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FINAL REPORT
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The Study of Temporal and Vertical Ozone Patterns at Selected Locations in California

CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

AIR RESOURCES BOARD
Research Division

THE STUDY OF TEMPORAL AND VERTICAL OZONE PATTERNS AT SELECTED LOCATIONS IN CALIFORNIA

Final Report
Contract No. A132-165

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ABSTRACT

The California Clean Air Act requires that the Air Resources Board (ARB) address the issue of the transport of pollutants into air basins from other areas. Ozone is a secondary pollutant that cannot be traced to any specific source. However, one can track the transport of ozone and its precursors from an area in order to estimate the effect of such transport on air quality. In order to make an accurate assessment of ozone transport, it is necessary to know the vertical distribution of the ozone concentrations with time. In order to assess the transport of ozone into the Sacramento Valley, it is necessary to calculate the flux. This requires that the vertical ozone distribution be known. As a check of accuracy, it is also desirable to know the ozone concentration at several locations along the transport pathway.

The objective of the ARB-sponsored monitoring effort described in this report was to measure, in real time, the vertical distribution of ozone up to 1600 feet at Walnut Grove and the surface concentration at Sutter Buttes (at an elevation of 2300 feet). A second goal of the study was to investigate the possibility of using a single "switching" analyzer to perform monitoring at all levels by sequentially obtaining samples from each level.

Continuous ozone measurements were performed at Sutter Buttes using conventional ambient ozone monitoring equipment and methods. Ozone measurements at Walnut Grove were performed using two methods. First, each monitoring height at Walnut Grove had an ozone analyzer dedicated to continuous monitoring of ozone at that level, or a total of five "dedicated" ozone analyzers. Secondly, a sixth analyzer continuously "switched" from one sampling height to the next at two-minute intervals.

The sample residence times in the Teflon sampling lines for the monitoring equipment at Walnut Grove ranged from 45 seconds for the ground-level sampler to 7.5 minutes for the 1600-foot level. Following the conditioning of the sample lines, an assessment of ozone losses in these sample lines was made prior to field use of the lines. The lines appeared to lose a constant

12 ppb of ozone plus 1.8 percent of the measured concentration per 1000 feet of line. After field set up, line losses were checked over the course of the study. This testing showed the losses to be a relatively constant 3.7 percent loss at all concentrations, with virtually no constant loss (losses that were not a function of the input concentration). These latter data were considered more representative of actual ambient monitoring conditions and were used to make corrections to the "raw" monitoring results.

A second problem introduced by the long sample lines was a decrease in the sample pressure within the lines due to friction. Vacuums within each sample line at the Walnut Grove site were monitored. The "span number" for each analyzer was set at the ideal value used for analyzers at sea level and corrections for sample line pressure decreases were performed during data processing. The situation for the "switching" ozone analyzer was different. The "switching" ozone analyzer operated at different sample cell pressures as it switched from one sample line to the next. To avoid additional complicated monitoring and data processing procedures, a Dasibi Model 1008 ozone analyzer was used, which included an internal absolute pressure sensor and internal circuitry to automatically correct the analyzer readings to the appropriate value for the sample cell pressure.

During the approximately two months of monitoring performed at the Walnut Grove site, several instances of sustained high concentrations of ozone aloft were noted. On two occasions, the high concentrations aloft appear to have significantly contributed to ozone exceedances at the surface. In contrast, ozone concentrations at the lower three levels follow a strong diurnal trend, with low concentrations in the night and early morning hours rising to the concentrations at the upper levels in the late afternoon. These data reveal a layer of high ozone aloft which has the potential of persisting for many days. The spatial extent of this polluted layer is demonstrated by the data from the Sutter Buttes site for these periods. Concentrations at the 2300-foot level

approximately 50 miles north of the Walnut Grove site had similar high, sustained ozone concentrations. The most likely explanation for this phenomena is that high concentrations of ozone are being held aloft by a strong elevated inversion, and fumigated to the surface during the afternoon.

The data from the "dedicated" and "switching" ozone analyzers were compared to each other using linear regression plots for each sampling location at Walnut Grove. These plots demonstrated remarkably good agreement between the two measurement approaches throughout the monitoring range. The slopes were all within 7 percent of an ideal slope of 1.00, and the intercepts are all less than 6 ppb, falling within the project's agreement goal of 10 percent. These results are even more remarkable when it is remembered that the "dedicated" analyzers all had extensive pressure corrections applied to their data. To further put these results into perspective, if the "switching" analyzer was treated as a reference standard, all results would have met EPA criteria for audits.

Monitoring ozone in order to obtain vertical profiles is required in order to quantify the role of transport on ozone concentrations within an area. Long lines on a vertical tower provide a potential means of obtaining these measurements. Despite several complications inherent with this method, including line losses and sampling pressure changes, results indicate that long line sampling on a tower accurately provides these vertical measurements in a cost-effective manner. In addition, results indicate that this monitoring can potentially be performed using a single "switching" analyzer that sequentially samples each line, rather than multiple analyzers dedicated to each line. This alternative method could not only greatly reduce operating costs, but also eliminate any biases that may be encountered if multiple analyzers are used.

The importance of these measurements is demonstrated by the data obtained during monitoring. The vertical ozone profiles on several days show an elevated layer of high ozone concentrations over the Sacramento Valley. These data provided a mechanism for explaining ozone

exceedances at the surface that could not have been identified using only surface measurements. These data demonstrate the continued need for these types of measurements.

DISCLAIMER

The statements and conclusions in this report are those of the Contractor and not necessarily those of the State Air Resources Board. The mention of commercial products, their source or their use in connection with material reported herein is not to be construed as actual or implied endorsement of such products.

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Section 1

INTRODUCTION

1.1 OBJECTIVE

The primary objectives of this air quality project were to install air monitoring instrumentation at two locations in the Great Central Valley (Figure 1-1) for obtaining temporal and vertical profiles of ozone and to collect data during the summer of 1992. The data gathered will be used for ozone transport assessments required by the California Clean Air Act (CCAA). Ultimately, the data will also be used in real time by the Air Resources Board (ARB) for smoke management and for predicting air quality.

This report presents the findings from the measurements performed during the summer of 1992.

1.2 BACKGROUND

Previous ozone transport assessments, prepared by the ARB staff and contractors, have been hampered by the limited amount of upper-level meteorological and ozone measurements available. These upper air measurements will take on added importance when the ARB staff prepares the second phase of transport assessments required by the CCAA. This second phase will focus on the quantity of ozone and precursors transported in the affected air basins and possible mitigation measures.

1.3 SCOPE OF WORK

AeroVironment Inc. (AV) was contracted by the ARB to instrument two sites to monitor ozone concentrations and to relay ozone data to the ARB on a permanent, real-time basis to augment wind and temperature data currently being collected at the Walnut Grove location and available to the ARB on a real-time basis.

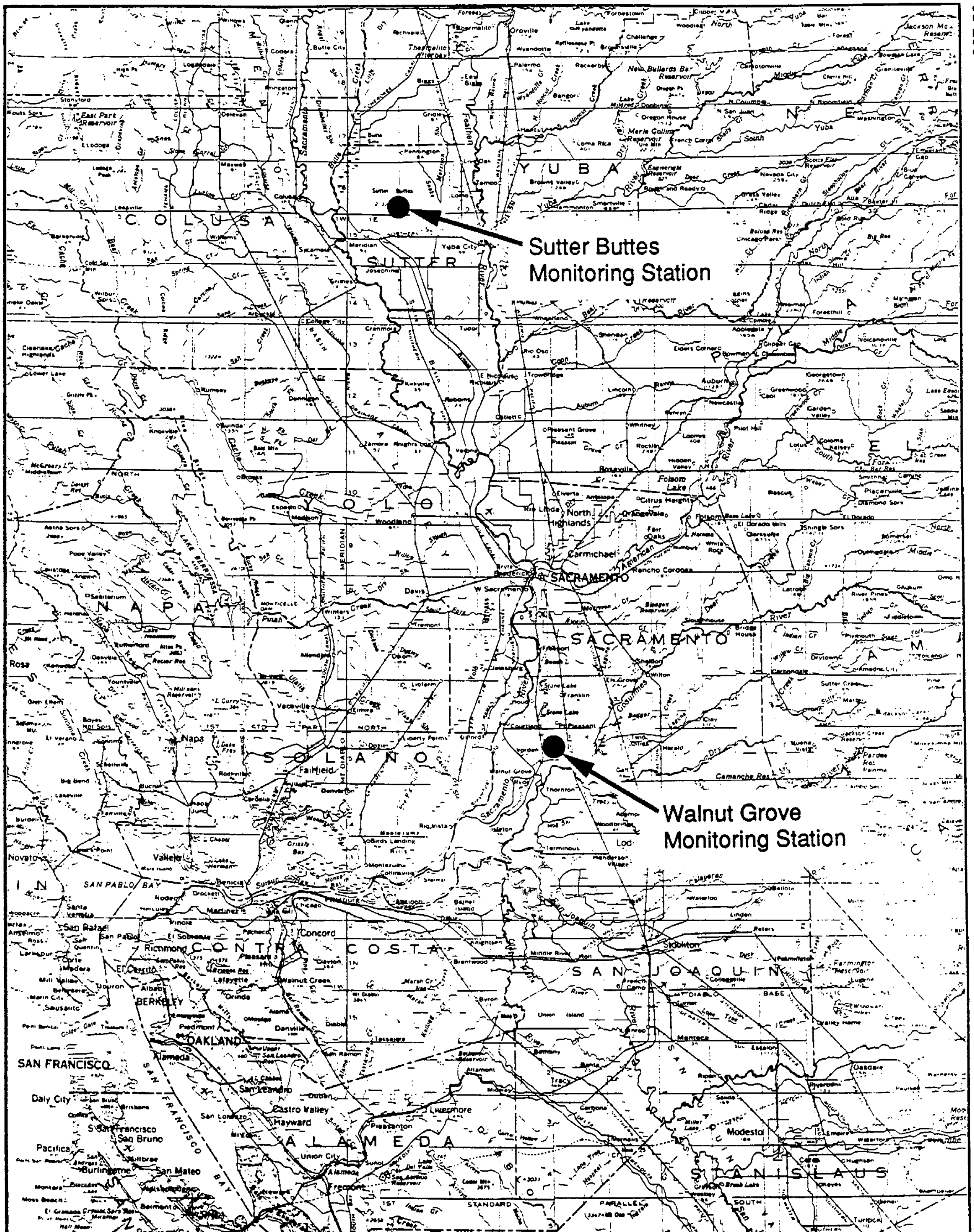

FIGURE 1-1. Regional map showing monitoring station locations.

AeroVironment Inc.

The measurement program included:

- Setup and operation of measurement equipment for the collection and processing of surface level (6-30 feet elevation) ozone data at Sutter Buttes (Figure 1-2) and collection of ozone data at surface level and four elevated levels (400, 800, 1200 and 1600 feet) at Walnut Grove (Figure 1-3).

- System and performance audits of this measurement system by AV's Quality Assurance Group.

- Data telemetry system for each site (via telephone lines and computer modem) for real-time remote access to the ozone data.

- Reporting the findings for the ozone measurements and reporting the audit findings for field measurements performed during the summer of 1992.

- Comparison of two ozone measurement methods at Walnut Grove: 1) the conventional ozone measurement method using dedicated ozone analyzers continuously, which measures ambient ozone and, 2) a "switching" ozone analyzer, which cycles ozone measurements from one sampling line to the next.

- Train ARB personnel on site operation and turn over the sites to the ARB.

The measurement program began in July 1992 and continued through 30 September 1992, at which time the equipment and operation were transferred to the ARB.

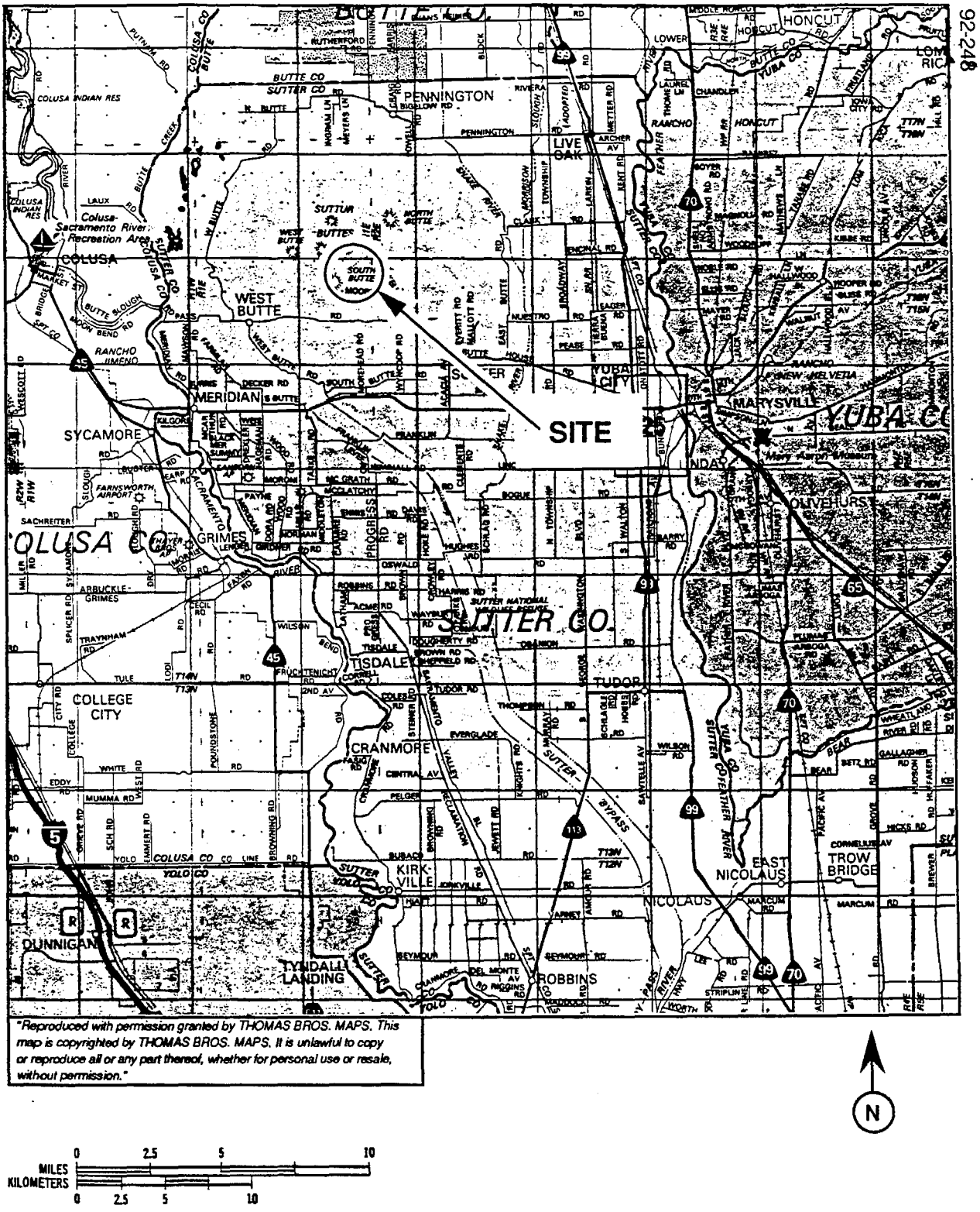

FIGURE 1-2. Area map showing location of monitoring station at Sutter Buttes.

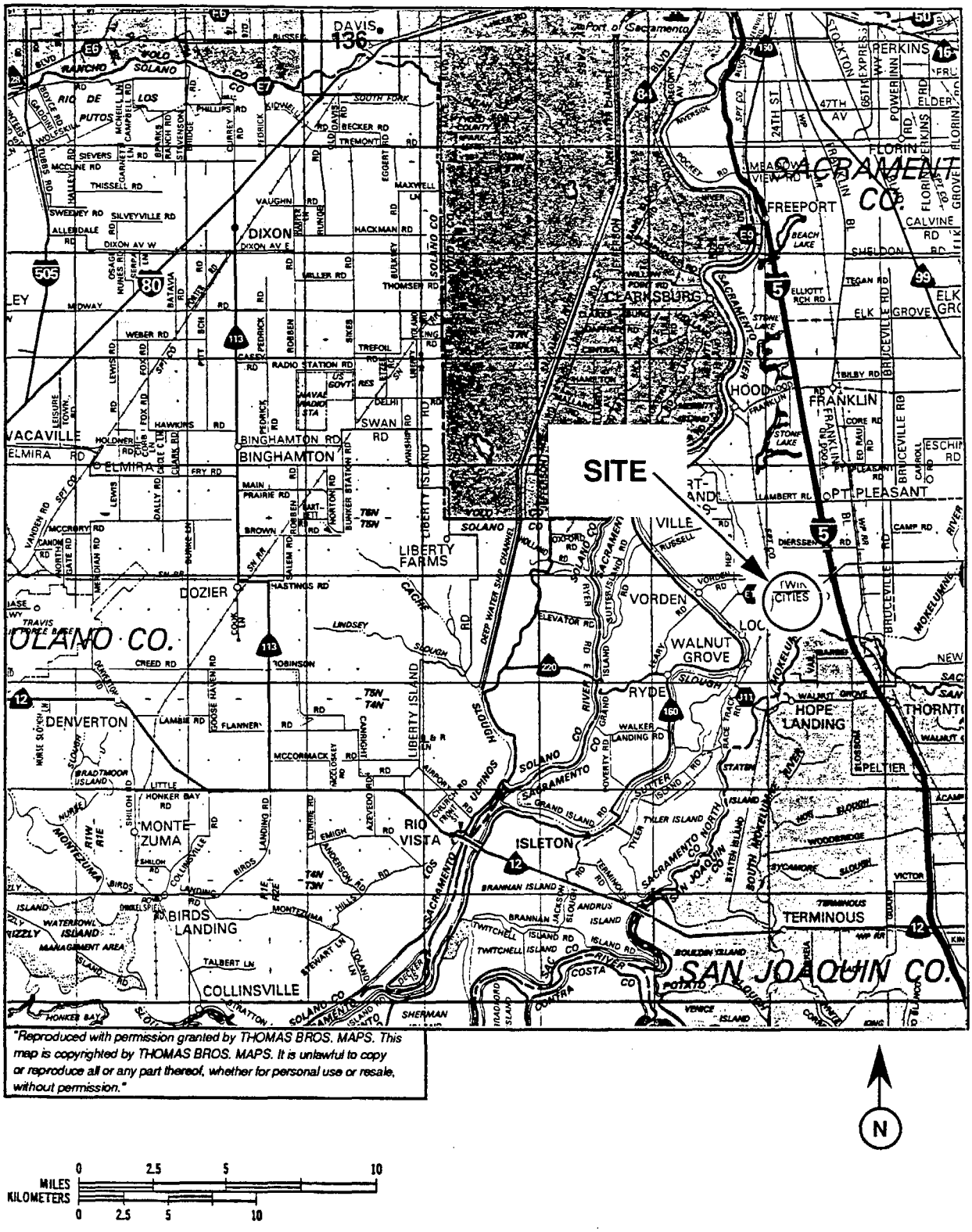

FIGURE 1-3. Area map showing location of monitoring station at Walnut Grove.

Section 2

MEASUREMENT PROGRAM

The sampling equipment and conditions present during the field study, along with the quality control procedures and quality assurance program used to perform the six tasks presented in the previous section, are described in this section.

2.1 SITE SELECTION AND DESCRIPTION

The ARB selected the sites because of the hilltop location of Sutter Buttes and the 2000-foot tall television tower at Walnut Grove. Both provide the unique characteristics of allowing measurement of ozone transport in the Great Central Valley.

2.1.1 Sutter Buttes

The Sutter Buttes monitoring site consisted of a heated and air conditioned building used for commercial communications equipment. Ambient air was drawn into the building by means of a 3/8-inch outside diameter type FEP Teflon sampling line with its inlet inverted one meter above the building roof. Air was drawn through the system by the ozone analyzer's sampling pump. The sampling residence time was approximately seven seconds, within the criteria recommended in the EPA guidelines for ambient ozone measurements (EPA, 1987a).

Data were scanned once per second and processed using an ESC data logger. The data logger used a running average processing program to calculate hourly averages from the scanned data. The data logger was initially polled via a personal computer during site visits. At the end of the summer study, a telephone link was completed which allowed remote access to the data logger via telephone and modem.

The ozone analyzer, data logger, chart recorder, and telephone modem were mounted in a 2' x 2' x 3' tall open frame instrument rack. The site's internal temperature and ozone data were recorded on the strip-chart recorder and data logger. A list of the equipment that was used at Sutter Buttes is shown in Table 2-1.

2.1.2 Walnut Grove

The Walnut Grove monitoring site consisted of a 2000-foot tall television transmission tower and adjacent communications building. The ozone monitoring equipment was placed in the communications building and five 5/8-inch outside diameter (OD), 9/16-inch inside diameter (ID) type FEP Teflon sampling lines ran up the tower to heights of 30 feet, 400 feet, 800 feet, 1200 feet and 1600 feet. The communications building was equipped with a heater/air conditioner system. On the inlet end of each of the 5/8-inch OD sample lines was approximately 10 feet of 1/4-inch OD FEP Teflon tubing, a 90-mm Mace Teflon filter holder with Millipore type LS filter media. The 1/4-inch Teflon sample inlet tube with an inverted funnel "shield" extended away from the tower and pointed downward to prevent rain water from entering the tube. The analyzer end of the sample lines were also approximately 10 feet of 1/4-inch OD FEP Teflon tubing that led into the communications building. Air was drawn through the sampling lines at a flow rate of 10 liters per minute (lpm) by a rotary vane sampling pump. Sample air was drawn from the sampling system to the analyzers at a flow rate of approximately 2.5 lpm by the ozone analyzers' sampling pumps. The ozone analyzers' exhausts were connected to the sampling system pump to exhaust the sample air from the building and to provide "vacuum assistance" to help pull the requisite sample flow rate from the relatively "high vacuum" long sample lines. The sampling residence time was approximately 45 seconds for the ground level sampling point and two minutes, four minutes, six minutes and eight minutes for the 400', 800', 1200' and 1600' sampling heights, respectively.

TABLE 2-1. Air quality monitoring methods and equipment used at Sutter Buttes.

Parameter	Sampling Method	Equipment	U.S. EPA-EMSL Reference or Equivalent Method Designation No.	Operating Range
Ozone O_3	Ultraviolet absorption	Dasibi Model 1008RS	EQOA-0383-056	0 to 0.5 ppm
Calibrator (zero-span)	Dilution of ozone from internal ozone generator	Dasibi Model 1008RS	N/A	0 to 0.5 ppm O_3.
Calibrator* (calibrations and precision checks)	Dilution of ozone from internal ozone generator + concentration reference	Dasibi Model 1003RS - Currently certified transfer standard	N/A	0 to 0.5 ppm O_3.
Data Acquisition	Data logger	ESC Model 8800	N/A	Full range of equipment
Printer	Dot Matrix	Epson LX-80	N/A	N/A
Data telemetry	2400 Baud Error Correcting Modem	Mulitech Series MT-224	N/A	N/A
Station Temp	Silicon/monolithic	AeroVironment		0-50^{o}C
Back-up data acquisition	Strip chart recorders	EA Model	N/A	Full range of equipment
Station	Concrete Commercial Communications building with A/C	N/A	N/A	N/A

The ozone analyzers, data logger, chart recorder, and telephone modem were mounted in a 2' x 2' x 6' tall instrument rack. The sample system pump was mounted in a 2' x 3' x 2' tall fan-cooled enclosure. The site's internal temperature and data from one ozone analyzer were recorded on a strip-chart recorder. These data, along with data from all of the remaining ozone analyzers, were recorded on an ESC data logger. A list of the equipment that was used at Walnut Grove is shown in Table 2-2.

2.2 AMBIENT OZONE MEASUREMENTS

2.2.1 Ozone Measurement Instrumentation

Continuous ozone measurements were performed at Walnut Grove using Dasibi Model 1003AHs with EPA equivalency designation number EQOA-0577-019. Continuous ozone measurements at Sutter Buttes and the "switching" ozone measurements at Walnut Grove were performed using Dasibi Model 1008RSs with EPA equivalency designation number EQOA-0383-056. Each monitoring height at Walnut Grove had: 1) an ozone analyzer dedicated to continuously monitoring the ozone at that level for a total of five "dedicated" ozone analyzers, and 2) a sixth analyzer continuously "switching" from one sampling height to the next, every two minutes in order to collect data to determine if the requisite measurements could be performed with one "switching ozone analyzer" instead of five dedicated ozone analyzers.

2.2.2 Field Data Logging and Processing

The data were processed and recorded at each site using ESC data loggers. The Sutter Buttes site data logger used ESC software version 3.5 (currently in use throughout the ARB measurement network) and the Walnut Grove site used ESC software version 5.03 (upgraded version which includes necessary commands for controlling valve switching required at the Walnut Grove site). At the end of each hour the data were recorded to the data loggers' internal memories. The memories of the data loggers were interrogated either on site using a laptop personal computer

TABLE 2-2. Air quality monitoring methods and equipment used at Walnut Grove.

