ACOUSTICAL ANALYSIS ASSOCIATES, INCORPORATED

AAAI REPORT 1259
AAAI PROJECT 88018

QUARTERLY NOISE MONITORING AT BURBANK AIRPORT FOURTH QUARTER 2001

Jane M. Beckmann
Dwight E. Bishop

FEBRUARY 2002

Prepared for:

BURBANK GLENDALE PASADENA AIRPORT

950 Enchanted Way • Suite 106 • Simi Valley, CA 93065 • (805) 584-9428 • Fax (805) 584-8274

AAAI Report 1259
AAAI Project 88018

QUARTERLY NOISE MONITORING AT BURBANK AIRPORT FOURTH QUARTER 2001

Jane M. Beckmann
Dwight E. Bishop

FEBRUARY 2002

Prepared for:

Burbank-Glendale-Pasadena Airport Authority
2627 Hollywood Way
Burbank, CA 91505

Prepared by:

Acoustical Analysis Associates, Inc.
950 Enchanted Way, Suite 106
Simi Valley, CA 93065

TABLE OF CONTENTS

Section		Page
I.	INTRODUCTION	1
II.	NOISE MEASUREMENTS	4
	A. Sites	4
	B. Noise Measurement Equipment	4
	C. Noise Data	4
	D. Operational Data	6
III.	MEASURED NOISE DATA	6
IV.	SCHEDULED AIRLINE AND COMMUTER OPERATIONS	6
V.	CNEL CONTOUR DEVELOPMENT	6
VI.	INCOMPATIBLE LAND USE	22
REFERENCES		23

APPENDIX A - NOISE MONITOR INSTRUMENTATION

APPENDIX B - CALIBRATION

LIST OF TABLES

Table		Page
1.	CNEL VALUES FOR OCTOBER 2001	7
2.	CNEL VALUES FOR NOVEMBER 2001	8
3.	CNEL VALUES FOR DECEMBER 2001	9
4.	AVERAGE CNEL VALUES	10
5.	WEEKLY SCHEDULED AIR CARRIER AND COMMUTER FLIGHTS	11

LIST OF FIGURES

Figure Page

1. CNEL 70 CONTOUR FOR BURBANK AIRPORT - FOURTH QUARTER 2001 2
2. CNEL 65 CONTOUR FOR BURBANK AIRPORT - FOURTH QUARTER 2001 3
3. NOISE MONITOR LOCATIONS 5

QUARTERLY NOISE MONITORING AT BURBANK AIRPORT
FOURTH QUARTER 2001

I. INTRODUCTION

In compliance with the California Noise Standards (Reference 1) and the current variance from certain provisions of the Standards (Reference 2), the operator of the Burbank Airport is required to perform noise monitoring in the vicinity of the airport for the purpose of establishing a noise impact boundary. The Noise Standards currently specify a community noise equivalent level (CNEL) of 65 dB for the noise impact boundary[1]. The airport is required to provide, each quarter, an updated annual noise impact contour based on measurement data over the four preceding quarters.

A permanent noise monitoring system became operational in April 1980 and, with brief interruption for system expansion, maintenance, and program changes, has been operational since that time. The original noise monitor sites have remained unchanged (with the exception of Site 8 that was moved about 15 feet because of construction). Two sites were added east of the airport in late 1980. Four sites were added south of the airport in January 1986 in response to the requirement to determine the 65 dB contour. Three more locations were added in February 1997. Two of these, identified as 16 and 17, are south of the airport, and one, 18, is to the west. The site to the west replaces Site 8. These locations were added to permit monitoring closer to the 65 dB contour. The noise monitoring computer at the airport was replaced in August 1995.

This report describes the data acquired by the monitoring system during the fourth quarter of 2001. Noise impact boundaries for 65 dB and 70 dB are shown based on these measurements and measurements obtained during the first, second and third quarter of 2001 reported in References 3, 4 and 5. Figure 1 shows the 70 dB contour and Figure 2 shows the 65 dB contour, based on the measured noise data.

---

[1] Prior to January 1, 1986, a CNEL of 70 dB defined the noise impact boundary.

