FRO (24752) -4-2

URS

May 21, 2004

Mr. Valentin Amezquita
Project Manager
Environmental Assessment
Department of Water and Power
City of Los Angeles
111 North Hope Street
Los Angeles, CA 90012

Subject: Noise Analysis Results and Recommendations for Potential Park Sites Near the Harbor Generating Station (HGS).

URS has analyzed the noise levels from the HGS peaker plant using measurements and predictive noise modeling techniques, compared these levels to City of Los Angeles and other relevant noise standards, and has developed recommendations for the three sites currently under consideration as potential park sites. Although the primary emphasis of the study was on the noise from the peaker plant, the project area has high ambient noise levels from a variety of other sources; thus noise levels from other noise generators is also addressed. The following summarizes the project background, regulatory environment, URS' analysis methodology and our noise control recommendations.

Background

The project area is shown in Figure 1. Three properties are under consideration by LADWP and local community advocates for potential use as a park site. They are:

- The Marine Tank Farm site. It is located at 130 West A Street, and currently being leased by Valero Energy Corporation. The site is bounded by A Street to the north, Avalon Boulevard to the east, railroad right-of-way to the south, and the Harbor Generating Station Peaker Plant (recently constructed, on the western portion of the original tank farm) to the west. The site has been in use as a tank farm since the 1970's.
- Several parcels (designated as Parcels 2, 3, 4 and 5 on LADWP Right-of-Way Sketch Number RWE000113). The site is currently accessed via A Street, and is in the northwest quadrant formed by Avalon Boulevard and A Street. The parcels are paved, and are currently utilized by the LADWP for storage and occasional maintenance areas.
- Storage facility ("Stow It! Self Storage") located at 175 South Avalon Blvd., southeast of the HGS peaker plant and the Marine Tank Farm, and separated from these facilities by two sets of freight rail tracks.

URS Corporation
2020 East First Street, Suite 400
Santa Ana, California 92705
Tel: 714.835.6886
Fax: 714.667.7147

URS

Regulatory Environment

The City of Los Angeles regulates noise in several ways, depending upon the nature of the noise and the type of land use. For residential land uses, the city regulates noise from stationary sources by their Municipal Code (Chapter XI, Noise Regulations). Section 112.04 (b) specifies that machinery, equipment, tools etc. are not to exceed the ambient noise level by more than five (5) decibels. The ambient level may be measured or the Municipal Code's presumed ambient levels may be used. For residential zones, the presumed ambient levels are 50 dBA from 7:00 a.m. to 10:00 p.m. or 40 dBA from 10:00 p.m. to 7:00 a.m. However, the Municipal Code does not specify noise limits for recreational land uses such as parks, and the Municipal Code is not utilized to enforce noise limits at parks (reference: R. Skarin, City of Los Angeles, 3/18/04).

For purposes of siting and planning, the City of Los Angeles' Draft L.A. CEQA Thresholds Guide (Guide) provides guidance on noise/land use compatibility. The Guide uses the Community Noise Equivalent Level (CNEL) descriptor to determine noise/land use compatibility for planning purposes and for determining the significance of noise impacts. The CNEL descriptor uses units of dBA and specifies the hourly, energy-averaged noise level ($L_{eq(H)}$) as their mathematical basis. The CNEL noise metric represents a continuous, 24-hour period and applies a time-weighted factor designed to penalize noise events that occur during the evening and nighttime hours, when relaxation and sleep disturbance is of more concern. Noise occurring during the daytime hours between 7:00 am and 7:00 p.m. receives no penalty. Noise occurring between 7:00 p.m. to 10:00 p.m. is penalized by adding 5 dBA to the measured noise level, while noise occurring from 10:00 p.m. to 7:00 am is penalized by adding 10 dBA to the measured level.

The Guide includes a chart of land uses and noise environment categories. Table 1 shows the criterion noise levels for the category of playgrounds and neighborhood parks.

Table 1: CEQA Guide Noise/Land Use Compatibility

	Community Noise Exposure, CNEL, dBA			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Playgrounds, Neighborhood Parks	50 – 70	-	67 – 75	Above 72

As shown in Table 1, the "Normally Acceptable" range is quite wide (from 50 dBA CNEL, which is considered to be relatively quiet on a subjective level in an urban environment, to 70 dBA CNEL, which would be considered relatively loud by a person of normal sensibility, in any environment). Additionally, note that there is a degree of overlap in noise ranges between the "Normally Acceptable" and "Normally Unacceptable" categories. Therefore, this noise analysis will use the noise threshold of 67 dBA CNEL as the level at or above which a park site would be considered inappropriate without noise reduction measures to bring the noise below these levels. Assuming that peaker plant operations take place from 7 a.m. to 10 p.m., and assuming a

URS

background noise level (i.e. in the absence of peaker plant activities) of 53 dBA, the hourly L_{eq} noise level from peaker plant operations would need to be 66 dBA L_{eq} or lower to not exceed the 67 dBA CNEL threshold. These assumptions are based upon discussions with HGS personnel, the hours during which the units were operating on February 20, field noise measurements and upon conservative engineering practice.

Ambient Noise Study

URS conducted a noise survey of the project area from Thursday, February 19, 2004 through Friday, February 20, 2004. On February 19, the peaker units were not running. On February 20, four of the five peaker units were started and run. Units 10, 11, 12 and 14 were started between 9:23 and 10:30 a.m. All four units were running during this period until 12:29 p.m., when units 12 and 14 were "tripped" (automatically shut-down for mechanical or other reasons). At 12:45 p.m. Unit 14 was restarted. Unit 10 was taken offline at 2:46 p.m., followed by Unit 14 at 9:47 p.m. and Unit 11 at 10:29 p.m.

During the February 19-20 noise measurements, a total of ten short-term (ST) attended noise measurements and two long-term unattended noise measurements (LT-1 and LT-2) were conducted at a total of five locations in the project area. The noise measurement locations are shown in Figure 1. Noise measurements at the candidate park sites were conducted on both February 19 and February 20 in order to compare the noise levels with and without peaker plant operations. On February 20, noise measurements were also conducted on the HGS peaker property in order to obtain reference level measurements of the units while in operation. These reference measurements were utilized to "calibrate" the noise model used as part of the noise analysis.

Noise measurement site selection at the candidate community park sites was based primarily on highest anticipated noise levels due to the project but also was based on likely exterior areas of frequent human use. Where site conditions allowed, noise measurements were not conducted at the fenceline of the candidate park site but at a reasonable distance from it (i.e., 10 to 40 feet), where people using the park may spend time. The ST measurements varied in duration from 1 to 20 minutes, depending upon the type of noise measurement. Peaker unit reference measurements were 1 to 5 minutes in duration, while candidate park site measurements were generally 20 minutes in duration. For the two LT measurements, continuous 15-minute samples were recorded for 24 hours each.

The instrument used for the ST sound level measurements was a Brüel & Kjær Type 2231 Digital Integrating Sound Level Meter (SLM), with Statistical Analyzer and a Larson Davis Model 824 Sound Level Meter/ Spectrum Analyzer. The instruments used for the LT sound level measurements consisted of Metrosonics db 308 (for LT-1) community noise analyzers (CNAs). The laboratory calibration of the instruments was verified in the field before and after each measurement period using Brüel and Kjær Type 4231, Larson Davis Model Cal 200 and Metrosonics CL 304 reference acoustical calibrators. The accuracy of the acoustical calibrators is maintained through a program established by the manufacturers, and traceable to the National Institute of Standards and Technology (NIST). The sound measurement instruments meet the requirements of the American National Standards Institute (ANSI) and the International

Electrotechnical Commission Publications 804 and 651. Refer to Appendix A for a complete list of the instruments used in the study to measure weather, traffic and position.

For the ST sound level measurements, the SLM was mounted on a tripod so that the microphone was five (5) feet above the ground. The microphone was covered with a windscreen. For the LT sound level measurements, each of the CNAs were locked in a small steel box with the microphone and windscreen protruding at least four inches from the top of the container. The container was attached to a convenient pole such that the microphone was at a nominal height of five feet above the ground. The SLMs were placed more than 15 feet from the nearest acoustically reflective surface (e.g., wall) wherever possible.

For all measurements, field personnel completed a Field Measurement Data Sheet (FMDS). For each ST measurement, the FMDS lists the site location and description, weather conditions, calibration parameters, noise level data, sound sources and traffic counts (if applicable). Photographs were also taken at each location. For the LT measurements, the FMDS includes the same information as for the ST measurements except noise level data and traffic counts. For a LT measurement, the sound sources and weather conditions listed on the FMDS are typically the sources and conditions extant during SLM installation. See Appendix B for the completed FMDS.

