/23/77	0020	3:50	370	42.15N	78.27W	-56.	.032	.051	
4/23/77	0025	3:55	370	41.94N	77.34W	-56.	.015	.051	
4/23/77	0035	4:05	332	41.46N	75.51W	-46.	.026	0.000	


JFK TO LAX DEPARTURE 23 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
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-70
-90
PPMV
1.0
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RATIO
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ELAPSED TIME IN HOURS

JFK TO LAX (PAGE 1 OF 1) DEPARTURE: 23 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .495 CABIN OZONE= .182 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.34 TOTAL OBS IN CABIN: 20
DATA SOURCE: GASP TAPE VL012, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/23/77	1737	0:10	325	40.17N	76.41W	-44.	.042	.107	.39	4/23/77	2037	3:10	390	37.60N	105.56W	-63.	.027	.225	.12
4/23/77	1747	0:20	350	40.13N	77.96W	-51.	.023	.057		4/23/77	2042	3:15	390	37.44N	106.30W	-62.	.027	.155	.17
4/23/77	1802	0:35	350	40.03N	80.32W	-53.	.106	.063		4/23/77	2052	3:25	390	37.10N	107.78W	-62.	.065	.201	.32
4/23/77	1842	1:15	350	39.87N	86.70W	-55.	.084	.200	.42	4/23/77	2102	3:35	390	36.75N	109.24W	-60.	.087	.307	.28
4/23/77	1932	2:05	390	39.33N	95.30W	-58.	.124	.495	.25	4/23/77	2112	3:45	390	36.39N	110.68W	-59.	.097	.360	.27
4/23/77	1947	2:20	390	38.97N	97.80W	-64.	.182	.136	1.34	4/23/77	2122	3:55	390	35.95N	112.11W	-57.	.120	.312	.38
4/23/77	1957	2:30	390	38.77N	99.43W	-65.	.039	.154	.25	4/23/77	2127	4:00	390	35.70N	112.83W	-56.	.145	.286	.51
4/23/77	2017	2:50	390	38.21N	102.51W	-63.	.081	.213	.38	4/23/77	2132	4:05	390	35.44N	113.56W	-56.	.085	.204	.42
4/23/77	2027	3:00	390	37.91N	104.04W	-64.	.056	.180	.31	4/23/77	2137	4:10	390	35.19N	114.26W	-55.	.071	.124	.57
4/23/77	2032	3:05	390	37.76N	104.80W	-63.	.046	.147	.31	4/23/77	2142	4:15	390	34.93N	114.97W	-57.	.054	.130	.42

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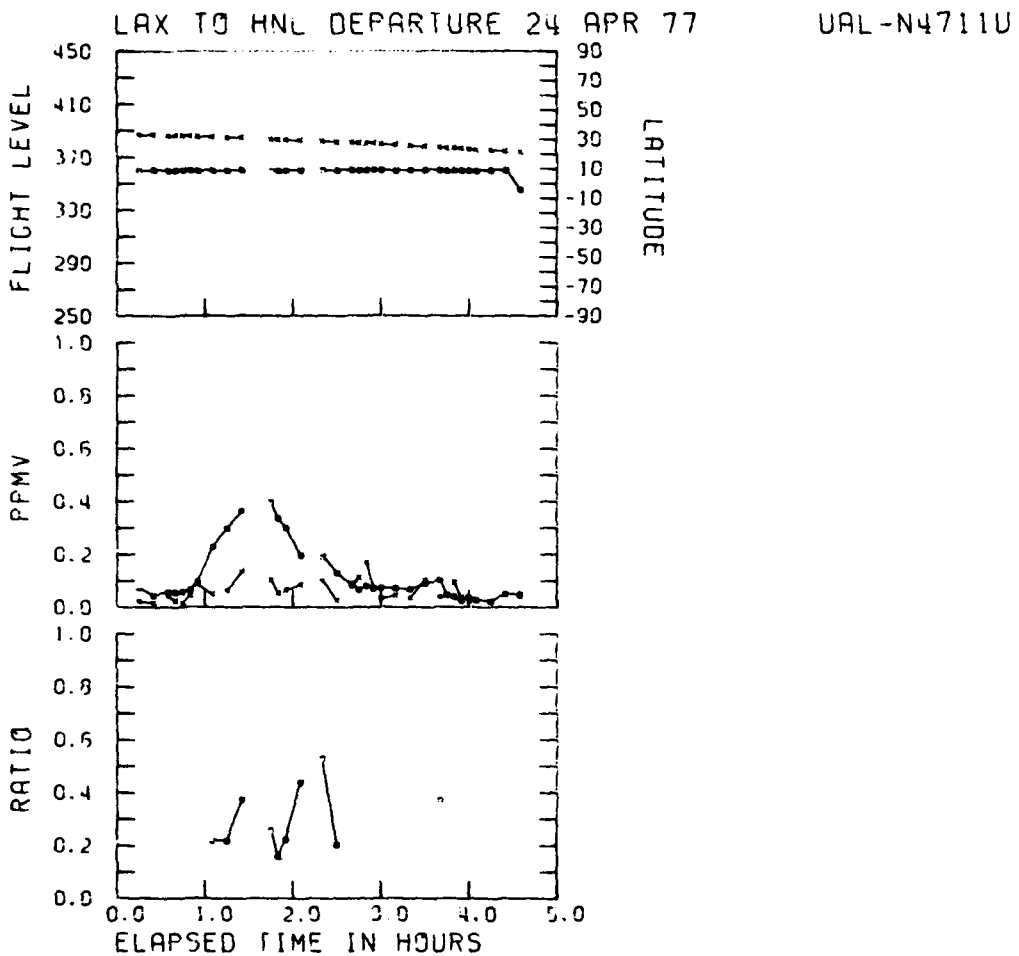
LAX TO HNL DEPARTURE 24 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
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LATITUDE
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-90
PPMV
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RATIO
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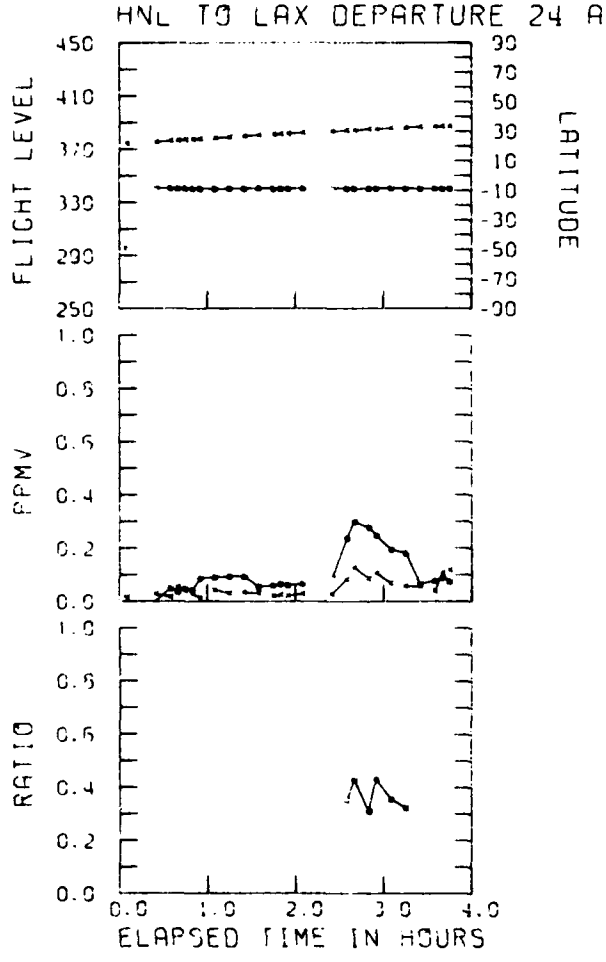
5.0
ELAPSED TIME IN HOURS

LAX TO HNL (PAGE 1 OF 1) DEPARTURE: 24 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .396 CABIN OZONE= .169 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .53 TOTAL OBS IN CABIN: 32
DATA SOURCE: GASP TAPE VL012, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/24/77	0101	0:19	360	33.38N	122.67W	-57.	.022	.073	
4/24/77	0111	0:29	360	33.14N	124.13W	-57.	.017	.044	
4/24/77	0121	0:39	360	32.83N	125.55W	-57.	.043	.058	
4/24/77	0126	0:44	360	32.67N	126.25W	-58.	.025	.057	
4/24/77	0131	0:49	360	32.50N	126.94W	-58.	.017	.059	
4/24/77	0136	0:54	360	32.33N	127.63W	-58.	.044	.065	
4/24/77	0141	0:59	360	32.15N	128.32W	-57.	.086	.096	
4/24/77	0151	1:09	360	31.79N	129.68W	-55.	.050	.228	.22
4/24/77	0201	1:19	360	31.43N	131.01W	-54.	.064	.297	.22
4/24/77	0211	1:29	360	31.04N	132.34W	-54.	.136	.363	.37
4/24/77	0231	1:49	360	30.22N	135.00W	-52.	.103	.396	.26
4/24/77	0236	1:54	360	30.01N	135.65W	-53.	.053	.337	.16
4/24/77	0241	1:59	360	29.79N	136.30W	-53.	.067	.301	.22
4/24/77	0251	2:09	360	29.35N	137.60W	-53.	.086	.196	.44
4/24/77	0302	2:20	360	28.88N	138.92W	-54.	.102	.192	.53
4/24/77	0312	2:30	360	28.41N	140.19W	-56.	.026	.129	.20
4/24/77	0322	2:40	360	27.92N	141.49W	-56.	.078	.088	
4/24/77	0327	2:45	360	27.67N	142.15W	-55.	.112	.066	
4/24/77	0332	2:50	360	27.40N	142.82W	-55.	.169	.081	
4/24/77	0337	2:55	360	27.13N	143.49W	-54.	.069	.071	
4/24/77	0342	3:00	360	26.85N	144.16W	-54.	.033	.072	
4/24/77	0352	3:10	360	26.30N	145.48W	-53.	.045	.072	
4/24/77	0402	3:20	360	25.74N	146.79W	-52.	.034	.067	
4/24/77	0412	3:30	360	25.16N	148.08W	-52.	.104	.091	
4/24/77	0422	3:40	360	24.58N	149.35W	-51.	.038	.102	.37
4/24/77	0427	3:45	360	24.29N	149.96W	-50.	.043	.048	
4/24/77	0432	3:50	360	24.01N	150.56W	-50.	.095	.041	
4/24/77	0437	3:55	360	23.72N	151.15W	-50.	.036	.025	
4/24/77	0442	4:00	360	23.43N	151.75W	-50.	.025	.036	
4/24/77	0447	4:05	360	23.14N	152.34W	-50.	.027	.028	
4/24/77	0457	4:15	360	22.55N	153.53W	-50.	.022	.021	
4/24/77	0507	4:25	360	21.95N	154.71W	-49.		.050	
4/24/77	0517	4:35	345	21.35N	155.87W	-45.	.039	.048	


HNL TO LAX DEPARTURE 24 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
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70
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-90
PPMV
1.0
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RATIO
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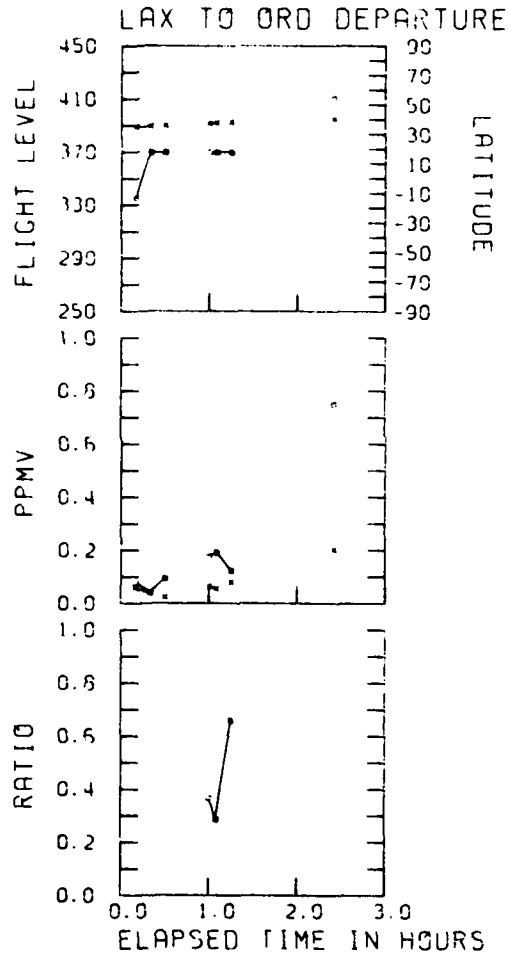
4.0
ELAPSED TIME IN HOURS

HNL TO LAX (PAGE 1 OF 1) DEPARTURE: 24 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .298 CABIN OZONE= .127 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .43 TOTAL OBS IN CABIN: 26
DATA SOURCE: GASP TAPE VL012, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/24/77	0944	0:05	296	22.00N	155.06W	-32.	.013	.023	
4/24/77	1004	0:25	340	23.18N	152.27W	-45.	.028	0.000	
4/24/77	1014	0:35	340	23.86N	150.87W	-46.	.017	.049	
4/24/77	1019	0:40	340	24.19N	150.17W	-46.	.055	.035	
4/24/77	1024	0:45	340	24.53N	149.46W	-46.	.041	.047	
4/24/77	1029	0:50	340	24.85N	148.76W	-47.	.028	.041	
4/24/77	1034	0:55	340	25.17N	148.06W	-46.	.013	.086	
4/24/77	1044	1:05	340	25.81N	146.63W	-47.	.043	.091	
4/24/77	1054	1:15	340	26.43N	145.18W	-48.	.031	.094	
4/24/77	1104	1:25	340	27.04N	143.72W	-48.	.035	.093	
4/24/77	1114	1:35	341	27.63N	142.23W	-48.	.031	.055	
4/24/77	1124	1:45	340	28.22N	140.72W	-48.	.021	.060	
4/24/77	1129	1:50	340	28.50N	139.97W	-48.	.025	.065	
4/24/77	1134	1:55	340	28.78N	139.20W	-48.	.022	.061	
4/24/77	1144	2:05	341	29.34N	137.63W	-49.	.029	.066	
4/24/77	1204	2:25	340	30.39N	134.45W	-52.	.028	.088	
4/24/77	1214	2:35	340	30.91N	132.79W	-50.	.083	.236	.35
4/24/77	1219	2:40	340	31.16N	131.95W	-51.	.127	.298	.43
4/24/77	1229	2:50	340	31.64N	130.24W	-50.	.085	.276	.31
4/24/77	1234	2:55	340	31.88N	129.38W	-51.	.106	.247	.43
4/24/77	1244	3:05	341	32.32N	127.67W	-51.	.069	.194	.36
4/24/77	1254	3:15	340	32.73N	125.99W	-51.	.058	.180	.32
4/24/77	1304	3:25	340	33.11N	124.31W	-54.	.056	.064	
4/24/77	1314	3:35	340	33.47N	122.65W	-53.	.039	.077	
4/24/77	1319	3:40	340	33.58N	121.81W	-53.	.108	.089	
4/24/77	1324	3:45	340	33.67N	120.97W	-52.	.118	.074	


LAX TO ORD DEPARTURE 24 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
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30
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-90
PPMV
1.0
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RATIO
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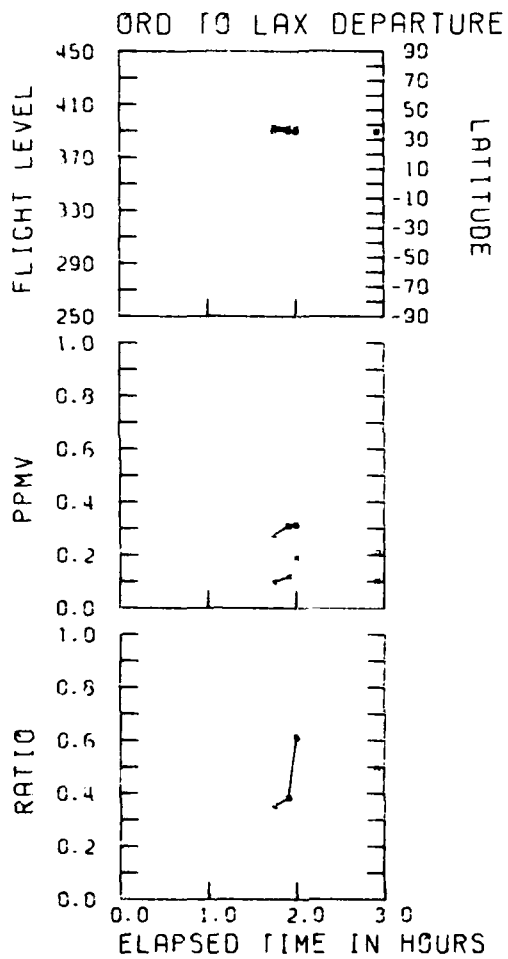
3.0
ELAPSED TIME IN HOURS

LAX TO ORD (PAGE 1 OF 1) DEPARTURE: 24 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .750 CABIN OZONE= .202 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .66 TOTAL OBS IN CABIN: 7
DATA SOURCE: GASP TAPE VL012, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/24/77	1550	0:10	335	35.03N	116.46W	-51.	.059	.076	
4/24/77	1600	0:20	370	35.59N	114.91W	-59.	.038	.043	
4/24/77	1610	0:30	370	36.12N	113.35W	-57.	.024	.094	
4/24/77	1640	1:00	370	37.59N	108.52W	-58.	.065	.177	.37
4/24/77	1645	1:05	370	37.81N	107.72W	-59.	.055	.192	.29
4/24/77	1655	1:15	370	38.25N	106.06W	-60.	.081	.123	.66
4/24/77	1805	2:25	410	40.61N	93.91W	-53.	.202	.750	.27


ORD TO LAX DEPARTURE 24 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
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RATIO
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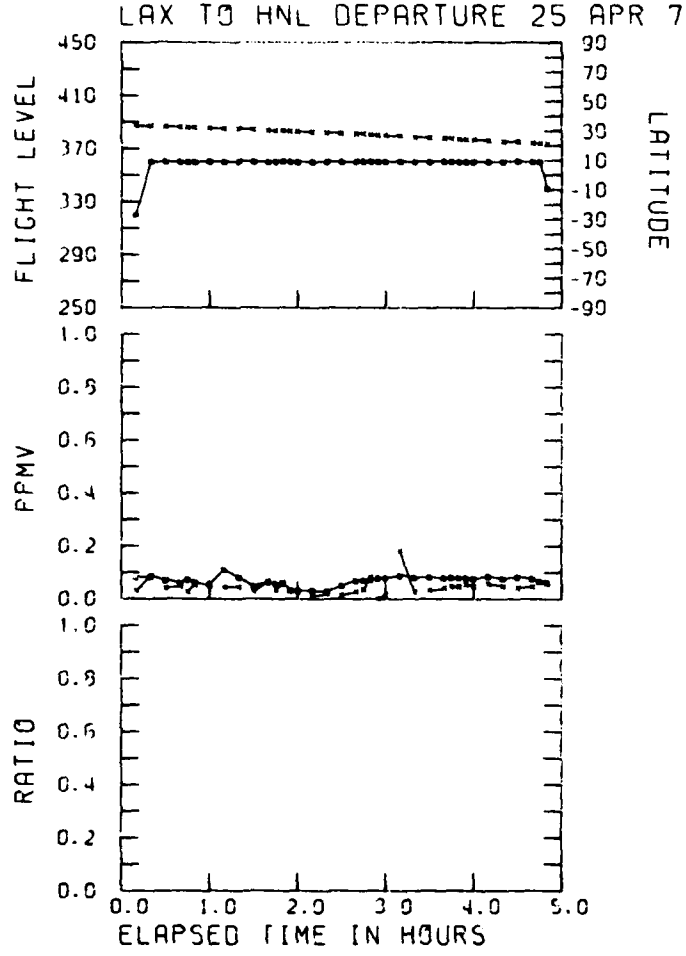
3.0
ELAPSED TIME IN HOURS

ORD TO LAX (PAGE 1 OF 1) DEPARTURE: 24 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .313 CABIN OZONE= .191 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .61 TOTAL OBS IN CABIN: 4
DATA SOURCE: GASP TAPE VL012, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/24/77	2259	1:45	390	38.44N	105.29W	-60.	.096	.276	.36	4/24/77	2314	2:00	390	37.77N	107.49W	-58.	.191	.313	.61
4/24/77	2309	1:55	390	38.00N	106.76W	-59.	.119	.311	.38	4/25/77	0010	2:56	390	34.96N	115.21W	-57.	.103	.211	.49


LAX TO HNL DEPARTURE 25 APR 77
UAL-N4711U
FLIGHT LEVEL
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410
370
330
290
250
LATITUDE
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-10
-30
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-70
-90
PPMV
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0.0
RATIO
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0.2
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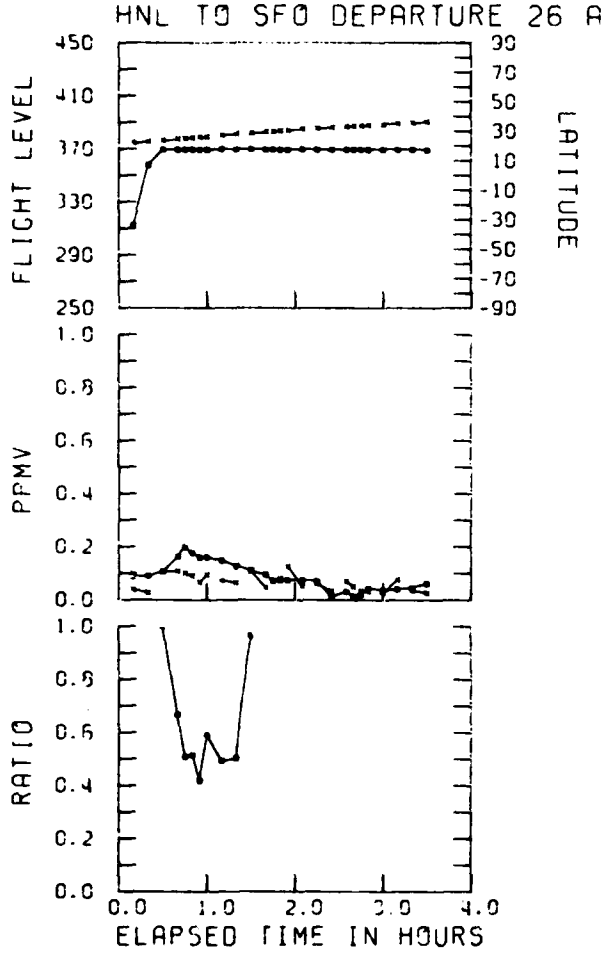
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

LAX TO HNL (PAGE 1 OF 1) DEPARTURE: 25 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .110 CABIN OZONE= .182 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .41 TOTAL OBS IN CABIN: 36
DATA SOURCE: GASP TAPE VL012, FILE 2

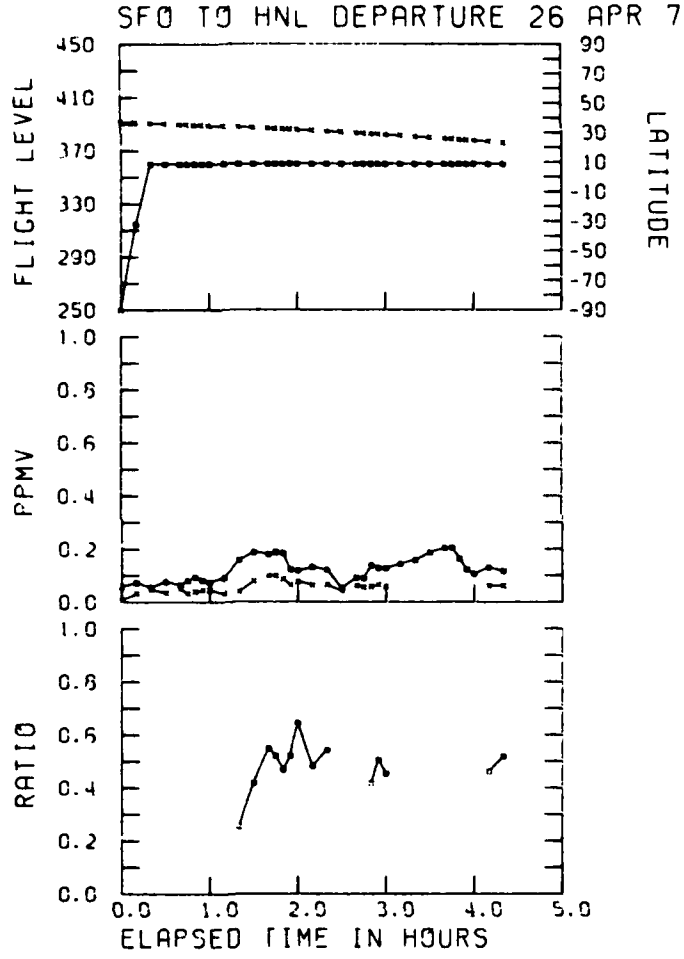
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/25/77	1712	0:10	320	33.61N	121.54W	-46.	.031	.081	
4/25/77	1722	0:20	360	33.39N	122.99W	-55.	.088	.083	
4/25/77	1732	0:30	360	33.08N	124.43W	-55.	.042	.070	
4/25/77	1742	0:40	360	32.77N	125.84W	-55.	.047	.059	
4/25/77	1747	0:45	360	32.60N	126.53W	-55.	.027	.072	
4/25/77	1752	0:50	360	32.43N	127.22W	-55.	.054	.062	
4/25/77	1802	1:00	360	32.08N	128.59W	-54.		.050	
4/25/77	1812	1:10	360	31.72N	129.94W	-53.	.045	.110	.41
4/25/77	1822	1:20	360	31.34N	131.29W	-53.	.045	.082	
4/25/77	1832	1:30	360	30.94N	132.62W	-53.	.029	.047	
4/25/77	1842	1:40	360	30.54N	133.95W	-53.	.067	.062	
4/25/77	1847	1:45	360	30.33N	134.60W	-53.	.033	.056	
4/25/77	1852	1:50	360	30.12N	135.26W	-53.	.062	.060	
4/25/77	1857	1:55	360	29.91N	135.92W	-53.	.032	.032	
4/25/77	1902	2:00	360	29.70N	136.56W	-53.	.029	.031	
4/25/77	1912	2:10	360	29.26N	137.83W	-53.	.012	.032	
4/25/77	1922	2:20	360	28.81N	139.09W	-53.	.019	.028	
4/25/77	1932	2:30	360	28.35N	140.35W	-52.	.015	.049	
4/25/77	1942	2:40	360	27.87N	141.58W	-49.	.027	.068	
4/25/77	1947	2:45	360	27.64N	142.18W	-49.	.034	.069	
4/25/77	1952	2:50	360	27.40N	142.77W	-49.	.082	.072	
4/25/77	1957	2:55	360	27.16N	143.35W	-49.	.000	.078	
4/25/77	2002	3:00	360	26.93N	143.93W	-48.	.015	.079	
4/25/77	2012	3:10	360	26.45N	145.08W	-47.	.182	.088	
4/25/77	2022	3:20	360	25.97N	146.20W	-47.	.026	.081	
4/25/77	2032	3:30	360	25.48N	147.32W	-47.	.033	.082	
4/25/77	2042	3:40	360	24.99N	148.42W	-47.	.040	.077	
4/25/77	2047	3:45	360	24.73N	148.97W	-47.	.046	.080	
4/25/77	2052	3:50	360	24.48N	149.52W	-47.	.046	.079	
4/25/77	2057	3:55	360	24.22N	150.06W	-47.	.054	.078	
4/25/77	2102	4:00	360	23.97N	150.59W	-47.	.048	.077	
4/25/77	2112	4:10	360	23.44N	151.67W	-47.	.057	.084	
4/25/77	2122	4:20	360	22.90N	152.75W	-47.	.048	.077	
4/25/77	2132	4:30	360	22.36N	153.83W	-47.	.042	.082	
4/25/77	2142	4:40	360	21.82N	154.90W	-47.	.046	.076	
4/25/77	2147	4:45	360	21.54N	155.44W	-47.	.065	.066	
4/25/77	2152	4:50	340	21.25N	155.99W	-43.	.058	.062	


HNL TO SFO DEPARTURE 26 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
ELAPSED TIME IN HOURS

HNL TO SFO (PAGE 1 OF 1) DEPARTURE: 26 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .199 CABIN OZONE= .126 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.01 TOTAL OBS IN CABIN: 26
DATA SOURCE: GASP TAPE VL012, FILE 2

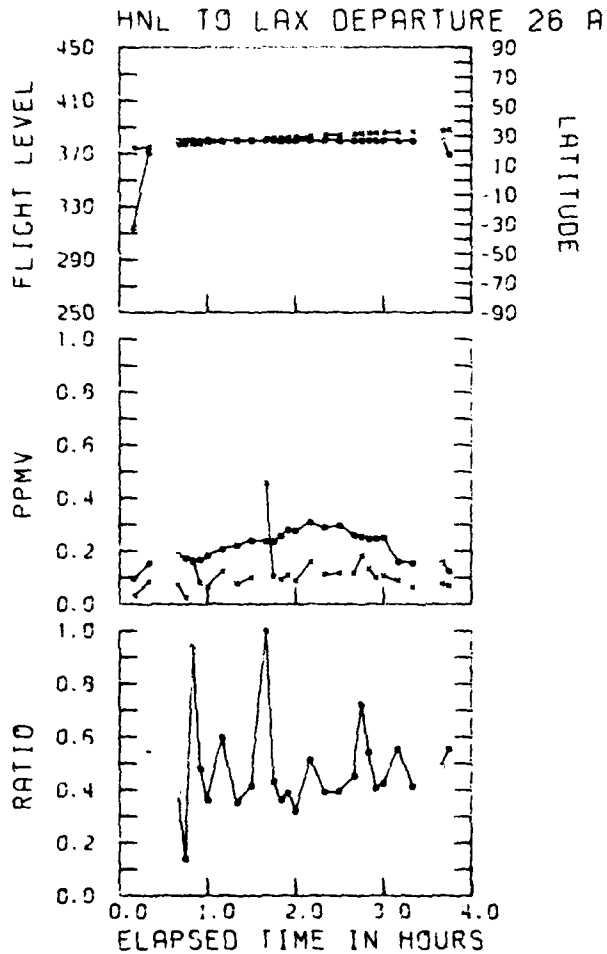
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/26/77	0014	0:10	313	22.22N	155.68W	-39.	.038	.087	
4/26/77	0024	0:20	358	23.13N	154.44W	-47.	.027	.090	
4/26/77	0034	0:30	370	24.00N	153.00W	-49.	.108	.107	1.01
4/26/77	0044	0:40	370	24.86N	151.53W	-50.	.108	.162	.67
4/26/77	0049	0:45	370	25.29N	150.78W	-50.	.101	.199	.51
4/26/77	0054	0:50	370	25.71N	150.03W	-51.	.091	.177	.51
4/26/77	0059	0:55	370	26.11N	149.30W	-50.	.067	.160	.42
4/26/77	0104	1:00	370	26.51N	148.56W	-51.	.095	.161	.59
4/26/77	0114	1:10	370	27.30N	147.04W	-53.	.073	.148	.49
4/26/77	0125	1:21	370	28.07N	145.52W	-52.	.064	.127	.50
4/26/77	0134	1:30	370	28.80N	143.98W	-53.	.107	.111	.96
4/26/77	0144	1:40	370	29.51N	142.43W	-55.	.046	.095	
4/26/77	0149	1:45	370	29.87N	141.67W	-55.	.073	.072	
4/26/77	0154	1:50	369	30.22N	140.90W	-55.	.080	.074	
4/26/77	0159	1:55	370	30.56N	140.11W	-55.	.126	.075	
4/26/77	0209	2:05	370	31.30N	138.56W	-56.	.051	.074	
4/26/77	0219	2:15	369	31.98N	137.01W	-56.	.061	.070	
4/26/77	0229	2:25	369	32.60N	135.42W	-57.	.032	.012	
4/26/77	0239	2:35	369	33.22N	133.79W	-56.	.070	.031	
4/26/77	0244	2:40	370	33.52N	132.96W	-56.	.050	.013	
4/26/77	0249	2:45	370	33.82N	132.12W	-56.	.033	.020	
4/26/77	0254	2:50	370	34.12N	131.26W	-56.	.032	.043	
4/26/77	0304	3:00	369	34.69N	129.54W	-57.	.027	.036	
4/26/77	0314	3:10	369	35.22N	127.82W	-57.	.076	.041	
4/26/77	0324	3:20	370	35.72N	126.14W	-57.	.036	.045	
4/26/77	0334	3:30	369	36.40N	124.53W	-57.	.026	.062	


