SUMMARY OF NOISE MONITORING RESULTS

AMBIENT NOISE MEASUREMENTS AT THE AUTO CLUB DRAG STRIP
FEBRUARY 17-19, 2006

NOISE MEASUREMENTS AT THE AUTO CLUB DRAG STRIP
FEBRUARY 26, 2006

NOISE MEASUREMENTS AT THE AUTO CLUB DRAG STRIP
AUGUST 19, 2006

NOISE MEASUREMENTS AT THE AUTO CLUB DRAG STRIP
SEPTEMBER, 16 2006

NOISE MEASUREMENTS AT THE AUTO CLUB DRAG STRIP
SEPTEMBER 28, 2006

NOISE MEASUREMENTS AT THE AUTO CLUB DRAG STRIP
MARCH 24, 2007

NOISE MEASUREMENTS AT THE AUTO CLUB DRAG STRIP
APRIL 21, 2007

NOISE MEASUREMENTS AT THE AUTO CLUB DRAG STRIP
MAY 7, 2007

AUTO CLUB S P E E D W A Y

C O U N T Y O F S A N B E R N A R D I N O

Prepared by:

Gordon Bricken
President

/mmb
92335

Prepared for:

MR. MIKE YURICK
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9300 Cherry Avenue
Fontana, California

October 2008

AMBIENT NOISE MEASUREMENTS AT THE AUTO CLUB DRAG STRIP

FEBRUARY 17-19, 2006

06/160
~~DRAFT~~

GORDON BRICKEN & ASSOCIATES

ACOUSTICAL and ENERGY ENGINEERS

March 13, 2006

P R O J E C T N O I S E A N A L Y S I S

A U T O C L U B D R A G S T R I P

C O U N T Y O F S A N B E R N A R D I N O

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A set of three locations was selected for measurements of the ambient noise levels. The locations are given in Table 1.

TABLE 1

AMBIENT MEASUREMENT LOCATIONS

1. 250 feet north of the centerline of Whittram Avenue, between Banana Avenue and Calabash Avenue.

2. 90 feet south of the centerline of Arrow Highway and 75 feet west of the centerline of Mulberry Avenue.

3. 30 feet north of the centerline of Ceres Avenue in-line with Live Oak Avenue.

The measurements consisted of short-term and 72 hour measurements. The short-term measurements are mainly intended to depict the typical variation in the sound level at the three locations. The measurements were conducted using an Ono Sokki, Model LA1250, Type 2 Sound Level Meter, and a Bruel and Kjaer, Model 2317, Portable Level Recorder. The time charts are shown on Exhibits 1, 2, and 3. Note that the sound levels are considerably even for these short sample periods.

The 72 hour measurements were conducted in three, 24 periods beginning at Friday 12 Midnight Friday, February 17, 2006 and ending at 11:59 P.M. Sunday, February 19, 2006. The measurements were conducted using Larson-Davis, Model 700, Integrating Sound Level Meters. The instruments were programmed to provide data in the form of statistical parameters. However, to simplify the graphical presentation, only the maximum level (Lmax) and the level exceeded 30 minutes in an hour (L50) are plotted on Exhibits 4, 5, and 6.

The proposed period of drag strip operation is 9:00 A.M, to 6:00 P.M. The range of levels for Lmax and L50 as well as the site 24 hour Community Noise Equivalent Level (CNEL) are given in Table 2 on the following page.

TABLE 2

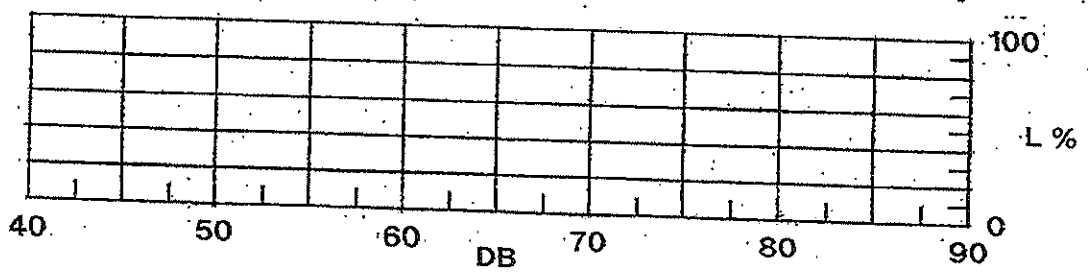
RANGE OF AMBIENT SOUND LEVELS

LOCATION	DAY	Lmax	L50	CNEL
#1	2/17	65 - 105	49 - 58	74.0
	2/18	72 - 87	49 - 55	70.6
	2/19	77 - 111	50 - 54	76.5
#2	2/17	65 - 116	49 - 56	73.2
	2/18	67 - 90	48 - 54	60.8
	2/19	73 - 114	51 - 53	76.2
#3	2/17	79 - 104	51 - 57	74.5
	2/18	77 - 90	55 - 60	66.5
	2/19	73 - 109	51 - 52	72.2

It is instructive to compare the results of Table 2 with the criteria that might apply to the project's design. The California Speedway has a limit of Lmax = 85 dBA, L50 = 65 dBA, and CNEL = 65 dBA for residential uses. The Lmax level is exceeded in some hours, but the L50 is not exceeded. The CNEL level is exceeded in all three days at all three locations. The industrial limits are higher at Lmax = 90 dBA, L50 = 70 dBA, and CNEL = 75 dBA. The Lmax level is exceeded sometimes, the L50 level is never exceeded, and the CNEL level is exceeded sometimes. Of the 27 hours over the three days between 9:00 A.M. and 6:00 P.M., the Lmax level is exceeded at least once an hour for eleven (11) hours at Location #1, ten (10) hours at Location #2 and seven (7) hours at Location #3.

EXHIBIT 1

DATE	2/16/06
CHART SPEED	.3mm
SCALE	A
LOCATION	WHITTRAM AVE.



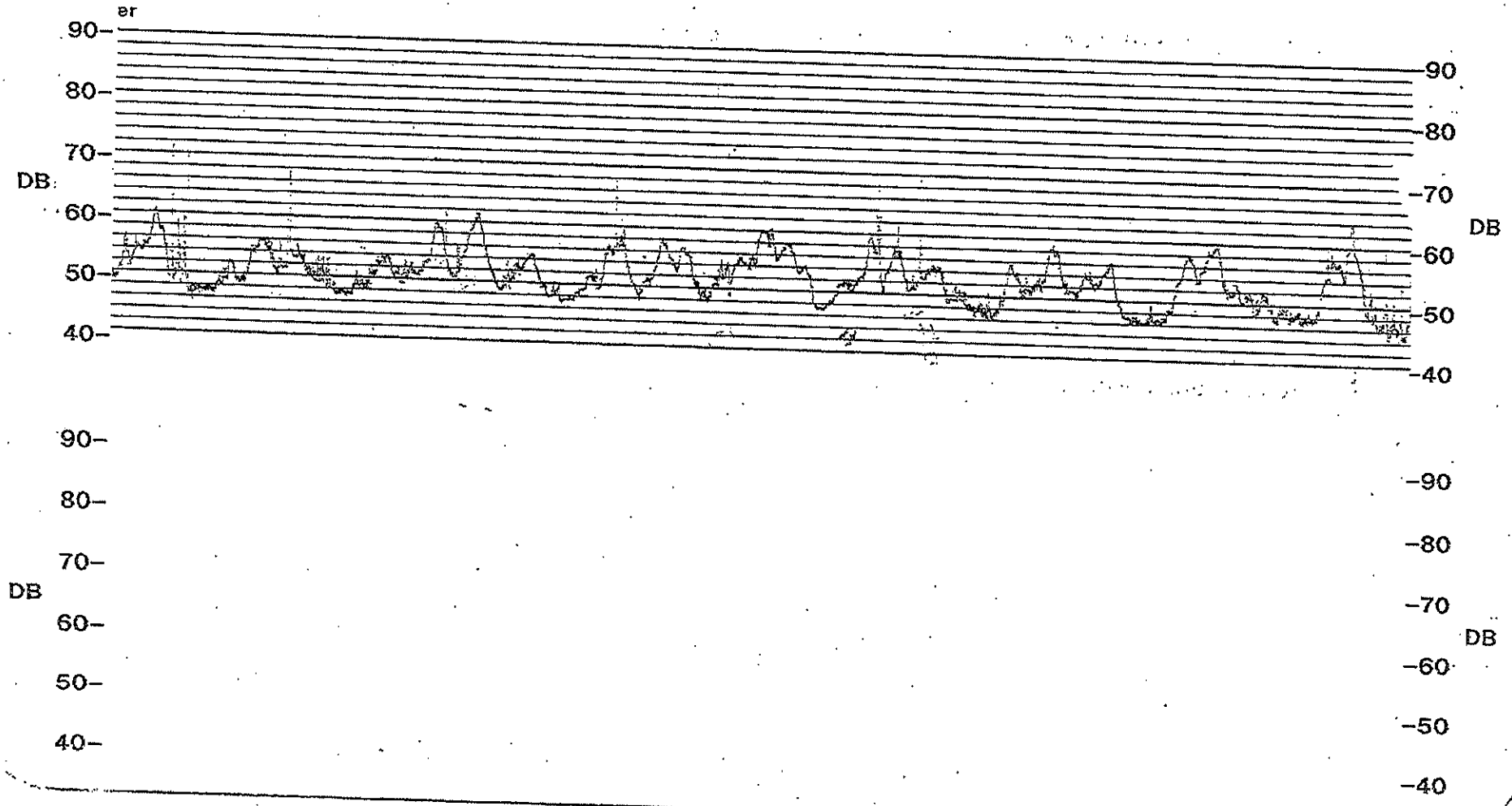
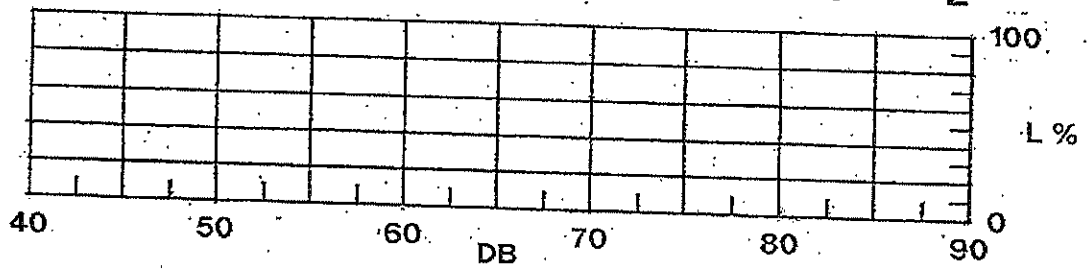


EXHIBIT 2

DATE 2/16/06
CHART SPEED .3mm
SCALE A
LOCATION MULBERRY



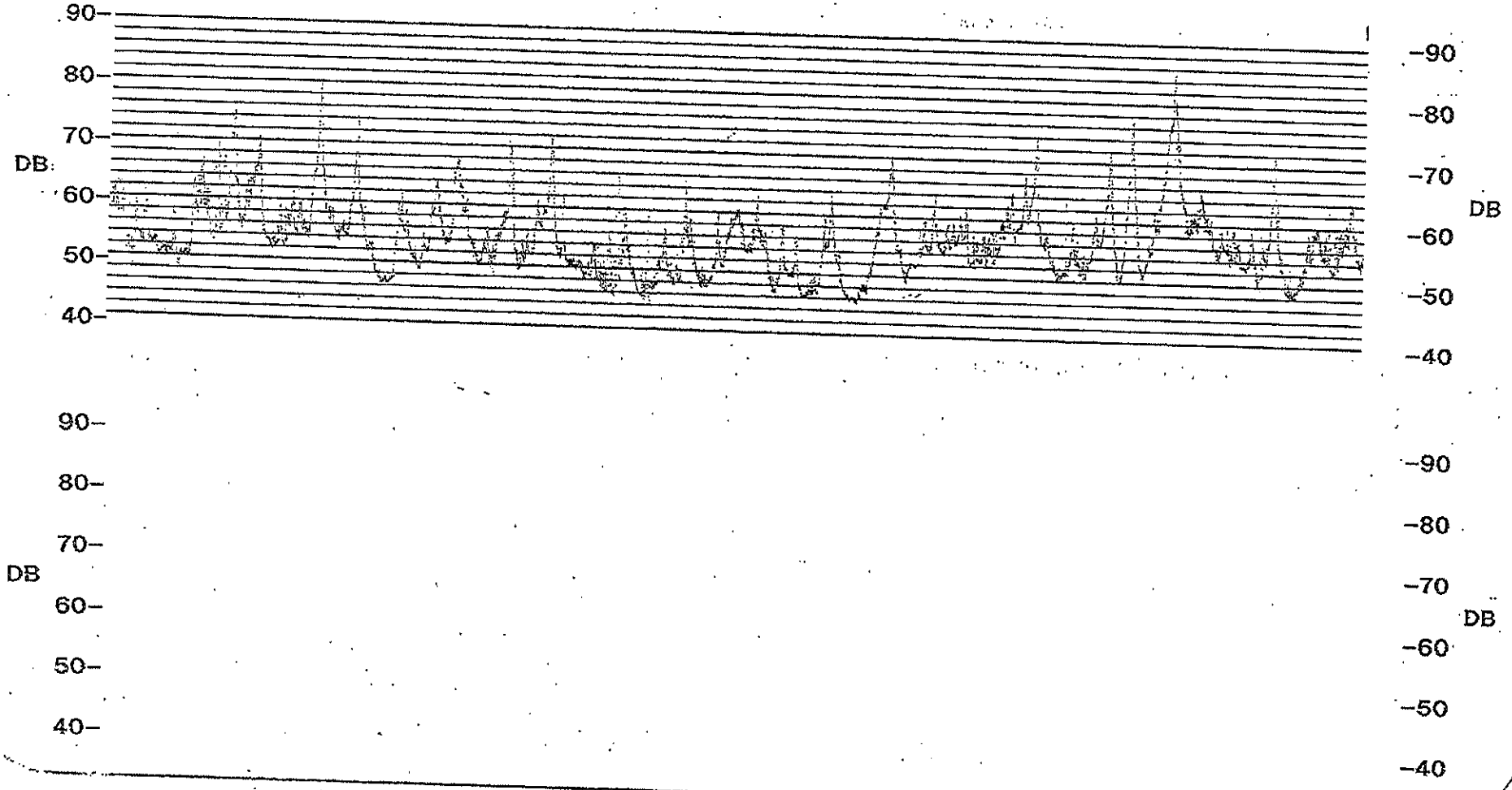
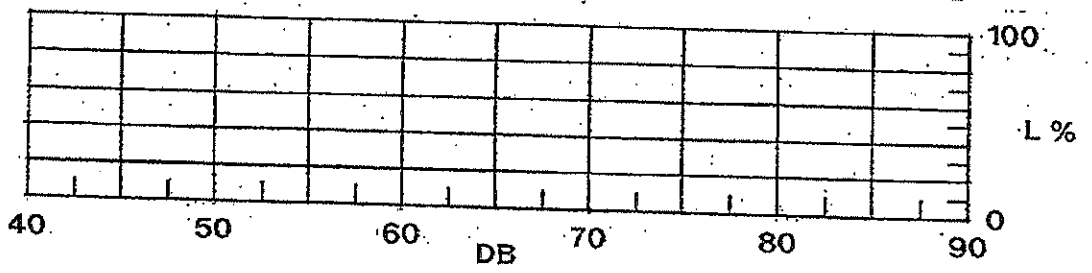
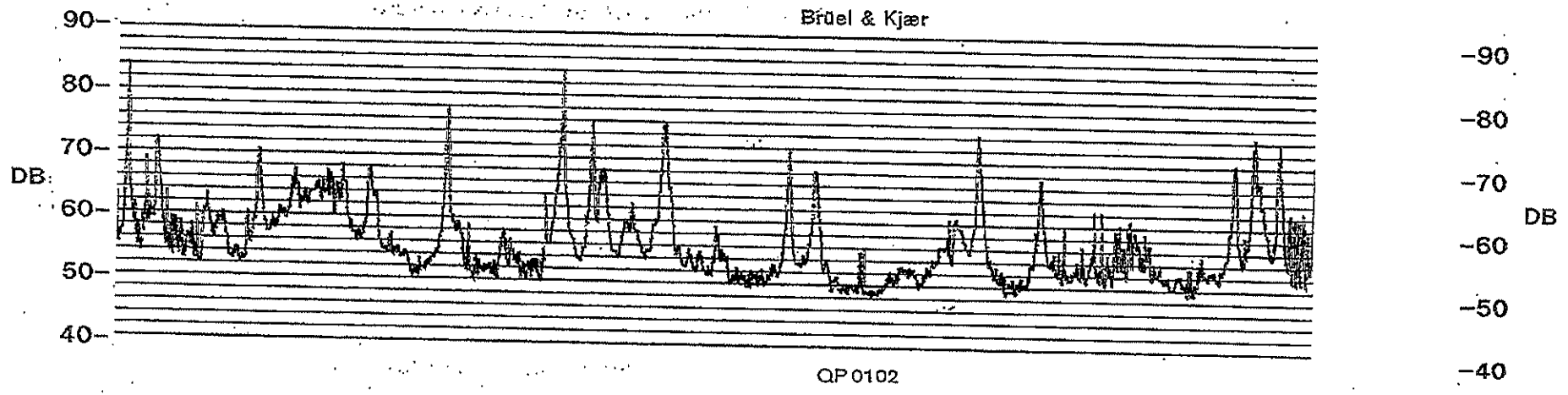


EXHIBIT 3

DATE	2/16/06
CHART SPEED	.3mm
SCALE	A
LOCATION	CERES @ LIVE OAK





90
80
70
DB
60
50
40
-90
-80
-70
DB
-60
-50
-40

EXHIBIT 4

HOURLY SOUND LEVELS FOR 72 HOUR PERIOD AT
POSITION #1 250 FEET FROM CENTERLINE OF WHITTRAM
ROAD NORTH OF THE SPEEDWAY STARTING AT
12 AM FRIDAY 2/17/06 AND STOPPING AT 11:59 PM
ON SUNDAY 2/19/06