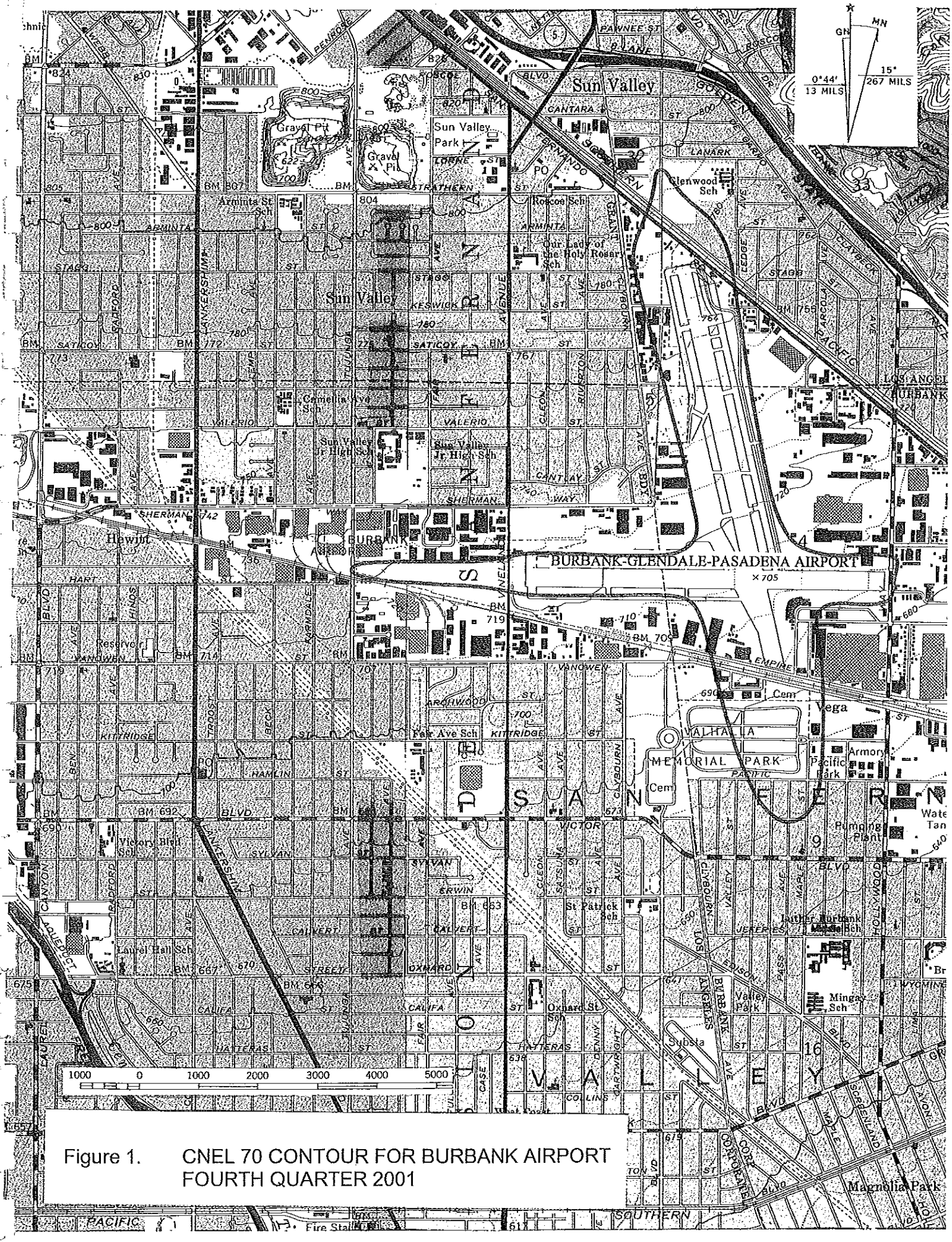

Figure 1. CNEL 70 CONTOUR FOR BURBANK AIRPORT
FOURTH QUARTER 2001

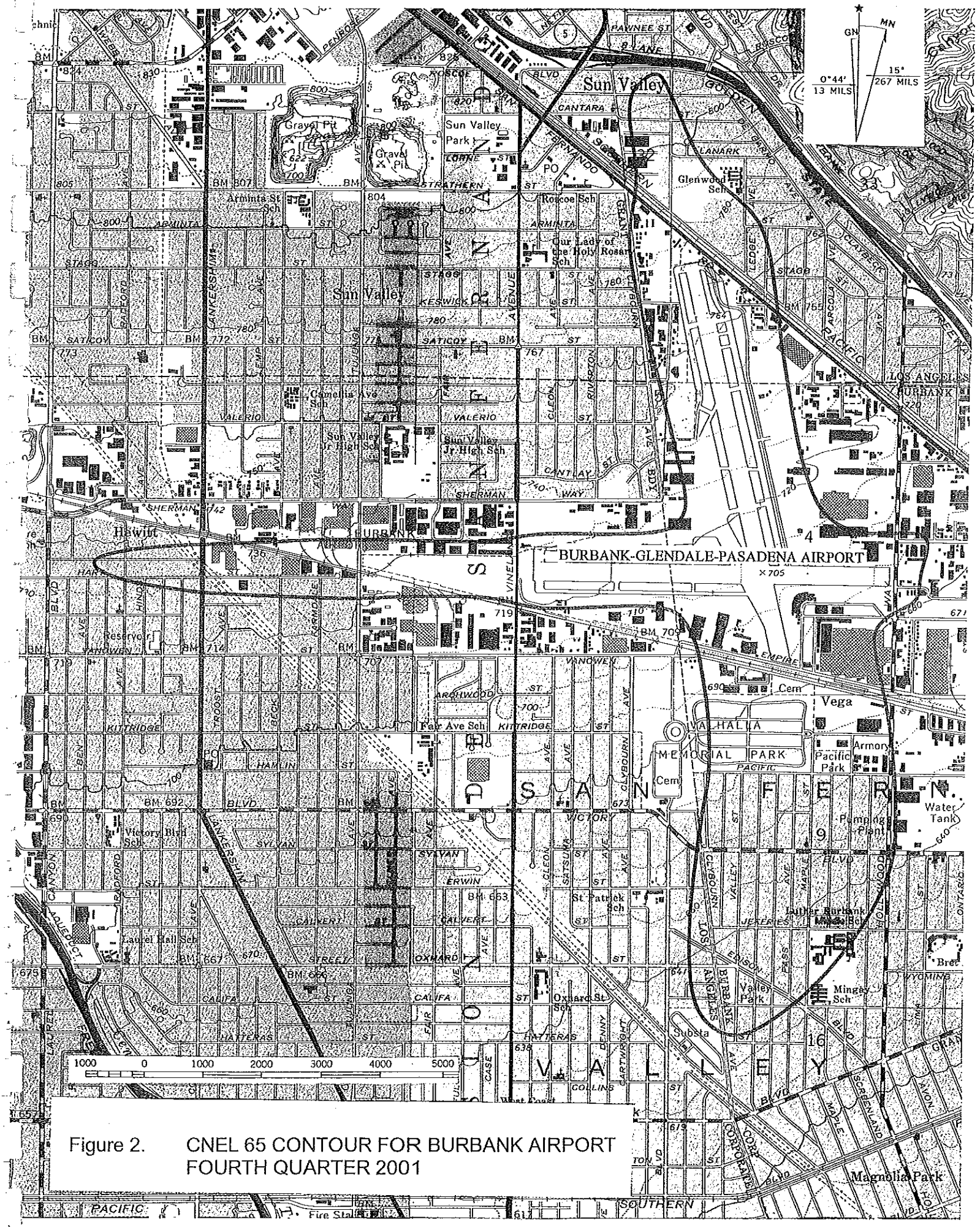

Figure 2. CNEL 65 CONTOUR FOR BURBANK AIRPORT
FOURTH QUARTER 2001

II. NOISE MEASUREMENTS

A. Sites

Aircraft noise levels were monitored at 15 locations prior to February, 1997. Two sites were added in February 1997, and equipment at one site west of the airport was moved to a new location. The noise monitor sites are shown in Figure 3. No data were recorded at Site 8 after Site 18 became active. The site is still shown on this figure.

B. Noise Measurement Equipment

Each of the microphone locations uses an identical set of equipment connected to a central control unit. The noise level at each site is digitized and transmitted by phone line to the central site. The computer at the central site processes the data to produce (among other measures) the CNEL at each site. Appendix A provides a brief description of the system.

C. Noise Data

Electrical power and phone line interruptions occurred several times during the quarter resulting in loss of data. Tables 1, 2, and 3 show each site monitoring RMS "OFF" if the site was operating for less than 94% of the time. The data for these days were excluded from the averages.

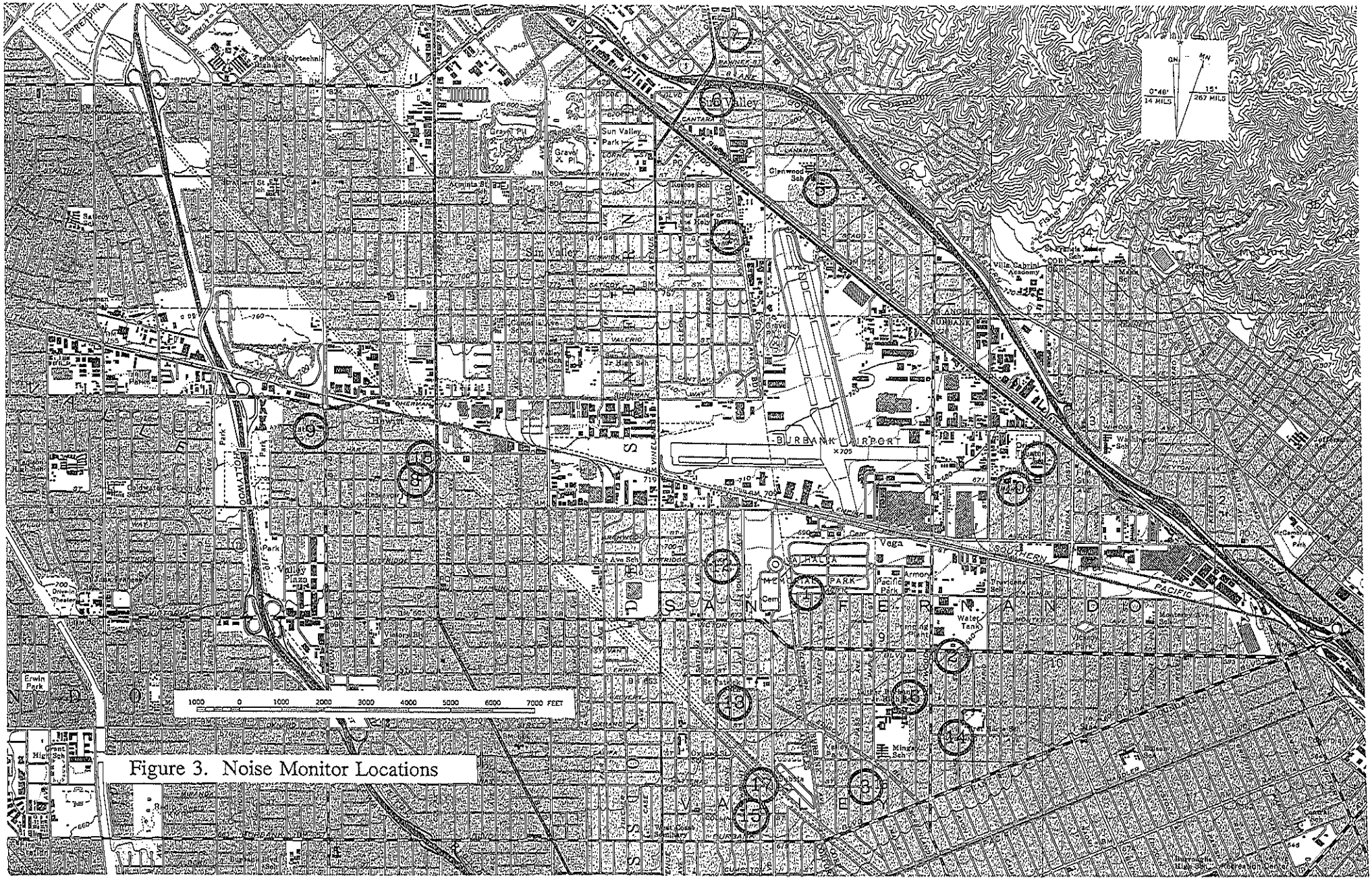

Figure 3. Noise Monitor Locations

D. Operational Data

Detailed departure and arrival logs are provided by the airlines. Operations of other jet aircraft are determined from air traffic strips provided by the FAA at Burbank Tower. In addition, flight schedules and logs of nighttime operations are provided by airport personnel.

III. MEASURED NOISE DATA

Daily CNEL values for the noise monitoring system are listed in Tables 1, 2, and 3. Table 4 lists the average values for each quarter together with the annual average.

IV. SCHEDULED AIRLINE AND COMMUTER OPERATIONS

The scheduled air carrier and commuter operations for the quarter are shown in Table 5.

V. CNEL CONTOUR DEVELOPMENT

The contours shown in Figures 1 and 2 are based upon computer-generated "master" contours which are adjusted to reflect the monitoring data. This fourth quarter 2001 used the master contours produced by Version 6.0C of the Integrated Noise Model (INM), a sophisticated aircraft noise modeling program developed for the Federal Aviation Administration. Inputs to the program consist of aircraft types and performance data, flight paths, numbers of operations, and day/evening/night distribution of flights. The program calculates CNEL values at equally spaced grid points and produces CNEL contour lines at 1 dB intervals. The annual average CNEL values at each site were marked at the appropriate locations on the contour map and the locations of the 65 and 70 dB CNEL contours were determined in the vicinity of each measuring point. These points were then joined following the general shape of the computed contours.

The master contours, used in developing the contours for this quarter are based on operations for the 12-month period from January 1998 through December 1998. This replaced the previous master set of CNEL Contours which were based on operations for the 12-month period from January 1995 through December 1995.