Parameter	Sampling Method	Equipment	U.S. EPA-EMSL Reference or Equivalent Method Designation No.	Operating Range
Ozone continuous Monitoring at 30,400,800,1200 and 1600 feet	Ultraviolet absorption	Dasibi Model 1003AH	EQOA-0577-019	0 to 0.5 ppm
Ozone "switching" Monitoring at 30,400,800,1200 and 1600 feet	Ultraviolet absorption	Dasibi Model 1008RS	EQOA-0383-056	0 to 0.5 ppm
Calibrator (zero-span)	Dilution of ozone from internal ozone generator	Dasibi Model 1008RS	N/A	0 to 0.5 ppm O_3.
Calibrator* (calibrations and precision checks)	Dilution of ozone from internal ozone generator + concentration reference	Dasibi Model 1003RS - Currently certified transfer standard	N/A	0 to 0.5 ppm O_3.
Data Acquisition	Data logger	ESC Model 8800	N/A	Full range of equipment
Printer	Dot Matrix	Epson LX-80	N/A	N/A
Data telemetry	2400 Baud Error Correcting Modem	Mulitech Series MT-224	N/A	N/A
Station Temp	Silicon/Monolithic	AeroVironment		0-50^{0}C
Calibration and selected analyzer continuous monitoring	Strip chart recorders	EA Model	N/A	Full range of equipment
Station	2000' Television Transmission tower; Analyzers in adjoining air conditioned building.	N/A	N/A	N/A

(PC) at each station check or remotely polled using a telephone modem and remote computer. These polled data were screened for outliers and the results were sent to AV's project manager.

2.3 OZONE MEASUREMENTS USING LONG SAMPLING LINES (WALNUT GROVE)

2.3.1 Description of the Sampling System for Walnut Grove

As described in Section 2.1.2, the Walnut Grove tower was equipped with 5/8-inch outside diameter (OD) type FEP Teflon tubing. Five separate lines were used with inlets at 30, 400, 800, 1200, and 1600 feet above ground level. A pump was used to maintain a total flow of approximately 10 lpm through each sample line. This system provided the following advantages over attempting to place instrumentation at each monitoring height:

- There was no need to gain access to the tower, other than for changes of a sample line inlet filter, simplifying maintenance. (This was important since access to the tower was limited to one or two times per week.)

- Access to electrical power and telephone lines was greatly simplified.

- The existing air-conditioned communications building next to the tower base could be used instead of five less suitable enclosures located at various heights on the tower.

- Potential analyzer interference from the tower transmitter was eliminated. (We have found radio interference to be trouble when locating equipment on other programs when equipment is located too close to the transmitting antenna.)

- One analyzer could potentially be used to provide the necessary data, thus greatly simplifying operation and lowering maintenance costs. This approach was evaluated as part of the study.

For this study, each sample line was attached to a separate ozone analyzer meeting EPA equivalency in order to collect continuous data. In addition, a sixth analyzer was used to sample each of the lines sequentially over a ten-minute interval. The two objectives of this sixth analyzer were:

- To provide a quality control check of the analyzers dedicated to each sample line. This was important to accurately characterize the vertical distribution of ozone free from instrument drift. (Slight differences in instrument response could mask small deviations in ozone concentrations.)

- To evaluate the use of a single analyzer for all five elevations instead of a single instrument for each. If satisfactory data for determining vertical ozone distributions could be collected from the single analyzer, then the cost of station operation could be reduced significantly for the follow-on monitoring.

Figure 2-1 is a schematic for the ozone sampling system used at the tower at Walnut Grove. All the components exposed to the air sample were Teflon or stainless steel. AV assembled and tested the entire sampling system before it was installed. Since conditioning results in unquantifiable losses in ozone during routine sampling in the atmosphere (Baxter and Pederson, 1991), we conditioned the system before installing it in the field by exposing it to 1-5 ppm of ozone for several days. We then tested the sample lines to determine the ozone losses.

The sampling system was installed on the tower by a tower system subcontractor. Sample lines were taped to existing conduit where possible. All sample lines were checked for leaks by determining whether they could maintain a vacuum of 15 inches of mercury for a least fifteen

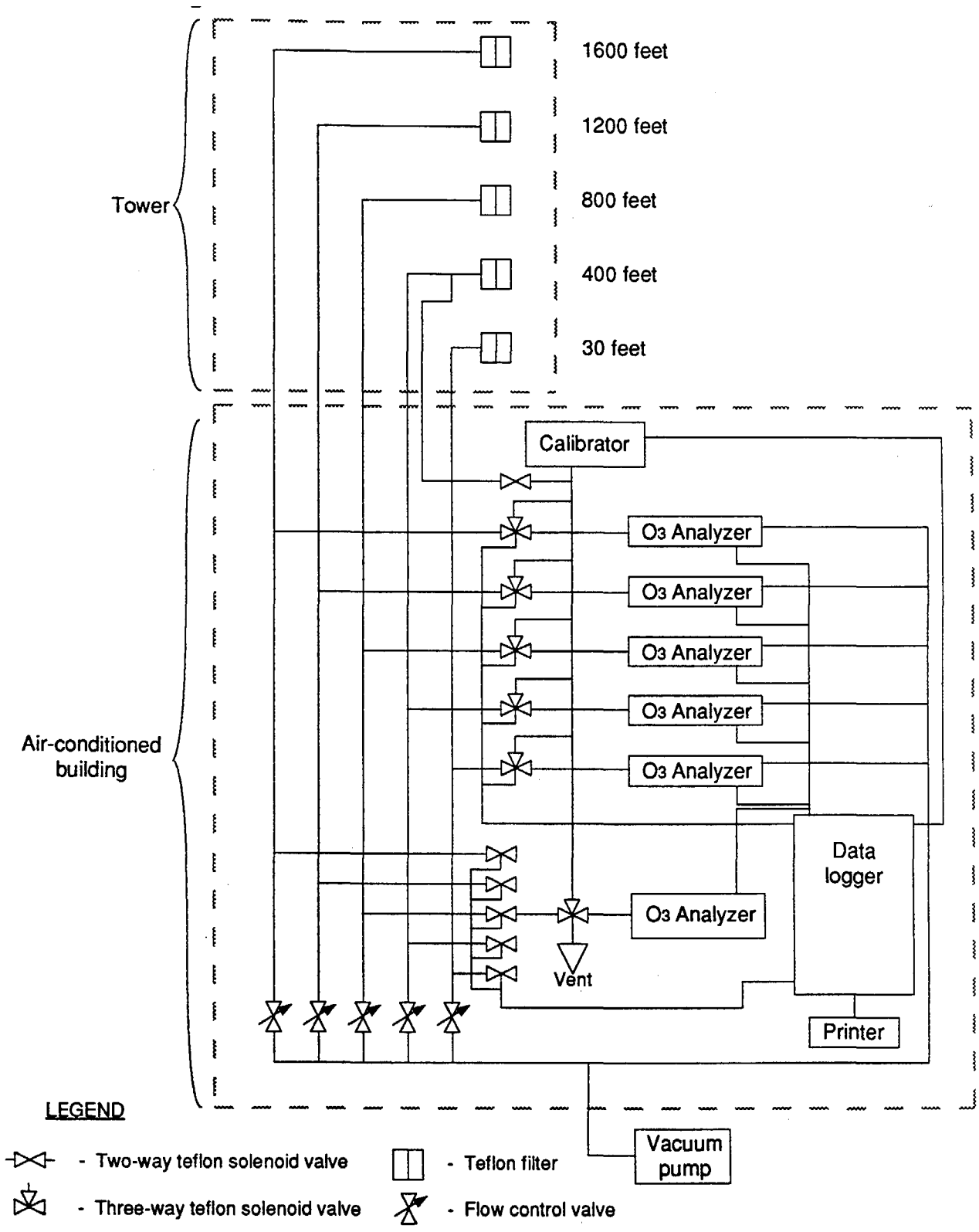

FIGURE 2-1. Schematic drawing of Walnut Tower Ozone Analyzer System installation.

minutes. The sample pressure at the sample inlets for each ozone analyzer was determined with the system in full operation. We used these vacuum drops to make pressure-temperature corrections to the ozone data so that the concentration of ozone at each elevation could be reported in units of micrograms per standard cubic meter.

2.3.2 Field Checks of the Sample System

The sample lines at Walnut Grove were tested for leaks during setup and after about six weeks of operation using the procedure described in the previous section.

In order to check for changes in ozone losses in the sample lines, an additional 5/8-inch OD FEP Teflon tube was run from the site calibrator to the sample inlet at the 400-foot level. Several times during the measurement program, calibration gas at the "precision" and "span" check concentration levels were run up the 400-foot calibrator check line and down the 400-foot sampling line for a total "sample run" of 1000 feet, including the two 100-foot runs from the tower to the analyzer. Line losses were noted in the checklist log.

2.4 SITE OPERATING PROCEDURES, QUALITY CONTROL CHECKS AND CALIBRATION

Site checks were performed weekly by an AV scientist ("site operator"). The site operator was previously trained and was quite familiar with general site operation procedures. Written site check procedures were included in AV's site operations manual for this project (AV, 1992c). Level II analyzer performance checks (automated zero-span checks) were performed every 24 hours. Level I zero, span, and precision checks were performed weekly by the site operator. Calibrations were performed at the beginning and end of the two-month field monitoring project.

2.4.1 Station Check Procedures

Station checks are performed during each site visit by the site operator following the format prescribed in the site operations manual. The site operator filled out the station check form during each site check.

The purpose of the station check was to ensure that the air monitoring stations were operating properly to provide adequate warning of developing equipment problems and to identify instrument problems.

During each station check, the site operator visually inspected the ambient air sampling inlet system, air sampling equipment, data loggers and chart recorders for proper operation.

The operating protocol for this program was for routine station operating problems such as jammed printers, chart recorders, etc., to be corrected immediately by the site operator. If the site operator was unable to correct the problem, the problem would be communicated to AV-Monrovia as soon as possible for repair assistance from our Monrovia staff. Due to the experience of our scientist used as the site operator, he was able to rectify all problems encountered without requiring assistance from AV-Monrovia.

Each station had a bound logbook for narrative comments concerning the station operation as well as maintaining a record of station visits. Although AV's typical operating procedures require that a logbook entry be made whenever a station shelter is entered, because we had been given permission by the site owners to use a small portion of a site which AV did not have access control, for this study, we required entries to our logbook just when the site was visited for purposes related to this ozone study.

2.4.2 Quality Control Checks and Frequency

The quality control checks included periodic operational checks of the field instruments by the site operator coupled with computerized data screening during data processing operations for outliers.

Each ozone analyzer was subjected to a zero and span check on a daily basis and a precision check on at least a biweekly basis. The zero and span check data were reviewed by the site operator either daily via computer-modem link or, prior to completion of the telephone link to the sites, during weekly site visits when data were directly transferred on site from the data logger to a "laptop" computer.

To perform zero and span checks, an artificial test atmosphere at zero and one span concentrations was introduced into each analyzer. The span gas concentrations were about 80 percent of the analyzer's nominal operating range. Precision checks were performed in the same manner as span checks, except the precision check concentration was about 20 percent of the analyzers' full-scale range. During these checks, the analyzers operated in their normal sampling mode. These test gases were introduced to the back of the ozone analyzers via a solenoid valve. The gaseous standards for the span and precision concentrations were obtained by an ozone generator with ozone concentration determined by a currently certified ozone transfer standard.

The zero and span data were used to determine whether the analyzers were in need of adjustment and to evaluate the validity of the data obtained. The precision data were used to calculate analyzer precision per the EPA protocol (EPA, 1987a). Further details regarding the use of zero and span data are included in the QAPP (AV, 1992b).

2.4.3 Calibration Procedures and Frequency

Calibrations establish data accuracy and data comparability by ensuring traceability of the transfer standards to higher quality standards such as the EPA and ARB reference calibration methods. They also verify instrument operation and response. The requirements for calibration of air quality instruments have been specified by the EPA (EPA, 1987b) and the Air Resources Board (ARB, 1978).

A Dasibi 1003 RS ozone analyzer/calibrator/transfer standard was used for the calibrating system. Prior to use, and at quarterly intervals for the duration of the field program, in accordance with EPA protocol (EPA, 1979), the unit's ozone measurements were recertified against AV's primary standard in our Monrovia facility. Working standards documentation for all of AV's transfer standards are maintained in a central file at the AV-Monrovia office.

At the beginning and end of the field study, the site operator performed a multipoint calibration of each air quality analyzer. The site operator also performed two additional calibrations during the course of the summer study when two analyzers were replaced. Further details regarding the calibrating protocol are provided in the QAPP (AV, 1992b).

2.5 PREVENTATIVE MAINTENANCE

All instruments were bench tested prior to field deployment. Except for sample inlet filter changing, no routine instrument maintenance was scheduled or performed during the two-month field study.

2.6 TRAINING

The site operator was an AV scientist with many years of experience operating air quality equipment. His previous training and experience applicable to performing the field duties included the following areas:

(a) station check procedure and operation
(b) equipment maintenance (e.g., inlet filter changing, sample cell cleaning, and pump replacement)
(c) record keeping
(d) data logger operation and programming
(e) modem operation

2.7 DATA REDUCTION AND VALIDATION

The objective of the data processing and validation effort was a quality controlled data base containing the ozone data in a consistent format. The procedures that AV has implemented for data processing and validation ensure that reported data are valid and comparable to those collected by federal, state and local air pollution agencies. These procedures meet the requirements and guidelines of the Environmental Protection Agency (EPA, 1984, 1987b). The validation process included:

1) checking log book entries against the data reports to verify that proper codes had been entered during instrument "down" periods

2) verifying that data reported were collected when the instruments were within acceptable operating boundaries—based on daily zero and span check data

3) sampling level to sampling level (at Walnut Grove) and site-to-site data were checked against each other to verify that intrasite and intersite ozone data "tracked" each other within expected boundaries.

A further description of these data processing and validation procedures for this program, and the special data handling operations we performed for the measurements performed at Walnut Grove, are discussed in detail in the QAPP (AV, 1992b).

2.8 PERFORMANCE AND SYSTEM AUDITS

Quality assurance (QA) was performed by AV's QA department. AV's QA department operates independent of AV's field measurements and data processing groups. QA for this project included both a system audit and a performance audit. The system audit included checking that the work plan procedures were being followed and that sampler placement was appropriate for collecting the intended data. The performance audit determined the accuracy of the monitoring

equipment. It included performance checking each ozone analyzer by introducing known O_3 span gas concentrations through the entire sampling system and observing the instrument responses. Further description of the audit and the findings are presented in a separate audit report (AeroVironment, 1992d).

Section 3

RESULTS

3.1 SAMPLING PERIODS

Samples were collected at Sutter Buttes over a period of 84 days beginning on 14 July 1992 and continuing through 7 October 1992. Samples were collected at Walnut Grove over a period of 62 days beginning on 7 August 1992 and continuing through 7 October 1992.

3.2 OZONE DATA PRECISION, ACCURACY AND COMPLETENESS

3.2.1 Ozone Data Precision

Method precision was determined from the precision checks. Precision was calculated using the method presented in the EPA PSD guidelines (EPA, 1987a). These precision calculation equations and a description of the terms are shown below.

Each ozone analyzers' sample precision was determined using Equation 3-1.

$$d_i = \frac{Y - X}{X} \times 100\% \qquad (3\text{-}1)$$

The average precision was determined using Equation 3-2.

$$d_j = \frac{1}{n} \Sigma d_i \qquad (3\text{-}2)$$

The standard deviation and upper and lower 95 percent probability limits were determined using Equations 3-3 through 3-5.

$$S = [(1/(n-1)) * [(\Sigma d_i^2) - ((1/n) * (\Sigma d_i)^2)]]^{0.5} \qquad (3\text{-}3)$$

Upper 95 percent probability precision limit = $d_j + 1.96S$ (3-4)

Lower 95 percent probability precision limit = $d_j - 1.96S$ (3-5)

where

d_i = individual precision check percent difference
d_j = average precision check percent difference
Y = analyzer response
X = true input concentration

The precision values calculated for each sampling level and site are shown in Table 3-1. Except for the ±19 percent upper and lower precision values obtained at Sutter Buttes, the precision values obtained at all monitoring locations were within the ±15 percent criteria presented in the QAPP.

3.2.2 Ozone Data Accuracy

Accuracy is the difference between the analyzer response and the reference value obtained during the multipoint instrument audit. Accuracy was calculated using the following equation:

$$\text{Accuracy} = \frac{Y - X}{X} \times 100\% \quad (3\text{-}6)$$

where:

Y = analyzer value
X = the true concentration as determined by the audit

Based on the performance audit performed 25-26 August 1992, the accuracies for the ozone measurements made at the six monitoring locations varied from -20 to 0 percent, all but two of the analyzers passing the EPA criteria of 15 percent for slope and 3 percent for intercept (EPA,

TABLE 3-1. Ozone monitoring accuracy, precision and completeness.

Site	Accuracy		Precision		Completeness
	Slope (ratio)	Intercept (ppm)	LPL (percent)	UPL (percent)	(percent)
Sutter Buttes	0.994	0.002	-19	19	94
Walnut Grove (30 feet)	1.009	-0.001	-5	11	93
Walnut Grove (400 feet)	0.890	0.009	-10	5	96
Walnut Grove (800 feet)	0.886	0.009	-3	4	96
Walnut Grove (1200 feet)	0.956	0.021	1	11	96
Walnut Grove (1600 feet)	0.809	0.022	0	15	92

1987b). (The analyzers that did not pass the audit were the analyzer monitoring the 1200-foot level at Walnut Grove (intercept of 0.021 ppm) and the analyzer monitoring the 1600-foot level at Walnut Grove (slope of 0.81 and intercept of 0.022 ppm).)

These two analyzers were rechecked after the audit by the site operator. He found that the pressure drop in the 1600-foot sample line was greater than the analyzer's auto-pressure-drop correction capability. We changed to a larger sample inlet filter which decreased the sample line pressure drop to within the analyzer's pressure correction range. The ozone analyzer measuring ozone at 1200 feet appeared to have an above zero response to zero air. After the audit, the site operator placed a charcoal filter on the sample inlet and observed that the analyzer's response was acceptable. Hence, we believe the auditor had trouble making ozone-free air when auditing this analyzer.

The findings from the performance audit are summarized in Table 3-1. A complete description of the audit and the audit findings are included in the audit report (AV, 1992d).

3.2.3 Ozone Data Completeness

For the field sampling, completeness was calculated as the ratio of acceptable measurements obtained to the total number of planned measurements. This ratio does not include downtime due to routine zero, span or precision checks, calibrations or audits. The data completeness varied from 92 to 96 percent for the six ozone measurement locations. The data completeness for each sampling level and period is shown in Table 3-1. The data completeness at all locations exceeded the 80 percent completeness goal presented in the QAPP (AV, 1992b).

3.3 OZONE DATA SUMMARY

The continuous data were processed into hourly averages and are presented in the appendix by parameter and month.

Section 4

DATA ANALYSIS AND CALCULATIONS

4.1 SPATIAL AND TEMPORAL OZONE PROFILES

The results of this monitoring program reveal the importance of multilevel monitoring of ozone. During the approximately two months of monitoring performed at the Walnut Grove site, several instances of sustained high concentrations of ozone aloft were noted. On two occasions, the high concentrations aloft appear to have significantly contributed to ozone exceedances at the surface. These two periods were August 26 through 28 and September 27 through 29.

Figures 4-1 and 4-2 present the ozone data surrounding these two periods. These plots indicate that ozone concentrations at the 1200-foot and 1600-foot levels remain high throughout the days for periods lasting up to three days. In contrast, ozone concentrations at the lower three levels follow a strong diurnal trend, with low concentrations in the night and early morning hours rising to the concentrations at the upper levels in the late afternoon. This data reveals a layer of high ozone aloft which has the potential of persisting for many days. The spatial extent of this polluted layer is demonstrated by the data from the 2300-foot elevation Sutter Buttes site (which is approximately 60 miles north of Walnut Grove) for these periods (Figures 4-3 and 4-4).

The most likely explanation for this phenomena is that high concentrations of ozone are being held aloft by a strong elevated inversion. Temperature data recorded on the Walnut Grove tower for the August period (Figure 4-5) depict these inversion layers. During the night and morning hours, vertical mixing between the surface and the elevated layer ceases, and ozone in the lower layers is scavenged by the surface, resulting in low concentrations. In contrast, the ozone in the elevated layer is protected from this scavenging, and concentrations remain high and relatively

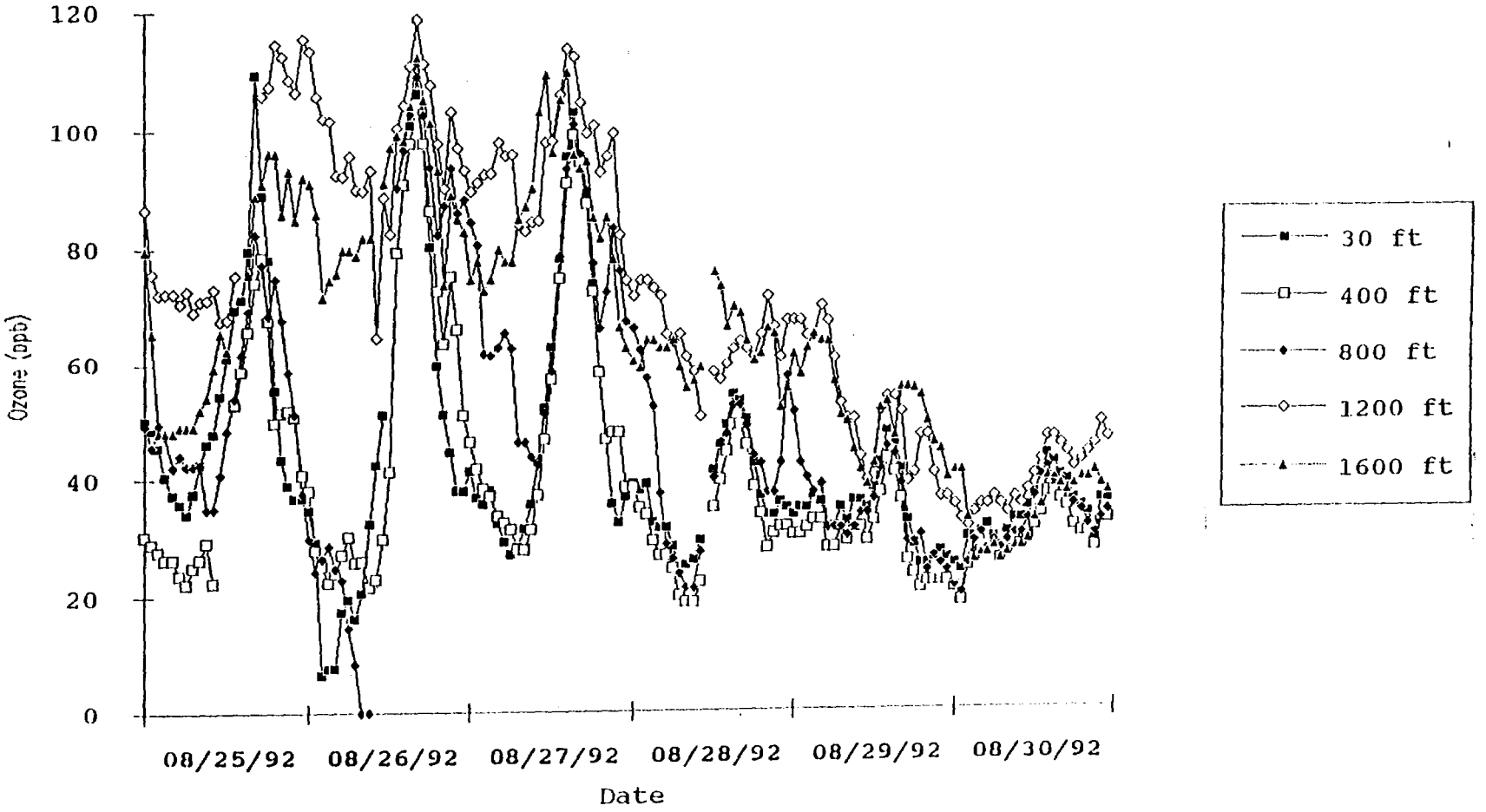

FIGURE 4-1. Time line of elevated ozone levels observed during August at Walnut Grove.

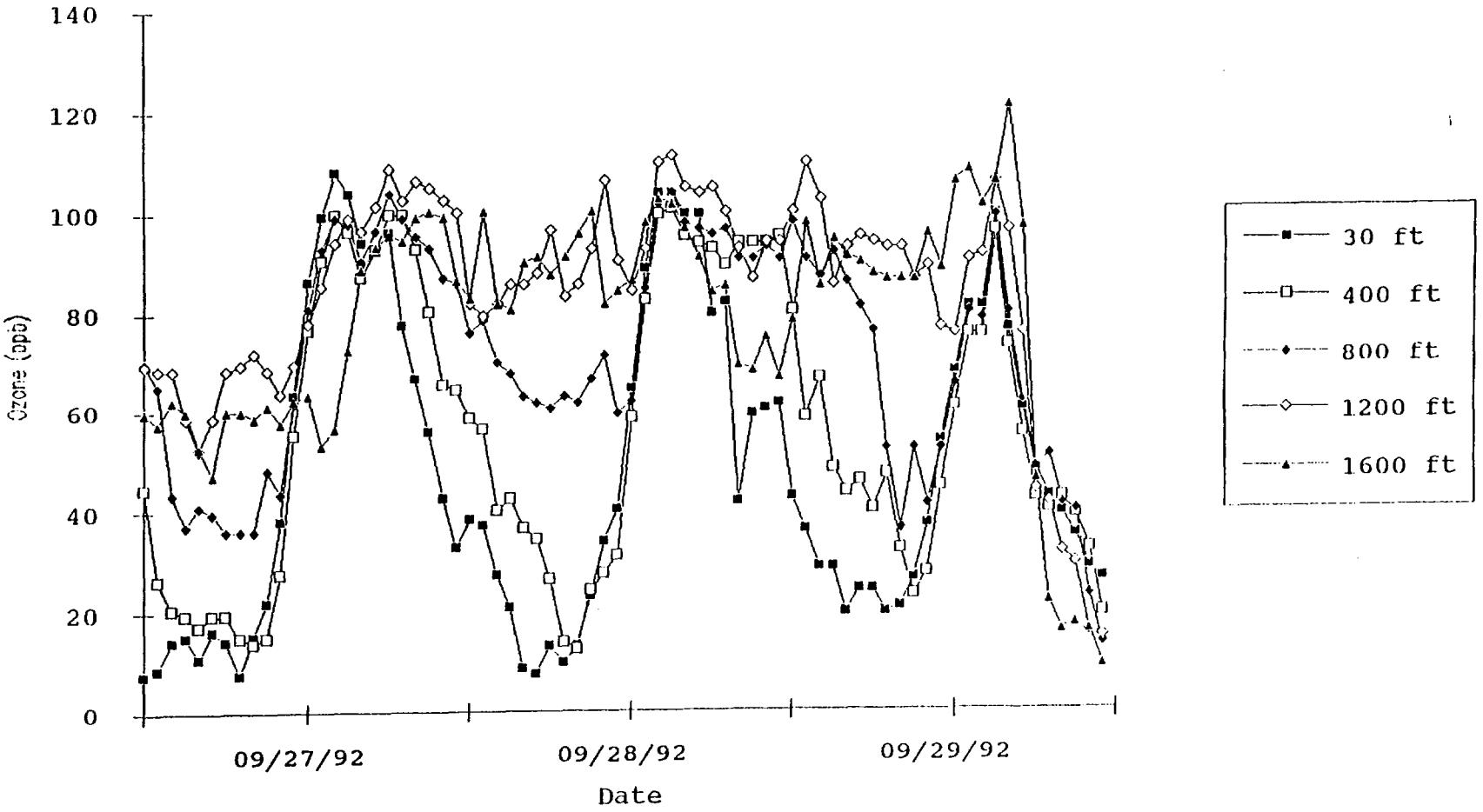

FIGURE 4-2. Time line of elevated ozone levels observed during September at Walnut Grove.