Meteorological data was measured in conjunction with the noise measurements. Using the handheld instruments described in Appendix A, field personnel made objective measurements and subjective observations of weather conditions (temperature, relative humidity, wind speed and direction and cloud cover were recorded on data sheets for each location) during the measurement periods at each location.

Table 2 shows the results of the ST field measurements and observations. In the absence of peaker plant operations noise, noise from rail activities and heavy truck activities dominates the noise environment in the area. Other noise sources during the attended ST measurements included distant traffic, and distant aircraft flying overhead. Ambient noise levels during the February 19, 2004 site visit ranged from 57 dBA L_{eq} (ST-2, near the western boundary of the Valero Tank Farm) to 64 dBA L_{eq} (ST-1, at "Parcel 5"). During the February 20 measurements the next day, ambient noise levels ranged from 57 dBA L_{eq} (ST-8, same location as ST-3 [Stow-It Storage Facility]) to 71 dBA L_{eq} (ST-7b, same location as ST-2). Note that brief but very high noise levels from purge valve activation during peaker plant unit startup were measured in this area - as high as 95 dBA $L_{eq\ 1\text{-minute}}$ (ST-7a, same location as ST-2). During the noise measurements with peaker plant operations, the noise from the peaker plant was generally dominant, but to varying degrees. At the Valero Tank Farm site, peaker plant noise was the major audible noise source. At the parcels north of A street, the peaker units were clearly audible but not as prominent as at the Valero Tank Farm area. Similarly, at the Stow-It! storage facility the noise from the peaker units was audible but less prominent as a noise source than at either the Valero Tank Farm area or the parcels north of A Street. This differentiation may be seen by the fact that in Table 2, the measured noise levels for ST-7b, ST-6 and ST-8 are successively lower (71 dBA L_{eq}, 62 dBA L_{eq} and 57 dBA L_{eq}, respectively).

URS

Table 2: Short-Term Noise Measurement Data

Measurement ID	Measurement Area	Measurement Location	Measurement Period			Noise Sources	Measurement Results, dBA					
			Date	Start Time	Duration (minutes)		L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}
ST-1	Parcel 5	North of A Street, west of Avalon Street. 42 feet north of fenceline, 88 feet west of fenceline.	2/19/2004	10:53	20	Traffic on A and Avalon Streets, back-up alarms, train horns, distant truck traffic.	64.3	83.5	54.5	58.0	61.5	66.5
ST-2	Valero Tank Farm	Atop containment/perimeter road, east of Unit 11, approx. 204' n.e. of Unit 10 stack; at LT-1.	2/19/2004	12:15	20	Rail (Pacific Harbor Line) -- diesel engine, horn; birds.	57.3	71.4	51.7	52.6	54.1	n/a
ST-3	Stow-It Self Storage Facility	Northwest side of facility, adjacent to chain link fence.	2/19/2004	14:10	20	Rail (Pacific Harbor Line) -- diesel engine, horn; people nearby, briefly.	61.0	76.0	53.4	54.5	57.0	65.0
ST-4	HGS	On-site near unit 10; 46' south of longitudinal stack centerline.	2/20/2004	10:45	5	unit 10 (inlet & cooling tower)	77.7	78.9	76.7	77.0	77.7	78.4
ST-5a	HGS	On-site near unit 14; 50' north of longitudinal stack centerline.	2/20/2004	11:05	5	unit 14 cooling tower	76.9	78.7	76.1	76.4	76.8	77.4
ST-5b	HGS	On-site near unit 14; 25' north of cooling tower; 42' east of stack centerline (latitude); 22' south of stack (longitude)	2/20/2004	11:20	3	unit 14 cooling tower	79.5	80.1	71.9	79.3	79.5	79.7
ST-6	Parcel 5	Same location as ST-1.	2/20/2004	11:45	20	Peaker plant units, distant siren, local traffic, rail horn, distant aircraft.	62.4	73.5	56.4	58.5	60.5	65.0
ST-7a	Valero Tank Farm	Same location as ST-2.	2/20/2004	12:46	1	Purge valve actuation during startup from HGS peaker plant units.	94.7	100.6	72.4	72.6	86.3	99.3
ST-7b	Valero Tank Farm	Same location as ST-2.	2/20/2004	12:47	5	HGS	70.9	77.0	68.8	69.1	70.8	73.1
ST-8	Stow-It Self Storage Facility	Same location as ST-3.	2/20/2004	14:12	20	Peaker plant units, nearby rail use, distant aircraft, distant traffic.	56.7	64.8	53.7	55.0	56.5	58.0

Figures 2 and 3 graphically show the results of the LT noise measurements. As shown, the lowest hourly noise level recorded during the long-term noise measurements at LT-1 (near the western boundary of the Valero Tank Farm) was 54 dBA L_{eq}, during the 0500 – 0600 hour on February 20, 2004. The highest hourly noise level at LT-1 was 71 dBA L_{eq}, during the 1100 – 1200 hour on February 20, 2004. The lowest hourly noise level recorded during the long-term noise measurements at LT-2 (at the northwest boundary of the Stow It Storage Facility) was 52 dBA L_{eq}, during the 0500 – 0600 hour on February 20, 2004. The highest hourly noise level at LT-2 was 80 dBA L_{eq}, during the 1100 – 1200 hour on February 20, 2004. The measured (24-hour) CNEL noise levels at LT-1 and LT-2 were 70 dBA CNEL and 77 dBA CNEL, respectively. Note that measured noise levels at LT-2 are markedly higher overall and more variable than at LT-1. This is because the LT-2 noise measurement location was adjacent to the railroad right-of-way, and thus strongly influenced by frequent freight rail operations. The LT-1 noise measurements were also likely influenced by rail noise, but not to the same degree as at LT-2, because LT-1 was farther from the tracks than LT-2.

Noise Modeling

Cadna/A® is a computer software program for prediction and assessment of noise levels in the vicinity of industrial facilities and other noise sources. Cadna/A® was used to model the noise from the peaker plant at the surrounding land uses, particularly at the candidate park sites. The program uses internationally recognized algorithms (ISO 9613-2) for the propagation of sound outdoors to calculate noise levels, and presents the resultant noise levels in an easy to understand, graphically-oriented as well as tabular format. The program allows for three-dimensional input of all pertinent features that affect noise, such as terrain or structures. This powerful acoustic analysis tool provides a highly accurate estimate of existing and predicted future noise levels.

Aerial photographs, site-visit notes and photographs, and information supplied by HGS and Valero personnel were used to generate the model of existing structures. Octave-band noise emission levels (based on reference noise measurements made close to the peaker units) were utilized to accurately estimate noise propagation and attenuation effects. To ensure that the model was providing realistic results, the model was tested and found to be consistent with more distant (far-field) sound level data measured on the same day as the reference measurements.

The noise output from all five peaker units running simultaneously was modeled, with and without the existing Valero-operated tanks to the east of the peakers and the storage structures to the southeast. Additionally, an "ambient acoustical overlay" of approximately 53 dBA (the lowest ambient levels measured during the noise survey) was conservatively added to the model, to reflect the minimum level of activity from trucks, trains, distant auto traffic and aircraft. Figures 4 and 5 present the results of the noise analysis in the form of the predicted noise "contours" – lines representing equal noise levels. Figure 4 depicts the existing condition – i.e., the project area with the tanks and storage structures in place (Scenario 1). Figure 5 depicts the project area with the storage tanks, containment berm and other structures removed, as they would be if the existing tank farm site was selected for conversion to a park site (Scenario 2). Under Scenario 2, the Stow It! storage facility structures have also been removed. The

corresponding results are also shown in tabular format in Table 3 for eleven modeled receptor locations. Some of the modeled receptors coincide with the noise measurement locations (i.e., ST-1/ST-6, etc.). In addition, "modeled-only" receptor locations (labeled "M-1", "M-2", etc.) were analyzed to provide a more comprehensive assessment of the noise conditions at the candidate sites. The locations of the measured and modeled receptors are shown in Figures 4 and 5.