TABLE 1. CNEL VALUES FOR OCTOBER 2001

RMS NUMBER

DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
10/01/01	64.8	61.6	61.5	60.4	62.1	59.9	OFF	OFF	61.8	59.6	58.5	53.2	62.2	58.2	62.2	63.2	62.2	63.4
10/02/01	64.0	61.9	62.8	62.5	63.2	65.4	OFF	OFF	61.4	54.9	58.1	56.6	60.2	59.0	62.4	OFF	62.0	62.9
10/03/01	64.5	61.2	61.4	63.4	63.8	64.7	OFF	OFF	62.9	55.2	59.1	56.0	62.9	58.5	62.4	63.2	62.3	64.3
10/04/01	64.7	61.6	62.1	60.4	62.5	61.8	OFF	OFF	64.7	58.7	60.3	55.4	61.0	57.5	63.1	63.6	63.6	65.9
10/05/01	64.9	63.0	63.6	60.9	64.2	62.7	OFF	OFF	65.4	55.0	55.6	54.6	62.2	59.6	64.2	64.5	64.5	66.6
10/06/01	67.0	60.7	60.3	61.3	59.1	57.3	OFF	OFF	61.7	61.9	52.4	54.8	63.0	56.7	62.4	62.0	62.4	63.8
10/07/01	64.7	63.1	63.9	58.7	63.3	59.7	OFF	OFF	63.7	56.4	53.8	53.4	61.2	60.1	64.4	65.3	63.9	65.0
10/08/01	65.5	62.2	62.5	58.5	63.2	58.9	OFF	OFF	64.0	52.7	54.6	55.6	62.7	59.2	64.3	64.2	64.1	65.3
10/09/01	67.2	64.2	64.6	62.1	65.8	64.1	OFF	OFF	64.3	63.7	58.6	59.0	63.1	63.4	65.0	66.8	64.6	65.4
10/10/01	65.5	61.7	62.6	62.5	62.3	63.6	OFF	OFF	63.4	60.9	60.1	56.9	61.9	59.1	62.0	64.6	61.8	64.8
10/11/01	64.8	62.7	63.4	67.1	65.3	62.5	OFF	OFF	64.1	50.9	60.9	56.2	61.4	59.4	63.5	OFF	63.1	65.7
10/12/01	65.8	63.7	64.9	63.6	65.8	63.0	OFF	OFF	63.9	58.5	59.2	56.9	61.1	60.8	64.8	65.8	63.9	65.8
10/13/01	62.6	60.3	60.4	59.6	60.5	58.0	OFF	OFF	60.9	67.0	52.2	52.7	61.5	56.7	61.1	OFF	60.7	62.2
10/14/01	65.1	63.9	63.7	61.4	63.9	59.0	OFF	OFF	64.1	51.8	51.9	54.4	58.7	60.5	63.2	65.4	62.6	65.5
10/15/01	64.5	63.9	62.2	66.1	64.1	63.2	OFF	OFF	62.9	57.5	59.7	54.7	60.8	59.5	62.6	64.3	62.5	64.3
10/16/01	65.8	63.7	62.6	64.1	65.6	62.3	OFF	OFF	63.2	61.2	60.7	59.7	60.7	61.0	63.1	OFF	63.1	65.2
10/17/01	63.9	61.3	61.2	61.1	62.1	62.6	OFF	OFF	62.7	57.9	60.6	53.4	62.7	58.6	62.5	OFF	61.6	64.9
10/18/01	64.9	62.8	62.6	62.4	63.6	62.9	OFF	OFF	62.3	62.3	63.2	56.5	61.1	59.5	63.4	OFF	63.3	64.7
10/19/01	64.6	62.0	62.7	59.8	60.2	59.8	OFF	OFF	64.4	60.8	60.1	55.8	61.6	59.1	63.3	OFF	62.8	67.6
10/20/01	62.4	60.4	60.6	56.6	55.8	56.9	OFF	OFF	62.0	52.2	55.4	51.2	58.2	56.4	61.9	OFF	61.3	63.6
10/21/01	65.3	63.2	63.8	61.6	63.3	55.2	OFF	OFF	65.3	55.8	46.9	54.1	60.9	60.0	65.0	OFF	64.8	67.4
10/22/01	65.6	62.7	62.8	64.6	61.8	61.0	54.7	OFF	64.4	57.6	57.0	54.5	62.8	59.5	64.4	OFF	64.0	66.5
10/23/01	65.5	63.1	62.3	63.2	64.3	65.0	64.2	OFF	64.3	60.6	62.1	56.6	61.9	60.4	63.9	63.9	63.8	66.3
10/24/01	65.2	62.3	62.1	65.3	63.4	61.6	61.0	OFF	64.1	58.8	58.4	54.7	61.7	58.0	62.7	63.8	62.5	66.0
10/25/01	67.2	64.0	64.1	66.7	64.0	61.6	66.8	OFF	64.8	61.6	59.7	58.1	61.7	62.4	63.7	68.3	64.6	71.8
10/26/01	65.7	64.0	65.0	62.4	62.5	61.7	62.1	OFF	64.4	67.1	59.1	54.9	60.4	60.7	64.3	66.3	63.6	64.9
10/27/01	63.2	60.6	60.0	61.7	62.2	60.5	62.2	OFF	61.0	62.5	55.1	53.5	61.1	56.3	61.7	69.4	60.7	62.8
10/28/01	64.5	63.0	63.4	55.3	57.9	54.4	55.0	OFF	64.2	54.5	49.0	52.8	60.6	59.6	64.3	65.0	63.3	65.3
10/29/01	64.9	63.0	63.6	58.5	62.2	60.3	61.8	OFF	63.3	59.1	58.7	56.3	61.1	60.1	64.0	64.5	63.6	65.1
10/30/01	67.3	65.9	65.2	60.5	62.4	63.9	66.4	OFF	63.7	62.5	62.4	58.6	63.1	63.6	64.6	67.1	64.2	65.4
10/31/01	66.1	62.5	63.1	61.4	61.0	62.0	63.5	OFF	63.1	60.9	59.1	54.2	61.9	58.8	63.3	63.6	63.4	64.2
AVERAGE	65.2	62.8	63.0	62.5	63.1	61.9	63.2	0.0	63.6	60.6	58.8	55.8	61.6	59.8	63.5	65.4	63.2	65.7
NO./DAYS	31	31	31	31	31	31	10	0	31	31	31	31	31	31	31	21	31	31

TABLE 2. CNEL VALUES FOR NOVEMBER 2001

RMS NUMBER

DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
11/01/01	65.0	63.6	63.7	58.3	61.8	59.8	60.2	OFF	64.3	55.5	53.5	56.1	61.8	59.8	63.6	64.4	63.2	65.6
11/02/01	67.1	65.3	65.1	58.2	58.7	54.1	56.4	OFF	65.1	56.5	57.8	56.6	63.0	61.0	65.6	66.0	65.2	66.4
11/03/01	62.4	60.2	62.3	57.8	59.0	58.6	60.0	OFF	61.5	55.2	54.1	51.5	58.9	56.4	61.1	61.4	60.8	62.6
11/04/01	64.9	63.1	65.5	55.4	60.0	51	48.5	OFF	64.3	58.5	56	53.4	61.0	59.9	63.9	65.6	63.4	64.7
11/05/01	66.5	63.3	65.1	60.7	61.1	57.4	57.6	OFF	63.1	62.4	56.3	57.1	61.7	60.4	63.2	65.5	63.0	64.3
11/06/01	64.7	61.3	61.9	62.2	60.1	62.7	59.7	OFF	64.4	57.3	49.2	54.3	61.0	57.9	62.1	62.6	61.4	65.2
11/07/01	64.8	62.1	63.1	60.0	61.3	62.0	60.2	OFF	63.5	53.4	52.3	54.7	61.1	58.7	62.5	63.7	62.1	64.7
11/08/01	64.2	62.6	64.5	61.7	61.8	63.3	64.4	OFF	63.6	58.5	59.9	54.8	59.6	59.2	62.3	64.5	62.0	63.9
11/09/01	65.5	63.1	64.7	63.0	63.7	63.1	61.6	OFF	65.4	60.3	56.0	55.8	60.1	59.8	62.9	65.4	62.4	65.9
11/10/01	63.1	62.7	61.7	57.4	60.5	55.5	54.7	OFF	62.8	54.0	52.0	51.9	60.1	57.2	61.7	62.4	61.9	63.2
11/11/01	65.0	62.6	64.1	60.3	59.7	54.3	60.0	OFF	63.7	56.3	47.9	54.5	61.2	59.3	63.7	64.4	63.3	65.0
11/12/01	66.5	64.4	64.5	59.5	60.9	56.3	61.2	OFF	64.1	55.5	56.4	56.3	62.3	61.4	63.5	65.7	62.9	65.0
11/13/01	65.6	62.4	63.9	62.1	61.6	64.5	64.1	OFF	62.7	58.1	58.6	57.6	62.1	59.6	62.9	64.9	62.2	64.5
11/14/01	66.1	62.4	63.9	68.1	69.2	66.2	65.9	OFF	62.8	62.3	60.9	60.2	60.3	59.4	62.6	64.0	62.1	64.5
11/15/01	65.3	62.8	64.8	65.3	64.3	64.4	64.9	OFF	62.9	55.5	60.0	59.4	62.5	59.8	64.3	64.8	63.9	64.3
11/16/01	65.3	64.4	65.6	61.3	61.1	61.2	63.1	OFF	64.3	58.3	57.0	56.4	59.0	61.2	63.5	65.8	62.4	65.3
11/17/01	62.7	59.9	61.1	59.6	60.8	60.8	62.1	OFF	61.8	54.3	55.9	51.8	59.2	56.7	60.5	61.2	60.4	62.3
11/18/01	63.9	62.5	63.0	60.6	67.0	59.2	58.9	OFF	62.8	53.1	53.3	54.9	59.9	61.9	62.3	64.5	61.9	64.0
11/19/01	64.6	63.2	65	62.1	60.3	62.1	62.3	OFF	62.6	60.0	58.1	58.2	61.3	60.4	62.5	65.5	61.7	63.3
11/20/01	64.8	63.4	65.5	63.6	66.5	65.5	65.2	OFF	61.3	53.6	55.9	57.6	60.6	61.0	63.6	66.0	62.7	62.9
11/21/01	65.0	62.8	64.4	62.9	61.4	63.9	64.4	OFF	63.8	59.3	58.0	57.0	61.0	59.6	63.8	64.7	63.1	65.1
11/22/01	61.0	59.5	61.3	53.9	56.3	60.3	58.3	OFF	60.8	56.7	53.8	51.7	57.3	56.8	60.6	62.8	59.8	61.4
11/23/01	61.5	59.8	60.3	60.6	59.1	61.2	59.1	OFF	60.4	58.1	55.2	53.1	58.1	56.2	59.9	61.7	59.7	61.9
11/24/01	63.9	62.4	63.6	63.4	63.7	57.2	59.3	OFF	64.2	56.3	59.5	55.1	60.6	59.7	62.6	63.5	62.1	65.4
11/25/01	64.1	63.7	66.2	53.7	64.3	57.0	64.0	OFF	63.9	50.6	49.5	56.7	63.2	60.7	63.6	66.0	63.4	65.7
11/26/01	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
11/27/01	62.5	53.5	57.0	65.6	66.0	68.9	65.3	OFF	60.2	55.8	53.9	59.7	53.5	59.1	54.5	59.5	57.0	62.6
11/28/01	63.5	59.8	60.9	61.6	64.3	62.7	64.0	OFF	63.6	56.5	58.2	54.3	60.5	55.9	61.3	OFF	60.8	63.3
11/29/01	65.8	62.5	62.8	63.3	62.9	63.6	61.4	OFF	63.6	55.6	57.2	55.4	62.8	59.6	63.6	OFF	62.9	64.9
11/30/01	67.0	64.6	64.4	62.8	64.6	64.2	63.6	OFF	62.8	55.0	55.7	60.5	63.2	60.6	63.1	OFF	63.2	64.9
AVERAGE	64.8	62.6	63.8	62.0	63.1	62.4	62.2	0.0	63.3	57.5	56.6	56.4	61.0	59.6	62.8	64.4	62.3	64.4
NO./DAYS	29	29	29	29	29	29	29	0	29	29	29	29	29	29	29	26	29	29

