

ITEM	3
MANAGER'S REPORT NO.	45
COUNCIL MEETING	91/07/22

TO: MUNICIPAL MANAGER 1991 JULY 16

FROM: ACTING CHIEF PUBLIC HEALTH INSPECTOR

SUBJECT: OPERATIONAL NOISE ASSOCIATED WITH DAIRYLAND ICE CREAM DIVISION, 4047 LOZELLS AVENUE, BURNABY, B.C. AND NOISE ASSOCIATED WITH TRAFFIC ON WINSTON STREET.

PURPOSE: TO PROVIDE COUNCIL WITH INFORMATION AS TO THE CURRENT STATUS OF BOTH OPERATION NOISE ASSOCIATED WITH DAIRYLAND ICE CREAM DIVISION AND TRAFFIC NOISE ALONG WINSTON STREET.

RECOMMENDATION:

1. THAT a copy of this report be forwarded to:
Mr. V. Milosavljevic,
7580 Dorchester Drive, Burnaby, B.C., V5A 3G6
Mr. and Mrs. Bettiol,
3957 Lozells Avenue, Burnaby, B.C. V5A 2Z3
Mr. R. Williamson,
Vice President Industrial Division,
Dairyland Foods,
6800 Lougheed Highway, Burnaby, B.C. V5A 1W2

REPORT

INTRODUCTION:

At its regular Council Meeting held 1991 July 08, Council received correspondence from Mr. Walter Milosavljevic, expressing concern with regard to noise pollution from the Dairyland Ice Cream Plant located at 4047 Lozells Avenue, Burnaby, B.C. Council referred the same back to staff to report on the status to date of noise pollution and the mitigative measures taken by Dairyland as well as to report on the concern of traffic noise as expressed by residents in the same area.

OPERATIONAL NOISE FROM DAIRYLAND ICE CREAM DIVISION

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1.0 BACKGROUND:

The initial complaints regarding Dairyland were received by the Environmental Health Division in 1989 June. At that point Dairyland was put on the Environmental Health Division's 24 hour call-out list. Concerned residents were advised to call at any time the noise was considered excessive, and a staff member would attend the site and take noise readings. On several occasions readings were taken and in all cases, noise levels showed compliance with requirements of the Burnaby Noise or Sound Abatement Bylaw and were within legal limits. At its regular Council meeting held on 1990 November 05, Council received a petition expressing concern regarding noise from Dairyland. Staff advised Dairyland of their concerns and requested that measures be taken to limit operational noise emanating from their property.

The following steps were taken by Dairyland to alleviate noise concerns from residents north of Winston Street.

1. Require all Dairyland employed drivers not to park on Winston Street prior to entering or leaving the plant.
2. Alter delivery or pick-up hours wherever possible to minimize early morning noise.
3. Maintain a program of refrigeration unit maintenance to minimize noise emissions.
4. Make all employees aware of the noise concerns of the neighbouring residential area.

Following the regular Council Meeting of 1990 November 19, and Council's referral of the report back to staff for a further report, the following action has been taken.

Environmental Health Division staff arranged a joint meeting with resident Mr. Walter Milosavljevic, Mr. Randy Williamson, Vice President Industrial Division, Dairyland Foods, and Mr. Ken Johnston, Acting Chief Public Health Inspector. The above meeting took place 1990 December 12 and all associated noise problems were identified by Mr. Milosavljevic and discussed by all parties. Provided below are problems identified and mitigative measures Dairyland was to implement to resolve residential concerns.

1. Rooftop Fans:

Make certain that fan blades are clear of guards when fans start up. There is sometimes belt slippage when wet due to rain. Dairyland is investigating the possibility of covering the belts to keep them dry. Engineers are to check fans at least every two days.

2. Fan Bearings:

Check on a regular basis for wear of the requirement for lubrication.

3. 24-Hour Operation and Related Problems with Loading:

Load all trucks as early in the evening as possible and make all employees aware of the noise problem.

4. Ammonia Tank Alarm:

Ammonia detection alarm system to sound internally only.

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5. Outside Suppliers:

Trucks with reefer units have been advised not to run the units during the night. These trucks are large units from out of province and have been advised to time their arrivals to a.m. working hours.