SFO TO HNL DEPARTURE 26 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

SFO TO HNL (PAGE 1 OF 1) DEPARTURE: 26 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .205 CABIN OZONE= .098 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .64 TOTAL OBS IN CABIN: 27
DATA SOURCE: GASP TAPE VL012, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/26/77	1634	0:00	216	37.37N	123.72W	-21.	.010	.057	
4/26/77	1644	0:10	314	36.98N	125.05W	-43.	.033	.073	
4/26/77	1654	0:20	360	36.60N	126.42W	-55.	.047	.055	
4/26/77	1704	0:30	360	36.20N	127.81W	-55.	.035	.078	
4/26/77	1714	0:40	360	35.78N	129.19W	-56.	.051	.064	
4/26/77	1719	0:45	360	35.56N	129.88W	-56.	.032	.081	
4/26/77	1724	0:50	360	35.34N	130.56W	-56.	.040	.095	
4/26/77	1729	0:55	360	35.12N	131.24W	-56.	.045	.082	
4/26/77	1734	1:00	360	34.89N	131.90W	-56.	.046	.075	
4/26/77	1744	1:10	360	34.43N	133.22W	-57.	.032	.092	
4/26/77	1754	1:20	360	33.97N	134.50W	-55.	.040	.158	.25
4/26/77	1804	1:30	360	33.48N	135.78W	-55.	.078	.187	.42
4/26/77	1814	1:40	360	32.98N	137.05W	-55.	.098	.179	.55
4/26/77	1819	1:45	360	32.73N	137.67W	-55.	.097	.187	.52
4/26/77	1824	1:50	360	32.47N	138.30W	-55.	.086	.184	.47
4/26/77	1829	1:55	360	32.21N	138.92W	-57.	.063	.121	.52
4/26/77	1834	2:00	360	31.95N	139.53W	-57.	.076	.118	.64
4/26/77	1844	2:10	360	31.43N	140.73W	-56.	.063	.131	.48
4/26/77	1854	2:20	360	30.89N	141.92W	-56.	.065	.120	.54
4/26/77	1904	2:30	360	30.34N	143.10W	-56.	.041	.050	
4/26/77	1914	2:40	360	29.77N	144.28W	-56.	.060	.091	
4/26/77	1919	2:45	360	29.48N	144.88W	-56.	.054	.089	
4/26/77	1924	2:50	360	29.19N	145.47W	-55.	.057	.137	.42
4/26/77	1929	2:55	360	28.89N	146.06W	-55.	.064	.127	.50
4/26/77	1934	3:00	360	28.59N	146.64W	-55.	.057	.126	.45
4/26/77	1944	3:10	360	27.97N	147.83W	-55.		.143	
4/26/77	1954	3:20	360	27.33N	149.01W	-55.		.157	
4/26/77	2004	3:30	360	26.67N	150.20W	-54.		.186	
4/26/77	2014	3:40	360	26.01N	151.37W	-53.		.204	
4/26/77	2019	3:45	360	25.67N	151.95W	-53.		.205	
4/26/77	2024	3:50	360	25.33N	152.53W	-53.		.163	
4/26/77	2029	3:55	360	24.99N	153.10W	-52.		.122	
4/26/77	2034	4:00	360	24.65N	153.67W	-52.		.105	
4/26/77	2044	4:10	360	23.93N	154.74W	-51.	.060	.130	.46
4/26/77	2054	4:20	360	23.06N	155.68W	-51.	.060	.116	.52


HNL TO LAX DEPARTURE 26 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
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-70
-90
PPMV
1.0
0.8
0.6
0.4
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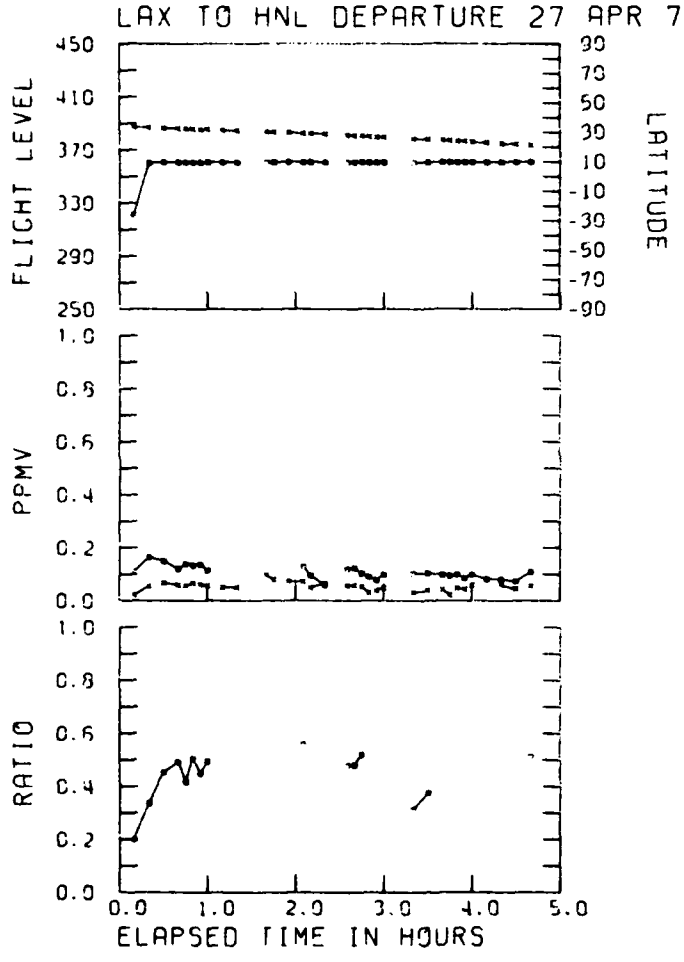
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
ELAPSED TIME IN HOURS

HNL TO LAX (PAGE 1 OF 1) DEPARTURE: 26 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .308 CABIN OZONE= .458 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.93 TOTAL OBS IN CABIN: 27
DATA SOURCE: GASP TAPE VL012, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/26/77	2309	0:10	314	21.82N	155.32W	-41.	.032	.096	
4/26/77	2319	0:20	371	22.33N	153.81W	-52.	.085	.154	.55
4/26/77	2339	0:40	380	23.88N	150.82W	-55.	.073	.187	.39
4/26/77	2344	0:45	380	24.24N	150.07W	-55.	.024	.173	.14
4/26/77	2349	0:50	380	24.60N	149.31W	-55.	.155	.165	.94
4/26/77	2354	0:55	380	24.95N	148.54W	-55.	.081	.169	.48
4/26/77	2359	1:00	380	25.30N	147.77W	-55.	.066	.183	.36
4/27/77	0009	1:10	380	25.99N	146.20W	-55.	.124	.208	.60
4/27/77	0019	1:20	380	26.67N	144.61W	-54.	.078	.222	.35
4/27/77	0029	1:30	380	27.33N	143.00W	-54.	.099	.239	.41
4/27/77	0039	1:40	380	27.97N	141.37W	-54.	.458	.237	1.93
4/27/77	0044	1:45	380	28.29N	140.54W	-54.	.101	.234	.43
4/27/77	0049	1:50	380	28.60N	139.70W	-53.	.093	.258	.36
4/27/77	0054	1:55	380	28.90N	138.87W	-53.	.109	.280	.39
4/27/77	0059	2:00	380	29.20N	138.03W	-53.	.089	.278	.32
4/27/77	0109	2:10	380	29.77N	136.36W	-52.	.158	.308	.51
4/27/77	0119	2:20	380	30.32N	134.69W	-53.	.113	.288	.39
4/27/77	0129	2:30	380	30.84N	133.02W	-53.	.117	.297	.39
4/27/77	0139	2:40	380	31.32N	131.38W	-53.	.118	.261	.45
4/27/77	0144	2:45	380	31.55N	130.55W	-53.	.185	.256	.72
4/27/77	0149	2:50	380	31.78N	129.73W	-54.	.133	.245	.54
4/27/77	0154	2:55	380	32.00N	128.91W	-53.	.100	.247	.40
4/27/77	0159	3:00	380	32.21N	128.09W	-53.	.107	.252	.42
4/27/77	0209	3:10	380	32.62N	126.46W	-54.	.088	.159	.55
4/27/77	0219	3:20	380	33.00N	124.83W	-54.	.064	.155	.41
4/27/77	0239	3:40	380	33.62N	121.56W	-54.	.077	.157	.49
4/27/77	0244	3:45	369	33.73N	120.73W	-55.	.069	.124	.56


LAX TO HNL DEPARTURE 27 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
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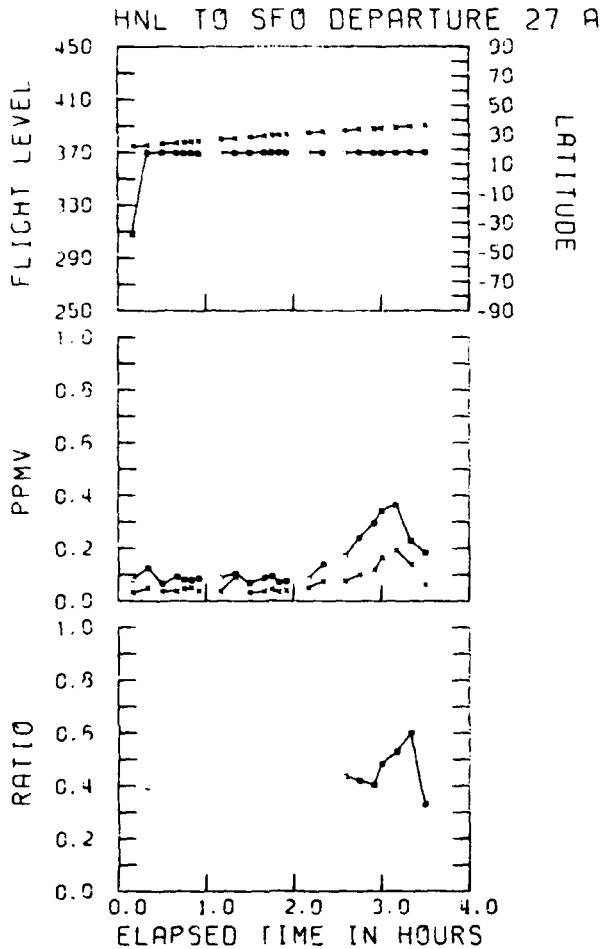
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

LAX TO HNL (PAGE 1 OF 1) DEPARTURE: 27 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .164 CABIN OZONE= .097 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .56 TOTAL OBS IN CABIN: 32
DATA SOURCE: GASP TAPE VL012, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/27/77	1716	0:10	321	33.58N	121.69W	-47.	.022	.109	.20
4/27/77	1726	0:20	360	33.35N	123.21W	-55.	.055	.164	.34
4/27/77	1736	0:30	361	33.04N	124.65W	-54.	.068	.150	.45
4/27/77	1746	0:40	361	32.71N	126.08W	-54.	.059	.120	.49
4/27/77	1751	0:45	361	32.54N	126.79W	-54.	.058	.139	.42
4/27/77	1756	0:50	361	32.37N	127.49W	-54.	.067	.133	.50
4/27/77	1801	0:55	361	32.19N	128.19W	-54.	.062	.138	.45
4/27/77	1806	1:00	361	32.01N	128.89W	-55.	.057	.115	.50
4/27/77	1816	1:10	361	31.64N	130.25W	-56.	.051		
4/27/77	1826	1:20	361	31.26N	131.57W	-55.	.051		
4/27/77	1846	1:40	361	30.47N	134.18W	-57.	.097		
4/27/77	1851	1:45	361	30.27N	134.82W	-56.	.080		
4/27/77	1901	1:55	361	29.86N	136.10W	-56.	.074		
4/27/77	1911	2:05	361	29.44N	137.35W	-57.	.072	.129	.56
4/27/77	1916	2:10	361	29.22N	137.97W	-58.	.049	.095	
4/27/77	1926	2:20	361	28.78N	139.22W	-58.	.065	.059	
4/27/77	1941	2:35	361	28.07N	141.11W	-57.	.057	.119	.48
4/27/77	1946	2:40	361	27.83N	141.73W	-57.	.059	.123	.48
4/27/77	1951	2:45	361	27.58N	142.36W	-56.	.053	.102	.52
4/27/77	1956	2:50	361	27.33N	142.98W	-55.	.031	.091	
4/27/77	2001	2:55	361	27.08N	143.59W	-56.	.039	.079	
4/27/77	2006	3:00	361	26.83N	144.21W	-55.	.049	.099	
4/27/77	2026	3:20	361	25.81N	146.62W	-55.	.032	.102	.31
4/27/77	2036	3:30	361	25.29N	147.81W	-54.	.039	.104	.38
4/27/77	2046	3:40	361	24.75N	149.00W	-54.	.042	.097	
4/27/77	2051	3:45	361	24.47N	149.59W	-54.	.021	.094	
4/27/77	2056	3:50	361	24.19N	150.19W	-53.	.048	.099	
4/27/77	2101	3:55	361	23.91N	150.78W	-53.	.042	.085	
4/27/77	2106	4:00	361	23.63N	151.36W	-53.	.060	.099	
4/27/77	2116	4:10	361	23.05N	152.53W	-53.		.081	
4/27/77	2126	4:20	361	22.47N	153.70W	-53.	.060	.080	
4/27/77	2136	4:30	361	21.88N	154.85W	-52.	.044	.073	
4/27/77	2146	4:40	361	21.29N	155.98W	-52.	.056	.109	.51


HNL TO SFO DEPARTURE 27 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
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250
LATITUDE
90
70
50
30
10
-10
-30
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-70
-90
PPMV
1.0
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RATIO
1.0
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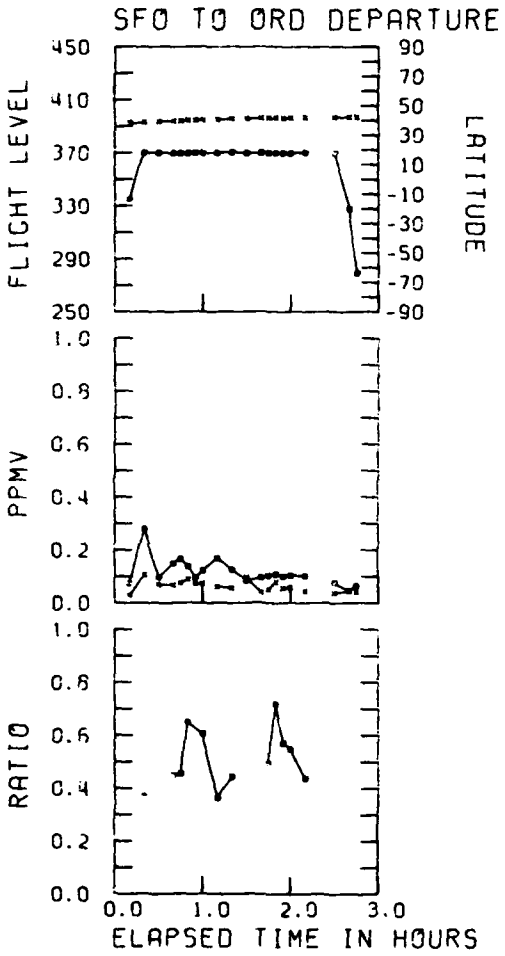
ELAPSED TIME IN HOURS

HNL TO SFO (PAGE 1 OF 1) DEPARTURE: 27 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .365 CABIN OZONE= .193 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .88 TOTAL OBS IN CABIN: 23
DATA SOURCE: GASP TAPE VL012, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/28/77	0008	0:11	308	22.35N	155.71W	-40.	.032	.081	
4/28/77	0017	0:20	370	23.14N	154.40W	-57.	.050	.126	.40
4/28/77	0028	0:31	370	23.96N	153.05W	-57.	.038	.066	
4/28/77	0037	0:40	370	24.75N	151.69W	-57.	.037	.092	
4/28/77	0043	0:46	370	25.15N	151.00W	-57.	.047	.082	
4/28/77	0048	0:51	370	25.54N	150.30W	-57.	.052	.080	
4/28/77	0053	0:56	370	25.93N	149.61W	-57.	.040	.087	
4/28/77	0108	1:11	370	27.07N	147.49W	-58.	.037	.088	
4/28/77	0117	1:20	370	27.81N	146.06W	-58.	.091	.104	.88
4/28/77	0128	1:31	370	28.55N	144.59W	-59.	.031	.068	
4/28/77	0137	1:40	370	29.27N	143.09W	-59.	.038	.089	
4/28/77	0143	1:46	370	29.63N	142.33W	-59.	.043	.093	
4/28/77	0148	1:51	370	29.98N	141.56W	-59.	.034	.071	
4/28/77	0153	1:56	370	30.33N	140.77W	-59.	.039	.075	
4/28/77	0208	2:11	370	31.37N	138.35W	-59.	.051	.087	
4/28/77	0217	2:20	370	32.05N	136.68W	-58.	.074	.139	.53
4/28/77	0233	2:36	370	33.04N	134.11W	-59.	.075	.172	.44
4/28/77	0243	2:46	370	33.65N	132.40W	-59.	.101	.240	.42
4/28/77	0253	2:56	370	34.24N	130.68W	-58.	.119	.295	.40
4/28/77	0301	3:04	370	34.69N	129.25W	-57.	.166	.343	.48
4/28/77	0311	3:14	370	35.21N	127.56W	-56.	.193	.365	.53
4/28/77	0321	3:24	370	35.72N	125.88W	-56.	.137	.228	.60
4/28/77	0331	3:34	370	36.42N	124.29W	-57.	.060	.182	.33


SFO TO ORD DEPARTURE 28 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
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-70
-90
PPMV
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RATIO
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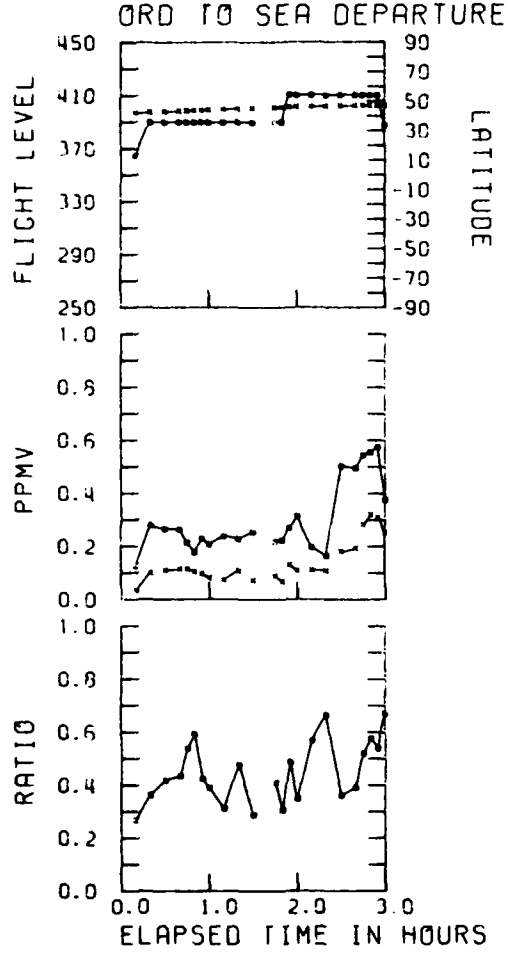
3.0
ELAPSED TIME IN HOURS

SFO TO ORD (PAGE 1 OF 1) DEPARTURE: 28 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .278 CABIN OZONE= .106 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .72 TOTAL OBS IN CABIN: 20
DATA SOURCE: GASP TAPE VL012, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/28/77	1751	0:10	335	38.40N	119.36W	-54.	.030	.074	
4/28/77	1801	0:20	370	38.86N	117.62W	-58.	.106	.278	.38
4/28/77	1811	0:30	370	39.29N	115.87W	-58.	.070	.097	
4/28/77	1821	0:40	370	39.69N	114.13W	-56.	.067	.149	.45
4/28/77	1826	0:45	370	39.87N	113.25W	-55.	.076	.167	.46
4/28/77	1831	0:50	370	40.05N	112.38W	-56.	.089	.137	.65
4/28/77	1836	0:55	370	40.22N	111.51W	-57.	.073	.096	
4/28/77	1841	1:00	370	40.39N	110.62W	-57.	.074	.122	.61
4/28/77	1851	1:10	370	40.71N	108.83W	-58.	.061	.168	.36
4/28/77	1901	1:20	370	41.00N	106.99W	-59.	.056	.126	.44
4/28/77	1911	1:30	370	41.26N	105.12W	-60.	.095	.083	
4/28/77	1921	1:40	370	41.50N	103.23W	-60.	.040	.096	
4/28/77	1926	1:45	370	41.60N	102.28W	-59.	.051	.103	.50
4/28/77	1931	1:50	370	41.70N	101.32W	-59.	.079	.110	.72
4/28/77	1936	1:55	370	41.79N	100.35W	-59.	.057	.100	
4/28/77	1941	2:00	370	41.88N	99.39W	-60.	.057	.104	.55
4/28/77	1951	2:10	370	42.01N	97.45W	-59.	.045	.103	.44
4/28/77	2011	2:30	370	42.20N	93.50W	-60.	.039	.078	
4/28/77	2021	2:40	328	42.40N	91.54W	-50.	.045	.046	
4/28/77	2026	2:45	274	42.34N	90.50W	-38.	.041	.064	


ORD TO SEA DEPARTURE 29 APR 77
UAL-N4711U
FLIGHT LEVEL
450
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370
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LATITUDE
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PPMV
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RATIO
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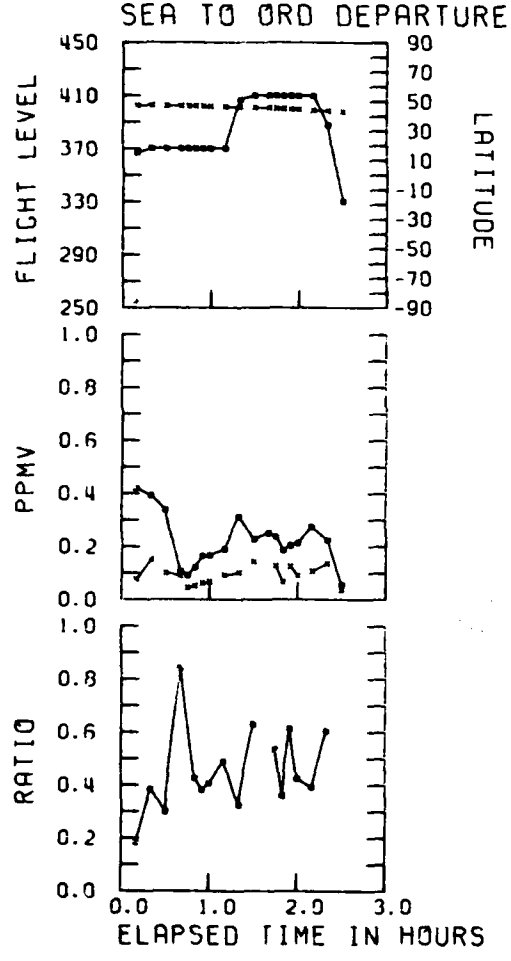
ELAPSED TIME IN HOURS

ORD TO SEA (PAGE 1 OF 1) DEPARTURE: 29 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .575 CABIN OZONE= .320 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .57 TOTAL OBS IN CABIN: 23
DATA SOURCE: GASP TAPE VL012, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB	RATIO
4/29/77	0012	0:10	365	42.17N	90.65W	-58.	.034	.127	.27
4/29/77	0022	0:20	390	42.63N	92.01W	-58.	.101	.279	.36
4/29/77	0032	0:30	390	43.07N	93.45W	-58.	.110	.264	.42
4/29/77	0042	0:40	390	43.49N	94.90W	-58.	.114	.263	.43
4/29/77	0047	0:45	390	43.70N	95.66W	-60.	.115	.214	.54
4/29/77	0052	0:50	390	43.90N	96.40W	-61.	.105	.177	.59
4/29/77	0057	0:55	390	44.10N	97.17W	-59.	.097	.229	.42
4/29/77	0102	1:00	390	44.30N	97.94W	-59.	.081	.208	.39
4/29/77	0112	1:10	390	44.67N	99.50W	-59.	.074	.238	.31
4/29/77	0122	1:20	390	45.03N	101.10W	-59.	.109	.229	.48
4/29/77	0132	1:30	390	45.37N	102.73W	-57.	.073	.255	.29
4/29/77	0147	1:45	390	45.83N	105.21W	-56.	.089	.218	.41
4/29/77	0152	1:50	390	45.97N	106.06W	-59.	.068	.223	.30
4/29/77	0157	1:55	411	46.11N	106.91W	-52.	.131	.270	.49
4/29/77	0202	2:00	410	46.25N	107.80W	-51.	.109	.313	.35
4/29/77	0212	2:10	410	46.49N	109.53W	-54.	.112	.197	.57
4/29/77	0222	2:20	410	46.71N	111.33W	-52.	.109	.164	.66
4/29/77	0232	2:30	410	46.91N	113.16W	-54.	.181	.502	.36
4/29/77	0242	2:40	410	47.08N	115.03W	-51.	.193	.495	.39
4/29/77	0247	2:45	410	47.14N	115.97W	-53.	.283	.544	.52
4/29/77	0252	2:50	410	47.18N	116.92W	-51.	.320	.555	.58
4/29/77	0257	2:55	410	47.21N	117.88W	-52.	.310	.575	.54
4/29/77	0302	3:00	387	47.23N	118.83W	-56.	.252	.376	.67


SEA TO ORD DEPARTURE 29 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
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LATITUDE
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-10
-30
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PPMV
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RATIO
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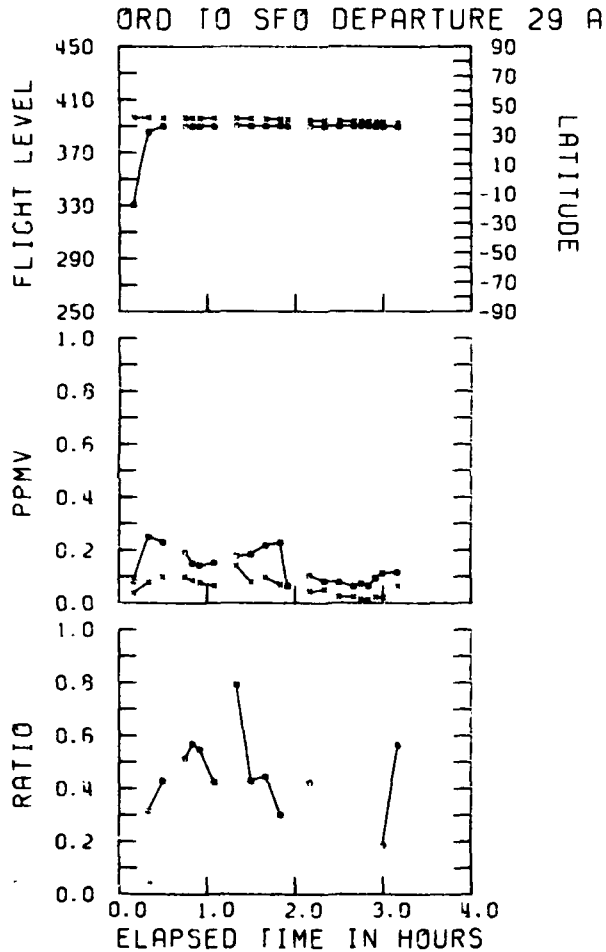
3.0
ELAPSED TIME IN HOURS

SEA TO ORD (PAGE 1 OF 1) DEPARTURE: 29 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .419 CABIN OZONE= .151 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .84 TOTAL OBS IN CABIN: 18
DATA SOURCE: GASP TAPE VL012, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/29/77	1527	0:10	367	47.38N	119.07W	-59.	.077	.419	.18
4/29/77	1537	0:20	370	47.38N	116.98W	-60.	.151	.392	.39
4/29/77	1547	0:30	370	47.26N	114.88W	-61.	.101	.338	.30
4/29/77	1557	0:40	370	47.11N	112.75W	-62.	.090	.107	.84
4/29/77	1602	0:45	370	47.02N	111.69W	-63.	.045	.091	
4/29/77	1607	0:50	370	46.92N	110.64W	-62.	.052	.122	.43
4/29/77	1612	0:55	370	46.81N	109.59W	-61.	.063	.165	.38
4/29/77	1617	1:00	370	46.70N	108.57W	-61.	.068	.167	.41
4/29/77	1627	1:10	370	46.44N	106.55W	-59.	.093	.190	.49
4/29/77	1637	1:20	407	46.16N	104.57W	-56.	.102	.314	.32
4/29/77	1647	1:30	410	45.83N	102.55W	-55.	.143	.227	.63
4/29/77	1657	1:40	410	45.45N	100.55W	-53.		.251	
4/29/77	1702	1:45	410	45.25N	99.56W	-54.	.127	.237	.54
4/29/77	1707	1:50	410	45.05N	98.58W	-54.	.067	.186	.36
4/29/77	1712	1:55	410	44.83N	97.61W	-54.	.125	.204	.61
4/29/77	1717	2:00	410	44.61N	96.64W	-54.	.091	.214	.43
4/29/77	1727	2:10	410	44.14N	94.73W	-54.	.108	.275	.39
4/29/77	1737	2:20	388	43.63N	92.83W	-56.	.136	.225	.60
4/29/77	1747	2:30	330	43.06N	90.84W	-51.	.037	.056	


ORD TO SFO DEPARTURE 29 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
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250
LATITUDE
90
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-10
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PPMV
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RATIO
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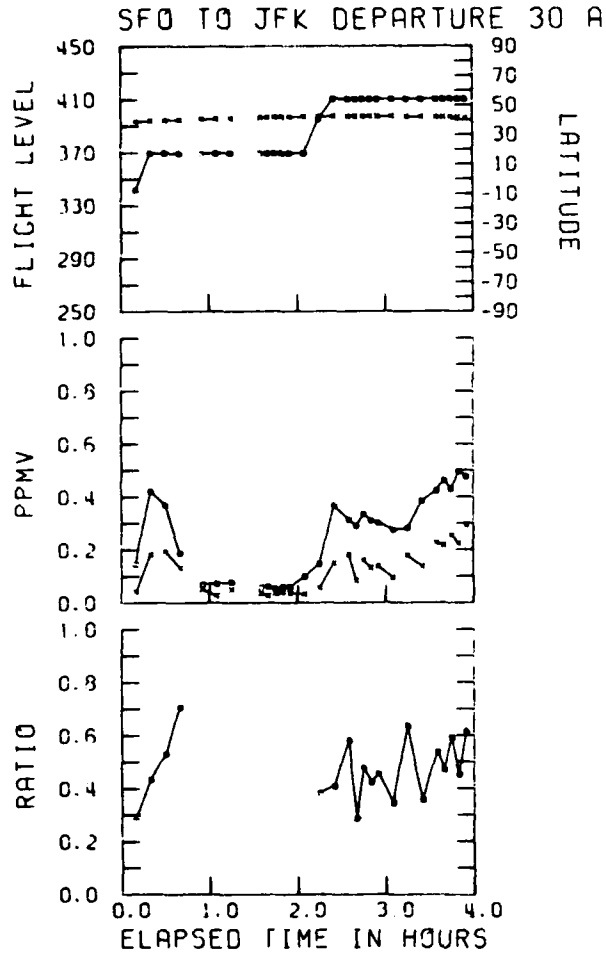
ELAPSED TIME IN HOURS

ORD TO SFO (PAGE 1 OF 1) DEPARTURE: 29 APR 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .250 CABIN OZONE= .141 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .79 TOTAL OBS IN CABIN: 21
DATA SOURCE: GASP TAPE VL012, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
4/29/77	2141	0:10	331	41.81N	90.76W	-5	.038	.082	
4/29/77	2151	0:20	385	41.80N	92.31W	-5m.	.079	.250	.32
4/29/77	2201	0:30	390	41.76N	93.90W	-58.	.099	.230	.43
4/29/77	2216	0:45	390	41.66N	96.34W	-57.	.099	.193	.51
4/29/77	2221	0:50	390	41.62N	97.13W	-57.	.086	.151	.57
4/29/77	2226	0:55	390	41.57N	97.97W	-57.	.079	.144	.55
4/29/77	2236	1:05	390	41.45N	99.57W	-58.	.065	.153	.42
4/29/77	2251	1:20	390	41.26N	102.03W	-59.	.141	.178	.79
4/29/77	2301	1:30	390	41.08N	103.67W	-60.	.079	.184	.43
4/29/77	2311	1:40	390	40.87N	105.33W	-62.	.097	.218	.44
4/29/77	2321	1:50	390	40.64N	106.97W	-62.	.069	.229	.30
4/29/77	2326	1:55	390	40.52N	107.76W	-63.	.065	.065	
4/29/77	2341	2:10	390	40.12N	110.15W	-64.	.044	.104	.42
4/29/77	2351	2:20	390	39.83N	111.73W	-64.	.051	.082	
4/30/77	0001	2:30	390	39.53N	113.25W	-64.	.024	.078	
4/30/77	0011	2:40	390	39.21N	114.73W	-64.	.023	.063	
4/30/77	0016	2:45	390	39.04N	115.48W	-64.	.013	.074	
4/30/77	0021	2:50	390	38.87N	116.20W	-65.	.012	.065	
4/30/77	0026	2:55	390	38.69N	116.94W	-64.	.023	.094	
4/30/77	0031	3:00	390	38.51N	117.68W	-63.	.021	.113	.19
4/30/77	0041	3:10	390	38.13N	119.13W	-62.	.066	.117	.56


SFO TO JFK DEPARTURE 30 APR 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
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-10
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PPMV
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RATIO
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ELAPSED TIME IN HOURS

SFO TO JFK (PAGE 1 OF 1)

DEPARTURE: 30 APR 77

MAXIMUM VALUES: AMBIENT OZONE= .496 CABIN OZONE= .293 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .71