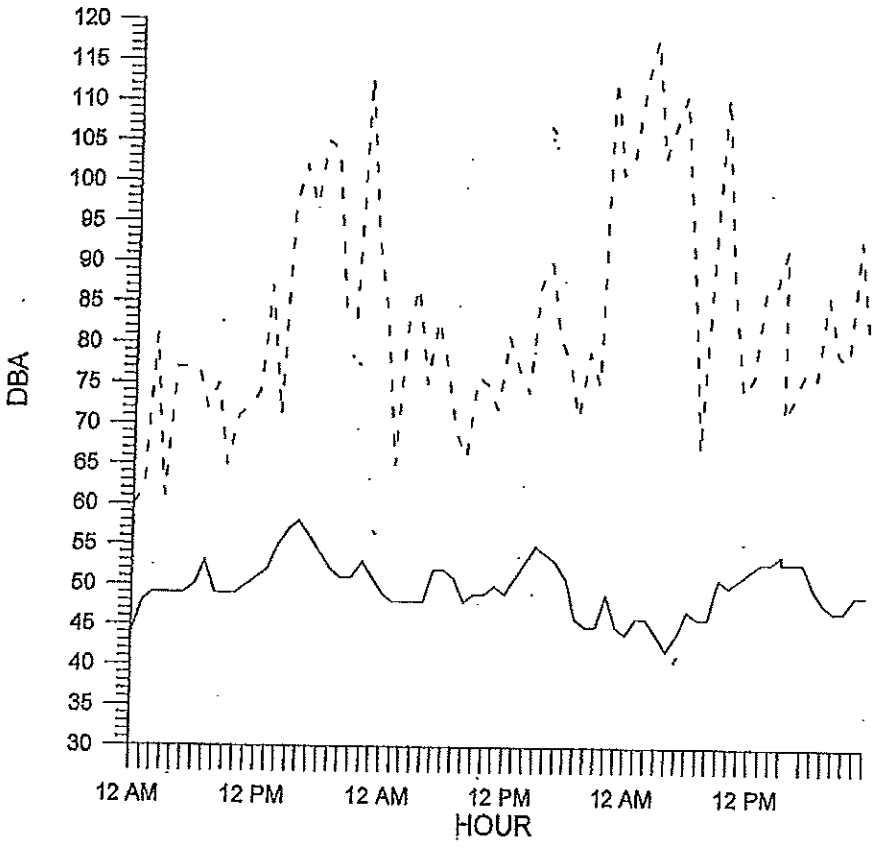


EXHIBIT 5

HOURLY SOUND LEVELS FOR 72 HOUR PERIOD AT
POSITION #2 90 FEET FROM CENTERLINE OF ARROW HYWAY
ROAD NORTH OF THE SPEEDWAY STARTING AT
12 AM FRIDAY 2/17/06 AND STOPPING AT 11:59 PM
ON SUNDAY 2/19/06

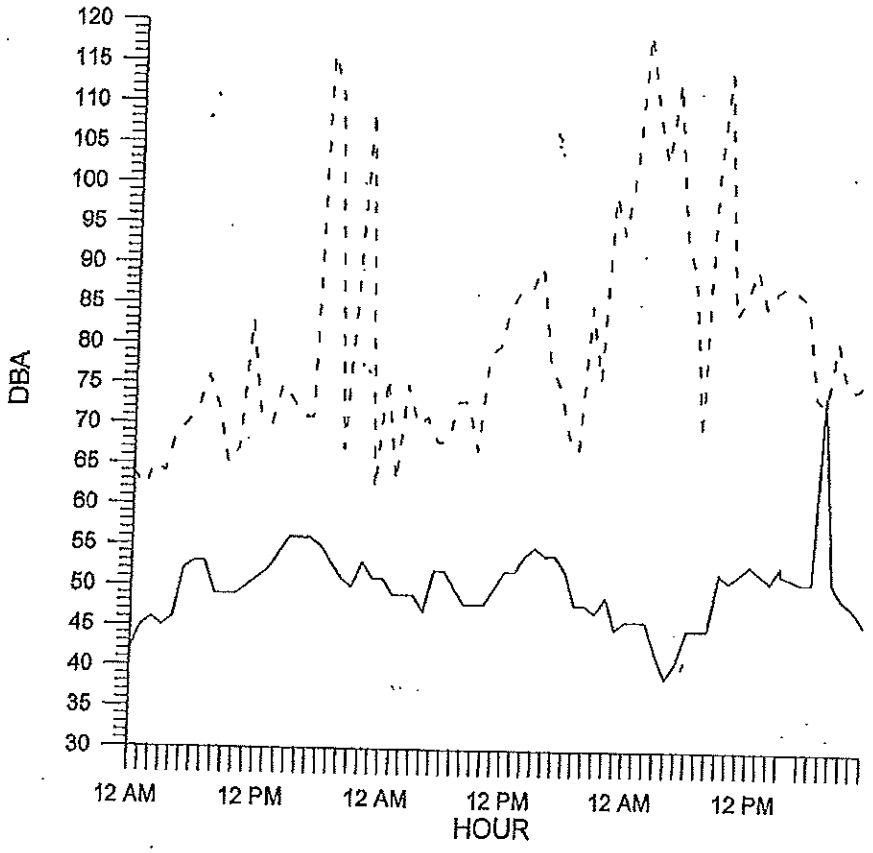
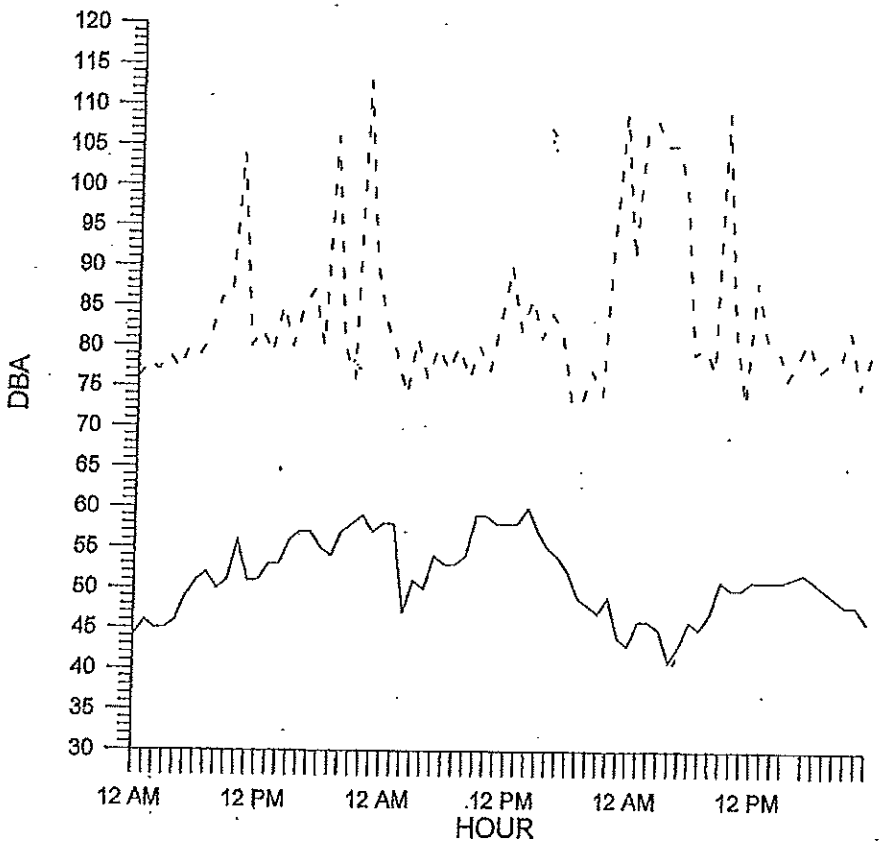


EXHIBIT 6

HOURLY SOUND LEVELS FOR 72 HOUR PERIOD AT POSITION #3 30 FEET FROM CENTERLINE OF CERES ROAD EAST OF THE SPEEDWAY STARTING AT 12 AM FRIDAY 2/17/06 AND STOPPING AT 11:59 PM ON SUNDAY 2/19/06



NOISE MEASUREMENTS AT THE AUTO CLUB DRAG STRIP

FEBRUARY 26, 2006

GORDON BRICKEN & ASSOCIATES
ACOUSTICAL and ENERGY ENGINEERS

April 12, 2006

P R O J E C T N O I S E A N A L Y S I S

C A L I F O R N I A S P E E D W A Y N E X T E L C U P

C O U N T Y O F S A N B E R N A R D I N O

Prepared by:

Gordon Bricken
President

/mmb

Prepared for:

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GORDON BRICKEN & ASSOCIATES
ACOUSTICAL and ENERGY ENGINEERS

SUMMARY

Noise measurements were conducted at the Nextel Cup event on February 26, 2006. This report presents the results of those measurements in the areas north and east of the track. The track did not comply with the terms of the special noise limits adopted for the Speedway.

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GORDON BRICKEN & ASSOCIATES
ACOUSTICAL and ENERGY ENGINEERS

1.0 INTRODUCTION

This report will present the noise information pertaining to the noise levels north and east of the California Speedway during the running of the February 26, 2006, Nextel Cup NASCAR event. The location of the track is shown on Exhibit 1. The site and the surrounding areas are flat. There are mixed residential, commercial and industrial land uses north and east of the track.

3.0 APPLICABLE NOISE CRITERIA

At the time of the approval of the Speedway, a special set of criteria were adopted by the County. Those limits are given in Table 1.

TABLE 1

DAYTIME SPEEDWAY NOISE LIMITS (1)

DURATION	SYMBOL	LAND USE		
		RESIDENTIAL	COMMERCIAL	INDUSTRIAL
30 minutes	L50	65	65	75
15 minutes	L25	70	70	80
5 minutes	L8	75	75	85
1 minute	L2	80	80	90
Anytime	Lmax	85	85	95

(1) a. Duration applies to any single hour.
b. Commercial and Professional have the same limits.

The limits given in Table 1 are intended for assessing the impact of the Speedway upon off-site land uses.

While there are five conditions that must be met simultaneously, in practice, the extent of compliance depends only on two of the conditions. For example, Exhibit 3 shows a plot of the limits for a residential use with the results of a measurement taken February 26, 2006 on the north side of the track. Inspection

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of this Exhibit indicates that the measured curve exceeded the allowed limits in all categories. However, the highest deviation occurs at the fiftieth percentile level (L50). Thus, the controlling factor in compliance is usually the L50 level.

3.0 MEASURED COMMUNITY NOISE LEVELS

A set of 16 locations was selected for measurement during the Nextel Cup race. Fifteen (15) of those locations were north and east of the track. One location was at trackside. The trackside location was where the cars come out of turn #2, which was a distance that was nominally 50 feet from the centerline of the track line. The measurement locations are noted on Exhibit 2.

The measurements were conducted once the event was well under way and the pattern of racing became consistent. The results at the 15 locations in the community are given in Table 2 and the reporting is limited to the Lmax and L50 levels as these conditions will define compliance with the allowed limits.

TABLE 2

MEASURED NOISE LEVELS DURING NEXTEL CUP RACE (1)

LOCATION	Lmax	L50
1	85	75
2	73	67
3	83	76
4	72	67
5	76	64
6	85	77
7	81	78
8	85	82
9	79	76
10	66	63
11	77	73
13	74	73
14	65	62
15	80	68

(1) Location 12 is on the track and is not subject to the limits.

Inspection of Table 2 indicates that the maximum noise level met the 85 dBA allowed maximum noise limit but the reading at eleven (11) of the sites exceeded the allowed L50 level.

The measured levels can be presented two ways. Exhibits 4 and 5 plot the maximum and L50 levels as a function of distance from the track along with an indication of the trend line. There

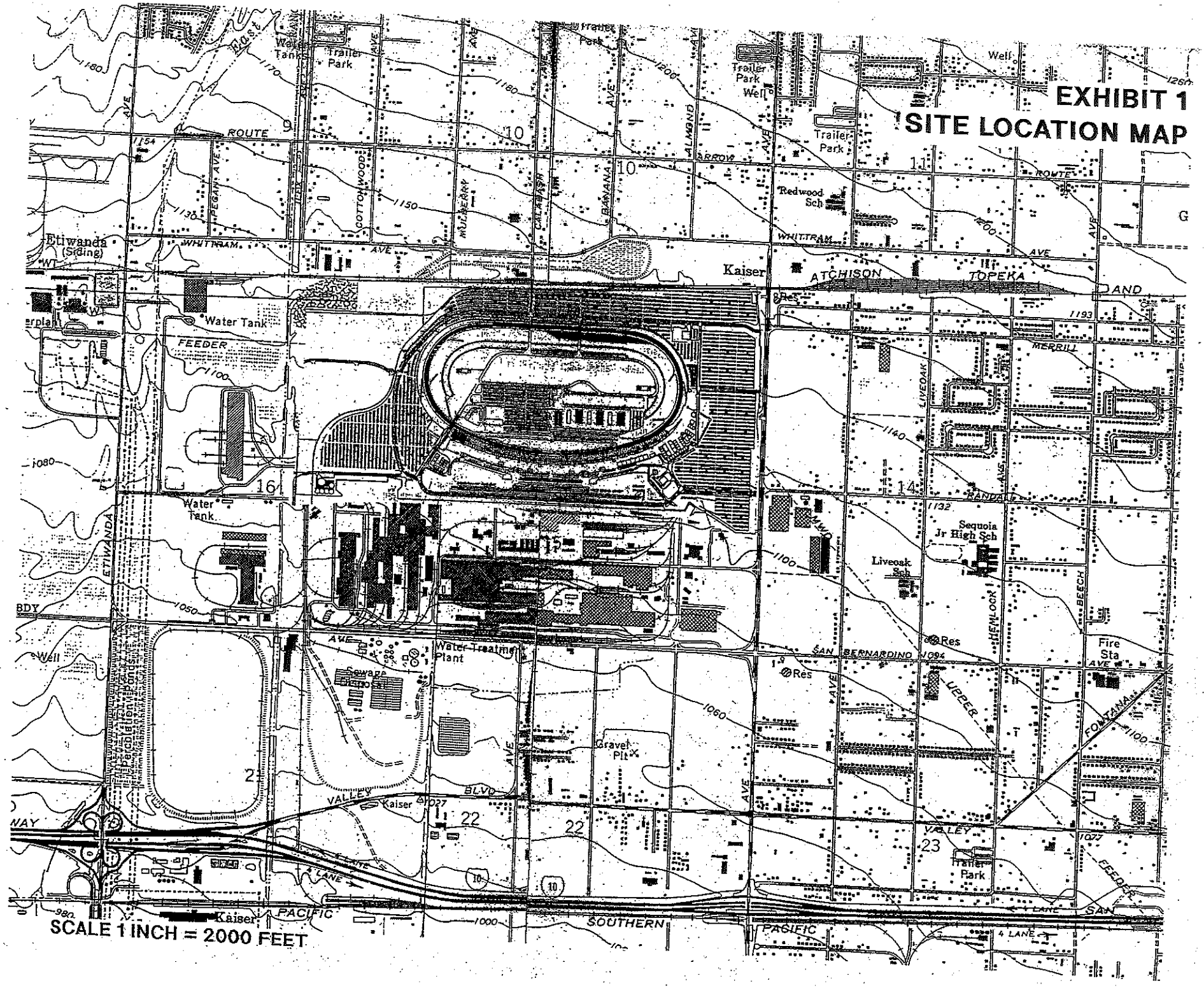
is some scatter in the data since different locations experience different amounts of shielding from the noise of the track. The pattern generally depicts noise decaying at the rate of eight (8) dBA with each doubling of distance.

The other way to present the information is to plot contours of constant noise level. This is done on Exhibits 6 and 7. Exhibit 6 indicates that the 85 dBA maximum residential limit was met at the nearest residential locations to the north. Exhibit 7 indicates that the 65 dBA L50 residential limit was not met at residential uses over a large area north of the track. However, the 75 dBA L50 industrial limit would have been met for the industrial uses.

4.0 TRACKSIDE NOISE LEVELS

The distribution of trackside maximum noise levels at 50 feet are plotted on Exhibit 8. The range was 118 to 126 dBA. The median level was 121 dBA and the most frequently occurring level was 122 dBA. The L50 level for the highest event hour was 111 dBA L50.

EXHIBIT 1
SITE LOCATION MAP



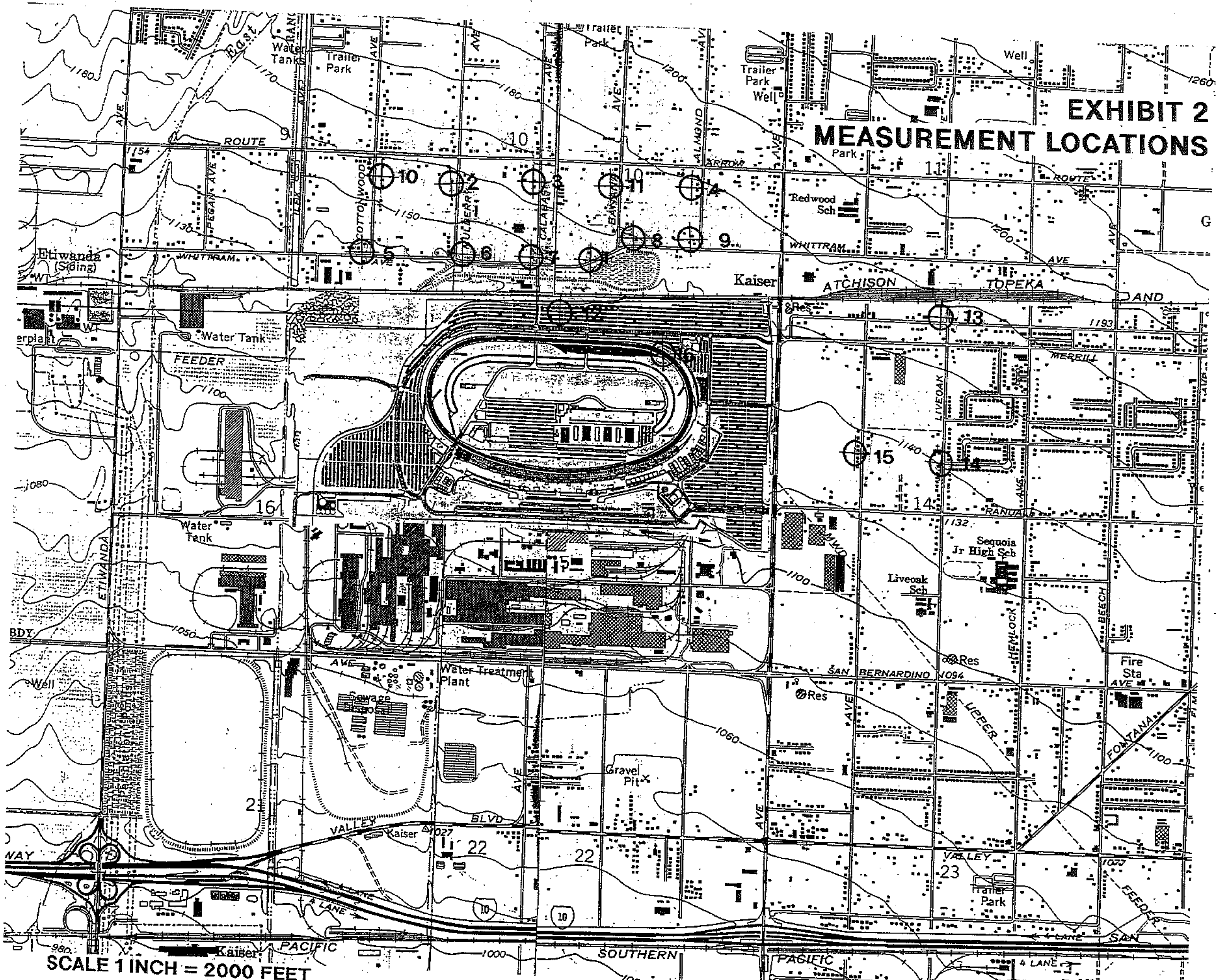


EXHIBIT 2
MEASUREMENT LOCATIONS
SCALE 1 INCH = 2000 FEET
Kaiser
ATCHISON
TOPEKA
AND
Water Tank
FEEDER
Etiwanda (Siding)
Water Treatment Plant
Sewage Disposal
Gravel Pit
VALLEY
BLVD
SOUTHERN
PACIFIC
SAN BERNARDINO
AVE
UPPER
FONTANA
Liveoak Sch
Sequoia Jr High Sch
Redwood Sch
Trailer Park
Fire Sta
WHITTRAM
ROUTE
ETIWANDA