TABLE 3. CNEL VALUES FOR DECEMBER 2001

RMS NUMBER

DATE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
12/01/01	62.8	60.6	60.8	56.2	57.3	55.5	60.8	OFF	60.9	55.4	53.6	52.5	59.6	57.7	60.4	OFF	60.1	61.6
12/02/01	60.5	56.2	56.5	57.5	58.0	47.5	51.1	OFF	64.7	52.0	41.8	50.2	55.9	53.2	56.8	OFF	56.3	57.4
12/03/01	60.9	58.3	58.8	60.7	57.0	60.4	52.4	OFF	56.5	56.1	50.2	52.7	59.5	55.8	59.5	OFF	58.9	59.2
12/04/01	62.6	54.4	54.2	64.9	65.8	66.9	61.9	OFF	50.6	57.1	57.6	59.0	54.1	52.6	52.5	OFF	52.1	53.3
12/05/01	62.2	58.9	59.9	57.1	58.7	64.8	57.4	OFF	57.7	63.1	56.7	55.9	59.2	55.8	60.3	OFF	59.9	60.2
12/06/01	62.3	59.0	59.6	61.0	60.2	62.7	61.7	OFF	56.7	50.0	51.4	56.5	58.8	55.4	58.2	OFF	59.3	59.4
12/07/01	58.6	55.1	57.8	61.9	62.7	65.2	61.2	OFF	55.3	46.4	59.0	53.1	52.3	51.4	56.2	OFF	55.9	60.4
12/08/01	56.7	55.1	55.8	54.3	53.9	47.2	52.1	OFF	51.3	51.7	48.7	48.0	52.1	50.5	53.7	OFF	55.1	55.1
12/09/01	60.2	55.9	58.7	58.0	57.6	62.0	56.2	OFF	53.4	47.5	47.4	50.4	57.0	52.2	58.5	OFF	58.3	58.2
12/10/01	60.3	58.4	61.3	61.0	62.3	63.9	61.9	OFF	56.5	56.2	54.0	52.4	57.3	56.5	58.6	OFF	58.9	59.2
12/11/01	60.8	48.6	54.5	64.0	64.1	66.6	63.2	OFF	56.8	49.7	53.5	55.4	50.5	54.9	50.9	OFF	48.0	61.3
12/12/01	62.8	59.9	61.5	58.7	59.3	61.0	60.1	OFF	58.7	53.1	53.5	57.3	58.7	57.8	60.3	OFF	59.9	59.7
12/13/01	62.4	59.9	62.3	60.6	62.8	58.0	59.3	OFF	59.4	54.9	54.5	57.9	59.1	57.4	61.7	62.6	61.5	62.7
12/14/01	60.5	58.5	60.4	61.1	61.6	64.5	60.6	OFF	55.2	50.1	49.0	54.6	55.8	56.5	58.6	63.1	57.7	58.1
12/15/01	57.0	52.7	50.1	56.3	55.0	58.5	53.9	OFF	51.3	56.3	48.3	50.7	50.9	46.2	48.8	55.8	48.8	55.8
12/16/01	58.4	55.2	59.7	53.7	54.2	50.5	57.1	OFF	56.1	50.4	49.0	50.9	55.2	52.6	59.1	58.9	58.5	59.7
12/17/01	61.4	58.0	60.2	58.9	60.2	58.3	55.6	OFF	58.6	52.7	53.6	56.3	58.5	54.9	56.6	59.3	58.6	59.7
12/18/01	62.7	58.7	60.3	59.8	62.3	62.7	62.7	OFF	57.8	58.9	48.3	56.6	58.8	56.5	60.3	59.9	60.5	60.5
12/19/01	62.0	60.3	60.2	59.1	59.5	58.5	57.1	OFF	59.1	57.4	55.0	57.6	57.9	56.2	60.1	60.8	59.5	60.8
12/20/01	63.2	62.6	60.0	68.9	68.9	61.1	58.8	OFF	61.3	57.7	52.8	54.3	58.7	60.5	59.2	62.9	58.7	62.6
12/21/01	59.7	59.5	60.9	62.1	59.3	58.0	58.1	OFF	61.2	64.0	54.1	52.0	57.9	55.9	58.1	61.1	59.5	62.9
12/22/01	60.2	58.2	61.1	54.4	58.1	49.1	53.5	OFF	57.5	54.8	51.7	51.7	57.0	54.4	59.4	60.7	60.3	60.0
12/23/01	56.7	53.4	55.1	55.6	56.1	55.0	53.2	OFF	56.4	52.4	40.9	47.2	51.1	50.2	53.1	57.0	53.1	58.1
12/24/01	59.8	55.8	59.6	60.5	60.5	55.4	55.5	OFF	53.5	51.4	48.4	51	55.4	54.4	57.4	58.1	57.4	58.0
12/25/01	62.2	60.3	63.1	60.1	65.0	57.4	59.1	OFF	59.8	49.8	52.5	54.3	58.1	58.2	61.1	62.2	61.0	61.5
12/26/01	59.9	58.1	58.4	59	58.3	57.1	58.1	OFF	56.4	52.6	49.8	54.1	57.1	54.3	58.7	59.8	58.2	60.4
12/27/01	60.3	59.9	62.3	59.3	58.7	59.2	62.4	OFF	57.3	55.9	55.8	53.0	56.5	57.3	59.4	61.1	60.9	60.9
12/28/01	61.3	58.5	59.4	55.8	51.9	55.6	57.1	OFF	59.0	51.7	47.4	52.5	58.2	55.1	58.9	59.3	59.2	60.5
12/29/01	63.0	61.6	62.7	58.5	56.7	59.6	59.8	OFF	63.4	57.9	53.1	54.7	59.6	58.4	62.5	63.4	61.7	64.7
12/30/01	58.6	56.8	58.6	56.9	57.3	58.6	55.4	OFF	56.7	50.8	49.1	48.8	56.3	53.6	57.5	OFF	57.5	58.8
12/31/01	59.7	58.7	58.4	55.1	51.5	50.5	46.9	OFF	58.0	57.5	50.8	50.8	57.9	54.8	58.5	OFF	57.7	59.1
AVERAGE	61.0	58.4	59.8	60.6	61.0	61.0	59.0	0.0	58.5	56.2	52.9	54.3	57.3	55.7	58.7	60.8	58.7	60.2
NO./DAYS	31	31	31	31	31	31	31	0	31	31	31	31	31	31	31	17	31	31
QTR. AVG.	64.0	61.7	62.5	61.8	62.5	61.8	61.2	0.0	62.3	58.5	56.7	55.6	60.3	58.7	62.1	64.1	61.8	64.0
NO./DAYS	91	91	91	91	91	91	70	0	91	91	91	91	91	91	91	64	91	91
02/01/02																		