6. Liquid Sugar Deliveries:

Schedule deliveries between 07:00 h and 16:00 h.

7. Sludge Cleaning, Power Washing:

Maintenance has been requested to schedule these activities during normal working hours.

8. 13 Local Delivery Trucks:

Security service personnel will make a tour of vehicles as part of their three times per night regular duties. Noise associated with slipping belts on the reefer units will then be addressed as soon as possible.

9. New Ice Builder:

Compressor for same is inside the building with no external noise.

10. Garbage Compactor:

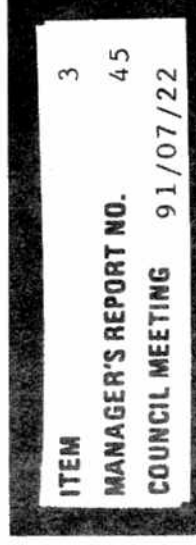
Pick-up schedule will be reviewed.

11. Security Checks:

An automatic door closer will be installed on the north exit door from the processing room. When windy the door slams while closing.

As of 1991 April 26, the following mitigative measures have been completed:

1. Lubricated and replaced bearings and belts on rooftop fans. In addition, engineering now inspect for fan noise two times per shift.
2. Taken measures to ensure that local trucks are loaded as early in the evening as possible.
3. Had over-the-road trailers park elsewhere if they arrive during off hours.
4. Scheduled liquid sugar deliveries between 7:00 a.m. and 4:00 p.m. on weekdays.
5. Scheduled sludge cleaning and power washing for normal work hours only.
6. Ensured that reefer units on local trucks are inspected twice per evening by security personnel. If noise problems are noticed, repair personnel are contacted immediately.
7. Erected a block wall to enclose the air agitator on the new ice builder.
8. Scheduled garbage compactor pickups between 8:00 a.m. and 4:00 p.m. only.
9. Installed an automatic door closer on the north pasteurizer to prevent slamming.



2.0 CURRENT STATUS:

Mr. Randy Williamson, Vice President Industrial Division, Dairyland Foods, phoned Environmental Health Division on 1991 May 30, and stated that Dairyland was not prepared at this time to take any further mitigative action in reducing noise emanating from the Ice Cream Plant. Mr. Williamson acknowledged the difficulties that may arise when a residential development is in close proximity to a commercial/industrial area and for that reason they had taken the above mitigative measures over the past 6 months. Recognizing the fact that noise from the plant (although within the confines of the Bylaw) could be irritating to residents in the area, Mr. Williamson agreed to visit the plant with Environmental Health Division staff at 23:00 hrs. on 1991 June 27, to get a first hand feel of the situation.

The Attachment #1 diagram shows where the noise readings were taken and the level of noise recorded. From this, the following areas of concerns were recognized.

- Area 01 - The ice cream builder door must remain closed.
- Area 02 - The door in this area must remain closed.
- Area 03 - A large fan in this area faces south and has little or no impact on residents.
- Area 04 - Loading operation and compactor. This area although over the Noise Bylaw at the point the sound level was taken, is within satisfactory levels at Winston Street. This area should have limited activity during night time hours.

Area 05-08 - This area is where all the delivery trucks are parked with reefers running all night. All reefers should be parked so that the reefer units face south, and are as far to the south of the property as possible.

Area 09 - The transfer pump is to be shielded.

Area 10 - The ventilation fan is to be shielded.

Area 11-12 - Noise in this area should be reduced by mitigative action taken on Area 09 and 10.

One outstanding remaining problem is the recycling bins that are located in and about Area 10 and 11. Although these are picked-up during the day, pick-up is loud and disturbing the residents. During the night time, the bins are not emptied but are continually being filled and often moved around, sometimes causing lids to bang. In recent discussion with Mr. Williamson as of 1991 July 17, the recycling bins will be moved to the south side of the building on a permanent basis. Mr. Williamson also said that a baffle will be installed on the rooftop condenser unit as soon as possible. He further indicated that Dairyland is investigating the possibility of installing a buffer on the main building vent.

Mr. Williamson has agreed with the above additional mitigative noise measures and will have them in place as soon as possible. It is staff's opinion, that once these additional mitigative measures are in place, additional noise readings should be undertaken to again evaluate the severity of the noise and disturbances to residents. Should noise from Dairyland's operation still remain a problem to the residents in the area, Environmental Health will continue to work with the management of Dairyland to solve the problem.