EXHIBIT 3

SAMPLE SPEEDWAY NOISE CURVE
COMPAREDTO THE ALLOWED LIMITS

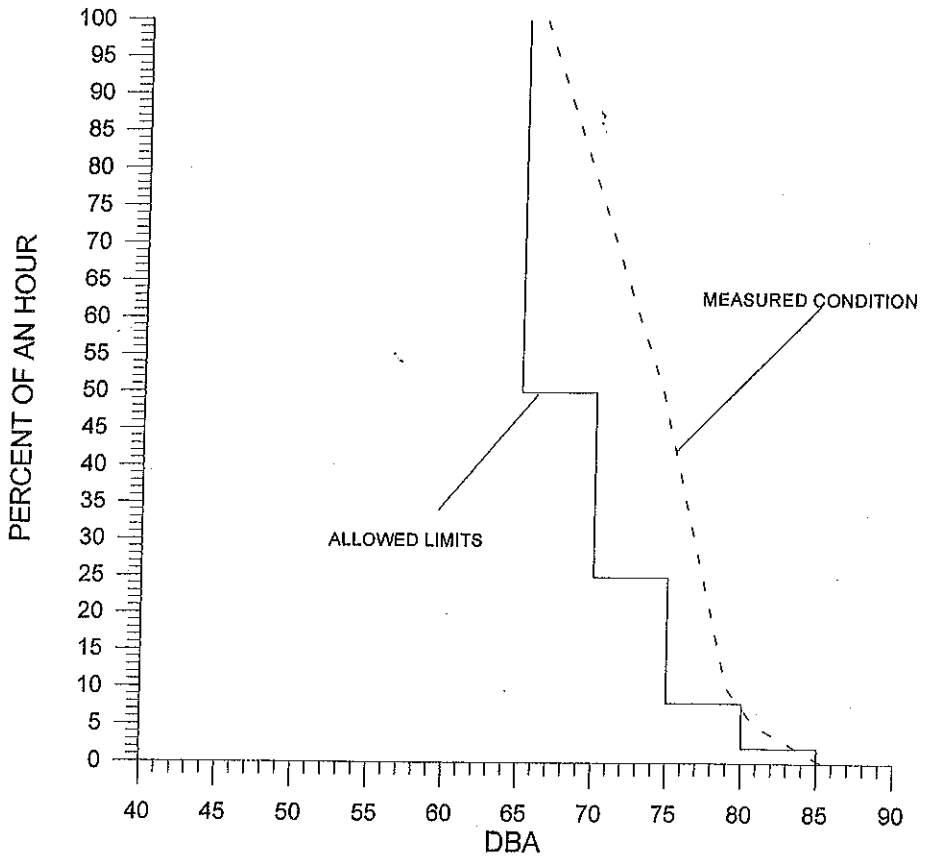


EXHIBIT 4

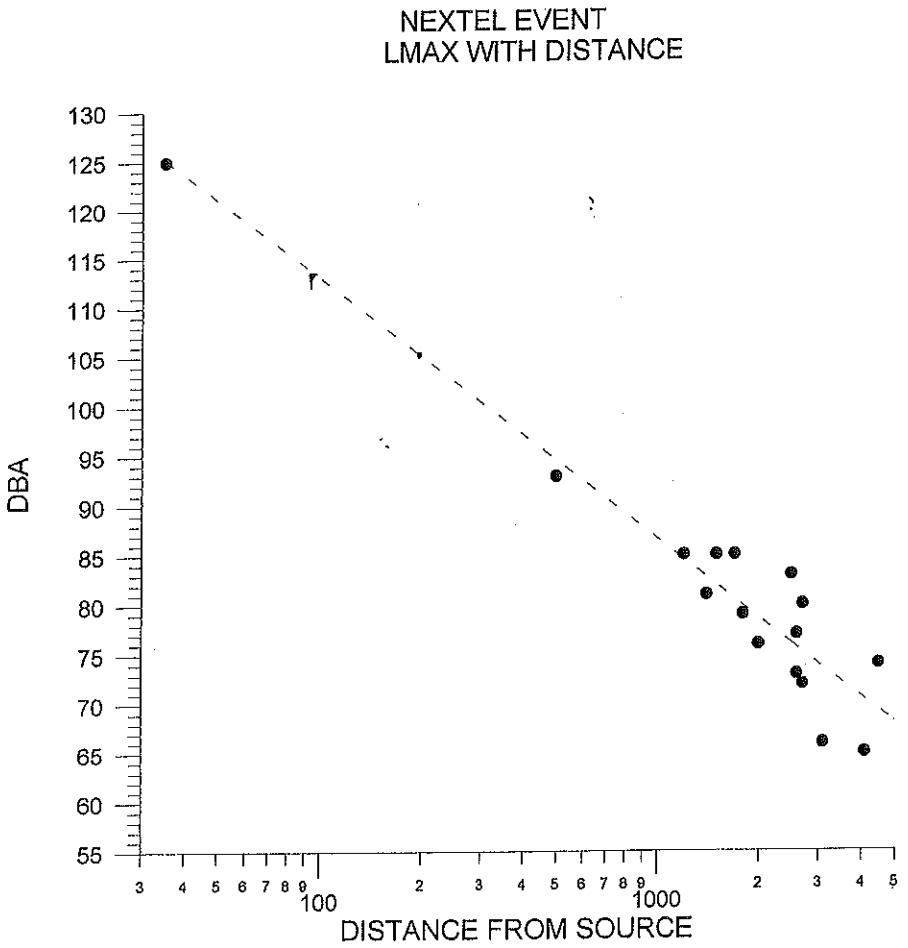

NEXTEL EVENT
LMAX WITH DISTANCE
DBA
130
125
120
115
110
105
100
95
90
85
80
75
70
65
60
55
3 4 5 6 7 8 9 100 2 3 4 5 6 7 8 9 1000 2 3 4 5
DISTANCE FROM SOURCE

EXHIBIT 5

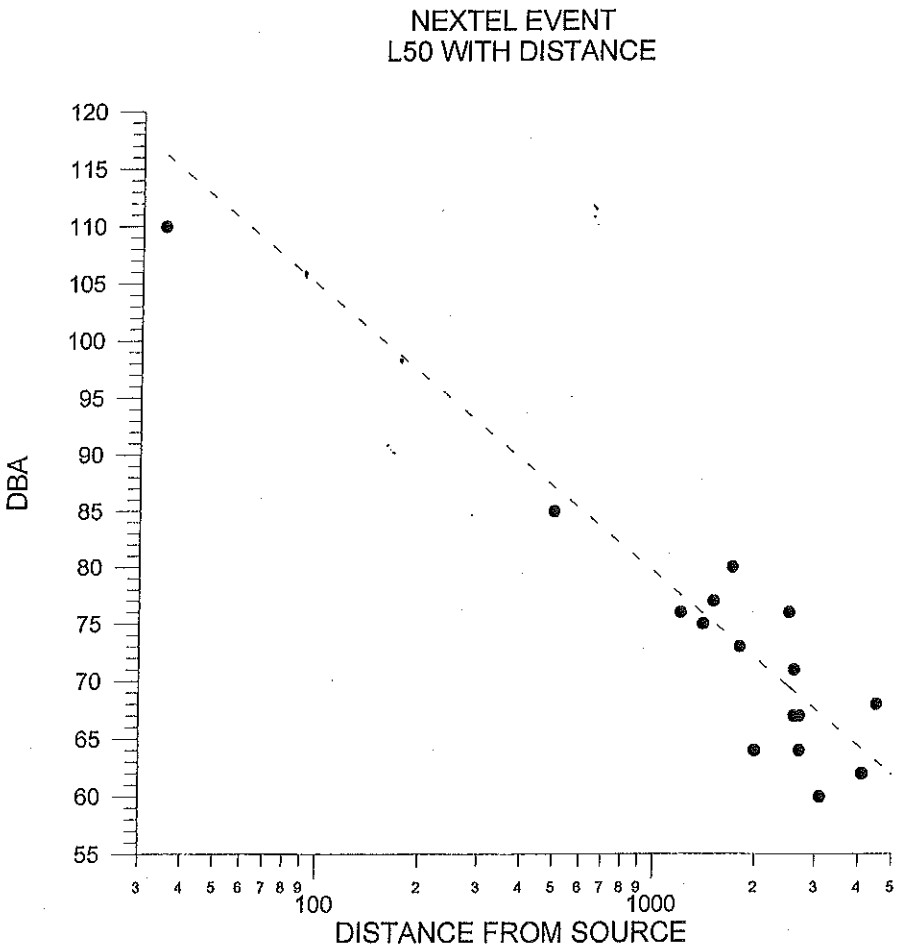

NEXTEL EVENT
L50 WITH DISTANCE
DBA
120
115
110
105
100
95
90
85
80
75
70
65
60
55
3 4 5 6 7 8 9 100 2 3 4 5 6 7 8 9 1000 2 3 4 5
DISTANCE FROM SOURCE

EXHIBIT 6
LMAX NOISE CONTOURS

SCALE 1 INCH = 2000 FEET

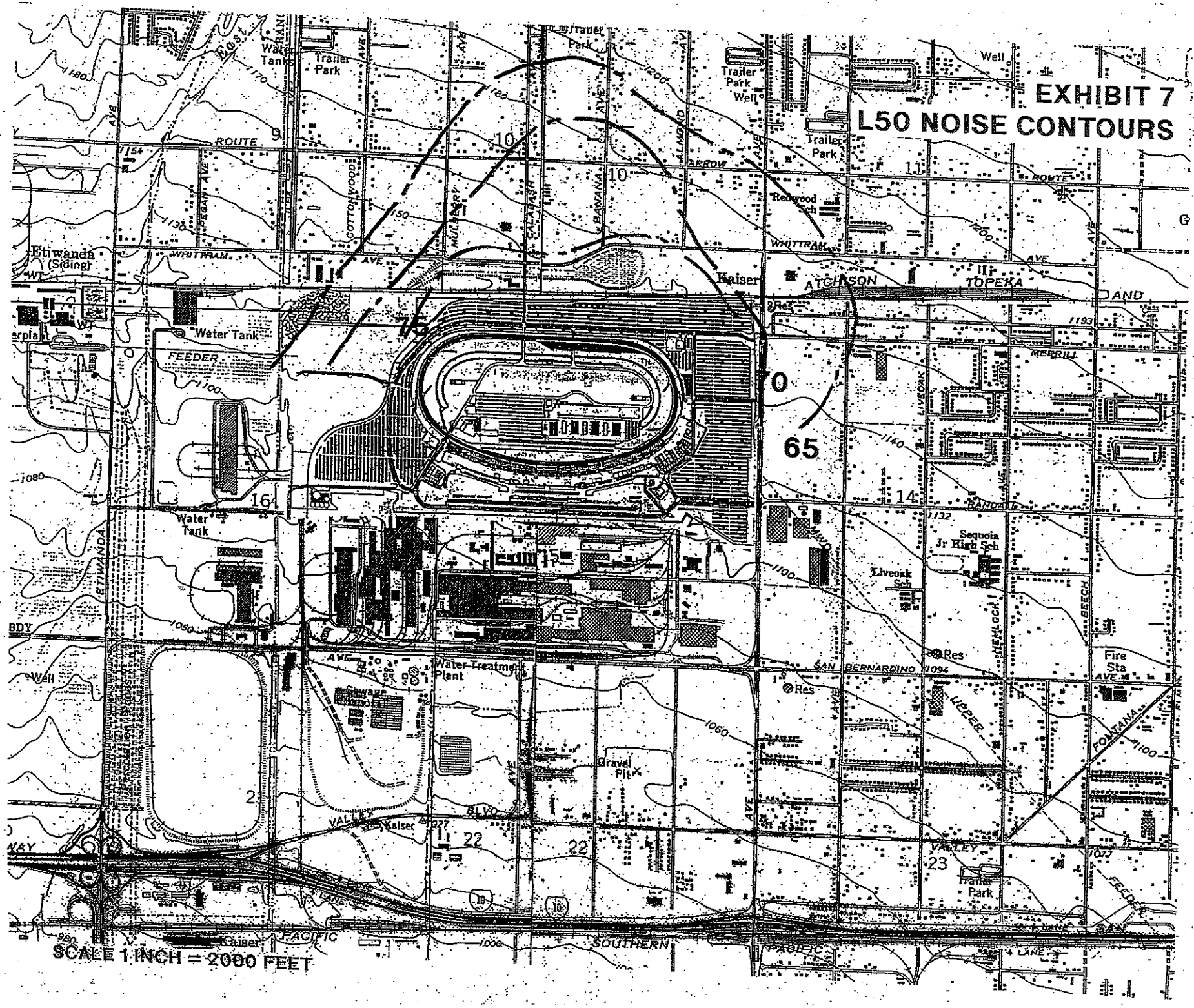
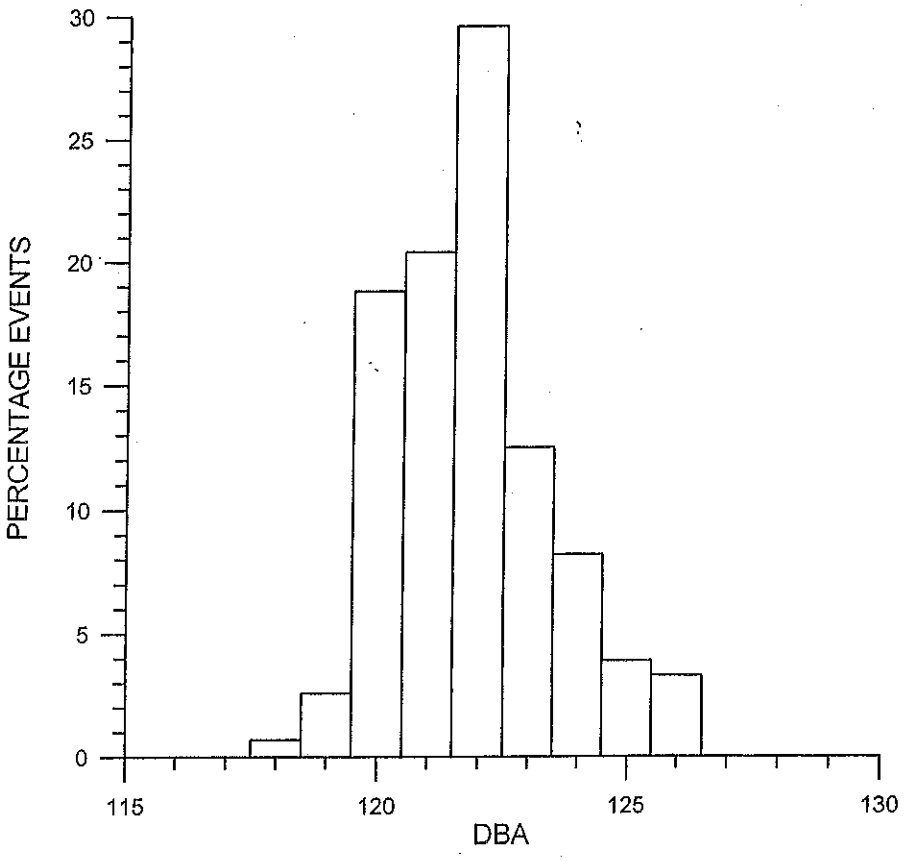


EXHIBIT 7
L50 NOISE CONTOURS
75
70
65
Water Tank
Water Tank
Water Tank
Water Treatment Plant
Gravel Pit
Kaiser
Kaiser
Trailer Park
Trailer Park
Trailer Park
Trailer Park
Well
Well
Redwood Sch
Sequoia Jr High Sch
Liveoak Sch
Fire Sta
Res
Res
Etiwanda (Siding)
ATCHISON TOPEKA AND
SAN BERNARDINO
ROUTE 9
ROUTE 10
FEEDER
MERRILL
BDY
SCALE 1 INCH = 2000 FEET

EXHIBIT 8

PRECENTAGE OF MAXIMUM NOISE LEVELS
AT 50 FEET FOR NEXTEL CUP 2/26/06
AT CALIFORNIA SPEEDWAY



NOISE MEASUREMENTS AT THE AUTO CLUB DRAG STRIP

AUGUST 19, 2006

GORDON BRICKEN & ASSOCIATES
ACOUSTICAL and ENERGY ENGINEERS

August 24, 2006

MEASUREMENT RESULTS

AUGUST 19, 2006

AUTO CLUB DRAG STRIP

COUNTY OF SAN BERNARDINO

Prepared by:

Gordon Bricken
President

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Prepared for:

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S U M M A R Y

Measurements were conducted of the operations on the Auto Club Drag Strip on August 19, 2006. The noise levels in the areas north of the drag strip were all less than the allowed levels of the California Speedway's Noise Ordinance.

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1.0 INTRODUCTION

This report will present the results of noise measurements pertaining to the operation of the Auto Club Drag Strip located on the north side of the California Speedway in the Fontana area of the County of San Bernardino. The location is shown on Exhibit 1. The site, as well as the surrounding area, is flat. There are mixed residential, commercial and industrial land uses in the area north of the site.

2.0 APPLICABLE NOISE CRITERIA

The Daytime Noise Limits that apply to the California Speedway site at the present time are given in Table 1.

TABLE 1

DAYTIME SPEEDWAY NOISE LIMITS(1)

DURATION	SYMBOL	LAND USE		
		RESIDENTIAL	COMMERCIAL	INDUSTRIAL
30 minutes	L50	65	65	75
15 minutes	L25	70	70	80
5 minutes	L8	75	75	85
1 minute	L2	80	80	90
Anytime	Lmax	85	85	95

(1) a. The duration applies to any single hour.
b. Commercial and Professional Land Uses have the same limit.