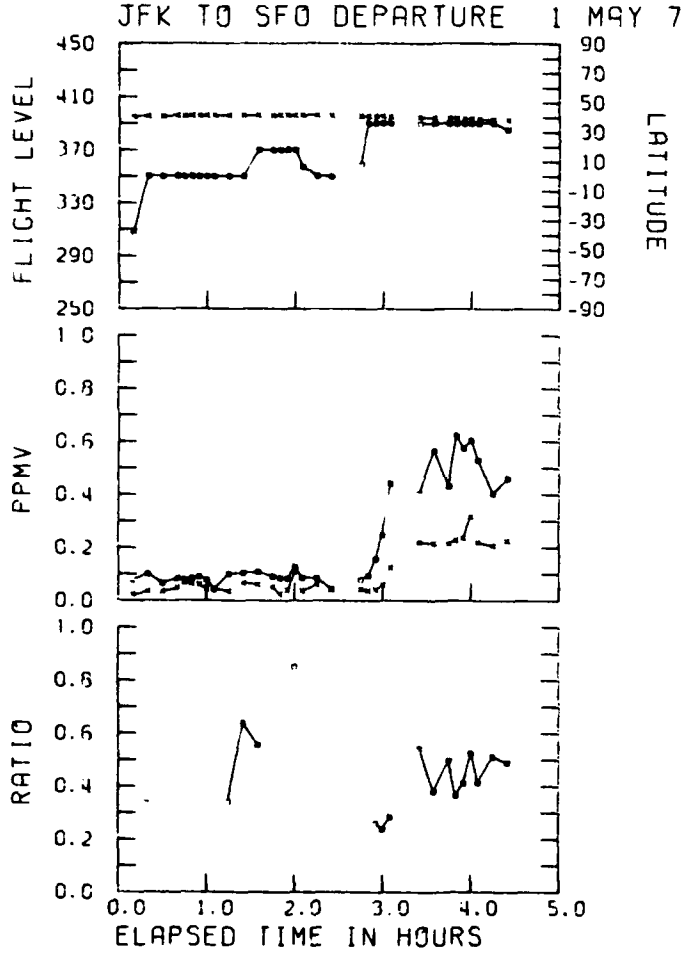
AIRCRAFT: UAL-N4711U

DATA SOURCE: GASP TAPE VL012, FILE 2

TOTAL OBS IN CABIN: 28

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/30/77	2129	0:10	342	39.11N	120.24W	-59.	.043	.146	.29
4/30/77	2139	0:20	369	39.52N	118.53W	-56.	.183	.421	.43
4/30/77	2149	0:30	369	39.91N	116.83W	-57.	.195	.368	.53
4/30/77	2159	0:40	369	40.27N	115.08W	-61.	.132	.187	.71
4/30/77	2214	0:55	369	40.76N	112.46W	-60.	.052	.071	
4/30/77	2224	1:05	370	41.06N	110.64W	-61.	.027	.073	
4/30/77	2234	1:15	370	41.34N	108.79W	-59.	.050	.078	
4/30/77	2254	1:35	369	41.79N	105.08W	-59.	.035	.059	
4/30/77	2259	1:40	369	41.89N	104.15W	-59.	.027	.061	
4/30/77	2304	1:45	370	41.98N	103.21W	-59.	.035	.053	
4/30/77	2309	1:50	369	42.06N	102.25W	-59.	.038	.060	
4/30/77	2314	1:55	369	42.13N	101.34W	-59.	.036	.060	
4/30/77	2324	2:05	369	42.25N	99.49W	-59.	.033	.099	
4/30/77	2334	2:15	395	42.34N	97.67W	-63.	.056	.146	.38

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
4/30/77	2344	2:25	410	42.39N	95.85W	-64.	.150	.367	.41
4/30/77	2354	2:35	410	42.43N	93.97W	-64.	.182	.313	.58
4/30/77	2359	2:40	410	42.43N	93.01W	-63.	.083	.290	.29
5/ 1/77	0004	2:45	410	42.42N	92.05W	-62.	.160	.336	.48
5/ 1/77	0009	2:50	410	42.41N	91.08W	-62.	.131	.310	.42
5/ 1/77	0014	2:55	410	42.39N	90.11W	-60.	.138	.303	.46
5/ 1/77	0024	3:05	410	42.33N	88.18W	-57.	.095	.276	.34
5/ 1/77	0034	3:15	410	42.23N	86.27W	-55.	.179	.282	.63
5/ 1/77	0044	3:25	410	42.10N	84.31W	-54.	.137	.385	.36
5/ 1/77	0054	3:35	410	41.93N	82.30W	-52.	.227	.423	.54
5/ 1/77	0059	3:40	410	41.83N	81.31W	-51.	.218	.462	.47
5/ 1/77	0104	3:45	410	41.72N	80.31W	-53.	.254	.430	.59
5/ 1/77	0109	3:50	410	41.60N	79.32W	-52.	.224	.496	.45
5/ 1/77	0114	3:55	410	41.48N	[illegible]4W	-52.	.293	.477	.61


JFK TO SFO DEPARTURE 1 MAY 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
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30
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-10
-30
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-70
-90
PPMV
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RATIO
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4.0
5.0
ELAPSED TIME IN HOURS

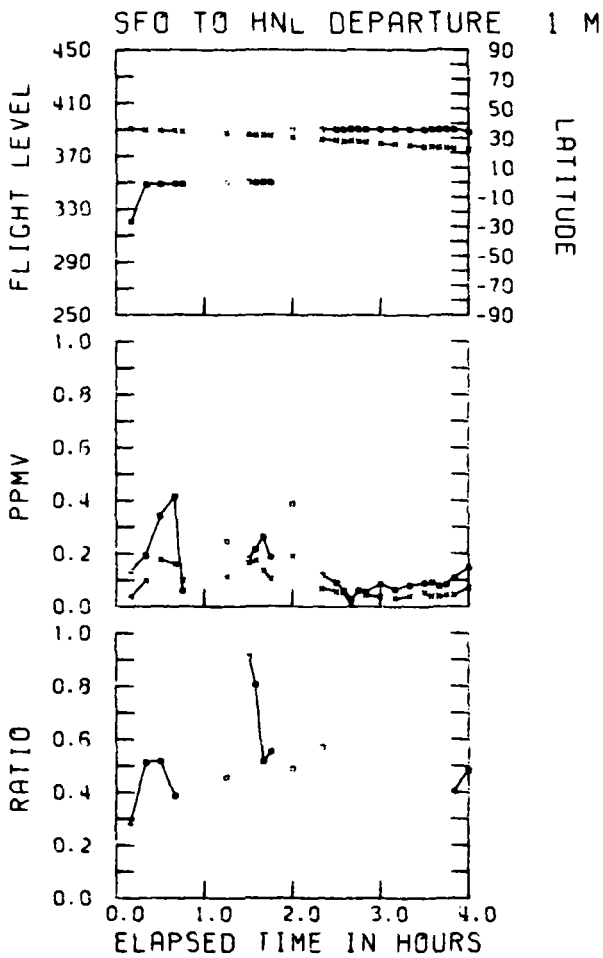
AIRCRAFT: UAL-N4711U

JFK TO SFO (PAGE 1 OF 1) DEPARTURE: 1 MAY 77 TOTAL OBS IN CABIN: 33

MAXIMUM VALUES: AMBIENT OZONE= .622 CABIN OZONE= .316 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .85

DATA SOURCE: GASP TAPE VL012, FILE 2

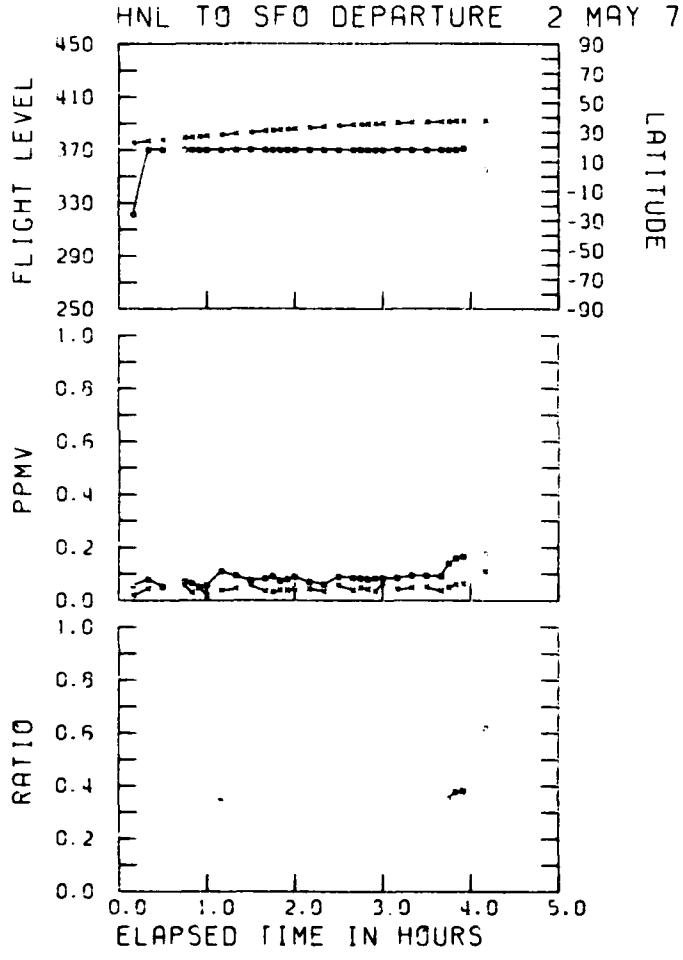
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/ 1/77	1442	0:10	308	40.67N	77.22W	-47.	.023	.078	
5/ 1/77	1452	0:20	350	40.76N	78.88W	-56.	.035	.100	
5/ 1/77	1502	0:30	350	40.84N	80.54W	-56.	.035	.065	
5/ 1/77	1512	0:40	350	40.99N	82.22W	-55.	.048	.083	
5/ 1/77	1517	0:45	350	41.06N	83.04W	-56.	.068	.079	
5/ 1/77	1522	0:50	350	41.12N	83.87W	-55.	.064	.084	
5/ 1/77	1527	0:55	350	41.17N	84.71W	-55.	.060	.090	
5/ 1/77	1532	1:00	350	41.22N	85.53W	-55.	.044	.079	
5/ 1/77	1537	1:05	350	41.26N	86.37W	-55.	.045	.042	
5/ 1/77	1547	1:15	350	41.33N	88.06W	-55.	.034	.100	
5/ 1/77	1557	1:25	350	41.36N	89.75W	-55.	.067	.105	.64
5/ 1/77	1607	1:35	370	41.38N	91.38W	-59.	.060	.108	.56
5/ 1/77	1617	1:45	370	41.37N	92.96W	-59.	.051	.090	
5/ 1/77	1622	1:50	370	41.36N	93.74W	-59.	.023	.085	
5/ 1/77	1627	1:55	370	41.35N	94.54W	-59.	.040	.084	
5/ 1/77	1632	2:00	370	41.37N	95.34W	-59.	.108	.127	.85
5/ 1/77	1637	2:05	357	41.35N	96.17W	-56.	.036	.086	
5/ 1/77	1647	2:15	350	41.27N	97.88W	-54.	.059	.083	
5/ 1/77	1657	2:25	350	41.16N	99.63W	-55.	.041	.044	
5/ 1/77	1717	2:45	359	40.87N	103.03W	-57.	.042	.079	
5/ 1/77	1722	2:50	390	40.78N	103.87W	-63.	.037	.093	
5/ 1/77	1727	2:55	390	40.68N	104.70W	-63.	.041	.157	.26
5/ 1/77	1732	3:00	390	40.58N	105.54W	-61.	.059	.247	.24
5/ 1/77	1737	3:05	390	40.47N	106.38W	-60.	.125	.441	.28
5/ 1/77	1757	3:25	390	40.00N	109.65W	-56.	.220	.406	.54
5/ 1/77	1807	3:35	390	39.72N	111.30W	-54.	.215	.565	.38
5/ 1/77	1817	3:45	390	39.42N	112.96W	-54.	.214	.430	.50
5/ 1/77	1822	3:50	390	39.25N	113.79W	-51.	.227	.622	.36
5/ 1/77	1827	3:55	390	39.09N	114.59W	-50.	.236	.574	.41
5/ 1/77	1832	4:00	390	38.92N	115.39W	-51.	.316	.603	.52
5/ 1/77	1837	4:05	390	38.75N	116.17W	-53.	.219	.529	.41
5/ 1/77	1847	4:15	390	38.39N	117.70W	-54.	.206	.403	.51
5/ 1/77	1857	4:25	385	38.09N	119.23W	-53.	.225	.460	.49


SFO TO HNL DEPARTURE 1 MAY 77 UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
ELAPSED TIME IN HOURS

SFO TO HNL (PAGE 1 OF 1) DEPARTURE: 1 MAY 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .416 CABIN OZONE= .190 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .91 TOTAL OBS IN CABIN: 25
DATA SOURCE: GASP TAPE VL012, FILE 2

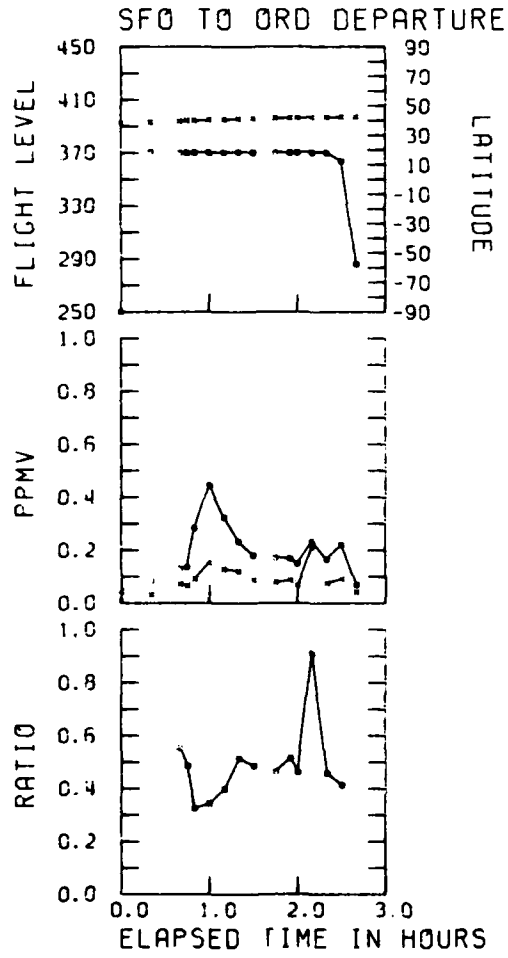
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
5/ 1/77	2149	0:10	320	36.48N	124.08W	-51.	.039	.136	.29
5/ 1/77	2159	0:20	349	35.94N	125.35W	-53.	.099	.193	.51
5/ 1/77	2209	0:30	349	35.55N	126.73W	-53.	.177	.342	.52
5/ 1/77	2219	0:40	349	35.14N	128.09W	-55.	.161	.416	.39
5/ 1/77	2224	0:45	349	34.92N	128.79W	-56.	.100	.059	
5/ 1/77	2254	1:15	350	33.47N	133.10W	-55.	.112	.245	.46
5/ 1/77	2309	1:30	350	32.63N	135.35W	-54.	.164	.180	.91
5/ 1/77	2314	1:35	350	32.34N	136.09W	-53.	.174	.216	.81
5/ 1/77	2319	1:40	350	32.04N	136.84W	-53.	.136	.263	.52
5/ 1/77	2324	1:45	350	31.73N	137.62W	-53.	.103	.186	.55
5/ 1/77	2339	2:00	390	30.77N	139.88W	-55.	.190	.388	.49
5/ 1/77	2359	2:20	390	29.43N	142.82W	-61.	.068	.119	.57
5/ 2/77	0009	2:30	390	28.74N	144.25W	-61.	.056	.091	
5/ 2/77	0014	2:35	390	28.40N	144.95W	-62.	.056	.061	
5/ 2/77	0019	2:40	390	28.05N	145.64W	-62.	.010	.028	
5/ 2/77	0024	2:45	390	27.70N	146.33W	-62.		.060	
5/ 2/77	0029	2:50	390	27.34N	147.02W	-61.	.043	.055	
5/ 2/77	0039	3:00	390	26.61N	148.39W	-60.	.037	.086	
5/ 2/77	0049	3:10	390	25.88N	149.73W	-61.	.031	.065	
5/ 2/77	0059	3:20	390	25.15N	151.02W	-60.	.039	.080	
5/ 2/77	0109	3:30	390	24.41N	152.30W	-59.	.054	.090	
5/ 2/77	0114	3:35	390	24.04N	152.93W	-59.	.040	.092	
5/ 2/77	0119	3:40	390	23.67N	153.54W	-60.	.039	.078	
5/ 2/77	0124	3:45	390	23.34N	154.18W	-60.	.043	.085	
5/ 2/77	0129	3:50	390	23.01N	154.80W	-59.	.044	.109	.40
5/ 2/77	0139	4:00	388	22.36N	156.03W	-60.	.072	.144	.48


HNL TO SFO DEPARTURE 2 MAY 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

HNL TO SFO (PAGE 1 OF 1) DEPARTURE: 2 MAY 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .176 CABIN OZONE= .109 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .62 TOTAL OBS IN CABIN: 31
DATA SOURCE: GASP TAPE VL012, FILE 2

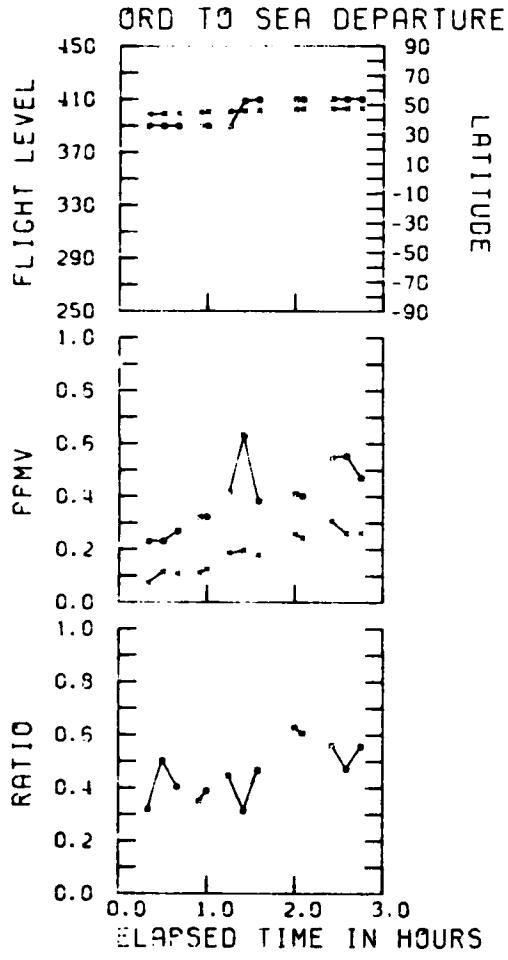
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
5/ 2/77	2009	0:10	321	23.06N	156.62W	-43.	.020	.057	
5/ 2/77	2019	0:20	370	24.32N	156.21W	-55.	.045	.079	
5/ 2/77	2029	0:30	370	25.06N	155.03W	-55.	.050	.052	
5/ 2/77	2044	0:45	370	26.33N	153.37W	-55.	.056	.071	
5/ 2/77	2049	0:50	370	26.75N	152.81W	-56.	.029	.065	
5/ 2/77	2054	0:55	370	27.17N	152.25W	-56.	.048	.050	
5/ 2/77	2059	1:00	370	27.58N	151.68W	-56.	.019	.057	
5/ 2/77	2109	1:10	370	28.41N	150.52W	-55.	.039	.110	.35
5/ 2/77	2119	1:20	370	29.23N	149.33W	-55.	.045	.093	
5/ 2/77	2129	1:30	370	30.03N	148.13W	-55.	.057	.076	
5/ 2/77	2139	1:40	370	30.82N	146.92W	-55.	.035	.082	
5/ 2/77	2144	1:45	370	31.21N	146.31W	-55.	.032	.091	
5/ 2/77	2149	1:50	370	31.60N	145.69W	-55.	.038	.074	
5/ 2/77	2154	1:55	370	31.98N	145.08W	-55.	.038	.080	
5/ 2/77	2159	2:00	370	32.35N	144.46W	-55.	.043	.089	
5/ 2/77	2209	2:10	370	33.09N	143.21W	-55.	.043	.069	
5/ 2/77	2219	2:20	370	33.82N	141.93W	-55.	.033	.060	
5/ 2/77	2229	2:30	370	34.55N	140.63W	-55.	.056	.089	
5/ 2/77	2239	2:40	370	35.11N	139.16W	-55.	.038	.085	
5/ 2/77	2244	2:45	370	35.32N	138.38W	-55.	.048	.083	
5/ 2/77	2249	2:50	370	35.52N	137.59W	-55.	.042	.080	
5/ 2/77	2254	2:55	370	35.72N	136.79W	-55.	.035	.084	
5/ 2/77	2259	3:00	370	35.91N	136.00W	-54.	.067	.085	
5/ 2/77	2309	3:10	370	36.27N	134.44W	-55.	.042	.084	
5/ 2/77	2319	3:20	370	36.61N	132.89W	-56.	.048	.094	
5/ 2/77	2329	3:30	370	36.92N	131.32W	-55.	.050	.093	
5/ 2/77	2339	3:40	370	37.21N	129.74W	-54.	.036	.091	
5/ 2/77	2344	3:45	370	37.35N	128.96W	-53.	.049	.139	.35
5/ 2/77	2349	3:50	370	37.48N	128.18W	-53.	.060	.159	.38
5/ 2/77	2354	3:55	371	37.60N	127.37W	-53.	.063	.165	.38
5/ 3/77	0009	4:10	355	37.74N	124.95W	-49.	.109	.176	.62


SFO TO ORD DEPARTURE 3 MAY 77 UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

SFO TO ORD (PAGE 1 OF 1) DEPARTURE: 3 MAY 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .446 CABIN OZONE= .211 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .91 TOTAL OBS IN CABIN: 16
DATA SOURCE: GASP TAPE VL012, FILE 2

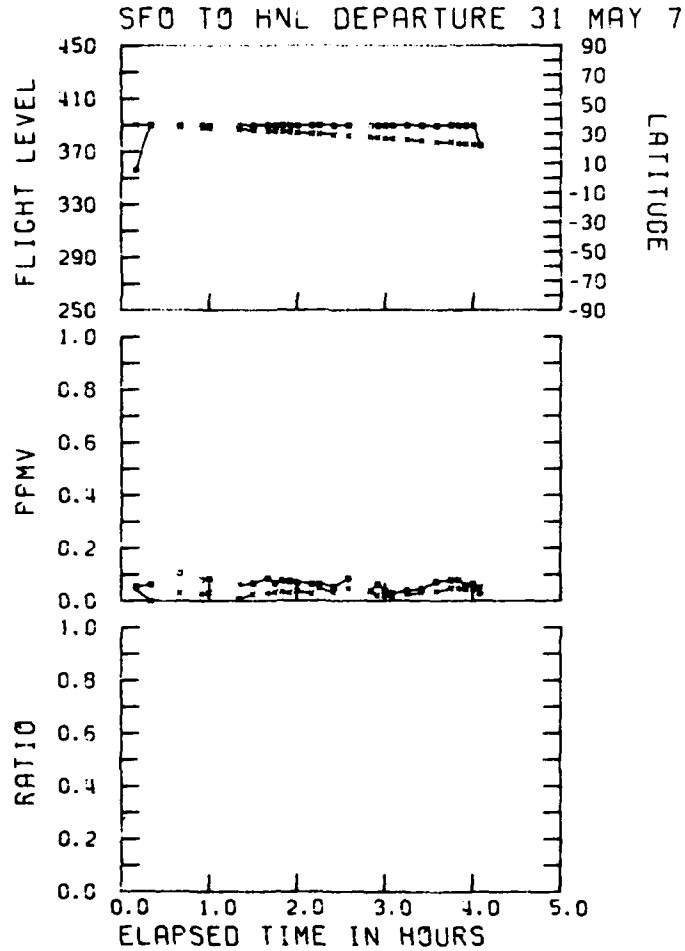
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
5/ 3/77	1746	0:00	221	38.08N	120.99W	-22.	.009	.045	
5/ 3/77	1806	0:20	371	38.85N	117.36W	-55.	.032	.085	
5/ 3/77	1826	0:40	370	39.71N	113.72W	-55.	.[illegible]	.132	.55
5/ 3/77	1831	0:45	370	39.90N	112.80W	-54.	.[illegible]6	.136	.49
5/ 3/77	1836	0:50	370	40.09N	111.90W	-53.	.092	.283	.33
5/ 3/77	1846	1:00	370	40.44N	110.06W	-53.	.153	.446	.34
5/ 3/77	1856	1:10	370	40.77N	108.16W	-57.	.129	.324	.40
5/ 3/77	1906	1:20	371	41.07N	106.22W	-59.	.119	.232	.51
5/ 3/77	1916	1:30	370	41.33N	104.25W	-60.	.088	.181	.49
5/ 3/77	1931	1:45	370	41.67N	101.35W	-60.	.080	.172	.47
5/ 3/77	1941	1:55	370	41.85N	99.41W	-59.	.087	.169	.51
5/ 3/77	1946	2:00	370	41.92N	98.49W	-59.	.069	.149	.46
5/ 3/77	1956	2:10	370	42.05N	96.61W	-57.	.211	.232	.91
5/ 3/77	2006	2:20	370	42.14N	94.73W	-55.	.076	.166	.46
5/ 3/77	2016	2:30	364	42.30N	92.86W	-56.	.091	.220	.41
5/ 3/77	2026	2:40	286	42.60N	91.40W	-37.	.042	.070	


ORD TO SEA DEPARTURE 4 MAY 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

ORD TO SEA (PAGE 1 OF 1) DEPARTURE: 4 MAY 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .631 CABIN OZONE= .308 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .63 TOTAL OBS IN CABIN: 13
DATA SOURCE: GASP TAPE VL012, FILE 2

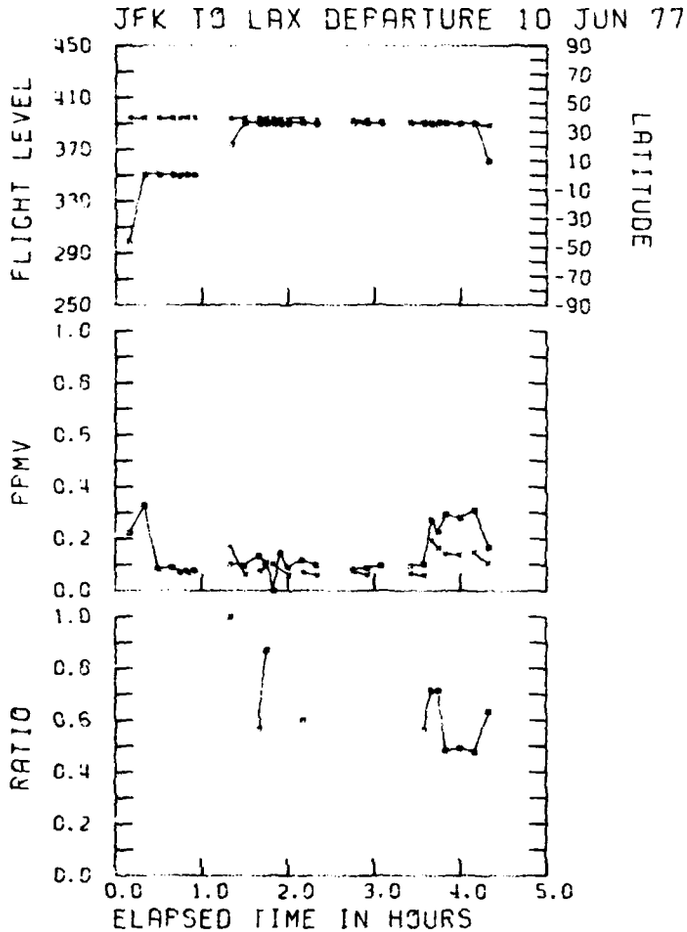
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
5/ 4/77	0020	0:20	390	43.90N	91.44W	-59.	.074	.231	.32
5/ 4/77	0030	0:30	390	44.30N	93.15W	-57.	.116	.231	.50
5/ 4/77	0040	0:40	390	44.71N	94.85W	-57.	.109	.269	.41
5/ 4/77	0055	0:55	390	45.26N	97.37W	-61.	.113	.322	.35
5/ 4/77	0100	1:00	390	45.43N	98.21W	-62.	.126	.324	.39
5/ 4/77	0115	1:15	390	45.90N	100.80W	-59.	.187	.418	.45
5/ 4/77	0125	1:25	409	46.29N	102.58W	-55.	.198	.631	.31
5/ 4/77	0135	1:35	410	46.64N	104.37W	-52.	.179	.383	.47
5/ 4/77	0200	2:00	410	47.13N	109.14W	-49.	.258	.411	.63
5/ 4/77	0205	2:05	410	47.21N	110.10W	-48.	.244	.402	.61
5/ 4/77	0226	2:26	410	47.44N	114.23W	-42.	.308	.549	.56
5/ 4/77	0236	2:36	410	47.52N	116.20W	-42.	.261	.553	.47
5/ 4/77	0246	2:46	410	47.63N	118.21W	-42.	.262	.471	.56


SFO TO HNL DEPARTURE 31 MAY 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

SFO TO HNL (PAGE 1 OF 1) DEPARTURE: 31 MAY 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .107 CABIN OZONE= .052 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .29 TOTAL OBS IN CABIN: 28
DATA SOURCE: GASP TAPE VL012, FILE 2

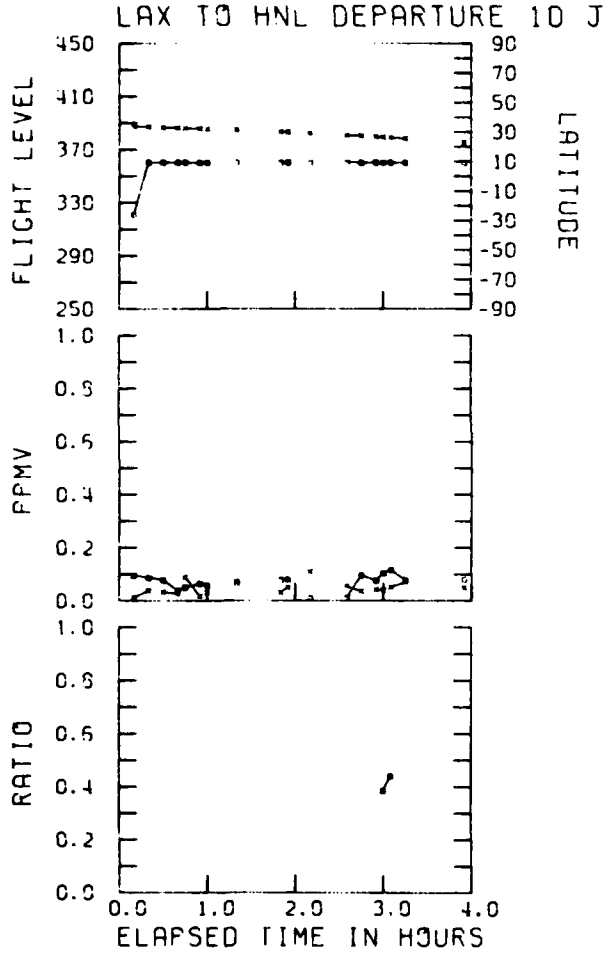
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
5/31/77	0512	0:10	356	36.36N	124.44W	-52.	.045	.055	
5/31/77	0522	0:20	390	35.82N	125.79W	-61.	.000	.062	
5/31/77	0542	0:40	390	34.94N	128.74W	-61.	.031	.107	.29
5/31/77	0557	0:55	390	34.24N	130.90W	-61.	.028	.082	
5/31/77	0602	1:00	390	33.99N	131.64W	-60.	.032	.084	
5/31/77	0622	1:20	390	32.97N	134.47W	-60.	.009	.060	
5/31/77	0632	1:30	390	32.44N	135.85W	-60.	.025	.067	
5/31/77	0642	1:40	390	31.90N	137.20W	-59.	.028	.086	
5/31/77	0647	1:45	390	31.63N	137.86W	-59.	.032	.067	
5/31/77	0652	1:50	390	31.35N	138.52W	-59.	.034	.076	
5/31/77	0657	1:55	390	31.07N	139.18W	-60.	.031	.075	
5/31/77	0702	2:00	390	30.79N	139.83W	-59.	.037	.070	
5/31/77	0712	2:10	390	30.21N	141.13W	-59.	.027	.064	
5/31/77	0717	2:15	390	29.91N	141.79W	-59.	.047	.063	
5/31/77	0727	2:25	390	29.30N	143.08W	-59.	.033	.053	
5/31/77	0737	2:35	390	28.68N	144.38W	-59.	.047	.085	
5/31/77	0752	2:50	390	27.71N	146.30W	-59.	.039	.038	
5/31/77	0757	2:55	390	27.38N	146.94W	-58.	.021	.063	
5/31/77	0802	3:00	390	27.05N	147.56W	-58.	.022	.040	
5/31/77	0807	3:05	390	26.72N	148.20W	-58.	.016	.029	
5/31/77	0817	3:15	390	26.02N	149.47W	-58.	.025	.040	
5/31/77	0827	3:25	390	25.30N	150.76W	-58.	.032	.045	
5/31/77	0837	3:35	390	24.56N	152.04W	-58.	.036	.073	
5/31/77	0847	3:45	390	23.81N	153.32W	-57.	.047	.079	
5/31/77	0852	3:50	390	23.43N	153.95W	-57.	.047	.080	
5/31/77	0857	3:55	390	23.08N	154.60W	-57.	.043	.060	
5/31/77	0902	4:00	390	22.74N	155.26W	-57.	.045	.066	
5/31/77	0907	4:05	375	22.40N	155.91W	-53.	.052	.030	


JFK TO LAX DEPARTURE 10 JUN 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

JFK TO LAX (PAGE 1 OF 1) DEPARTURE: 10 JUN 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .329 CABIN OZONE= .194 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.65 TOTAL OBS IN CABIN: 19
DATA SOURCE: GASP TAPE VL012, FILE 2