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TRAFFIC ON WINSTON STREET AND NOISE PROBLEMS

Environmental Health staff along with staff from Planning and Engineering, have met twice with the Bettiols to discuss issues of concern. Specific areas are, traffic on Winston Street and associated noise and the use of Winston Street as a collector route.

ENVIRONMENTAL HEALTH

Staff placed the noise analyzer at Mr. Bettiol's residence for the period between 1991 June 27 to 1991 July 02 inclusive. Our review of the audio tape revealed the noise source to be primarily from truck traffic along Winston Street. On reviewing the Leg's (24 hours), it confirmed that traffic (truck) noise to be the more intrusive of noise to that property. The levels exceed the 62 dBA's Housing and Urban Development (HUD) criteria for exterior amenity areas (see Attachment #2). However, due to the absence of any other previous baseline noise information, it is difficult to state the exact level to which noise has increased over the last several years.

Noise reverberation from the wall on Dairyland property back to houses on the north side of Winston Street has been examined and concluded that the amount is inconsequential due to its design.

PLANNING

Winston Street was approved for upgrading as an industrial collector by Council in 1970 and remains an industrial and commercial collector in the adopted Burnaby Conceptual Transportation Plan. The primary role of Winston Street is to service the Winston Street industrial development and provide an east-west connector to the primary arterial network, providing a necessary component of the Municipality's road network.

From a land use perspective, the planning of the Winston Street area has recognized residential development north of Winston Street and industrial development to its south. Consequently, in the planning and design of Winston Street and subdivision of property north of Winston Street, special landscaping treatment and subdivision requirements (i.e. larger lots with restrictive covenants) have been implemented to lessen the potential impact of the adjacent road and industrial development. At the time of construction of Winston Street, the Bettiols were provided with landscaping in the 15 foot wide boulevard between their property and the Winston Street pavement. The landscaping plans included an evergreen hedge on the property line and four coniferous trees which are still in place. As the Bettiol residence predates the construction of Winston Street and because of its location on Lozells Avenue, flanking Winston Street, their landscape buffer is not as extensive as those of their neighbours to the west.

ENGINEERING

Winston Street in this area is classified as a major collector (industrial/commercial) and is a designated truck route. Currently, Winston Street carries approximately 12,000 - 13,000 vehicles per 24-hour week day (VDP). This volume has increased from approximately 10,000 VDP a decade ago. Classification of Winston Street truck traffic done on 1991 January 16, observed truck movements during three 2-hour periods centered at the a.m. peak, noon, and p.m. During this 6-hour period, 600 trucks mixed with a total traffic stream of 7,900 vehicles were observed.

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Classification of Winston Street Truck Traffic

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Truck Type	Number	Proportion
2 Axle 4 Tire	223	38%
2 Axle 6 Tire	195	33%
3 Axle	86	15%
4-5 Axle	77	13%
6+ Axle	<u>4</u>	<u>1%</u>
TOTAL	585	100%

The 2 axle/4 tire vehicles are typically pickup trucks and light vans while 2 axle/6 tire vehicles are typically light box vans. Most if not all 2 axle vehicles would not be subject to the truck route provisions of the Burnaby Street & Traffic Bylaw. Similarly the majority of 3 axle (and greater) trucks would be subject to truck route provisions. There are few vehicles with 4 axles and vehicles with 5 or more axles are typically semi-trailers or some other articulated combination (e.g. dump truck and trailer).

Thus the "truck" component of the total traffic stream along Winston Street is estimated to be about 2%.

3.0 CONCLUSION:

Dairyland is in compliance with the Burnaby Noise Bylaw. Dairyland has been cooperative and sensitive working with the Municipality and local residents to look at other avenues to reduce operational noise emanating from their Ice Cream Plant. They continue to be sensitive, cooperative citizens by indicating their willingness to further reduce noise from their Ice Cream Plant to achieve a mutually, satisfying environment.

With respect to traffic noise as it relates to the Bettiol's, it is difficult to know how much it has increased over the years. However, it is quite clear that traffic noise is a considerable problem to the Bettiols. The levels exceed Burnaby's outdoor criteria for "normally acceptable" noise in a 24-hour period. It is understood the Bettiols are in an unique situation given their location with respect to Winston Street, their occupancy predates the construction of the road and more recent residents would have purchased their properties with full awareness of Winston Street and traffic on it.