TABLE 4. AVERAGE CNEL VALUES

Site No.	1st Quarter 2001	2nd Quarter 2001	3rd Quarter 2001	4th Quarter 2001	4-Quarter Average
1	68.0	65.9	65.5	64.0	66.1
2	63.6	63.5	62.3	61.7	62.8
3	63.9	63.7	62.8	62.5	63.3
4	65.5	63.2	62.3	61.8	63.4
5	65.9	63.9	62.7	62.5	64.0
6	64.7	63.2	62.6	61.8	63.2
7	61.5	61.9	61.7	61.2	61.6
8	0.0	0.0	0.0	0.0	0.0
9	64.6	64.6	63.3	62.3	63.8
10	60.9	59.7	58.9	58.5	59.6
11	60.2	59.1	58.0	56.7	58.7
12	59.1	56.5	55.1	55.6	56.9
13	63.0	62.5	61.6	60.3	62.0
14	60.9	60.4	59.3	58.7	59.9
15	64.6	64.0	63.3	62.1	63.6
16	66.2	65.6	64.5	64.1	65.2
17	64.2	63.8	63.2	61.8	63.3
18	65.9	65.6	64.9	64.0	65.2

TABLE 5. WEEKLY SCHEDULED AIR CARRIER AND COMMUTER FLIGHTS FOR THE FOURTH QUARTER 2001

SCHEDULE IN EFFECT FROM 10/01/01 - 10/06/01

	AA DEPA MD80	AA ARRI MD80	AS DEPA MD80	AS ARRI MD80	HP DEPA B7373	HP ARRI B7373	WN DEPA B7373	WN ARRI B7373
DAY	7	7	7	7	21	21	184	177
EVENING	0	7	0	0	0	0	52	47
NIGHT	7	0	0	0	0	0	0	12
TOTAL	14	14	7	7	21	21	236	236

SCHEDULE IN EFFECT FROM 10/01/01 - 10/06/01

	WN DEPA B7375	WN ARRI B7375	WN DEPA B7377	WN ARRI B7377	UA DEPA B7373	UA ARRI B7373	UA DEPA B7375	UA ARRI B7375
DAY	63	63	28	21	21	14	27	27
EVENING	20	20	7	15	7	21	0	0
NIGHT	0	0	1	0	7	0	0	0
TOTAL	83	83	36	36	35	35	27	27

SCHEDULE IN EFFECT FROM 10/01/01 - 10/06/01

	HP DEPA A320	HP ARRI A320	HP DEPA A319	HP ARRI A319	AS DEPA B7374	AS ARRI B7374	UA DEPA B727Q	UA ARRI B727Q
DAY	0	0	0	0	0	0	7	7
EVENING	0	0	0	7	7	7	0	0
NIGHT	0	0	7	0	0	0	0	0
TOTAL	0	0	7	7	7	7	7	7

SCHEDULE IN EFFECT FROM 10/01/01 - 10/06/01

	UPS DEPA B757	UPS ARRI B757	FE DEPA B727Q	FE ARRI B727Q	FE DEPA A300	FE ARRI A300	AS DEPA B7377	AS ARRI B7377
DAY	0	5	0	0	0	5	21	14
EVENING	5	0	0	0	5	0	0	7
NIGHT	0	0	0	0	0	0	0	0
TOTAL	5	5	0	0	5	5	21	21

	TOTAL DEPA	**TOTAL ARRI**
	386	**368**
	103	**131**
	22	**12**
	511	**511**

TABLE 5. (CONTINUED)

SCHEDULE IN EFFECT FROM 10/07/01 - 10/27/01

	AA DEPA MD80	AA ARRI MD80	AS DEPA MD80	AS ARRI MD80	HP DEPA B7373	HP ARRI B7373	WN DEPA B7373	WN ARRI B7373
DAY	7	7	7	7	21	21	183	176
EVENING	0	7	0	0	0	0	55	49
NIGHT	7	0	0	0	0	0	0	13
TOTAL	14	14	7	7	21	21	238	238

SCHEDULE IN EFFECT FROM 10/07/01 - 10/27/01

	WN DEPA B7375	WN ARRI B7375	WN DEPA B7377	WN ARRI B7377	UA DEPA B7373	UA ARRI B7373	UA DEPA B7375	UA ARRI B7375
DAY	63	63	26	20	21	14	27	27
EVENING	19	19	6	12	7	21	0	0
NIGHT	0	0	0	0	7	0	0	0
TOTAL	82	82	32	32	35	35	27	27

SCHEDULE IN EFFECT FROM 10/07/01 - 10/27/01

	HP DEPA A320	HP ARRI A320	HP DEPA A319	HP ARRI A319	AS DEPA B7374	AS ARRI B7374	UA DEPA B727Q	UA ARRI B727Q
DAY	0	0	0	0	0	0	7	7
EVENING	0	0	0	7	7	7	0	0
NIGHT	0	0	7	0	0	0	0	0
TOTAL	0	0	7	7	7	7	7	7

SCHEDULE IN EFFECT FROM 10/07/01 - 10/27/01

	UPS DEPA B757	UPS ARRI B757	FE DEPA B727Q	FE ARRI B727Q	FE DEPA A300	FE ARRI A300	AS DEPA B7377	AS ARRI B7377
DAY	0	5	0	0	0	5	21	14
EVENING	5	0	0	0	5	0	0	7
NIGHT	0	0	0	0	0	0	0	0
TOTAL	5	5	0	0	5	5	21	21

	TOTAL DEPA	**TOTAL ARRI**
DAY	**383**	**366**
EVENING	**104**	**129**
NIGHT	**21**	**13**
TOTAL	**508**	**508**

TABLE 5. (CONTINUED)

SCHEDULE IN EFFECT FROM 10/28/01 - 10/29/01

	AA DEPA MD80	AA ARRI MD80	AS DEPA MD80	AS ARRI MD80	HP DEPA B7373	HP ARRI B7373	WN DEPA B7373	WN ARRI B7373
DAY	7	7	14	13	0	0	162	169
EVENING	0	7	6	7	0	7	54	47
NIGHT	7	0	0	0	7	0	0	0
TOTAL	14	14	20	20	7	7	216	216

SCHEDULE IN EFFECT FROM 10/28/01 - 10/29/01

	WN DEPA B7375	WN ARRI B7375	WN DEPA B7377	WN ARRI B7377	UA DEPA B7373	UA ARRI B7373	UA DEPA B7375	UA ARRI B7375
DAY	62	57	40	33	21	14	27	27
EVENING	19	24	6	13	7	21	0	0
NIGHT	0	0	0	0	7	0	0	0
TOTAL	81	81	46	46	35	35	27	27

SCHEDULE IN EFFECT FROM 10/28/01 - 10/29/01

	HP DEPA A320	HP ARRI A320	HP DEPA A319	HP ARRI A319	AS DEPA B7374	AS ARRI B7374	UA DEPA B727Q	UA ARRI B727Q
DAY	0	0	0	0	0	0	7	7
EVENING	0	0	0	0	6	6	0	0
NIGHT	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	6	6	7	7

SCHEDULE IN EFFECT FROM 10/28/01 - 10/29/01

	UPS DEPA B757	UPS ARRI B757	FE DEPA B727Q	FE ARRI B727Q	FE DEPA A300	FE ARRI A300	AS DEPA B7377	AS ARRI B7377
DAY	0	5	0	0	0	5	14	14
EVENING	5	0	0	0	5	0	0	0
NIGHT	0	0	0	0	0	0	0	0
TOTAL	5	5	0	0	5	5	14	14

SCHEDULE IN EFFECT FROM 10/28/01 - 10/29/01

	HP DEPA CRJ	HP ARRI CRJ	**TOTAL DEPA**	**TOTAL ARRI**
DAY	28	28	**382**	**379**
EVENING	0	0	**108**	**132**
NIGHT	0	0	**21**	**0**
TOTAL	28	28	**511**	**511**

TABLE 5. (CONTINUED)

SCHEDULE IN EFFECT FROM 10/30/01 - 10/30/01

	AA DEPA MD80	AA ARRI MD80	AS DEPA MD80	AS ARRI MD80	HP DEPA B7373	HP ARRI B7373	WN DEPA B7373	WN ARRI B7373
DAY	7	7	14	13	0	0	162	169
EVENING	0	7	6	7	0	7	54	47
NIGHT	7	0	0	0	7	0	0	0
TOTAL	14	14	20	20	7	7	216	216

SCHEDULE IN EFFECT FROM 10/30/01 - 10/30/01

	WN DEPA B7375	WN ARRI B7375	WN DEPA B7377	WN ARRI B7377	UA DEPA B7373	UA ARRI B7373	UA DEPA B7375	UA ARRI B7375
DAY	62	57	40	33	21	14	27	27
EVENING	19	24	6	13	7	21	0	0
NIGHT	0	0	0	0	7	0	0	0
TOTAL	81	81	46	46	35	35	27	27

SCHEDULE IN EFFECT FROM 10/30/01 - 10/30/01

	HP DEPA A320	HP ARRI A320	HP DEPA A319	HP ARRI A319	AS DEPA B7374	AS ARRI B7374	UA DEPA B727Q	UA ARRI B727Q
DAY	0	0	0	0	0	0	7	7
EVENING	0	0	0	0	6	6	0	0
NIGHT	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	6	6	7	7