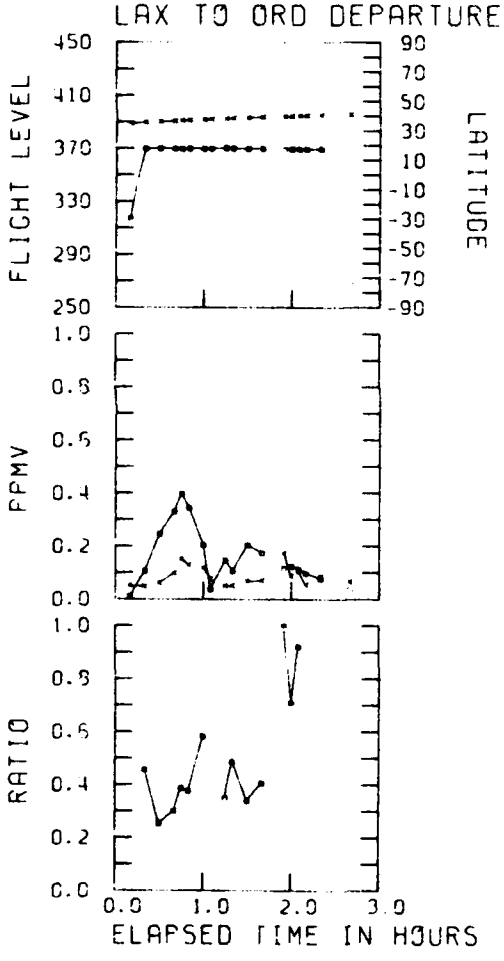
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/10/77	1641	0:10	299	40.04N	76.33W	-41.		.223	
6/10/77	1651	0:20	350	39.97N	77.97W	-48.		.329	
6/10/77	1701	0:30	351	40.01N	79.61W	-49.		.084	
6/10/77	1711	0:40	350	40.02N	81.19W	-49.		.091	
6/10/77	1716	0:45	350	40.02N	82.00W	-48.		.074	
6/10/77	1721	0:50	350	40.02N	82.79W	-47.		.075	
6/10/77	1726	0:55	350	40.00N	83.61W	-48.		.079	
6/10/77	1751	1:20	374	39.86N	87.69W	-53.	.168	.102	1.65
6/10/77	1801	1:30	390	39.76N	89.35W	-57.	.062	.098	
6/10/77	1811	1:40	390	39.63N	91.06W	-56.	.076	.134	.57
6/10/77	1816	1:45	390	39.55N	91.89W	-55.	.093	.107	.87
6/10/77	1821	1:50	390	39.47N	92.74W	-56.	.104	.001	
6/10/77	1826	1:55	390	39.39N	93.58W	-55.		.144	
6/10/77	1831	2:00	390	39.30N	94.40W	-56.	.061	.094	
6/10/77	1841	2:10	390	39.12N	96.04W	-55.	.069	.115	.60
6/10/77	1851	2:20	390	38.92N	97.63W	-56.	.058	.099	
6/10/77	1916	2:45	390	38.33N	101.61W	-53.	.076	.085	
6/10/77	1930	2:59	390	37.95N	103.77W	-51.	.061	.088	
6/10/77	1940	3:09	390	37.65N	105.31W	-51.	.094	.097	
6/10/77	2000	3:29	390	37.01N	108.31W	-52.	.065	.096	
6/10/77	2010	3:39	390	36.66N	109.77W	-52.	.058	.103	.56
6/10/77	2015	3:44	390	36.48N	110.49W	-53.	.194	.271	.72
6/10/77	2020	3:49	390	36.30N	111.19W	-52.	.164	.229	.72
6/10/77	2025	3:54	390	36.07N	111.91W	-53.	.142	.293	.48
6/10/77	2035	4:04	390	35.59N	113.27W	-54.	.138	.280	.49
6/10/77	2045	4:14	390	35.09N	114.67W	-54.	.149	.311	.48
6/10/77	2055	4:24	361	34.56N	116.06W	-52.	.105	.166	.63


LAX TO HNL DEPARTURE 10 JUN 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
ELAPSED TIME IN HOURS

LAX TO HNL (PAGE 1 OF 1) DEPARTURE: 10 JUN 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .116 CABIN OZONE= .110 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .44 TOTAL OBS IN CABIN: 18
DATA SOURCE: GASP TAPE VL012, FILE 2

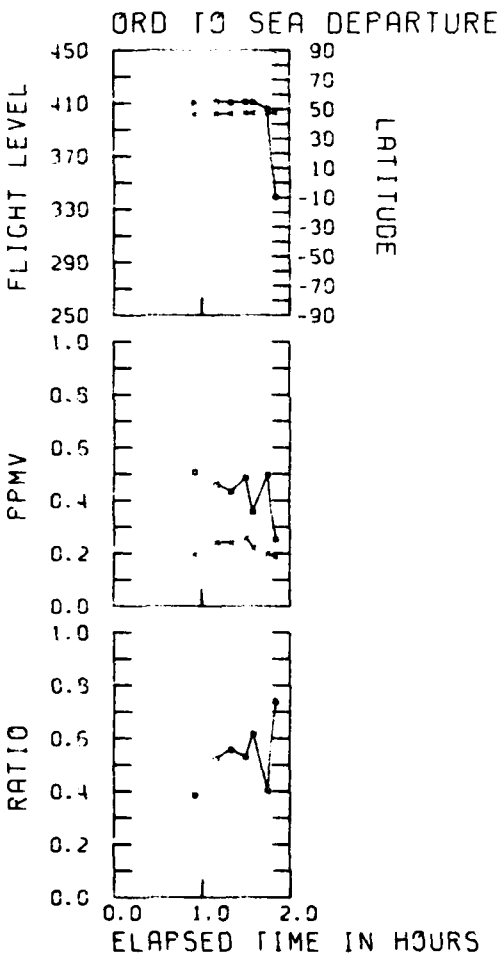
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/10/77	2337	0:11	321	33.65N	121.24W	-44.	.014	.094		6/11/77	0122	1:56	360	29.85N	136.10W	-51.	.050	.080	
6/10/77	2347	0:21	360	33.48N	122.57W	-53.	.038	.086		6/11/77	0136	2:10	360	29.14N	138.17W	-51.	.110	.011	
6/10/77	2356	0:30	360	33.16N	124.08W	-53.	.033	.077		6/11/77	0202	2:36	360	27.86N	141.64W	-50.	.056	.011	
6/11/77	0007	0:41	360	32.83N	125.53W	-52.	.026	.039		6/11/77	0212	2:46	360	27.32N	143.02W	-50.	.036	.095	
6/11/77	0012	0:46	360	32.66N	126.25W	-52.	.090	.051		6/11/77	0221	2:55	360	26.76N	144.38W	-50.	.043	.076	
6/11/77	0021	0:55	360	32.31N	127.67W	-52.	.018	.064		6/11/77	0226	3:00	360	26.47N	145.08W	-50.	.040	.104	.38
6/11/77	0026	1:00	360	32.13N	128.37W	-51.	.032	.058		6/11/77	0232	3:06	360	26.18N	145.77W	-49.	.051	.116	.44
6/11/77	0047	1:21	360	31.36N	131.21W	-51.	.072	.067		6/11/77	0242	3:16	360	25.58N	147.13W	-49.	.071	.078	
6/11/77	0117	1:51	360	30.08N	135.40W	-51.	.031	.079		6/11/77	0322	3:56	360	23.03N	152.56W	-48.	.050	.081	


LAX TO ORD DEPARTURE 11 JUN 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

LAX TO OHD (PAGE 1 OF 1) DEPARTURE: 11 JUN 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .396 CABIN OZONE= .173 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= 1.48 TOTAL OBS IN CABIN: 18
DATA SOURCE: GASP TAPE VL012, FILE 2

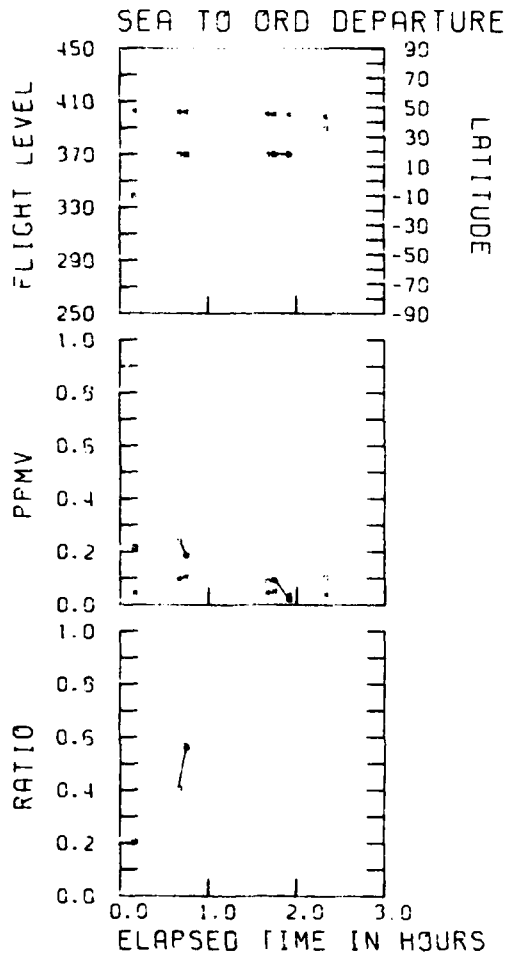
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/11/77	1801	0:10	318	35.04N	116.48W	-41.	.051	.010	
6/11/77	1811	0:20	370	35.68N	115.02W	-55.	.048	.105	.46
6/11/77	1821	0:30	370	36.23N	113.41W	-53.	.062	.245	.25
6/11/77	1831	0:40	370	36.74N	111.81W	-51.	.099	.330	.30
6/11/77	1836	0:45	370	36.98N	111.02W	-50.	.153	.396	.39
6/11/77	1841	0:50	370	37.22N	110.21W	-51.	.130	.345	.38
6/11/77	1851	1:00	370	37.70N	108.54W	-53.	.119	.204	.58
6/11/77	1856	1:05	370	37.93N	107.69W	-55.	.076	.037	
6/11/77	1906	1:15	370	38.38N	105.94W	-54.	.051	.146	.35
6/11/77	1911	1:20	370	38.58N	105.04W	-53.	.052	.107	.49
6/11/77	1921	1:30	370	39.00N	103.25W	-50.	.069	.203	.34
6/11/77	1931	1:40	370	39.38N	101.46W	-50.	.071	.175	.41
6/11/77	1946	1:55	370	39.92N	98.70W	-48.	.173	.117	1.48
6/11/77	1951	2:00	370	40.09N	97.77W	-47.	.088	.124	.71
6/11/77	1956	2:05	370	40.24N	96.86W	-48.	.104	.113	.92
6/11/77	2001	2:10	369	40.39N	95.95W	-49.	.055	.099	
6/11/77	2011	2:20	370	40.67N	94.14W	-50.	.087	.078	
6/11/77	2031	2:40	269	41.14N	90.41W	-26.	.067	.038	


ORD TO SEA DEPARTURE 12 JUN 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
ELAPSED TIME IN HOURS

ORD TO SEA (PAGE 1 OF 1) DEPARTURE: 12 JUN 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .508 CABIN OZONE= .256 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .74 TOTAL OBS IN CABIN: 7
DATA SOURCE: GASP TAPE VL012, FILE 2

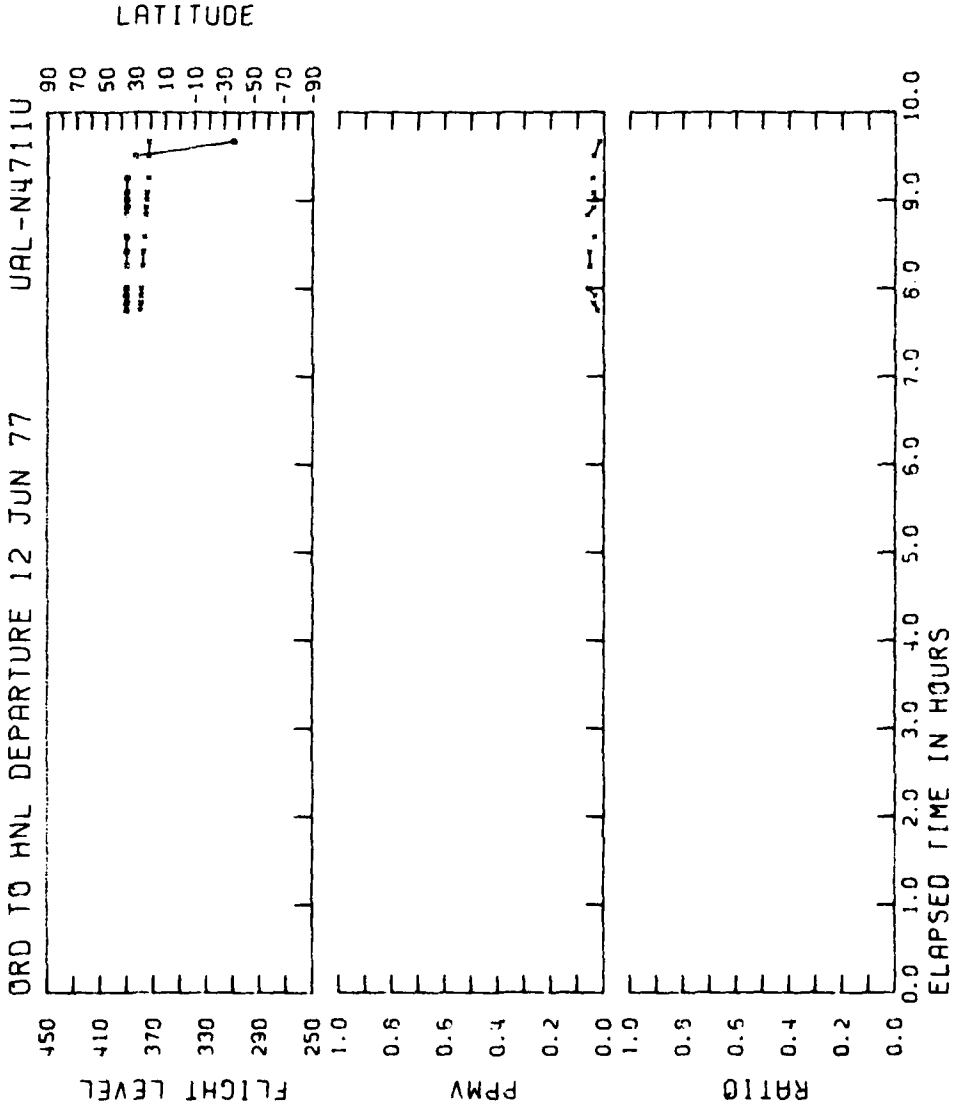
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
6/12/77	0230	0:55	411	46.37N	109.38W	-50.	.196	.508	.39
6/12/77	0245	1:10	411	46.73N	112.16W	-50.	.242	.461	.52
6/12/77	0255	1:20	411	46.93N	114.03W	-50.	.241	.433	.56
6/12/77	0305	1:30	411	47.14N	115.88W	-48.	.256	.484	.53
6/12/77	0310	1:35	411	47.24N	116.80W	-48.	.220	.357	.62
6/12/77	0320	1:45	406	47.45N	118.72W	-47.	.200	.497	.40
6/12/77	0325	1:50	339	47.53N	119.67W	-50.	.187	.253	.74


SEA TO ORD DEPARTURE 12 JUN 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

SEA TO ORD (PAGE 1 OF 1) DEPARTURE: 12 JUN 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .241 CABIN OZONE= .106 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .56 TOTAL OBS IN CABIN: 7
DATA SOURCE: GASP TAPE VL012, FILE 2

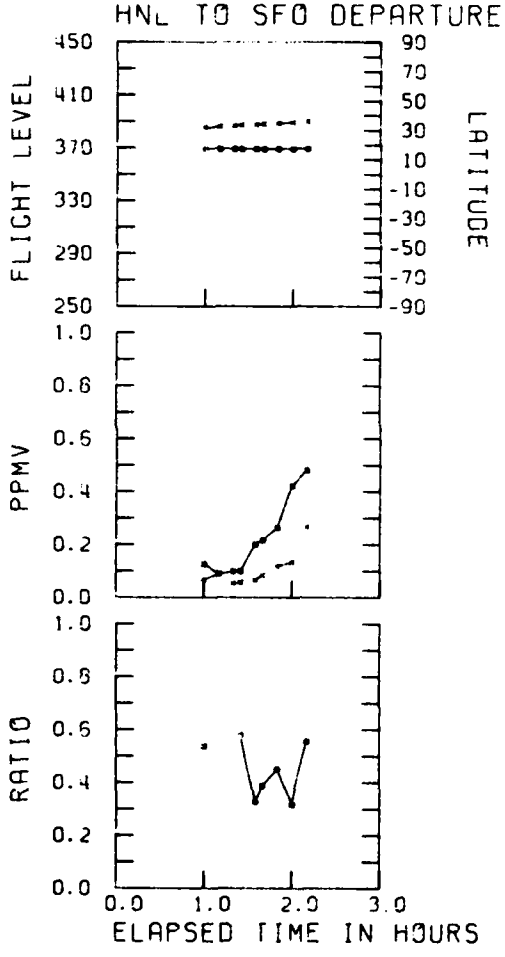
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/12/77	1536	0:10	339	47.27N	118.88W	-52.	.044	.216	.20
6/12/77	1606	0:40	370	47.00N	112.63W	-55.	.098	.241	.41
6/12/77	1611	0:45	370	46.92N	111.56W	-55.	.106	.188	.56
6/12/77	1706	1:40	370	45.51N	100.91W	-56.	.045	.088	
6/12/77	1711	1:45	370	45.34N	100.00W	-56.	.050	.092	
6/12/77	1721	1:55	370	44.97N	98.15W	-55.	.038	.021	
6/12/77	1746	2:20	390	43.87N	93.47W	-58.	.039	.104	.38


LATITUDE
ORD TO HNL DEPARTURE 12 JUN 77
UAL-N4711U
90 70 50 30 10 -10 -30 -50 -70 -90
FLIGHT LEVEL
450 410 370 330 290 250
PPMV
1.0 0.8 0.6 0.4 0.2 0.0
RATIO
1.0 0.8 0.6 0.4 0.2 0.0
0.0 1.0 2.0 3.0 4.0 5.0 6.0 7.0 8.0 9.0 10.0
ELAPSED TIME IN HOURS

ORD TO HNL (PAGE 1 OF 1) DEPARTURE: 12 JUN 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .062 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 14
DATA SOURCE: GASP TAPE VL012, FILE 2

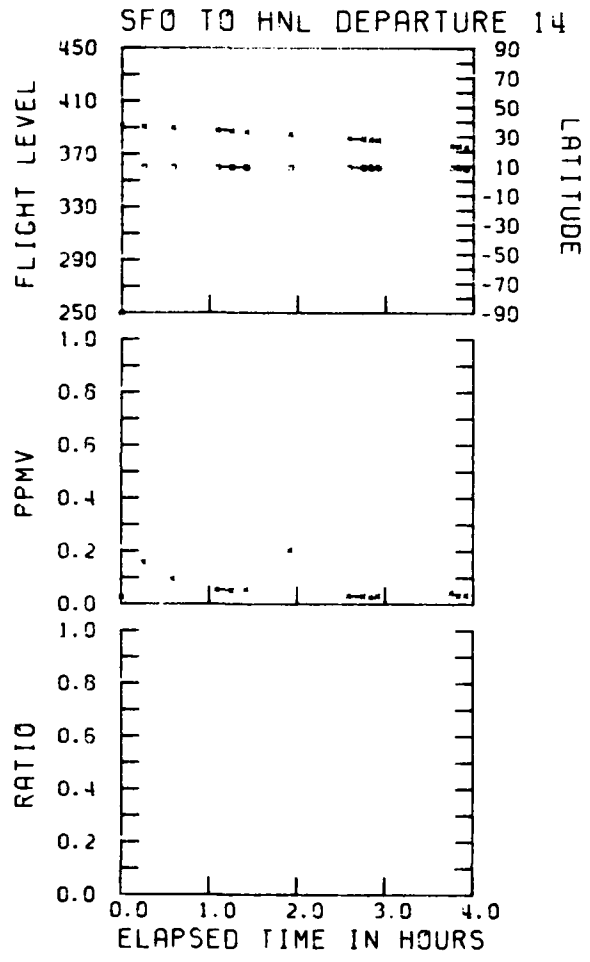
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO	MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
6/13/77	0539	7:48	390	27.01N	141.33W	-53.	.024			6/13/77	0644	8:53	390	23.50N	149.58W	-56.	.062		
6/13/77	0544	7:53	390	26.76N	141.96W	-54.	.040			6/13/77	0649	8:58	390	23.21N	150.19W	-56.	.038		
6/13/77	0549	7:58	391	26.50N	142.62W	-54.	.033			6/13/77	0654	9:03	390	22.92N	150.80W	-56.	.034		
6/13/77	0554	8:03	390	26.25N	143.25W	-54.	.055			6/13/77	0659	9:08	390	22.63N	151.41W	-56.	.040		
6/13/77	0609	8:18	390	25.46N	145.14W	-55.	.052			6/13/77	0709	9:18	390	22.02N	152.64W	-56.	.044		
6/13/77	0619	8:28	390	24.92N	146.41W	-55.	.055			6/13/77	0724	9:33	384	21.52N	154.63W	-54.	.038		
6/13/77	0629	8:38	390	24.36N	147.68W	-55.	.037			6/13/77	0734	9:43	310	21.28N	156.00W	-35.	.018		


HNL TO SFO DEPARTURE 13 JUN 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

HNL TO SFO (PAGE 1 OF 1) DEPARTURE: 13 JUN 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE= .481 CABIN OZONE= .267 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .56 TOTAL OBS IN CABIN: 9
DATA SOURCE: GASP TAPE VL012, FILE 2

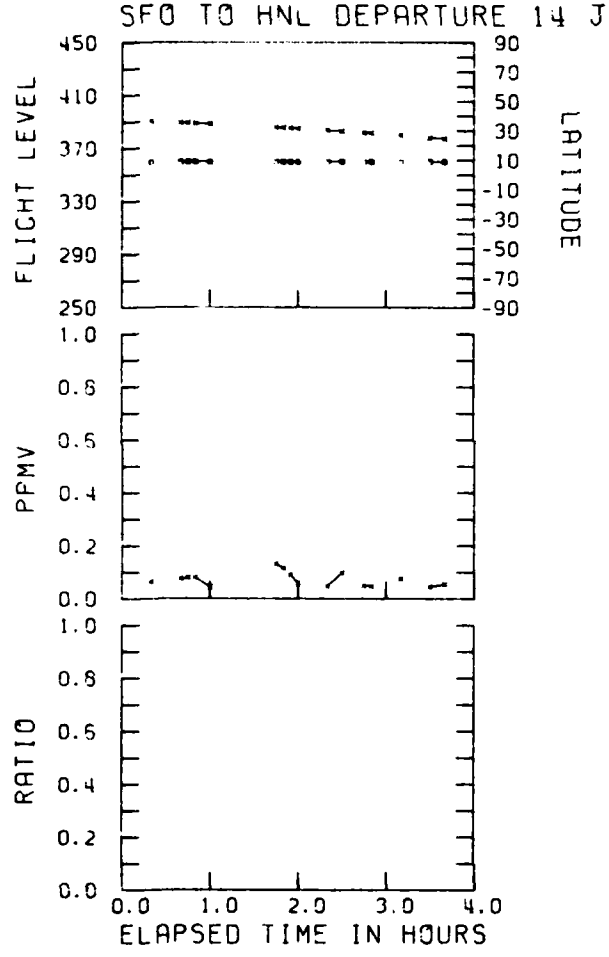
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
6/13/77	2234	1:04	369	32.21N	136.18W	-55.	.069	.128	.54
6/13/77	2244	1:14	369	32.82N	134.57W	-55.	.092	.090	
6/13/77	2254	1:24	369	33.40N	132.96W	-55.	.054	.099	
6/13/77	2259	1:29	369	33.68N	132.16W	-55.	.058	.100	
6/13/77	2309	1:39	369	34.21N	130.57W	-53.	.066	.201	.33
6/13/77	2314	1:44	369	34.47N	129.78W	-53.	.084	.217	.39
6/13/77	2324	1:54	369	34.97N	128.16W	-50.	.119	.264	.45
6/13/77	2334	2:04	369	35.47N	126.47W	-48.	.134	.422	.32
6/13/77	2344	2:14	369	36.16N	124.88W	-47.	.267	.481	.56


SFO TO HNL DEPARTURE 14 JUN 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
ELAPSED TIME IN HOURS

SFO TO HNL (PAGE 1 OF 1) DEPARTURE: 14 JUN 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .204 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 1*
DATA SOURCE: GASP TAPE VL012, FILE 3

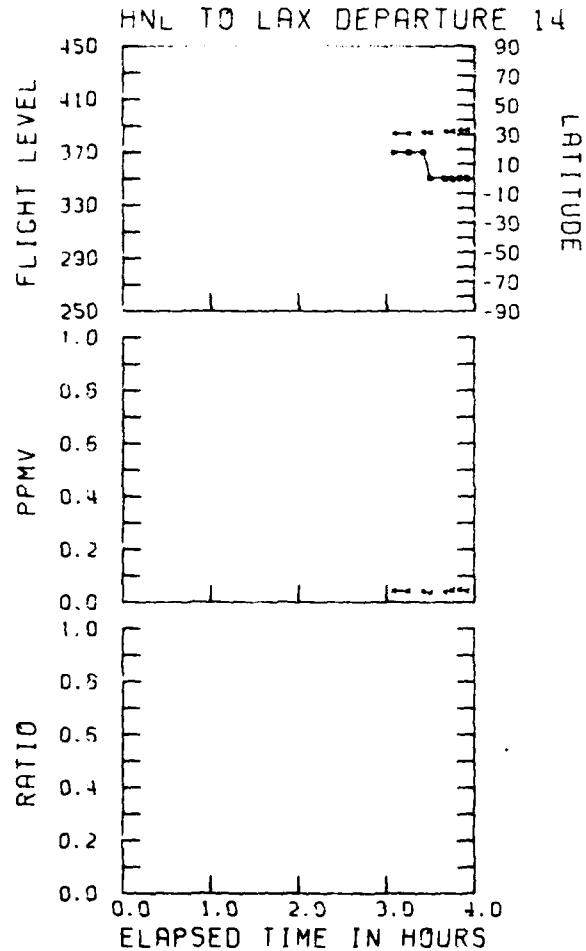
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
6/14/77	0324	0:00	215	37.36N	123.76W	-21.	.027		
6/14/77	0341	0:17	360	36.67N	126.19W	-49.	.158		
6/14/77	0401	0:37	360	35.81N	129.11W	-53.	.095		
6/14/77	0431	1:07	360	34.38N	133.38W	-54.	.055		
6/14/77	0441	1:17	360	33.85N	134.82W	-55.	.052		
6/14/77	0451	1:27	360	33.31N	136.23W	-55.	.056		
6/14/77	0521	1:57	360	31.60N	140.33W	-51.	.204		
6/14/77	0601	2:37	360	29.05N	145.74W	-50.	.032		
6/14/77	0611	2:47	360	28.37N	147.06W	-50.	.030		
6/14/77	0616	2:52	360	28.02N	147.73W	-50.	.026		
6/14/77	0621	2:57	360	27.66N	148.39W	-50.	.031		
6/14/77	0711	3:47	360	23.91N	154.80W	-50.	.043		
6/14/77	0716	3:52	360	23.41N	155.33W	-50.	.033		
6/14/77	0722	3:58	359	22.79N	155.97W	-50.	.033		


SFO TO HNL DEPARTURE 14 JUN 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
ELAPSED TIME IN HOURS

SFO TO HNL (PAGE 1 OF 1) DEPARTURE: 14 JUN 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .131 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 10
DATA SOURCE: GASP TAPE VL012, FILE 3

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
6/14/77	1709	0:20	360	36.61N	126.39W	-54.	.064		
6/14/77	1729	0:40	360	35.74N	129.30W	-54.	.075		
6/14/77	1734	0:45	360	35.50N	130.05W	-54.	.079		
6/14/77	1739	0:50	360	35.27N	130.76W	-55.	.080		
6/14/77	1749	1:00	360	34.76N	132.26W	-55.	.045		
6/14/77	1834	1:45	360	32.42N	138.41W	-52.	.131		
6/14/77	1839	1:50	360	32.15N	139.05W	-51.	.115		
6/14/77	1844	1:55	360	31.87N	139.70W	-52.	.090		
6/14/77	1849	2:00	360	31.57N	140.39W	-52.	.059		
6/14/77	1909	2:20	360	30.36N	143.03W	-50.	.048		
6/14/77	1919	2:30	360	29.74N	144.32W	-50.	.097		
6/14/77	1934	2:45	360	28.75N	146.30W	-49.	.049		
6/14/77	1939	2:50	360	28.41N	146.95W	-49.	.047		
6/14/77	1959	3:10	360	27.02N	149.55W	-49.	.074		
6/14/77	2022	3:33	360	25.32N	152.51W	-49.	.045		
6/14/77	2032	3:43	360	24.56N	153.78W	-49.	.054		


HNL TO LAX DEPARTURE 14 JUN 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
ELAPSED TIME IN HOURS

AIRCRAFT: UAL-N4711U

DEPARTURE: 14 JUN 77

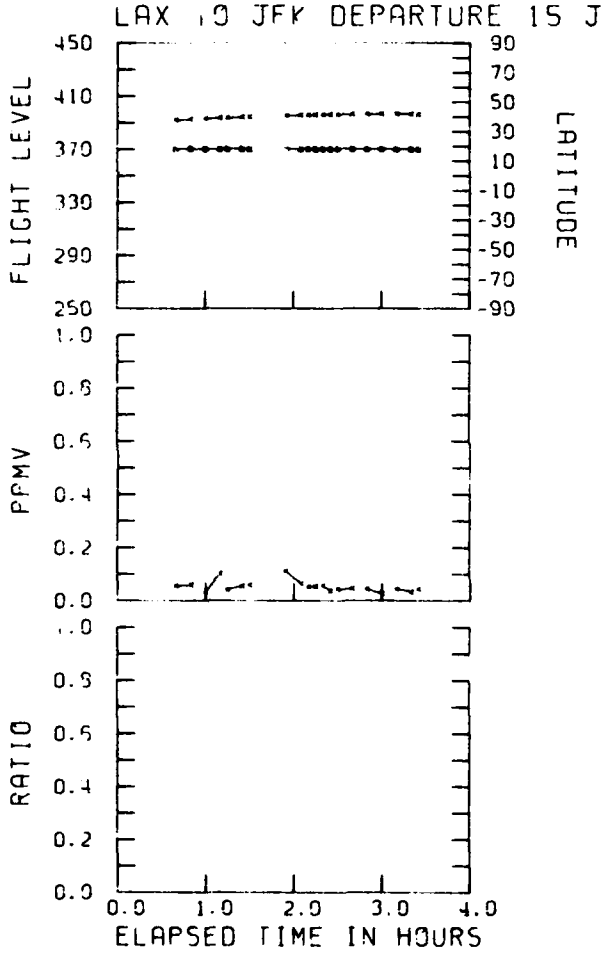
[illegible] OF 1)

[illegible] AMBIENT OZONE=***** CABIN OZONE= .049 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 8

[illegible] DATA TAPE VL012, FILE 3

[illegible]	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	OZONE(PPMV) AMB.	RATIO
[illegible]	0206	3:05	370	30.75N	129.85W	-52.	.043		
[illegible]	0216	3:15	370	31.21N	128.15W	-51.	.043		
[illegible]	0226	3:25	370	31.65N	126.38W	-50.	.043		
[illegible]	0231	3:30	351	31.85N	125.56W	-46.	.036		

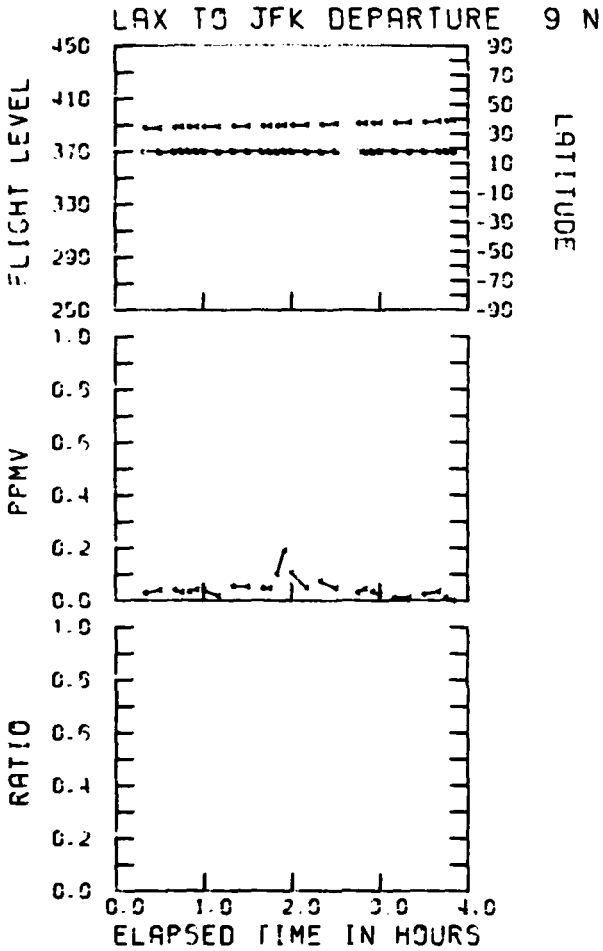
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	OZONE(PPMV) AMB.	RATIO
6/15/77	0241	3:40	350	32.27N	123.80W	-46.	.039		
6/15/77	0246	3:45	350	32.55N	122.93W	-46.	.046		
6/15/77	0251	3:50	350	32.82N	122.07W	-46.	.049		
6/15/77	0256	3:55	350	33.07N	121.24W	-46.	.042		


LAX TO JFK DEPARTURE 15 JUN 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
ELAPSED TIME IN HOURS

LAX TO JFK (PAGE 1 OF 1) DEPARTURE: 15 JUN 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .112 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 20
DATA SOURCE: GASP TAPE VL012, FILE 3