The second set of limits are the County's Land Use Compatibility Standards. Those limits are based on the Community Noise Equivalent Level (CNEL) metric. The CNEL metric is a type of 24 hour average sound level. Residential uses cannot exceed 65 dBA CNEL, Commercial uses cannot exceed 70 dBA CNEL and Industrial uses cannot exceed 75 dBA CNEL.

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The limits given in Table 1 are intended for assessing the impact of the Speedway upon off-site land uses. The CNEL condition is used mainly for siting new development near transportation noise sources such as airports, highways and rail lines. The burden of compliance falls on the new development. However, the CNEL level can be employed as a measure of impact of one land use upon another.

3.0 MEASUREMENT DESCRIPTION

A set of four locations were selected for measurements. The locations are mapped on Exhibit 1. The locations are given in Table 2.

TABLE 2

MEASUREMENT LOCATIONS

LOCATION	DESCRIPTION
#1	50 feet north of the center line of the near lane of the dragstrip.
#2	100 feet north of Whittram Avenue and approximately 850 feet from the dragstrip.
#3	Approximately 1,360 feet north of the dragstrip near Calabash.
#4	Approximately 2,000 feet north of the dragstrip near Banana.

All locations had an unobstructed view of the area to the south of the sites. The views are shown on Exhibit 2.

The measurements consisted of full-time individual car measurements at Locations #1 and #2, individual car spot measurements at Locations #3 and #4, and measurement of the parameters in Table 1 at all four locations.

4.0 MEASUREMENT RESULTS

The parameters given in Table 1 are based on one hour sampling times. Exhibit 3 shows a plot of the noise curves at Locations #2, #3 and #4 compared to the allowed curve from Table 1 for residential land uses. Table 4 (following page) is a tabular list of the values.

TABLE 4

MEASURED HOURLY NOISE LEVELS(1)

LOCATION	CONDITION	PARAMETER LMAX	L2	L8	L25	L50
#2	Measured	81	72	67	62	58
	Allowed	85	80	75	70	65
	Difference	-4	-8	-8	18	-7
#3	Measured	72	66	60	55	52
	Allowed	85	80	75	70	65
	Difference	-13	-14	-15	-15	-13
#4	Measured	75	66	61	58	54
	Allowed	85	80	75	70	65
	Difference	-10	-14	-14	-12	-11

(1) Minus means that the measured levels are less than the allowed levels.

The measured noise levels at all three locations were less than the allowed levels of the Noise Ordinance in the highest hour. All other hours were less than the highest hour. All other non-residential land uses in the area north of Whittram Avenue would also comply with the terms of the Noise Ordinance.

The least deviation from the Noise Ordinance allowed limits occurs for the maximum noise level. Compliance is set by the highest maximum value in an hour. However, most of the time, the levels are less than the one highest event. Exhibit 4 shows a graph of the noise levels at Location #2 for the period 9:00 A.M. to 3:00 P.M. There were a total of 253 samples. The levels ranged from 60 dBA to 81 dBA. The median level was 70 dBA and 90 percent of the levels were 75 dBA or less.

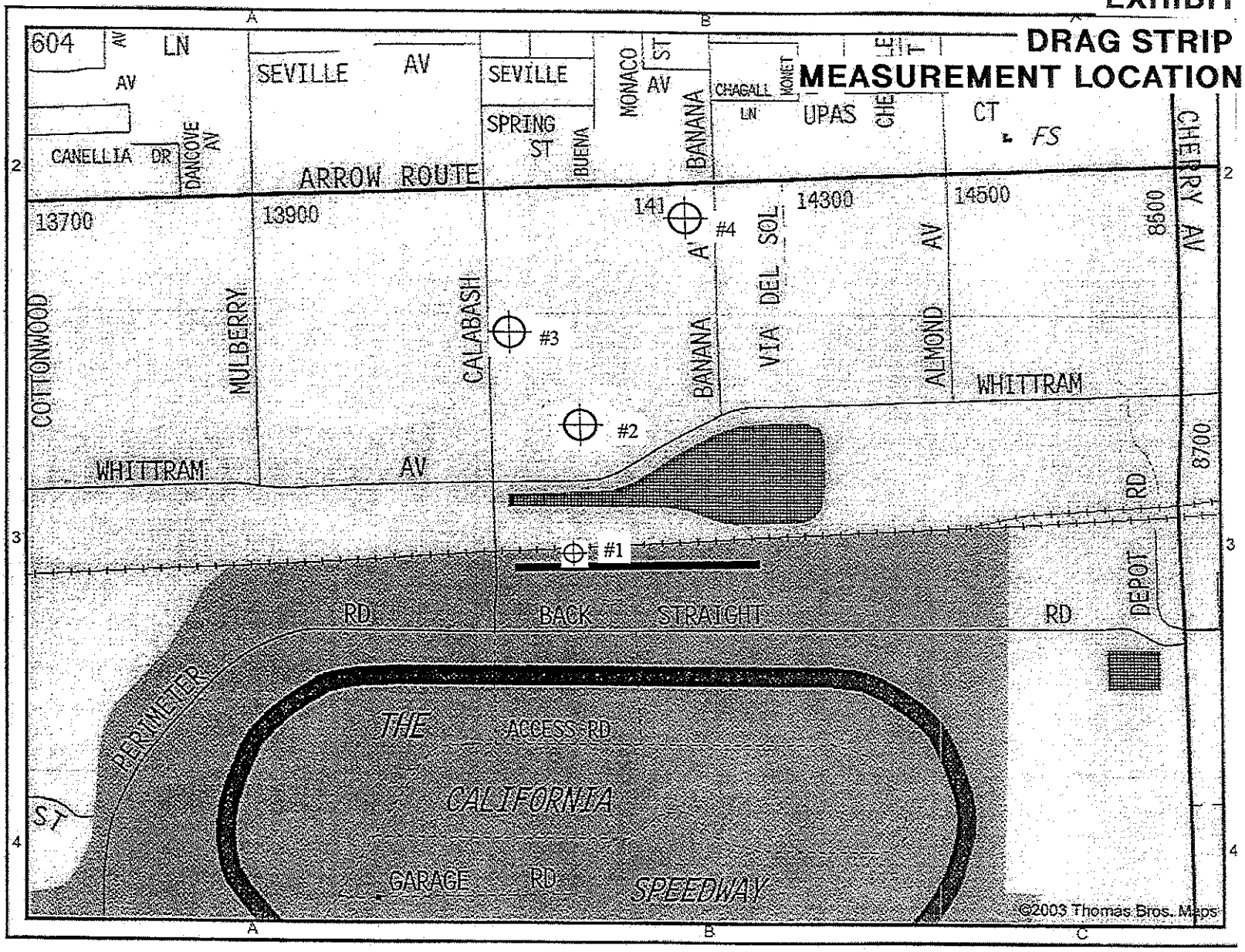
The CNEL levels are based on the hourly average levels during the six hour sample period. The daily track CNEL levels were 56 dBA CNEL at Location #2, 50 dBA CNEL at Location #3, and 51 dBA CNEL at Location #4. These levels are all less than the Land Use Compatibility levels for all land uses.

5.0 CONCLUSION

The noise levels of the Auto Club Drag Strip complied with the County's Noise limits on August 19, 2006.

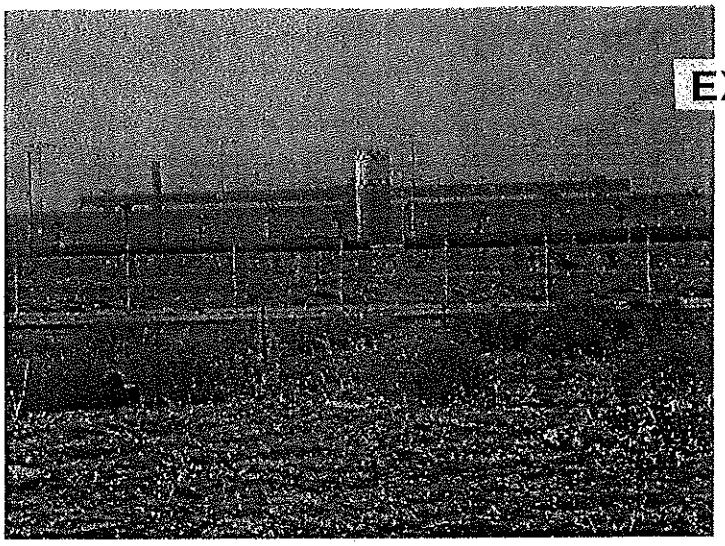
EXHIBIT 1

DRAG STRIP & MEASUREMENT LOCATIONS

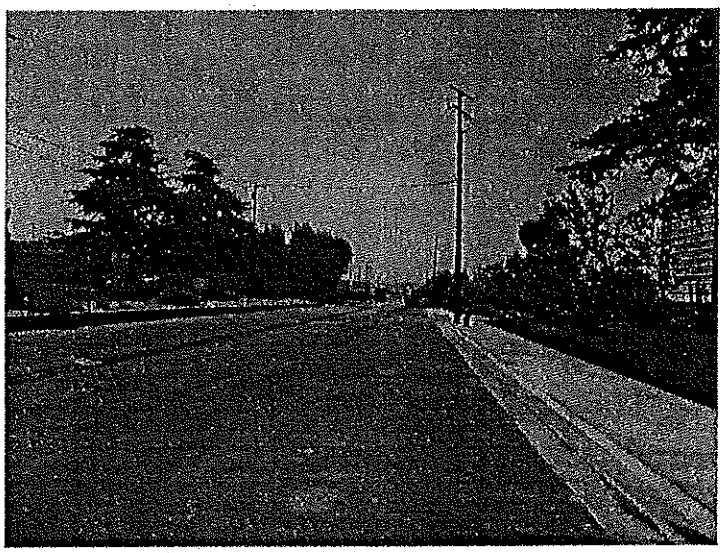


SCALE 1 INCH = 850 FEET

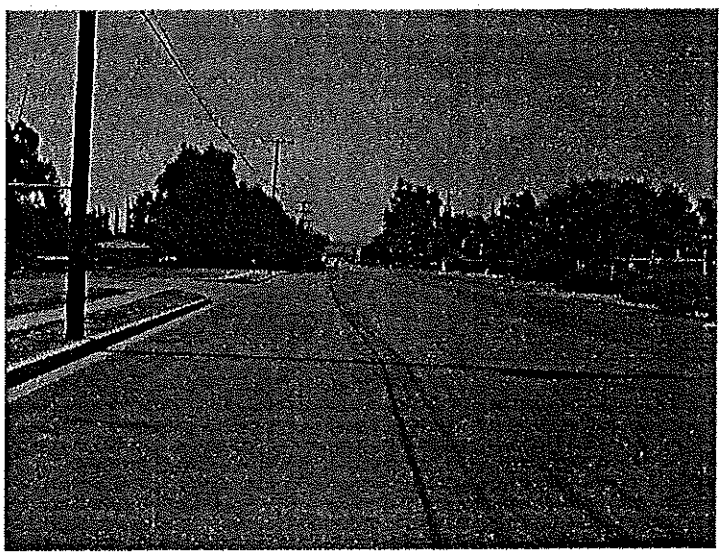
EXHIBIT 2



VIEW LOOKING TOWARD TRACK FROM LOCATION #2



VIEW LOOKING TOWARD TRACK FROM LOCATION #4



VIEW LOOKING TOWARD TRACK FROM LOCATION #3

EXHIBIT 3

DRAGSTRIP NOISE LEVEL CURVES 8/19/06 COMPARED
TO COUNTY NOISE ORDINANCE FOR SPEEDWAY
AT THREE LOCATIONS NORTH OF DRAGSTRIP

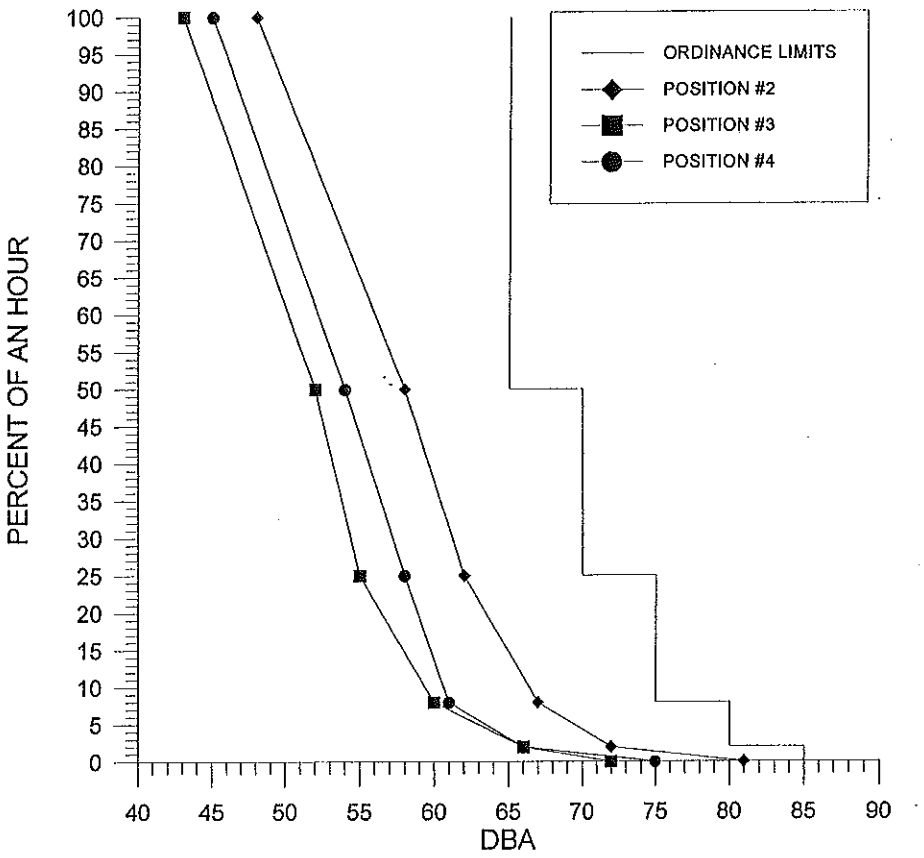
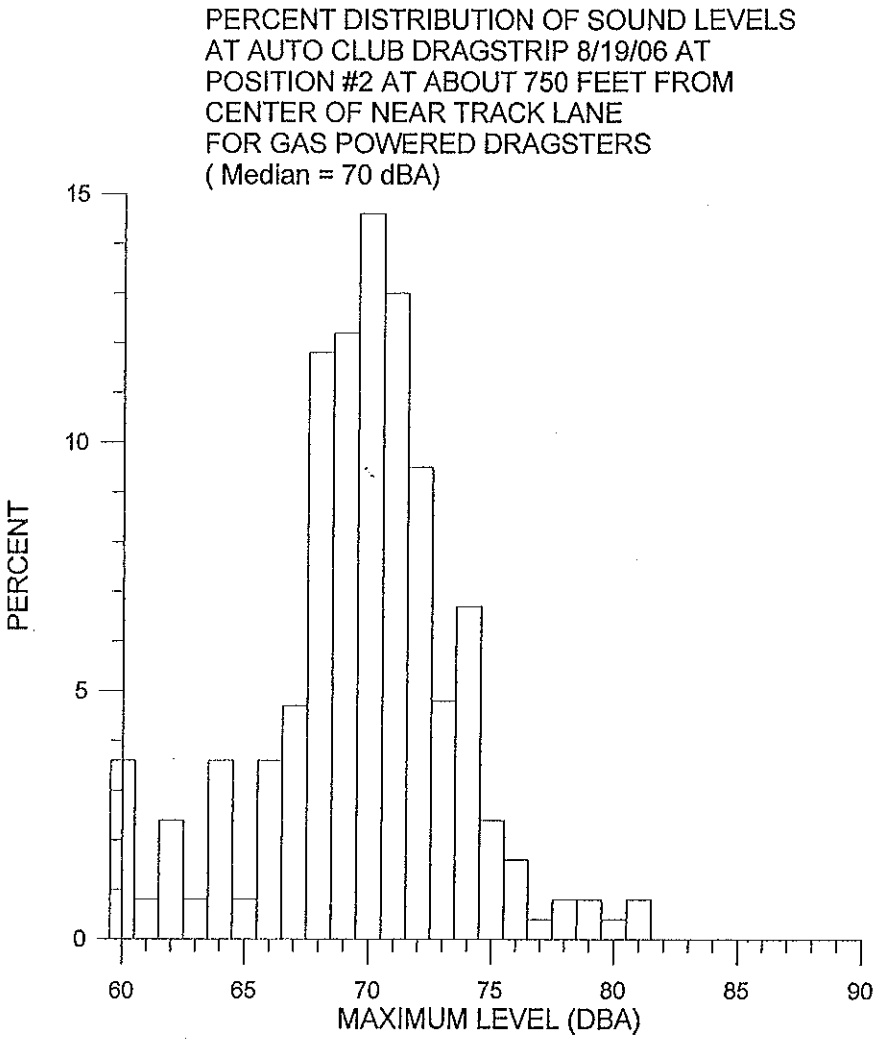


EXHIBIT 4


PERCENT DISTRIBUTION OF SOUND LEVELS
AT AUTO CLUB DRAGSTRIP 8/19/06 AT
POSITION #2 AT ABOUT 750 FEET FROM
CENTER OF NEAR TRACK LANE
FOR GAS POWERED DRAGSTERS
(Median = 70 dBA)
PERCENT
15
10
5
0
60
65
70
75
80
85
90
MAXIMUM LEVEL (DBA)

NOISE MEASUREMENTS AT THE AUTO CLUB DRAG STRIP

SEPTEMBER, 16 2006

GORDON BRICKEN & ASSOCIATES
ACOUSTICAL and ENERGY ENGINEERS

September 20, 2006

MEASUREMENT RESULTS

SEPTEMBER 16, 2006

AUTO CLUB DRAG STRIP

COUNTY OF SAN BERNARDINO

Prepared by:

Gordon Bricken
President

/mmb

Prepared for:

MR. MIKE YURICK
Senior Director of Operations
California Speedway
9300 Cherry Avenue
Fontana, California 92335

1621 East Seventeenth Street, Suite K Santa Ana, California 92705-8518
Phone (714) 835-0249 FAX (714) 835-1957

GORDON BRICKEN & ASSOCIATES
ACOUSTICAL and ENERGY ENGINEERS

S U M M A R Y

Measurements were conducted of the operations on the Auto Club Drag Strip on September 16, 2006. The noise levels in the areas north of the drag strip were all less than the allowed levels of the California Speedway's Noise Ordinance.