SCHEDULE IN EFFECT FROM 10/30/01 - 10/30/01

	UPS DEPA B757	UPS ARRI B757	FE DEPA B727Q	FE ARRI B727Q	FE DEPA A300	FE ARRI A300	AS DEPA B7377	AS ARRI B7377
DAY	0	5	4	0	0	5	14	14
EVENING	5	0	0	0	5	0	0	0
NIGHT	0	0	0	4	0	0	0	0
TOTAL	5	5	4	4	5	5	14	14

SCHEDULE IN EFFECT FROM 10/30/01 - 10/30/01

	HP DEPA CRJ	HP ARRI CRJ	**TOTAL DEPA**	**TOTAL ARRI**
DAY	28	28	**386**	**379**
EVENING	0	0	**108**	**132**
NIGHT	0	0	**21**	**4**
TOTAL	28	28	**515**	**515**

TABLE 5. (CONTINUED)

SCHEDULE IN EFFECT FROM 10/31/01 - 10/31/01

	AA DEPA MD80	AA ARRI MD80	AS DEPA MD80	AS ARRI MD80	HP DEPA B7373	HP ARRI B7373	WN DEPA B7373	WN ARRI B7373
DAY	7	7	14	13	0	0	162	169
EVENING	0	7	6	7	0	7	54	47
NIGHT	7	0	0	0	7	0	0	0
TOTAL	14	14	20	20	7	7	216	216

SCHEDULE IN EFFECT FROM 10/31/01 - 10/31/01

	WN DEPA B7375	WN ARRI B7375	WN DEPA B7377	WN ARRI B7377	UA DEPA B7373	UA ARRI B7373	UA DEPA B7375	UA ARRI B7375
DAY	62	57	40	33	42	35	7	0
EVENING	19	24	6	13	0	14	0	7
NIGHT	0	0	0	0	7	0	0	0
TOTAL	81	81	46	46	49	49	7	7

SCHEDULE IN EFFECT FROM 10/31/01 - 10/31/01

	HP DEPA A320	HP ARRI A320	HP DEPA A319	HP ARRI A319	AS DEPA B7374	AS ARRI B7374	UA DEPA B727Q	UA ARRI B727Q
DAY	0	0	0	0	0	0	0	0
EVENING	0	0	0	0	6	6	0	0
NIGHT	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	6	6	0	0

SCHEDULE IN EFFECT FROM 10/31/01 - 10/31/01

	UPS DEPA B757	UPS ARRI B757	FE DEPA B727Q	FE ARRI B727Q	FE DEPA A300	FE ARRI A300	AS DEPA B7377	AS ARRI B7377
DAY	0	5	4	0	0	5	14	14
EVENING	5	0	0	0	5	0	0	0
NIGHT	0	0	0	4	0	0	0	0
TOTAL	5	5	4	4	5	5	14	14

SCHEDULE IN EFFECT FROM 10/31/01 - 10/31/01

	HP DEPA CRJ	HP ARRI CRJ	**TOTAL DEPA**	**TOTAL ARRI**
DAY	28	28	**380**	**366**
EVENING	0	0	**101**	**132**
NIGHT	0	0	**21**	**4**
TOTAL	28	28	**502**	**502**

TABLE 5. (CONTINUED)

SCHEDULE IN EFFECT FROM 11/01/01 - 11/03/01

	AA DEPA MD80	AA ARRI MD80	AS DEPA MD80	AS ARRI MD80	HP DEPA B7373	HP ARRI B7373	WN DEPA B7373	WN ARRI B7373
DAY	14	7	14	13	0	0	162	169
EVENING	0	7	6	7	0	7	54	47
NIGHT	0	0	0	0	7	0	0	0
TOTAL	14	14	20	20	7	7	216	216

SCHEDULE IN EFFECT FROM 11/01/01 - 11/03/01

	WN DEPA B7375	WN ARRI B7375	WN DEPA B7377	WN ARRI B7377	UA DEPA B7373	UA ARRI B7373	UA DEPA B7375	UA ARRI B7375
DAY	62	57	40	33	42	35	7	0
EVENING	19	24	6	13	0	14	0	7
NIGHT	0	0	0	0	7	0	0	0
TOTAL	81	81	46	46	49	49	7	7

SCHEDULE IN EFFECT FROM 11/01/01 - 11/03/01

	HP DEPA A320	HP ARRI A320	HP DEPA A319	HP ARRI A319	AS DEPA B7374	AS ARRI B7374	UA DEPA B727Q	UA ARRI B727Q
DAY	0	0	0	0	0	0	0	0
EVENING	0	0	0	0	6	6	0	0
NIGHT	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	6	6	0	0

SCHEDULE IN EFFECT FROM 11/01/01 - 11/03/01

	UPS DEPA B757	UPS ARRI B757	FE DEPA B727Q	FE ARRI B727Q	FE DEPA A300	FE ARRI A300	AS DEPA B7377	AS ARRI B7377
DAY	0	5	4	0	0	5	14	14
EVENING	5	0	0	0	5	0	0	0
NIGHT	0	0	0	4	0	0	0	0
TOTAL	5	5	4	4	5	5	14	14

SCHEDULE IN EFFECT FROM 11/01/01 - 11/03/01

	HP DEPA CRJ	HP ARRI CRJ	**TOTAL DEPA**	**TOTAL ARRI**
DAY	28	28	**387**	**366**
EVENING	0	0	**101**	**132**
NIGHT	0	0	**14**	**4**
TOTAL	28	28	**502**	**502**

TABLE 5. (CONTINUED)

SCHEDULE IN EFFECT FROM 11/04/01 - 11/13/01

	AA DEPA MD80	AA ARRI MD80	AS DEPA MD80	AS ARRI MD80	HP DEPA B7373	HP ARRI B7373	WN DEPA B7373	WN ARRI B7373
DAY	14	7	7	13	0	0	162	169
EVENING	0	7	6	0	0	7	54	47
NIGHT	0	0	0	0	7	0	0	0
TOTAL	14	14	13	13	7	7	216	216

SCHEDULE IN EFFECT FROM 11/04/01 - 11/13/01

	WN DEPA B7375	WN ARRI B7375	WN DEPA B7377	WN ARRI B7377	UA DEPA B7373	UA ARRI B7373	UA DEPA B7375	UA ARRI B7375
DAY	62	57	40	33	42	35	7	0
EVENING	19	24	6	13	0	14	0	7
NIGHT	0	0	0	0	7	0	0	0
TOTAL	81	81	46	46	49	49	7	7

SCHEDULE IN EFFECT FROM 11/04/01 - 11/13/01

	HP DEPA A320	HP ARRI A320	HP DEPA A319	HP ARRI A319	AS DEPA B7374	AS ARRI B7374	UA DEPA B727Q	UA ARRI B727Q
DAY	0	0	0	0	0	0	0	0
EVENING	0	0	0	0	6	6	0	0
NIGHT	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	6	6	0	0

SCHEDULE IN EFFECT FROM 11/04/01 - 11/13/01

	UPS DEPA B757	UPS ARRI B757	FE DEPA B727Q	FE ARRI B727Q	FE DEPA A300	FE ARRI A300	AS DEPA B7377	AS ARRI B7377
DAY	0	5	4	0	0	5	7	0
EVENING	5	0	0	0	5	0	6	13
NIGHT	0	0	0	4	0	0	0	0
TOTAL	5	5	4	4	5	5	13	13

SCHEDULE IN EFFECT FROM 11/04/01 - 11/13/01

	HP DEPA CRJ	HP ARRI CRJ	**TOTAL DEPA**	**TOTAL ARRI**
DAY	28	28	**373**	**352**
EVENING	0	0	**107**	**138**
NIGHT	0	0	**14**	**4**
TOTAL	28	28	**494**	**494**

TABLE 5. (CONTINUED)

SCHEDULE IN EFFECT FROM 11/14/01 - 11/26/01

	AA DEPA MD80	AA ARRI MD80	AS DEPA MD80	AS ARRI MD80	HP DEPA B7373	HP ARRI B7373	WN DEPA B7373	WN ARRI B7373
DAY	14	7	7	13	0	0	162	169
EVENING	0	7	6	0	0	7	54	47
NIGHT	0	0	0	0	7	0	0	0
TOTAL	14	14	13	13	7	7	216	216

SCHEDULE IN EFFECT FROM 11/14/01 - 11/26/01

	WN DEPA B7375	WN ARRI B7375	WN DEPA B7377	WN ARRI B7377	UA DEPA B7373	UA ARRI B7373	UA DEPA B7375	UA ARRI B7375
DAY	62	57	40	33	42	35	7	0
EVENING	19	24	6	13	0	14	0	7
NIGHT	0	0	0	0	7	0	0	0
TOTAL	81	81	46	46	49	49	7	7

SCHEDULE IN EFFECT FROM 11/14/01 - 11/26/01

	HP DEPA A320	HP ARRI A320	HP DEPA A319	HP ARRI A319	AS DEPA B7374	AS ARRI B7374	UA DEPA B727Q	UA ARRI B727Q
DAY	0	0	0	0	14	14	0	0
EVENING	0	0	0	0	0	0	0	0
NIGHT	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	14	14	0	0