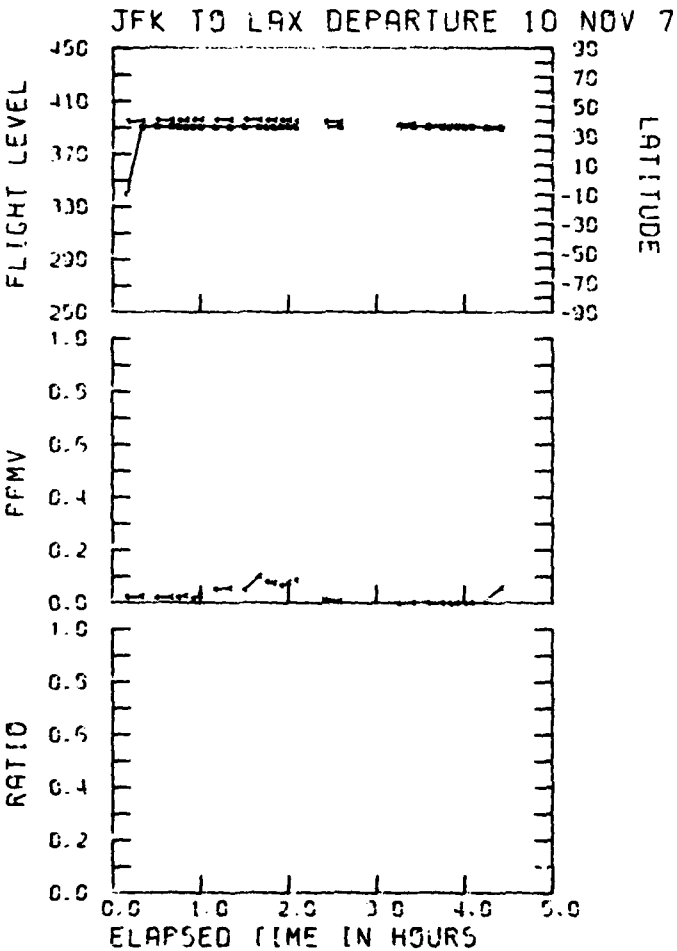
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
6/15/77	2038	0:41	370	37.97N	107.19W	-51.	.056		
6/15/77	2049	0:52	370	38.50N	105.12W	-51.	.060		
6/15/77	2059	1:02	370	38.93N	103.31W	-50.	.035		
6/15/77	2109	1:12	370	39.32N	101.52W	-49.	.103		
6/15/77	2114	1:17	370	39.51N	100.62W	-49.	.042		
6/15/77	2124	1:27	370	39.88N	98.82W	-48.	.056		
6/15/77	2131	1:34	370	40.12N	97.65W	-49.	.059		
6/15/77	2156	1:59	370	40.93N	93.17W	-50.	.112		
6/15/77	2206	2:09	370	41.20N	91.42W	-49.	.065		
6/15/77	2211	2:14	370	41.32N	90.52W	-50.	.054		
6/15/77	2216	2:19	370	41.44N	89.62W	-50.	.054		
6/15/77	2221	2:24	370	41.55N	88.74W	-50.	.057		
6/15/77	2226	2:29	370	41.65N	87.84W	-51.	.038		
6/15/77	2231	2:34	370	41.75N	86.93W	-51.	.044		
6/15/77	2241	2:44	370	41.92N	85.11W	-52.	.046		
6/15/77	2251	2:54	370	42.04N	83.25W	-52.	.045		
6/15/77	2301	3:04	370	42.12N	81.36W	-52.	.027		
6/15/77	2311	3:14	370	42.18N	79.47W	-53.	.044		
6/15/77	2321	3:24	370	41.85N	77.63W	-52.	.033		
6/15/77	2326	3:29	370	41.64N	76.74W	-51.	.044		


LAX TO JFK DEPARTURE 9 NOV 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
ELAPSED TIME IN HOURS

LAX TO JFK (PAGE 1 OF 1) DEPARTURE: 9 NOV 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .190 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 28
DATA SOURCE: GASP TAPE VL014, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
11/ 9/77	2103	0:20	370	34.14N	114.17W	-54.	.029		
11/ 9/77	2113	0:30	370	34.39N	112.46W	-54.	.042		
11/ 9/77	2123	0:40	370	34.61N	110.76W	-54.	.042		
11/ 9/77	2128	0:45	370	34.71N	109.89W	-55.	.032		
11/ 9/77	2133	0:50	370	34.81N	109.01W	-55.	.034		
11/ 9/77	2138	0:55	370	34.88N	108.13W	-55.	.042		
11/ 9/77	2143	1:00	370	34.95N	107.24W	-54.	.040		
11/ 9/77	2153	1:10	370	35.10N	105.47W	-55.	.018		
11/ 9/77	2203	1:20	370	35.23N	103.69W	-54.	.055		
11/ 9/77	2213	1:30	370	35.34N	101.87W	-46.	.053		
11/ 9/77	2223	1:40	370	35.42N	100.03W	-43.	.048		
11/ 9/77	2228	1:45	370	35.45N	99.11W	-43.	.047		
11/ 9/77	2233	1:50	370	35.47N	98.18W	-42.	.101		
11/ 9/77	2238	1:55	370	35.55N	97.27W	-41.	.190		
11/ 9/77	2243	2:00	370	35.75N	96.38W	-40.	.105		
11/ 9/77	2253	2:10	370	36.12N	94.57W	-41.	.049		
11/ 9/77	2303	2:20	370	36.47N	92.69W	-42.	.074		
11/ 9/77	2313	2:30	370	36.80N	90.75W	-42.	.048		
11/ 9/77	2328	2:45	370	37.22N	87.91W	-50.	.031		
11/ 9/77	2333	2:50	370	37.34N	86.92W	-52.	.044		
11/ 9/77	2338	2:55	370	37.46N	85.92W	-51.	.035		
11/ 9/77	2343	3:00	370	37.57N	84.96W	-53.	.024		
11/ 9/77	2353	3:10	370	37.77N	82.96W	-53.	.011		
11/10/77	0003	3:20	370	37.93N	80.98W	-53.	.012		
11/10/77	0013	3:30	370	38.06N	79.03W	-52.	.025		
11/10/77	0023	3:40	370	38.43N	77.18W	-52.	.035		
11/10/77	0028	3:45	370	38.72N	76.30W	-52.	.011		
11/10/77	0033	3:50	370	39.06N	75.46W	-52.	.000		


JFK TO LAX DEPARTURE 10 NOV 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
FFMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

JFK TO LAX (PAGE 1 OF 1)

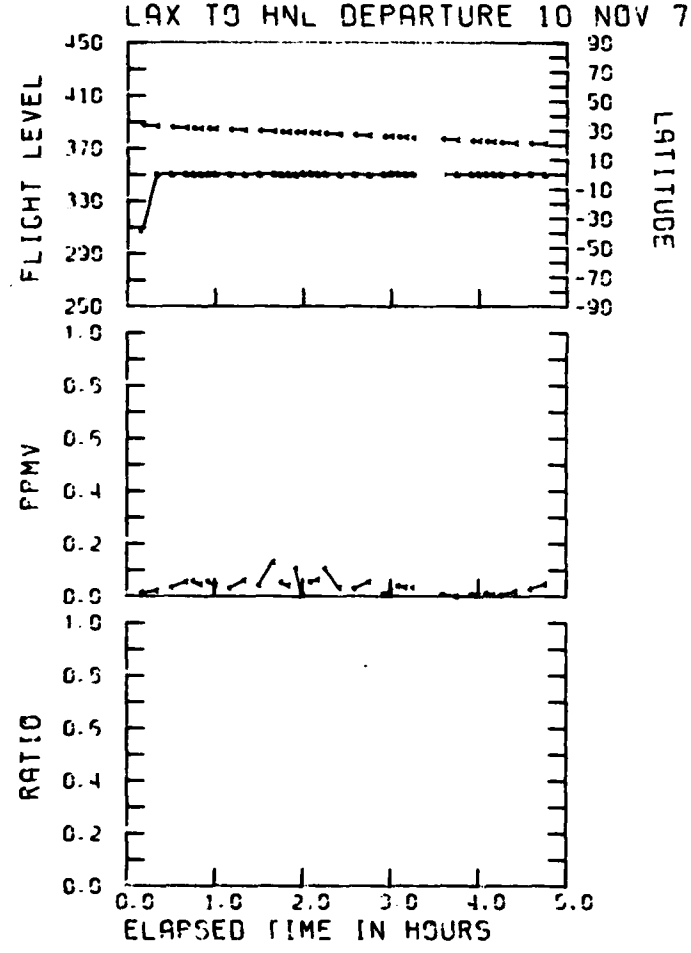
DEPARTURE: 10 NOV 77

AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .101 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 29

DATA SOURCE: GASP TAPE VL014, FILE 2

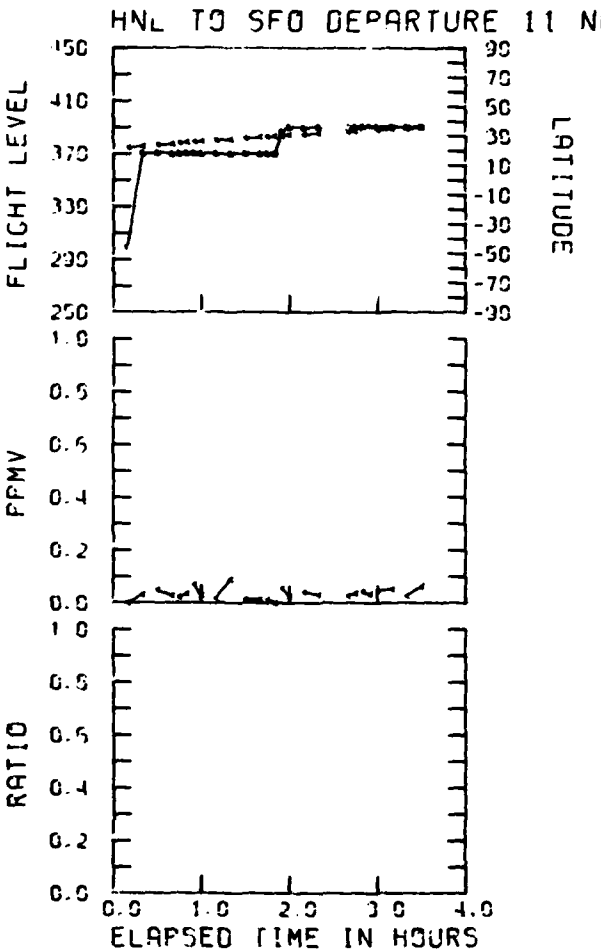
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
11/10/77	0454	0:10	340	40.54N	76.31W	-45.	.022		
11/10/77	0504	0:20	390	40.87N	77.76W	-58.	.026		
11/10/77	0514	0:30	391	41.04N	79.24W	-58.	.020		
11/10/77	0524	0:40	391	41.17N	80.75W	-58.	.023		
11/10/77	0529	0:45	391	41.23N	81.48W	-57.	.021		
11/10/77	0534	0:50	390	41.28N	82.19W	-58.	.028		
11/10/77	0539	0:55	390	41.33N	82.92W	-55.	.017		
11/10/77	0544	1:00	390	41.38N	83.69W	-52.	.029		
11/10/77	0554	1:10	390	41.46N	85.31W	-47.	.053		
11/10/77	0604	1:20	390	41.52N	87.00W	-46.	.055		
11/10/77	0614	1:30	390	41.50N	88.75W	-42.	.050		
11/10/77	0624	1:40	390	41.30N	90.45W	-41.	.101		
11/10/77	0629	1:45	390	41.19N	91.31W	-41.	.081		
11/10/77	0634	1:50	390	41.08N	92.16W	-43.	.075		
11/10/77	0639	1:55	390	40.96N	93.00W	-41.	.067		
11/10/77	0644	2:00	390	40.83N	93.85W	-42.	.076		
11/10/77	0652	2:08	390	40.61N	95.28W	-43.	.086		
11/10/77	0712	2:28	390	40.00N	98.59W	-46.	.012		
11/10/77	0722	2:38	391	39.67N	100.22W	-49.	.005		
11/10/77	0802	3:18	390	38.22N	106.15W	-57.	.000		
11/10/77	0812	3:28	390	37.80N	107.62W	-57.	.000		
11/10/77	0822	3:38	390	37.37N	109.05W	-55.	.000		
11/10/77	0832	3:48	390	36.91N	110.51W	-54.	.000		
11/10/77	0837	3:53	390	36.67N	111.25W	-54.	.000		
11/10/77	0842	3:58	390	36.43N	111.98W	-54.	.000		
11/10/77	0847	4:03	390	36.18N	112.71W	-55.	.000		
11/10/77	0852	4:08	390	35.93N	113.41W	-55.	.000		
11/10/77	0902	4:18	390	35.41N	114.83W	-56.	.009		
11/10/77	0912	4:28	390	34.76N	116.14W	-56.	.058		


LAX TO HNL DEPARTURE 10 NOV 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

LAX TO HNL (PAGE 1 OF 1) DEPARTURE: 10 NOV 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .131 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 37
DATA SOURCE: GASP TAPE VL014, FILE 2

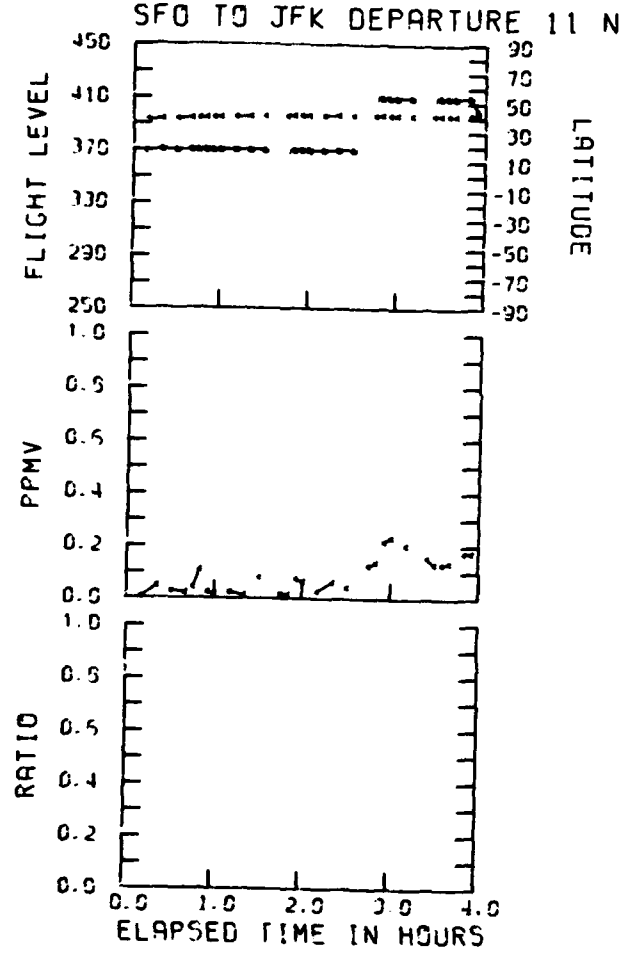
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
11/10/77	1812	0:10	308	33.96N	121.26W	-38.	.014		
11/10/77	1822	0:20	350	33.31N	122.54W	-50.	.023		
11/10/77	1832	0:30	350	32.53N	123.68W	-50.	.035		
11/10/77	1842	0:40	350	32.03N	125.01W	-50.	.056		
11/10/77	1847	0:45	350	31.86N	125.74W	-51.	.059		
11/10/77	1852	0:50	350	31.68N	126.45W	-51.	.046		
11/10/77	1857	0:55	350	31.51N	127.17W	-51.	.059		
11/10/77	1902	1:00	350	31.32N	127.89W	-51.	.042		
11/10/77	1912	1:10	350	30.94N	129.34W	-51.	.032		
11/10/77	1922	1:20	350	30.53N	130.79W	-51.	.061		
11/10/77	1932	1:30	350	30.12N	132.20W	-50.	.042		
11/10/77	1942	1:40	351	29.69N	133.58W	-52.	.131		
11/10/77	1947	1:45	350	29.48N	134.26W	-51.	.054		
11/10/77	1952	1:50	350	29.26N	134.94W	-52.	.042		
11/10/77	1957	1:55	350	29.04N	135.60W	-52.	.108		
11/10/77	2002	2:00	351	28.82N	136.25W	-51.	.004		
11/10/77	2007	2:05	351	28.60N	136.90W	-51.	.055		
11/10/77	2012	2:10	350	28.38N	137.54W	-51.	.064		
11/10/77	2017	2:15	351	28.16N	138.17W	-51.	.105		
11/10/77	2027	2:25	350	27.71N	139.39W	-49.	.033		
11/10/77	2037	2:35	350	27.27N	140.56W	-49.	.030		
11/10/77	2047	2:45	350	26.83N	141.72W	-49.	.056		
11/10/77	2057	2:55	351	26.36N	142.89W	-49.	.011		
11/10/77	2102	3:00	351	26.12N	143.49W	-49.	.021		
11/10/77	2107	3:05	350	25.88N	144.08W	-48.	.040		
11/10/77	2112	3:10	350	25.63N	144.67W	-48.	.034		
11/10/77	2117	3:15	350	25.38N	145.26W	-48.	.034		
11/10/77	2137	3:35	350	24.35N	147.61W	-48.	.008		
11/10/77	2147	3:45	350	23.82N	148.78W	-47.	.000		
11/10/77	2157	3:55	350	23.27N	149.95W	-47.	.009		
11/10/77	2202	4:00	350	23.00N	150.53W	-46.	.006		
11/10/77	2207	4:05	350	22.72N	151.11W	-46.	.012		
11/10/77	2212	4:10	350	22.44N	151.69W	-46.	.006		
11/10/77	2217	4:15	350	22.15N	152.28W	-46.	.005		
11/10/77	2227	4:25	350	21.72N	153.51W	-46.	.019		
11/10/77	2237	4:35	350	21.39N	154.81W	-46.	.028		
11/10/77	2247	4:45	350	21.03N	156.10W	-46.	.046		


HNL TO SFO DEPARTURE 11 NOV 77
UAL-N4711U
FLIGHT LEVEL
LATITUDE
PPMV
RATIO
ELAPSED TIME IN HOURS

HNL TO SFO (PAGE 1 OF 1) DEPARTURE: 11 NOV 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .090 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 26
DATA SOURCE: GASP TAPE VL014, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
11/11/77	0106	0:10	300	22.23N	155.68W	-33.	.000		
11/11/77	0119	0:23	370	23.36N	154.06W	-52.	.032		
11/11/77	0129	0:33	371	24.18N	152.69W	-53.	.051		
11/11/77	0139	0:43	370	24.99N	151.30W	-53.	.029		
11/11/77	0144	0:48	370	25.40N	150.59W	-54.	.023		
11/11/77	0149	0:53	370	25.79N	149.90W	-54.	.035		
11/11/77	0154	0:58	370	26.18N	149.19W	-53.	.069		
11/11/77	0159	1:03	370	26.57N	148.46W	-54.	.029		
11/11/77	0209	1:13	370	27.34N	147.01W	-55.	.018		
11/11/77	0219	1:23	370	28.08N	145.58W	-56.	.090		
11/11/77	0229	1:33	370	28.78N	144.17W	-55.	.014		
11/11/77	0239	1:43	370	29.46N	142.75W	-55.	.014		
11/11/77	0244	1:48	370	29.80N	142.04W	-55.	.013		
11/11/77	0249	1:53	370	30.12N	141.33W	-55.	.000		
11/11/77	0254	1:58	387	30.45N	140.60W	-57.	.056		
11/11/77	0259	2:03	390	30.77N	139.87W	-58.	.028		
11/11/77	0309	2:13	390	31.42N	138.37W	-58.	.042		
11/11/77	0319	2:23	391	32.05N	136.85W	-60.	.032		
11/11/77	0339	2:43	390	33.33N	133.76W	-59.	.028		
11/11/77	0344	2:48	391	33.66N	132.95W	-57.	.037		
11/11/77	0349	2:53	391	33.99N	132.14W	-56.	.045		
11/11/77	0354	2:58	390	34.31N	131.34W	-57.	.034		
11/11/77	0359	3:03	391	34.66N	130.54W	-58.	.048		
11/11/77	0409	3:13	390	34.91N	128.85W	-57.	.053		
11/11/77	0419	3:23	391	35.41N	127.19W	-55.	.028		
11/11/77	0429	3:33	390	35.96N	125.53W	-57.	.063		


SFO TO JFK DEPARTURE 11 NOV 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
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30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
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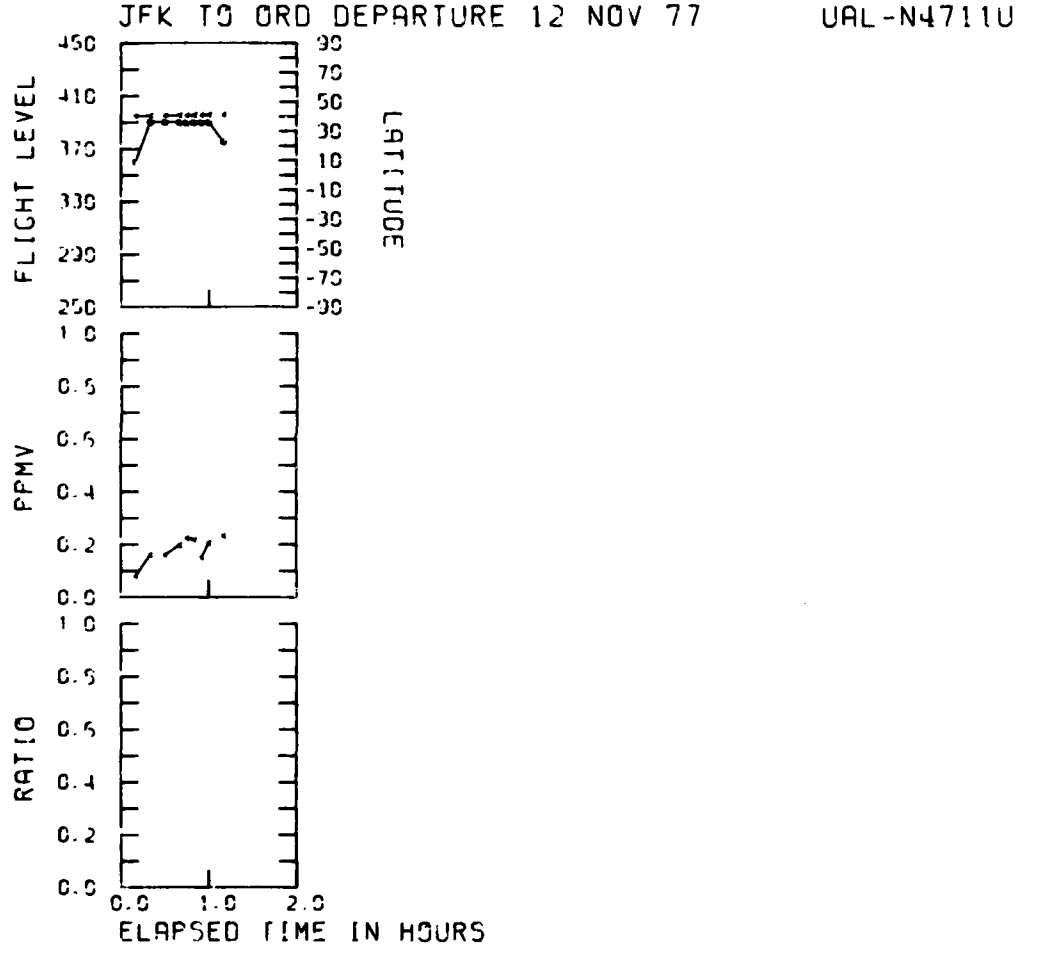
0.0
1.0
2.0
3.0
4.0
ELAPSED TIME IN HOURS

SFO TO JFK (PAGE 1 OF 1) DEPARTURE: 11 NOV 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .234 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 29
DATA SOURCE: GASP TAPE VL014, FILE 2

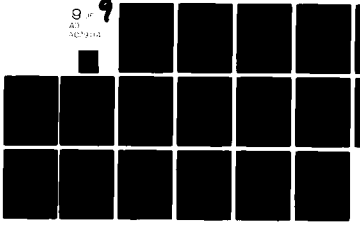
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
11/11/77	2110	0:14	369	38.73N	118.93W	-54.	.007		
11/11/77	2120	0:24	370	39.06N	117.13W	-56.	.047		
11/11/77	2130	0:34	370	39.47N	115.31W	-55.	.028		
11/11/77	2140	0:44	370	39.84N	113.49W	-57.	.022		
11/11/77	2145	0:49	370	40.02N	112.57W	-58.	.043		
11/11/77	2150	0:54	370	40.19N	111.65W	-58.	.108		
11/11/77	2155	0:59	370	40.35N	110.73W	-58.	.025		
11/11/77	2200	1:04	370	40.50N	109.82W	-58.	.013		
11/11/77	2210	1:14	370	40.78N	107.93W	-57.	.024		
11/11/77	2220	1:24	370	41.03N	106.04W	-58.	.013		
11/11/77	2230	1:34	370	41.24N	104.17W	-58.	.081		
11/11/77	2245	1:49	370	41.52N	101.32W	-58.	.018		
11/11/77	2250	1:54	370	41.60N	100.36W	-58.	.016		
11/11/77	2255	1:59	370	41.67N	99.43W	-61.	.075		
11/11/77	2300	2:04	370	41.73N	98.51W	-62.	.065		
11/11/77	2310	2:14	370	41.83N	96.56W	-64.	.029		
11/11/77	2320	2:24	370	41.93N	94.70W	-60.	.063		
11/11/77	2330	2:34	370	42.00N	92.88W	-55.	.044		
11/11/77	2341	2:45	410	42.03N	90.99W	-48.	.127		
11/11/77	2346	2:50	410	42.04N	90.03W	-49.	.139		
11/11/77	2355	2:59	410	42.03N	88.09W	-45.	.217		
11/12/77	0000	3:04	410	42.02N	87.11W	-46.	.234		
11/12/77	0010	3:14	410	41.97N	85.16W	-44.	.204		
11/12/77	0021	3:25	410	41.99N	83.16W	-44.	.157		
11/12/77	0026	3:30	410	41.99N	81.24W	-42.	.133		
11/12/77	0031	3:35	410	41.99N	81.21W	-42.	.133		
11/12/77	0040	3:44	410	41.95N	79.28W	-41.	.139		
11/12/77	0046	3:50	410	41.91N	78.29W	-41.	.175		
11/12/77	0055	3:59	400	41.57N	76.47W	-43.	.174		


JFK TO ORD DEPARTURE 12 NOV 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
ELAPSED TIME IN HOURS

AD-A079 114 NATIONAL AERONAUTICS AND SPACE ADMINISTRATION CLEVEL--ETC F/G 4/1
SIMULTANEOUS CABIN AND AMBIENT OZONE MEASUREMENTS ON TWO BOEING--ETC(U)
JUL 79 P J PERKINS, J D HOLDEMAN, B D NASTROM

UNCLASSIFIED NASA TM-79166-VOL-1 FAA-AEE-79-05-VOL-1 NL

9 OF 9
AD
A079114



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DATE FILMED
2-80
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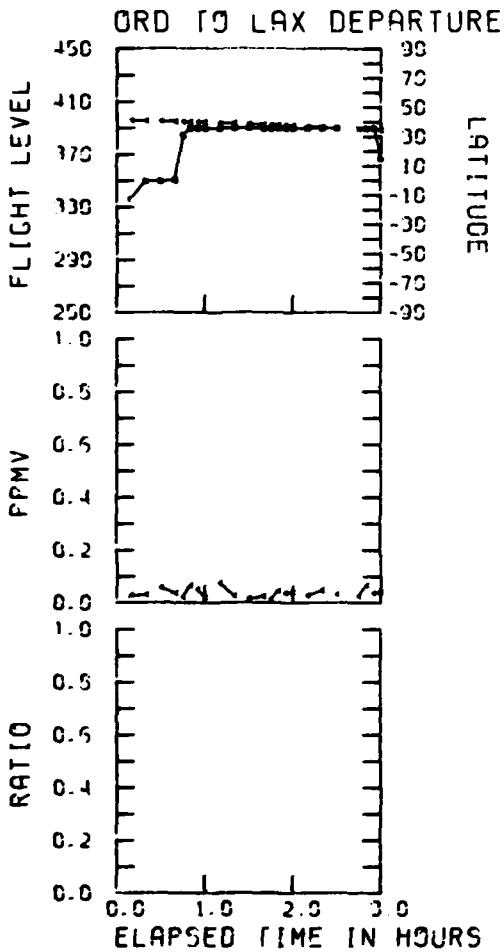
JFK TO ORD (PAGE 1 OF 1) DEPARTURE: 12 NOV 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .233 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 9
DATA SOURCE: GASP TAPE VL014, FILE 2

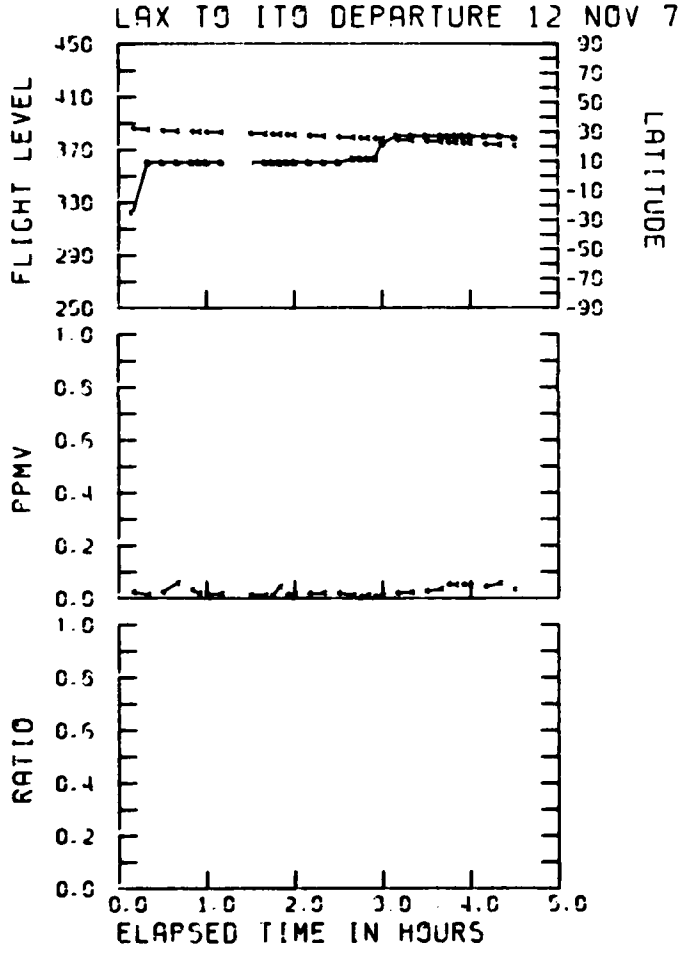
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
11/12/77	0339	0:10	360	40.38N	76.02W	-45.	.081		
11/12/77	0349	0:20	390	40.56N	77.57W	-43.	.161		
11/12/77	0359	0:30	390	40.77N	79.17W	-44.	.161		
11/12/77	0409	0:40	390	40.96N	80.79W	-41.	.198		
11/12/77	0414	0:45	390	41.05N	81.60W	-43.	.224		
11/12/77	0419	0:50	390	41.13N	82.42W	-41.	.217		
11/12/77	0424	0:55	390	41.21N	83.27W	-41.	.152		
11/12/77	0429	1:00	390	41.28N	84.08W	-44.	.206		
11/12/77	0439	1:10	375	41.40N	85.72W	-46.	.233		


ORD TO LAX DEPARTURE 12 NOV 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

ORD TO LAX (PAGE 1 OF 1) DEPARTURE: 12 NOV 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .076 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 23
DATA SOURCE: GASP TAPE VL014, FILE 2

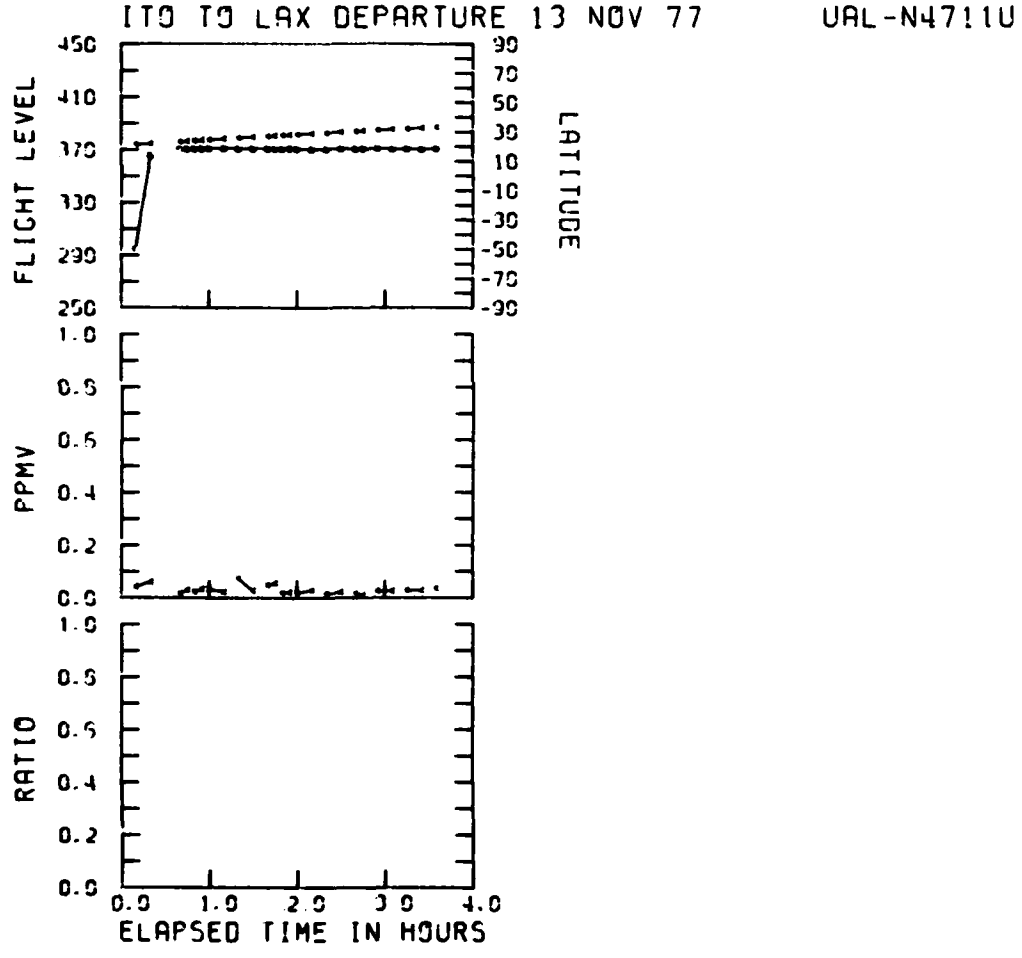
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
11/12/77	1507	0:10	336	41.34N	90.66W	-55.	.029		
11/12/77	1517	0:20	350	41.10N	92.30W	-57.	.031		
11/12/77	1527	0:30	350	40.84N	93.92W	-55.	.059		
11/12/77	1537	0:40	351	40.54N	95.56W	-55.	.038		
11/12/77	1542	0:45	384	40.40N	96.35W	-62.	.023		
11/12/77	1547	0:50	390	40.24N	97.14W	-61.	.067		
11/12/77	1552	0:55	390	40.08N	97.91W	-62.	.051		
11/12/77	1557	1:00	390	39.92N	98.67W	-61.	.022		
11/12/77	1607	1:10	390	39.58N	100.20W	-60.	.076		
11/12/77	1617	1:20	390	39.21N	101.74W	-61.	.027		
11/12/77	1627	1:30	390	38.83N	103.25W	-60.	.017		
11/12/77	1637	1:40	390	38.43N	104.75W	-60.	.025		
11/12/77	1642	1:45	390	38.23N	105.49W	-60.	.016		
11/12/77	1647	1:50	390	38.01N	106.23W	-59.	.045		
11/12/77	1652	1:55	390	37.79N	106.97W	-58.	.038		
11/12/77	1657	2:00	390	37.58N	107.66W	-58.	.040		
11/12/77	1707	2:10	390	37.14N	109.05W	-58.	.028		
11/12/77	1717	2:20	390	36.68N	110.42W	-57.	.048		
11/12/77	1727	2:30	390	36.19N	111.80W	-57.	.033		
11/12/77	1742	2:45	390	35.43N	113.86W	-57.	.026		
11/12/77	1747	2:50	390	35.17N	114.53W	-58.	.066		
11/12/77	1752	2:55	390	34.90N	115.19W	-58.	.037		
11/12/77	1757	3:00	367	34.63N	115.86W	-56.	.041		