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GORDON BRICKEN & ASSOCIATES
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1.0 INTRODUCTION

This report will present the results of noise measurements pertaining to the operation of the Auto Club Drag Strip located on the north side of the California Speedway in the Fontana area of the County of San Bernardino. The location is shown on Exhibit 1. The site, as well as the surrounding area, is flat. There are mixed residential, commercial and industrial land uses in the area north of the site.

2.0 APPLICABLE NOISE CRITERIA

The Daytime Noise Limits that apply to the California Speedway site at the present time are given in Table 1.

TABLE 1

DAYTIME SPEEDWAY NOISE LIMITS(1)

		LAND USE		
DURATION	SYMBOL	RESIDENTIAL	COMMERCIAL	INDUSTRIAL
30 minutes	L50	65	65	75
15 minutes	L25	70	70	80
5 minutes	L8	75	75	85
1 minute	L2	80	80	90
Anytime	Lmax	85	85	95

(1) a. The duration applies to any single hour.
b. Commercial and Professional Land Uses have the same limit.

The area north of Whittram Avenue consists of industrial, commercial and residential uses and often in multiple forms on the same property. Technically, if the classification is by use, then, compliance is specific to a property. Rather than try to sort out the situation for any particular property, it was decided that the most restrictive residential use limits would determine the overall compliance for the area no matter where a property was located.

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3.0 MEASUREMENT DESCRIPTION

A set of four locations was selected for measurements. The locations are mapped on Exhibit 1. The locations are given in Table 2. Note, the numbering is based on the locations used on August 19, 2006. Location #2 in that study was not accessible due to new property fence. Therefore, the location was moved forward toward the track and re-designated as Location #2A.

TABLE 2

MEASUREMENT LOCATIONS

LOCATION	DESCRIPTION
#1	50 feet north of the center line of the near lane of the dragstrip.
#2A	At the north curb of Whittram Avenue and approximately 750 feet from the dragstrip.
#3	Approximately 1,360 feet north of the dragstrip next to Calabash Avenue.
#4	Approximately 2,000 feet north of the dragstrip next to Banana Avenue.

All locations had an unobstructed view of the area to the south of the sites. The views are shown on Exhibit 2.

The measurements consisted of full-time individual car measurements at Locations #1 and #2, individual car spot measurements at Locations #3 and #4, and measurement of the parameters in Table 1 at all four locations.

4.0 MEASUREMENT RESULTS

The parameters given in Table 1 are based on one hour sampling times. At Location #2A, the measurement values are mainly from the vehicle traffic on Whittram Avenue with contributions from the drag strip and a sports car event at the speedway. At both Locations #3 and #4, the maximum values were set mainly by the local traffic and all other values were set by either the local traffic or the sports car event.

Exhibit 3 shows a plot of the noise curves at Locations #2, #3 and #4 compared to the allowed curve from Table 1 for residential land uses. Table 4 (following page) is a tabular list of the values. In all cases, the curve values are set primarily by the local traffic and the sports car event, although the drag strip operations are included in the measurement sample. Put another

way, the local traffic and the sports car event were higher than the drag strip operations.

TABLE 4

MEASURED HOURLY NOISE LEVELS(1)

LOCATION	CONDITION	PARAMETER Lmax	L2	L8	L25	L50
#2A	Measured	85	77	71	65	58
	Allowed	85	80	75	70	65
	Difference	0	-3	-4	-5	-7
#3	Measured	76	67	64	61	58
	Allowed	85	80	75	70	65
	Difference	- 9	-13	-11	- 9	- 7
#4	Measured	80	67	61	55	53
	Allowed	85	80	75	70	65
	Difference	- 5	-13	-14	-15	-12

(1) a. Minus means that the measured levels are less than the allowed levels.
b. The values are the total noise levels and not just the drag strip.

The measured noise levels at all three locations were less than the allowed levels of the Noise Ordinance in the highest hour, even though the levels were not set by the drag strip. Therefore, if the total noise levels are less than the allowed limits, it can be concluded that the drag strip levels were less as well since they are only a component of the total measured levels. All other hours were less than the highest hour.

The only way to sort out the drag strip contribution is to address the individual drag strip maximum levels which could be identified when the non-drag strip noise levels were low enough. The least deviation from the allowed limits of the Noise Ordinance occurs for the maximum noise level. Compliance with the limits of Table 1 is usually set by the highest maximum value in an hour. However, the drag strip levels are less than the maximum value recorded by the local traffic most of the time. Therefore, individual readings were taken of the drag strip when the drag strip event was not masked by the local traffic or the sports car event noise. Exhibit 4 shows a graph of the noise levels at Location #2A for the period 9:00 A.M. to 3:00 P.M. There was a total of 235 samples of the 319 runs recorded at trackside. The remaining 84 runs could not be recorded at Location #2A due to masking by traffic on Whittram Avenue. The levels ranged from 62 dBA to 81 dBA. The median level was 74 dBA and 90 percent of the levels were 79 dBA, or less.

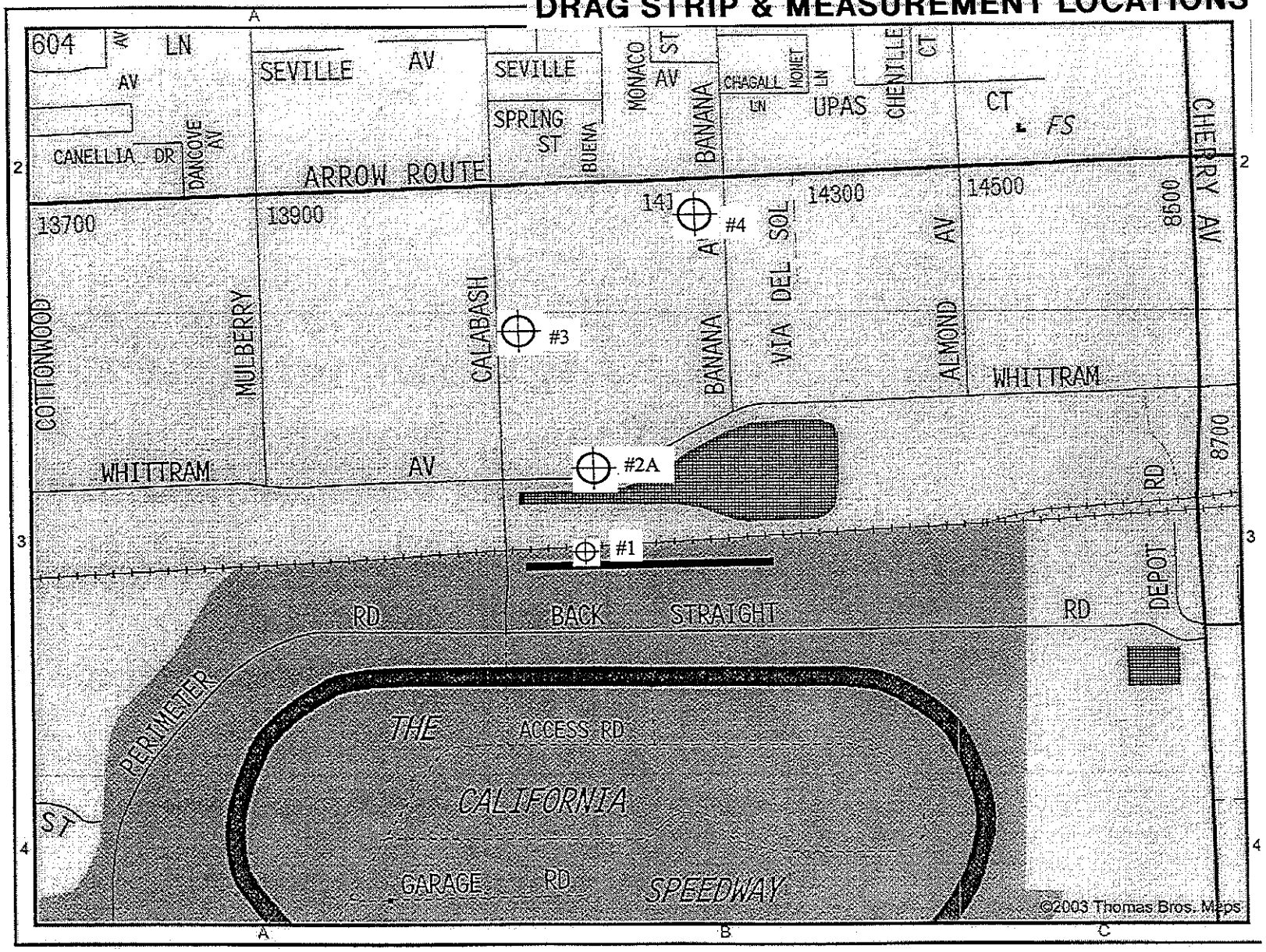
The maximum levels at the other two locations north of Whittram Avenue were less comprehensive than at Location #2A due a higher percentage of masking by the local traffic, or the sports car event. The maximum levels ranged from 61 to 74 dBA at Location #3. The levels ranged from 58 to 68 dBA at Location #4. The levels were well below the allowed 85 dBA.

5.0 CONCLUSION

The noise levels of the Auto Club Drag Strip complied with the County's Noise limits on September 19, 2006.

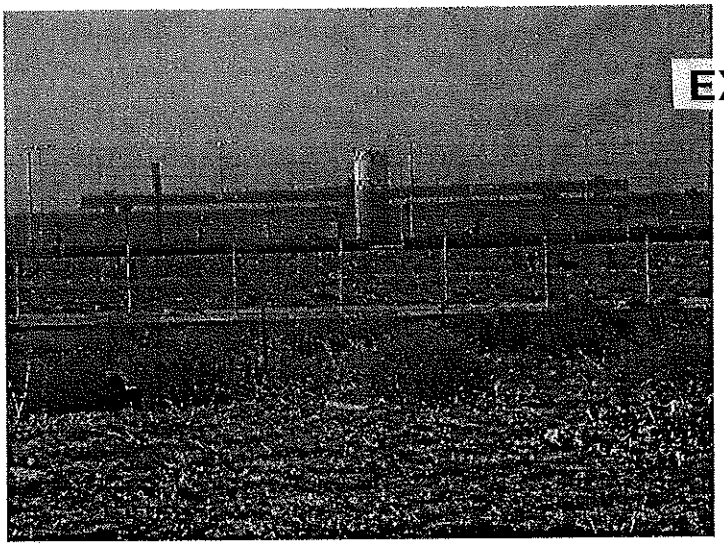
EXHIBIT 1

DRAG STRIP & MEASUREMENT LOCATIONS

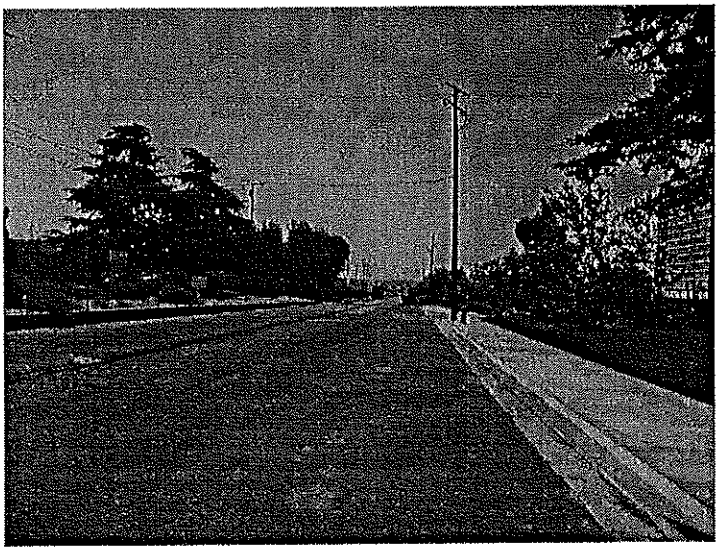


SCALE 1 INCH = 850 FEET

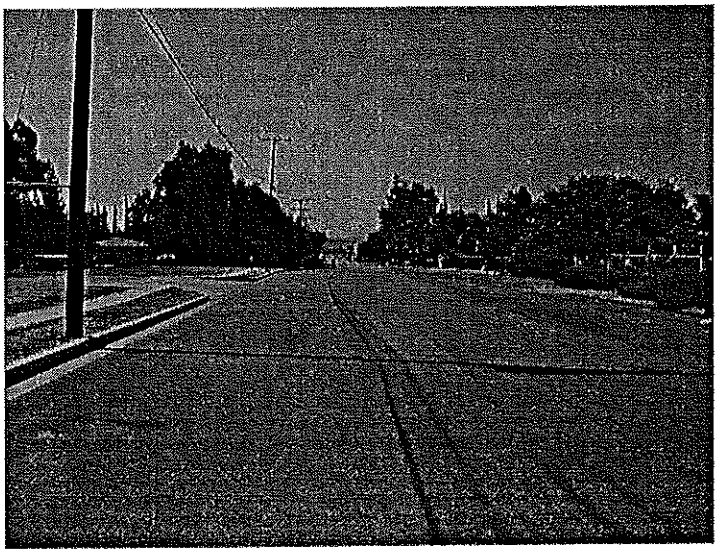
EXHIBIT 2



VIEW LOOKING TOWARD TRACK FROM LOCATION #2



VIEW LOOKING TOWARD TRACK FROM LOCATION #4



VIEW LOOKING TOWARD TRACK FROM LOCATION #3

EXHIBIT 3

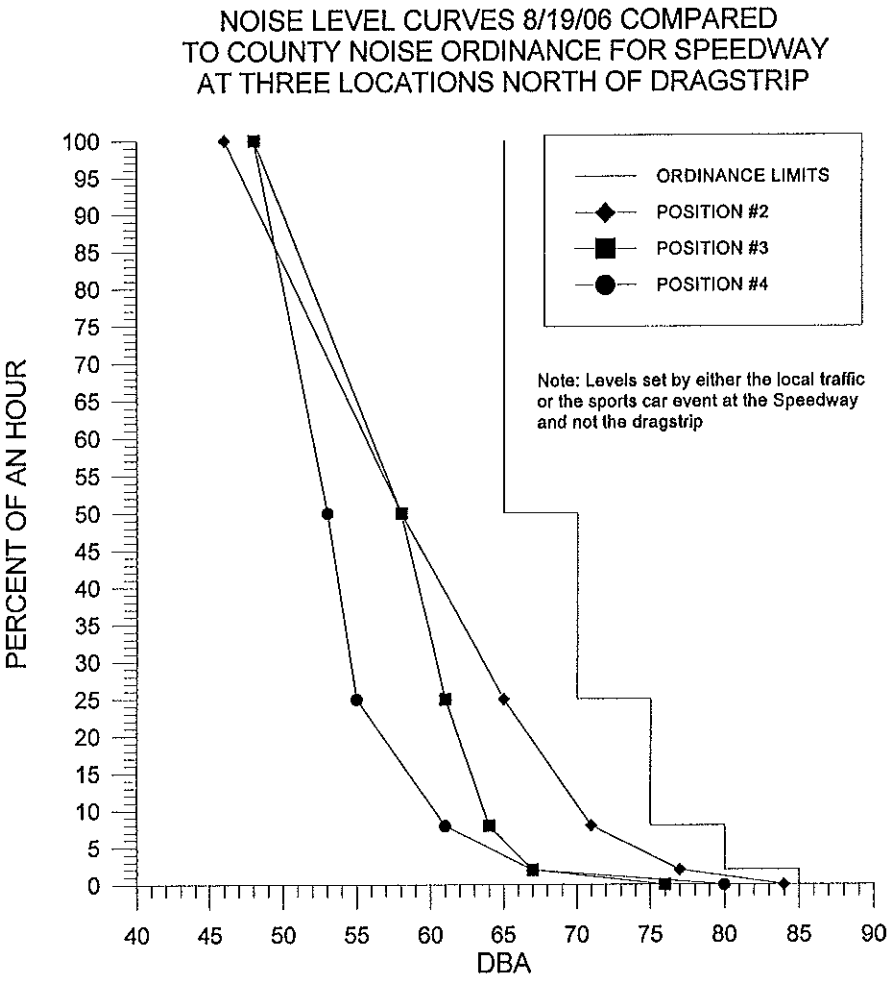
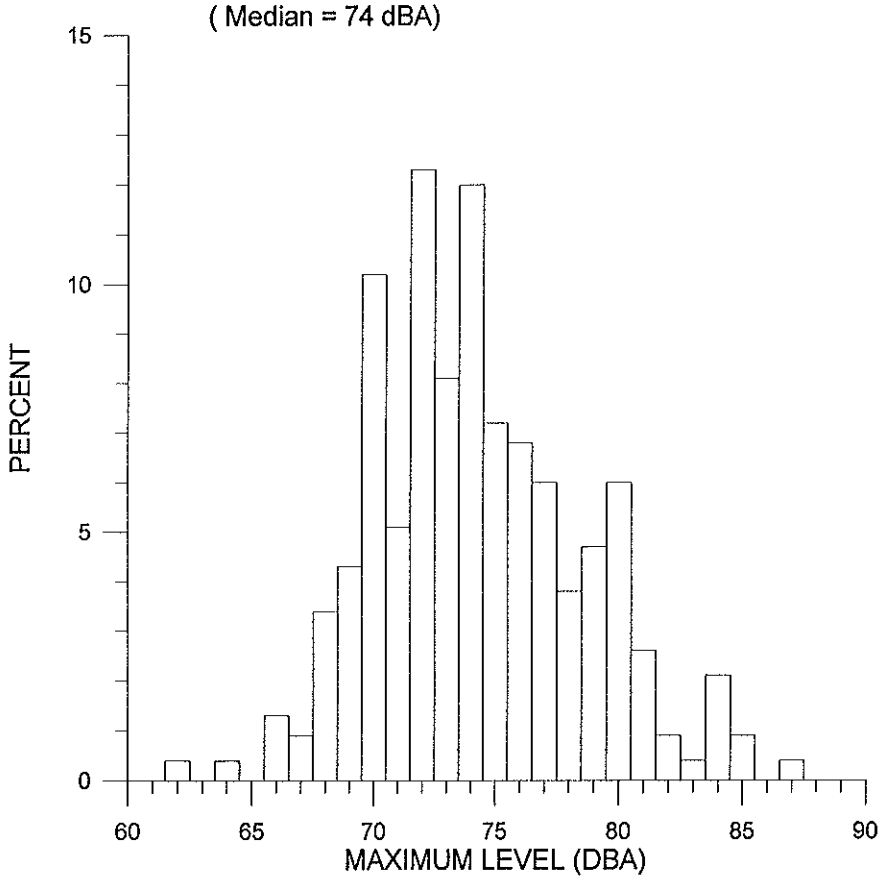

NOISE LEVEL CURVES 8/19/06 COMPARED
TO COUNTY NOISE ORDINANCE FOR SPEEDWAY
AT THREE LOCATIONS NORTH OF DRAGSTRIP
PERCENT OF AN HOUR
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
40
45
50
55
60
65
70
75
80
85
90
DBA
ORDINANCE LIMITS
POSITION #2
POSITION #3
POSITION #4
Note: Levels set by either the local traffic or the sports car event at the Speedway and not the dragstrip

EXHIBIT 4

PERCENT DISTRIBUTION OF SOUND LEVELS
AT AUTO CLUB DRAGSTRIP 8/19/06 AT
POSITION #2A AT ABOUT 750 FEET FROM
CENTER OF NEAR TRACK LANE
FOR GAS POWERED DRAGSTERS
(Median = 74 dBA)



NOISE MEASUREMENTS AT THE AUTO CLUB DRAG STRIP

SEPTEMBER 28, 2006

GORDON BRICKEN & ASSOCIATES
ACOUSTICAL and ENERGY ENGINEERS

October 2, 2006

MEASUREMENT RESULTS

SEPTEMBER 28, 2006

AUTO CLUB DRAG STRIP

COUNTY OF SAN BERNARDINO

Prepared by:

Gordon Bricken
President

/mmb

Prepared for:

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GORDON BRICKEN & ASSOCIATES
ACOUSTICAL and ENERGY ENGINEERS

SUMMARY

Measurements were conducted of the operations on the Auto Club Drag Strip on September 28, 2006. The noise levels in the areas north of the drag strip were all less than the allowed levels of the California Speedway's Noise Ordinance.