SCHEDULE IN EFFECT FROM 11/14/01 - 11/26/01

	UPS DEPA B757	UPS ARRI B757	FE DEPA B727Q	FE ARRI B727Q	FE DEPA A300	FE ARRI A300	AS DEPA B7377	AS ARRI B7377
DAY	0	5	4	0	0	5	7	0
EVENING	5	0	0	0	5	0	6	13
NIGHT	0	0	0	4	0	0	0	0
TOTAL	5	5	4	4	5	5	13	13

SCHEDULE IN EFFECT FROM 11/14/01 - 11/26/01

	HP DEPA CRJ	HP ARRI CRJ	**TOTAL DEPA**	**TOTAL ARRI**
DAY	28	28	**387**	**366**
EVENING	0	0	**101**	**132**
NIGHT	0	0	**14**	**4**
TOTAL	28	28	**502**	**502**

TABLE 5. (CONTINUED)

SCHEDULE IN EFFECT FROM 11/27/01 - 12/14/01

	AA DEPA MD80	AA ARRI MD80	AS DEPA MD80	AS ARRI MD80	HP DEPA B7373	HP ARRI B7373	WN DEPA B7373	WN ARRI B7373
DAY	14	7	7	13	0	0	162	169
EVENING	0	7	6	0	0	7	54	47
NIGHT	0	0	0	0	7	0	0	0
TOTAL	14	14	13	13	7	7	216	216

SCHEDULE IN EFFECT FROM 11/27/01 - 12/14/01

	WN DEPA B7375	WN ARRI B7375	WN DEPA B7377	WN ARRI B7377	UA DEPA B7373	UA ARRI B7373	UA DEPA B7375	UA ARRI B7375
DAY	62	57	40	33	42	35	7	0
EVENING	19	24	6	13	0	14	0	7
NIGHT	0	0	0	0	7	0	0	0
TOTAL	81	81	46	46	49	49	7	7

SCHEDULE IN EFFECT FROM 11/27/01 - 12/14/01

	HP DEPA A320	HP ARRI A320	HP DEPA A319	HP ARRI A319	AS DEPA B7374	AS ARRI B7374	UA DEPA B727Q	UA ARRI B727Q
DAY	0	0	0	0	14	14	0	0
EVENING	0	0	0	0	0	0	0	0
NIGHT	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	14	14	0	0

SCHEDULE IN EFFECT FROM 11/27/01 - 12/14/01

	UPS DEPA B757	UPS ARRI B757	FE DEPA B727Q	FE ARRI B727Q	FE DEPA A300	FE ARRI A300	AS DEPA B7377	AS ARRI B7377
DAY	0	5	0	0	0	5	7	0
EVENING	5	0	5	0	5	0	6	13
NIGHT	0	0	0	5	0	0	0	0
TOTAL	5	5	5	5	5	5	13	13

SCHEDULE IN EFFECT FROM 11/27/01 - 12/14/01

	HP DEPA CRJ	HP ARRI CRJ	**TOTAL DEPA**	**TOTAL ARRI**
DAY	28	28	**383**	**366**
EVENING	0	0	**106**	**132**
NIGHT	0	0	**14**	**5**
TOTAL	28	28	**503**	**503**

TABLE 5. (CONTINUED)

SCHEDULE IN EFFECT FROM 12/15/01 - 12/31/01

	AA DEPA MD80	AA ARRI MD80	AS DEPA MD80	AS ARRI MD80	HP DEPA B7373	HP ARRI B7373	WN DEPA B7373	WN ARRI B7373
DAY	14	14	7	13	0	0	162	169
EVENING	0	7	6	0	0	0	54	47
NIGHT	7	0	0	0	0	0	0	0
TOTAL	21	21	13	13	0	0	216	216

SCHEDULE IN EFFECT FROM 12/15/01 - 12/31/01

	WN DEPA B7375	WN ARRI B7375	WN DEPA B7377	WN ARRI B7377	UA DEPA B7373	UA ARRI B7373	UA DEPA B7375	UA ARRI B7375
DAY	62	57	40	33	42	35	7	0
EVENING	19	24	6	13	0	14	0	7
NIGHT	0	0	0	0	7	0	0	0
TOTAL	81	81	46	46	49	49	7	7

SCHEDULE IN EFFECT FROM 12/15/01 - 12/31/01

	HP DEPA A320	HP ARRI A320	HP DEPA A319	HP ARRI A319	AS DEPA B7374	AS ARRI B7374	UA DEPA B727Q	UA ARRI B727Q
DAY	7	7	7	7	14	14	0	0
EVENING	0	0	0	7	0	0	0	0
NIGHT	0	0	7	0	0	0	0	0
TOTAL	7	7	14	14	14	14	0	0

SCHEDULE IN EFFECT FROM 12/15/01 - 12/31/01

	UPS DEPA B757	UPS ARRI B757	FE DEPA B727Q	FE ARRI B727Q	FE DEPA A300	FE ARRI A300	AS DEPA B7377	AS ARRI B7377
DAY	0	5	0	0	0	5	7	0
EVENING	5	0	5	0	5	0	6	13
NIGHT	0	0	0	5	0	0	0	0
TOTAL	5	5	5	5	5	5	13	13

SCHEDULE IN EFFECT FROM 12/15/01 - 12/31/01

	HP DEPA CRJ	HP ARRI CRJ	**TOTAL DEPA**	**TOTAL ARRI**
DAY	13	13	**382**	**372**
EVENING	0	0	**106**	**132**
NIGHT	0	0	**21**	**5**
TOTAL	13	13	**509**	**509**

TABLE 5. (CONTINUED)

FOURTH QUARTER 2001

PERIOD TOTALS FOR
AIR CARRIERS AND COMMUTERS

AIR CARRIERS

	DEP	ARR
DAY	5028	4812
EVE	1375	1734
NIGHT	233	90
TOTAL	6636	6636

COMMUTERS

	DEP	ARR
DAY	0	0
EVE	0	0
NIGHT	0	0
TOTAL	0	0

AIR CARRIERS AND COMMUTERS

	DEP	ARR
DAY	5028	4812
EVE	1375	1734
NIGHT	233	90
TOTAL	6636	6636

VI. INCOMPATIBLE LAND USE

The contours shown in Figures 1 and 2 were digitized and overlaid on a digital land use map of the area around the Airport. The total areas enclosed by the 65 and 70 dB CNEL contours were 1,169.5 and 476.6 acres, respectively. The areas of incompatible land uses enclosed by the contours were then computed[2]. The incompatible land use areas were 246.51 acres within the 65 dB contour and 7.9 acres within the 70 dB contour.

It should be noted that the above incompatible land areas do not include the soundproofed schools in the vicinity of the Airport (the Luther Burbank Middle School, St. Patrick and Glenwood Schools). The above incompatible land use areas also do not include those residences to which the Airport has acquired avigation easements. Within the 65 dB contour, the Airport has acquired avigation easements, through its ongoing sound insulation program, to 224 parcels of land. Those 224 parcels total 33.44 acres. Thirty six of the 224 parcels, totaling 5.57 acres, are also located within the 70 dB contour. Within the 65 dB contour, the Airport has also acquired avigation easements, under the Court of Appeal decision in Baker vs. Burbank-Glendale-Pasadena Airport Authority, 220 Cal.App.3d 1602 (1990), to an additional 53 parcels of land. Those parcels total 7.75 acres. Six of those 53 parcels, totaling 0.86 acres, are located within the 70dB contour.

The estimated numbers of residences are 1,109 within the 65 dB contour, and 36 within the 70 dB contour. The estimated numbers of people residing within the 65 and 70 dB CNEL contours are 2,995 and 96 respectively.

---

[2] AAAI maintains a digitized map of the existing land use around the Airport. This data base has been employed on a consistent basis in determining the land use and contour areas reported in the quarterly noise reports.

REFERENCES

1. California Department of Transportation, Division of Aeronautics, "Noise Standards", California Code of Regulations, Title 21, Chapter 2.5, Subchapter 6.

2. L-30488, Department of Transportation, State of California, 27 June 1984.

3. "Quarterly Noise Monitoring at Burbank Airport, First Quarter 2001, AAAI Report 1256.

4. "Quarterly Noise Monitoring at Burbank Airport, Second Quarter 2001", AAAI Report 1257.

5. "Quarterly Noise Monitoring at Burbank Airport, Third Quarter 2001", AAAI Report 1258.

APPENDIX A
NOISE MONITOR INSTRUMENTATION

APPENDIX A
NOISE MONITOR INSTRUMENTATION

The permanent noise monitor system, manufactured by Tracor, consists of 17 remote monitoring stations (RMS) connected to a central site by telephone lines. The system block diagram showing the major elements is shown in Figure A-1. The electrical signal generated by the microphone/preamplifier assembly at each site is processed in the RMS electronics. The signal is passed through an A-weighting filter and is then detected and converted to a digital level signal in decibels with a resolution of 0.1 dB.

The digitized sound level is transmitted every half second by telephone line to the central site. The data received by the central site are processed by the computer. According to preset parameters, the noise is separated into two categories--aircraft noise and community noise. Each event attributed to an aircraft is saved in a noise event file. Computations are made of hourly noise level, community noise equivalent level, runway use, and other parameters. A wide variety of data presentations is available by exercising a number of routines provided by Tracor, as well as special-purpose routines that can be generated by the user.

The locations of the remote sites (shown in Figure 3) are listed relative to the runway thresholds in Table A-1.