LAX TO ITO DEPARTURE 12 NOV 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
5.0
ELAPSED TIME IN HOURS

LAX TO ITO (PAGE 1 OF 1) DEPARTURE: 12 NOV 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .058 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 33
DATA SOURCE: GASP TAPE VL014, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE(PPMV) CABIN	AMB.	RATIO
11/12/77	2048	0:10	322	32.61N	120.85W	-46.	.024		
11/12/77	2058	0:20	360	31.93N	122.11W	-57.	.014		
11/12/77	2108	0:30	360	31.24N	123.34W	-54.	.026		
11/12/77	2118	0:40	360	30.86N	124.70W	-55.	.058		
11/12/77	2128	0:50	360	30.53N	126.08W	-54.	.033		
11/12/77	2133	0:55	360	30.36N	126.76W	-54.	.019		
11/12/77	2138	1:00	360	30.20N	127.44W	-54.	.015		
11/12/77	2148	1:10	360	29.86N	128.76W	-54.	.017		
11/12/77	2208	1:30	360	29.17N	131.28W	-54.	.013		
11/12/77	2218	1:40	360	28.81N	132.53W	-54.	.011		
11/12/77	2223	1:45	360	28.62N	133.14W	-53.	.011		
11/12/77	2228	1:50	360	28.43N	133.76W	-53.	.044		
11/12/77	2233	1:55	360	28.24N	134.37W	-53.	.014		
11/12/77	2238	2:00	360	28.04N	134.98W	-54.	.013		
11/12/77	2248	2:10	360	27.63N	136.22W	-54.	.018		
11/12/77	2258	2:20	360	27.21N	137.47W	-54.	.020		
11/12/77	2308	2:30	360	26.76N	138.75W	-54.	.020		
11/12/77	2318	2:40	363	26.31N	140.01W	-55.	.012		
11/12/77	2323	2:45	363	26.07N	140.65W	-55.	.006		
11/12/77	2328	2:50	363	25.83N	141.30W	-55.	.011		
11/12/77	2333	2:55	363	25.59N	141.94W	-55.	.007		
11/12/77	2338	3:00	375	25.34N	142.58W	-56.	.011		
11/12/77	2348	3:10	380	24.85N	143.83W	-56.	.021		
11/12/77	2358	3:20	380	24.34N	145.06W	-56.	.023		
11/13/77	0008	3:30	380	23.84N	146.24W	-55.	.028		
11/13/77	0018	3:40	380	23.32N	147.44W	-55.	.035		
11/13/77	0023	3:45	380	23.06N	148.03W	-54.	.053		
11/13/77	0028	3:50	380	22.79N	148.63W	-55.	.051		
11/13/77	0033	3:55	380	22.53N	149.22W	-54.	.053		
11/13/77	0038	4:00	380	22.26N	149.82W	-55.	.047		
11/13/77	0048	4:10	380	21.72N	150.99W	-55.	.045		
11/13/77	0058	4:20	380	21.18N	152.14W	-55.	.057		
11/13/77	0108	4:30	379	20.63N	153.26W	-55.	.034		


ITO TO LAX DEPARTURE 13 NOV 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
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1.0
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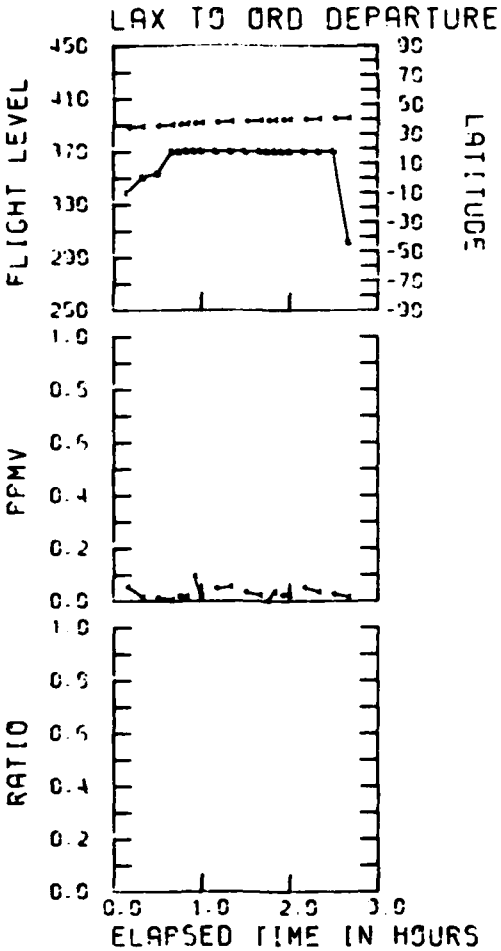
3.0
4.0
ELAPSED TIME IN HOURS

ITO TO LAX (PAGE 1 OF 1) DEPARTURE: 13 NOV 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .075 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 25
DATA SOURCE: GASP TAPE VL014, FILE 2

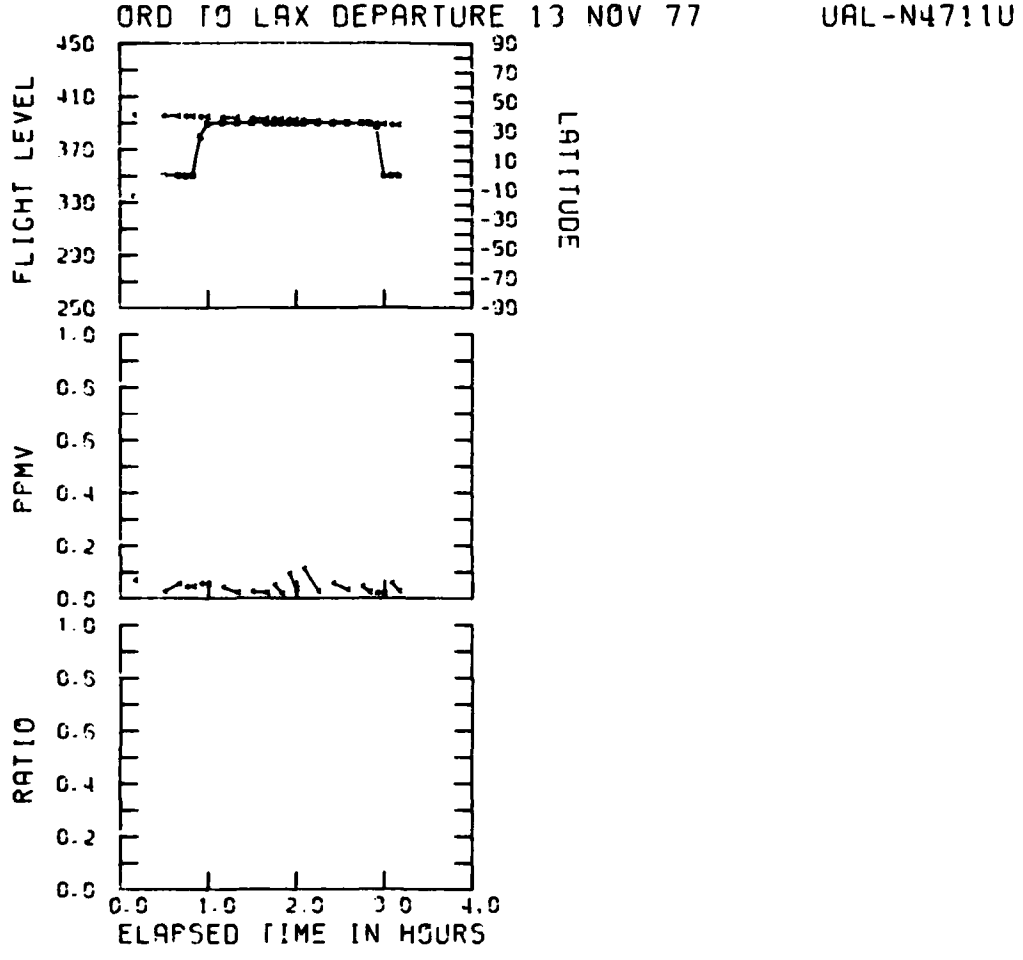
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
11/13/77	0308	0:10	295	21.64N	153.22W	-35.	.043		
11/13/77	0318	0:20	365	22.32N	151.94W	-51.	.062		
11/13/77	0338	0:40	370	23.63N	149.20W	-53.	.018		
11/13/77	0343	0:45	370	23.95N	148.49W	-53.	.031		
11/13/77	0348	0:50	371	24.28N	147.77W	-53.	.024		
11/13/77	0353	0:55	371	24.61N	147.05W	-53.	.034		
11/13/77	0358	1:00	371	24.93N	146.31W	-54.	.034		
11/13/77	0408	1:10	371	25.56N	144.84W	-55.	.023		
11/13/77	0418	1:20	371	26.17N	143.38W	-56.	.075		
11/13/77	0428	1:30	371	26.76N	141.88W	-57.	.028		
11/13/77	0438	1:40	371	27.34N	140.38W	-57.	.050		
11/13/77	0443	1:45	371	27.63N	139.62W	-56.	.056		
11/13/77	0448	1:50	371	27.91N	138.85W	-56.	.020		
11/13/77	0453	1:55	371	28.20N	138.06W	-56.	.022		
11/13/77	0458	2:00	370	28.48N	137.27W	-57.	.020		
11/13/77	0508	2:10	370	29.02N	135.66W	-57.	.029		
11/13/77	0518	2:20	370	29.56N	134.02W	-57.	.017		
11/13/77	0528	2:30	370	30.08N	132.33W	-57.	.023		
11/13/77	0538	2:40	370	30.59N	130.60W	-57.	.017		
11/13/77	0543	2:45	371	30.83N	129.72W	-57.	.010		
11/13/77	0553	2:55	371	31.31N	127.94W	-57.	.026		
11/13/77	0603	3:05	370	31.76N	126.14W	-57.	.026		
11/13/77	0613	3:15	370	32.18N	124.35W	-57.	.029		
11/13/77	0623	3:25	370	32.71N	122 62W	-57.	.028		
11/13/77	0633	3:35	371	33.23N	120.91W	-56.	.036		


LAX TO ORD DEPARTURE 13 NOV 77
UAL-N4711U
FLIGHT LEVEL
450
410
300
200
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
ELAPSED TIME IN HOURS

LAX TO ORD (PAGE 1 OF 1) DEPARTURE: 13 NOV 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .096 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 20
DATA SOURCE: GASP TAPE VL014, FILE 2

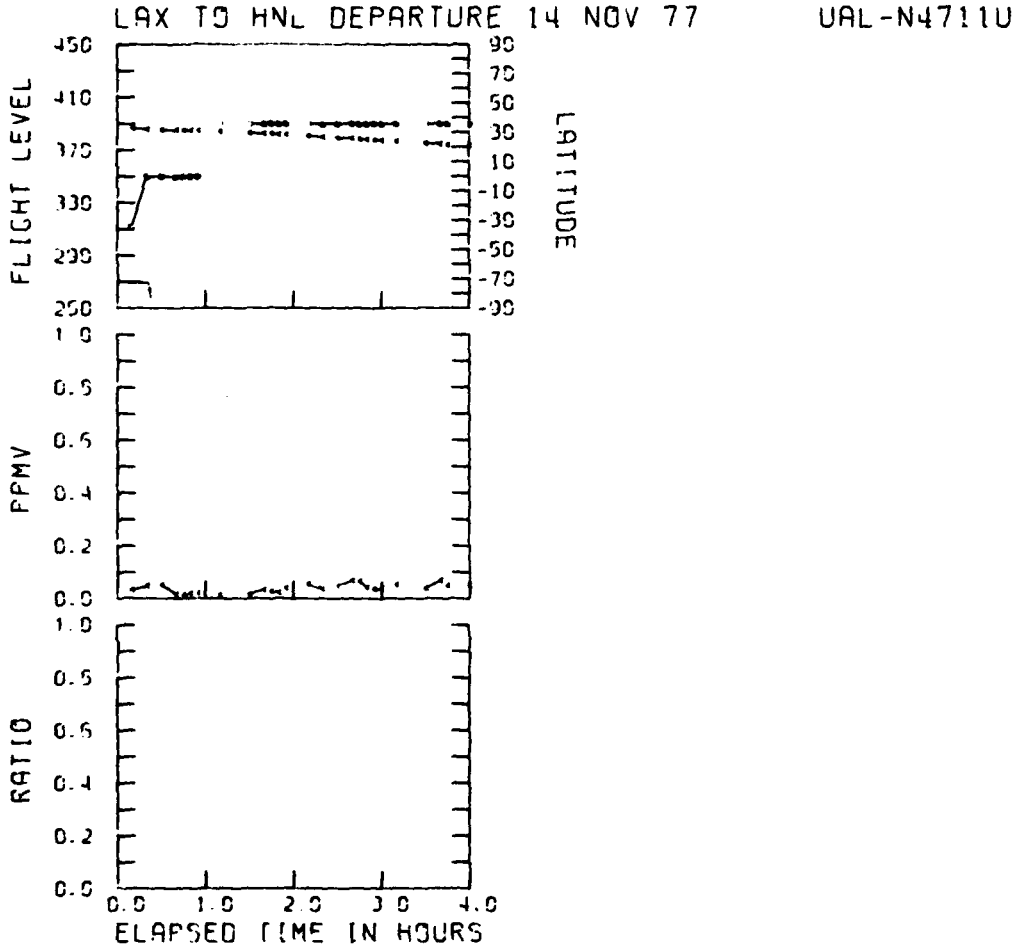
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
11/13/77	0901	0:10	339	34.82N	116.43W	51.	.056		
11/13/77	0911	0:20	351	35.42N	114.81W	-54.	.016		
11/13/77	0921	0:30	353	35.99N	113.17W	-55.	.014		
11/13/77	0931	0:40	370	36.55N	111.50W	-57.	.006		
11/13/77	0936	0:45	370	36.81N	110.67W	-58.	.020		
11/13/77	0941	0:50	370	37.07N	109.84W	-59.	.018		
11/13/77	0946	0:55	370	37.32N	109.00W	-57.	.096		
11/13/77	0951	1:00	370	37.56N	108.15W	-58.	.020		
11/13/77	1001	1:10	370	38.04N	106.43W	-58.	.050		
11/13/77	1011	1:20	370	38.49N	104.69W	-56.	.055		
11/13/77	1021	1:30	370	38.91N	102.95W	-56.	.037		
11/13/77	1031	1:40	370	39.31N	101.18W	-54.	.024		
11/13/77	1036	1:45	370	39.50N	100.28W	-54.	.001		
11/13/77	1041	1:50	370	39.68N	99.38W	-54.	.036		
11/13/77	1046	1:55	370	39.85N	98.47W	-56.	.024		
11/13/77	1051	2:00	370	40.02N	97.56W	-55.	.024		
11/13/77	1101	2:10	370	40.34N	95.72W	-55.	.053		
11/13/77	1111	2:20	370	40.63N	93.86W	-55.	.036		
11/13/77	1121	2:30	371	40.88N	91.99W	-56.	.028		
11/13/77	1131	2:40	302	41.10N	90.10W	-45.	.017		


ORD TO LAX DEPARTURE 13 NOV 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
ELAPSED TIME IN HOURS

ORD TO LAX (PAGE 1 OF 1) DEPARTURE: 13 NOV 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .113 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 25
DATA SOURCE: GASP TAPE VL014, FILE 2

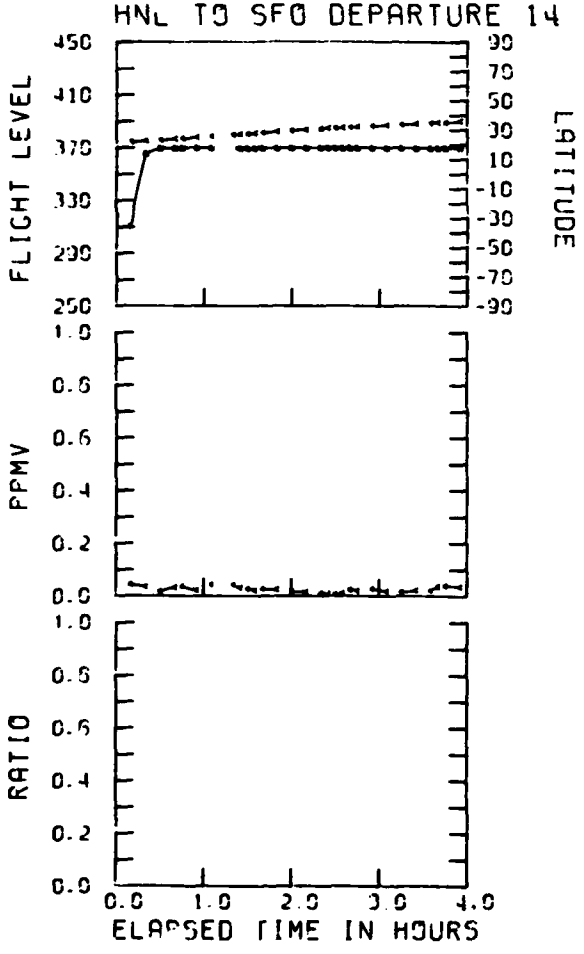
MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
11/13/77	1945	0:10	335	41.59N	90.76W	-51.	.070		
11/13/77	2005	0:30	350	41.10N	93.99W	-50.	.028		
11/13/77	2015	0:40	351	40.83N	95.60W	-55.	.057		
11/13/77	2020	0:45	350	40.68N	96.39W	-57.	.046		
11/13/77	2025	0:50	350	40.53N	97.17W	-58.	.046		
11/13/77	2030	0:55	379	40.37N	97.96W	-60.	.058		
11/13/77	2035	1:00	390	40.22N	98.70W	-60.	.056		
11/13/77	2045	1:10	390	39.87N	100.28W	-59.	.044		
11/13/77	2055	1:20	390	39.50N	101.86W	-61.	.022		
11/13/77	2105	1:30	390	39.11N	103.41W	-63.	.027		
11/13/77	2115	1:40	390	38.71N	104.93W	-61.	.021		
11/13/77	2120	1:45	390	38.50N	105.67W	-61.	.051		
11/13/77	2125	1:50	390	38.28N	106.42W	-62.	.020		
11/13/77	2130	1:55	390	38.07N	107.16W	-62.	.093		
11/13/77	2135	2:00	390	37.85N	107.86W	-63.	.037		
11/13/77	2140	2:05	390	37.64N	108.56W	-63.	.113		
11/13/77	2150	2:15	390	37.20N	109.92W	-64.	.028		
11/13/77	2200	2:25	390	36.75N	111.26W	-63.	.058		
11/13/77	2210	2:35	390	36.24N	112.51W	-63.	.033		
11/13/77	2220	2:45	390	35.71N	113.75W	-63.	.045		
11/13/77	2225	2:50	390	35.44N	114.36W	-63.	.023		
11/13/77	2230	2:55	387	35.17N	114.96W	-62.	.021		
11/13/77	2235	3:00	350	34.89N	115.57W	-53.	.018		
11/13/77	2240	3:05	350	34.61N	116.18W	-53.	.058		
11/13/77	2245	3:10	350	34.32N	116.78W	-54.	.027		


LAX TO HNL DEPARTURE 14 NOV 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
ELAPSED TIME IN HOURS

LAX TO HNL (PAGE 1 OF 1) DEPARTURE: 14 NOV 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .070 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 26
DATA SOURCE: GASP TAPE VL014, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	OZONE (PPMV) AMB.	RATIO
11/14/77	0046	0:10	312	33.05N	121.05W	-42.	.034		
11/14/77	0056	0:20	350	32.54N	122.73W	-49.	.049		
11/14/77	0106	0:30	350	32.20N	124.28W	-54.	.054		
11/14/77	0117	0:41	350	31.84N	125.79W	-55.	.018		
11/14/77	0122	0:46	350	31.67N	126.51W	-55.	.016		
11/14/77	0127	0:51	350	31.48N	127.24W	-55.	.020		
11/14/77	0132	0:56	350	31.29N	127.99W	-54.	.022		
11/14/77	0146	1:10	390	30.65N	130.36W	-58.	.015		
11/14/77	0206	1:30	390	29.76N	133.38W	-59.	.017		
11/14/77	0217	1:41	390	29.28N	134.91W	-58.	.034		
11/14/77	0222	1:46	390	29.03N	135.65W	-59.	.029		
11/14/77	0227	1:51	390	28.79N	136.38W	-58.	.022		
11/14/77	0232	1:56	390	28.53N	137.12W	-58.	.040		
11/14/77	0246	2:10	390	27.72N	139.36W	-58.	.056		
11/14/77	0257	2:21	390	27.12N	140.95W	-58.	.037		
11/14/77	0307	2:31	390	26.54N	142.46W	-58.	.050		
11/14/77	0317	2:41	390	25.94N	143.95W	-57.	.069		
11/14/77	0322	2:46	390	25.64N	144.68W	-56.	.067		
11/14/77	0327	2:51	390	25.33N	145.39W	-57.	.042		
11/14/77	0332	2:56	390	25.03N	146.10W	-57.	.037		
11/14/77	0337	3:01	390	24.72N	146.80W	-57.	.040		
11/14/77	0347	3:11	390	24.09N	148.20W	-56.	.054		
11/14/77	0407	3:31	390	22.78N	150.98W	-55.	.039		
11/14/77	0417	3:41	390	22.11N	152.35W	-54.	.070		
11/14/77	0422	3:46	390	21.77N	153.03W	-53.	.051		
11/14/77	0437	4:01	390	21.21N	155.22W	-55.	.051		


HNL TO SFO DEPARTURE 14 NOV 77
UAL-N4711U
FLIGHT LEVEL
450
410
370
330
290
250
LATITUDE
90
70
50
30
10
-10
-30
-50
-70
-90
PPMV
1.0
0.8
0.6
0.4
0.2
0.0
RATIO
1.0
0.8
0.6
0.4
0.2
0.0
0.0
1.0
2.0
3.0
4.0
ELAPSED TIME IN HOURS

HNL TO SFO (PAGE 1 OF 1) DEPARTURE: 14 NOV 77 AIRCRAFT: UAL-N4711U

MAXIMUM VALUES: AMBIENT OZONE=***** CABIN OZONE= .044 RATIO (LIMITED TO AMB. OZONE ABOVE 0.1)= .00 TOTAL OBS IN CABIN: 29
DATA SOURCE: GASP TAPE VL014, FILE 2

MO/DA/YR	GMT	ETIM HR:MN	FL	LAT	LONG	TEMP (C)	OZONE (PPMV) CABIN	AMB.	RATIO
11/14/77	2020	0:10	311	22.20N	155.95W	-41.	.044		
11/14/77	2030	0:20	366	22.82N	154.93W	-49.	.036		
11/14/77	2040	0:30	370	23.48N	153.85W	-50.	.019		
11/14/77	2050	0:40	370	24.18N	152.70W	-50.	.034		
11/14/77	2056	0:46	370	24.56N	152.06W	-51.	.038		
11/14/77	2106	0:56	370	25.25N	150.87W	-51.	.022		
11/14/77	2116	1:06	370	25.95N	149.62W	-53.	.044		
11/14/77	2131	1:21	370	26.99N	147.69W	-54.	.044		
11/14/77	2136	1:26	370	27.33N	147.04W	-53.	.032		
11/14/77	2141	1:31	370	27.66N	146.39W	-53.	.029		
11/14/77	2146	1:36	370	28.00N	145.74W	-52.	.023		
11/14/77	2151	1:41	370	28.33N	145.08W	-53.	.028		
11/14/77	2201	1:51	369	28.98N	143.76W	-54.	.025		
11/14/77	2211	2:01	370	29.59N	142.48W	-54.	.017		
11/14/77	2221	2:11	370	30.19N	141.19W	-55.	.016		
11/14/77	2231	2:21	370	30.78N	139.88W	-54.	.012		
11/14/77	2236	2:26	370	31.07N	139.20W	-55.	.008		
11/14/77	2241	2:31	370	31.36N	138.52W	-54.	.007		
11/14/77	2246	2:36	370	31.65N	137.83W	-54.	.012		
11/14/77	2251	2:41	370	31.93N	137.12W	-54.	.025		
11/14/77	2256	2:46	370	32.21N	136.41W	-54.	.020		
11/14/77	2306	2:56	370	32.77N	134.98W	-54.	.028		
11/14/77	2316	3:06	370	33.31N	133.52W	-54.	.018		
11/14/77	2326	3:16	370	33.84N	132.04W	-54.	.017		
11/14/77	2336	3:26	370	34.35N	130.54W	-54.	.023		
11/14/77	2346	3:36	370	34.86N	129.00W	-53.	.022		
11/14/77	2351	3:41	370	35.10N	128.24W	-52.	.037		
11/14/77	2356	3:46	370	35.33N	127.46W	-52.	.040		
11/15/77	0006	3:56	370	35.89N	125.96W	-52.	.036		

APPENDIX C

SUMMARY TABULATIONS OF

GASP OZONE DATA

FOR BOEING 747SP (N533PA)

CABIN AND AMBIENT OZONE DATA SUMMARY — AIRCRAFT: N533PA (747SP)

SOURCE: GASP TAPE VL0010 — APPENDIX C; PAGE 1 OF 11

DATE	ROUTE	FL	CABIN OZONE								AMBIENT OZONE				CABIN/AMBIENT (FOR AMB >.1)			
				HOURS:MIN			PPMV					PPMV						
			ND	TOTAL	O3>.1	O3>.3	MEAN	M+SD	MAX	2HR	ND	MEAN	M+SD	MAX	ND	MEAN	SD	
1/21/77	JFK-HND	380.	0	:00			---	---	---	---	96	.471	.748	1.116	0	---	---	
1/22/77	HND-LAX	405.	0	:00			---	---	---	---	61	.416	.589	.757	0	---	---	
1/22/77	LAX-HND	386.	0	:00			---	---	---	---	80	.545	.865	1.308	0	---	---	
1/23/77	HND-JFK	387.	0	:00			---	---	---	---	85	.489	.596	.862	0	---	---	
1/25/77	JFK-BAH	386.	0	:00			---	---	---	---	38	.296	.452	.578	0	---	---	
1/28/77	JFK-HND	375.	0	:00			---	---	---	---	2	.043	.044	.044	0	---	---	
1/29/77	HND-LAX	399.	0	:00			---	---	---	---	60	.381	.535	.645	0	---	---	
3/22/77	JFK-BAH	375.	0	:00			---	---	---	---	90	.424	.700	1.350	0	---	---	
3/23/77	BAH-JFK	383.	0	:00			---	---	---	---	93	.414	.722	1.161	0	---	---	
3/24/77	JFK-HND	380.	0	:00			---	---	---	---	99	.530	.747	.999	0	---	---	
3/25/77	HND-LAX	388.	0	:00			---	---	---	---	51	.336	.669	1.049	0	---	---	
3/25/77	LAX-HND	346.	0	:00¶			---	---	---	---	84	---	---	.781	0	---	---	
3/26/77	HND-JFK	343.	0	:00			---	---	---	---	80	.219	.341	.496	0	---	---	
3/27/77	JFK-GIG	357.	0	:00			---	---	---	---	9	.077	.147	.266	0	---	---	
4/ 6/77	JFK-JFK	347.	23	1:54	1:18	:39	.222	.413	.618	.222	0	---	---	---	0	---	---	?
4/ 6/77	JFK-HND	390.	99	12:35	8:10	3:10	.219	.438	1.089	.328	0	---	---	---	0	---	---	?
4/ 7/77	HND-LAX	388.	65	8:10	5:20	1:25	.183	.302	.499	.277	0	---	---	---	0	---	---	?
4/ 7/77	LAX-HND	383.	80	9:50	6:25	2:45	.210	.390	.757	.487	0	---	---	---	0	---	---	?
4/ 8/77	HND-JFK	375.	84	11:05	4:20	1:25	.141	.273	.558	.199	0	---	---	---	0	---	---	?
4/ 9/77	JFK-GIG	363.	65	8:09	1:09	:09	.055	.116	.313	.134	0	---	---	---	0	---	---	?
4/10/77	GIG-JFK	386.	65	8:10	1:20	1:00	.084	.201	.456	.242	0	---	---	---	0	---	---	?
4/10/77	JFK-HND	347.	93	12:31	9:31	8:16	.326	.510	.616	.490	0	---	---	---	0	---	---	?
4/11/77	HND-LAX	366.	63	8:05	3:00	:30	.110	.207	.467	.235	0	---	---	---	0	---	---	?
4/11/77	LAX-HND	392.	78	10:15	3:45		.089	.133	.217	.161	0	---	---	---	0	---	---	?
4/12/77	HND-JFK	345.	78	11:09	6:59	4:14	.221	.388	.573	.424	0	---	---	---	0	---	---	?
4/13/77	JFK-HND	385.	99	12:35	9:19	:50	.143	.237	.545	.233	0	---	---	---	0	---	---	?
4/14/77	HND-LAX	365.	61	8:06	5:16	3:20	.267	.457	.730	.527	0	---	---	---	0	---	---	?
4/14/77	LAX-HND	386.	83	10:40	6:20	3:10	.230	.458	.794	.621	0	---	---	---	0	---	---	?
4/15/77	HND-JFK	376.	89	11:30	4:03	1:05	.110	.221	.539	.259	0	---	---	---	0	---	---	?
4/16/77	JFK-GIG	367.	62	8:01	:15		.036	.062	.138	.073	0	---	---	---	0	---	---	?
4/17/77	GIG-JFK	387.	67	8:29	1:30	:09	.057	.127	.315	.162	0	---	---	---	0	---	---	?
4/17/77	JFK-HND	381.	101	13:19	8:22	6:57	.313	.551	.776	.646	0	---	---	---	0	---	---	?
4/18/77	HND-LAX	401.	63	8:27	6:12	4:15	.295	.473	.596	.513	0	---	---	---	0	---	---	?
4/19/77	LAX-HND	394.	84	10:57	2:55	1:05	.114	.241	.620	.301	0	---	---	---	0	---	---	?
4/19/77	HND-JFK	373.	83	11:02	8:26	3:27	.275	.515	.840	.695	0	---	---	---	0	---	---	?