Table 3: Results of Predictive Noise Modeling

Receiver ID & Location Description	Scenario 1: Predicted Noise Levels with Existing Structures in Place (dBA L_{eq})	Scenario 2: Predicted Noise Levels with Existing Structures Removed (dBA L_{eq})	Threshold Noise Level (dBA L_{eq})	Threshold Noise Levels Equaled or Exceeded under Scenario 1 or 2 ? (Yes/No)
ST-1/ST-6 (Parcels north of A Street)	59	60	66	No
M-1 (Parcels north of A Street)	60	60	66	No
M-2 (Parcels north of A Street)	63	63	66	No
ST-2/ST-7/LT-1 (Valero Tank Farm	73	77	66	Yes (both 1 and 2)
M-3 (Valero Tank Farm)	67	68	66	Yes (both 1 and 2)
M-4 (Valero Tank Farm)	63	65	66	No
M-5 (Valero Tank Farm)	70	70	66	Yes (both 1 and 2)
M-6 (Valero Tank Farm)	73	73	66	Yes (both 1 and 2)
ST-3/ST-8 (Stow-It! Self Storage Facility)	57	60	66	No
M-7 (Stow-It! Self Storage Facility)	58	61	66	No
M-8 (Stow-It! Self Storage Facility)	56	59	66	No

As shown in Table 3, the noise levels from the peaker units are predicted to range from 56 dBA L_{eq} at Receiver ST-3/ST-8 (at the existing Stow It! Storage Facility) to 77 dBA L_{eq} at Receiver ST-2/ST-7 (at the existing Valero Tank Farm). Of the candidate park sites, noise levels would be highest on the Valero Tank Farm site, ranging from 77 dBA L_{eq} close to the peaker plant boundary line to 65 dBA L_{eq} near the mid to east side of the property. The relevant noise levels on the tank farm site are those for Scenario 2: that is, with the fuel oil tanks and related structures removed. With the exception of Receiver M-4, the noise levels on the tank farm site exceed the threshold noise criteria level of 66 dBA L_{eq} as discussed in "Regulatory Environment". Thus the tank farm site would not be compatible with City of Los Angeles noise guidelines for playgrounds and neighborhood parks without noise control measures such as construction of noise barriers.

The modeled noise levels at the parcels north of A Street are lower than those at the tank farm site, ranging from 59 dBA L_{eq} at ST-1/ST-6 to 63 dBA L_{eq} at M-2. The noise levels at the parcels north of A Street would not exceed the threshold noise criteria level of 66 dBA L_{eq}.

The modeled noise levels at the existing storage facility site are slightly lower still, ranging from 56 dBA L_{eq} at M-8 to 61 dBA L_{eq} at M-7. The noise levels at the existing storage facility site would not exceed the threshold noise criteria level of 66 dBA L_{eq}.

To summarize, noise modeling of the HGS peaker units indicates that from a noise compatibility standpoint, the most appropriate of the three candidate sites would be the Stow It! storage facility site. The next best site would be the parcels north of A Street, while the site with the most noise from the HGS peaker units would be the site currently occupied by the tank farm (unless noise is reduced by a means of a noise barrier as discussed in the next section).

There is one important caveat that must be noted with regard to the storage facility site, however: while this site is farthest from the HGS peaker units of the three candidate sites and thus would receive the lowest noise levels from them, it is immediately adjacent to the freight rail lines, and is heavily influenced by frequent rail activity. This is borne out in the results of the long-term noise measurements for this area, as shown in Figure 3. Mitigation in the form of a tall soundwall (approximately 20-foot high and approximately 600 feet in length) constructed at the property line between the storage facility site and the rail lines would be required to reduce noise from rail activity to a level of noise compatibility. Further analysis would be required to fine-tune the barrier height and length for rail noise, but a 20-foot height is a reasonable preliminary estimate of required wall height. While such a barrier would provide noise reduction from the peaker units as well as the rail noise, this benefit would be secondary to the noise reduction from the rail noise. The estimated cost for a one-side-absorptive noise barrier 20 feet in height and 600 feet in length, constructed at the boundary line between the site and the rail right-of-way, is approximately $480,000, installed. Please note that the basis cost for such a rail noise barrier is different than that used for the walls recommended in the following section for the peaker plant noise, because of differences in the respective barrier types.

Noise Control Recommendations

Based upon the analysis above, noise control measures from HGS peaker unit noise would not be necessary for the Stow It! storage facility site, or for the parcels north of A Street. HGS peaker unit noise levels would be within City of Los Angeles noise compatibility range for these two sites. A preliminary assessment of measures to reduce noise levels at the existing tank farm site was conducted. Using the Cadna/A® noise model, the effectiveness of a 20-foot-high soundwall was investigated. As shown in Figure 6, the soundwall would be constructed along the eastern property boundary (approximately 760 feet in length) of the HGS peaker plant, with an approximately 130-foot long right-angle "return" along the southern property boundary. Table 4 presents the results of the soundwall analysis for modeled locations on the site of the existing tank farm. The estimated cost for a soundwall constructed at the boundary between the peaker plant and the existing tank farm site (atop the existing berm formed by the containment area), is $325,000, installed.

URS

Table 4: Results of Noise Abatement Analysis

Receiver ID & Location Description	Predicted Noise Levels without Noise Abatement (dBA L_{eq})	Predicted Noise Levels with Noise Abatement[1] dBA L_{eq})	Noise Level Reduction (dBA)	Threshold Noise Levels Equaled or Exceeded with Noise Abatement (Yes/No) ?
ST-2/ST-7/LT-1 (Valero Tank Farm	77	66	11	Yes
M-3 (Valero Tank Farm)	68	66	2	Yes
M-4 (Valero Tank Farm)	65	64	1	No[2]
M-5 (Valero Tank Farm)	70	67	3	Yes
M-6 (Valero Tank Farm)	73	70	3	Yes

1 – Noise abatement in the form of a 6.1 meter (20 foot) high soundwall along the eastern property line boundary of the HGS peaker plant.
2 – M-4 noise levels without abatement did not exceed noise thresholds. M-4 noise levels with abatement shown for informational purposes only.

As Table 4 shows, the soundwall would provide up to 11 decibels of noise attenuation, and would lower noise levels to 64 dBA at M-4. However, even with a 20-foot-high soundwall, threshold noise levels are predicted to be equaled or exceeded at the four of the five modeled receptors at the existing Valero tank farm site. The noise model was used to "build" incrementally higher soundwalls until the predicted noise levels were below the threshold noise criteria of 66 dBA L_{eq}. It was determined that a 32-foot-high wall would be necessary to satisfy the noise level criteria at the tank farm site. While feasible, this relatively massive structure would require extensive foundations and structural engineering. The estimated cost for a 32-foot high wall is $550,000, installed. The resultant noise contours associated with a 32-foot high wall are shown in Figure 7.

It should be noted that the noise analysis assumes no gaps or other types of openings in the sides of the wall; in order for the soundwall to provide effective noise reduction, the wall must be free of gaps, holes, cracks or decorative cutouts.

If you have any questions regarding the above information, please give me a call or e-mail.

Sincerely,

Mike Greene, INCE Bd. Cert.
Senior Project Scientist
URS Corporation

(714) 648-2751
michael_greene@urscorp.com

Attachments

URS

References:

Beranek, Leo L., ed. 1971. "Noise and Vibration Control." McGraw-Hill, Inc. New York, NY.

Harris, Cyril M., ed. 1991. "Handbook of Acoustical Measurements and Noise Control." Third Edition. McGraw-Hill, Inc. New York, NY.

ISO, 1996. "Acoustics – Attenuation of sound during propagation outdoors", International Organization of Standardization (ISO) Standard 9613-2:1996(E).

Los Angeles, City of. 1998. "Draft L.A. CEQA Thresholds Guide". Los Angeles, CA.

Los Angeles, City of. 2003. Los Angeles Municipal Code, Chapter XI Noise Regulation, Section 112.04 (b), as published on World Wide Web (address http://www.amlegal.com).

Skarin, Ronald (City of Los Angeles Code Enforcement). Personal communication. March 18, 2003.

Figures

Project Area and Noise Measurement/Modeling Locations

URS	April 2004	Potential Park Sites Near LADWP Harbor Generating Station Peaker Plant	29870273	Figure 1

Figure 2: Hourly Noise Levels at LT-1 (Existing Marine Tank Farm)
February 19 - 20, 2004