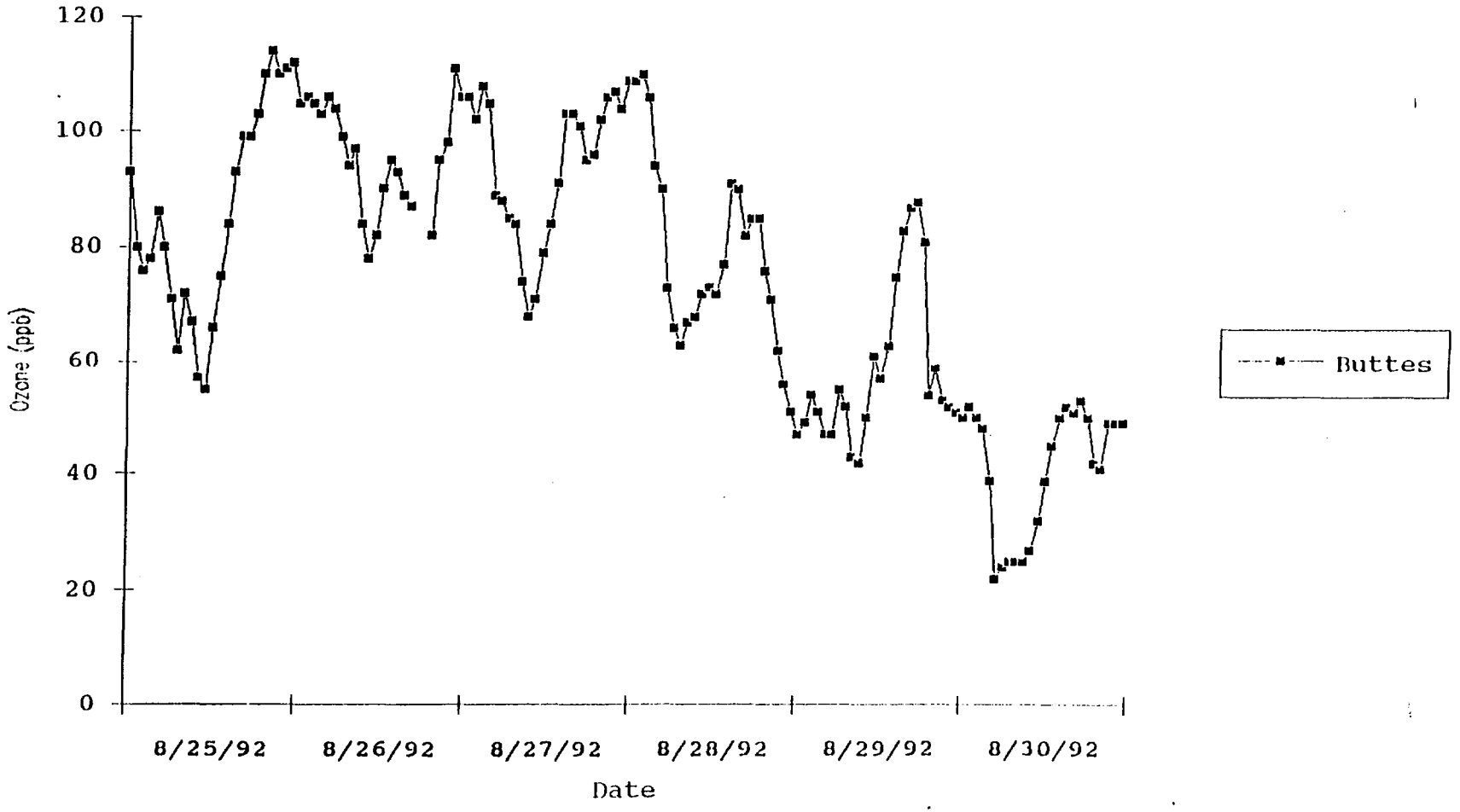

FIGURE 4-3. Time line of elevated ozone levels observed during August at Sutter Buttes.

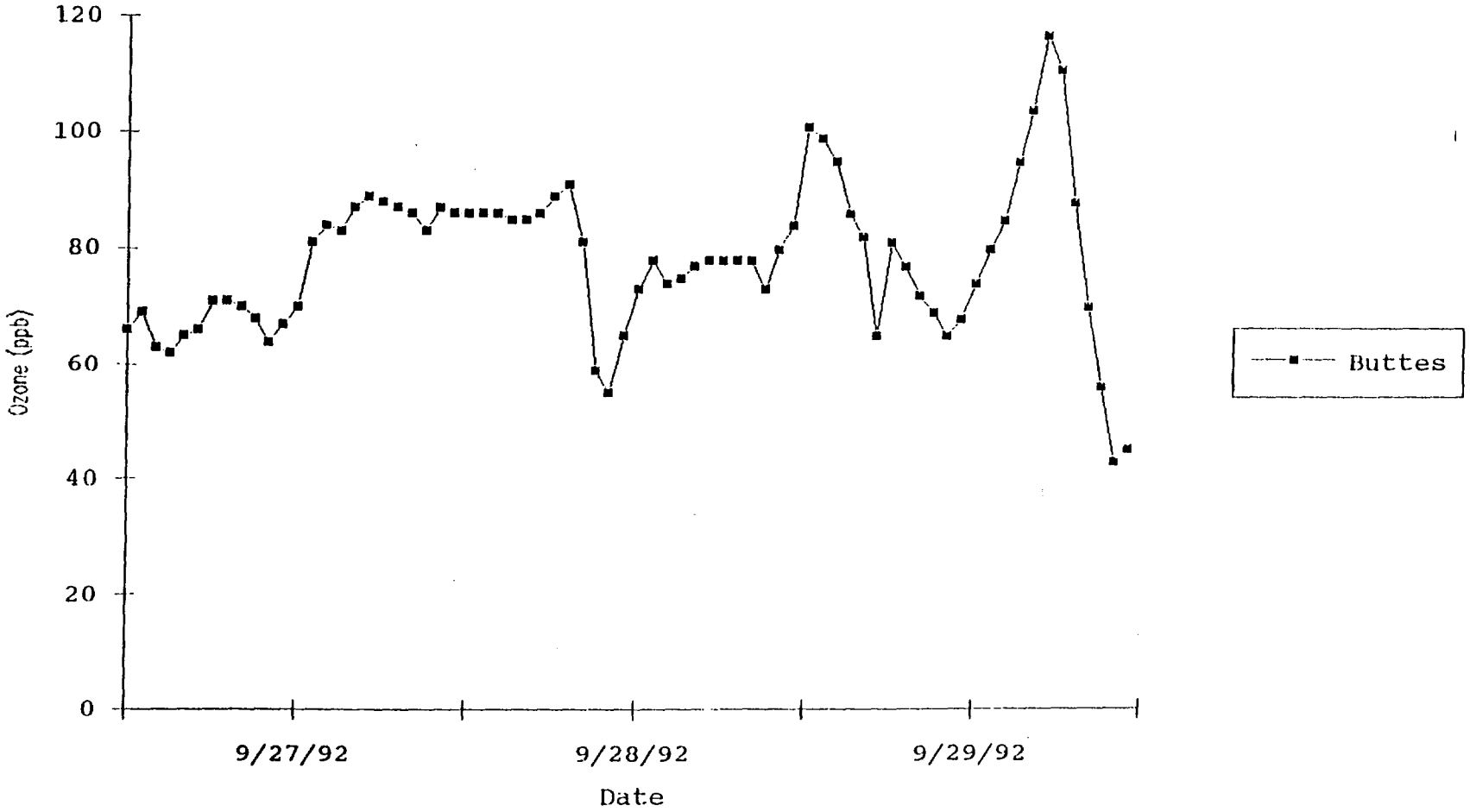

FIGURE 4-4. Time line of elevated ozone levels observed during September at Sutter Buttes.

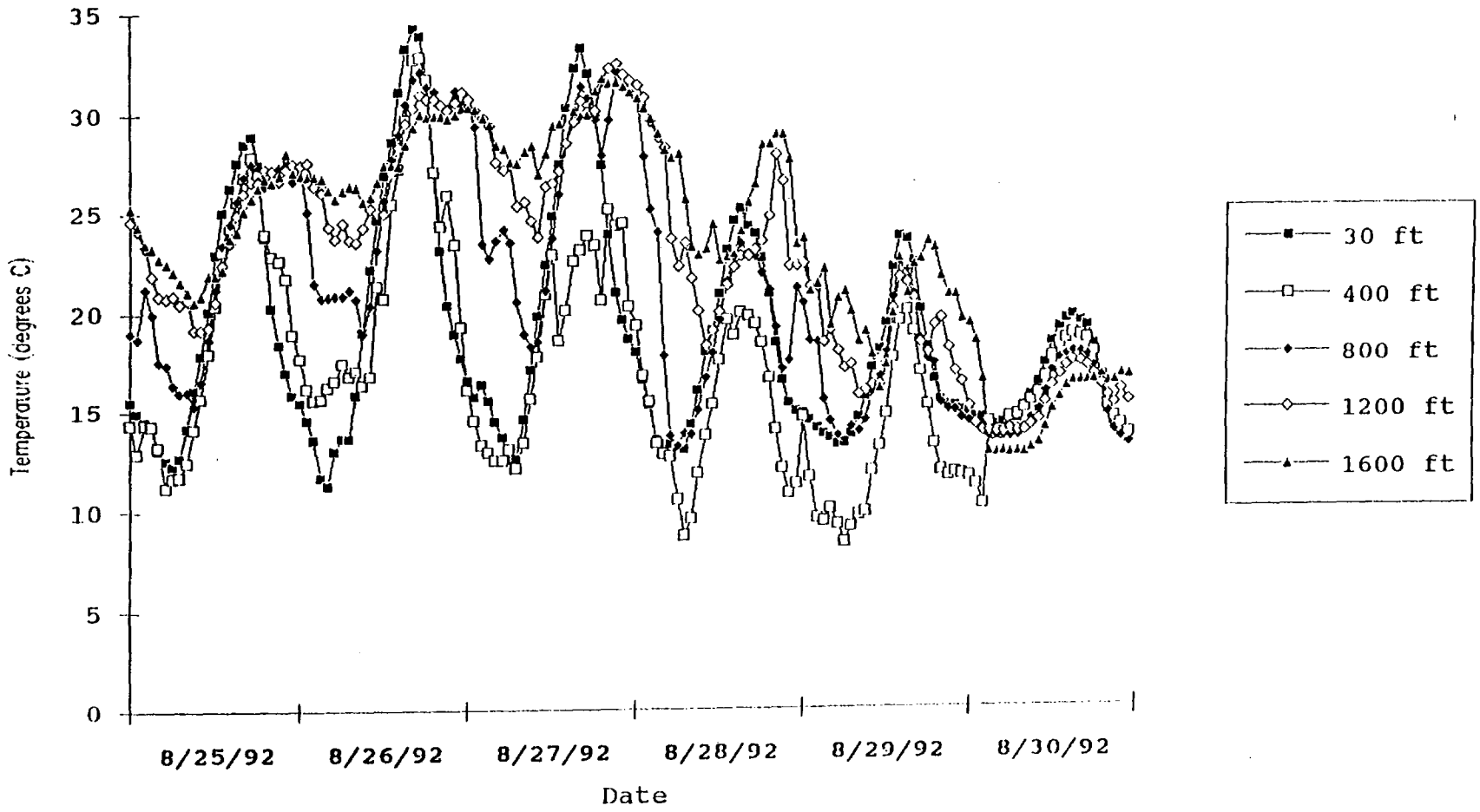

FIGURE 4-5. Time line of temperature data during elevated ozone periods at Walnut Grove during August.

fixed. During the afternoon, the surface layers heat to temperatures equal to or greater than those in the elevated layers, and air from the surface is allowed to mix with the air in the elevated layer. The strength of the morning inversion on exceedance days is greater than $10^{o}C$. As the strength of the morning elevated inversion decreased, the strong separation between surface and elevated air masses weakens, and the layer disappears.

4.2 SPECIAL OPERATING, DATA PROCESSING AND DATA INTERPRETATION FOR WALNUT GROVE

Because the ozone analyzers for all five sampling heights were placed at the same location (in a building at the base of the 2000-foot tower), from a cost savings standpoint, it is desirable to use one ozone analyzer which switches ozone measurements from one sample line to the next in lieu of five separate analyzers. Since switching measurements from one level to the next presents a significant variation from the routine ozone measurement protocol, we included a collocated measurement study as part of our ambient measurements study at the Walnut Grove site. One system included a set of five ozone analyzers measuring continuously from the five sampling heights. A second collocated system consisted of one ozone analyzer, five solenoids and special data processing for sequentially measuring each of the five sampling heights. The sample switching process and data processing for the "switching" measurement system are described below.

These ozone measurement systems deviated from conventional PSD compliance (EPA, 1987a) ambient measurement systems in the following two ways:

1) The ambient sample residence time in the sample lines was up to 25 times the maximum time recommended in the PSD guidelines.

2) One of the two ozone measurement systems we used at this site to determine hourly averages was based on a digital data scanning frequency that was significantly different from the rate that is normally used for air quality monitoring programs.

These deviations from the PSD guidelines and normal ambient operating procedures were used because of the unique measurement challenges that the 2000-foot tall tower ozone monitoring system presented. The system that was used was designed using our experience from previous sampling programs using long sampling lines (Baxter and Pederson, 1991; Baxter, 1983). The following subsections present the system testing, data analysis and additional data processing steps this program included for the Walnut Grove site, beyond the steps that would be necessary for systems adhering to PSD monitoring recommendations.

4.2.1 Ozone Losses in "Long" Sampling Lines

The Teflon sampling lines for the monitoring equipment at Walnut Grove vary from 100 feet for the ground level monitor (ground level sampling height plus a 100-foot horizontal run from the tower to the communications building housing the ozone analyzers) to 1700 feet for the 1600-foot sampling point on the 2000-foot tower. At the 10 lpm sample purge rate we selected for these lines, the sample residence time anticipated in these lines varied from thirty seconds for the ground level sampler to eight minutes for sampling from the top of the tower. Actual residence times were determined during the audits by noting the time that audit concentrations were input into the sample system and the time when the analyzer responded to the input concentrations. Using this method, sample residence times ranging from approximately 45 seconds for the ground level sampler to 7.5 minutes for the 1600-foot level were calculated.

The above sample residence times are all longer than the 20 seconds recommended by the EPA (EPA, 1987a). Since the residence time is not within the time period that the EPA recommends, line losses of ozone were assessed prior to field use and periodically over the length of the field program.

Five sampling lines, each 1000-foot long, were procured for this program. The sample lines were conditioned at AV-Monrovia by passing 5 ppm of ozone through the lines at a flow rate of 10 lpm for a period of 24 hours. Teflon inlet filters were used on the lines to prevent particulate matter from entering the sampling lines, both during the conditioning and during ambient sampling, minimizing potential ozone scavenging.

Following the conditioning of the sample lines, each sampling line was challenged with ozone levels of 150, 200 and 450 ppb. The flow rate through the sample lines was 10 lpm, the same as we plan to use during the actual monitoring program. Table 4-1 presents the results of this investigation. Based on these results, the losses appear to have a linear relationship with ozone concentration consisting of two components. The first component ("b" value in a $y = mx + b$ equation) represents a "constant ppb loss," not related to concentration. The second component ("m" value) represents a constant percentage of ozone lost. Based on these results, the lines appeared to lose a constant 12 ppb of ozone plus 1.8 percent of the measured concentration per 1000 feet of line. Assuming that ozone loss is also a linear function of line length, the following equation would therefore be used, with an estimated "m" of 0.018 and a "b" of 12 ppb.

$$ppb_{actual} = \frac{l}{l_o} [ppb_{measured}(m) + b] + ppb_{measured} \quad (4\text{-}1)$$

where

l = length of sample line (feet)

l_o = 1000 feet; the length of sample line we will use prior to set up to assess ozone losses

The above results and correction equation, however, create problems when dealing with low concentrations, where the "b" constant can begin to play a significant, if not dominating, role in the measured concentration. This is particularly true for the upper-level measurements. In addition, it was noted during monitoring that ambient concentrations were almost always below

Table 4-1. Ozone losses in sample line.

	Ozone Input (ppm)	Ozone Output (ppm)
Conditioned line losses prior to field use	0.459	0.439
	0.204	0.191
	0.146	0.132
	0.087	0.073
Line losses during middle of field study	0.201	0.192
	0.141	0.135
	0.078	0.074
	0.017	0.014
	0.000	0.000

NOTE: For both cases, line lengths were 1000 feet.

the concentrations at which the lines were tested, questioning the representativeness of the test data.

During installation of the monitoring system on the tower, an additional sample line was installed from the instrument rack to the 400-foot level and "tee'd" into the sample inlet at that level. During ambient monitoring, this second line was capped off and was not involved in the sampling. However, to further investigate line losses, the second line was used to loop concentrations of ozone up to the 400-foot level and back again to the analyzer through the ambient sampling line. Such tests were performed on two days, with an emphasis placed on investigating line loss at lower ozone concentrations. The results of these tests are presented in Table 4-1. These results show a uniform 3.7 percent loss for all concentrations, with virtually no constant offset ("b"). Since these data were considered more representative of actual ambient monitoring conditions and handled corrections of low concentrations cleaner, all monitored concentrations were increased by 4 percent per 1000 feet of line length to account for line loss. Correction of the data were performed using Equation 4-1 above, with "m" equal to 1.037 and "b" equal to zero.

4.2.2 Sample System Pressure Corrections

Another problem introduced by the long sample lines is a decrease in the sample pressure within the lines due to friction. The sampling system at Walnut Grove includes five 5/8-inch OD FEP Teflon sampling lines drawing ambient air down from sampling heights of 30', 400', 800', 1200', and 1600, each at a flow rate of 10 lpm as shown in Figure 2-1. At the base of the instrumentation rack, the sample lines are decreased to the 1/4-inch OD standard diameter used for air quality instrumentation. These 1/4-inch OD sample lines pass through an array of tees and data logger controlled solenoids which allow one aliquot of the sample air from each of the five lines to go to their respective "dedicated" ozone analyzer, and when the data logger controlled solenoids open, a second aliquot of sample air to be drawn to the "switching" ozone analyzer.

All of this tubing and hardware can create vacuum within the sample line relative to ambient conditions, which can significantly affect the response of the ozone analyzers. The Dasibi ozone analyzer measures the quantity of ozone present in a fixed-volume sample cell. The "part per billion" output from the Dasibi ozone analyzer is based on the ozone measured in the sample cell and atmospheric pressure data. In order to obtain the correct "ppb" concentration value, the sample pressure present in each analyzer's sample cell must be accounted for. For the typical model 1003 Dasibi ozone analyzer, the pressure datum is manually input as the instruments "span number" during site set-up based on the average conditions at the site. This was the procedure used in setting up the analyzer at the Sutter Buttes.

Vacuums with each sample line at the Walnut Grove site were measured during each site visit. Significant pressure drops in the sample lines were noted which caused the sample pressure to be significantly less than atmospheric pressure. During the initial phases of the ambient monitoring at Walnut Grove, 47-mm filters were installed at each of the sample inlets. These inlet filters, combined with friction caused by the sample tubing, created pressure drops within the sample systems ranging from 5" Hg, when new clean filters were present, to 15" Hg when the filters became dirty. At 15" Hg, the sample pumps for the analyzers are incapable of pulling a sample. Unfortunately, these 47-mm filters became dirty after only about three days of use, resulting in frequent trips up the tower to change the inlet filters in order to continue to collect valid data. To alleviate this problem, the 47-mm filter systems were replaced with 90 mm filter systems. These systems reduced the vacuum within the sample lines to a relatively constant 2" to 4" Hg, with little change in the vacuum with time due to loading. (The 90-mm filter media were changed biweekly.)

Based on the vacuum measurements performed during the site visit, vacuums within the sample line did not appear to be necessarily a function of line length. With clean filters, the vacuums measured for each level were typically within approximately 1" Hg of each other, and variations

did not always correlate with the length of the sample line. Rather, it appears that the pressure drops were due to the inlet filters, plumbing hardware, and the 1/4-inch tubing at either end of the sample lines.

Regardless of the cause of the pressure drops, the decreases in sampling pressure needed to be accounted for in one way or another. For the "dedicated" analyzers, one approach would be to set the "span number" for each analyzer based the measure sampling pressure for each analyzer. The rapidly changing sample pressures noted at the beginning of the monitoring made this impossible. Consequently, the "span number" for each analyzer was set at the ideal value of 5520, the "span number" used for analyzers at sea level (ARB, 1978). Corrections for sample line pressure decreases were therefore performed during processing of the ambient data. The situation for the "switching" ozone analyzer is different. The "switching" ozone analyzer operated at different sample cell pressures as it switched from one sample line to the next. In order to obtain the correct ozone concentration for each sample line using a Dasibi 1003 analyzer, it would be necessary to reset the analyzer's "span number" each time it switches from one line to the next. Since this is not possible, additional data processing steps would need to be added to "correct" the switching analyzer's raw data output for pressure changes, including the continuous monitoring of sample line pressures. Therefore, instead of using a model 1003, we used a Dasibi model 1008 ozone analyzer, which includes an internal absolute pressure sensor and internal circuitry to automatically correct the analyzer readings to the appropriate value for the sample cell pressure. Ideally, model 1008 analyzers could have been used for the "dedicated" analyzers, eliminating the need for further pressure related corrections. However, budget constraints and the ready availability of model 1003 analyzers prevented this.

For data obtained from the model 1003 analyzers, the corrections for the pressure changes were made using the following equation:

$$\text{Corrected ppb} = \frac{29.92}{P_a} \times \text{Raw ppb} \qquad (4\text{-}2)$$

where:

P_a = Actual sample line pressure measured during checks in "Hg, and

Raw ppb = The analyzer reading, after applying any calibration corrections (slope and intercept corrections from the analyzer calibrations)

It should be noted that the pressure/temperature corrections for the Dasibi Model 1008RS analyzer are not guaranteed to be accurate below 0.8 atmospheres, as stated in the manufacturer's operating manual. To investigate this further, an ozone analyzer was taken to the 1600-foot level and simultaneous readings from this analyzer and the "dedicated" analyzer (which at the time was the model 1008) for this level were compared. Operating under a sampling pressure of 0.8 atmospheres, the readings from the two analyzers were nearly identical (less than 1 percent difference). However, when the sampling pressure was decreased to 0.7 atmospheres, the "dedicated" model 1008 read over 10 percent lower than the analyzer on the tower. For this reason, data obtained by the model 1008 when the sampling pressure was less than 0.8 atmospheres was considered invalid.

4.2.3 "Switching" Method Hourly Averages

"Switching" hourly averages were obtained in the following manner. Every two minutes, solenoids within the sample system would switch, allowing an aliquot from the next level to be sampled by the Model 1008 analyzer. The first minute of this two-minute period was used to allow the analyzer to adapt to changes in concentration and sample pressure. The second minute was used to obtain a one-minute average for that level. The cycle continued until each of the five levels was sampled, resulting in a ten-minute cycle period. Thus, six one-minute averages were obtained each hour. At the end of the hour, the data logger stored an average of the six one-minute averages. Further discussions regarding the switching program, line purging and sample processing are included in the project's QAPP (AV, 1992b).

4.2.4 Comparison of Switching Versus Nonswitching Ozone Analyzer Data

One objective of this investigation is to determine if an ozone analyzer sampling just one minute of data every ten minutes could be used to calculate a viable hourly average value. A two-step approach was used to assess if this sampling frequency was viable.

The first step (which was performed prior to preparing the proposal to perform this study) was to look at the sources, sinks and transport of ozone and to subjectively assess if any of these factors were likely to result in ozone concentration changes that would be "missed" by sampling just one minute out of every ten minutes. The Walnut Grove site is rural, several kilometers from significant sources of reactive hydrocarbons and oxides of nitrogen from which ozone is created/destroyed. Hence, short-term changes in the ozone concentration at Walnut Grove were expected to be controlled predominantly by changes in wind direction. Although there may be variations in the wind direction during the ten-minute "switching" ozone analyzer cycle period (especially at very low wind speeds), it was assumed that the source of the air mass reaching the ozone sensors during a ten-minute period would not change significantly from one area of the Great Central Valley to another.