CABIN AND AMBIENT OZONE DATA SUMMARY — AIRCRAFT: N533PA (747SP)

SOURCE: GASP TAPE VL0010 — APPENDIX C; PAGE 2 OF 11

DATE	ROUTE	FL	CABIN OZONE								AMBIENT OZONE				CABIN/AMBIENT (FOR AMB >.1)		
				HOURS:MIN			PPMV					PPMV					
			ND	TOTAL	O3>.1	O3>.3	MEAN	M+SD	MAX	2HR	ND	MEAN	M+SD	MAX	ND	MEAN	SD
4/20/77	JFK-HND	380.	90	12:41	10:21	7:04	.304	.479	.658	.584	0	---	---	---	0	---	--- ?
4/21/77	HND-LAX	384.	60	8:12	7:07	2:00	.230	.354	.559	.309	0	---	---	---	0	---	--- ?
4/21/77	LAX-HND	388.	77	9:59	8:49	6:56	.414	.619	.732	.581	0	---	---	---	0	---	--- ?
4/22/77	HND-JFK	367.	89	11:10	5:45	:55	.128	.240	.516	.282	0	---	---	---	0	---	--- ?
4/23/77	JFK-GIG	380.	52	6:50	1:00		.058	.124	.241	.133	0	---	---	---	0	---	--- ?
4/24/77	GIG-JFK	392.	66	8:33	:45		.042	.082	.198	.094	0	---	---	---	0	---	--- ?
4/24/77	JFK-HND	370.	100	12:40	6:45	2:40	.176	.327	.520	.378	0	---	---	---	0	---	--- ?
4/25/77	HND-JFK	382.	88	11:10	6:25	2:45	.203	.385	.700	.448	0	---	---	---	0	---	--- ?
4/26/77	JFK-HND	357.	95	12:33	7:48	4:23	.251	.458	.696	.560	95	.348	.633	.995	63	.721	.168 ?
4/27/77	HND-LAX	370.	61	7:31	5:37	2:30	.253	.407	.526	.370	61	.368	.593	.789	53	.702	.140 ?
4/27/77	LAX-HND	373.	69	9:10	4:20	1:05	.134	.250	.477	.293	69	.442	.730	.966	51	.363	.268 ?
4/28/77	HND-JFK	360.	85	10:51	5:05	1:00	.135	.247	.525	.296	85	.517	.770	.941	72	.277	.180 ?
4/29/77	JFK-HND	372.	98	12:51	4:24	1:40	.143	.303	.671	.487	98	.530	.837	1.104	83	.337	.289 ?
4/30/77	HND-LAX	357.	65	8:11	3:59	2:20	.179	.336	.532	.412	64	.269	.514	.820	34	.651	.128 ?
4/30/77	LAX-HND	389.	76	9:30	8:20	2:10	.220	.342	.541	.415	76	.646	.864	1.091	74	.395	.253 ?
5/ 1/77	HND-JFK	385.	79	10:18	10:08	6:53	.394	.580	.741	.576	79	.631	.845	.978	78	.626	.204 ?
5/ 2/77	JFK-DFW	400.	18	2:10	2:10		.216	.265	.289	.216	18	.299	.387	.453	17	.697	.108 ?
5/ 2/77	DFW-HNL	407.	52	6:43	5:33	1:55	.230	.398	.677	.470	53	.308	.526	.821	49	.736	.126 ?
5/ 3/77	HNL-PPG	396.	31	4:15			.021	.037	.058	.029	30	.036	.059	.098	0	---	--- ?
5/ 3/77	PPG-PPT	380.	17	2:07			.019	.029	.041	.020	17	.030	.041	.074	0	---	--- ?
5/ 3/77	PPT-PPG	419.	18	2:20			.018	.021	.023	.018	18	.036	.043	.047	0	---	--- ?
5/ 3/77	PPG-HNL	402.	19	4:15			.017	.022	.033	.023	32	.040	.057	.108	1	.306	--- ?
5/ 4/77	HNL-DFW	378.	45	6:02	:55		.072	.109	.192	.096	44	.103	.164	.380	19	.658	.167 ?
5/ 4/77	DFW-JFK	407.	15	1:55	1:10		.154	.238	.255	.154	15	.249	.387	.469	12	.631	.102 ?
5/ 4/77	JFK-SFO	413.	40	4:55	4:14	1:00	.203	.314	.539	.294	40	.294	.469	.702	35	.683	.109 ?
5/ 5/77	SFO-AKL	376.	93	11:52	:35		.044	.079	.221	.096	92	.075	.139	.371	26	.544	.104 ?
5/ 5/77	AKL-SYD	378.	19	2:20			.053	.068	.111	.054	19	.089	.113	.189	3	.591	.018 ?
5/ 6/77	SYD-AKL	392.	13	1:40			.060	.078	.092	.060	13	.099	.122	.124	6	.547	.163 ?
5/ 6/77	AKL-SFO	380.	84	10:40	1:40	1:00	.080	.224	.645	.293	85	.130	.336	.865	22	.695	.411 ?
5/ 8/77	SFO-JFK	380.	34	4:34	3:42	1:36	.250	.398	.501	.294	32	.376	.559	.656	31	.741	.106 ?
5/ 9/77	JFK-DFW	411.	15	2:15	1:15	:10	.157	.316	.667	.167	15	.480	.758	1.036	14	.337	.171 ?
5/ 9/77	DFW-HNL	403.	56	7:19	5:43	1:10	.217	.356	.551	.402	57	.258	.441	.734	49	.869	.171 ?
5/10/77	HNL-PPG	395.	34	4:32			.029	.047	.079	.035	36	.028	.041	.055	0	---	--- ?
5/10/77	PPG-PPT	396.	14	2:00			.015	.020	.031	.015	13	.029	.038	.041	0	---	--- ?
5/10/77	PPT-PPG	414.	18	2:21	:10		.032	.060	.134	.037	16	.039	.051	.075	0	---	--- ?

CABIN AND AMBIENT OZONE DATA SUMMARY — AIRCRAFT: N533PA (747SP)

SOURCE: GASP TAPE VL0010 — APPENDIX C; PAGE 3 OF 11

DATE	ROUTE	FL	CABIN OZONE								AMBIENT OZONE				CABIN/AMBIENT (FOR AMB >.1)			
				HOURS:MIN			PPMV					PPMV						
			ND	TOTAL	O3>.1	O3>.3	MEAN	M+SD	MAX	2HR	ND	MEAN	M+SD	MAX	ND	MEAN	SD	
5/10/77	PPG-HNL	404.	32	4:05	:05		.023	.042	.143	.024	32	.032	.042	.067	0	---	---	?
5/11/77	HNL-DFW	389.	45	5:50	4:10	:55	.182	.316	.541	.305	45	.223	.391	.619	34	.841	.248	?
5/11/77	DFW-JFK	392.	16	2:00	1:10		.094	.140	.156	.094	16	.349	.562	.640	15	.298	.167	?
5/13/77	JFK-LHR	385.	42	5:15	5:15	4:40	.403	.511	.552	.479	42	.562	.666	.777	42	.706	.177	B
5/14/77	LHR-AMS	246.	1	:00			.064	---	.064	.064	1	.080	---	.080	0	---	---	
5/14/77	AMS-LHR	249.	1	:00			.036	---	.036	.036	1	.071	---	.071	0	---	---	
5/14/77	LHR-JFK	395.	48	6:00	4:30	3:00	.303	.507	.612	.522	48	.533	.659	.772	47	.520	.329	B
5/15/77	JFK-LHR	364.	40	5:15	4:50	3:05	.304	.453	.532	.444	40	.336	.512	.670	40	.951	.311	
5/15/77	LHR-AMS	232.	1	:00			.085	---	.085	.085	1	.097	---	.097	0	---	---	
5/15/77	AMS-LHR	253.	1	:00			.050	---	.050	.050	1	.086	---	.086	0	---	---	
5/15/77	LHR-JFK	387.	49	6:00	6:00	4:45	.412	.516	.558	.494	49	.418	.547	.728	48	.996	.168	
5/16/77	JFK-DFW	402.	4	:40			.070	.087	.100	.070	4	.086	.091	.104	1	.962	---	
5/16/77	DFW-HNL	386.	25	7:01	3:26		.128	.195	.261	.218	25	.133	.188	.223	15	.931	.330	
5/17/77	HNL-PPG	387.	4	2:15	:45		.038	.080	.132	.070	4	.037	.045	.047	0	---	---	
5/17/77	PPT-PPG	408.	7	1:45			.046	.065	.077	.046	7	.058	.088	.104	2	.702	.039	
5/17/77	PPG-HNL	393.	10	3:15			.032	.048	.063	.038	10	.022	.041	.058	0	---	---	
5/18/77	HNL-DFW	399.	11	3:35	3:35		.226	.275	.292	.246	11	.248	.284	.296	11	.893	.112	
5/18/77	DFW-JFK	376.	3	1:20	:10		.139	.204	.210	.139	3	.127	.195	.216	2	1.019	.047	
5/18/77	JFK-SFO	390.	8	3:00	1:55	1:20	.260	.489	.596	.348	8	.297	.568	.723	5	.801	.178	
5/19/77	SFO-AKL	362.	31	11:37			.033	.048	.098	.062	31	.052	.070	.103	1	.728	---	
5/19/77	AKL-SYD	406.	7	1:40	1:30		.096	.143	.146	.096	7	.129	.187	.190	4	.775	.048	
5/20/77	SYD-AKL	369.	0	:00			---	---	---	---	8	.140	.170	.169	0	---	---	
5/20/77	AKL-SFO	367.	33	10:25			.028	.043	.088	.043	34	.047	.069	.146	2	.702	.120	
5/21/77	SFO-AKL	375.	47	11:30	:05		.033	.052	.110	.055	47	.048	.067	.125	1	.600	---	
5/21/77	AKL-SYD	373.	4	1:10			.071	.085	.088	.071	4	.093	.142	.142	1	.620	---	
5/22/77	SYD-SFO	371.	35	12:01	2:05		.050	.093	.166	.115	34	.067	.116	.201	5	.769	.163	
5/22/77	SFO-JFK	368.	16	3:46	2:21		.109	.161	.207	.140	16	.122	.172	.223	8	.891	.153	
5/23/77	JFK-BAH	381.	49	10:35	9:00	2:35	.240	.364	.533	.424	49	.304	.461	.655	46	.791	.124	
5/25/77	BAH-JFK	375.	51	12:07	6:00	3:25	.188	.364	.566	.526	51	.351	.568	.673	41	.546	.309	B
5/26/77	BOS-LHR	393.	20	5:05	4:05	4:05	.341	.458	.509	.393	20	.536	.634	.753	20	.659	.198	B
5/27/77	LHR-BOS	382.	13	2:50	2:50	2:50	.438	.500	.565	.459	13	.467	.540	.599	13	.941	.102	
5/28/77	BOS-LHR	369.	3	:55	:55		.163	.256	.284	.163	3	.188	.298	.339	2	.851	.014	
5/28/77	LHR-BOS	389.	16	3:35	3:35	2:55	.394	.480	.482	.433	17	.403	.515	.536	16	.953	.126	
5/28/77	BOS-DTW	334.	2	:10			.078	.091	.091	.078	3	.088	.123	.124	1	.734	---	
5/28/77	DTW-BOS	360.	3	:40	:35		.147	.218	.218	.147	3	.198	.264	.263	2	.679	.150	
5/29/77	BOS-LHR	368.	5	2:00	2:00	1:05	.375	.501	.509	.375	5	.402	.525	.529	5	.911	.120	

CABIN AND AMBIENT OZONE DATA SUMMARY — AIRCRAFT: N533PA (747SP)

SOURCE: GASP TAPE VL0010 — APPENDIX C; PAGE 4 OF 11

DATE	ROUTE	FL	CABIN OZONE								AMBIENT OZONE				CABIN/AMBIENT (FOR AMB >.1)			
				HOURS: MIN			PPMV					PPMV						
			ND	TOTAL	O3>.1	O3>.3	MEAN	M+SD	MAX	2HR	ND	MEAN	M+SD	MAX	ND	MEAN	SD	
5/29/77	LHR-BOS	397.	18	3:35	3:35	3:25	.440	.518	.551	.457	18	.463	.560	.574	17	.962	.096	
5/30/77	JFK-LHR	391.	13	3:25	3:25	2:15	.295	.405	.437	.336	0	---	---	---	0	---	---	
5/31/77	BRU-LHR	241.	1	:00			.029	---	.029	.029	1	.096	---	.096	0	---	---	
5/31/77	LHR-JFK	404.	26	5:25	4:00	2:55	.288	.446	.634	.431	26	.431	.566	.756	26	.665	.250	B
6/ 1/77	JFK-HND	393.	72	11:20	8:04	2:46	.183	.320	.475	.423	72	.366	.545	.608	54	.496	.269	B
6/ 2/77	HND-JFK	381.	68	11:50	7:35	4:47	.213	.357	.429	.387	68	.332	.473	.547	60	.691	.302	B
6/ 3/77	JFK-HND	387.	109	12:59	6:03	4:35	.192	.371	.531	.454	110	.271	.478	.633	82	.602	.268	B
6/ 4/77	HND-LAX	388.	63	8:50	3:10	1:15	.126	.259	.447	.297	62	.198	.383	.559	30	.642	.215	B
6/ 8/77	LAX-SEA	363.	8	1:00			.031	.038	.038	.031	8	.045	.060	.064	0	---	---	
6/ 9/77	SEA-SFO	369.	11	1:32	1:10	:20	.249	.344	.391	.249	11	.354	.495	.489	9	.708	.120	B
6/10/77	SFO-LHR	389.	62	8:34	7:13	5:05	.292	.444	.486	.425	62	.437	.661	.714	53	.673	.127	
6/10/77	LHR-SEA	394.	60	8:03	4:38	:15	.109	.178	.442	.139	60	.509	.683	.742	60	.235	.147	B
6/11/77	SEA-LHR	395.	55	7:45	6:55	5:00	.303	.432	.464	.419	55	.430	.614	.667	51	.711	.108	
6/11/77	LHR-SFO	386.	67	9:17	7:47	4:52	.278	.400	.449	.402	68	.434	.571	.619	65	.630	.222	B
6/12/77	SFO-LHR	392.	63	8:32	7:17	2:30	.225	.330	.435	.320	63	.334	.465	.584	58	.678	.164	
6/12/77	LHR-SEA	398.	62	8:11	5:19	:10	.113	.162	.353	.129	62	.421	.541	.572	61	.275	.116	B
6/13/77	SEA-LHR	381.	60	8:11	7:40	4:55	.319	.433	.500	.437	56	.389	.514	.595	54	.848	.197	
6/13/77	LHR-SFO	393.	73	9:20	9:15	2:20	.222	.319	.442	.349	73	.479	.595	.671	72	.478	.199	B
6/14/77	SFO-LHR	377.	64	8:50	5:10	:05	.121	.186	.314	.153	63	.326	.475	.570	53	.370	.199	B
6/14/77	LHR-SFO	387.	70	9:20	7:25	2:30	.198	.313	.421	.339	71	.435	.578	.665	68	.472	.205	B
6/15/77	SFO-LHR	383.	64	8:49	6:15	1:15	.174	.275	.366	.311	64	.310	.467	.609	53	.542	.225	B
6/15/77	LHR-SFO	389.	69	9:20	6:00	:30	.124	.183	.313	.182	69	.401	.536	.600	68	.370	.190	B
6/17/77	SFO-LHR	393.	67	8:50	5:10	2:50	.183	.303	.378	.342	67	.470	.660	.730	62	.372	.190	B
6/17/77	LHR-SEA	385.	65	8:15	4:45	1:50	.175	.278	.376	.318	66	.549	.686	.718	65	.352	.216	B
6/18/77	SEA-LHR	373.	63	7:55	6:30	2:40	.214	.320	.385	.341	63	.489	.679	.690	58	.441	.166	B
6/18/77	LHR-SFO	394.	72	9:05	4:55	:30	.139	.209	.339	.196	72	.475	.636	.724	72	.355	.230	B
6/19/77	SFO-LHR	390.	65	8:55	5:10	1:00	.172	.282	.330	.292	65	.464	.653	.690	64	.365	.183	B
6/19/77	LHR-SEA	400.	39	:00M			---	---	.392	---	39	---	---	.795	39	.435	.167	B
6/20/77	SEA-LHR	385.	45	6:00	4:10		.123	.162	.301	.147	47	.550	.683	.667	42	.229	.069	B
6/20/77	LHR-SFO	386.	74	9:15	4:50	:30	.126	.226	.323	.250	75	.458	.643	.696	68	.322	.249	B
6/21/77	SFO-LHR	389.	62	9:13	4:25	:30	.141	.231	.341	.275	62	.446	.649	.780	54	.374	.309	B
6/21/77	LHR-SEA	398.	60	8:10	4:55	:20	.152	.231	.308	.252	61	.490	.655	.743	60	.341	.181	B
6/22/77	SEA-LHR	392.	60	7:55	3:35		.087	.115	.125	.109	60	.492	.694	.787	54	.201	.121	B
6/22/77	LHR-SFO	383.	72	9:18	3:08		.110	.178	.298	.183	72	.433	.645	.683	66	.294	.179	B
6/24/77	SFO-LHR	381.	70	9:00	6:30	2:40	.201	.310	.360	.322	0	---	---	---	0	---	---	

CABIN AND AMBIENT OZONE DATA SUMMARY — AIRCRAFT: N533PA (747SP)

SOURCE: GASP TAPE VL0010 — APPENDIX C; PAGE 5 OF 11

DATE	ROUTE	FL	CABIN OZONE								AMBIENT OZONE				CABIN/AMBIENT (FOR AMB >.1)			
				HOURS:MIN			PPMV					PPMV						
			ND	TOTAL	O3>.1	O3>.3	MEAN	M+SD	MAX	2HR	ND	MEAN	M+SD	MAX	ND	MEAN	SD	
6/24/77	LHR-SEA	381.	61	8:15	4:34	1:00	.132	.223	.372	.255	0	---	---	---	0	---	---	B
6/25/77	SEA-LHR	390.	60	7:35	6:00	2:50	.230	.330	.370	.332	56	.485	.649	.704	54	.523	.195	B
6/25/77	LHR-SFO	384.	71	9:25	2:55	1:20	.118	.209	.337	.270	53	.515	.610	.633	53	.259	.178	B
6/26/77	SFO-LHR	383.	66	8:34	4:15		.107	.156	.271	.148	0	---	---	---	0	---	---	B
6/26/77	LHR-SEA	400.	59	8:08	4:43	2:20	.185	.309	.399	.359	0	---	---	---	0	---	---	B
6/27/77	SEA-LHR	391.	61	7:41	7:31	2:22	.277	.338	.357	.300	0	---	---	---	0	---	---	
6/27/77	LHR-SFO	380.	74	9:30	3:50	:35	.125	.213	.358	.274	0	---	---	---	0	---	---	B
6/28/77	SFO-LHR	382.	63	8:45	4:25	:05	.133	.218	.303	.266	0	---	---	---	0	---	---	B
6/28/77	LHR-SEA	385.	62	8:15	4:50	1:00	.144	.230	.321	.276	0	---	---	---	0	---	---	B
6/29/77	SEA-LHR	393.	58	7:35	3:55	:20	.143	.226	.311	.264	0	---	---	---	0	---	---	B
6/29/77	LHR-SFO	384.	69	9:06	2:10		.100	.153	.292	.172	0	---	---	---	0	---	---	B
6/30/77	SFO-AKL	369.	92	11:50	:10		.035	.055	.119	.054	0	---	---	---	0	---	---	
6/30/77	AKL-SYD	408.	20	2:21	2:01	:40	.244	.375	.475	.272	0	---	---	---	0	---	---	
7/ 1/77	SYD-AKL	355.	7	:50	:50		.246	.287	.296	.246	0	---	---	---	0	---	---	
7/ 1/77	AKL-SFO	385.	76	11:03	:15		.036	.059	.116	.068	0	---	---	---	0	---	---	
7/ 2/77	SFO-AKL	366.	89	11:16	:30		.036	.061	.146	.073	0	---	---	---	0	---	---	
7/ 2/77	AKL-SYD	416.	17	2:10	2:05		.189	.252	.281	.196	0	---	---	---	0	---	---	
7/ 3/77	SYD-SFO	391.	99	12:50			.042	.064	.095	.075	0	---	---	---	0	---	---	
7/ 3/77	SFO-JFK	397.	33	3:57	:15		.049	.074	.132	.059	0	---	---	---	0	---	---	
7/ 4/77	JFK-HND	391.	94	12:08	2:30	:10	.098	.157	.301	.193	0	---	---	---	0	---	---	B
7/ 5/77	HND-LAX	390.	56	8:40	2:55		.087	.123	.158	.136	0	---	---	---	0	---	---	B
7/ 5/77	LAX-HND	385.	79	10:06	7:50	:15	.187	.270	.383	.258	0	---	---	---	0	---	---	
7/ 6/77	HND-JFK	381.	89	11:36	6:00	:05	.143	.233	.302	.247	0	---	---	---	0	---	---	
7/ 7/77	JFK-CPH	397.	46	6:17	5:57	1:10	.223	.303	.356	.316	0	---	---	---	0	---	---	
7/ 7/77	CPH-JFK	405.	50	6:36	5:57		.207	.273	.325	.247	0	---	---	---	0	---	---	
7/ 8/77	JFK-HND	375.	82	11:35	4:20		.076	.142	.200	.156	87	.374	.544	.571	70	.210	.150	B
7/ 9/77	HND-LAX	393.	67	8:48	2:18		.069	.140	.270	.140	70	.174	.316	.536	39	.379	.187	
7/ 9/77	LAX-HND	375.	75	9:51	1:20		.035	.080	.194	.110	75	.140	.248	.451	30	.310	.167	B
7/10/77	HND-JFK	376.	83	11:23	6:00		.117	.211	.293	.217	85	.315	.518	.593	62	.407	.178	B
7/11/77	JFK-CPH	366.	46	6:15	4:00	:30	.142	.251	.330	.258	46	.306	.505	.555	32	.500	.151	
7/11/77	CPH-JFK	385.	51	6:38	3:55	1:40	.177	.299	.363	.324	53	.330	.538	.630	41	.528	.205	
7/11/77	JFK-BAH	388.	75	11:06	3:55		.087	.169	.257	.186	75	.214	.380	.558	46	.453	.188	
7/12/77	BAH-JFK	380.	91	12:00	4:55	:10	.097	.186	.310	.248	92	.248	.421	.604	65	.393	.159	
7/14/77	JFK-HND	352.	93	12:09	7:15	1:00	.163	.272	.357	.309	93	.306	.487	.568	71	.547	.153	
7/15/77	HND-JFK	376.	79	10:56	3:00	:05	.066	.134	.310	.140	79	.156	.277	.511	48	.456	.176	

CABIN AND AMBIENT OZONE DATA SUMMARY — AIRCRAFT: N533PA (747SP)

SOURCE: GASP TAPE VL0010 — APPENDIX C; PAGE 6 OF 11

DATE	ROUTE	FL	CABIN OZONE: HOURS:MIN ND	CABIN OZONE: HOURS:MIN TOTAL	CABIN OZONE: HOURS:MIN O3>.1	CABIN OZONE: HOURS:MIN O3>.3	CABIN OZONE: PPMV MEAN	CABIN OZONE: PPMV M+SD	CABIN OZONE: PPMV MAX	CABIN OZONE: PPMV 2HR	AMBIENT OZONE: PPMV ND	AMBIENT OZONE: PPMV MEAN	AMBIENT OZONE: PPMV M+SD	AMBIENT OZONE: PPMV MAX	CABIN/AMBIENT (FOR AMB >.1) ND	CABIN/AMBIENT (FOR AMB >.1) MEAN	CABIN/AMBIENT (FOR AMB >.1) SD	
7/16/77	JFK-CPH	398.	47	6:05	3:55	:20	.163	.268	.324	.277	47	.344	.539	.610	38	.485	.136	
7/16/77	CPH-JFK	378.	53	6:50	5:25	2:20	.240	.348	.398	.352	54	.398	.564	.612	49	.615	.138	
7/17/77	JFK-HND	379.	94	12:05	2:20		.075	.140	.263	.211	88	.334	.518	.572	77	.253	.182	B
7/18/77	HND-LAX	382.	60	8:18	:58		.061	.117	.270	.130	60	.137	.230	.483	38	.435	.158	
7/18/77	LAX-HND	377.	72	9:55	:50		.023	.056	.132	.060	74	.083	.144	.374	16	.467	.218	B
7/19/77	HND-JFK	380.	80	11:20	3:35		.070	.117	.184	.131	81	.223	.375	.552	70	.309	.140	B
7/28/77	JFK-HND	395.	84	11:00	8:45	3:30	.206	.315	.415	.343	84	.309	.461	.540	69	.675	.145	
7/29/77	HND-LAX	386.	54	7:55	1:40		.053	.105	.176	.114	55	.120	.220	.510	27	.492	.148	
7/29/77	LAX-HND	387.	59	7:30	6:00	2:15	.205	.308	.374	.295	51	.322	.479	.530	43	.715	.183	
7/30/77	HND-JFK	378.	99	11:52	3:50	:05	.086	.174	.307	.208	90	.203	.347	.509	58	.402	.288	B
7/31/77	JFK-HND	391.	49	6:10	:45		.063	.111	.231	.106	50	.151	.241	.462	33	.413	.177	B
8/ 1/77	HND-LAX	386.	68	9:13	2:40	:35	.089	.173	.339	.206	70	.155	.281	.504	43	.562	.156	
8/ 1/77	LAX-HND	383.	77	9:37	3:20	:10	.085	.157	.301	.187	77	.143	.258	.511	39	.583	.163	
8/ 2/77	HND-JFK	376.	88	11:33	4:22	:09	.094	.157	.311	.150	88	.243	.395	.518	67	.429	.271	B
8/ 3/77	JFK-HND	385.	95	4:03M	1:05		.068	.132	.255	.118	95	.147	.254	.505	67	.478	.133	
8/ 4/77	HND-LAX	384.	51	6:55M	1:41		.065	.133	.271	.169	52	.124	.232	.419	25	.549	.140	
8/ 4/77	LAX-HND	375.	73	7:59M	:16		.030	.063	.147	.070	73	.106	.215	.460	19	.350	.118	B
8/ 5/77	HND-JFK	373.	83	6:03M	3:23		.108	.179	.296	.176	85	.215	.355	.491	55	.425	.193	B
8/ 6/77	JFK-CPH	403.	46	5:00M	3:02	:15	.151	.238	.335	.237	46	.330	.432	.481	45	.449	.191	B
8/ 6/77	CPH-JFK	382.	52	7:00	6:05	:15	.186	.260	.315	.262	54	.318	.428	.479	49	.573	.077	
8/ 7/77	JFK-SEA	352.	28	4:44			.002	.007	.022	.004	38	.119	.205	.314	11	.036	.053	F
8/ 8/77	SEA-HND	387.	61	8:35			.007	.020	.071	.019	64	.158	.315	.501	19	.074	.152	F
8/ 8/77	HND-JFK	381.	93	11:23			.009	.020	.052	.020	95	.202	.358	.506	49	.049	.050	F
8/ 9/77	JFK-CPH	350.	44	5:42			.006	.014	.033	.011	46	.138	.233	.423	22	.043	.044	F
8/ 9/77	CPH-JFK	380.	22	7:20			.011	.023	.044	.024	60	.210	.341	.495	20	.070	.086	F
8/10/77	JFK-CPH	402.	35	6:25			.018	.035	.064	.030	48	.240	.382	.502	30	.088	.088	F
8/10/77	CPH-JFK	378.	21	:00M			---	---	.080	---	37	---	---	.465	10	.055	.036	F
8/11/77	JFK-SFO	390.	34	:00M			---	---	.075	---	40	---	---	.154	11	.027	.044	F
8/11/77	SFO-AKL	373.	31	:00M			---	---	.059	---	86	---	---	.443	0	---	---	F
8/11/77	AKL-SYD	396.	18	1:21M			.005	.015	.032	.005	18	.185	.230	.246	18	.049	.048	F
8/12/77	SYD-AKL	359.	11	1:47			.014	.017	.021	.014	11	.164	.257	.328	6	.069	.044	F
8/12/77	AKL-SFO	372.	75	11:03			.003	.009	.029	.008	83	.047	.085	.183	8	.010	.017	F
8/13/77	SFO-AKL	370.	0	:00			---	---	---	---	88	.050	.077	.166	0	---	---	
8/13/77	AKL-SYD	371.	0	:00			---	---	---	---	11	.298	.423	.544	0	---	---	
8/14/77	SYD-SFO	380.	0	:00			---	---	---	---	86	.064	.119	.282	0	---	---	

CABIN AND AMBIENT OZONE DATA SUMMARY — AIRCRAFT: N533PA (747SP)

SOURCE: GASP TAPE VL0010 — APPENDIX C; PAGE 7 OF 11

DATE	ROUTE	FL	CABIN OZONE							AMBIENT OZONE				CABIN/AMBIENT (FOR AMB >.1)		
				HOURS:MIN		PPMV				PPMV						
			ND	TOTAL	O3>.1 O3>.3	MEAN	M+SD	MAX	2HR	ND	MEAN	M+SD	MAX	ND	MEAN	SD
8/14/77	SFO-JFK	402.	0	:00		---	---	---	---	26	.097	.152	.230	0	---	---
8/16/77	JFK-HND	379.	0	:00		---	---	---	---	94	.196	.342	.488	0	---	---
8/17/77	HND-LAX	386.	0	:00		---	---	---	---	61	.146	.270	.439	0	---	---
8/17/77	LAX-HND	371.	0	:00		---	---	---	---	74	.134	.269	.469	0	---	---
8/18/77	HND-JFK	382.	0	:00		---	---	---	---	55	.266	.350	.426	0	---	---
8/19/77	JFK-HND	381.	0	:00		---	---	---	---	80	.219	.349	.496	0	---	---
8/20/77	HND-LAX	390.	0	:00		---	---	---	---	53	.092	.154	.278	0	---	---
8/20/77	LAX-HND	364.	0	:00		---	---	---	---	69	.223	.335	.429	0	---	---
8/21/77	HND-JFK	372.	0	:00		---	---	---	---	55	.260	.399	.495	0	---	---
8/22/77	JFK-CPH	394.	0	:00		---	---	---	---	42	.275	.415	.497	0	---	---
8/22/77	CPH-JFK	396.	0	:00		---	---	---	---	50	.336	.452	.503	0	---	---
8/23/77	JFK-BAH	396.	0	:00		---	---	---	---	81	.161	.278	.465	0	---	---
8/24/77	BAH-JFK	386.	0	:00		---	---	---	---	96	.216	.343	.429	0	---	---
8/25/77	JFK-HND	380.	0	:00		---	---	---	---	94	.179	.305	.436	0	---	---
8/26/77	HND-LAX	382.	0	:00		---	---	---	---	51	.051	.093	.182	0	---	---
8/26/77	LAX-HND	378.	0	:00		---	---	---	---	74	.137	.267	.408	0	---	---
8/27/77	HND-JFK	361.	0	:00		---	---	---	---	67	.123	.220	.382	0	---	---
8/28/77	JFK-HND	384.	0	:00		---	---	---	---	92	.227	.331	.453	0	---	---
8/29/77	HND-LAX	389.	0	:00		---	---	---	---	58	.122	.217	.354	0	---	---
8/29/77	LAX-HND	382.	0	:00		---	---	---	---	71	.181	.314	.435	0	---	---
8/30/77	HND-JFK	394.	0	:00		---	---	---	---	73	.148	.247	.429	0	---	---
8/31/77	JFK-HND	388.	0	:00		---	---	---	---	95	.233	.362	.509	0	---	---
9/ 1/77	HND-LAX	395.	0	:00		---	---	---	---	69	.138	.221	.382	0	---	---
9/ 1/77	LAX-HND	396.	0	:00		---	---	---	---	82	.237	.376	.480	0	---	---
9/ 2/77	HND-JFK	376.	0	:00		---	---	---	---	86	.179	.286	.401	0	---	---
9/ 3/77	JFK-CPH	393.	0	:00		---	---	---	---	46	.240	.365	.455	0	---	---
9/ 3/77	CPH-JFK	373.	0	:00		---	---	---	---	53	.316	.453	.489	0	---	---
9/ 4/77	JFK-CPH	392.	0	:00		---	---	---	---	46	.270	.382	.428	0	---	---
9/ 4/77	CPH-JFK	399.	0	:00		---	---	---	---	50	.362	.497	.528	0	---	---
9/ 6/77	JFK-HND	387.	0	:00		---	---	---	---	99	.201	.314	.460	0	---	---
9/ 7/77	HND-LAX	388.	0	:00		---	---	---	---	61	.130	.203	.355	0	---	---
9/ 7/77	LAX-HND	383.	0	:00		---	---	---	---	74	.090	.160	.318	0	---	---
9/ 8/77	HND-JFK	380.	0	:00		---	---	---	---	85	.207	.348	.477	0	---	---
9/ 9/77	JFK-CPH	373.	0	:00		---	---	---	---	59	.220	.348	.421	0	---	---
9/ 9/77	CPH-JFK	399.	0	:00		---	---	---	---	57	.295	.393	.484	0	---	---

CABIN AND AMBIENT OZONE DATA SUMMARY — AIRCRAFT: N533PA (747SP)