Staff are of the opinion that the options for resolving the Bettiol's noise problems are limited. However, it is appropriate that Burnaby retain an acoustical consultant to see what measures can be implemented adjacent to the Bettiol's property to reduce the impact of vehicle noise. Upon receipt of the consultant's report, a further report will be submitted dealing with possible solutions, associated cost, implications and responsibilities.

K.C. Johnston, C.P.H.I.(C)
ACTING CHIEF PUBLIC HEALTH INSPECTOR

KCJ/dd

Attachments

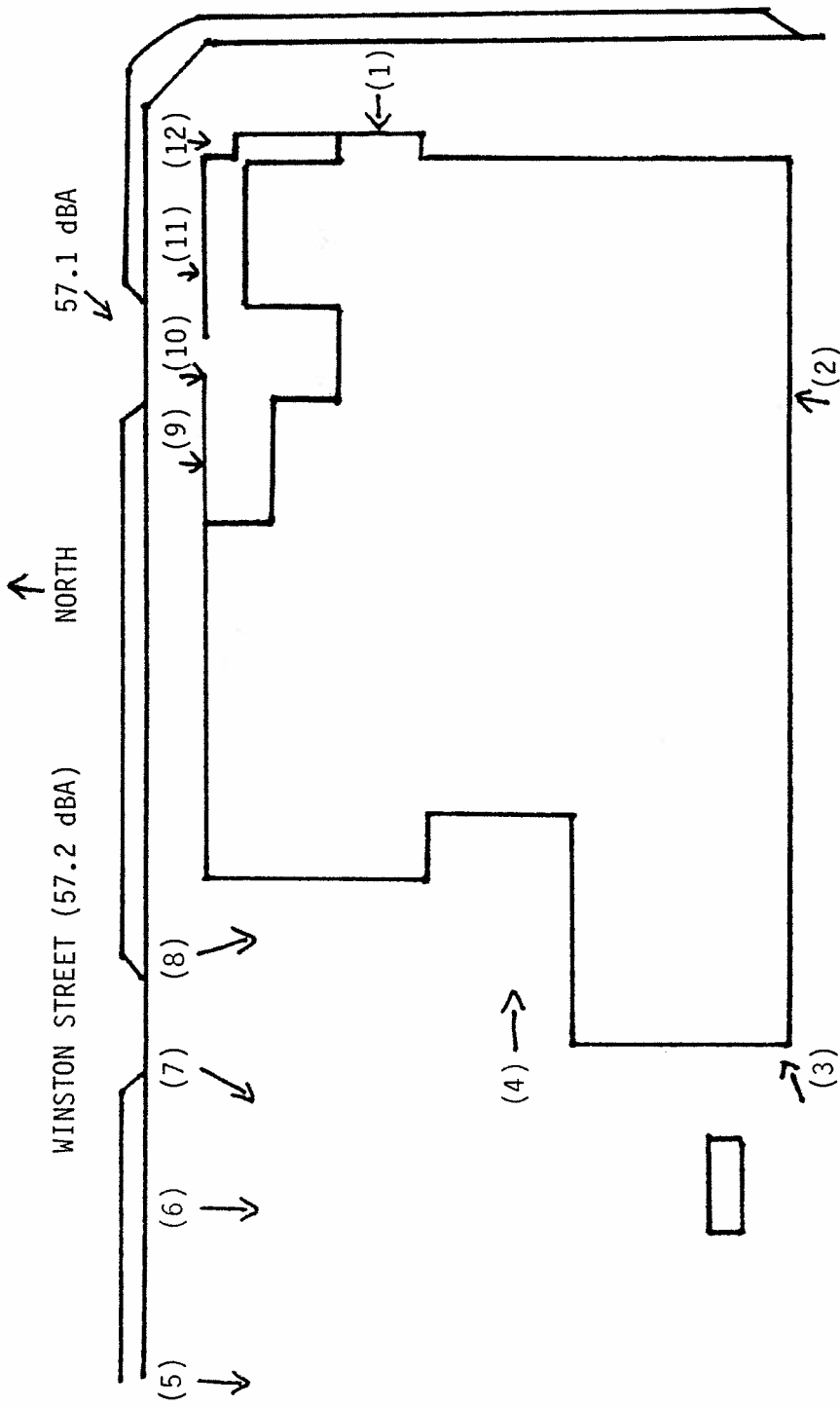
- cc: Medical Health Officer
Director Administrative &
Community Services
Director Engineering
Director Planning

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ATTACHMENT #1

DAIRYLAND ICE CREAM PLANT, 4047 LOZELLS AVENUE
 1991 JUNE 27 (22:00 HRS.)