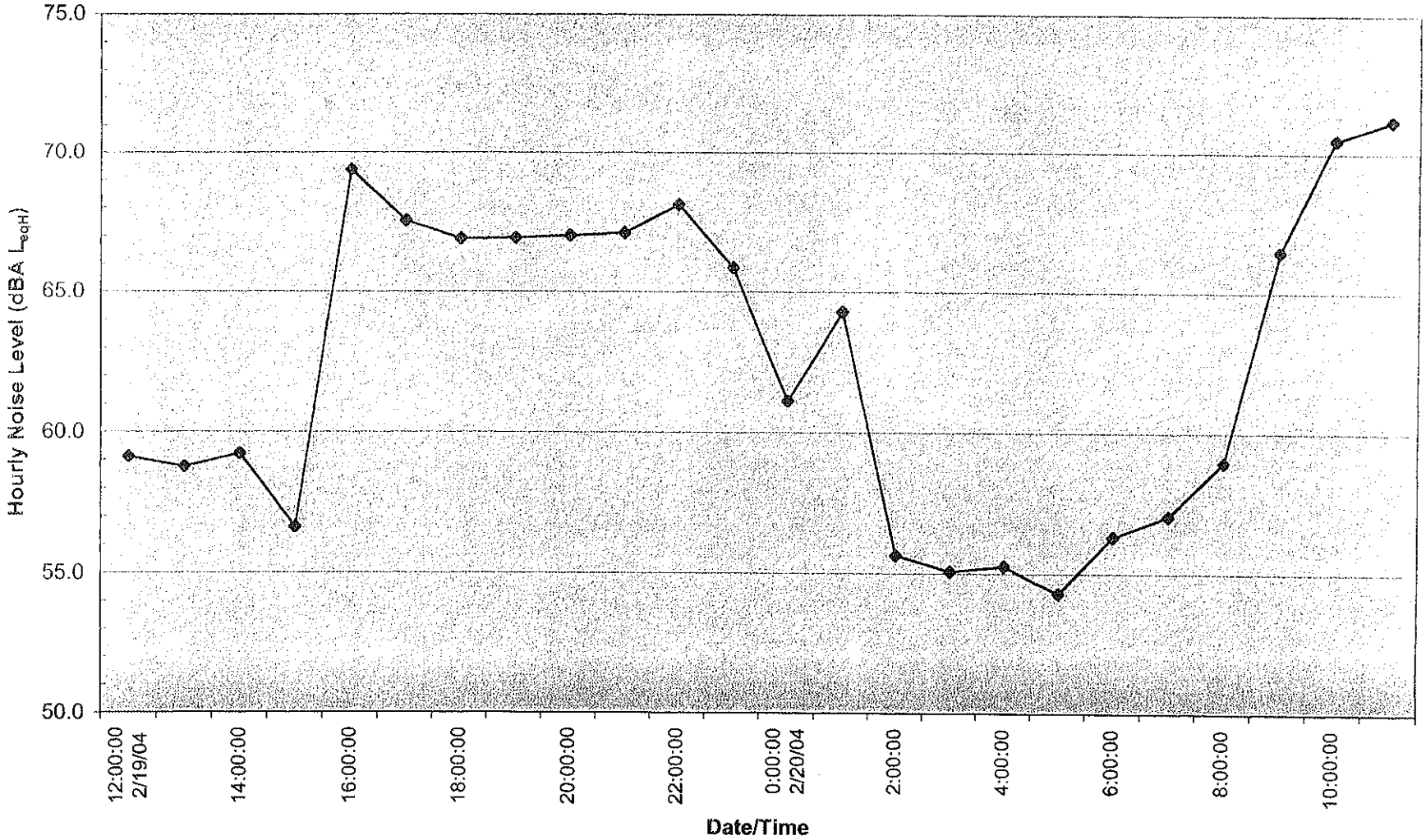
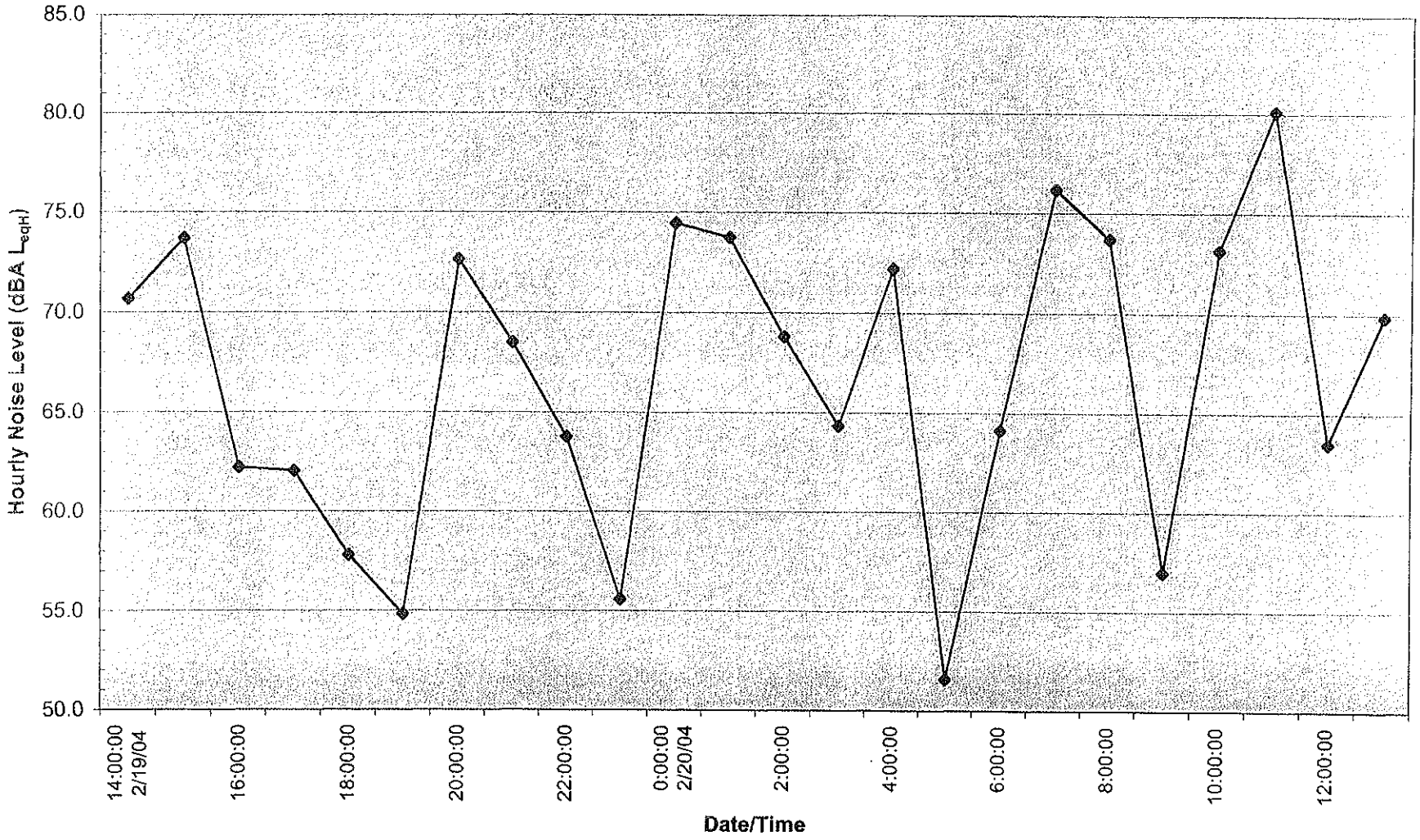
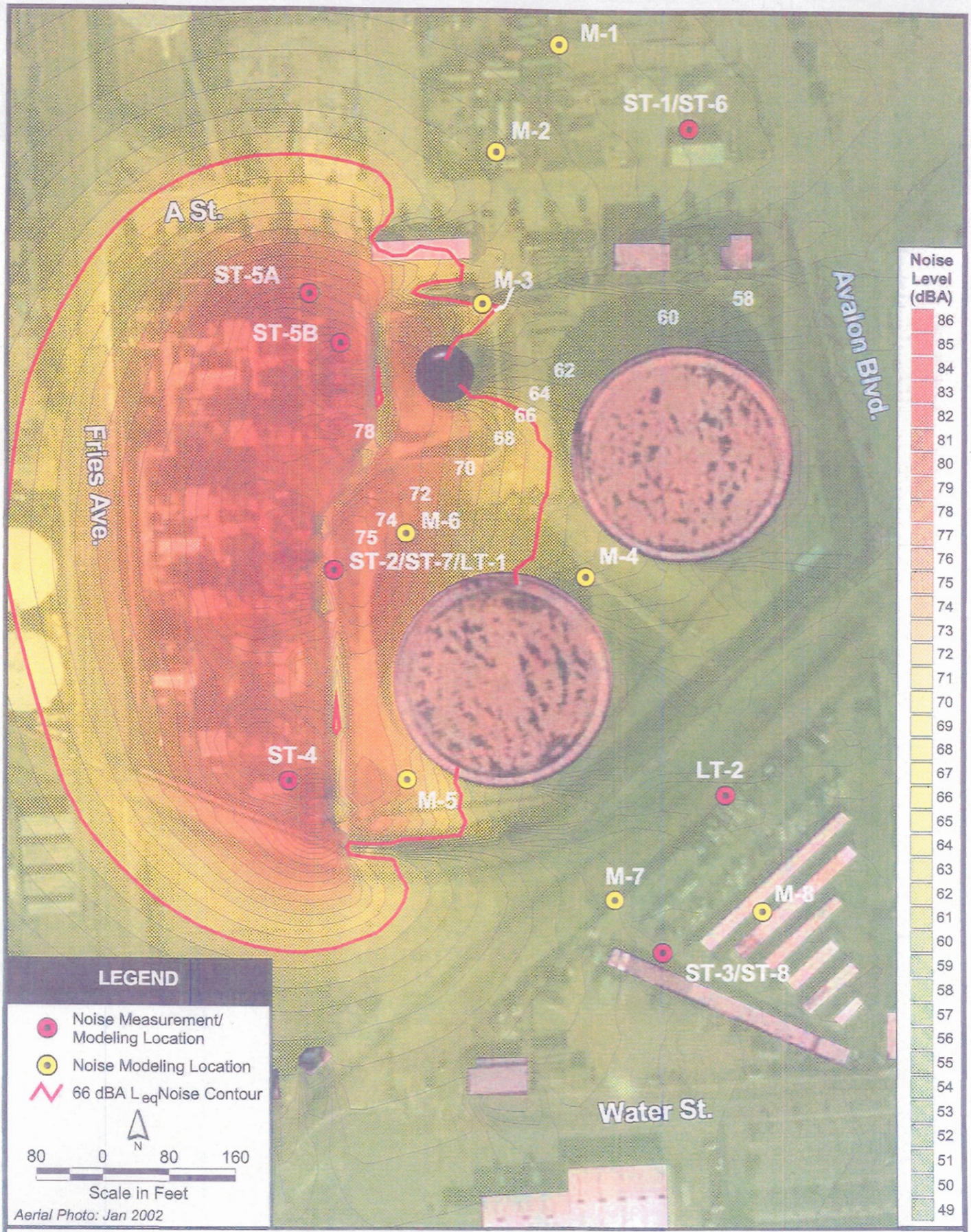