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GORDON BRICKEN & ASSOCIATES
ACOUSTICAL and ENERGY ENGINEERS

1.0 INTRODUCTION

This report will present the results of noise measurements pertaining to the operation of the Auto Club Drag Strip located on the north side of the California Speedway in the Fontana area of the County of San Bernardino. The location is shown on Exhibit 1. The site, as well as the surrounding area, is flat. There are mixed residential, commercial and industrial land uses in the area north of the site.

2.0 APPLICABLE NOISE CRITERIA

The Daytime Noise Limits that apply to the California Speedway site at the present time are given in Table 1.

TABLE 1

DAYTIME SPEEDWAY NOISE LIMITS(1)

DURATION	SYMBOL	LAND USE		
		RESIDENTIAL	COMMERCIAL	INDUSTRIAL
30 minutes	L50	65	65	75
15 minutes	L25	70	70	80
5 minutes	L8	75	75	85
1 minute	L2	80	80	90
Anytime	Lmax	85	85	95

(1) a. The duration applies to any single hour.
b. Commercial and Professional Land Uses have the same limit.

The area north of Whittram Avenue consists of industrial, commercial and residential uses and often in multiple forms on the same property. Technically, if the classification is by use, then, compliance is specific to a property. Rather than try to sort out the situation for any particular property, it was decided that the most restrictive residential use limits would determine the overall compliance for the area no matter where a property was located.

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3.0 MEASUREMENT DESCRIPTION

A set of five locations was selected for measurements. The locations are mapped on Exhibit 1. The locations are given in Table 2. Note, the numbering is based on the locations used on August 19, 2006 plus the addition of a Location #5. Location #5 was added due to high ambient noise at Location #4, which prevented measurement of dragstrip events in the afternoon. Location #2 in the August 19th study was not accessible due to new property fencing. Therefore, the location was moved forward toward the track and re-designated as Location #2A.

TABLE 2

MEASUREMENT LOCATIONS

LOCATION	DESCRIPTION
#1	50 feet north of the center line of the near lane of the dragstrip.
#2A	At the north curb of Whittram Avenue and approximately 750 feet from the dragstrip.
#3	Approximately 1,360 feet north of the dragstrip next to Calabash Avenue.
#4	Approximately 2,000 feet north of the dragstrip next to Banana Avenue.
#5	Approximately 2,000 feet north of the dragstrip next to Almond Avenue.

All locations had an unobstructed view of the area to the south of the each site. However, the dragstrip is not visible from any of the locations as the view is blocked by a railroad embankment. The views are shown on Exhibit 2.

The measurements consisted of full-time individual car measurements at Locations #1 and #2A, individual car spot measurements at Locations #3, #4 and #5 and measurement of the parameters given in Table 1 at all five locations.

4.0 MEASUREMENT RESULTS

4.1 HIGHEST HOUR

At Locations #1, #2A, #3 and #4, continuous measurement was conducted using Larson-Davis Model 700 Integrating Sound Level Meters which automatically record noise. The meters are set to record the parameters listed in the Noise Ordinance. The

parameters given in Table 1 are based on one hour sampling times. At Location #2A, the measurement values are mainly from the vehicle traffic on Whittram Avenue with contributions from the drag strip and a car event at the speedway. At Locations #3, and #4, the values were set mainly by the local traffic or local ambient noise.

Exhibit 3 shows a plot of the noise curves at Locations #2, #3 and #4 compared to the allowed curve from Table 1 for residential land uses. Table 3 is a tabular list of the values. In all cases, the curve values are set primarily by the local traffic or local ambient, although the drag strip operations are included in the measurement sample. Put another way, the local traffic and the Speedway car event were higher than the drag strip operations in some aspects of the measurement sample.

TABLE 4

MEASURED HIGHEST HOUR NOISE LEVELS(1)

LOCATION	CONDITION	PARAMETER Lmax	L2	L8	L25	L50
#2A	Measured	87	79	74	69	64
	Allowed	85	80	75	70	65
	Difference	+ 2	- 1	- 1	- 1	- 1
#3	Measured	87	66	62	58	54
	Allowed	85	80	75	70	65
	Difference	+ 2	-14	-13	-12	-11
#4	Measured	90	72	65	59	55
	Allowed	85	80	75	70	65
	Difference	+ 5	- 8	-10	-11	-10

(1) a. Minus means that the measured levels are less than the allowed levels. Plus means measured values are higher than the allowed levels.
b. The measured values are the total noise levels and not just the drag strip.

The measured noise levels at all three locations were less than the allowed levels of the Noise Ordinance in the highest hour except for the maximum noise level. However, the levels were not set by the drag strip, but by local traffic and the local ambient. Therefore, with the exception of the maximum noise level, if the total noise levels are less than the allowed limits, it can be concluded that the drag strip levels were less as well since they are only a component of the

total measured levels. All other hours during the sample time were less than the highest hour.

4.2 INDIVIDUAL EVENTS

The only way to sort out the drag strip contribution is to address the individual drag strip maximum levels which could be identified when the non-drag strip noise levels were low enough. The least deviation from the allowed limits of the Noise Ordinance occurs for the maximum noise level. Compliance with the limits of Table 1 is usually set by the highest maximum value in an hour. However, the drag strip levels are less than the maximum value recorded by the local traffic most of the time. Therefore, individual readings were taken of the drag strip when the drag strip event was not masked by the local traffic or the speedway event noise. Exhibit 4 shows a graph of the noise levels at Location #2A for the period 9:00 A.M. to 3:00 P.M. There was a total of 280 samples of the 350 runs recorded at trackside. The remaining 70 runs could not be recorded at Location #2A due to masking by traffic on Whittram Avenue. The levels at Location #2A ranged from 66 dBA to 84 dBA. The median level was 74 dBA and 90 percent of the levels were 79 dBA, or less.

The maximum levels at the other three locations north of Whittram Avenue were less comprehensive than at Location #2A due a higher percentage of masking by the local traffic, or the Speedway car event. The maximum level ranges are given in Table 4.

TABLE 4

RANGE OF MAXIMUM LEVELS(1)

LOCATION	RANGE	AVERAGE
1	98 - 120	110
2A	66 - 84	74
3	56 - 73	63
4	58 - 67	64
5	58 - 71	66

The maximum levels at the field site were below the allowed 85 dBA with the exception of Location #1 at trackside, which is not subject to the Noise Ordinance.

4.3 CUMULATIVE NOISE LEVELS

It was not possible to determine the dragstrip induced levels for L2, L8, L25 and L50 because of the masking provided by the local ambient. It is

possible to estimate the levels based on the differences between the trackside average maximum and the average maximum at the other locations given in Table 4.

The resulting conditions for the highest trackside hour are given in Table 5 and compared to the Noise Ordinance.

TABLE 5

ESTIMATED CUMULATIVE HIGHEST HOUR NOISE LEVELS (1)

LOCATION	CONDITION	PARAMETER Lmax	L2	L8	L25	L50
#1	Reference	119	114	106	97	84
#2A	Estimated	83	78	70	61	48
	Allowed	85	80	75	70	65
	Difference	- 2	- 2	- 5	- 9	-17
#3	Estimated	72	67	59	50	37
	Allowed	85	80	75	70	65
	Difference	-13	-13	-16	-20	-28
#4	Estimated	73	68	60	51	38
	Allowed	85	80	75	70	65
	Difference	-12	-12	-15	-19	-27
#5	Estimated	75	70	62	53	40
	Allowed	85	80	75	70	65
	Difference	-10	-10	-13	-17	-25

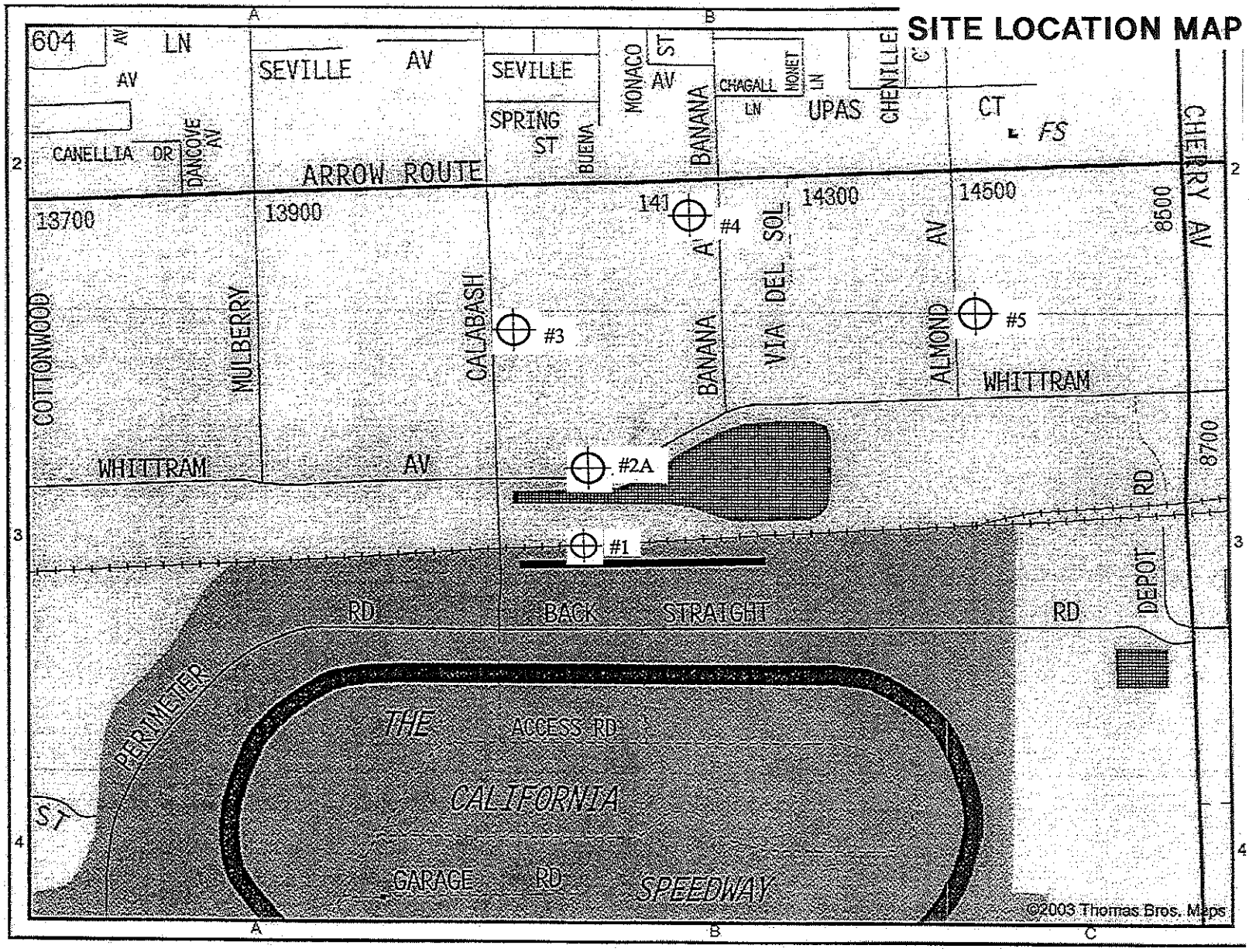
(1) a. Minus means that the measured levels are less than the allowed levels. b. The estimated values are the noise levels for just the drag strip.

The estimated cumulative levels for just the dragstrip indicate that the dragstrip's continuous levels are well below the allowed limits. In fact, it shows that it is the maximum noise level that will be the parameter that determines compliance, since the maximum level has the smallest deviation from the allowed level.

5.0 CONCLUSION

The noise levels of the Auto Club Drag Strip complied with the County's Noise limits on September 28, 2006.

EXHIBIT 1
SITE LOCATION MAP



SCALE 1 INCH = 850 FEET

EXHIBIT 2

VIEW LOOKING TOWARD TRACK FROM LOCATION #2

VIEW LOOKING TOWARD TRACK FROM LOCATION #4

VIEW LOOKING TOWARD TRACK FROM LOCATION #3

EXHIBIT 3

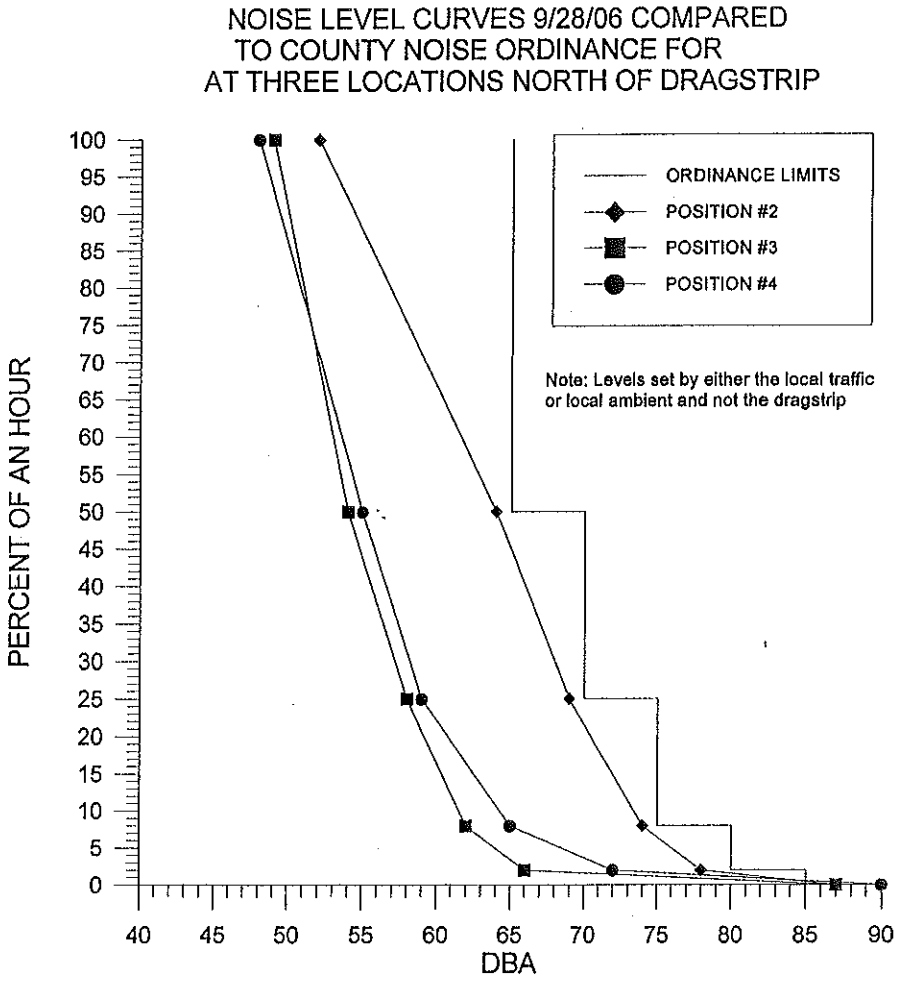
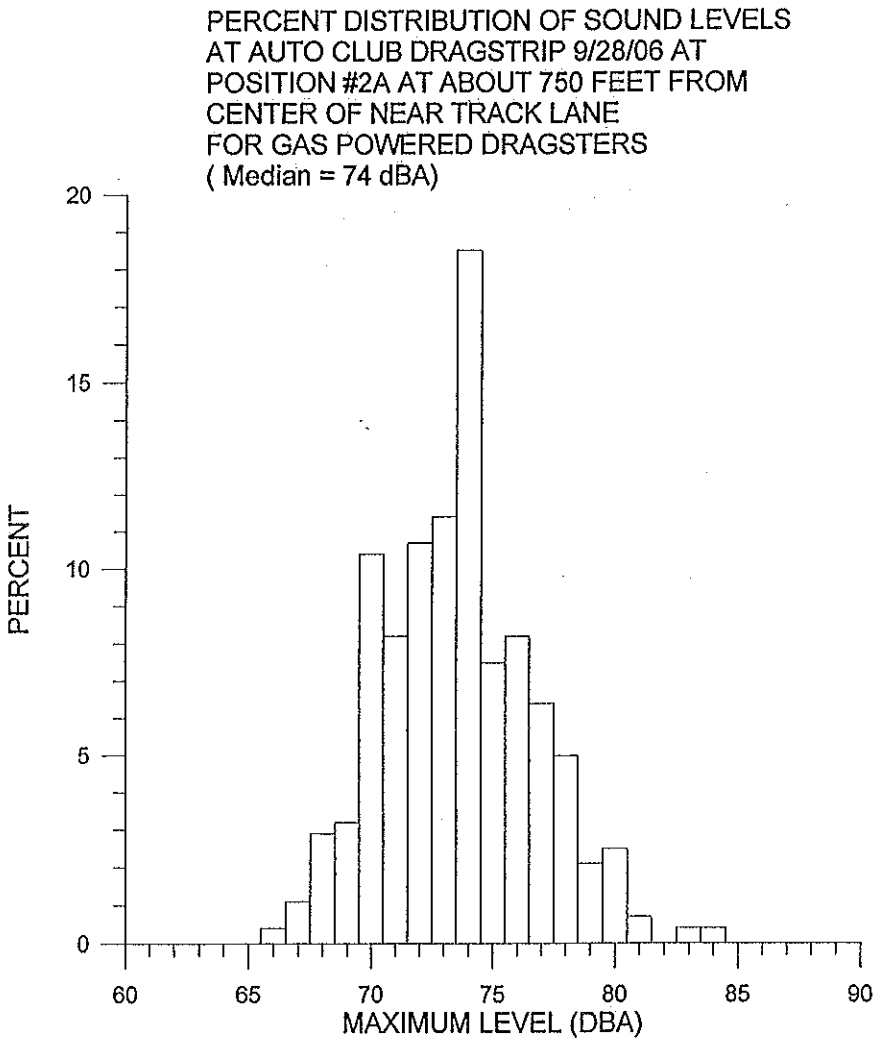

NOISE LEVEL CURVES 9/28/06 COMPARED
TO COUNTY NOISE ORDINANCE FOR
AT THREE LOCATIONS NORTH OF DRAGSTRIP
PERCENT OF AN HOUR
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0
40
45
50
55
60
65
70
75
80
85
90
DBA
ORDINANCE LIMITS
POSITION #2
POSITION #3
POSITION #4
Note: Levels set by either the local traffic
or local ambient and not the dragstrip

EXHIBIT 4


PERCENT DISTRIBUTION OF SOUND LEVELS
AT AUTO CLUB DRAGSTRIP 9/28/06 AT
POSITION #2A AT ABOUT 750 FEET FROM
CENTER OF NEAR TRACK LANE
FOR GAS POWERED DRAGSTERS
(Median = 74 dBA)
PERCENT
0
5
10
15
20
60
65
70
75
80
85
90
MAXIMUM LEVEL (DBA)

NOISE MEASUREMENTS AT THE AUTO CLUB DRAG STRIP

MARCH 24, 2007

GORDON BRICKEN & ASSOCIATES
ACOUSTICAL and ENERGY ENGINEERS

March 30, 2007

MEASUREMENT RESULTS

MARCH 24, 2007

AUTO CLUB DRAG STRIP

COUNTY OF SAN BERNARDINO

Prepared by:

Gordon Bricken
President

/mmb

Prepared for:

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GORDON BRICKEN & ASSOCIATES
ACOUSTICAL and ENERGY ENGINEERS

SUMMARY

Measurements were conducted of the operations on the Auto Club Drag Strip on March 24, 2007. The noise levels in the areas north of the drag strip for gas powered cars were all less than the allowed levels of the California Speedway's Noise Ordinance. Some fuel powered cars were run and they exceeded the existing standard.