The second step to assess the "switching" ozone analyzer approach was to compare the "switching" ozone analyzer data to conventional, dedicated analyzer data. The Walnut Grove site included a set of five ozone analyzers dedicated to continuously monitoring the five sampling heights and the "switching" ozone analyzer. The hourly average data from these two monitoring methods could be compared to determine if the switching analyzer approach is viable at Walnut Grove. Each day, 120 pairs (24 hours * 5 sampling heights, assuming 100 percent data capture) of data were collected using the switching and dedicated ozone analyzers. These data have been used to determine if there are statistically significant differences between the "switching" and "conventional" monitoring approaches. The EPA Ambient Air Specific Methods (EPA, 1987b) accuracy criteria of 1 ± 0.15 for slope and 0 ± 3 percent for intercept

(also the criteria used by AV for this study) was selected by AeroVironment as the basis for determining differences; if the two approaches are found to have differences less than these acceptable accuracy boundaries, then they will be considered as equivalent measurement approaches for determining ozone concentrations at the Walnut Grove site.

Figures 4-6 through 4-10 compare the measurements between the the measurement approaches. These scatter plots demonstrate remarkably good agreement between the two measurement approaches throughout the monitoring range. Table 4-2 presents the linear regression statistics for the plots. The slopes are all within 7 percent of an ideal slope of 1.00, and the intercepts are all less than 6 ppb. These results are even more remarkable when it is remembered that the "dedicated" analyzers all had extensive pressure corrections applied to their data. To put these results into perspective, the EPA allows analyzers audited by a reference standard to deviate by up to 15 percent for the slope and 15 ppb for the intercept relative to the standard. In addition, the EPA accepts audit results with a correlation greater than 0.9950. By these criteria, the "switching" approach provides an accurate duplication of the measurements obtained using five separate "dedicated" analyzers at Walnut Grove.

When reviewing the linear regression results, one should also note that there is no apparent pattern in the observed biases. Therefore, it seems probable that the biases are not due to any variables introduced by the length of the lines, such as line loss or sample pressure corrections, which should become more apparent with increased line length. Rather, the biases appear to be due to variations in response between the individual "dedicated" analyzers. This demonstrates an additional advantage in having one analyzer perform the monitoring for all levels—the relative response for measurements at all levels is guaranteed. This, combined with the additional benefits of lower maintenance costs and the ability to have pressure/temperature corrections at all levels at a low cost, make the "switching" approach very attractive.

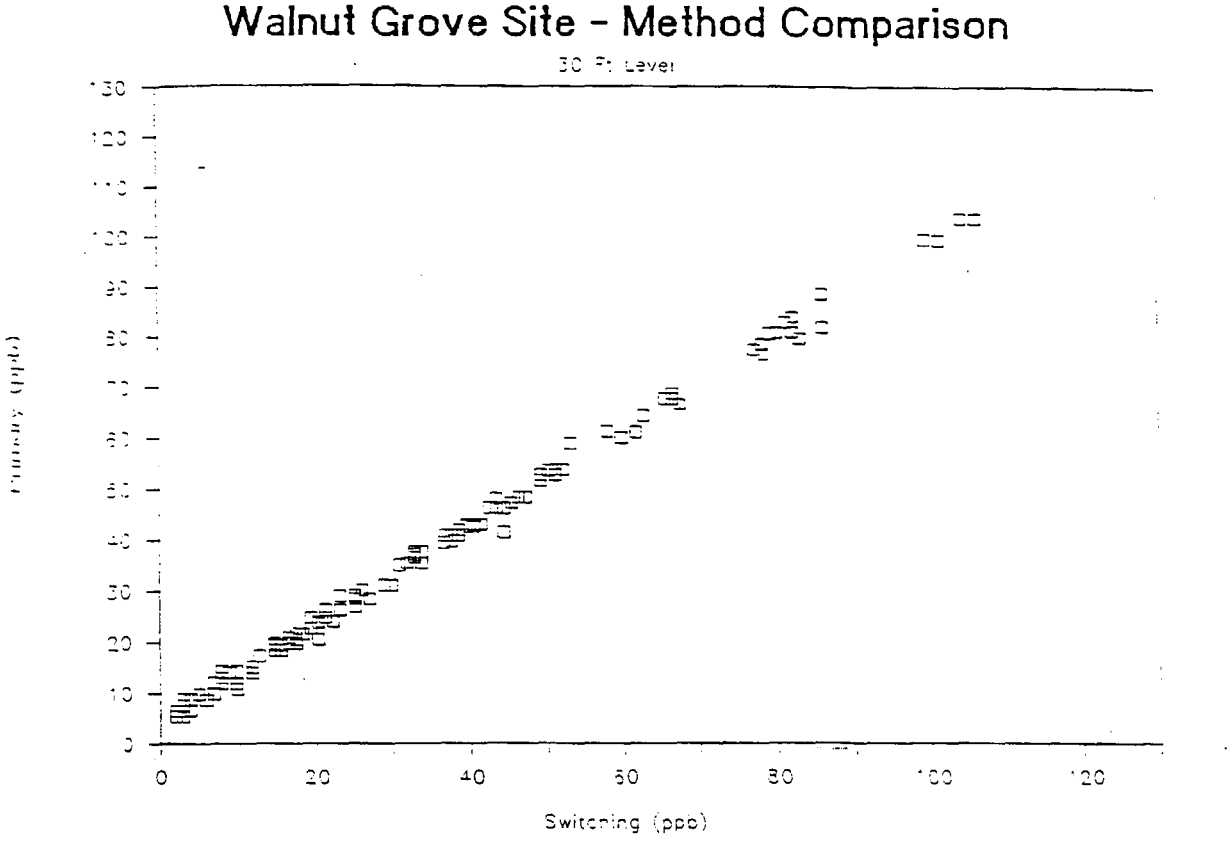

FIGURE 4-6. Comparison of "switching" and "conventional" ozone analyzer data at 30-foot level.

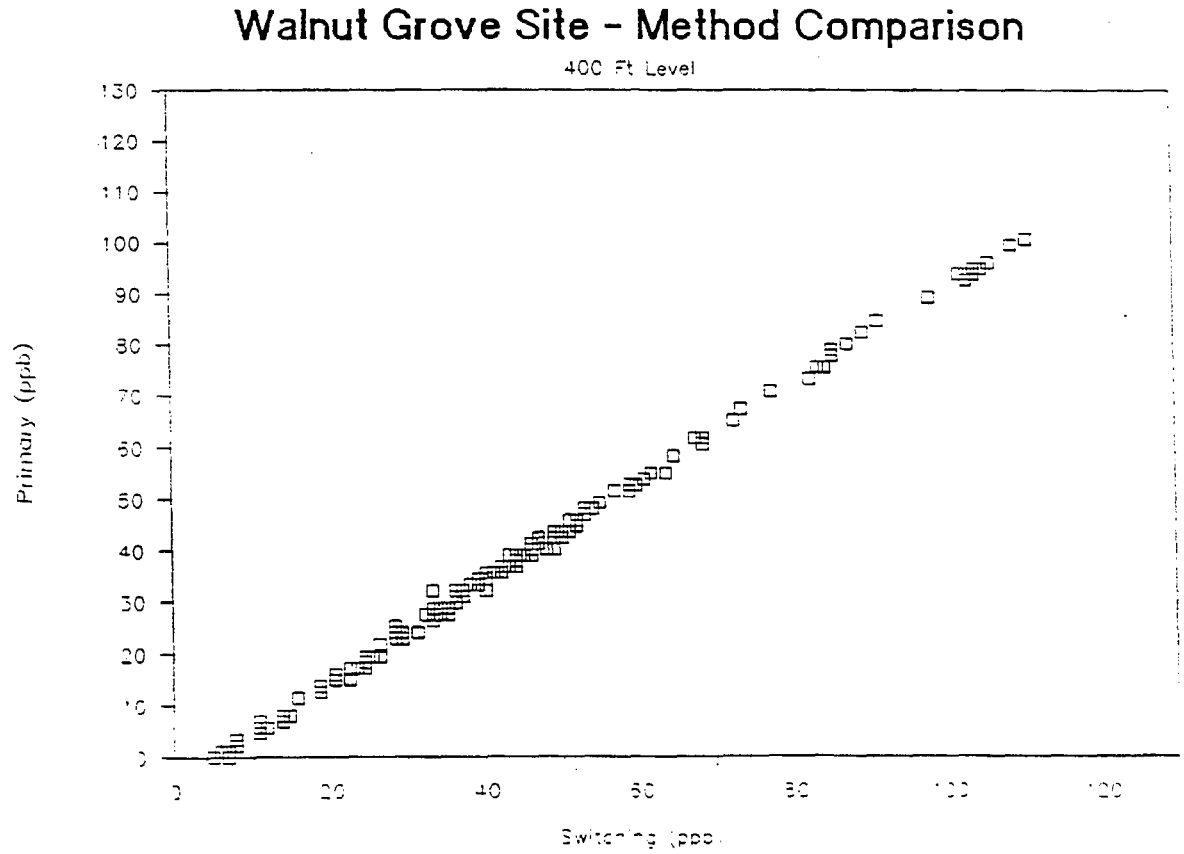

FIGURE 4-7. Comparison of "switching" and "conventional" ozone analyzer data at 400-foot level.

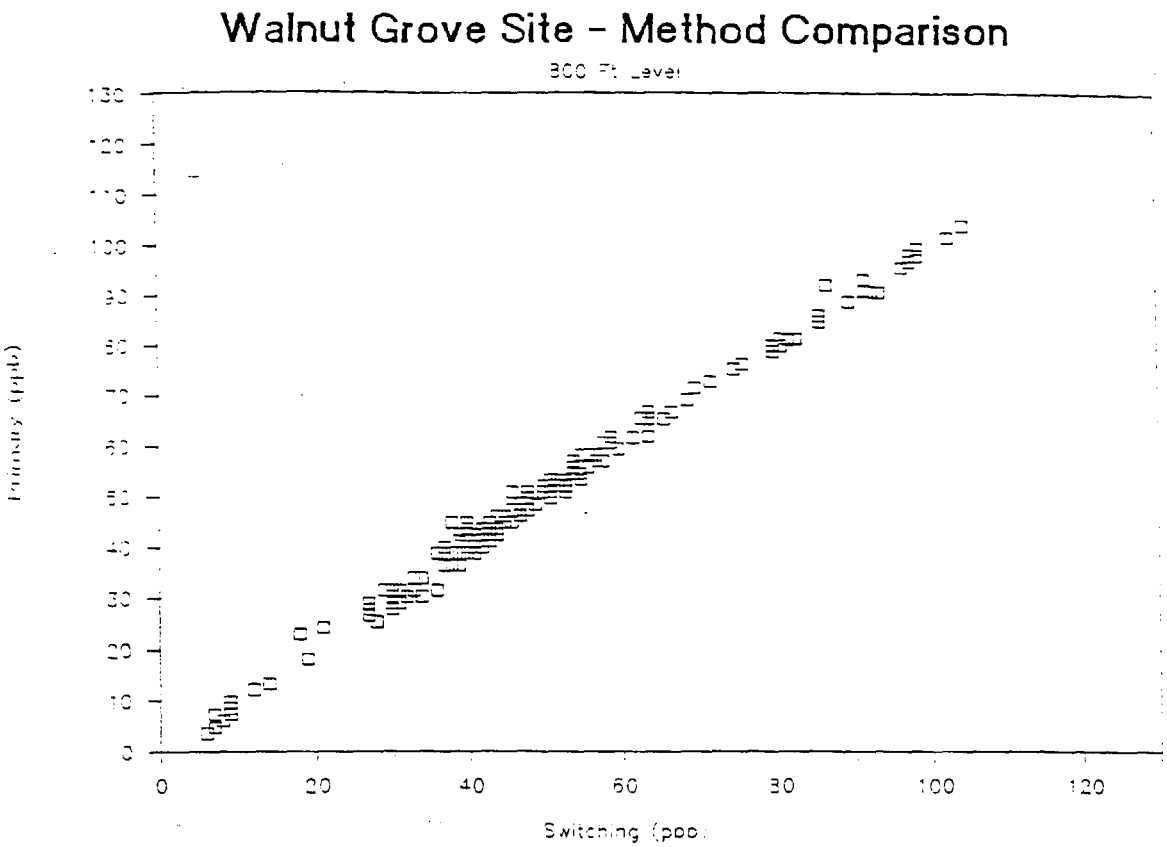

FIGURE 4-8. Comparison of "switching" and "conventional" ozone analyzer data at 800-foot level.

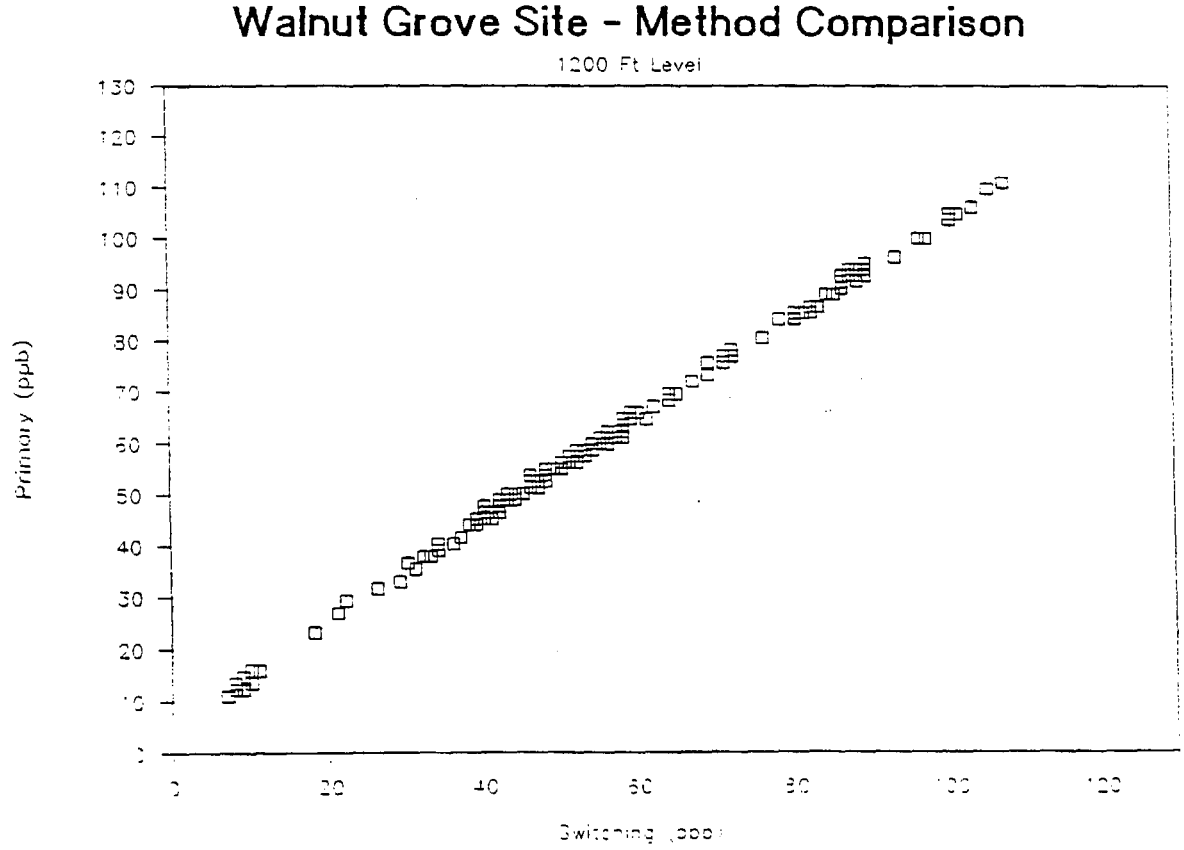

FIGURE 4-9. Comparison of "switching" and "conventional" ozone analyzer data at 1200-foot level.

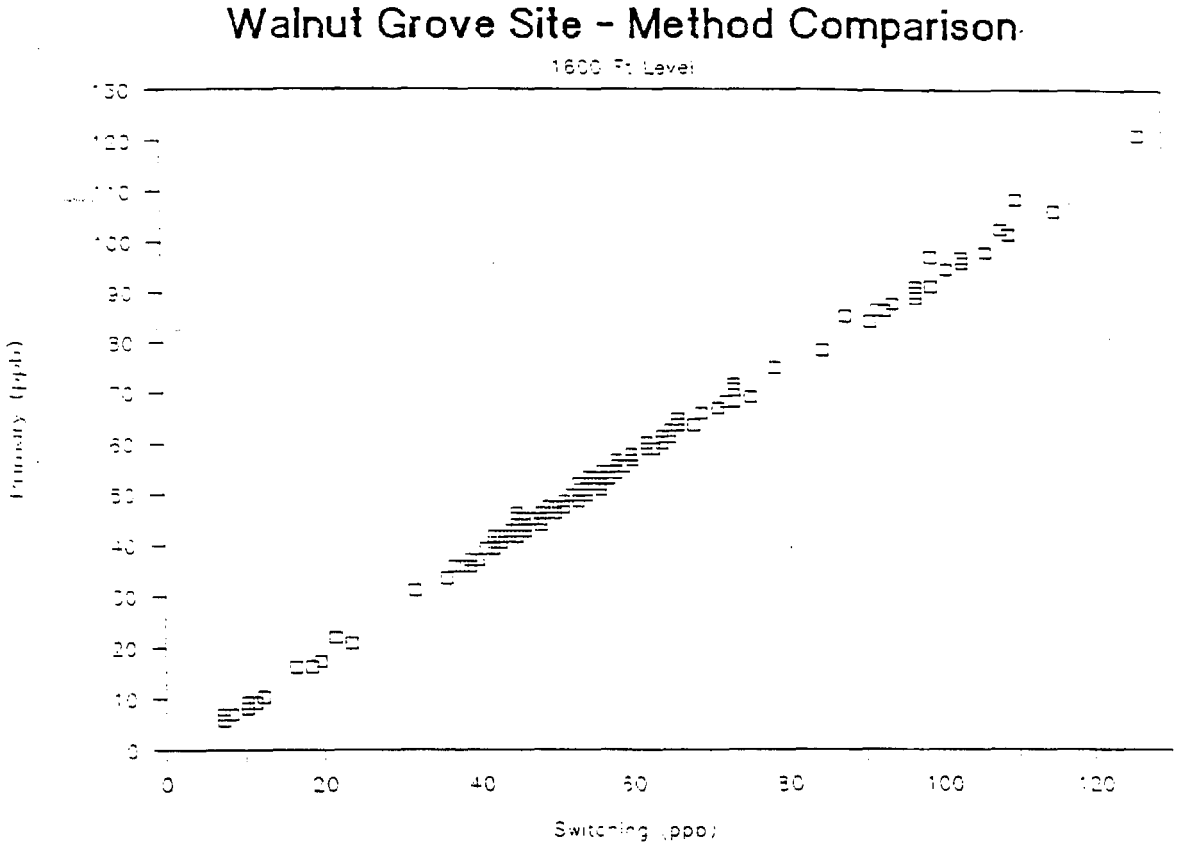

FIGURE 4-10. Comparison of "switching" and "conventional" ozone analyzer data at 1600-foot level.

Table 4-2. Linear regression results for "switching" versus "dedicated" ozone monitoring at Walnut Grove.

Level (ft)	Slope	Intercept (ppm)	Correlation
30	0.9459	0.0046	0.9985
400	0.9624	-0.0046	0.9991
800	0.9953	0.0008	0.9964
1200	0.9830	0.0057	0.9991
1600	0.9363	0.0004	0.9986

Section 5

SUMMARY AND CONCLUSIONS

Monitoring ozone in order to obtain vertical profiles is required in order to quantify the role of transport of ozone concentrations within an area. Long lines on a vertical tower provide a potential means of obtaining these measurements. Despite several complications inherent with this method, including line losses and sampling pressure changes, results indicate that long line sampling on a tower accurately provides these vertical measurements in a cost-effective manner. In addition, results indicate that this monitoring can potentially be performed using a single "switching" analyzer that sequentially samples each line, rather than multiple analyzers dedicated to each line. This alternative method could not only greatly reduce operating costs, but also eliminate any biases that may be encountered if multiple analyzers are used.

The importance of these measurements is demonstrated by initial data obtained during monitoring. The vertical ozone profiles on several days show an elevated layer of high ozone concentrations over the Sacramento Valley. These data provide a mechanism for explaining ozone exceedances at the surface that could not have been identified using only surface measurements. These data demonstrate the continued need for these types of measurements.

Section 6

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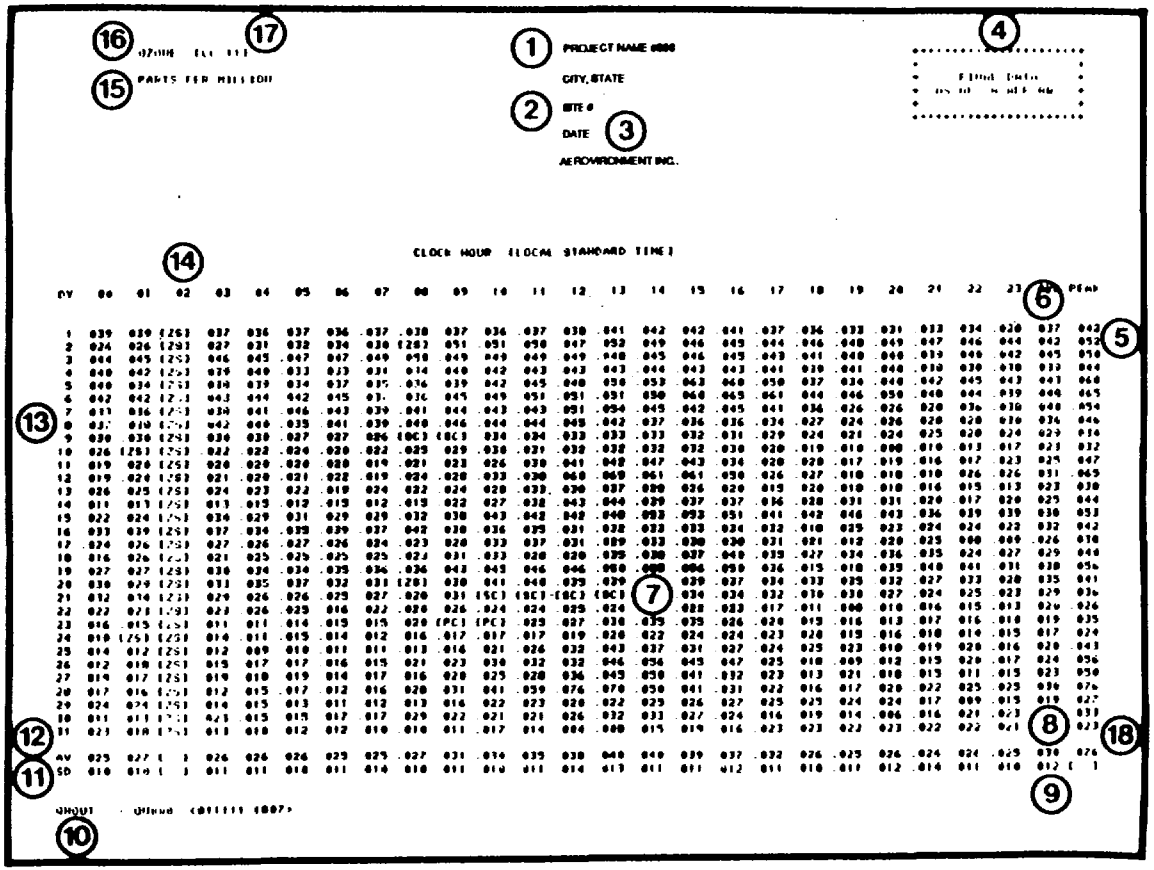
APPENDICIES

MONTHLY PARAMETER SHEET KEY



1. Project name, number, and location.
2. Station identification number.
3. Monthly period which the data covers.
4. Status and date the data was finalized.
5. Highest hourly average for each day.
6. Daily average of all hourly averages.
7. Letters indicate reasons for missing data (see missing data codes)
8. Monthly average of all data values.
9. Standard Deviation of all data values.
10. Computer program name and revision date.
11. Monthly standard deviation of each hour.
12. Monthly averages of each hour
13. Day of the month
14. Beginning hour in Local Standard Time (never Daylight Saving Time). Thus the hourly average under "02" occured during the period 0200 to 0300.
15. Units of data.
16. Parameter.
17. Computer parameter code.
18. Monthly Peak.

FIGURE A-1. Monthly Parameter Sheet Key

AeroVironment Inc.

FIGURE A-2.

MISSING DATA CODES

-9046	BD	Below detection limit of instrument
-9055	BM	Begin Monitoring
-9002	CA	Calibration
-9123	EC	Converter Efficiency Check
-9133	EM	End Monitoring
-9004	FO	Flame Out (on the gas chromatographs)
-9005	IM	Instrument Malfunction (not discovered until after data had been collected)
-9011	IN	Interference (acts of nature)
-9247	IW	Instrument Warm-up
-9008	LI	Local Interference
-9308	LF	Data logger failure; strip chart available, but not used
-9334	MF	Mishandled Filter (label, analysis, or contamination error)
-9003	MT	Maintenance (changing chart paper, replacing instrument parts)
-9009	OE	Operator Error
-9013	OR	Out for Repair (instrument problem has been recognized and the instrument is no longer sampling while being repaired)
-9010	OS	Off Scale (at top of chart, data is presumed to be good)
-9407	PA	Performance Audit
-9409	PC	Precision Check
-9006	PF	Power Failure (generator failure)
-9007	RF	Recording System Failure (chart jams, chart runs out, or data acquisition system fails)
-9485	SA	System Audit
-9487	SC	Station Check = Precision Check + Instrument Zero/Span Check
-9012	SE	Special Experiment (instrument off-line for bag sample analysis or removed for special measurements in area)
-9528	TR	Trace
-9014	VA	Variable wind direction
-9685	ZS	Instrument Zero/Span check

Monthly Ozone Concentration Summary for Sutter Buttes

OZONE

PPB
LEVLE HEIGHT : GROUND LEVEL

PROJECT, #206016

SITE 1 BUTTES

JULY, 1992

AEROVIRONMENT INC.