SOURCE: GASP TAPE VL0010 — APPENDIX C: PAGE 8 OF 11

DATE	ROUTE	FL	CABIN OZONE: HOURS:MIN ND	CABIN OZONE: HOURS:MIN TOTAL	CABIN OZONE: HOURS:MIN O3>.1	CABIN OZONE: HOURS:MIN O3>.3	CABIN OZONE: PPMV MEAN	CABIN OZONE: PPMV M+SD	CABIN OZONE: PPMV MAX	CABIN OZONE: PPMV 2HR	AMBIENT OZONE: PPMV ND	AMBIENT OZONE: PPMV MEAN	AMBIENT OZONE: PPMV M+SD	AMBIENT OZONE: PPMV MAX	CABIN/AMBIENT (FOR AMB >.1) ND	CABIN/AMBIENT (FOR AMB >.1) MEAN	CABIN/AMBIENT (FOR AMB >.1) SD
9/10/77	JFK-HND	378.	0	:00			---	---	---	---	93	.166	.290	.426	0	---	---
9/11/77	HND-LAX	387.	0	:00			---	---	---	---	72	.104	.197	.395	0	---	---
9/11/77	LAX-HND	381.	0	:00			---	---	---	---	74	.093	.171	.374	0	---	---
9/12/77	HND-JFK	382.	0	:00			---	---	---	---	74	.151	.289	.405	0	---	---
9/13/77	JFK-HND	387.	0	:00			---	---	---	---	101	.236	.339	.448	0	---	---
9/14/77	HND-LAX	397.	0	:00			---	---	---	---	68	.127	.220	.346	0	---	---
9/14/77	LAX-HND	390.	0	:00			---	---	---	---	71	.076	.095	.154	0	---	---
9/15/77	HND-JFK	376.	0	:00			---	---	---	---	79	.166	.269	.359	0	---	---
9/16/77	JFK-HND	378.	0	:00			---	---	---	---	102	.101	.176	.343	0	---	---
9/17/77	HND-LAX	410.	0	:00			---	---	---	---	2	.005	.011	.011	0	---	---
9/20/77	JFK-HND	381.	0	:00			---	---	---	---	114	.162	.302	.417	0	---	---
9/21/77	HND-LAX	388.	0	:00			---	---	---	---	47	.098	.175	.371	0	---	---
9/23/77	JFK-HND	377.	0	:00			---	---	---	---	99	.172	.265	.366	0	---	---
9/24/77	HND-LAX	395.	0	:00			---	---	---	---	66	.108	.155	.255	0	---	---
9/24/77	LAX-HND	373.	0	:00			---	---	---	---	63	.128	.222	.327	0	---	---
9/25/77	HND-JFK	357.	0	:00			---	---	---	---	87	.140	.225	.409	0	---	---
9/26/77	BOS-LHR	402.	0	:00			---	---	---	---	32	.286	.390	.455	0	---	---
9/26/77	LHR-BOS	395.	0	:00			---	---	---	---	42	.263	.353	.397	0	---	---
9/27/77	BOS-LHR	401.	0	:00			---	---	---	---	36	.178	.274	.397	0	---	---
9/27/77	LHR-BOS	396.	0	:00			---	---	---	---	45	.146	.209	.286	0	---	---
9/27/77	BOS-DTW	381.	0	:00			---	---	---	---	5	.141	.172	.224	0	---	---
9/27/77	DTW-BOS	317.	0	:00			---	---	---	---	5	.130	.146	.144	0	---	---
9/28/77	BOS-LHR	400.	0	:00			---	---	---	---	31	.167	.240	.362	0	---	---
9/28/77	LHR-JFK	394.	0	:00			---	---	---	---	49	.204	.289	.407	0	---	---
9/28/77	JFK-SFO	416.	0	:00			---	---	---	---	34	.094	.117	.172	0	---	---
9/29/77	SFO-AKL	380.	0	:00			---	---	---	---	80	.048	.089	.210	0	---	---
9/29/77	AKL-SYD	362.	0	:00			---	---	---	---	13	.207	.330	.392	0	---	---
9/30/77	SYD-AKL	389.	0	:00			---	---	---	---	15	.134	.210	.320	0	---	---
9/30/77	AKL-SFO	391.	0	:00			---	---	---	---	74	.056	.106	.334	0	---	---
10/ 1/77	SFO-AKL	371.	0	:00			---	---	---	---	77	.057	.113	.380	0	---	---
10/ 1/77	AKL-SYD	397.	0	:00			---	---	---	---	17	.326	.431	.509	0	---	---
10/ 2/77	SYD-SFO	375.	0	:00			---	---	---	---	81	.060	.108	.213	0	---	---
10/ 2/77	SFO-JFK	377.	0	:00			---	---	---	---	14	.092	.130	.196	0	---	---
10/ 3/77	JFK-HND	379.	0	:00			---	---	---	---	84	.205	.299	.442	0	---	---
10/ 4/77	HND-LAX	397.	0	:00			---	---	---	---	65	.139	.227	.373	0	---	---

CABIN AND AMBIENT OZONE DATA SUMMARY — AIRCRAFT: N533PA (747SP)

SOURCE: GASP TAPE VL0014, FILE 1 — APPENDIX C; PAGE 9 OF 11

DATE	ROUTE	FL	CABIN OZONE: ND	HOURS:MIN TOTAL	HOURS:MIN O3>.1	HOURS:MIN O3>.3	CABIN OZONE PPMV MEAN	CABIN OZONE PPMV M+SD	CABIN OZONE PPMV MAX	CABIN OZONE PPMV 2HR	AMBIENT OZONE PPMV: ND	AMBIENT OZONE PPMV MEAN	AMBIENT OZONE PPMV M+SD	AMBIENT OZONE PPMV MAX	CABIN/AMBIENT (FOR AMB >.1) ND	CABIN/AMBIENT MEAN	CABIN/AMBIENT SD	
10/ 4/77	LAX-SFO	323.	3	:20			.000	.000	.000	.000	3	.079	.087	.090	0	---	---	F
10/ 4/77	SFO-HND	381.	62	9:08			.016	.036	.068	.035	65	.079	.118	.160	18	.153	.162	F
10/ 5/77	HND-JFK	384.	81	11:05			.013	.029	.072	.019	85	.193	.290	.390	64	.058	.078	F
10/ 6/77	JFK-LHR	394.	39	5:04			.007	.016	.034	.009	40	.202	.275	.414	38	.036	.047	F
10/ 7/77	LHR-BOS	398.	41	5:45			.009	.022	.046	.020	45	.245	.344	.425	40	.033	.040	F
10/ 7/77	BOS-DTW	363.	0	:00			---	---	---	---	6	.207	.311	.368	0	---	---	F
10/ 7/77	DTW-BOS	315.	3	:40			.000	.000	.000	.000	5	.061	.078	.089	0	---	---	F
10/ 8/77	BOS-LHR	401.	41	5:00			.007	.018	.055	.010	42	.226	.317	.442	41	.026	.036	F
10/ 8/77	LHR-BOS	383.	37	5:55			.016	.034	.085	.024	31	.263	.351	.388	22	.059	.061	F
10/ 8/77	BOS-DTW	350.	7	:50			.003	.007	.010	.003	9	.138	.193	.224	6	.027	.031	F
10/ 9/77	BOS-LHR	395.	41	5:34			.030	.051	.085	.045	44	.275	.366	.457	38	.114	.074	F
10/ 9/77	LHR-BOS	381.	41	5:30	:15		.020	.059	.225	.042	48	.260	.353	.413	35	.075	.119	F
10/10/77	BOS-LHR	401.	29	4:45			.006	.018	.044	.009	39	.179	.293	.423	24	.017	.040	F
10/10/77	LHR-BOS	387.	38	5:53			.010	.026	.062	.022	49	.142	.251	.434	27	.068	.089	F
10/10/77	BOS-DTW	348.	8	:55			.006	.017	.035	.006	9	.105	.137	.137	5	.009	.019	F
10/10/77	DTW-BOS	347.	3	:25			.000	.000	.000	.000	4	.101	.118	.119	1	.000	---	F
10/11/77	BOS-LHR	393.	35	4:43			.007	.013	.020	.010	35	.167	.266	.345	21	.044	.034	F
10/11/77	LHR-BOS	422.	42	5:50			.015	.025	.041	.021	37	.279	.378	.518	37	.073	.039	F
10/11/77	BOS-DTW	341.	5	:40			.000	.001	.001	.000	6	.134	.176	.167	4	.001	.003	F
10/11/77	DTW-BOS	345.	3	:35			.004	.011	.017	.004	4	.101	.118	.120	1	.000	---	F
10/12/77	BOS-LHR	393.	27	4:55			.006	.014	.034	.011	39	.131	.176	.257	22	.028	.055	F
10/12/77	LHR-JFK	396.	49	6:45			.015	.035	.097	.029	51	.190	.273	.429	45	.081	.094	F
10/12/77	JFK-SFO	375.	25	3:50			.007	.018	.047	.011	35	.120	.204	.326	11	.067	.054	F
10/13/77	SFO-AKL	368.	16	11:04			.003	.008	.023	.007	25	.049	.102	.411	3	.044	.062	F
10/13/77	AKL-SYD	376.	14	1:50			.002	.009	.026	.002	16	.142	.182	.248	12	.015	.037	F
10/14/77	SYD-AKL	378.	6	1:20			.007	.012	.020	.007	8	.155	.229	.294	6	.052	.034	F
10/14/77	AKL-SFO	380.	55	11:02			.002	.011	.063	.007	74	.068	.160	.492	12	.009	.013	F
10/15/77	SFO-AKL	372.	43	10:59			.005	.014	.035	.012	87	.055	.095	.151	14	.056	.082	F
10/15/77	AKL-SYD	417.	10	1:30			.006	.015	.029	.006	18	.456	.552	.604	10	.016	.022	F
10/16/77	SYD-SFO	379.	47	11:50			.004	.014	.040	.010	89	.048	.084	.141	7	.128	.121	F
10/17/77	SFO-JFK	398.	23	4:00	:10		.005	.028	.113	.016	32	.169	.304	.510	19	.046	.181	F
10/17/77	JFK-HND	388.	88	12:15	:05		.013	.033	.189	.024	95	.257	.383	.506	75	.057	.107	F
10/18/77	HND-LAX	385.	38	7:40	:05		.006	.026	.184	.011	50	.124	.188	.281	26	.063	.161	F
10/18/77	LAX-HND	389.	71	9:59			.012	.023	.044	.023	82	.249	.381	.454	63	.049	.038	F
10/19/77	HND-LAX	378.	51	7:08			.003	.008	.017	.004	58	.093	.138	.252	18	.032	.036	F
10/19/77	LAX-HND	390.	81	10:46	:05		.026	.047	.130	.045	82	.240	.388	.519	67	.119	.140	F
10/20/77	HND-JFK	381.	71	10:45			.016	.029	.063	.026	75	.177	.276	.401	57	.081	.047	F

CABIN AND AMBIENT OZONE DATA SUMMARY

AIRCRAFT: N533PA (747SP)

SOURCE: GASP TAPE VL0014, FILE 1

APPENDIX C; PAGE 10 OF 11

DATE	ROUTE	FL	CABIN OZONE								AMBIENT OZONE				CABIN/AMBIENT (FOR AMB >.1)			
			HOURS:MIN			PPMV					PPMV							
			ND	TOTAL	O3>.1	O3>.3	MEAN	M+SD	MAX	2HR	ND	MEAN	M+SD	MAX	ND	MEAN	SD	
10/28/77	SFO-LHR	385.	69*	10:40	:06		.035	.057	.117	.058	68	.325	.440	.611	63	.105	.056	F
10/29/77	LHR-CPT	382.	66*	10:37	:16	:16	.045	.310	1.846	.243	67	.067	.098	.167	9	.087	.093	F
10/29/77	CPT-AKL	381.	92*	13:25			.027	.045	.069	.052	93	.362	.572	.912	79	.071	.031	F
10/30/77	AKL-SFO	392.	54*	11:04			.003	.009	.053	.005	56	.041	.076	.155	6	.013	.022	F
11/15/77	JFK-FAI	367.	39	6:10			.008	.018	.034	.017	0	---	---	---	0	---	---	F
11/16/77	FAI-HND	409.	34	5:30			.001	.004	.011	.002	0	---	---	---	0	---	---	F
11/16/77	HND-LAX	393.	17	5:15			.000	.001	.005	.000	0	---	---	---	0	---	---	F
11/16/77	LAX-HND	385.	38	10:39			.003	.010	.034	.013	0	---	---	---	0	---	---	F
11/17/77	HND-JFK	368.	76	11:05			.010	.021	.050	.020	0	---	---	---	0	---	---	F
11/18/77	JFK-HND	381.	82	11:54			.017	.033	.068	.038	0	---	---	---	0	---	---	F
11/19/77	HND-LAX	393.	55	7:20			.002	.006	.017	.004	0	---	---	---	0	---	---	F
11/19/77	LAX-HND	385.	75	10:15			.019	.041	.078	.052	0	---	---	---	0	---	---	F
11/20/77	HND-JFK	369.	70	10:36			.011	.026	.064	.032	0	---	---	---	0	---	---	F
11/21/77	JFK-HND	382.	84	10:55			.012	.023	.040	.028	0	---	---	---	0	---	---	F
11/22/77	HND-LAX	395.	42	6:50			.004	.015	.053	.009	0	---	---	---	0	---	---	F
11/22/77	LAX-HND	393.	68	10:07			.006	.017	.069	.015	0	---	---	---	0	---	---	F
11/23/77	HND-JFK	375.	75	11:20			.009	.020	.054	.017	0	---	---	---	0	---	---	F
11/25/77	LAX-AKL	387.	14	3:40			.001	.003	.008	.002	0	---	---	---	0	---	---	F
11/25/77	AKL-SYD	432.	11	1:30			.004	.011	.019	.004	0	---	---	---	0	---	---	F
11/26/77	SYD-LAX	383.	16	11:26			.001	.008	.035	.017	0	---	---	---	0	---	---	F
11/27/77	LAX-AKL	376.	10	4:20			.000	.000	.000	.000	0	---	---	---	0	---	---	F
12/ 1/77	SFO-AKL	370.	70	11:02			.000	.002	.007	.002	0	---	---	---	0	---	---	F
12/ 1/77	AKL-SYD	415.	16	2:05			.002	.004	.006	.002	0	---	---	---	0	---	---	F
12/ 2/77	SYD-LAX	397.	1	:00			.000	---	.000	.000	0	---	---	---	0	---	---	F
12/ 3/77	LAX-AKL	377.	74	11:25			.002	.007	.033	.007	0	---	---	---	0	---	---	F
12/ 3/77	AKL-SYD	391.	15	2:10			.017	.037	.083	.017	0	---	---	---	0	---	---	F
12/ 4/77	SYD-MEL	357.	1	:00			.000	---	.000	.000	0	---	---	---	0	---	---	F
12/ 4/77	MEL-SYD	351.	1	:00			.000	---	.001	.000	0	---	---	---	0	---	---	F
12/ 4/77	SYD-LAX	382.	58	9:51			.002	.008	.037	.007	0	---	---	---	0	---	---	F
12/ 5/77	LAX-JFK	408.	20	2:31			.003	.006	.010	.003	0	---	---	---	0	---	---	F
12/22/77	JFK-LAX	372.	43	5:09			.007	.019	.095	.010	0	---	---	---	0	---	---	F
12/23/77	LAX-AKL	381.	90	12:41	:10		.006	.021	.121	.021	0	---	---	---	0	---	---	F
12/23/77	AKL-SYD	381.	17	1:60			.012	.017	.019	.012	0	---	---	---	0	---	---	F
12/24/77	SYD-LAX	380.	85	11:59			.003	.008	.049	.006	0	---	---	---	0	---	---	F
12/25/77	LAX-AKL	381.	91	12:23			.003	.008	.022	.006	0	---	---	---	0	---	---	F

CABIN AND AMBIENT OZONE DATA SUMMARY — AIRCRAFT: N533PA (747SP)

SOURCE: GASP TAPE VL0014, FILE 1 — APPENDIX C; PAGE 11 OF 11

DATE	ROUTE	FL	CABIN OZONE							AMBIENT OZONE				CABIN/AMBIENT (FOR AMB >.1)			
			HOURS:MIN			PPMV				PPMV							
			ND	TOTAL	O3>.1	O3>.3	MEAN	M+SD	MAX	2HR	ND	MEAN	M+SD	MAX	ND	MEAN	SD	
12/25/77	AKL-SYD	405.	20	2:25			.015	.024	.030	.017	0	---	---	---	0	---	---	F
12/26/77	SYD-AKL	390.	14	1:46			.007	.009	.010	.007	0	---	---	---	0	---	---	F
12/26/77	AKL-LAX	381.	79	10:28			.003	.008	.031	.006	0	---	---	---	0	---	---	F
12/27/77	LAX-AKL	364.	93	12:26			.002	.006	.011	.008	0	---	---	---	0	---	---	F
12/27/77	AKL-SYD	358.	27	2:18			.003	.008	.021	.003	0	---	---	---	0	---	---	F
12/28/77	SYD-AKL	388.	14	1:49			.005	.010	.015	.005	0	---	---	---	0	---	---	F
12/28/77	AKL-LAX	376.	76	10:25			.004	.009	.037	.006	0	---	---	---	0	---	---	F
12/28/77	LAX-SFO	293.	2	:10			.000	.000	.000	.000	0	---	---	---	0	---	---	F
12/29/77	SFO-AKL	373.	91	11:60			.007	.018	.080	.016	0	---	---	---	0	---	---	F
12/29/77	AKL-SYD	405.	16	2:16			.008	.016	.027	.009	0	---	---	---	0	---	---	F
12/30/77	SYD-AKL	368.	12	1:45			.003	.008	.012	.003	0	---	---	---	0	---	---	F
12/30/77	AKL-LAX	387.	80	10:54			.004	.009	.036	.007	0	---	---	---	0	---	---	F
12/31/77	LAX-AKL	384.	89	11:15			.003	.009	.036	.007	0	---	---	---	0	---	---	F
12/31/77	AKL-SYD	411.	18	2:05			.005	.009	.018	.005	0	---	---	---	0	---	---	F
1/ 1/78	SYD-MEL	350.	3	:20			.003	.007	.009	.003	0	---	---	---	0	---	---	F
1/ 1/78	MEL-SYD	362.	3	:23			.003	.006	.008	.003	0	---	---	---	0	---	---	F
1/ 1/78	SYD-LAX	375.	96	12:13			.005	.010	.044	.007	0	---	---	---	0	---	---	F
1/ 2/78	LAX-JFK	394.	26	3:32			.012	.023	.073	.013	0	---	---	---	0	---	---	F
1/ 3/78	JFK-BAH	382.	83	10:44	:05		.023	.045	.106	.040	0	---	---	---	0	---	---	F

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* PAN AM 50TH ANNIVERSARY FLIGHTS (TAPE VL0009); DATA SELECTED AT 5 MIN INTERVALS FROM CONTINUOUS RECORDING

APPENDIX D

SUMMARY TABULATIONS OF

GASP OZONE DATA

FOR BOEING 747-100 (N4711U)

CABIN AND AMBIENT OZONE DATA SUMMARY — AIRCRAFT: N47110 (747-100)

SOURCE: GASP TAPE VL0012 — APPENDIX D; PAGE 1 OF 4

DATE	ROUTE	FL	CABIN OZONE								AMBIENT OZONE				CABIN/AMBIENT (FOR AMB >.1)		
				HOURS: MIN			PPMV					PPMV					
			ND	TOTAL	O3>.1	O3>.3	MEAN	M+SD	MAX	2HR	ND	MEAN	M+SD	MAX	ND	MEAN	SD
1/ 3/77	SFO-HNL	356.	0	:00			---	---	---	---	34	.083	.139	.173	0	---	---
1/ 4/77	HNL-SFO	363.	0	:00			---	---	---	---	28	.087	.163	.292	0	---	---
1/ 4/77	SFO-JFK	361.	0	:00			---	---	---	---	28	.241	.324	.408	0	---	---
1/ 5/77	JFK-SFO	366.	0	:00			---	---	---	---	32	.298	.352	.407	0	---	---
3/19/77	SFO-JFK	386.	0	:00			---	---	---	---	27	.297	.467	.654	0	---	---
3/20/77	JFK-SFO	363.	0	:00			---	---	---	---	37	.598	.881	.972	0	---	---
3/20/77	SFO-HNL	342.	0	:00			---	---	---	---	32	.104	.140	.180	0	---	---
3/21/77	HNL-SFO	363.	0	:00			---	---	---	---	29	.160	.221	.312	0	---	---
3/22/77	SFO-HNL	352.	0	:00			---	---	---	---	24	.141	.208	.281	0	---	---
3/22/77	HNL-SFO	364.	0	:00			---	---	---	---	11	.148	.245	.290	0	---	---
3/23/77	SFO-JFK	362.	0	:00			---	---	---	---	30	.299	.530	.849	0	---	---
3/24/77	JFK-SFO	371.	0	:00			---	---	---	---	35	.318	.475	.577	0	---	---
3/24/77	SFO-HNL	356.	0	:00			---	---	---	---	29	.151	.314	.641	0	---	---
3/25/77	HNL-LAX	356.	0	:00			---	---	---	---	55	.249	.485	.902	0	---	---
3/25/77	LAX-ORD	352.	0	:00			---	---	---	---	18	.270	.466	.688	0	---	---
3/25/77	ORD-SFO	367.	0	:00			---	---	---	---	23	.535	.862	.909	0	---	---
3/26/77	SFO-ORD	348.	22	2:44	:05		.048	.072	.125	.057	0	---	---	---	0	---	---
3/27/77	ORD-LAX	382.	28	3:06	:20		.059	.085	.120	.071	0	---	---	---	0	---	---
3/27/77	LAX-JFK	366.	30	3:43			.034	.053	.081	.046	0	---	---	---	0	---	---
3/28/77	JFK-LAX	377.	37	4:31	2:51		.093	.144	.192	.135	0	---	---	---	0	---	---
3/29/77	LAX-SEA	371.	12	1:36	:29		.068	.120	.168	.068	0	---	---	---	0	---	---
3/29/77	SEA-ORD	359.	21	2:32	1:16		.084	.134	.164	.087	0	---	---	---	0	---	---
3/29/77	ORD-LAX	374.	24	3:02	2:05		.106	.141	.188	.107	0	---	---	---	0	---	---
3/30/77	LAX-JFK	372.	28	3:28			.038	.056	.092	.045	28	.091	.114	.131	12	.378	.129
3/31/77	JFK-LAX	370.	42	5:11	3:31	:45	.159	.255	.377	.221	42	.335	.580	.854	29	.508	.233
4/ 1/77	LAX-SEA	365.	11	1:28	1:18	:13	.262	.321	.323	.262	10	.691	.742	.765	10	.389	.063
4/ 1/77	SEA-ORD	355.	17	2:25	2:15	1:25	.288	.380	.395	.324	18	.605	.841	.851	15	.471	.143
4/ 1/77	ORD-LAX	381.	25	3:10	2:45	1:20	.246	.349	.375	.305	25	.644	.923	.991	24	.374	.069
4/ 2/77	LAX-JFK	342.	29	3:46	2:40		.171	.249	.296	.234	29	.421	.709	.807	26	.472	.253
4/ 3/77	JFK-LAX	370.	34	4:41	4:16	:55	.216	.312	.411	.302	35	.605	.876	1.044	33	.363	.067
4/ 4/77	LAX-HNL	352.	31	4:02	:15		.052	.078	.145	.063	32	.092	.115	.151	14	.459	.156
4/ 4/77	HNL-SFO	357.	23	3:40			.048	.069	.099	.053	23	.104	.144	.223	11	.365	.132
4/ 5/77	HNL-SFO	359.	29	3:50			.054	.073	.095	.058	29	.122	.146	.171	24	.438	.147

CABIN AND AMBIENT OZONE DATA SUMMARY

AIRCRAFT: N4711U (747-100)

SOURCE: GASP TAPE VL0012

DATE	ROUTE	FL	CABIN OZONE								AMBIENT OZONE				CABIN/AMBIENT (FOR AMB >.1)		
				HOURS:MIN			PPMV					PPMV					
			ND	TOTAL	O3>.1	O3>.3	MEAN	M+SD	MAX	2HR	ND	MEAN	M+SD	MAX	ND	MEAN	SD
4/ 6/77	SFO-ORD	368.	22	2:41	:25		.077	.114	.171	.074	22	.181	.275	.386	16	.474	.295
4/ 7/77	ORD-LAX	370.	22	2:45	:55	:10	.106	.191	.377	.126	22	.143	.199	.238	17	.544	.319
4/ 7/77	LAX-JFK	381.	28	3:45	2:25	:30	.145	.236	.369	.205	30	.320	.493	.678	28	.473	.167
4/ 8/77	JFK-LAX	370.	32	4:25	2:25	:30	.139	.233	.322	.221	32	.319	.530	.746	29	.438	.116
4/ 9/77	LAX-SEA	371.	9	1:00	:50		.132	.192	.237	.132	9	.408	.627	.834	9	.358	.128
4/ 9/77	SEA-ORD	384.	20	2:34	1:15	:30	.154	.263	.389	.169	20	.287	.483	.723	18	.508	.172
4/ 9/77	ORD-LAX	375.	22	2:50	:34		.076	.106	.126	.087	22	.159	.226	.299	17	.462	.131
4/10/77	LAX-HNL	387.	30	4:25	1:55		.097	.158	.217	.133	31	.187	.313	.561	21	.557	.266
4/10/77	HNL-SFO	356.	17	3:42			.052	.074	.089	.054	17	.127	.174	.224	9	.347	.105
4/11/77	SFO-HNL	390.	28	4:10	1:10		.082	.117	.154	.086	27	.163	.240	.330	22	.496	.158
4/11/77	HNL-SFO	360.	27	3:45	:10		.043	.070	.127	.060	27	.100	.151	.239	7	.428	.324
4/11/77	SFO-ORD	368.	23	2:52	1:57		.147	.216	.266	.173	23	.321	.456	.539	21	.451	.109
4/12/77	ORD-LAX	391.	25	2:55	2:05	:25	.181	.279	.372	.238	25	.447	.723	.868	22	.454	.170
4/12/77	LAX-JFK	364.	31	3:54	1:05		.078	.133	.237	.106	31	.160	.274	.544	17	.459	.130
4/13/77	JFK-LAX	367.	33	4:20	:30		.067	.097	.163	.085	33	.148	.245	.471	21	.430	.104
4/14/77	LAX-HNL	354.	32	4:06	:10		.060	.086	.143	.069	33	.081	.100	.120	7	.627	.337
4/14/77	HNL-SFO	361.	32	3:55	:15		.045	.069	.132	.049	32	.090	.112	.133	12	.464	.233
4/15/77	SFO-HNL	344.	31	4:01			.036	.046	.063	.038	31	.079	.099	.112	5	.343	.051
4/15/77	HNL-SFO	363.	30	3:36	:04		.043	.060	.112	.046	30	.090	.103	.118	7	.462	.180
4/15/77	SFO-ORD	358.	22	2:50	:55		.090	.132	.192	.102	22	.184	.308	.639	14	.465	.235
4/16/77	ORD-LAX	383.	22	2:45	1:46		.112	.154	.230	.127	12	.164	.248	.370	9	.586	.214
4/16/77	LAX-HNL	345.	33	4:15			.034	.048	.078	.036	33	.076	.092	.105	1	.333	---
4/17/77	HNL-SFO	361.	14	1:40			.041	.058	.076	.041	14	.082	.095	.096	0	---	---
4/19/77	SFO-HNL	356.	36	4:25	:45		.075	.138	.264	.111	36	.144	.273	.528	11	.461	.164
4/20/77	HNL-LAX	370.	28	3:35	:10		.055	.081	.127	.064	29	.098	.150	.228	11	.501	.149
4/20/77	LAX-JFK	360.	29	3:50	1:15		.087	.139	.241	.122	30	.188	.328	.588	19	.481	.176
4/21/77	JFK-LAX	370.	33	4:06	1:35		.106	.162	.251	.140	33	.202	.407	.683	16	.444	.283
4/22/77	LAX-HNL	348.	35	4:24	:30		.059	.088	.148	.063	27	.099	.148	.343	9	.463	.118
4/22/77	HNL-LAS	353.	35	4:20			.030	.048	.090	.044	35	.079	.121	.208	9	.370	.088
4/22/77	LAS-LAX	227.	1	:00			.017	---	.017	.017	1	.046	---	.046	0	---	---
4/22/77	LAX-JFK	359.	30	3:50	:20		.053	.091	.219	.071	30	.128	.241	.465	14	.380	.152
4/23/77	JFK-LAX	367.	21	4:15	1:45		.088	.128	.182	.108	21	.215	.347	.495	18	.396	.253
4/24/77	LAX-HNL	354.	32	4:16	1:01		.062	.099	.169	.087	33	.137	.253	.396	10	.299	.116
4/24/77	HNL-LAX	335.	27	3:45	:25		.047	.079	.127	.064	27	.100	.178	.298	6	.365	.047
4/24/77	LAX-ORD	345.	8	2:40	1:10		.102	.169	.202	.129	8	.301	.596	.750	4	.395	.156

CABIN AND AMBIENT OZONE DATA SUMMARY

AIRCRAFT: N4711U (747-100)

SOURCE: GASP TAPE VL0012

DATE	ROUTE	FL	CABIN OZONE							AMBIENT OZONE				CABIN/AMBIENT (FOR AMB >.1)		
				HOURS:MIN			PPMV				PPMV					
			ND	TOTAL	O3>.1	O3>.3	MEAN	M+SD	MAX	2HR	ND	MEAN	M+SD	MAX	ND	MEAN	SD
4/24/77	ORD-LAX	378.	5	1:15	1:11		.139	.183	.191	.139	5	.265	.317	.313	5	.480	.099
4/25/77	LAX-HNL	353.	37	4:45	:10		.046	.077	.182	.054	38	.069	.088	.110	2	.395	.014
4/26/77	HNL-SFO	358.	27	3:25	:39		.064	.094	.126	.081	27	.085	.135	.199	9	.630	.202
4/26/77	SFO-HNL	353.	28	4:30			.055	.072	.098	.062	36	.121	.165	.205	14	.482	.085
4/26/77	HNL-LAX	368.	28	3:40	1:35	:10	.108	.181	.458	.138	28	.212	.270	.308	26	.520	.317
4/27/77	LAX-HNL	354.	33	4:35			.055	.071	.097	.065	29	.108	.132	.164	15	.439	.092
4/27/77	HNL-SFO	360.	27	3:23	:44		.073	.119	.193	.094	27	.147	.239	.365	12	.489	.137
4/28/77	SFO-ORD	353.	21	2:40	:10		.061	.082	.106	.068	21	.116	.168	.278	12	.510	.105
4/29/77	ORD-SEA	384.	24	2:60	1:60	:10	.128	.197	.320	.145	24	.284	.413	.575	23	.449	.115
4/29/77	SEA-ORD	373.	18	2:20	1:20		.101	.133	.151	.101	19	.233	.323	.419	16	.456	.153
4/29/77	ORD-SFO	376.	22	3:10	:15		.065	.099	.141	.084	22	.141	.203	.250	13	.457	.144
4/30/77	SFO-JFK	381.	29	3:55	2:05		.118	.194	.293	.169	29	.234	.381	.496	20	.542	.324
5/ 1/77	JFK-SFO	359.	34	4:25	1:30	:05	.102	.183	.316	.178	34	.218	.410	.622	17	.450	.148
5/ 1/77	SFO-HNL	367.	25	3:50	1:40		.091	.145	.190	.133	26	.165	.276	.416	13	.531	.159
5/ 2/77	HNL-SFO	359.	32	4:10	:15		.048	.065	.109	.054	32	.089	.122	.176	5	.417	.102
5/ 3/77	SFO-ORD	352.	17	2:45	:40		.086	.133	.211	.107	17	.183	.282	.446	13	.487	.138
5/ 4/77	ORD-SEA	382.	14	2:36	2:36	:21	.199	.268	.308	.230	14	.401	.519	.631	14	.530	.259
5/ 4/77	ORD-LAX	395.	23	3:01	:53		.096	.163	.286	.110	22	.161	.285	.520	13	.604	.226
5/31/77	SFO-HNL	381.	28	3:55			.030	.043	.052	.036	28	.067	.086	.107	1	.290	---
6/10/77	JFK-LAX	370.	20	3:04	:50		.092	.130	.194	.105	28	.135	.216	.329	11	.706	.318
6/10/77	LAX-HNL	351.	20	4:09	:14		.054	.078	.110	.064	20	.066	.093	.116	2	.412	.028
6/11/77	LAX-ORD	352.	18	2:30	:40		.085	.120	.173	.091	18	.154	.253	.396	13	.542	.322
6/12/77	ORD-SEA	393.	7	:55	:55		.226	.249	.256	.226	7	.447	.509	.508	7	.536	.113
6/12/77	SEA-ORD	344.	7	2:10	:05		.065	.094	.106	.071	7	.139	.212	.241	4	.387	.128
6/12/77	ORD-HNL	378.	15	2:00			.043	.054	.062	.043	0	---	---	---	0	---	---
6/13/77	HNL-SFO	361.	10	1:20	:40		.112	.176	.267	.112	10	.227	.371	.481	7	.451	.102
6/14/77	SFO-HNL	345.	15	4:04	:47		.078	.140	.204	.100	0	---	---	---	0	---	---
6/14/77	SFO-HNL	351.	16	3:23	:50		.071	.100	.131	.079	0	---	---	---	0	---	---
6/14/77	HNL-LAX	351.	7	:50			.043	.046	.049	.043	0	---	---	---	0	---	---
6/15/77	LAX-JFK	370.	21	2:53	:35		.057	.080	.112	.065	0	---	---	---	0	---	---

CABIN AND AMBIENT OZONE DATA SUMMARY — AIRCRAFT: N47110 (747-100)

SOURCE: GASP TAPE VL0014, FILE 2 — APPENDIX D; PAGE 4 OF 4

DATE	ROUTE	FL	CABIN OZONE								AMBIENT OZONE				CABIN/AMBIENT (FOR AMB >.1)		
				HOURS:MIN		PPMV					PPMV						
			ND	TOTAL	O3>.1	O3>.3	MEAN	M+SD	MAX	2HR	ND	MEAN	M+SD	MAX	ND	MEAN	SD
11/ 9/77	LAX-JFK	361.	29	3:35	:15		.044	.076	.190	.058	0	---	---	---	0	---	---
11/10/77	JFK-LAX	381.	29	4:18	:10		.028	.058	.101	.052	0	---	---	---	0	---	---
11/10/77	LAX-HNL	344.	37	4:35	:20		.037	.066	.131	.058	0	---	---	---	0	---	---
11/11/77	HNL-SFO	370.	27	3:33			.035	.055	.090	.036	0	---	---	---	0	---	---
11/11/77	SFO-JFK	378.	32	3:50	1:35		.087	.155	.234	.133	0	---	---	---	0	---	---
11/12/77	JFK-ORD	366.	9	1:00	1:00		.180	.220	.233	.180	0	---	---	---	0	---	---
11/12/77	ORD-LAX	370.	23	2:50			.038	.054	.076	.038	0	---	---	---	0	---	---
11/12/77	LAX-ITO	360.	33	4:20			.026	.041	.058	.031	0	---	---	---	0	---	---
11/13/77	ITO-LAX	360.	26	3:30			.032	.048	.075	.037	0	---	---	---	0	---	---
11/13/77	LAX-ORD	353.	20	2:30			.038	.094	.096	.044	0	---	---	---	0	---	---
11/13/77	ORD-LAX	365.	25	3:00	:05		.044	.066	.113	.046	0	---	---	---	0	---	---
11/14/77	LAX-HNL	369.	29	4:01			.040	.056	.070	.050	0	---	---	---	0	---	---
11/14/77	HNL-SFO	362.	29	3:46			.026	.037	.044	.032	0	---	---	---	0	---	---
ALL OBSERVATIONS			2320	315:03	80:37	7:30	.080	.152	.458	.324	2199	.205	.400	1.044	941	.465	.201