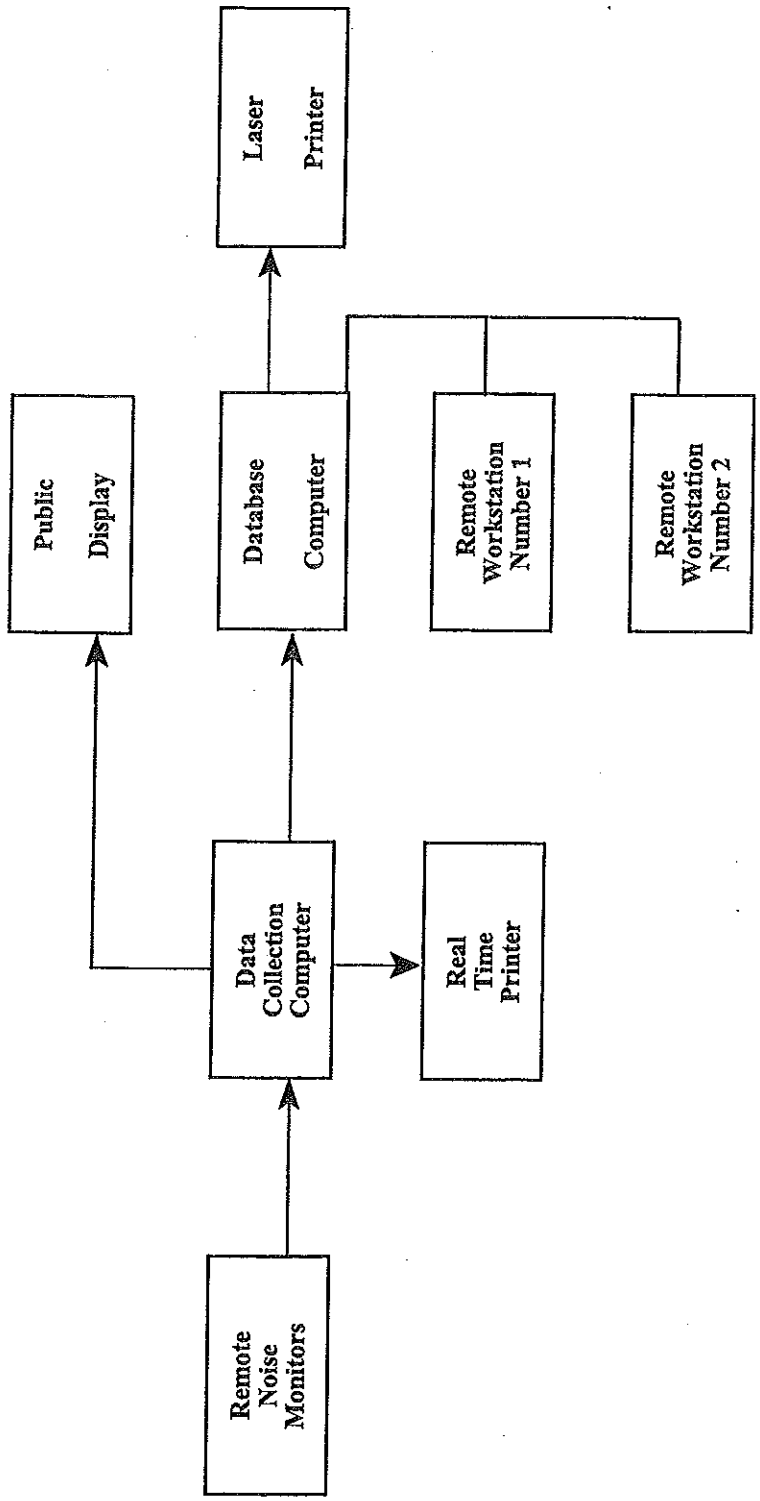

FIGURE A-1. PERMANENT NOISE MONITOR SYSTEM BLOCK DIAGRAM

TABLE A-1
NOISE MONITOR SITE LOCATIONS

Site No.	Distance From N. End of RW 15	Distance From Extended Centerline
1	8590	-1490
2	10830	1590
3	13440	-1090
4	-150	1200
5	-810	1100
6	-3280	-740
7	-4720	-50
12	7520	-3320
13	10660	-3600
14	12780	1160
15	13380	-3920
16	11600	360
17	12900	-3520

Note: Positive distances from the runway threshold are to the south; positive distances from the extended centerline are to the east.

Site No.	Distance From W. End of RW 8	Distance From Extended Centerline
8	-5900	-820
9	-8700	220
10	8180	-880
11	8740	-110
18	-5880	-440

Note: Positive distances from the runway threshold are to the east; positive distances from the extended centerline are to the north.

APPENDIX B
CALIBRATION

APPENDIX B
CALIBRATION

The system was calibrated during setup using a Bruel and Kjaer pistonphone. Acoustic calibrations are being performed approximately every six months. Electrical calibrations are performed automatically shortly after midnight each day. Figure B-1 shows the latest calibration certificate of the pistonphone employed in the acoustic calibrations and Figure B-2 shows a typical electrical calibration.

CERTIFICATE OF CALIBRATION
For Brüel & Kjær Pistonphone
Type 4228

The calibration is performed by comparison with Calibration Service Standard Pistonphones :

Type 4220 serial No. **1476021** and
Type 4220 serial No. **1510240**

Calibrated by: TS (BRÜEL & KJÆR) Date: **14 AUG 2000**
Re-calibration due **14 AUG 2001**

a) Estimated uncertainty of comparison:
$\pm$ **0.04** dB at 99% confidence level.
b) Estimated uncertainty of Calibration Service Standard Pistonphone:
$\pm$ **0.09** dB at 99% confidence level.
c) Absolute uncertainty:
Sq. Root (a^2+b^2) = **0.10** dB at 99% confidence level.

Serial No. **2245246** ID No. N/A

Sound Pressure Level produced in the coupler terminated by a loading volume of 1,333 cm^3 at 1013 mbar, 20°C, 65% R.H. **124.04** dB re $20_{\mu}Pa$

This calibration is traceable to:
NIST Test No. 822/261669-99

Frequency: 251.16 Hz in "On" position

Distortion: Less than 3%

If the **Ambient Pressure** P_a deviates from the above stated nominal value 1013 mbar a correction Δ SPL should be added to the calibrated Sound Pressure Level.

Δ SPL = 20 x $\log_{10}$, Pa (hPa)/1013

Condition of Test:

Ambient Pressure	989.76	hPa
Temperature	23	°C
Relative Humidity	41	%
Date of Calibration	05 APR 2001	
Re-calibration due on	05 APR 2002	

Calibration procedure: Brüel & Kjær 4228, Rev 08 FEB 2001

Certificate # 9439-1
PO # A1280
For : Burbank Airport, Burbank, CA 91505

PERFORMANCE AS RECEIVED:

Frequency	251.16	Hz
SPL	124.04	dB
Distortion	0.45	%
HF Noise	-55	dB re 124 dB
Batt. Voltage	N/A	VOLT

Was repair or adjustment performed? No!
Were parts replaced? No!
Were batteries replaced? NEW!

FINAL PERFORMANCE:

Frequency	251.16	Hz
SPL	124.04	dB
Distortion	0.45	%
HF Noise:	-55	dB re 124 dB

Note: This pistonphone was within MFG. specifications as received.

Calibration performed by:

Torben Ehlert, Quality Assurance Manager

ODIN METROLOGY, INC.
CALIBRATION OF BRÜEL & KJÆR INSTRUMENTS
3533 OLD CONEJO ROAD, SUITE 125
THOUSAND OAKS, CA 91320
PHONE: (805) 375-0830 FAX: (805) 375-0405

Note: This calibration report shall not be reproduced, except in full, without written consent of Odin Metrology, Inc.

```
*************************
*  Calibration Report  *
*************************

Calibration RMS: 1  Passed Peak:109.8 dB @ 01/13/2002  0:06
Calibration RMS: 2  Passed Peak:110.0 dB @ 01/13/2002  0:06
Calibration RMS: 3  Passed Peak:109.8 dB @ 01/13/2002  0:06
Calibration RMS: 4  Passed Peak:109.7 dB @ 01/13/2002  0:06
Calibration RMS: 5  Passed Peak:109.9 dB @ 01/13/2002  0:06
Calibration RMS: 6  Passed Peak:110.0 dB @ 01/13/2002  0:06
Calibration RMS: 7  Passed Peak:109.9 dB @ 01/13/2002  0:06
Calibration RMS: 9  Passed Peak:109.6 dB @ 01/13/2002  0:06
Calibration RMS:10 Passed Peak:110.0 dB @ 01/13/2002  0:06
Calibration RMS:11 Passed Peak:110.0 dB @ 01/13/2002  0:06
Calibration RMS:12 Passed Peak:110.1 dB @ 01/13/2002  0:06
Calibration RMS:13 Passed Peak:110.1 dB @ 01/13/2002  0:06
Calibration RMS:14 Passed Peak:110.0 dB @ 01/13/2002  0:06
Calibration RMS:15 Passed Peak:110.0 dB @ 01/13/2002  0:06
Calibration RMS:16 Passed Peak:110.1 dB @ 01/13/2002  0:06
Calibration RMS:17 Passed Peak:109.7 dB @ 01/13/2002  0:06
Calibration RMS:18 Passed Peak:109.8 dB @ 01/13/2002  0:06
```

Figure B-2. Typical Daily Electrical Calibration