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GORDON BRICKEN & ASSOCIATES
ACOUSTICAL and ENERGY ENGINEERS

1.0 INTRODUCTION

This report will present the results of noise measurements pertaining to the operation of the Auto Club Drag Strip located on the north side of the California Speedway in the Fontana area of the County of San Bernardino. The location is shown on Exhibit 1. The site, as well as the surrounding area, is flat. There are mixed residential, commercial and industrial land uses in the area north of the site. The area north of the track is rapidly becoming more industrial usage.

2.0 APPLICABLE NOISE CRITERIA

The existing daytime Noise Limits that apply to the California Speedway site at the present time are given in Table 1.

TABLE 1

DAYTIME SPEEDWAY NOISE LIMITS(1)

DURATION	SYMBOL	LAND USE		
		RESIDENTIAL	COMMERCIAL	INDUSTRIAL
30 minutes	L50	65	65	75
15 minutes	L25	70	70	80
5 minutes	L8	75	75	85
1 minute	L2	80	80	90
Anytime	Lmax	85	85	95

(1) a. The duration applies to any single hour.
b. Commercial and Professional Land Uses have the same limit.

The area north of Whittram Avenue consists of industrial, commercial and residential uses, often in multiple forms on the same property. If the land classification is by actual land use, then compliance is technically specific to a property. Most of the currently developed land represents industrial uses.

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3.0 MEASUREMENT DESCRIPTION

Four locations were selected for measurements. The locations are mapped on Exhibit 1. The locations are given in Table 2. Note that the numbering is based on the locations used on August 19, 2006 with the exception of Location #6 which was added in this study to replace Location #4 which is no longer a secure site. Location #2 in the August 19th study was not accessible due to new property fencing. Therefore, the location was moved forward toward the track and re-designated as Location #2A.

TABLE 2

MEASUREMENT LOCATIONS

LOCATION	DESCRIPTION
#1	50 feet north of the center line of the near lane of the dragstrip.
#2A	At the north curb of Whittram Avenue and approximately 750 feet from the dragstrip.
#3	Approximately 1,360 feet north of the dragstrip next to Calabash Avenue.
#6	Approximately 918 feet north of the dragstrip next to Banana Avenue.

All locations had an unobstructed view of the area to the south of the each site. However, the dragstrip is not visible from any of the locations as the view is blocked by a railroad embankment. The weather was 71 to 72 degrees, 40 to 47 percent humidity and skies were mostly clear with scattered clouds. Wind direction was from the west and varied from 1.5 to 6.9 miles per hour.

The measurements consisted of full-time individual car measurements at Locations #1 and #2A, individual car spot measurements at Locations #3 and #6. The measurements included the parameters given in Table 1 at all four locations.

Previous studies have shown that it is impossible to collect data for any of the parameters except the maximum noise level for a continuous hour. This is due to the ambient noise and the traffic activity.

4.0 MEASUREMENT RESULTS

The only way to sort out the drag strip contribution is to address the individual drag strip maximum levels which could be identified when the non-drag strip noise levels were low enough. The least deviation from the allowed limits of the Noise Ordinance occurs for the maximum noise level. Compliance with the limits of Table 1 is usually set by the highest maximum value in an hour. However, the drag strip levels are less than the maximum value recorded by the local traffic most of the time. Therefore, individual readings were taken of the drag strip when the drag strip event was not masked by the local traffic or the speedway event noise.

The measured maximum levels at Locations #3 and #6 north of Whittram Avenue were less comprehensive than at Locations #1 and #2A due to a higher percentage of masking by local traffic and area ambient noise. The measured maximum level ranges are given in Table 3.

TABLE 3

RANGE OF MAXIMUM LEVELS

LOCATION	RANGE	AVERAGE
#1	87 - 135	109
#2A	73 - 93	73
#3	54 - 75	64
#6	54 - 77	63

The distribution of the levels at the community locations is shown by the bar chart plots on Exhibits 2, 3 and 4.

The extent that the maximum levels exceeded the standards is shown in Table 4.

TABLE 4

COMPARISON OF RESULTS TO NOISE CRITERIA(1)

	PERCENT OVER		
LOCATION	85 dBA	90 dBA	95 dBA
#2A	4.7	1.5	0
#3	0	0	0
#6	0	0	0

(1) 85 dBA is residential and commercial limit.
95 dBA is the industrial limit.

The industrial standard of 95 dBA was not exceeded at any time at any location. The residential and commercial standard of 85 dBA was exceeded 4.7 percent of the time. This was primarily due to the fuel cars.

5.0 PREVIOUS MEASUREMENTS

Measurements were conducted in 2006 on August 19, September 16 and September 28. A general comparison of the four dates is shown in Table 5.

TABLE 5

COMPARISON OF EVENT RESULTS AT LOCATION #2A (1)

DATE	MEDIAN VALUE	HIGHEST EVENT	CARS OVER 85 dBA	CARS OVER 90 dBA	CARS OVER 95 dBA
8/19/06	70	81	0	0	0
9/16/06	74	87	1	0	0
9/28/06	74	84	0	0	0
3/24/07	73	93	18	5	0

(1) Location #2A is 750 feet north of the track at Whittram Avenue.

The last three events had similar median values since most of the cars being run were gas powered. The last event on March 24, 2007 had some runs that were higher than the highest in the previous measurements. While this does not alter the median, it does result in a number of events exceeding the existing standard for residential and commercial uses.

5.0 CONCLUSION

The noise levels of the Auto Club Drag Strip did not comply with the County's existing Noise limits on March 24, 2007 for residential use. However, it is not known whether a specific residential use would have been the subject of the condition.

NOISE MEASUREMENTS AT THE AUTO CLUB DRAG STRIP

APRIL 21, 2007

GORDON BRICKEN & ASSOCIATES
ACOUSTICAL and ENERGY ENGINEERS

April 25, 2007

MEASUREMENT RESULTS

APRIL 21, 2007

AUTO CLUB DRAG STRIP

COUNTY OF SAN BERNARDINO

Prepared by:

Gordon Bricken
President

/mmb

Prepared for:

MR. MIKE YURICK
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California Speedway
9300 Cherry Avenue
Fontana, California 92335

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GORDON BRICKEN & ASSOCIATES
ACOUSTICAL and ENERGY ENGINEERS

SUMMARY

Measurements were conducted of the operations on the Auto Club Drag Strip on April 21, 2007. The measurements were intended mainly to examine the results from nitromethane powered fuel cars. The noise levels at Whittram Avenue for gas powered cars were all less than the allowed levels of the California Speedway's existing Noise Ordinance. The fuel powered cars exceeded the allowed limits and exceeded the proposed new limits.

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GORDON BRICKEN & ASSOCIATES
ACOUSTICAL and ENERGY ENGINEERS

1.0 INTRODUCTION

This report will present the results of noise measurements pertaining to the operation of the Auto Club Drag Strip located on the north side of the California Speedway in the Fontana area of the County of San Bernardino. The location is shown on Exhibit 1. The site, as well as the surrounding area, is flat. There are mixed residential, commercial and industrial land uses in the area north of the site. The area north of the track is rapidly becoming more industrial.

2.0 APPLICABLE NOISE CRITERIA

The existing daytime Noise Limits that apply to the California Speedway site at the present time are given in Table 1.

TABLE 1

DAYTIME SPEEDWAY NOISE LIMITS(1)

		LAND USE		
DURATION	SYMBOL	RESIDENTIAL	COMMERCIAL	INDUSTRIAL
30 minutes	L50	65	65	75
15 minutes	L25	70	70	80
5 minutes	L8	75	75	85
1 minute	L2	80	80	90
Anytime	Lmax	85	85	95

(1) a. The duration applies to any single hour.
b. Commercial and Professional Land Uses have the same limit.

The area north of Whittram Avenue consists of industrial, commercial and residential uses, often in multiple forms on the same property. If the land classification is by actual land use, then compliance is technically specific to a property. Most of the currently developed land represents industrial uses.

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3.0 MEASUREMENT DESCRIPTION

In previous measurements several locations were used for the measurements. The locations are mapped on Exhibit 1. The locations are given in Table 2. Note that the numbering is based on the location descriptions used on August 19, 2006 with the exception of Location #6 which was added in March, 2007 to replace Location #4 which is no longer a secure site. Location #2 in the August 19th study was not accessible due to new property fencing. Therefore, the location was moved forward toward the track and re-designated as Location #2A.

TABLE 2

MEASUREMENT LOCATIONS

LOCATION	DESCRIPTION
#1	50 feet north of the center line of the near lane of the dragstrip.
#2A	At the north curb of Whittram Avenue and approximately 750 feet from the dragstrip.
#3	Approximately 1,360 feet north of the dragstrip next to Calabash Avenue.
#6	Approximately 918 feet north of the dragstrip next to Banana Avenue.

In this study, data was collected only at location #2A. The location has an unobstructed view of the area to the south of the site. However, the dragstrip is not visible from the location as the view is blocked by a railroad embankment. The weather was 65 to 67 degrees, 60 to 67 percent humidity and the sky was overcast. Wind direction was from the west and south.

The measurements consisted of full-time individual car measurements. Previous studies have shown that it is impossible to collect data for any of the parameters except the maximum noise level for a continuous hour due to the traffic noise from Whittram Avenue.

4.0 MEASUREMENT RESULTS

The major purpose of the measurements was to document the noise levels of fuel dragsters. Therefore, measurements covered a period 1:45 P.M. to 4:45 P.M. which covered the fuel dragster runs. The least deviation from the allowed limits of the Noise Ordinance occurs for the maximum noise level. Compliance with the limits of Table 1 is usually set by the highest maximum

value in an hour. However, the drag strip levels are less than the maximum value recorded by the local traffic most of the time. Therefore, individual readings were taken of the drag strip when the drag strip event was not masked by the local traffic.

The measured maximum level range is given in Table 3.

TABLE 3

RANGE OF MAXIMUM LEVELS(1)

LOCATION	RANGE	AVERAGE
#2A	65 - 100	77

The distribution of the levels at the measurement location is shown by the bar chart plot on Exhibit 2.

The extent that the maximum levels exceeded the standards is given in Table 4.

TABLE 4

COMPARISON OF RESULTS TO NOISE CRITERIA(1)

	PERCENT OVER		
LOCATION	85 dBA	90 dBA	95 dBA
#2A	24.7	14.3	2.6

(1) The residential and commercial limit 85 dBA. The industrial limit is 95 dBA.

There were about 19 runs over 85 dBA which were all fuel car runs.

5.0 PREVIOUS MEASUREMENTS

Measurements were conducted in 2006 on August 19, September 16, September 28 and on March 24, 2007. A general comparison of the four dates is shown in Table 5 on the following page.

TABLE 5

COMPARISON OF EVENT RESULTS
AT LOCATION #2A TO EXISTING STANDARD(1)

DATE	MEDIAN VALUE	HIGHEST EVENT	CARS OVER 85 dBA	CARS OVER 90 dBA	CARS OVER 95 dBA
8/19/06	70	81	0	0	0
9/16/06	74	87	1	0	0
9/28/06	74	84	0	0	0
3/24/07	73	93	18	5	0
4/21/07	77	100	20	11	2

(1) Location #2A is 750 feet north of track at Whittram Avenue.

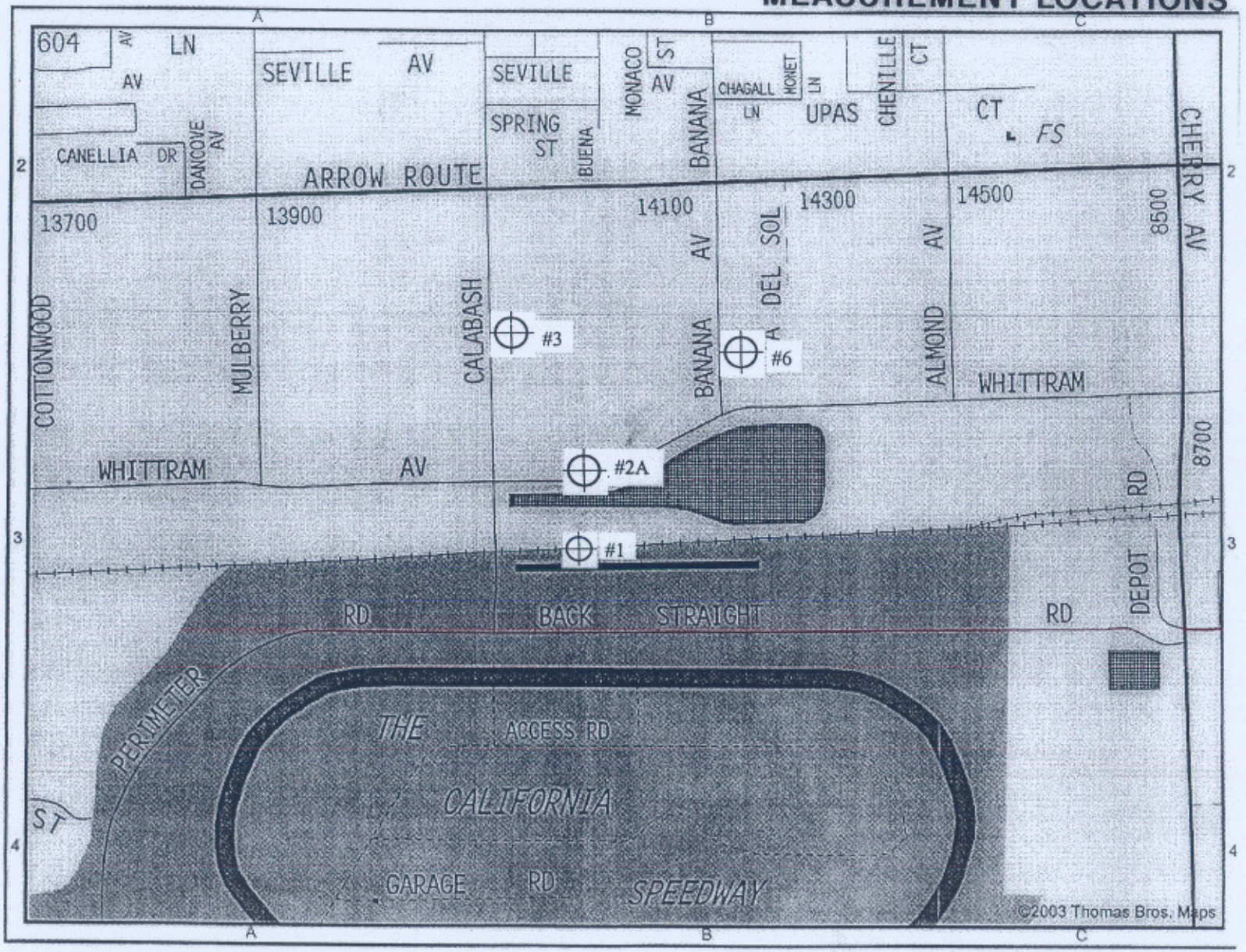
The first three events had similar median values since most cars being run were gas powered. The event on March 24, 2007 had some runs that were some type of fuel car although not thought to be nitromethane fuel. The April runs included nitromethane fuel cars.

The proposed specification sets a limit of 90 dBA based on the average of three samples no closer than two minutes apart. Eleven (11) of the runs exceeded 90 dBA. Sampling these runs in the proposed specification manner would still have resulted in the average exceeding 90 dBA.

6.0 CONCLUSION

The noise levels of the fuel cars at the Auto Club Drag Strip did not comply with the County's existing Noise limits on April 21, 2007 for residential or industrial use. The fuel cars did not comply with the proposed new specification either.