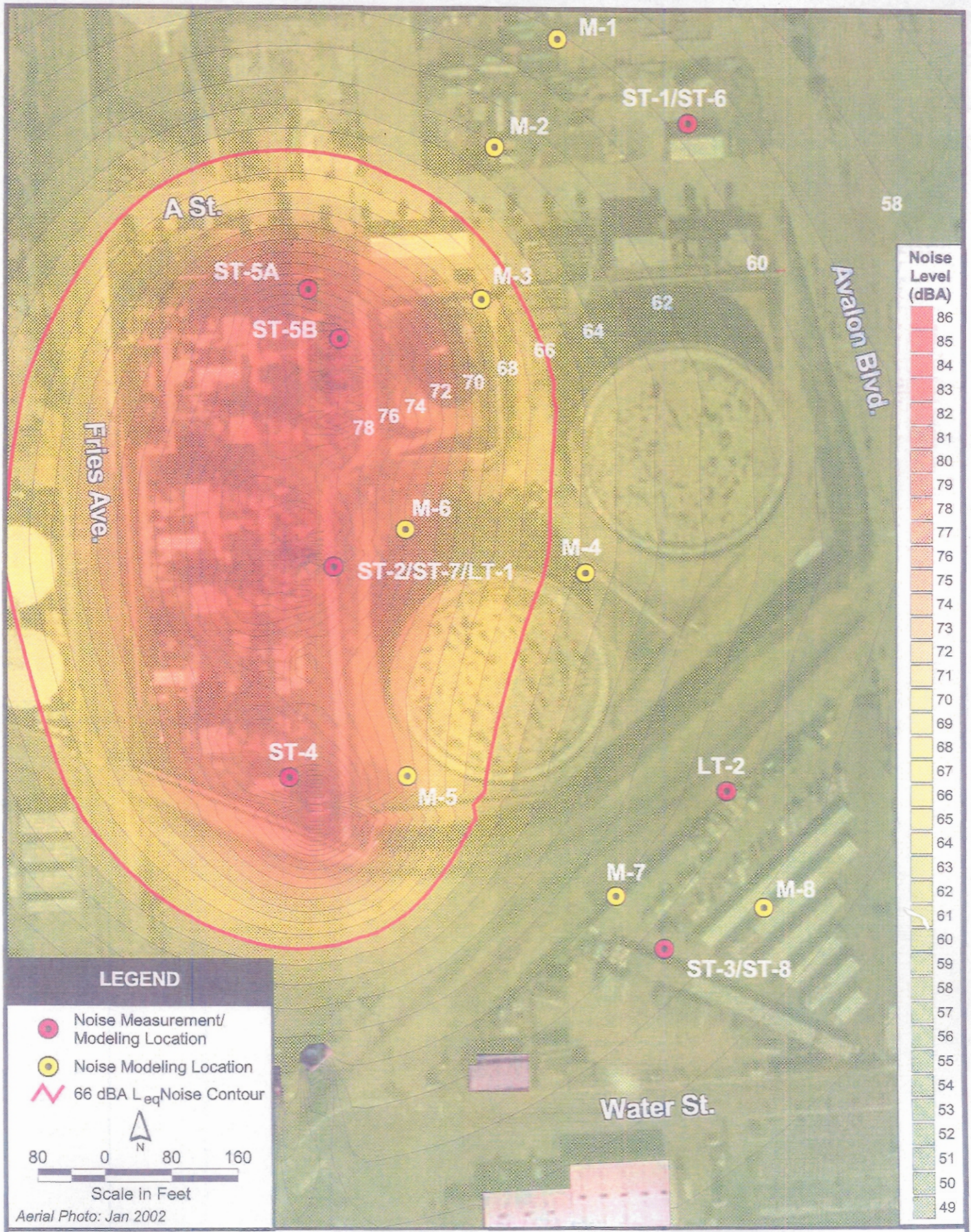
Figure 3: Hourly Noise Levels at LT-2 (Stow-it! Storage Facility)
February 19- 20, 2004





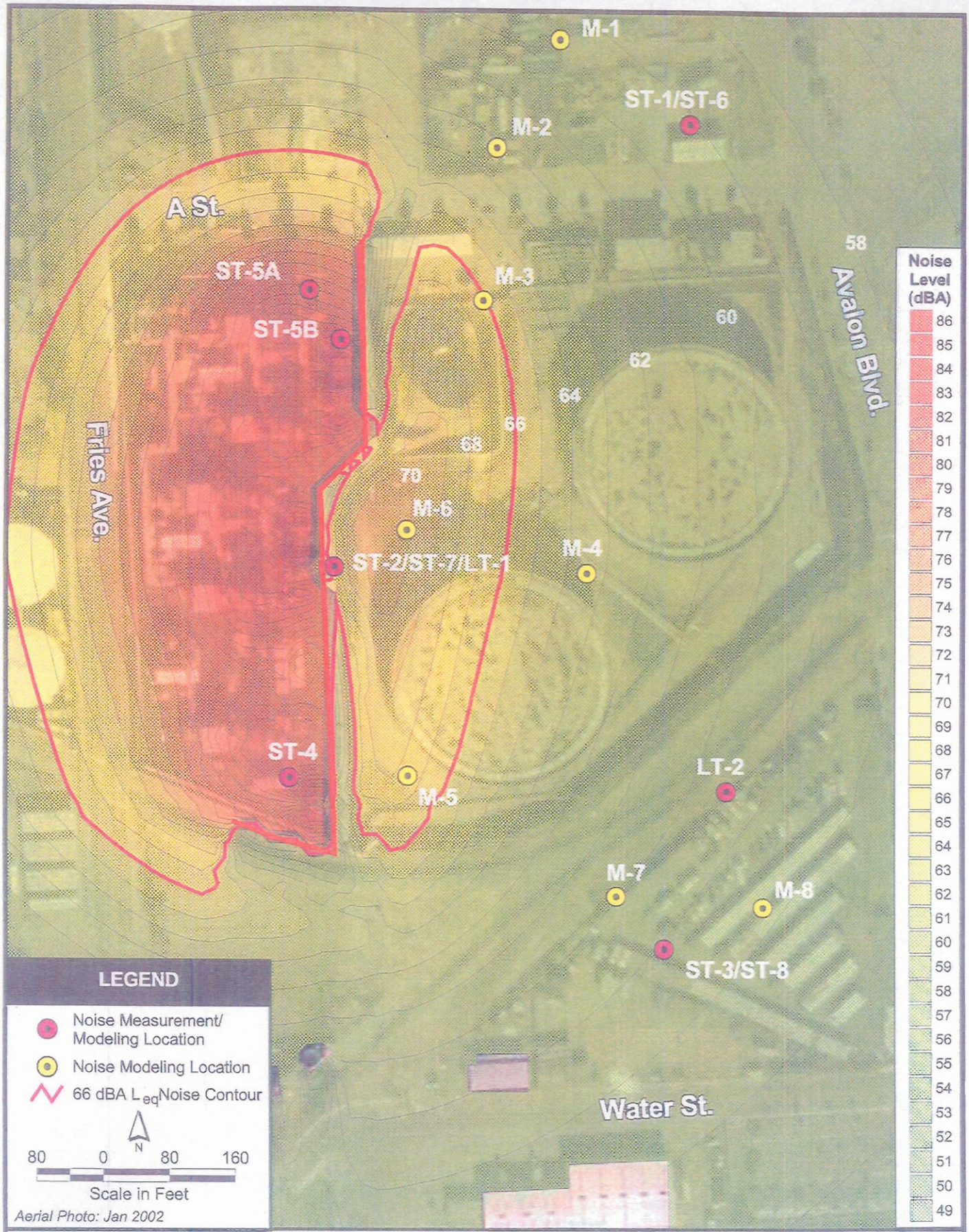
HGS Peaker Plant Noise Contours with Tanks in Place (Existing)