****
* *
* FINAL DATA *
* AS OF 20/OCT/92 *
* *
****

CLOCK HOUR [PACIFIC DAYLIGHT TIME]

DY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG	PEAK
1	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
2	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
3	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
4	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
5	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
6	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
7	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
8	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
9	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
10	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
11	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
12	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
13	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	44	54	56	62	62	62	49	49	55	55	62
14	57	45	38	43	42	40	42	42	42	43	45	50	62	68	69	66	69	72	77	80	76	59	56	55	56	80
15	58	54	60	60	60	57	56	59	62	62	65	70	75	73	80	79	78	76	82	96	90	80	78	84	71	96
16	85	77	75	68	71	74	82	78	74	71	74	74	86	92	91	87	91	94	95	91	92	95	87	68	82	95
17	[LF]	[LF]	[LF]	[LF]	[LF]	[LF]	[LF]	[LF]	[LF]	[LF]	[LF]	[LF]	[LF]	[LF]	[LF]	[LF]	[LF]	[LF]	[LF]	[LF]	[LF]	[LF]	[LF]	[LF]	[ ]	[ ]
18	77	79	77	79	80	81	81	81	78	70	66	71	77	80	81	87	86	88	99	100	85	78	73	78	81	100
19	77	79	80	76	75	76	71	74	71	70	67	71	76	77	76	75	82	81	74	75	68	68	70	71	74	82
20	68	64	65	62	57	56	56	55	54	55	60	66	75	79	82	85	96	98	91	90	95	90	70	64	72	98
21	60	58	57	55	54	57	65	70	69	65	63	66	77	88	92	95	90	95	96	84	65	61	58	50	70	96
22	47	47	51	55	62	57	51	49	45	45	49	60	70	80	81	79	73	77	77	82	79	76	73	77	64	82
23	74	65	58	54	53	49	52	57	61	63	68	69	71	71	70	70	70	69	71	74	76	83	90	85	68	90
24	80	77	77	76	68	67	74	69	66	73	70	80	91	99	98	92	86	86	85	86	102	86	72	71	80	102
25	72	81	77	90	91	102	99	91	85	80	84	93	104	108	108	111	109	101	95	99	88	88	89	93	93	111
26	92	78	78	78	83	83	98	98	94	88	85	87	95	96	90	91	95	90	86	91	100	81	82	84	88	100
27	86	87	89	90	93	87	85	83	81	77	75	95	100	92	90	89	89	91	94	100	102	114	118	108	92	118
28	95	79	77	81	84	84	80	74	76	82	86	98	107	109	103	102	103	116	118	112	103	85	76	78	92	118
29	79	76	79	88	98	99	97	92	85	80	83	83	94	106	113	108	100	99	120	101	87	86	90	92	93	120
30	89	82	80	91	92	85	83	85	82	82	78	74	76	83	91	98	101	99	103	97	110	100	99	95	90	110
31	97	94	94	90	89	90	90	98	103	96	79	83	83	92	101	105	112	110	101	109	114	103	86	84	96	114
AV	76	72	71	73	74	73	74	74	72	71	70	76	83	88	89	87	88	89	90	91	89	82	79	77	79	
SD	14	14	14	15	17	18	18	17	16	14	12	13	13	13	13	17	15	15	15	13	15	16	16	15		
PK	97	94	94	91	98	102	99	98	103	96	86	98	107	109	113	111	112	116	120	112	114	114	118	108		120

OU000 [Program: EDMS_MONTHSUM

Version: LC:12-MAY-92

OZONE

PPB
LEVEL HEIGHT : GROUND LEVEL

PROJECT, #206016

SITE 1 BUTTES

AUGUST, 1992

AEROVIRONMENT INC.

****
*
* FINAL DATA *
* AS OF 20/OCT/92 *
*
****

CLOCK HOUR [PACIFIC DAYLIGHT TIME]

DY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG	PEAK
1	77	95	103	91	84	86	90	94	91	82	72	82	98	107	105	105	104	103	111	113	105	114	124	115	98	124
2	104	97	90	95	101	98	93	90	87	82	79	90	102	102	90	82	73	73	63	88	91	77	61	60	86	104
3	54	56	59	60	64	67	64	64	68	71	70	76	79	77	80	98	78	75	[ ]	[ ]	[ ]	78	55	51	69	98
4	50	40	38	44	49	41	34	34	38	50	55	63	69	72	70	78	78	73	84	77	88	80	55	42	58	88
5	36	32	38	38	32	33	35	35	44	44	41	47	56	68	79	79	81	88	84	96	86	83	77	66	58	96
6	67	66	65	51	54	65	52	50	50	53	41	46	59	73	82	89	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	60	89
7	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
8	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
9	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
10	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	67	62	56	54	58	57	82	101	79	68	101
11	64	56	58	54	64	65	67	63	62	60	65	77	83	85	77	69	68	81	88	114	101	74	64	60	72	114
12	67	67	59	63	65	55	63	66	66	65	62	60	65	77	89	102	102	96	88	93	87	79	77	86	75	102
13	55	53	50	51	55	55	57	55	56	60	54	57	67	75	83	85	93	80	80	92	97	76	54	44	66	97
14	43	61	42	41	42	49	55	59	59	57	63	[CA]	82	88	78	74	78	86	91	64	73	76	72	71	65	91
15	51	57	57	55	50	46	37	38	38	39	45	52	60	73	82	89	89	90	89	79	79	84	80	74	64	90
16	77	78	64	53	60	75	73	58	56	61	68	76	86	90	81	75	72	75	75	82	54	39	39	39	67	90
17	43	40	42	44	44	43	49	55	57	60	57	66	76	81	82	77	71	61	58	78	64	64	74	62	60	82
18	63	64	65	68	69	65	64	59	56	58	62	74	88	96	88	85	86	80	79	103	99	93	72	58	75	103
19	58	58	60	60	59	59	59	57	[CA]	[CA]	72	82	86	83	71	69	67	79	105	91	88	55	50	49	69	105
20	49	48	49	48	45	47	48	46	49	63	69	74	86	91	92	93	95	84	80	73	48	41	42	41	63	95
21	40	41	41	41	41	41	41	42	42	44	45	43	47	53	58	57	55	49	47	45	45	45	47	36	45	58
22	33	39	36	30	25	25	30	33	37	39	42	47	51	54	60	61	62	65	65	67	66	66	65	62	48	67
23	55	57	55	48	41	38	38	39	40	41	45	52	55	56	56	58	61	63	65	69	73	72	70	68	55	73
24	65	62	58	44	43	42	48	53	52	47	50	56	67	83	84	85	83	78	74	77	88	93	96	93	68	96
25	93	80	76	78	86	80	71	62	72	67	57	55	66	75	84	93	99	99	103	110	114	110	111	112	86	114
26	105	106	105	103	106	104	99	94	97	84	78	82	90	95	93	89	87	[PA]	[SC]	82	95	98	111	106	96	111
27	106	102	108	105	89	88	85	84	74	68	71	79	84	91	103	103	101	95	96	102	106	107	104	109	94	109
28	109	110	106	94	90	73	66	63	67	68	72	73	72	77	91	90	82	85	85	76	71	62	56	51	79	110
29	47	49	54	51	47	47	55	52	43	42	50	61	57	63	75	83	87	88	81	54	59	53	52	51	58	88
30	50	52	50	48	39	22	24	25	25	25	27	32	39	45	50	52	51	53	50	42	41	49	49	49	41	53
31	47	45	44	44	44	43	39	39	39	38	38	40	48	57	67	70	68	69	78	70	67	62	64	59	53	78
AV	63	63	62	59	59	57	57	56	56	56	57	63	71	77	80	81	79	78	79	81	79	75	71	66	68	
SD	22	22	22	21	21	21	20	18	18	15	14	16	17	16	13	14	15	14	17	19	20	20	23	23		
PK	109	110	108	105	106	104	99	94	97	84	79	90	102	107	105	105	104	103	111	114	114	114	124	115		124

OU000 [Program: EDMS_MONTHSUM

Version: LC:12-MAY-92

OZONE

PPB

LEVEL HEIGHT : GROUND LEVEL

PROJECT, #206016

SITE 1 BUTTES

SEPTEMBER, 1992

AEROVIRONMENT INC.

****
* *
* FINAL DATA *
* AS OF 20/OCT/92 *
* *
****

CLOCK HOUR [PACIFIC DAYLIGHT TIME]

DY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG	PEAK
1	53	41	32	38	41	43	31	34	29	33	25	34	45	56	70	78	77	76	69	70	53	39	31	27	47	78
2	27	34	36	36	34	31	28	30	30	32	37	38	37	42	47	50	54	57	[SC]	44	32	30	26	22	36	57
3	21	25	29	31	31	27	28	27	28	25	24	29	33	37	42	42	43	39	37	38	37	26	19	24	31	43
4	25	26	28	26	28	28	28	27	25	27	34	40	45	48	51	56	52	49	49	52	51	52	57	54	40	57
5	66	64	61	53	50	30	25	25	26	28	31	35	39	47	48	49	52	54	62	72	61	58	59	50	48	72
6	45	40	35	30	29	33	32	31	32	37	39	43	48	48	50	52	56	59	59	61	62	61	61	61	46	62
7	51	47	46	44	45	44	45	46	48	48	47	48	52	55	54	52	51	56	57	57	57	60	69	71	52	71
8	72	72	64	57	58	57	56	55	55	55	55	61	67	71	75	75	82	79	80	73	73	70	71	67	67	82
9	68	68	68	71	71	66	67	63	64	69	67	75	80	84	84	86	87	85	92	90	74	67	69	69	74	92
10	60	47	44	35	32	35	38	36	37	35	40	32	33	42	52	63	62	61	69	58	46	44	40	37	45	69
11	40	42	36	33	34	35	37	37	37	32	30	34	39	48	55	60	64	69	70	65	47	47	49	46	45	70
12	42	40	41	42	39	44	45	47	40	38	33	52	64	68	68	65	67	70	71	71	70	66	60	49	54	71
13	49	47	45	44	43	42	42	43	43	44	45	62	74	57	58	59	58	58	58	57	63	62	57	58	53	74
14	56	56	61	59	61	53	51	52	51	48	50	48	46	57	67	64	[SC]	[SC]	54	49	49	49	55	55	54	67
15	53	56	55	51	51	52	52	47	44	45	48	51	55	59	63	62	61	69	69	68	68	65	66	61	57	69
16	57	49	50	54	61	65	64	63	63	65	61	56	65	73	78	76	74	74	73	72	76	75	61	54	65	78
17	50	50	53	54	50	51	55	54	53	53	49	44	47	61	71	77	81	82	89	87	80	78	70	75	63	89
18	66	75	80	83	80	80	78	78	83	72	70	65	64	69	68	55	63	64	63	68	82	73	70	71	72	83
19	69	72	71	73	77	76	67	58	54	51	54	57	63	70	77	83	85	104	103	85	86	59	80	68	73	104
20	60	64	59	72	72	73	76	78	68	66	64	65	63	72	70	63	64	63	67	63	63	88	78	76	69	88
21	73	74	77	73	75	76	79	77	80	73	67	72	82	88	88	89	90	95	103	104	84	87	65	67	81	104
22	59	54	48	47	51	56	60	64	51	53	53	60	64	56	50	62	52	52	52	47	40	31	29	29	51	64
23	28	26	27	26	25	26	25	25	25	26	31	33	32	36	38	54	55	61	54	31	22	19	19	21	32	61
24	19	17	17	17	15	16	20	19	14	16	25	28	36	41	46	47	47	47	47	47	46	43	40	38	31	47
25	36	36	36	36	36	35	35	34	34	34	36	39	43	[CA]	[CA]	50	50	50	50	45	44	43	43	42	40	50
26	42	40	41	40	40	40	40	42	42	44	43	45	47	52	55	56	57	58	59	60	60	60	60	64	49	64
27	66	69	63	62	65	66	71	71	70	68	64	67	70	81	84	83	87	89	88	87	86	83	87	86	76	89
28	86	86	86	85	85	86	89	91	81	59	55	65	73	78	74	75	77	78	78	78	78	73	80	84	78	91
29	101	99	95	86	82	65	81	77	72	69	65	68	74	80	85	95	104	117	111	88	70	56	43	45	80	117
30	33	36	27	23	21	19	14	13	12	13	14	15	24	46	37	34	38	38	41	39	33	22	18	19	26	46
AV	52	52	50	49	49	48	49	48	46	45	45	49	53	59	62	64	65	67	68	64	60	56	54	53	54	
SD	19	19	19	19	20	19	21	20	20	17	15	15	16	15	15	15	16	19	19	18	18	19	20	19		
PK	101	99	95	86	85	86	89	91	83	73	70	75	82	88	88	95	104	117	111	104	86	88	87	86		117

OU000 [Program: EDMS_MONTHSUM

Version: LC:12-MAY-92

OZONE

PPB
LEVEL HEIGHT : GROUND LEVEL

PROJECT, #206016

SITE 1 BUTTES

OCTOBER, 1992

AEROVIRONMENT INC.

****
* *
* FINAL DATA *
* AS OF 20/OCT/92 *
* *
****

CLOCK HOUR [PACIFIC DAYLIGHT TIME]

DY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG	PEAK
1	23	21	22	16	16	18	17	18	19	15	19	29	37	38	43	44	49	47	44	42	42	41	41	42	31	49
2	39	36	36	36	39	38	36	30	33	30	30	36	39	42	48	44	42	40	42	41	41	46	43	45	39	48
3	47	47	46	44	45	43	43	45	44	43	46	46	47	49	49	51	50	50	49	52	53	49	43	37	47	53
4	37	37	37	36	37	37	35	35	36	37	36	37	41	46	50	52	59	53	53	52	53	56	61	55	45	61
5	56	51	50	47	42	44	50	49	44	44	42	46	53	55	52	54	55	60	62	58	61	62	63	59	52	63
6	54	47	50	48	46	47	48	47	46	46	46	46	52	56	57	59	59	58	58	57	53	53	53	53	52	59
7	53	51	51	52	53	53	52	52	51	49	42	43	48	53	58	67	68	68	79	81	75	76	80	85	60	85
8	85	75	74	68	67	69	77	78	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	74	85
9	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
10	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
11	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
12	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
13	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
14	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
15	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
16	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
17	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
18	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
19	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
20	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
21	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
22	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
23	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
24	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
25	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
26	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
27	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
28	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	49	46	46	43	43	44	45	44	39	38	37	40	45	48	51	53	55	54	55	55	54	55	55	54	50	
SD	18	16	15	15	14	15	17	18	11	12	10	7	6	7	5	8	8	9	13	13	12	12	14	16		
PK	85	75	74	68	67	69	77	78	51	49	46	46	53	56	58	67	68	68	79	81	75	76	80	85		85

OU000 [Program: EDMS_MONTHSUM

Version: LC:12-MAY-92

Monthly Ozone Concentration Summary for Ground Level at Walnut Grove

OZONE_1

PPB
LEVEL HEIGHT : GROUND LEVEL

PROJECT, #206016

SITE 1 WALNUT GROVE TOWER

AUGUST, 1992

AEROVIRONMENT INC.

****
*   *
* FINAL DATA *
* AS OF 20/OCT/92 *
*   *
****

CLOCK HOUR [PACIFIC DAYLIGHT TIME]

DY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG	PEAK
1	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
2	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
3	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
4	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
5	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
6	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
7	14	11	12	14	12	12	14	14	16	19	23	28	34	40	43	47	37	28	24	20	18	13	14	14	22	47
8	14	14	14	12	9	8	9	16	20	23	25	30	35	43	49	50	47	45	38	33	27	23	21	23	26	50
9	15	9	11	15	12	13	15	15	19	24	33	43	57	74	67	68	66	70	71	69	48	40	36	33	38	74
10	29	18	13	10	10	15	20	20	21	27	34	49	86	85	76	75	77	80	74	64	44	37	37	30	43	86
11	30	29	22	30	35	33	30	28	31	33	41	[CA]	69	81	84	63	65	62	54	45	38	33	30	28	43	84
12	28	27	22	20	22	21	19	19	24	27	30	34	41	49	57	60	56	51	47	43	35	31	29	25	34	60
13	25	25	29	26	25	31	29	31	32	33	35	41	48	58	64	65	61	53	49	49	38	31	29	27	39	65
14	25	25	27	27	26	23	25	30	32	36	36	41	47	53	47	47	61	60	54	45	39	34	36	33	38	61
15	28	26	23	25	22	16	14	20	26	34	37	47	56	61	62	58	60	55	52	45	37	33	29	28	37	62
16	27	22	13	17	18	23	23	23	26	32	42	60	71	76	79	81	75	70	68	57	42	33	32	27	43	81
17	29	30	24	26	26	25	20	14	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	24	30
18	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
19	21	18	16	21	26	16	14	16	20	29	34	40	51	58	[SC]	60	66	63	58	51	36	26	28	26	35	66
20	23	15	14	13	14	8	5	6	18	28	34	45	58	[PF]	64	69	73	62	47	38	34	33	30	28	33	73
21	25	20	16	24	21	22	26	30	33	35	38	41	48	55	59	58	54	51	47	39	32	26	22	27	35	59
22	27	28	25	28	25	28	28	28	31	31	37	44	62	73	79	81	81	78	68	51	39	37	22	21	44	81
23	24	18	7	15	24	25	31	34	40	46	53	59	63	68	68	71	71	73	72	66	47	40	34	32	45	73
24	29	15	11	11	12	16	17	22	27	28	44	58	76	90	103	108	114	108	113	90	54	48	47	50	54	114
25	50	48	45	41	37	36	34	38	43	46	48	54	61	69	71	80	110	89	78	55	43	39	37	37	54	110
26	35	29	7	8	8	17	20	16	21	33	42	51	[PA]	[PA]	[PA]	101	106	98	80	60	51	44	38	38	43	106
27	41	37	36	38	33	29	27	28	31	36	43	52	63	78	95	103	94	89	74	59	47	36	33	37	52	103
28	39	38	39	33	31	31	28	24	25	26	29	[MT]	41	46	49	54	53	50	42	37	34	34	36	35	37	54
29	34	35	35	37	36	31	31	35	33	36	36	35	38	42	48	46	41	33	28	25	25	26	27	26	34	48
30	25	24	29	29	30	31	29	28	30	33	33	35	37	40	43	42	40	39	36	35	34	29	36	36	33	43
31	35	36	34	32	33	30	27	27	25	28	32	36	41	49	57	61	63	60	45	23	15	9	7	10	34	63
AV	28	25	22	23	23	23	22	23	27	31	36	44	54	61	65	67	68	64	57	48	37	32	30	29	38	
SD	8	10	11	10	9	8	8	8	7	6	7	9	14	16	17	18	21	20	20	16	10	9	9	8		
PK	50	48	45	41	37	36	34	38	43	46	53	60	86	90	103	108	114	108	113	90	54	48	47	50		114

OU000 [Program: EDMS_MONTHSUM

Version: LC:12-MAY-92

OZONE_1

PPB
LEVEL HEIGHT : GROUND LEVEL

PROJECT, #206016

SITE 1 WALNUT GROVE TOWER

SEPTEMBER, 1992

AEROVIRONMENT INC.

****
* *
* FINAL DATA *
* AS OF 20/OCT/92 *
* *
****

CLOCK HOUR [PACIFIC DAYLIGHT TIME]

DY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG	PEAK
1	10	9	4	8	7	7	8	10	14	16	[MT]	29	36	40	45	44	52	47	35	27	25	24	19	16	23	52
2	19	15	16	17	16	17	19	16	16	20	22	[SC]	32	[SC]	41	40	41	39	36	33	25	27	23	24	25	41
3	23	20	17	22	21	22	24	25	27	27	28	33	37	39	37	36	36	34	29	26	25	26	26	27	28	39
4	27	26	26	21	9	5	7	17	16	21	25	31	40	50	55	61	70	71	60	42	33	27	24	19	33	71
5	10	7	5	3	4	4	4	7	9	19	24	35	50	55	76	76	68	59	38	30	33	34	30	25	29	76
6	26	23	21	15	14	15	18	14	13	20	30	46	58	57	59	62	54	56	56	45	40	35	30	29	35	62
7	30	26	23	22	25	19	12	15	16	29	41	48	54	57	59	62	69	69	67	59	42	30	25	21	38	69
8	17	6	9	18	10	18	19	19	21	21	25	32	44	55	67	77	86	79	68	61	49	44	37	24	38	86
9	18	10	6	9	8	7	14	17	21	30	38	[SC]	53	68	77	80	75	57	52	38	26	21	21	22	33	80
10	22	24	26	25	25	24	23	19	22	24	27	30	32	38	38	42	43	37	28	27	26	23	24	23	28	43
11	25	23	25	25	23	23	23	27	29	31	33	42	44	44	48	52	52	40	32	26	24	22	23	22	32	52
12	21	16	15	12	6	8	13	17	21	22	24	30	39	56	67	68	72	73	69	63	46	37	29	27	35	73
13	26	21	26	30	33	33	30	30	28	37	41	42	46	52	53	55	58	57	57	50	41	46	44	46	41	58
14	41	25	25	25	30	32	27	27	26	32	36	[SC]	42	48	52	52	51	48	41	38	32	32	37	30	36	52
15	27	25	29	24	11	6	6	10	25	29	32	38	43	53	59	65	67	72	54	41	30	22	15	17	33	72
16	15	14	15	16	15	12	10	12	13	19	25	40	62	76	70	69	72	67	45	36	28	22	21	19	33	76
17	19	18	18	22	19	23	19	22	17	23	28	33	42	55	67	77	73	72	59	50	36	33	27	27	37	77
18	27	26	28	27	24	23	22	24	25	29	41	49	58	70	73	82	77	69	63	49	41	35	33	33	43	82
19	31	31	26	23	22	6	16	19	25	27	31	40	53	58	64	63	53	56	53	50	45	38	32	33	37	64
20	31	31	28	17	14	15	10	11	16	25	41	58	73	82	89	87	82	79	73	67	55	41	33	29	45	89
21	26	14	11	14	12	14	13	16	23	25	32	45	51	[SC]	[SC]	88	92	85	84	70	53	39	35	29	40	92
22	31	31	30	26	25	25	25	26	27	28	30	35	39	49	51	53	49	42	30	23	16	11	11	11	30	53
23	11	11	8	9	8	9	4	5	9	14	17	23	28	33	33	36	41	40	34	22	17	14	14	12	19	41
24	14	11	10	8	9	10	10	11	14	18	23	27	36	42	49	53	55	60	58	51	39	29	24	27	29	60
25	24	28	30	29	33	33	33	32	32	30	35	37	39	45	48	48	50	49	45	41	38	36	30	29	36	50
26	25	5	3	2	1	5	7	7	8	16	39	62	72	86	90	89	84	82	74	72	69	59	39	28	43	90
27	8	9	14	15	11	16	14	8	15	22	38	63	86	99	108	104	94	93	96	77	67	56	43	33	50	108
28	38	37	27	21	9	8	13	10	13	23	34	40	64	88	104	104	99	99	80	82	42	59	60	61	51	104
29	43	36	28	28	20	24	24	20	21	26	37	54	68	81	81	100	77	60	48	43	39	35	28	26	44	100
30	20	13	18	14	12	9	7	9	9	14	[CA]	24	29	[CA]	[CA]	60	50	28	22	18	15	16	14	13	20	60
AV	24	20	19	18	16	16	16	17	19	24	31	39	48	58	63	66	65	61	53	45	37	32	28	26	35	
SD	9	9	9	8	9	9	8	7	7	6	7	11	14	17	19	20	17	18	18	17	13	12	10	10		
PK	43	37	30	30	33	33	33	32	32	37	41	63	86	99	108	104	99	99	96	82	69	59	60	61		108

OU000 [Program: EDMS_MONTHSUM

Version: LC:12-MAY-92

OZONE_1

PPB
LEVEL HEIGHT : GROUND LEVEL

PROJECT, #206016

SITE 1 WALNUT GROVE TOWER

OCTOBER, 1992

AEROVIRONMENT INC.

****
* *
* FINAL DATA *
* AS OF 20/OCT/92 *
* *
****

CLOCK HOUR [PACIFIC DAYLIGHT TIME]

DY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG	PEAK
1	11	11	15	10	6	5	4	5	9	18	26	29	29	33	41	45	48	48	45	43	42	40	38	38	27	48
2	37	37	33	33	36	36	37	34	36	32	34	34	41	37	40	44	40	41	43	37	37	30	23	23	36	44
3	19	15	14	14	18	14	12	13	15	22	36	40	48	54	54	54	48	47	41	36	36	27	25	22	30	54
4	22	20	23	20	19	18	18	15	12	25	31	38	43	46	53	53	54	52	43	41	46	31	29	24	32	54
5	18	6	5	5	6	5	6	5	10	11	[CA]	[CA]	[CA]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	8	18
6	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
7	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	17	42	61	69	77	81	83	84	79	68	67	46	38	36	61	84
8	20	10	8	8	5	8	10	9	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	10	20
9	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
10	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
11	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
12	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
13	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
14	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
15	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
16	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
17	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
18	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
19	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
20	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
21	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
22	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
23	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
24	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
25	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
26	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
27	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
28	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	21	17	16	15	15	14	15	14	16	22	29	37	44	48	53	55	55	54	50	45	46	35	31	29	29	
SD	9	11	10	10	12	12	12	11	11	8	8	5	12	14	15	15	17	17	16	13	13	8	7	8		
PK	37	37	33	33	36	36	37	34	36	32	36	42	61	69	77	81	83	84	79	68	67	46	38	38		84

OU000 [Program: EDMS_MONTHSUM

Version: LC:12-MAY-92

Monthly Ozone Concentration Summary for 400 feet Level at Walnut Grove

OZONE_2

PPB
LEVEL HEIGHT : 400 FEET

PROJECT, #206016

SITE 1 WALNUT GROVE TOWER

AUGUST, 1992

AEROVIRONMENT INC.