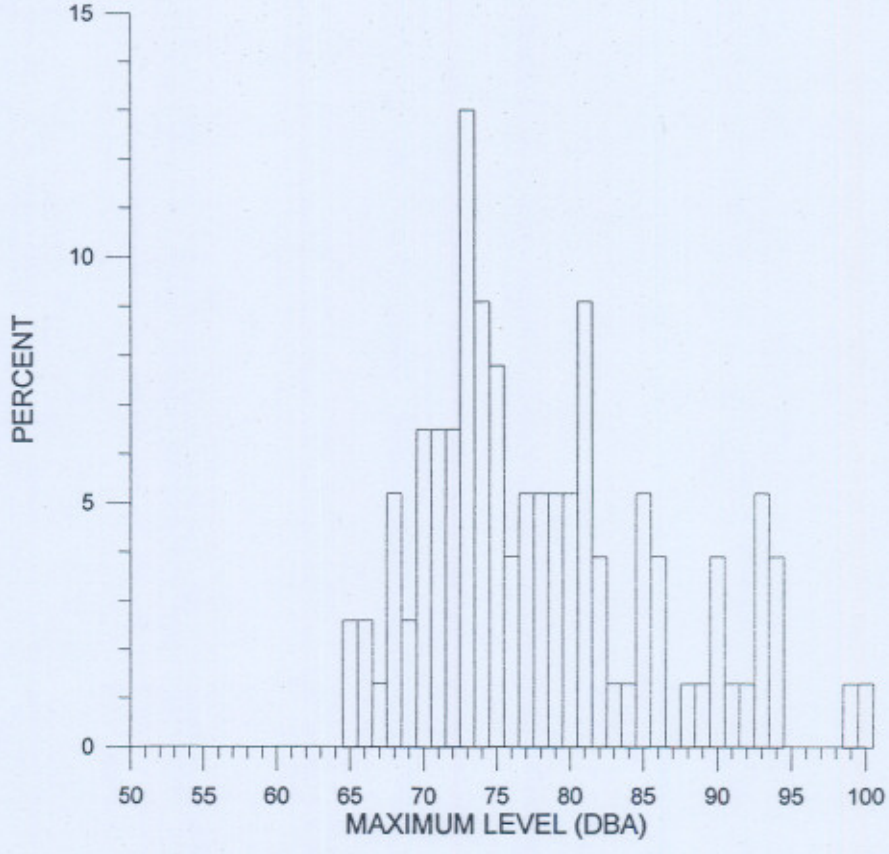
EXHIBIT 1
MEASUREMENT LOCATIONS



SCALE 1 INCH = 850 FEET

EXHIBIT 2

PERCENT DISTRIBUTION OF SOUND LEVELS
AT AUTO CLUB DRAGSTRIP 4/21/07 AT
POSITION #2 AT ABOUT 750 FEET FROM
CENTER OF NEAR TRACK LANE
(Median = 77 dBA)



NOISE MEASUREMENTS AT THE AUTO CLUB DRAG STRIP

MAY 7, 2007

GORDON BRICKEN & ASSOCIATES
ACOUSTICAL and ENERGY ENGINEERS

May 7, 2007

MEASUREMENT RESULTS

MAY 5, 2007

AUTO CLUB DRAG STRIP

COUNTY OF SAN BERNARDINO

Prepared by:

Gordon Bricken
President

/mmb

Prepared for:

MR. MIKE YURICK
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Fontana, California 92335

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GORDON BRICKEN & ASSOCIATES
ACOUSTICAL and ENERGY ENGINEERS

SUMMARY

Measurements were conducted of the operations on the Auto Club Drag Strip on May 5, 2007. The measurements were intended mainly to examine the results from alcohol and nitromethane powered fuel cars but all car classes were measured at all the sites. The noise levels at Whittram Avenue for gas powered cars were all less than the allowed levels of the California Speedway's existing Noise Ordinance. The alcohol and fuel powered cars exceeded the allowed limits for residential land uses but not industrial. The alcohol and fuel cars exceeded the proposed new limit that applies to all land uses.

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GORDON BRICKEN & ASSOCIATES
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1.0 INTRODUCTION

This report will present the results of noise measurements pertaining to the operation of the Auto Club Drag Strip located on the north side of the California Speedway in the Fontana area of the County of San Bernardino. The location is shown on Exhibit 1. The site, as well as the surrounding area, is flat. There are mixed residential, commercial and industrial land uses in the area north of the site. The area north of the track is rapidly becoming more industrial.

2.0 APPLICABLE NOISE CRITERIA

The existing daytime noise limits that apply to the California Speedway site at the present time are given in Table 1.

TABLE 1

DAYTIME SPEEDWAY NOISE LIMITS(1)

DURATION	SYMBOL	LAND USE		
		RESIDENTIAL	COMMERCIAL	INDUSTRIAL
30 minutes	L50	65	65	75
15 minutes	L25	70	70	80
5 minutes	L8	75	75	85
1 minute	L2	80	80	90
Anytime	Lmax	85	85	95

(1) a. The duration applies to any single hour.
b. Commercial and Professional Land Uses have the same limit.

It has been proposed to reduce the allowed limits to a single number for all land uses. That number would be 90 dBA Lmax.

The area north of Whittram Avenue consists of industrial, commercial and residential uses, often in multiple forms on the same property. If the land classification is by actual land use, then compliance is technically specific to a property. Most of the currently developed land represents industrial uses.

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3.0 MEASUREMENT DESCRIPTION

In previous measurements, several locations were used. Those locations are shown on Exhibit 1. The locations are described in Table 2. Note that the numbering is based on the location descriptions used on August 19, 2006 with the exception of Location #6 which was added in March, 2007 to replace Location #4 which is no longer a secure site. Location #2 in the August 19th study was not accessible due to new property fencing. Therefore, the location was moved forward toward the track and re-designated as Location #2A.

TABLE 2

MEASUREMENT LOCATIONS

LOCATION	DESCRIPTION
#1	50 feet north of the center line of the near lane of the dragstrip.
#2A	At the north curb of Whittram Avenue and approximately 750 feet from the dragstrip.
#3	Approximately 1,360 feet north of the dragstrip next to Calabash Avenue.
#6	Approximately 918 feet north of the dragstrip next to Banana Avenue.

The data was collected at locations #2A, #3 and #6. Location #2A has an unobstructed view of the area to the south of the measurement site. The view is only up the street toward the drag strip at Locations #3 and #6. The dragstrip is not visible from any location as the view is blocked by a railroad embankment. The weather was 75 to 80 degrees, 20 to 30 percent humidity and the sky was clear. Wind direction was from the west and south.

The measurements consisted of full-time individual car measurements at location #2A and sample measurements at the other two locations. Previous studies have shown that it is impossible to collect data for any of the parameters except the maximum noise level for a continuous hour due to the traffic noise from Whittram Avenue.

4.0 MEASUREMENT RESULTS

The major purpose of the measurements was to document the noise levels of the alcohol and fuel dragsters. This event included alcohol funny cars, alcohol dragsters and A-Fuel dragsters. The A-Fuel dragster is an unsupercharged nitromethane

fuel car.

Measurements covered a period from 10:45 A.M. to 4:45 P.M., which covered the fuel dragster runs. The drag strip levels are masked at times by the local traffic on Whittram Avenue at Location 2A. Therefore, individual readings were taken of the drag strip when the drag strip event was not masked by the local traffic.

The measured maximum level range is given in Table 3.

TABLE 3

RANGE OF MAXIMUM LEVELS(1)

LOCATION	RANGE	AVERAGE
#2A	68 - 95	79

The distribution of the levels at the measurement location is shown by the bar chart plot on Exhibit 2.

The extent that the maximum levels exceeded the standards is given in Table 4.

TABLE 4

COMPARISON OF RESULTS TO NOISE CRITERIA(1)

	PERCENT OVER		
LOCATION	85 dBA	90 dBA	95 dBA
#2A	27.2	7.9	0.0

(1) a. The current residential and commercial limit is 85 dBA Lmax. The industrial limit is 95 dBA Lmax.
b. The proposed limit is 90 dBA Lmax for all land uses.

There were 32 runs of alcohol and fuel cars. The were 46 events over 85 dBA which included burn-outs and runs related to alcohol and fuel car runs.

The alcohol and fuel cars registered a range of 80 to 93 dBA Lmax at location #3 and 92 to 93 dBA at location #6.

5.0 PREVIOUS MEASUREMENTS

Previous measurements were conducted in 2006 on August 19, September 16, September 28, March 24, and on April 21, 2007. A general comparison of all six dates is shown in Table 5 on the following page.

TABLE 5

COMPARISON OF EVENT RESULTS
AT LOCATION #2A TO EXISTING STANDARD(1)

DATE	MEDIAN VALUE	HIGHEST EVENT	CARS OVER 85 dBA	CARS OVER 90 dBA	CARS OVER 95 dBA
8/19/06	70	81	0	0	0
9/16/06	74	87	1	0	0
9/28/06	74	84	0	0	0
3/24/07	73	93	18	5	0
4/21/07	77	100	20	11	2
5/5/07	79	95	46	18	0

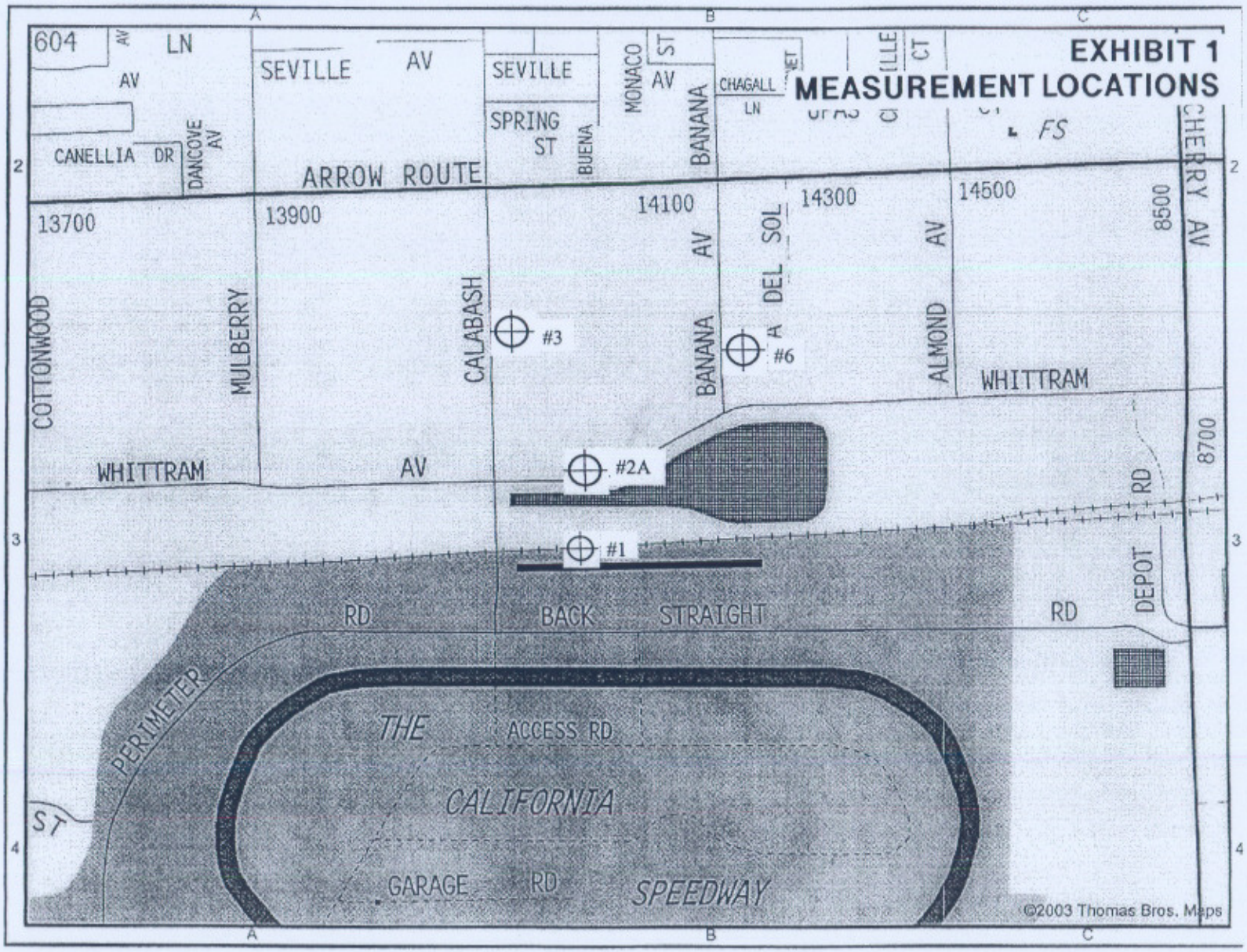
(1) Location #2A is 750 feet north of track at Whittram Avenue.

The first three events had similar median values since most cars being run were gas powered. The event on March 24, 2007 had some runs that were some type of fuel car, although not thought to be nitromethane fuel. The April runs included nitromethane fuel cars. The May runs included alcohol and fuel cars.

The proposed specification sets a limit of 90 dBA based on the average of three samples no closer than two minutes apart. Eighteen events exceeded 90 dBA. Sampling these events in the proposed specification manner would still have resulted in the average exceeding 90 dBA.

6.0 CONCLUSION

The noise levels of the alcohol and fuel cars at the Auto Club Drag Strip did not comply with the County's existing Noise limits on May 5, 2007 for residential use. They did comply for industrial uses. The alcohol and fuel cars did not comply with the proposed new specification either.



SCALE 1 INCH = 850 FEET

EXHIBIT 2

PERCENT DISTRIBUTION OF SOUND LEVELS
AT AUTO CLUB DRAGSTRIP 5/5/07 AT
POSITION #2A AT ABOUT 750 FEET FROM
CENTER OF NEAR TRACK LANE
(Median = 79 dBA)

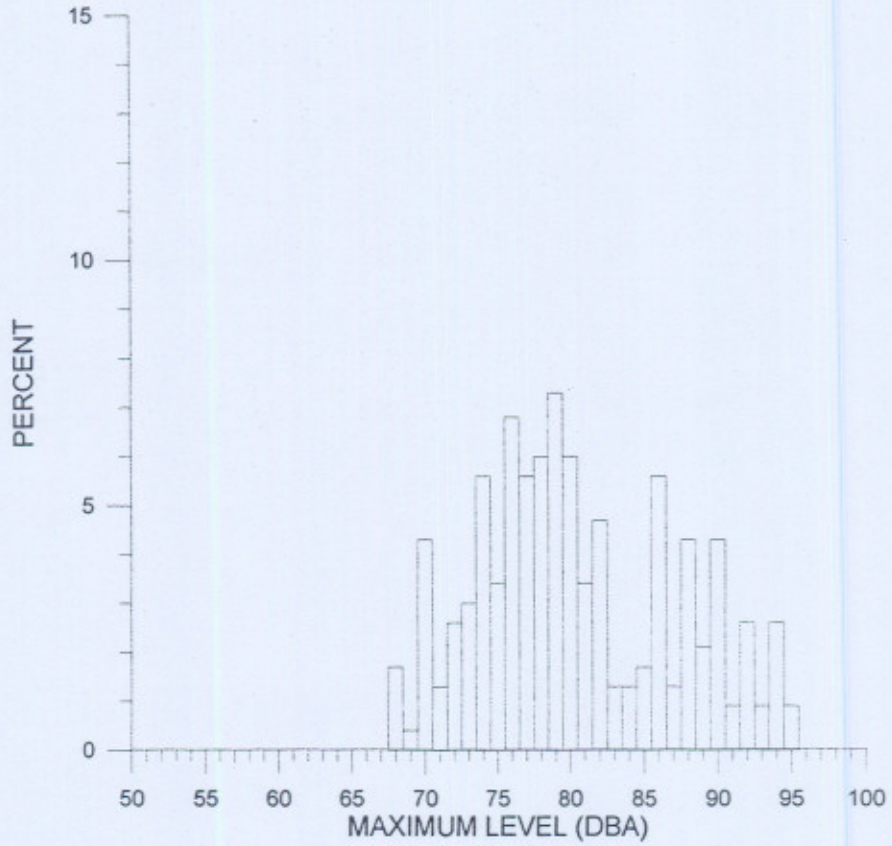
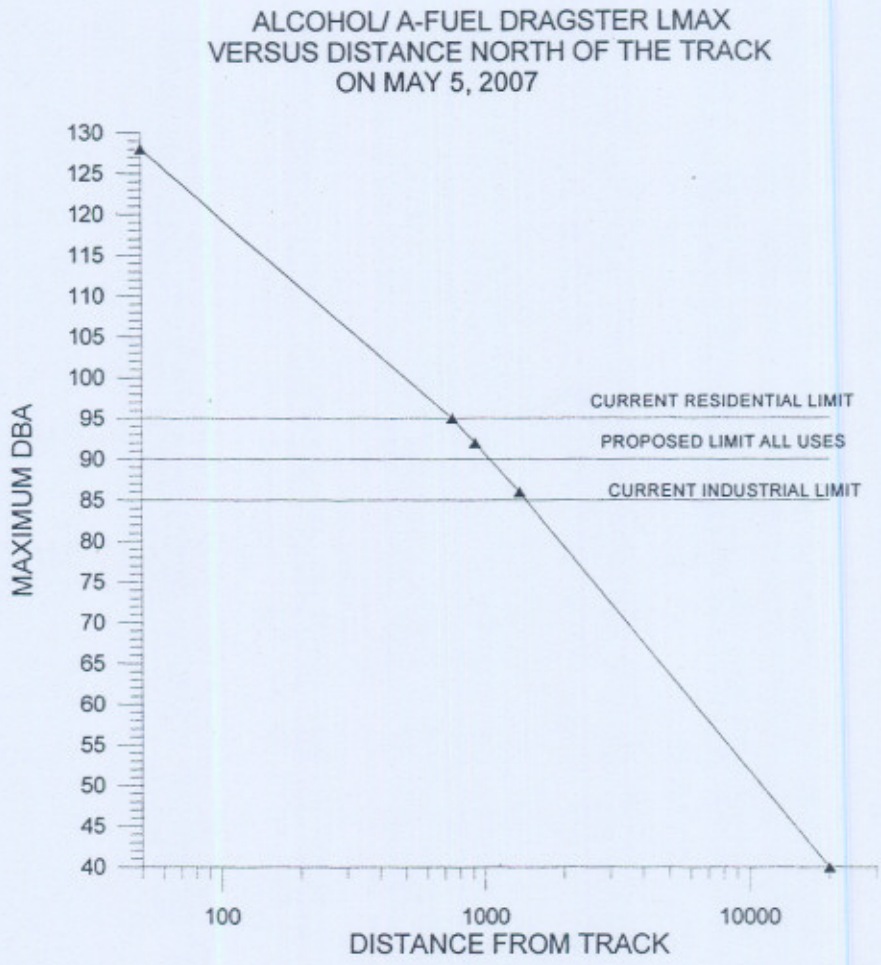


EXHIBIT 3


ALCOHOL/ A-FUEL DRAGSTER LMAX
VERSUS DISTANCE NORTH OF THE TRACK
ON MAY 5, 2007
MAXIMUM DBA
130
125
120
115
110
105
100
95
90
85
80
75
70
65
60
55
50
45
40
CURRENT RESIDENTIAL LIMIT
PROPOSED LIMIT ALL USES
CURRENT INDUSTRIAL LIMIT
100
1000
10000
DISTANCE FROM TRACK