1. East of ice cream builder - door open 57.1 dBA, door closed 60.1 dBA.
2. South portion of building - door open 73.0 dBA.
3. Southwest of building - 65 dBA.
4. Loading area - 65.9 dBA. Compactor on 64.0 dBA, compactor off 61.0 dBA.
5. North of reefer trucks - 57.1 dBA.
6. North of reefer trucks - 65.9 dBA.
7. North of reefer trucks - 64.0 dBA.
8. North Gate entrance - 54.6 dBA.
9. Transfer pump - 61.2 dBA.
10. Ventilation fan operating - 62.3 dBA.
11. Northeast of building - 57.1 dBA.
12. Northeast of building - 59.2 dBA.

Above denotes direction of SLM microphone.

Area 01
 Area 02

The ice cream builder door must remain closed
 The door in this area must remain closed, although
 this faces south to an industrial site and has little
 or no impact on residents in the area.

Area 03
 Area 04

A large fan in this area faces south and has little or
 no impact on residents.
 Loading operation and compactor. This area although
 over the Noise Bylaw at the point the sound level was
 taken, is within satisfactory levels at Winston
 Street. This area should have limited activity
 during night time hours.

Area 05-08

This area is where all the delivery trucks are parked
 with reefers running all night. All reefers should be
 parked so that the reefer units face south, and are as
 far to the south of the property as possible.
 The transfer pump is to be shielded.

Area 09
 Area 10
 Area 11-12

The ventilation is to be shielded.
 Noise in this area should be reduced by mitigative
 action taken on Area 09 and 10.

LOZELLS AVENUE

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ATTACHMENT #2

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NOISE READINGS - 3957 LOZELLS AVENUE
 1991 JUNE 27 TO 1991 JUNE 28 (THURSDAY/FRIDAY)

<u>TIME INTERVAL</u>	<u>TIME</u>	<u>(LEQ/HR.) NOISE LEVEL</u>	<u>eT/10</u>
1	13:00	69.3	8511280
2	14:00	70.6	11481536
3	15:00	72.5	17782794
4	16:00	70.9	12022644
5	17:00	70.8	12022644
6	18:00	70.5	11220184
7	19:00	67.1	5128614
8	20:00	66.6	4570882
9	21:00	63.8	2398833
10	22:00	70.2	10471285
11	23:00	66.4	4365158
12	00:00	61.1	1288250
13	01:00	60.0	1000000
14	02:00	58.1	6456664
15	03:00	56.3	4265780
16	04:00	61.1	1288250
17	05:00	57.9	616595
18	06:00	63.9	2454709
19	07:00	69.3	8511380
20	08:00	71.2	13182567
21	09:00	70.9	12302688
22	10:00	69.5	8912509
23	11:00	70.1	10232929
24	12:00	69.2	8317638
TOTAL			178805904

Therefore: = 10 log 1/24 * 178805904
 = 10 log 7450246
 = 10 * 6.872
 Leq (24 hr.) = 68.72 dB

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NOISE READINGS
3957 LOZELLS AVENUE
1991 JUNE 28 TO 1991 JUNE 29 (FRIDAY/SATURDAY)