****
* *
* FINAL DATA *
* AS OF 20/OCT/92 *
* *
****

CLOCK HOUR [PACIFIC DAYLIGHT TIME]

DY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG	PEAK
1	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
2	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
3	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
4	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
5	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
6	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
7	3	1	1	1	3	1	3	3	4	6	9	15	22	28	32	37	27	17	13	8	5	3	3	4	10	37
8	4	4	4	3	0	0	0	1	5	9	13	17	22	32	38	38	37	34	26	21	17	11	13	13	15	38
9	12	5	4	3	0	7	3	1	4	9	17	29	43	62	56	58	55	58	63	65	57	53	49	49	32	65
10	35	23	22	19	18	22	30	26	12	15	19	37	72	71	63	61	66	71	67	56	38	37	33	30	39	72
11	26	23	18	22	25	23	21	17	17	21	25	[CA]	[ ]	68	63	60	63	59	51	40	33	28	27	24	34	68
12	21	20	15	12	13	12	9	9	12	15	17	23	31	40	50	54	50	44	39	35	27	24	20	15	25	54
13	13	13	16	14	14	18	16	15	16	18	20	28	37	47	56	57	52	43	39	42	31	29	26	26	29	57
14	14	14	12	16	15	16	12	16	18	20	20	27	33	40	38	40	54	54	46	39	35	28	27	23	27	54
15	21	17	18	16	13	15	15	17	20	23	25	33	44	50	51	49	50	45	42	35	31	33	30	34	30	51
16	18	12	15	14	13	13	11	11	13	17	27	45	57	61	64	67	61	59	54	42	37	32	27	16	33	67
17	17	16	12	12	12	12	10	12	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	13	17
18	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
19	19	19	16	14	13	11	8	8	7	11	16	23	33	43	50	[SC]	54	54	51	49	50	44	34	30	29	54
20	14	10	6	6	9	10	6	8	8	14	22	31	46	[PF]	52	56	61	51	37	30	24	21	21	18	24	61
21	18	17	18	18	13	17	16	17	20	21	25	28	34	40	45	44	41	38	34	26	21	16	15	16	25	45
22	16	19	17	19	17	20	20	21	21	19	25	31	47	56	62	63	63	62	56	39	36	39	36	36	35	63
23	42	42	23	18	40	28	22	23	26	30	34	39	45	47	48	50	52	53	54	46	37	42	49	45	39	54
24	42	22	16	16	18	15	16	18	22	16	25	37	52	67	76	80	84	84	90	70	40	33	28	30	42	90
25	30	29	28	26	26	24	22	25	26	29	22	[PA]	[PA]	53	59	66	74	78	68	50	51	52	51	41	42	78
26	38	28	25	22	24	27	30	26	26	22	23	30	41	79	91	98	105	98	86	73	63	75	66	51	52	105
27	46	42	38	37	34	32	31	28	28	31	37	47	57	75	91	99	94	87	72	58	47	48	48	38	52	99
28	38	35	34	29	27	27	24	20	19	19	22	[MT]	35	40	44	49	49	45	38	34	28	30	31	31	33	49
29	30	30	31	33	33	28	28	31	29	31	31	29	33	37	43	41	36	26	23	21	22	22	22	22	30	43
30	21	19	24	26	27	27	27	26	27	29	28	29	31	34	37	37	36	35	31	30	30	28	32	32	29	37
31	31	31	30	30	30	29	28	25	22	24	25	29	35	43	50	54	58	55	39	18	10	5	3	6	30	58
AV	24	20	18	18	18	18	17	17	17	20	23	30	40	51	55	57	57	54	49	40	33	32	30	27	31	
SD	12	11	10	9	11	9	9	9	8	7	6	8	12	15	15	17	19	20	19	17	14	16	15	13		
PK	46	42	38	37	40	32	31	31	29	31	37	47	72	79	91	99	105	98	90	73	63	75	66	51		105

OU000 [Program: EDMS_MONTHSUM

Version: LC:12-MAY-92

OZONE_2

PPB
LEVEL HEIGHT : 400 FEET

PROJECT, #206016

SITE 1 WALNUT GROVE TOWER

SEPTEMBER, 1992

AEROVIRONMENT INC.

****
* *
* FINAL DATA *
* AS OF 20/OCT/92 *
* *
****

CLOCK HOUR [PACIFIC DAYLIGHT TIME]

DY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG	PEAK
1	6	8	7	7	7	7	6	8	10	12	[MT]	23	30	33	39	38	47	40	30	23	21	20	16	13	20	47
2	15	13	14	14	14	16	16	15	14	15	15	[SC]	24	[SC]	35	36	37	34	31	28	21	24	22	23	22	37
3	21	19	16	20	20	21	23	24	24	24	27	28	31	34	32	31	31	28	26	23	22	23	23	24	25	34
4	27	27	26	24	24	26	24	23	19	16	20	24	34	42	50	56	64	65	57	38	34	42	41	33	35	65
5	19	9	5	5	2	0	7	10	9	12	17	29	44	49	69	70	64	54	34	27	30	31	28	23	27	70
6	25	19	18	14	27	23	15	13	13	14	23	40	51	53	55	57	49	53	55	55	54	53	51	48	37	57
7	50	47	43	49	34	41	36	39	36	35	36	43	48	52	55	57	66	67	66	60	49	45	33	21	46	67
8	29	21	26	29	32	23	22	28	33	22	19	26	39	51	63	73	82	78	72	69	62	66	64	44	45	82
9	34	36	31	22	28	26	16	19	31	26	32	[SC]	[SC]	65	77	78	72	55	50	38	26	21	21	19	37	78
10	21	22	24	25	24	24	22	19	19	22	23	26	29	33	34	40	41	34	29	24	22	22	23	22	26	41
11	23	23	24	24	23	22	25	27	27	29	32	38	41	41	45	49	49	37	30	24	21	19	22	21	30	49
12	19	17	14	14	13	11	18	22	21	19	19	24	35	51	62	65	68	71	71	66	57	56	59	54	39	71
13	53	48	38	38	40	39	35	37	35	33	35	39	41	45	47	51	53	58	59	57	56	58	58	51	46	59
14	51	50	31	30	29	26	25	27	29	24	29	[SC]	45	[SC]	46	46	42	39	33	33	30	27	33	25	34	51
15	21	21	26	19	17	16	16	17	19	23	25	29	35	45	51	57	58	65	53	45	48	42	39	38	34	65
16	35	15	14	11	15	18	14	15	11	13	19	33	54	68	65	63	65	62	41	30	26	30	18	22	32	68
17	18	14	15	16	15	17	16	15	14	15	21	27	34	47	60	69	66	67	56	49	52	44	47	49	35	69
18	25	26	28	22	19	17	22	33	20	20	33	41	50	61	68	76	72	66	60	49	56	48	40	39	41	76
19	34	24	19	19	20	19	18	17	17	16	20	28	44	50	56	54	47	50	49	48	37	39	35	34	33	56
20	32	26	24	15	14	3	0	11	17	25	31	50	66	73	80	80	75	75	75	78	75	76	73	65	47	80
21	44	31	36	34	28	16	17	23	24	15	20	37	[SC]	[SC]	[SC]	82	85	84	92	88	61	50	42	50	46	92
22	47	29	25	21	21	22	22	22	21	22	23	26	32	42	47	49	43	38	25	16	10	6	5	6	26	49
23	3	3	0	1	0	0	0	1	1	3	6	11	19	25	25	29	34	33	26	14	8	6	6	5	11	34
24	3	2	0	0	0	1	0	0	3	8	11	17	24	34	41	45	48	54	54	49	41	37	31	29	22	54
25	29	25	23	24	25	25	25	24	23	24	25	29	32	37	40	41	42	42	40	38	34	32	30	27	31	42
26	14	0	29	40	38	34	32	29	26	40	38	54	65	79	85	85	80	78	77	81	82	65	63	61	53	85
27	45	26	21	19	17	19	19	15	14	15	27	55	77	90	100	96	87	93	100	100	93	80	65	64	56	100
28	58	56	40	42	37	34	26	14	13	24	27	31	58	82	100	101	95	94	93	89	94	94	94	95	62	101
29	80	58	66	48	43	46	40	47	32	23	27	45	61	76	76	96	73	55	42	40	42	39	32	19	50	96
30	11	6	8	6	2	1	0	1	3	7	[CA]	14	16	[CA]	[ ]	53	43	23	15	10	9	9	10	8	12	53
AV	30	24	23	22	21	20	19	20	19	20	24	32	41	52	57	61	59	56	51	46	42	40	37	34	35	
SD	18	15	14	13	12	12	11	11	9	8	8	11	15	17	19	20	17	19	22	24	24	22	21	20		
PK	80	58	66	49	43	46	40	47	36	40	38	55	77	90	100	101	95	94	100	100	94	94	94	95		101

OU000 [Program: EDMS_MONTHSUM

Version: LC:12-MAY-92

OZONE_2

PPB
LEVEL HEIGHT : 400 FEET

PROJECT, #206016

SITE 1 WALNUT GROVE TOWER

OCTOBER, 1992

AEROVIRONMENT INC.

****
* *
* FINAL DATA *
* AS OF 20/OCT/92 *
* *
****

CLOCK HOUR [PACIFIC DAYLIGHT TIME]

DY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG	PEAK
1	3	5	9	9	8	8	5	7	7	10	15	19	21	25	33	38	42	41	39	38	35	33	32	31	21	42
2	31	30	29	30	31	32	31	33	30	26	29	29	32	35	37	38	33	33	35	34	37	29	24	19	31	38
3	15	15	33	34	32	23	19	17	15	17	27	32	42	46	46	45	41	40	39	35	33	42	39	32	32	46
4	39	30	17	17	17	18	19	19	19	19	23	27	34	37	43	45	45	45	47	51	40	42	43	39	32	51
5	35	33	14	13	7	5	2	0	6	6	[CA]	[CA]	[CA]	49	58	68	65	53	51	41	37	37	35	41	31	68
6	39	46	42	40	39	23	24	24	23	31	8	29	46	42	48	55	55	54	47	43	38	37	38	31	38	55
7	27	23	6	22	23	13	33	30	32	25	6	33	53	62	71	76	79	80	85	85	78	62	61	55	47	85
8	51	39	29	26	29	27	24	8	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	29	51
9	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
10	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
11	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
12	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
13	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
14	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
15	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
16	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
17	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
18	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
19	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
20	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
21	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
22	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
23	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
24	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
25	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
26	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
27	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
28	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	30	28	22	24	23	19	20	17	19	19	18	28	38	42	48	52	51	49	49	47	43	40	39	35	33	
SD	15	13	13	11	12	9	11	12	10	9	10	5	11	12	13	15	16	15	17	18	16	11	11	11		
PK	51	46	42	40	39	32	33	33	32	31	29	33	53	62	71	76	79	80	85	85	78	62	61	55		85

OU000 [Program: EDMS_MONTHSUM

Version: LC:12-MAY-92

Monthly Ozone Concentration Summary for 400 feet Level at Walnut Grove

OZONE_2

PPB
LEVEL HEIGHT : 400 FEET

PROJECT, #206016

SITE 1 WALNUT GROVE TOWER

AUGUST, 1992

AEROVIRONMENT INC.

****
* *
* FINAL DATA *
* AS OF 20/OCT/92 *
* *
****

CLOCK HOUR [PACIFIC DAYLIGHT TIME]

DY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG	PEAK
1	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
2	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
3	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
4	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
5	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
6	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
7	3	1	1	1	3	1	3	3	4	6	9	15	22	28	32	37	27	17	13	8	5	3	3	4	10	37
8	4	4	4	3	0	0	0	1	5	9	13	17	22	32	38	38	37	34	26	21	17	11	13	13	15	38
9	12	5	4	3	0	7	3	1	4	9	17	29	43	62	56	58	55	58	63	65	57	53	49	49	32	65
10	35	23	22	19	18	22	30	26	12	15	19	37	72	71	63	61	66	71	67	56	38	37	33	30	39	72
11	26	23	18	22	25	23	21	17	17	21	25	[CA]	[ ]	68	63	60	63	59	51	40	33	28	27	24	34	68
12	21	20	15	12	13	12	9	9	12	15	17	23	31	40	50	54	50	44	39	35	27	24	20	15	25	54
13	13	13	16	14	14	18	16	15	16	18	20	28	37	47	56	57	52	43	39	42	31	29	26	26	29	57
14	14	14	12	16	15	16	12	16	18	20	20	27	33	40	38	40	54	54	46	39	35	28	27	23	27	54
15	21	17	18	16	13	15	15	17	20	23	25	33	44	50	51	49	50	45	42	35	31	33	30	34	30	51
16	18	12	15	14	13	13	11	11	13	17	27	45	57	61	64	67	61	59	54	42	37	32	27	16	33	67
17	17	16	12	12	12	12	10	12	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	13	17
18	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
19	19	19	16	14	13	11	8	8	7	11	16	23	33	43	50	[SC]	54	54	51	49	50	44	34	30	29	54
20	14	10	6	6	9	10	6	8	8	14	22	31	46	[PF]	52	56	61	51	37	30	24	21	21	18	24	61
21	18	17	18	18	13	17	16	17	20	21	25	28	34	40	45	44	41	38	34	26	21	16	15	16	25	45
22	16	19	17	19	17	20	20	21	21	19	25	31	47	56	62	63	63	62	56	39	36	39	36	36	35	63
23	42	42	23	18	40	28	22	23	26	30	34	39	45	47	48	50	52	53	54	46	37	42	49	45	39	54
24	42	22	16	16	18	15	16	18	22	16	25	37	52	67	76	80	84	84	90	70	40	33	28	30	42	90
25	30	29	28	26	26	24	22	25	26	29	22	[PA]	[PA]	53	59	66	74	78	68	50	51	52	51	41	42	78
26	38	28	25	22	24	27	30	26	26	22	23	30	41	79	91	98	105	98	86	73	63	75	66	51	52	105
27	46	42	38	37	34	32	31	28	28	31	37	47	57	75	91	99	94	87	72	58	47	48	48	38	52	99
28	38	35	34	29	27	27	24	20	19	19	22	[MT]	35	40	44	49	49	45	38	34	28	30	31	31	33	49
29	30	30	31	33	33	28	28	31	29	31	31	29	33	37	43	41	36	26	23	21	22	22	22	22	30	43
30	21	19	24	26	27	27	27	26	27	29	28	29	31	34	37	37	36	35	31	30	30	28	32	32	29	37
31	31	31	30	30	30	29	28	25	22	24	25	29	35	43	50	54	58	55	39	18	10	5	3	6	30	58
AV	24	20	18	18	18	18	17	17	17	20	23	30	40	51	55	57	57	54	49	40	33	32	30	27	31	
SD	12	11	10	9	11	9	9	9	8	7	6	8	12	15	15	17	19	20	19	17	14	16	15	13		
PK	46	42	38	37	40	32	31	31	29	31	37	47	72	79	91	99	105	98	90	73	63	75	66	51		105

OU000 [Program: EDMS_MONTHSUM

Version: LC:12-MAY-92

OZONE_2

PPB
LEVEL HEIGHT : 400 FEET

PROJECT, #206016

SITE 1 WALNUT GROVE TOWER

SEPTEMBER, 1992

AEROVIRONMENT INC.

****
* *
* FINAL DATA *
* AS OF 20/OCT/92 *
* *
****

CLOCK HOUR [PACIFIC DAYLIGHT TIME]

DY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG	PEAK
1	6	8	7	7	7	7	6	8	10	12	[MT]	23	30	33	39	38	47	40	30	23	21	20	16	13	20	47
2	15	13	14	14	14	16	16	15	14	15	15	[SC]	24	[SC]	35	36	37	34	31	28	21	24	22	23	22	37
3	21	19	16	20	20	21	23	24	24	24	27	28	31	34	32	31	31	28	26	23	22	23	23	24	25	34
4	27	27	26	24	24	26	24	23	19	16	20	24	34	42	50	56	64	65	57	38	34	42	41	33	35	65
5	19	9	5	5	2	0	7	10	9	12	17	29	44	49	69	70	64	54	34	27	30	31	28	23	27	70
6	25	19	18	14	27	23	15	13	13	14	23	40	51	53	55	57	49	53	55	55	54	53	51	48	37	57
7	50	47	43	49	34	41	36	39	36	35	36	43	48	52	55	57	66	67	66	60	49	45	33	21	46	67
8	29	21	26	29	32	23	22	28	33	22	19	26	39	51	63	73	82	78	72	69	62	66	64	44	45	82
9	34	36	31	22	28	26	16	19	31	26	32	[SC]	[SC]	65	77	78	72	55	50	38	26	21	21	19	37	78
10	21	22	24	25	24	24	22	19	19	22	23	26	29	33	34	40	41	34	29	24	22	22	23	22	26	41
11	23	23	24	24	23	22	25	27	27	29	32	38	41	41	45	49	49	37	30	24	21	19	22	21	30	49
12	19	17	14	14	13	11	18	22	21	19	19	24	35	51	62	65	68	71	71	66	57	56	59	54	39	71
13	53	48	38	38	40	39	35	37	35	33	35	39	41	45	47	51	53	58	59	57	56	58	58	51	46	59
14	51	50	31	30	29	26	25	27	29	24	29	[SC]	45	[SC]	46	46	42	39	33	33	30	27	33	25	34	51
15	21	21	26	19	17	16	16	17	19	23	25	29	35	45	51	57	58	65	53	45	48	42	39	38	34	65
16	35	15	14	11	15	18	14	15	11	13	19	33	54	68	65	63	65	62	41	30	26	30	18	22	32	68
17	18	14	15	16	15	17	16	15	14	15	21	27	34	47	60	69	66	67	56	49	52	44	47	49	35	69
18	25	26	28	22	19	17	22	33	20	20	33	41	50	61	68	76	72	66	60	49	56	48	40	39	41	76
19	34	24	19	19	20	19	18	17	17	16	20	28	44	50	56	54	47	50	49	48	37	39	35	34	33	56
20	32	26	24	15	14	3	0	11	17	25	31	50	66	73	80	80	75	75	75	78	75	76	73	65	47	80
21	44	31	36	34	28	16	17	23	24	15	20	37	[SC]	[SC]	[SC]	82	85	84	92	88	61	50	42	50	46	92
22	47	29	25	21	21	22	22	22	21	22	23	26	32	42	47	49	43	38	25	16	10	6	5	6	26	49
23	3	3	0	1	0	0	0	1	1	3	6	11	19	25	25	29	34	33	26	14	8	6	6	5	11	34
24	3	2	0	0	0	1	0	0	3	8	11	17	24	34	41	45	48	54	54	49	41	37	31	29	22	54
25	29	25	23	24	25	25	25	24	23	24	25	29	32	37	40	41	42	42	40	38	34	32	30	27	31	42
26	14	0	29	40	38	34	32	29	26	40	38	54	65	79	85	85	80	78	77	81	82	65	63	61	53	85
27	45	26	21	19	17	19	19	15	14	15	27	55	77	90	100	96	87	93	100	100	93	80	65	64	56	100
28	58	56	40	42	37	34	26	14	13	24	27	31	58	82	100	101	95	94	93	89	94	94	94	95	62	101
29	80	58	66	48	43	46	40	47	32	23	27	45	61	76	76	96	73	55	42	40	42	39	32	19	50	96
30	11	6	8	6	2	1	0	1	3	7	[CA]	14	16	[CA]	[ ]	53	43	23	15	10	9	9	10	8	12	53
AV	30	24	23	22	21	20	19	20	19	20	24	32	41	52	57	61	59	56	51	46	42	40	37	34	35	
SD	18	15	14	13	12	12	11	11	9	8	8	11	15	17	19	20	17	19	22	24	24	22	21	20		
PK	80	58	66	49	43	46	40	47	36	40	38	55	77	90	100	101	95	94	100	100	94	94	94	95		101

OU000 [Program: EDMS_MONTHSUM

Version: LC:12-MAY-92

OZONE_2

PPB
LEVEL HEIGHT : 400 FEET

PROJECT, #206016

SITE 1 WALNUT GROVE TOWER

OCTOBER, 1992

AEROVIRONMENT INC.

****
* *
* FINAL DATA *
* AS OF 20/OCT/92 *
* *
****

CLOCK HOUR [PACIFIC DAYLIGHT TIME]

DY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG	PEAK
1	3	5	9	9	8	8	5	7	7	10	15	19	21	25	33	38	42	41	39	38	35	33	32	31	21	42
2	31	30	29	30	31	32	31	33	30	26	29	29	32	35	37	38	33	33	35	34	37	29	24	19	31	38
3	15	15	33	34	32	23	19	17	15	17	27	32	42	46	46	45	41	40	39	35	33	42	39	32	32	46
4	39	30	17	17	17	18	19	19	19	19	23	27	34	37	43	45	45	45	47	51	40	42	43	39	32	51
5	35	33	14	13	7	5	2	0	6	6	[CA]	[CA]	[CA]	49	58	68	65	53	51	41	37	37	35	41	31	68
6	39	46	42	40	39	23	24	24	23	31	8	29	46	42	48	55	55	54	47	43	38	37	38	31	38	55
7	27	23	6	22	23	13	33	30	32	25	6	33	53	62	71	76	79	80	85	85	78	62	61	55	47	85
8	51	39	29	26	29	27	24	8	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	29	51
9	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
10	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
11	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
12	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
13	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
14	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
15	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
16	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
17	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
18	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
19	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
20	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
21	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
22	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
23	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
24	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
25	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
26	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
27	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
28	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	30	28	22	24	23	19	20	17	19	19	18	28	38	42	48	52	51	49	49	47	43	40	39	35	33	
SD	15	13	13	11	12	9	11	12	10	9	10	5	11	12	13	15	16	15	17	18	16	11	11	11		
PK	51	46	42	40	39	32	33	33	32	31	29	33	53	62	71	76	79	80	85	85	78	62	61	55		85

OU000 [Program: EDMS_MONTHSUM

Version: LC:12-MAY-92

Monthly Ozone Concentration Summary for 800 feet Level at Walnut Grove

OZONE_3

PPB
LEVEL HEIGHT : 800 FEET

PROJECT, #206016

SITE 1 WALNUT GROVE TOWER

AUGUST, 1992

AEROVIRONMENT INC.

****
* *
* FINAL DATA *
* AS OF 20/OCT/92 *
* *
****

CLOCK HOUR [PACIFIC DAYLIGHT TIME]

DY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG	PEAK
1	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
2	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
3	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
4	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
5	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
6	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
7	7	7	11	7	9	9	9	11	9	9	11	16	23	31	33	36	26	16	14	10	8	4	6	6	14	36
8	7	8	10	8	4	7	4	8	11	14	18	21	24	31	38	38	37	34	27	24	23	20	23	21	19	38
9	17	14	17	19	23	20	16	14	27	27	33	32	43	64	54	58	55	60	64	70	44	63	63	60	40	70
10	63	59	53	58	41	43	38	30	37	59	40	39	72	69	64	64	67	77	69	56	45	42	38	35	52	77
11	39	38	35	35	37	38	38	34	35	34	[CA]	[CA]	35	46	40	54	56	54	57	59	57	55	57	65	45	65
12	57	35	27	22	17	19	30	32	25	19	22	25	35	39	45	51	48	42	41	42	43	42	39	25	34	57
13	26	23	38	29	23	26	28	33	26	25	26	32	38	44	55	52	47	36	25	28	31	32	28	25	32	55
14	31	29	29	29	28	29	31	31	35	32	31	35	38	41	41	40	54	61	34	33	28	28	29	40	35	61
15	36	35	34	34	28	31	38	42	38	30	30	37	44	50	52	46	46	42	50	46	43	44	44	55	41	55
16	42	38	35	35	32	32	31	35	40	42	28	48	55	60	60	61	57	53	35	30	33	32	33	29	41	61
17	26	27	31	31	31	29	29	31	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	29	31
18	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
19	40	38	38	38	37	35	35	38	40	25	23	24	34	44	[SC]	49	52	55	72	82	49	44	41	43	42	82
20	44	43	40	36	37	38	29	38	39	31	38	37	48	[PF]	53	56	64	56	48	46	43	42	43	42	43	64
21	35	30	39	36	36	38	38	38	38	31	35	32	37	43	48	47	42	39	38	36	38	38	36	28	37	48
22	24	29	29	24	22	29	40	39	31	23	29	37	54	62	68	70	67	64	58	48	59	56	63	58	45	70
23	62	62	57	47	55	45	37	29	29	32	37	41	41	46	44	50	50	52	53	50	52	59	69	63	48	69
24	56	49	35	26	32	33	28	34	41	51	37	43	59	73	82	90	97	95	99	108	90	78	65	53	61	108
25	49	46	49	48	42	44	42	42	42	35	35	41	48	54	62	69	82	77	68	75	68	59	51	38	53	82
26	30	24	26	29	25	23	[IM]	[IM]	[IM]	[IM]	[PA]	[PA]	[PA]	90	97	103	109	103	94	82	87	93	86	88	58	109
27	84	81	62	62	63	65	63	46	46	44	42	51	59	78	93	101	96	90	77	66	72	83	76	67	69	101
28	66	62	57	52	37	29	26	24	21	21	27	[MT]	40	46	47	52	52	49	44	42	37	37	42	57	42	66
29	51	42	40	37	39	31	31	31	30	31	34	34	36	41	45	44	39	29	29	30	24	26	25	24	34	51
30	21	20	25	29	30	28	29	28	29	30	30	33	36	40	41	39	39	38	35	34	31	30	33	34	32	41
31	34	33	29	30	29	26	26	25	21	24	28	33	40	47	54	58	61	57	48	29	16	10	8	6	32	61
AV	39	36	35	33	32	31	30	30	30	29	30	35	43	52	55	58	58	56	51	49	44	44	43	42	41	
SD	19	18	14	13	13	12	12	11	12	13	8	9	12	15	17	18	21	21	22	23	21	22	20	20		
PK	84	81	62	62	63	65	63	46	46	59	42	51	72	90	97	103	109	103	99	108	90	93	86	88		109

OU000 [Program: EDMS_MONTHSUM

Version: LC:12-MAY-92

OZONE_3

PPB
LEVEL HEIGHT : 800 FEET

PROJECT, #206016

SITE 1 WALNUT GROVE TOWER

SEPTEMBER, 1992

AEROVIRONMENT INC.

****
* *
* FINAL DATA *
* AS OF 20/OCT/92 *
* *
****

CLOCK HOUR [PACIFIC DAYLIGHT TIME]

DY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG	PEAK
1	6	4	5	5	8	6	5	8	11	13	[MT]	27	34	37	42	42	51	46	34	27	27	28	29	27	23	51
2	20	16	15	15	15	18	22	16	15	18	18	[SC]	28	[SC]	38	39	39	37	33	35	32	33	34	33	26	39
3	30	27	23	22	24	22	24	24	23	24	28	30	37	38	35	34	34	33	30	27	25	24	25	29	28	38
4	27	28	25	23	20	20	20	20	23	25	25	28	38	47	55	60	67	70	62	46	60	69	69	62	41	70
5	55	50	36	27	14	5	11	14	14	15	22	33	48	53	72	74	66	56	38	33	34	38	42	41	37	74
6	36	29	29	31	27	18	22	24	23	22	27	43	55	53	58	60	52	55	57	57	55	53	56	56	42	60
7	56	56	57	51	47	43	36	42	42	43	42	45	50	52	57	57	66	67	67	62	65	56	47	46	52	67
8	43	42	38	37	28	33	34	34	38	42	31	28	39	52	64	73	83	78	73	70	66	60	78	71	51	83
9	66	55	54	45	37	33	33	37	45	38	36	40	[SC]	68	79	81	73	60	56	41	38	35	32	34	49	81
10	26	29	26	26	24	24	20	17	16	22	25	30	32	36	36	42	42	36	32	26	25	29	27	27	28	42
11	26	24	24	27	27	25	27	29	29	29	32	40	44	44	46	51	50	39	32	30	26	27	31	31	33	51
12	32	27	16	22	15	15	20	19	16	21	22	26	37	55	65	67	70	72	72	72	71	71	64	62	43	72
13	67	59	46	44	42	42	41	39	42	37	37	41	45	46	50	55	56	61	64	56	59	64	62	65	51	67
14	60	59	44	40	36	32	25	37	36	33	34	[SC]	40	45	52	55	50	45	44	57	56	52	44	37	44	60
15	31	30	34	36	33	27	32	33	31	30	29	36	42	49	57	62	63	70	58	58	54	56	55	54	44	70
16	46	52	49	44	48	45	17	17	25	24	24	38	59	75	69	68	69	65	52	58	63	77	62	52	50	77
17	49	49	34	42	26	38	34	21	14	18	24	34	39	51	64	74	70	73	65	74	75	75	73	76	50	76
18	63	62	58	54	43	43	45	50	54	56	48	49	56	67	73	81	77	71	73	79	75	77	64	56	61	81
19	54	51	43	40	39	33	33	33	34	31	31	37	49	56	61	59	52	56	55	45	50	46	46	44	45	61
20	40	46	45	43	37	19	19	38	43	49	57	62	71	79	86	86	80	79	80	88	86	82	77	76	61	88
21	75	75	68	65	64	61	57	55	49	58	49	45	50	[SC]	[SC]	84	88	86	92	107	79	74	69	73	69	107
22	73	54	44	46	39	49	51	48	37	30	31	35	39	48	54	55	49	43	31	24	24	26	23	25	41	73
23	17	10	12	12	8	8	10	7	13	12	14	20	26	30	31	35	39	38	26	20	18	20	20	19	19	39
24	18	14	12	12	13	16	12	11	12	20	19	24	30	42	48	50	53	57	61	56	49	44	46	44	32	61
25	40	35	31	31	34	35	36	31	34	31	34	36	40	42	44	47	48	47	44	44	42	38	36	35	38	48
26	34	29	28	46	40	40	42	36	46	54	58	61	70	83	88	87	82	81	77	77	79	76	71	65	60	88
27	70	65	43	37	41	40	36	36	36	48	43	61	81	93	99	98	90	96	104	99	95	93	87	86	70	104
28	76	78	70	68	63	62	60	63	62	66	71	59	62	85	101	104	98	97	95	97	91	91	93	91	79	104
29	98	91	87	92	86	81	76	52	36	52	41	52	65	80	79	99	80	62	48	51	41	40	23	13	64	99
30	8	10	7	5	6	4	7	10	7	12	[CA]	18	24	[CA]	[ ]	59	51	29	19	18	18	21	23	23	18	59
AV	45	42	37	36	33	31	30	30	30	32	34	39	46	56	61	65	63	60	56	54	53	53	50	48	45	
SD	23	22	20	19	18	18	16	15	14	15	13	12	14	17	19	19	17	18	22	25	23	22	21	21		
PK	98	91	87	92	86	81	76	63	62	66	71	62	81	93	101	104	98	97	104	107	95	93	93	91		107

OU000 [Program: EDMS_MONTHSUM

Version: LC:12-MAY-92

OZONE_3

PPB
LEVEL HEIGHT : 800 FEET

PROJECT, #206016

SITE 1 WALNUT GROVE TOWER

OCTOBER, 1992

AEROVIRONMENT INC.

****
* *
* FINAL DATA *
* AS OF 20/OCT/92 *
* *
****

CLOCK HOUR [PACIFIC DAYLIGHT TIME]

DY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG	PEAK
1	23	19	18	17	15	12	12	15	15	18	24	27	27	30	39	44	48	48	48	48	46	42	41	38	30	48
2	36	38	38	39	40	41	41	41	40	33	33	35	39	44	42	44	41	42	45	41	44	42	32	34	39	45
3	32	35	39	39	44	42	39	41	40	42	39	39	50	53	52	53	47	46	44	45	46	51	48	48	44	53
4	48	39	32	29	28	27	25	28	29	32	30	34	41	44	51	51	51	50	51	58	51	55	58	58	42	58
5	61	61	48	44	36	39	36	39	41	44	[CA]	[CA]	[CA]	53	62	73	72	57	56	53	55	59	58	57	53	73
6	52	48	53	52	41	40	45	41	42	47	52	45	51	46	52	59	59	61	52	51	47	42	40	39	48	61
7	39	40	39	32	30	32	30	29	32	58	45	42	57	67	75	80	81	81	88	91	81	69	67	65	56	91
8	65	58	51	52	51	52	56	56	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	55	65
9	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
10	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
11	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
12	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
13	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
14	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
15	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
16	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
17	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
18	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
19	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
20	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
21	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
22	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
23	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
24	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
25	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
26	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
27	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
28	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	45	42	40	38	36	36	36	36	34	39	37	37	44	48	53	58	57	55	55	55	53	51	49	48	46	
SD	15	13	11	12	11	12	13	12	10	13	10	6	11	11	12	14	15	13	15	17	13	10	12	12		
PK	65	61	53	52	51	52	56	56	42	58	52	45	57	67	75	80	81	81	88	91	81	69	67	65		91

OU000 [Program: EDMS_MONTHSUM

Version: LC:12-MAY-92

Monthly Ozone Concentration Summary for 1200 feet Level at Walnut Grove

93/6000

OZONE_4

PPB
LEVEL HEIGHT : 1200 FEET

PROJECT, #206016

SITE 1 WALNUT GROVE TOWER

AUGUST, 1992

AEROVIRONMENT INC.

****
*
* FINAL DATA *
* AS OF 20/OCT/92 *
*
****

CLOCK HOUR [PACIFIC DAYLIGHT TIME]

DY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG	PEAK
1	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
2	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
3	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
4	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
5	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
6	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
7	44	40	32	23	17	17	17	19	20	21	23	28	35	42	46	50	39	30	20	20	19	23	23	20	28	50
8	19	19	19	18	16	15	18	19	18	19	25	30	36	44	54	52	51	50	40	35	33	35	33	35	31	54
9	36	32	32	33	35	35	36	41	43	49	49	45	59	76	70	72	69	75	81	88	51	35	35	43	51	88
10	41	71	68	74	73	67	66	67	70	76	72	72	86	85	79	81	88	95	81	70	70	64	60	58	72	95
11	63	54	54	58	55	57	57	53	56	57	68	76	[CA]	84	[CA]	[CA]	67	67	73	89	86	87	90	85	68	90
12	90	66	73	66	59	59	57	57	55	49	52	53	58	56	63	69	72	72	63	59	58	55	49	48	61	90
13	48	48	49	49	49	49	48	43	36	48	56	55	59	67	75	75	56	43	46	43	39	39	33	35	50	75
14	36	38	44	42	41	41	41	44	52	57	67	61	64	63	53	44	45	39	45	39	41	43	41	41	47	67
15	39	40	38	41	41	51	54	60	46	53	49	59	62	68	71	66	68	71	81	74	70	80	83	83	60	83
16	73	59	57	53	63	65	61	64	67	71	70	65	73	78	81	84	76	72	60	48	53	53	51	51	65	84
17	50	50	52	49	50	50	47	51	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	50	52
18	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
19	62	60	57	55	59	59	57	56	57	62	68	69	64	69	65	[SC]	62	57	77	57	54	54	57	62	61	77
20	62	62	61	61	61	60	61	60	60	62	68	71	74	[PF]	68	67	72	55	47	54	52	49	49	56	61	74
21	56	54	51	51	53	53	56	57	58	55	55	51	54	57	62	61	59	56	55	56	56	55	61	55	56	62
22	55	52	52	39	44	51	51	48	40	35	40	48	63	73	80	82	80	80	77	74	76	76	76	78	61	82
23	75	73	70	68	70	63	55	52	50	48	52	57	61	64	64	68	70	72	74	75	83	81	86	83	67	86
24	87	80	73	64	57	55	54	52	56	63	72	70	76	89	98	104	107	109	113	130	121	108	99	96	85	130
25	87	76	72	72	72	71	73	69	71	71	73	68	68	75	[PA]	[PA]	[PA]	106	108	115	113	109	107	116	85	116
26	114	106	102	102	92	92	96	90	90	93	64	89	82	100	104	111	119	111	108	98	90	103	97	93	98	119
27	89	91	92	93	98	96	96	84	83	84	84	98	98	106	114	113	105	99	101	93	95	99	82	74	94	114
28	72	74	74	73	72	65	64	65	61	58	50	[MT]	58	57	60	62	63	62	61	65	71	66	61	67	64	74
29	67	67	65	64	70	67	60	53	50	50	43	39	42	51	54	54	51	39	41	47	47	40	37	37	51	70
30	35	33	31	34	35	35	36	35	34	36	35	38	40	43	47	47	45	44	41	43	44	45	49	46	40	49
31	45	44	46	44	41	40	32	32	33	32	32	38	45	53	60	64	67	65	56	51	43	42	34	26	44	67
AV	60	58	57	55	55	55	54	53	52	54	55	58	62	68	70	71	70	68	67	66	64	63	61	60	60	
SD	23	20	20	20	20	19	19	17	18	18	17	18	16	18	18	20	21	23	25	27	25	26	25	25		
PK	114	106	102	102	98	96	96	90	90	93	84	98	98	106	114	113	119	111	113	130	121	109	107	116		130

OU000 [Program: EDMS_MONTHSUM

Version: LC:12-MAY-92

OZONE_4

PPB
LEVEL HEIGHT : 1200 FEET

PROJECT, #206016

SITE 1 WALNUT GROVE TOWER

SEPTEMBER, 1992

AEROVIRONMENT INC.

****
*
* FINAL DATA *
* AS OF 20/OCT/92 *
*
****

CLOCK HOUR [PACIFIC DAYLIGHT TIME]

DY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG	PEAK
1	20	14	15	14	18	14	18	22	23	22	[MT]	30	39	41	48	47	56	50	43	33	29	32	34	33	30	56
2	34	31	31	29	31	28	28	29	29	31	31	33	[SC]	[SC]	42	43	41	38	33	41	34	38	40	40	34	43
3	41	40	38	38	38	38	38	37	35	32	33	36	40	42	41	38	38	36	33	31	31	31	32	33	36	42
4	33	33	35	33	31	32	32	33	35	36	33	35	42	53	61	64	72	75	71	66	72	71	70	68	49	75
5	68	70	65	57	44	31	28	26	27	31	39	45	53	56	79	80	73	65	45	39	41	43	47	51	50	80
6	48	43	42	39	34	32	36	38	40	35	34	49	61	61	64	66	59	60	64	64	60	61	61	61	51	66
7	63	64	63	59	59	54	52	51	55	54	55	54	56	61	64	65	73	76	75	68	63	60	56	54	61	76
8	52	45	50	47	42	47	47	49	50	53	59	62	58	60	71	81	91	85	80	82	88	76	75	88	64	91
9	86	79	70	61	54	51	50	54	53	58	[SC]	45	[SC]	74	84	87	79	66	67	72	76	58	40	44	64	87
10	45	46	44	46	41	30	27	31	26	29	29	34	36	41	42	47	49	45	41	40	40	43	48	49	40	49
11	49	41	50	54	45	40	39	38	39	36	39	45	49	49	53	57	58	45	39	42	35	38	38	40	44	58
12	43	42	38	38	38	37	38	40	42	42	43	42	44	60	72	75	76	80	79	82	81	80	70	72	56	82
13	72	67	53	51	51	52	48	48	50	48	46	48	52	55	57	61	64	69	74	68	65	81	74	73	59	81
14	67	63	63	60	56	53	51	59	51	49	47	41	[SC]	49	58	61	56	52	61	67	67	65	66	47	57	67
15	44	45	47	55	55	60	57	54	50	49	54	52	51	55	62	68	71	77	66	66	66	56	61	65	58	77
16	65	55	51	57	54	50	57	57	61	61	62	65	66	79	76	75	77	75	78	76	76	82	84	79	67	84
17	75	70	53	56	55	54	51	48	38	31	42	42	47	56	72	81	78	80	81	88	86	81	77	75	63	88
18	72	75	77	75	71	63	60	78	75	77	83	70	69	75	80	86	85	77	81	83	85	85	80	79	77	86
19	75	60	59	55	52	50	48	44	47	54	61	60	59	65	66	65	59	63	77	71	48	47	52	49	58	77
20	47	50	53	52	54	57	57	54	50	60	78	79	80	85	92	92	87	86	86	92	88	83	84	84	72	92
21	80	79	80	80	74	73	76	81	83	75	79	84	83	[SC]	[SC]	92	94	92	96	91	95	91	88	96	85	96
22	100	95	66	71	67	66	63	61	60	58	67	82	73	69	80	73	62	60	44	33	32	32	33	35	62	100
23	33	29	35	34	32	32	30	29	28	28	27	28	29	34	35	38	43	43	33	23	19	26	22	23	31	43
24	23	21	18	17	19	17	27	23	24	26	23	28	35	46	55	56	60	66	65	63	54	51	51	47	38	66
25	45	44	44	41	41	43	43	38	35	37	37	40	44	46	50	52	54	55	51	51	48	44	41	39	44	55
26	38	38	41	40	43	52	54	52	54	63	66	67	74	89	93	95	89	87	84	80	84	79	76	73	67	95
27	69	68	68	59	52	59	68	69	72	68	63	69	78	85	94	99	96	101	109	102	106	105	102	100	82	109
28	82	79	82	85	85	88	96	83	85	93	106	90	84	93	110	111	105	104	105	100	93	87	94	94	93	111
29	100	110	102	85	93	95	94	93	93	87	89	77	76	90	92	106	96	76	44	41	32	29	16	15	76	110
30	13	13	13	11	12	13	12	13	15	16	[CA]	23	27	[CA]	[CA]	65	57	37	29	29	28	24	26	28	24	65
AV	56	54	52	50	48	47	48	48	48	48	53	52	56	62	68	71	70	67	64	63	61	59	58	58	56	
SD	23	23	20	19	18	19	20	19	20	20	21	19	17	17	19	20	18	19	22	23	25	23	23	23		
PK	100	110	102	85	93	95	96	93	93	93	106	90	84	93	110	111	105	104	109	102	106	105	102	100		111

OU000 [Program: EDMS_MONTHSUM

Version: LC:12-MAY-92

OZONE_4

PPB
LEVEL HEIGHT : 1200 FEET

PROJECT, #206016

SITE 1 WALNUT GROVE TOWER

OCTOBER, 1992

AEROVIRONMENT INC.

****
* *
* FINAL DATA *
* AS OF 20/OCT/92 *
* *
****

CLOCK HOUR [PACIFIC DAYLIGHT TIME]

DY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG	PEAK
1	31	31	27	24	20	16	18	24	22	24	27	31	31	33	45	48	52	54	52	51	50	49	49	45	36	54
2	46	46	48	48	48	49	49	48	48	44	38	38	43	46	48	48	46	49	48	45	46	48	39	37	46	49
3	44	44	48	48	50	50	50	50	49	50	54	45	54	59	59	57	52	51	49	50	52	54	55	56	51	59
4	52	44	39	33	35	38	38	38	38	39	38	40	45	50	55	56	56	56	59	61	61	60	66	66	48	66
5	61	60	60	61	60	57	57	57	59	55	[CA]	[CA]	[CA]	62	68	78	76	63	61	59	60	65	63	59	62	78
6	62	62	63	59	49	51	55	50	50	52	57	61	59	52	57	67	65	66	60	60	61	57	49	52	57	67
7	54	51	55	46	40	46	45	45	45	52	61	57	62	73	81	84	85	85	92	93	89	77	72	70	65	93
8	70	70	70	65	66	65	62	61	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	66	70
9	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
10	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
11	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
12	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
13	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
14	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
15	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
16	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
17	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
18	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
19	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
20	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
21	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
22	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
23	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
24	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
25	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
26	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
27	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
28	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	53	51	51	48	46	47	47	47	44	45	46	45	49	54	59	63	62	61	60	60	60	59	56	55	54	
SD	12	12	14	14	14	15	14	12	12	11	13	12	12	13	12	14	14	12	15	16	14	10	11	12		
PK	70	70	70	65	66	65	62	61	59	55	61	61	62	73	81	84	85	85	92	93	89	77	72	70		93

OU000 [Program: EDMS_MONTHSUM

Version: LC:12-MAY-92

Monthly Ozone Concentration Summary for 1600 feet Level at Walnut Grove

OZONE_5

PPB
LEVEL HEIGHT : 1600 FEET

PROJECT, #206016

SITE 1 WALNUT GROVE TOWER

AUGUST, 1992

AEROVIRONMENT INC.

****
* *
* FINAL DATA *
* AS OF 20/OCT/92 *
* *
****

CLOCK HOUR [PACIFIC DAYLIGHT TIME]

DY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG	PEAK
1	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
2	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
3	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
4	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
5	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
6	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
7	50	44	31	16	16	12	10	9	11	13	13	17	24	32	37	41	31	20	16	10	12	14	11	10	21	50
8	10	9	10	10	11	11	9	8	7	16	19	21	27	34	43	44	43	43	37	26	24	25	24	24	22	44
9	29	29	34	36	38	30	30	35	37	41	42	43	48	65	59	65	62	69	75	84	54	39	45	40	47	84
10	41	42	56	52	53	52	50	45	47	51	55	56	61	66	68	72	80	87	74	61	66	61	63	50	59	87
11	56	59	53	62	61	65	73	77	69	63	75	70	[CA]	[CA]	73	71	54	64	79	89	88	84	85	76	70	89
12	77	80	77	74	65	60	58	63	60	48	50	57	60	60	61	69	65	48	42	46	44	42	40	37	58	80
13	39	40	39	40	40	40	40	39	39	45	50	58	59	62	71	68	35	38	42	25	24	25	32	33	43	71
14	20	23	26	27	27	26	26	27	38	47	51	51	57	55	36	34	39	66	65	52	49	61	69	33	42	69
15	32	31	30	30	31	31	33	36	31	39	55	59	58	59	57	54	56	64	69	76	78	82	79	73	52	82
16	65	55	46	49	63	62	61	59	57	63	57	57	60	66	70	76	70	58	50	46	41	41	39	39	56	76
17	39	36	31	30	31	31	31	30	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	32	39
18	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[RF]	[ ]	[ ]
19	32	27	30	33	34	31	29	29	31	34	37	41	50	50	51	[SC]	55	62	76	39	41	39	41	47	41	76
20	47	45	42	42	43	42	42	44	43	46	54	58	62	[PF]	59	51	50	39	37	37	36	35	35	39	45	62
21	40	39	40	42	39	38	39	43	43	48	49	47	47	47	49	49	50	47	48	44	43	43	50	47	45	50
22	44	45	46	35	35	36	32	30	24	24	27	34	47	56	62	65	65	65	64	62	62	61	61	60	48	65
23	59	57	51	50	53	46	41	39	38	38	40	44	50	54	54	58	60	62	64	71	71	70	71	70	55	71
24	65	60	61	60	52	44	42	41	47	48	52	58	70	81	89	95	100	100	106	113	114	106	93	88	74	114
25	80	65	48	48	48	49	49	49	52	54	59	65	62	[PA]	[PA]	76	89	91	96	96	86	93	85	92	70	96
26	91	86	72	75	76	80	80	79	82	82	[PA]	91	97	99	98	104	113	105	101	93	74	89	85	83	88	113
27	75	78	73	75	80	78	78	85	87	90	103	109	96	105	110	96	93	95	85	82	85	78	66	63	86	110
28	60	59	64	64	63	63	64	59	56	57	59	[MT]	76	73	66	70	69	64	60	61	66	65	52	55	63	76
29	61	58	62	65	64	64	57	51	49	45	41	39	42	52	53	47	55	55	55	54	49	46	45	40	52	65
30	41	41	33	26	27	27	28	26	27	28	28	29	33	35	40	40	39	37	39	40	40	41	39	37	34	41
31	37	39	42	40	36	33	22	29	27	28	27	31	38	44	51	57	59	58	54	49	47	45	43	36	41	59
AV	50	48	46	45	45	44	43	43	44	46	47	52	56	60	62	64	62	62	62	59	56	56	54	51	52	
SD	20	19	17	18	18	19	19	20	20	18	19	21	19	19	19	19	21	22	23	26	24	24	22	21		
PK	91	86	77	75	80	80	80	85	87	90	103	109	97	105	110	104	113	105	106	113	114	106	93	92		114

OU000 [Program: EDMS_MONTHSUM

Version: LC:12-MAY-92

OZONE_5

PPB
LEVEL HEIGHT : 1600 FEET

PROJECT, #206016

SITE 1 WALNUT GROVE TOWER

SEPTEMBER, 1992

AEROVIRONMENT INC.

****
*
* FINAL DATA *
* AS OF 20/OCT/92 *
*
****

CLOCK HOUR [PACIFIC DAYLIGHT TIME]

DY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG	PEAK
1	30	28	21	22	21	19	19	19	22	23	[MT]	26	32	34	41	39	46	35	28	20	20	24	30	26	27	46
2	29	27	27	24	24	24	24	24	22	23	24	26	[SC]	[SC]	33	33	29	23	21	22	20	28	29	30	26	33
3	35	35	36	35	35	35	34	34	33	30	27	29	33	36	35	33	33	29	27	24	26	27	27	28	32	36
4	28	28	27	28	27	28	29	30	29	30	31	31	37	44	51	57	65	67	67	63	65	62	58	58	43	67
5	59	58	58	59	52	31	28	24	23	33	41	45	41	48	70	73	65	58	43	35	35	35	37	43	46	73
6	45	42	36	34	31	33	33	34	37	37	34	47	53	54	57	59	51	52	56	55	54	54	55	54	46	59
7	57	59	56	56	55	51	49	48	47	48	49	50	50	52	56	57	66	69	69	58	52	51	49	49	54	69
8	47	45	45	45	38	43	42	41	42	44	50	51	54	55	65	73	81	79	77	79	84	79	72	73	59	84
9	76	79	83	66	57	54	52	52	59	61	69	65	[SC]	71	84	81	77	65	73	65	63	65	57	32	65	84
10	40	42	32	38	34	33	33	33	31	31	28	31	33	38	36	40	44	41	36	38	33	40	47	48	37	48
11	53	57	59	56	50	44	42	38	33	37	32	39	42	44	46	52	53	41	40	39	38	39	34	36	44	59
12	40	40	36	36	46	44	49	47	40	45	42	53	48	56	65	68	70	73	72	75	75	71	65	65	55	75
13	65	65	52	48	48	49	46	45	45	45	44	44	46	48	52	55	57	63	71	63	57	73	71	67	55	73
14	63	62	61	64	57	46	45	55	50	57	59	42	[SC]	46	61	63	57	57	67	63	62	63	63	60	58	67
15	50	60	60	61	62	61	60	57	56	53	48	50	52	50	56	63	64	72	62	63	56	50	50	52	57	72
16	60	57	52	44	41	46	46	46	53	56	65	70	71	72	70	68	70	70	76	78	78	76	77	76	63	78
17	77	76	60	54	57	55	54	50	47	40	48	56	53	54	65	73	72	75	72	75	75	72	71	63	62	77
18	60	57	69	70	69	52	70	81	78	78	78	70	79	71	73	80	79	73	73	71	73	73	70	63	71	81
19	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
20	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[ ]	[ ]
21	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[IM]	[SC]	[SC]	84	87	84	89	87	84	87	84	101	87	101
22	91	78	88	86	72	67	73	60	62	66	74	82	94	96	70	66	60	48	59	42	22	24	25	29	64	96
23	31	30	25	24	27	26	25	22	22	22	22	21	21	25	27	31	33	35	32	25	25	21	14	16	25	35
24	16	15	13	11	11	15	23	21	21	19	17	22	27	38	47	48	50	57	57	54	48	46	45	41	32	57
25	41	40	41	40	40	39	39	37	32	31	32	34	37	40	44	46	47	47	45	45	41	38	36	31	39	47
26	32	34	40	42	41	42	41	45	45	45	51	56	65	77	84	88	84	80	77	76	75	74	69	63	59	88
27	60	57	62	60	53	47	60	60	59	61	58	62	63	53	56	72	89	93	96	94	99	100	99	86	71	100
28	83	100	82	81	90	91	88	91	96	100	82	84	86	98	103	101	97	91	84	85	69	68	75	67	87	103
29	78	98	85	95	91	90	88	87	87	87	96	89	106	109	102	106	121	97	46	22	16	17	16	9	77	121
30	7	6	6	6	7	8	10	10	8	9	[CA]	16	21	[CA]	[CA]	55	52	34	31	39	52	28	17	20	21	55
AV	50	51	49	48	46	43	45	44	44	45	48	48	52	56	60	63	64	61	59	56	53	53	52	50	52	
SD	21	23	22	22	21	19	20	20	21	21	21	20	22	21	20	19	21	20	21	22	23	23	23	22		
PK	91	100	88	95	91	91	88	91	96	100	96	89	106	109	103	106	121	97	96	94	99	100	99	101		121

OU000 [Program: EDMS_MONTHSUM

Version: LC:12-MAY-92

OZONE_5

PPB
LEVEL HEIGHT : 1600 FEET

PROJECT, #206016

SITE 1 WALNUT GROVE TOWER

OCTOBER, 1992

AEROVIRONMENT INC.