<u>TIME INTERVAL</u>	<u>TIME</u>	<u>(LEQ/HR.) NOISE LEVEL</u>	<u>eT/10</u>
1	13:00	69.3	8511380
2	14:00	69.5	8912509
3	15:00	70.1	1023230
4	16:00	70.5	11220184
5	17:00	70.1	1023230
6	18:00	69.9	9772372
7	19:00	66.0	3981072
8	20:00	65.8	3801894
9	21:00	63.6	2290868
10	22:00	64.6	2884032
11	23:00	62.4	1737801
12	00:00	60.5	1122018
13	01:00	60.9	1230269
14	02:00	56.0	398107
15	03:00	55.3	338844
16	04:00	55.4	338844
17	05:00	54.2	263027
18	06:00	57.5	562341
19	07:00	59.7	933254
20	08:00	62.6	1819701
21	09:00	63.6	2290868
22	10:00	63.5	2238721
23	11:00	64.9	3090295
24	12:00	64.7	2951209
TOTAL			91163364

Therefore: = 10 log 1/24 * 91163364
= 10 log 3798474
= 10 * 6.5796
Leq (24 hr.) = 65.80 dB

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NOISE READINGS
3957 LOZELLS AVENUE
1991 JUNE 29 TO 1991 JUNE 30 (SATURDAY/SUNDAY)

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<u>TIME INTERVAL</u>	<u>TIME</u>	<u>(LEQ/HR.) NOISE LEVEL</u>	<u>eT/10</u>
1	13:00	65.5	3548134
2	14:00	65.7	3715352
3	15:00	65.8	3801894
4	16:00	65.9	3890451
5	17:00	65.4	3467368
6	18:00	65.9	3890451
7	19:00	63.6	2290868
8	20:00	65.3	3388441
9	21:00	60.1	1023293
10	22:00	60.0	1000000
11	23:00	53.9	245471
12	00:00	59.7	933254
13	01:00	53.3	213796
14	02:00	56.5	446684
15	03:00	57.0	501187
16	04:00	53.8	239883
17	05:00	53.6	229087
18	06:00	54.0	251189
19	07:00	58.3	676083
20	08:00	59.9	977237
21	09:00	60.4	1096478
22	10:00	61.0	1258925
23	11:00	60.3	1071519
24	12:00	63.4	2187762
TOTAL			35945403

Therefore: = 10 log 1/24 * 35945403
= 10 log 1497725
= 10 * 6.175
Leq (24 hr.) = 61.75 dB

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NOISE READINGS
3957 LOZELLS AVENUE
1991 JUNE 29 TO 1991 JULY 01 (SUNDAY/MONDAY--STAT HOLIDAY)

<u>TIME INTERVAL</u>	<u>TIME</u>	<u>(LEQ/HR.)</u> <u>NOISE LEVEL</u>	<u>ET/10</u>
	13:00	63.5	2238721
		64.4	2754229
		63.2	2089296
		64.2	2630268
		64.8	3019952
		63.2	2089296
		66.2	4168694
		67.1	5128614
		67.1	5128614
		66.4	4365158
		59.8	954992
		59.3	851138
		57.3	537032
		55.1	323594
		53.2	208930
		50.5	112202
		56.1	407380
		56.8	478630
		57.4	549541
		57.4	549541
		58.8	758578
		59.5	891251
		61.1	1288250
		62.4	2630268
MONDAY 91.07.01	12:00		

TOTAL

44154169

Therefore: = 10 log 1/24 * 44154169
 = 10 log 1839757
 = 10 * 6.265
 Leq (24 hr.) = 62.65 dB

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NOISE READINGS
 3957 LOZELLS AVENUE
1991 JULY 01 TO 1991 JULY 02 (MONDAY-STAT HOLIDAY/TUESDAY)

<u>TIME INTERVAL</u>	<u>TIME</u>	(LEQ/HR.) <u>NOISE LEVEL</u>	<u>eT/10</u>
MONDAY	13:00	63.8	2398833
		63.4	2187762
		63.8	2398833
		63.3	2137962
		62.5	1778279
		62.5	1778279
		61.1	1288250
		62.1	1621810
		62.1	1621810
		61.0	1258925
		60.5	1122018
		61.3	1348963
		58.1	645654
		57.0	501187
		57.6	575440
		57.6	575440
		61.2	1318257
		64.4	2754229
		69.1	8128305
		71.2	13182567
		70.3	10715193
		68.7	7413102
		68.6	7244360
		69.3	8511380
TUESDAY	12:00		
91.07.02			

TOTAL

82506838

Therefore: = 10 log 1/24 * 82506838
 = 10 log 3437785
 = 10 * 6.536
 Leq (24 hr.) = 65.36 dB

/dd