****
* *
* FINAL DATA *
* AS OF 20/OCT/92 *
* *
****

CLOCK HOUR [PACIFIC DAYLIGHT TIME]

DY	00	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20	21	22	23	AVG	PEAK
1	22	22	21	18	17	14	15	23	23	23	21	24	27	25	37	42	46	47	46	45	45	44	44	42	31	47
2	42	44	42	42	44	44	44	42	40	39	34	32	37	40	43	42	42	44	42	39	40	42	36	31	40	44
3	37	39	40	42	40	45	43	44	45	45	47	44	46	52	51	52	46	44	43	43	45	47	47	51	45	52
4	47	39	40	36	37	37	37	36	34	36	37	39	40	43	49	50	50	51	51	54	54	54	53	52	44	54
5	50	52	52	53	52	54	55	51	52	51	[CA]	[CA]	[CA]	59	61	72	71	58	57	53	53	54	54	52	56	72
6	55	55	54	54	46	49	50	47	47	50	51	53	50	47	52	60	59	60	54	54	57	53	47	49	52	60
7	50	49	50	50	43	43	44	42	42	45	51	54	57	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	68	66	64	51	68
8	61	61	61	65	61	64	62	61	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	62	65
9	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
10	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
11	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
12	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
13	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
14	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
15	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
16	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
17	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
18	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
19	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
20	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
21	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
22	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
23	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
24	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
25	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
26	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
27	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
28	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
29	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
30	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
31	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]
AV	46	45	45	45	43	44	44	43	40	41	40	41	43	44	49	53	52	51	49	48	49	52	50	49	48	
SD	12	12	12	14	13	15	14	11	10	10	12	12	11	12	8	12	11	7	6	7	7	9	9	10		
PK	61	61	61	65	61	64	62	61	52	51	51	54	57	59	61	72	71	60	57	54	57	68	66	64		72

OU000 [Program: EDMS_MONTHSUM

Version: LC:12-MAY-92

Project 206016
Site 1 Walnut Grove Tower

Switching and nonswitching hourly ozone data pairs used for method comparison

Sample Height:		30 ft		400 ft		800 ft		1200 ft		1600 ft	
Date	Hour	Primary (ppb)	Switch (ppb)	Primary (ppb)	Switch (ppb)	Primary (ppb)	Switch (ppb)	Primary (ppb)	Switch (ppb)	Primary (ppb)	Switch (ppb)
09/28/92	12	64	63	58	65	62	62	84	79	86	93
09/28/92	13	88	86	82	89	85	86	93	90	98	106
09/28/92	14	104	104	100	109	101	102	110	106	103	108
09/28/92	15	104	106	101	111	104	104	111	108	101	109
09/28/92	16	99	101	95	105	98	98	105	102	97	103
09/28/92	17	99	101	94	104	97	97	104	101	91	97
09/28/92	18	80	83	93	103	95	96	105	101	84	91
09/28/92	19	82	86	89	98	97	97	100	98	85	88
09/28/92	20	42	44	94	102	91	93	93	89	69	76
09/28/92	21	59	53	94	103	91	92	87	84	68	73
09/28/92	22	60	60	94	103	93	92	94	89	75	79
09/28/92	23	61	62	95	104	91	92	94	90	67	72
09/29/92	0	43	40	80	87	98	97	100	97	78	85
09/29/92	1	36	-9999	58	-9999	91	-9999	110	-9999	98	-9999
09/29/92	2	28	-9999	66	-9999	87	-9999	102	-9999	85	-9999
09/29/92	3	28	27	48	53	92	87	85	81	95	101
09/29/92	4	20	16	43	51	86	86	93	88	91	99
09/29/92	5	24	20	46	52	81	82	95	90	90	97
09/29/92	6	24	22	40	49	76	76	94	88	88	94
09/29/92	7	20	17	47	53	52	53	93	87	87	92
09/29/92	8	21	16	32	40	36	37	93	87	87	92
09/29/92	9	26	23	23	28	52	50	87	83	87	92
09/29/92	10	37	33	27	33	41	39	89	85	96	103
09/29/92	11	54	50	45	52	52	50	77	72	89	97
09/29/92	12	68	67	61	69	65	66	76	72	106	116
09/29/92	13	81	82	76	84	80	80	90	87	109	110
09/29/92	14	81	80	76	84	79	80	92	87	102	109
09/29/92	15	100	100	96	106	99	98	106	104	106	116
09/29/92	16	77	78	73	82	80	81	96	94	121	127
09/29/92	17	60	60	55	64	62	59	76	70	97	99
09/29/92	18	48	43	42	50	48	49	44	39	46	45
09/29/92	19	43	41	40	46	51	51	41	37	22	21
09/29/92	20	39	37	42	49	41	39	32	26	16	16
09/29/92	21	35	31	39	46	40	37	29	22	17	19
09/29/92	22	28	25	32	33	23	18	16	11	16	16
09/29/92	23	26	21	19	25	13	14	15	9	9	10

Primary = Hourly average ozone value obtained from analyzer dedicated to sampling specified height level.
Switch = Hourly average ozone value obtained from a single analyzer switching from one sampling height to the next; the analyzer cycle time through all five heights was ten minutes; the hourly average reported here is the average obtained from six cycles each hour.
-9999 = Datum not available.

*

Project 206016
Site 1 Walnut Grove Tower

Switching and nonswitching hourly ozone data pairs used for method comparison (continued).

Sample Height:		30 ft		400 ft		800 ft		1200 ft		1600 ft	
Date	Hour	Primary (ppb)	Switch (ppb)	Primary (ppb)	Switch (ppb)	Primary (ppb)	Switch (ppb)	Primary (ppb)	Switch (ppb)	Primary (ppb)	Switch (ppb)
09/30/92	0	20	14	11	16	8	9	13	8	7	7
09/30/92	1	13	-9999	6	-9999	10	-9999	13	-9999	6	-9999
09/30/92	2	18	-9999	8	-9999	7	-9999	13	-9999	6	-9999
09/30/92	3	14	10	6	11	5	7	11	7	6	7
09/30/92	4	12	7	2	8	6	8	12	8	7	8
09/30/92	5	9	4	1	7	4	6	13	8	8	10
09/30/92	6	7	4	0	5	7	7	12	9	10	12
09/30/92	7	9	3	1	6	10	9	13	10	10	12
09/30/92	8	9	4	3	8	7	9	15	9	8	10
09/30/92	9	14	8	7	11	12	12	16	10	9	11
09/30/92	10	-9999	13	-9999	12	-9999	13	-9999	13	-9999	14
09/30/92	11	24	20	14	19	18	19	23	18	16	18
09/30/92	12	29	23	16	21	24	21	27	21	21	24
09/30/92	13	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999
09/30/92	14	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999
09/30/92	15	60	-9999	53	-9999	59	-9999	65	-9999	55	-9999
09/30/92	16	50	-9999	43	-9999	51	-9999	57	-9999	52	-9999
09/30/92	17	28	-9999	23	-9999	29	-9999	37	-9999	34	-9999
09/30/92	18	22	-9999	15	-9999	19	-9999	29	-9999	31	-9999
09/30/92	19	18	-9999	10	-9999	18	-9999	29	-9999	39	-9999
09/30/92	20	15	-9999	9	-9999	18	-9999	28	-9999	52	-9999
09/30/92	21	16	-9999	9	-9999	21	-9999	24	-9999	28	-9999
09/30/92	22	14	-9999	10	-9999	23	-9999	26	-9999	17	-9999
09/30/92	23	13	-9999	8	-9999	23	-9999	28	-9999	20	-9999
10/01/92	0	11	-9999	3	-9999	23	-9999	31	-9999	22	-9999
10/01/92	1	11	-9999	5	-9999	19	-9999	31	-9999	22	-9999
10/01/92	2	15	-9999	9	-9999	18	-9999	27	-9999	21	-9999
10/01/92	3	10	-9999	9	-9999	17	-9999	24	-9999	18	-9999
10/01/92	4	6	-9999	8	-9999	15	-9999	20	-9999	17	-9999
10/01/92	5	5	-9999	8	-9999	12	-9999	16	-9999	14	-9999
10/01/92	6	4	-9999	5	-9999	12	-9999	18	-9999	15	-9999
10/01/92	7	5	-9999	7	-9999	15	-9999	24	-9999	23	-9999
10/01/92	8	9	-9999	7	-9999	15	-9999	22	-9999	23	-9999
10/01/92	9	18	-9999	10	-9999	18	-9999	24	-9999	23	-9999
10/01/92	10	26	-9999	15	-9999	24	-9999	27	-9999	21	-9999
10/01/92	11	29	-9999	19	-9999	27	-9999	31	-9999	24	-9999
10/01/92	12	29	-9999	21	-9999	27	-9999	31	-9999	27	-9999
10/01/92	13	33	-9999	25	-9999	30	-9999	33	-9999	25	-9999
10/01/92	14	41	-9999	33	-9999	39	-9999	45	-9999	37	-9999
10/01/92	15	45	-9999	38	-9999	44	-9999	48	-9999	42	-9999
10/01/92	16	48	-9999	42	-9999	48	-9999	52	-9999	46	-9999
10/01/92	17	48	-9999	41	-9999	48	-9999	54	-9999	47	-9999
10/01/92	18	45	-9999	39	-9999	48	-9999	52	-9999	46	-9999
10/01/92	19	43	-9999	38	-9999	48	-9999	51	-9999	45	-9999
10/01/92	20	42	-9999	35	-9999	46	-9999	50	-9999	45	-9999
10/01/92	21	40	-9999	33	-9999	42	-9999	49	-9999	44	-9999
10/01/92	22	38	-9999	32	-9999	41	-9999	49	-9999	44	-9999
10/01/92	23	38	-9999	31	-9999	38	-9999	45	-9999	42	-9999

Primary = Hourly average ozone value obtained from analyzer dedicated to sampling specified height level.
Switch = Hourly average ozone value obtained from a single analyzer switching from one sampling height to the next; the analyzer cycle time through all five heights was ten minutes; the hourly average reported here is the average obtained from six cycles each hour.
-9999 = Datum not available.

Project 206016
Site 1 Walnut Grove Tower

Switching and nonswitching hourly ozone data pairs used for method comparison (continued).

Sample Height:		30 ft		400 ft		800 ft		1200 ft		1600 ft	
Date	Hour	Primary (ppb)	Switch (ppb)	Primary (ppb)	Switch (ppb)	Primary (ppb)	Switch (ppb)	Primary (ppb)	Switch (ppb)	Primary (ppb)	Switch (ppb)
10/02/92	0	37	-9999	31	-9999	36	-9999	46	-9999	42	-9999
10/02/92	1	37	-9999	30	-9999	38	-9999	46	-9999	44	-9999
10/02/92	2	33	-9999	29	-9999	38	-9999	48	-9999	42	-9999
10/02/92	3	33	-9999	30	-9999	39	-9999	48	-9999	42	-9999
10/02/92	4	36	-9999	31	-9999	40	-9999	48	-9999	44	-9999
10/02/92	5	36	-9999	32	-9999	41	-9999	49	-9999	44	-9999
10/02/92	6	37	-9999	31	-9999	41	-9999	49	-9999	44	-9999
10/02/92	7	34	-9999	33	-9999	41	-9999	48	-9999	42	-9999
10/02/92	8	36	-9999	30	-9999	40	-9999	48	-9999	40	-9999
10/02/92	9	32	-9999	26	-9999	33	-9999	44	-9999	39	-9999
10/02/92	10	34	-9999	29	-9999	33	-9999	38	-9999	34	-9999
10/02/92	11	34	-9999	29	-9999	35	-9999	38	-9999	32	-9999
10/02/92	12	41	-9999	32	-9999	39	-9999	43	-9999	37	-9999
10/02/92	13	37	-9999	35	-9999	44	-9999	46	-9999	40	-9999
10/02/92	14	40	-9999	37	-9999	42	-9999	48	-9999	43	-9999
10/02/92	15	44	-9999	38	-9999	44	-9999	48	-9999	42	-9999
10/02/92	16	40	-9999	33	-9999	41	-9999	46	-9999	42	-9999
10/02/92	17	41	37	33	38	42	41	49	44	44	48
10/02/92	18	43	40	35	40	45	40	48	42	42	43
10/02/92	19	37	33	34	39	41	39	45	40	39	41
10/02/92	20	37	33	37	42	44	42	46	42	40	42
10/02/92	21	30	26	29	33	42	39	48	42	42	43
10/02/92	22	23	19	24	28	32	30	39	34	36	37
10/02/92	23	23	19	19	25	34	34	37	30	31	32
10/03/92	0	19	14	15	23	32	33	44	38	37	39
10/03/92	1	15	-9999	15	-9999	35	-9999	44	-9999	39	-9999
10/03/92	2	14	-9999	33	-9999	39	-9999	48	-9999	40	-9999
10/03/92	3	14	12	34	40	39	40	48	40	42	42
10/03/92	4	18	14	32	36	44	42	50	44	40	42
10/03/92	5	14	9	23	28	42	44	50	44	45	46
10/03/92	6	12	10	19	25	39	41	50	43	43	44
10/03/92	7	13	8	17	23	41	43	50	44	44	46
10/03/92	8	15	12	15	21	40	42	49	42	45	45
10/03/92	9	22	17	17	23	42	43	50	45	45	47
10/03/92	10	36	32	27	32	39	36	54	46	47	49
10/03/92	11	40	38	32	37	39	37	45	40	44	45
10/03/92	12	48	47	42	47	50	48	54	48	46	50
10/03/92	13	54	51	46	52	53	52	59	52	52	54
10/03/92	14	54	52	46	52	52	52	59	52	51	54
10/03/92	15	54	51	45	52	53	51	57	51	52	53
10/03/92	16	48	46	41	47	47	47	52	48	46	49
10/03/92	17	47	45	40	46	46	45	51	46	44	48
10/03/92	18	41	39	39	45	44	44	49	44	43	45
10/03/92	19	36	34	35	42	45	43	50	45	43	46
10/03/92	20	36	32	33	38	46	44	52	47	45	48
10/03/92	21	27	25	42	49	51	46	54	48	47	50
10/03/92	22	25	21	39	45	48	47	55	49	47	50
10/03/92	23	22	18	32	37	48	47	56	50	51	53

Primary = Hourly average ozone value obtained from analyzer dedicated to sampling specified height level.
Switch = Hourly average ozone value obtained from a single analyzer switching from one sampling height to the next; the analyzer cycle time through all five heights was ten minutes; the hourly average reported here is the average obtained from six cycles each hour.
-9999 = Datum not available.

Project 206016
Site 1 Walnut Grove Tower

Switching and nonswitching hourly ozone data pairs used for method comparison (continued).

Sample Height:		30 ft		400 ft		800 ft		1200 ft		1600 ft	
Date	Hour	Primary (ppb)	Switch (ppb)	Primary (ppb)	Switch (ppb)	Primary (ppb)	Switch (ppb)	Primary (ppb)	Switch (ppb)	Primary (ppb)	Switch (ppb)
10/04/92	0	22	17	39	44	48	47	52	46	47	49
10/04/92	1	20	-9999	30	-9999	39	-9999	44	-9999	39	-9999
10/04/92	2	23	-9999	17	-9999	32	-9999	39	-9999	40	-9999
10/04/92	3	20	17	17	24	29	27	33	29	36	37
10/04/92	4	19	15	17	25	28	27	35	31	37	39
10/04/92	5	18	14	18	25	27	27	38	33	37	39
10/04/92	6	18	15	19	25	25	28	38	33	37	39
10/04/92	7	15	12	19	26	28	30	38	33	36	38
10/04/92	8	12	8	19	25	29	30	38	32	34	36
10/04/92	9	25	19	19	25	32	29	39	34	36	39
10/04/92	10	31	29	23	28	30	30	38	33	37	40
10/04/92	11	38	33	27	33	34	33	40	34	39	42
10/04/92	12	43	41	34	40	41	41	45	41	40	43
10/04/92	13	46	43	37	43	44	43	50	44	43	45
10/04/92	14	53	49	43	49	51	48	55	48	49	51
10/04/92	15	53	51	45	52	51	51	56	51	50	52
10/04/92	16	54	51	45	52	51	51	56	51	50	53
10/04/92	17	52	49	45	52	50	51	56	52	51	53
10/04/92	18	43	42	47	53	51	53	59	53	51	54
10/04/92	19	41	38	51	57	58	56	61	57	54	58
10/04/92	20	46	43	40	48	51	50	61	55	54	57
10/04/92	21	31	30	42	49	55	54	60	54	54	57
10/04/92	22	29	25	43	50	58	56	66	61	53	57
10/04/92	23	24	20	39	45	58	57	66	60	52	55
10/05/92	0	18	15	35	41	61	58	61	59	50	53
10/05/92	1	6	-9999	33	-9999	61	-9999	60	-9999	52	-9999
10/05/92	2	5	-9999	14	-9999	48	-9999	60	-9999	52	-9999
10/05/92	3	5	2	13	19	44	42	61	56	53	54
10/05/92	4	6	3	7	14	36	39	60	54	52	53
10/05/92	5	5	2	5	11	39	38	57	51	54	56
10/05/92	6	6	2	2	8	36	38	57	52	55	58
10/05/92	7	5	2	0	7	39	39	57	51	51	53
10/05/92	8	10	5	6	12	41	40	59	52	52	54
10/05/92	9	11	10	6	11	44	40	55	49	51	54
10/05/92	10	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999
10/05/92	11	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999
10/05/92	12	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999	-9999
10/05/92	13	-9999	54	49	55	53	55	62	59	59	62
10/05/92	14	-9999	65	58	65	62	64	68	65	61	65
10/05/92	15	-9999	72	68	74	73	72	78	73	72	74
10/05/92	16	-9999	72	65	73	72	70	76	72	71	74
10/05/92	17	-9999	58	53	60	57	58	63	59	58	60
10/05/92	18	-9999	48	51	57	56	56	61	56	57	58
10/05/92	19	-9999	43	41	46	53	53	59	54	53	56
10/05/92	20	-9999	25	37	42	55	55	60	56	53	57
10/05/92	21	-9999	41	37	44	59	60	65	60	54	57
10/05/92	22	-9999	33	35	42	58	57	63	59	54	57
10/05/92	23	-9999	25	41	47	57	54	59	53	52	56

Primary = Hourly average ozone value obtained from analyzer dedicated to sampling specified height level.
Switch = Hourly average ozone value obtained from a single analyzer switching from one sampling height to the next; the analyzer cycle time through all five heights was ten minutes; the hourly average reported here is the average obtained from six cycles each hour.
-9999 = Datum not available.

Project 206016
Site 1 Walnut Grove Tower

Switching and nonswitching hourly ozone data pairs used for method comparison (continued).

Sample Height:		30 ft		400 ft		800 ft		1200 ft		1600 ft	
Date	Hour	Primary (ppb)	Switch (ppb)	Primary (ppb)	Switch (ppb)	Primary (ppb)	Switch (ppb)	Primary (ppb)	Switch (ppb)	Primary (ppb)	Switch (ppb)
10/06/92	0	-9999	21	39	45	52	50	62	56	55	59
10/06/92	1	-9999	-9999	46	-9999	48	-9999	62	-9999	55	-9999
10/06/92	2	-9999	-9999	42	-9999	53	-9999	63	-9999	54	-9999
10/06/92	3	-9999	13	40	46	52	50	59	53	54	57
10/06/92	4	-9999	13	39	43	41	42	49	44	46	48
10/06/92	5	-9999	14	23	28	40	41	51	47	49	51
10/06/92	6	-9999	9	24	29	45	46	55	50	50	52
10/06/92	7	-9999	4	24	31	41	43	50	45	47	49
10/06/92	8	-9999	4	23	29	42	44	50	45	47	50
10/06/92	9	-9999	7	31	36	47	46	52	48	50	53
10/06/92	10	-9999	14	8	14	52	51	57	53	51	56
10/06/92	11	-9999	33	29	34	45	45	61	56	53	55
10/06/92	12	-9999	50	46	51	51	50	59	53	50	53
10/06/92	13	-9999	47	42	49	46	47	52	48	47	51
10/06/92	14	-9999	52	48	54	52	53	57	53	52	55
10/06/92	15	-9999	60	55	62	59	60	67	63	60	64
10/06/92	16	-9999	59	55	62	59	60	65	62	59	63
10/06/92	17	-9999	57	54	61	61	59	66	61	60	62
10/06/92	18	-9999	44	47	53	52	53	60	56	54	58
10/06/92	19	-9999	43	43	50	51	51	60	55	54	57
10/06/92	20	-9999	40	38	44	47	48	61	57	57	60
10/06/92	21	-9999	31	37	43	42	43	57	52	53	57
10/06/92	22	-9999	22	38	44	40	40	49	43	47	51
10/06/92	23	-9999	25	31	37	39	37	52	47	49	53
10/07/92	0	-9999	22	27	34	39	39	54	48	50	54
10/07/92	1	-9999	-9999	23	-9999	40	-9999	51	-9999	49	-9999
10/07/92	2	-9999	-9999	6	-9999	39	-9999	55	-9999	50	-9999
10/07/92	3	-9999	4	22	26	32	31	46	40	50	52
10/07/92	4	-9999	3	23	28	30	32	40	36	43	45
10/07/92	5	-9999	3	13	19	32	36	46	41	43	45
10/07/92	6	-9999	3	33	39	30	34	45	40	44	46
10/07/92	7	-9999	3	30	36	29	31	45	39	42	44
10/07/92	8	-9999	4	32	36	32	33	45	40	42	45
10/07/92	9	-9999	6	25	28	58	55	52	48	45	48
10/07/92	10	17	13	6	11	45	38	61	55	51	54
10/07/92	11	42	39	33	38	42	42	57	53	54	58
10/07/92	12	61	58	53	59	57	57	62	57	57	60
10/07/92	13	69	67	62	68	67	67	73	70	-9999	72
10/07/92	14	77	77	71	77	75	75	81	77	-9999	75
10/07/92	15	81	79	76	83	80	80	84	81	-9999	81
10/07/92	16	83	81	79	85	81	81	85	82	-9999	83
10/07/92	17	84	82	80	87	81	82	85	83	-9999	82
10/07/92	18	79	78	85	91	88	90	92	89	-9999	83
10/07/92	19	68	66	85	91	91	92	93	88	-9999	79
10/07/92	20	67	68	78	85	81	83	89	86	-9999	78
10/07/92	21	46	44	62	69	69	69	77	73	68	74
10/07/92	22	38	34	61	69	67	64	72	68	66	70
10/07/92	23	36	32	55	62	65	64	70	66	64	66

Primary = Hourly average ozone value obtained from analyzer dedicated to sampling specified height level.
Switch = Hourly average ozone value obtained from a single analyzer switching from one sampling height to the next; the analyzer cycle time through all five heights was ten minutes; the hourly average reported here is the average obtained from six cycles each hour.
-9999 = Datum not available.

Project 206016
Site 1 Walnut Grove Tower

Switching and nonswitching hourly ozone data pairs used for method comparison (continued).

Sample Height:		30 ft		400 ft		800 ft		1200 ft		1600 ft	
Date	Hour	Primary (ppb)	Switch (ppb)	Primary (ppb)	Switch (ppb)	Primary (ppb)	Switch (ppb)	Primary (ppb)	Switch (ppb)	Primary (ppb)	Switch (ppb)
10/08/92	0	20	20	51	59	65	63	70	65	61	65
10/08/92	1	10	-9999	39	-9999	58	-9999	70	-9999	61	-9999
10/08/92	2	8	-9999	29	-9999	51	-9999	70	-9999	61	-9999
10/08/92	3	8	3	26	33	52	51	65	60	65	66
10/08/92	4	5	3	29	35	51	50	66	61	61	64
10/08/92	5	8	3	27	35	52	51	65	59	64	69
10/08/92	6	10	7	24	31	56	54	62	57	62	65
10/08/92	7	9	6	8	15	56	56	61	57	61	64

Primary = Hourly average ozone value obtained from analyzer dedicated to sampling specified height level.
Switch = Hourly average ozone value obtained from a single analyzer switching from one sampling height to the next; the analyzer cycle time through all five heights was ten minutes; the hourly average reported here is the average obtained from six cycles each hour.
-9999 = Datum not available.