URS	April 2004	Potential Park Sites Near LADWP Harbor Generating Station Peaker Plant	29870273	Figure 4



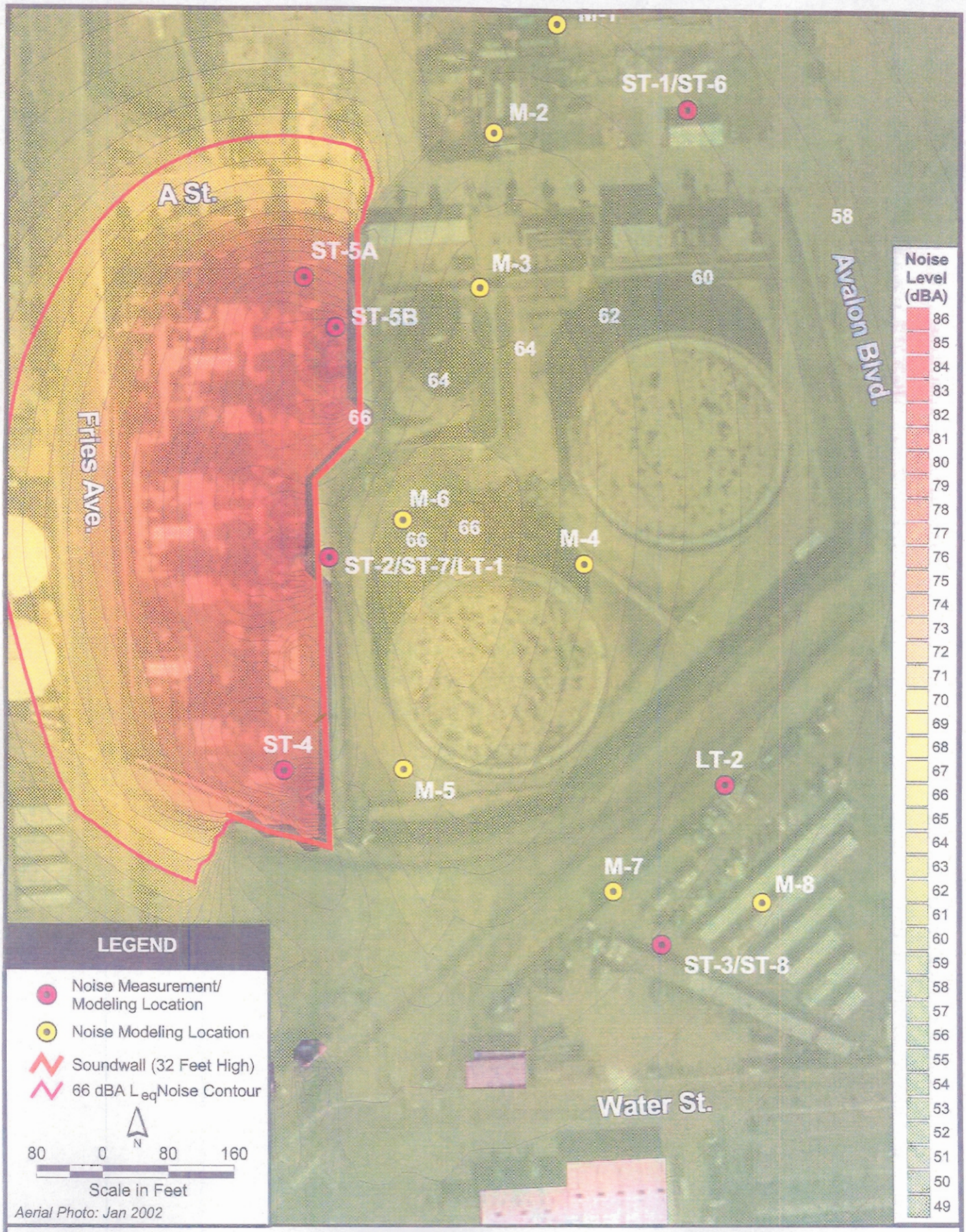
HGS Peaker Plant Noise Contours with Tanks Removed

URS	April 2004	Potential Park Sites Near LADWP Harbor Generating Station Peaker Plant	29870273	Figure 5



HGS Peaker Plant Noise Contours with Noise Abatement (20' High Wall)

URS	April 2004	Potential Park Sites Near LADWP Harbor Generating Station Peaker Plant	29870273	Figure 6



HGS Peaker Plant Noise Contours with Noise Abatement (32' High Wall)

URS	April 2004	Potential Park Sites Near LADWP Harbor Generating Station Peaker Plant	29870273	Figure 7

Appendix A

Equipment List

Brüel & Kjær Type 2231 Sound Level Meter Digital Integrating Type 1, with Statistical Analyzer, Serial Number 1413404

Larson Davis Model 824 Sound Level Meter/Spectrum Analyzer, Serial Number 824A1143.

Brüel and Kjær Type 4231 Reference Transfer Sound Level Calibrator, Serial Number 1850301

Larson Davis Model Cal 200 (94 dBA SPL @ 1000 Hz). Serial Number 2794.

Metrosonics db 308, (Type 2) Community Noise Analyzer, Serial Number 3068

Metrosonics db 308, (Type 2) Community Noise Analyzer, Serial Number 2434

Metrosonics CL 304, Acoustical Calibrator (Secondary), Serial Number 2551

Mannix Model CMM 880 Digital Hygrometer/Thermometer

Sims Digital Anemometer Model DIC

Kestrel Model 3000 Digital Anemometer/Hygrometer/Thermometer

Surveyor tape measures

Appendix B

Field Measurement Data Sheets

FIELD NOISE MEASUREMENT DATA

URS Project: Harbor Marine Generating Station (AMP)

ID

SITE IDENTIFICATION: ST-1 OBSERVER(s): Greene, M., Czech
START DATE & TIME: 2/19/04 1053 END DATE & TIME: 2/19/04 1113
ADDRESS: Parcel 5, "A" & Avalon Sts

Weather

TEMP: 65 °F HUMIDITY: 46 % R.H. WIND: (CALM) (LIGHT) MODERATE VARIABLE
WINDSPEED 0-5 MPH to DIR: (N) NE E SE S SW W NW STEADY GUSTY
SKY: OVRCST (PARTLY CLOUDY) CLEAR (SUNNY) FOG RAIN Other:

Acoustic Measurements

INSTRUMENT: B&K 2231 TYPE: (1) 2 SERIAL #: 1413404
CALIBRATOR: B&K 4231 SERIAL #: 1850301
CALIBRATION CHECK: PRE-TEST 93.9 dBA SPL POST-TEST 93.9 dBA SPL WINDSCREEN Y
SETTINGS: A-WEIGHTED (SLOW) FAST FRONTAL RANDOM ANSI OTHER:

1053-1113	L_{eq} 64.3	L_{max} 93.5	L_{min} 54.5	L_{90} 58.0	L_{50} 61.5	L_{10} 66.5	
	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}	
	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}	
	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}	

COMMENTS:

Source Info and Traffic Counts

SOURCE: (TRAFFIC) AIRCRAFT RAIL INDUSTRIAL OTHER:
ROADWAY TYPE: 2 lanes

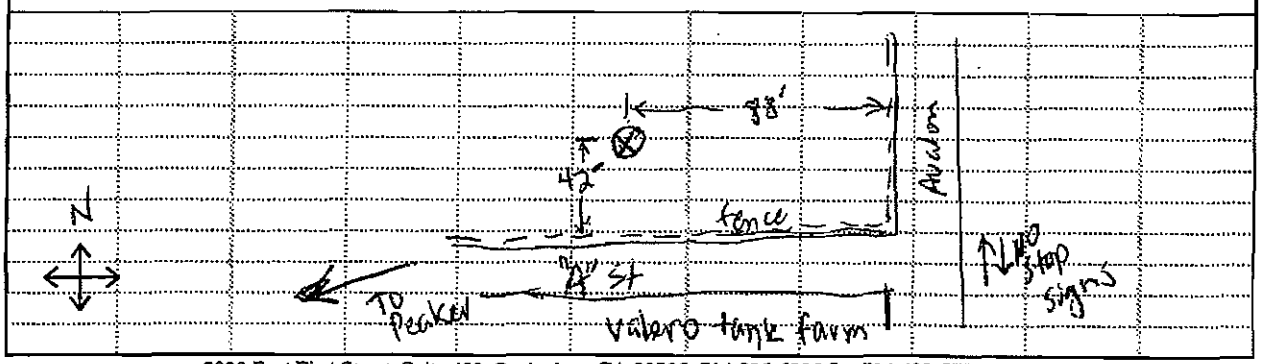
COUNT DURATION: 20 -MINUTE	"A" St. NB / (EB) / SB / (WB)	SPEED (mph) NB EB / SB WB	~~#2 COUNT:~~ Avalon NB / EB / (SB) / WB	SPEED (mph) NB EB / SB WB
AUTOS:	11 HHT /	20-30 /	HHT HHT / HHT HHT II	30 /
MED. TRUCKS:	/	/	HHT / III	/
HVY TRUCKS:	HHT /	/	HHT HHT / HHT	/
BUSES:	/	/	/	/
MOTORCYCLES:	/	/	/	/

SPEED ESTIMATED BY: RADAR / DRIVING / (OBSERVER)

OTHER NOISE SOURCES: distant AIRCRAFT overhead / RUSTLING LEAVES / distant BARKING DOGS / BIRDS
distant CHILDREN PLAYING / distant TRAFFIC / distant LANDSCAPING / distant TRAINS
OTHER: back-up alarms, train horns, traffic on E/W St to the north, one on diagonal St connecting w/ Avalon

Description / sketch

TERRAIN: (HARD) SOFT MIXED FLAT OTHER:
PHOTOS: Yes
OTHER COMMENTS / SKETCH:



measform4.xls

FIELD NOISE MEASUREMENT DATA

URS Project: HARBOR Marine Generating Station (LA DWP)

ID

SITE IDENTIFICATION: ST-2 OBSERVER(s): Greene M., Czech
START DATE & TIME: 2/19/04 1250 END DATE & TIME: 2/19/04 1340
ADDRESS: Valero Tank Farm at LT-1

Weather

TEMP: 67 °F HUMIDITY: 50 % R.H. WIND: CALM (LIGHT) MODERATE VARIABLE
WINDSPEED 0-5 MPH DIR: N NE E SE S SW W NW STEADY GUSTY
SKY: OVRCST PARTLY CLOUDY CLEAR (SUNNY) FOG RAIN Other:

Acoustic Measurements

INSTRUMENT: LD824 TYPE (1) 2 SERIAL #: 824A1143
CALIBRATOR: CAL200 SERIAL #: 2794
CALIBRATION CHECK: PRE-TEST 94.0 dBA SPL POST-TEST 93.9 dBA SPL WINDSCREEN ✓
SETTINGS: (A-WEIGHTED) (SLOW) FAST FRONTAL RANDOM (ANSI) OTHER: spectral too

REC57

1215-1235	L_{eq} 57.3	L_{max} 71.4	L_{min} 51.7	L_{90} ~~52.5~~ 4 52.6	L_{50} ~~54.1~~ 3 54.1	L_{10} X	5 ~~62.8~~ 2 62.8
	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}	
	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}	
	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}	

COMMENTS:

Source Info and Traffic Counts

SOURCE: TRAFFIC AIRCRAFT (RAIL) (Pacific Harbor Line (diesel, horn)) INDUSTRIAL OTHER:
ROADWAY TYPE:

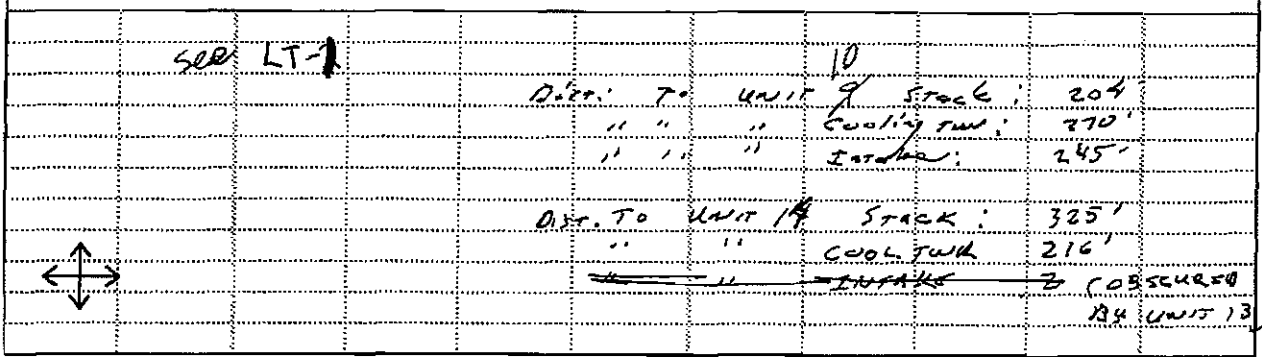
COUNT DURATION: ___-MINUTE	NB / EB / SB / WB	SPEED (mph) NB EB / SB WB	#2 COUNT: NB / EB / SB / WB	SPEED (mph) NB EB / SB WB
AUTOS:	___ / ___	___ / ___	___ / ___	___ / ___
MED. TRUCKS:	___ / ___	___ / ___	___ / ___	___ / ___
HVY TRUCKS:	___ / ___	___ / N/A	___ / ___	___ / ___
BUSES:	___ / ___	___ / ___	___ / ___	___ / ___
MOTORCYCLES:	___ / ___	___ / ___	___ / ___	___ / ___

SPEED ESTIMATED BY: RADAR / DRIVING / OBSERVER

OTHER NOISE SOURCES: distant AIRCRAFT overhead / RUSTLING LEAVES / distant BARKING DOGS / (BIRDS)
distant CHILDREN PLAYING / distant TRAFFIC / distant LANDSCAPING / distant TRAINS
OTHER:

Description / sketch

TERRAIN: (HARD) SOFT MIXED FLAT OTHER:
PHOTOS: yes
OTHER COMMENTS / SKETCH:



meas form4.xls

FIELD NOISE MEASUREMENT DATA

URS Project: Haynes Generating Station (LADWP)

ID

SITE IDENTIFICATION: ST-3 OBSERVER(s): Greene, M., Czech
START DATE & TIME: 2/19/04 1410 END DATE & TIME: 2/19/04 1430
ADDRESS: Show It storage yard, west side of Normandy

Weather

TEMP: 67 °F HUMIDITY: 46 % R.H. WIND: (CALM) LIGHT MODERATE VARIABLE
WINDSPEED MPH DIR: N NE E SE S SW W NW STEADY GUSTY
SKY: (OVRCST) PARTLY (CLOUDY) CLEAR SUNNY FOG RAIN Other:

Acoustic Measurements

INSTRUMENT: B&K 2231 TYPE (1) 2 SERIAL #: 1413404
CALIBRATOR: B&K 4231 SERIAL #: 1850301
CALIBRATION CHECK: PRE-TEST 93.9 dBA SPL POST-TEST 93.8 dBA SPL WINDSCREEN Y
SETTINGS (A-WEIGHTED) (SLOW) FAST FRONTAL RANDOM (ANSI) OTHER:

1410-1430 : L_{eq} 61.0, L_{max} 76.0, L_{min} 53.4, L_{90} 54.5, L_{50} 57.0, L_{10} 65.0, ____
____ : L_{eq} ____, L_{max} ____, L_{min} ____, L_{90} ____, L_{50} ____, L_{10} ____, ____
____ : L_{eq} ____, L_{max} ____, L_{min} ____, L_{90} ____, L_{50} ____, L_{10} ____, ____
____ : L_{eq} ____, L_{max} ____, L_{min} ____, L_{90} ____, L_{50} ____, L_{10} ____, ____

COMMENTS: talking 20 ft away briefly

Source Info and Traffic Counts

SOURCE: TRAFFIC AIRCRAFT (RAIL) INDUSTRIAL OTHER: people maintaining their storage
ROADWAY TYPE:

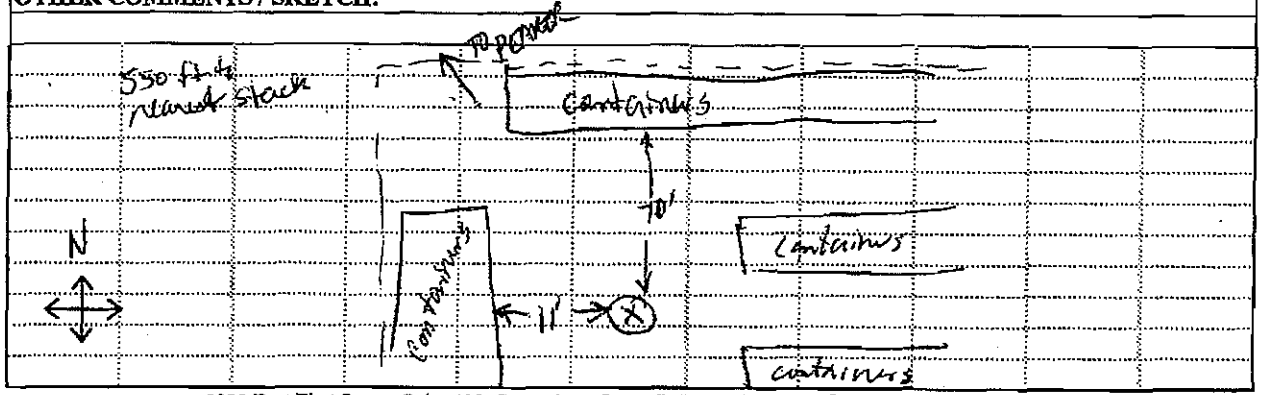
COUNT DURATION: ____-MINUTE	NB / EB / SB / WB	SPEED (mph) NB EB / SB WB	#2 COUNT: NB / EB / SB / WB	SPEED (mph) NB EB / SB WB
AUTOS:	____ / ____	____ / ____	____ / ____	____ / ____
MED. TRUCKS:	____ / ____	____ / ____	____ / ____	____ / ____
HVY TRUCKS:	____ / ____	____ / N/A	____ / ____	____ / ____
BUSES:	____ / ____	____ / ____	____ / ____	____ / ____
MOTORCYCLES:	____ / ____	____ / ____	____ / ____	____ / ____

SPEED ESTIMATED BY: RADAR / DRIVING / OBSERVER

OTHER NOISE SOURCES: distant AIRCRAFT overhead / RUSTLING LEAVES / distant BARKING DOGS / BIRDS
distant CHILDREN PLAYING / distant TRAFFIC / distant LANDSCAPING / distant TRAINS
OTHER:

Description / sketch

TERRAIN: (HARD) SOFT MIXED FLAT OTHER:
PHOTOS: yes
OTHER COMMENTS / SKETCH:



measform4.xls

FIELD NOISE MEASUREMENT DATA

URS Project: HARBOR GEN. STATION

ID

SITE IDENTIFICATION: ST-4 OBSERVER(s): MG, J. CZECH
START DATE & TIME: 2/20/04 10:45 END DATE & TIME: 2/20/04 1100
ADDRESS: HARBOR GEN PEAKER - PLANT, ON-SITE, (ALL S RUNNING)

Weather

TEMP: 58 °F HUMIDITY: 66 % R.H. WIND: CALM LIGHT ~~MODERATE~~ ~~VARIABLE~~
WINDSPEED 0-5 MPH DIR: N NE E SE S SW W NW STEADY GUSTY
SKY ~~OVRCST~~ PARTLY CLOUDY CLEAR SUNNY FOG RAIN Other:

Acoustic Measurements

INSTRUMENT: L-D 824 TYPE: ~~0~~ 2 SERIAL #: 824A1143
CALIBRATOR: L-D CAL 200 SERIAL #: 2794
CALIBRATION CHECK: PRE-TEST 94.0 dBA SPL POST-TEST 94.0 dBA SPL WINDSCREEN ✓
SETTINGS: ~~A-WEIGHTED~~ ~~SLOW~~ ~~FAST~~ FRONTAL ~~RANDOM~~ ~~ANSI~~ OTHER:

rec58

10:45-11:00:	L_{eq} 77.7	L_{max} 78.9	L_{min} 76.1	L_{90} 77.0	L_{50} 77.7	L_{10} 78.4	Spectral
:	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}	
:	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}	
:	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}	

COMMENTS:

Source Info and Traffic Counts

SOURCE: TRAFFIC AIRCRAFT RAIL ~~INDUSTRIAL~~ OTHER: UNIT 10 (MAINLY ~~HRSG~~/INLET, ALSO COOLING TOWER)
ROADWAY TYPE:

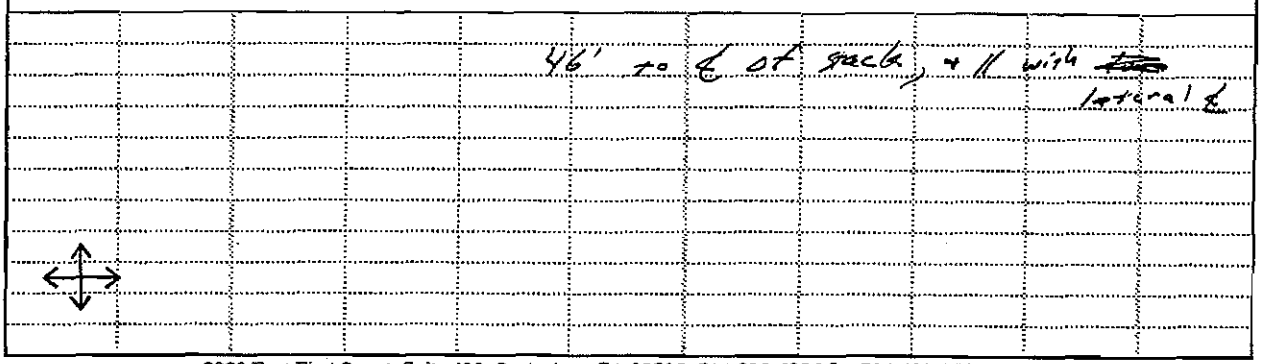
COUNT DURATION: ___-MINUTE	#1 COUNT: NB / EB / SB / WB	SPEED (mph) NB EB / SB WB	#2 COUNT: NB / EB / SB / WB	SPEED (mph) NB EB / SB WB
AUTOS:	/	/	/	/
MED. TRUCKS:	/	/	/	/
HVY TRUCKS:	/	/ N/A	/	/
BUSES:	/	/	/	/
MOTORCYCLES:	/	/	/	/

SPEED ESTIMATED BY: RADAR / DRIVING / OBSERVER

OTHER NOISE SOURCES: distant AIRCRAFT overhead / RUSTLING LEAVES / distant BARKING DOGS / BIRDS
distant CHILDREN PLAYING / distant TRAFFIC / distant LANDSCAPING / distant TRAINS
OTHER:

Description / sketch

TERRAIN: HARD SOFT MIXED FLAT OTHER:
PHOTOS: yes
OTHER COMMENTS / SKETCH:



measform4.xls

FIELD NOISE MEASUREMENT DATA

URS Project: HARBOR Generating Station (LADWP)

ID

SITE IDENTIFICATION: ST-5 OBSERVER(s): MG, J. CZECH
START DATE & TIME: 2/20/04 11:05 END DATE & TIME: 2/20/04 1125
ADDRESS: HARBOR GEN PEAKER PLANT, ON-SITE, ~~ADJ.~~ ADJ. TO UNIT 14

Weather

TEMP: 58 °F HUMIDITY: 66 % R.H. WIND: CALM LIGHT MODERATE VARIABLE
WINDSPEED 0-5 MPH DIR: N NE E SE S SW W NW STEADY GUSTY
SKY: OVRCST PARTLY CLOUDY CLEAR SUNNY FOG RAIN Other:

Acoustic Measurements

INSTRUMENT: L-D 824 TYPE: 1 2 SERIAL #: 824A 1143
CALIBRATOR: L-D CAL 200 SERIAL #: 2794
CALIBRATION CHECK: PRE-TEST 94.0 dBA SPL POST-TEST 94.0 dBA SPL WINDSCREEN ✓
SETTINGS: A-WEIGHTED SLOW FAST FRONTAL RANDOM ANSI OTHER:

ST-5 A	11:05-11:10:	L_{eq} 76.9	L_{max} 78.7	L_{min} 76.1	L_{90} 76.4	L_{50} 76.8	L_{10} 77.4	SPECTRAL
ST-5 B	11:20-11:25:	L_{eq} 79.5	L_{max} 80.1	L_{min} 71.9	L_{90} 79.3	L_{50} 79.5	L_{10} 79.7	"
	(3 MINS):	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}	
	:	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}	

COMMENTS: COOLING TOWER - INTERMITTENT ON/OFF

Source Info and Traffic Counts

SOURCE: ~~TRAFFIC~~ AIRCRAFT RAIL INDUSTRIAL OTHER: UNIT 14
ROADWAY TYPE: A ST.

COUNT DURATION: ____-MINUTE	NB / EB / SB / WB	SPEED (mph) NB EB / SB WB	#2 COUNT: NB / EB / SB / WB	SPEED (mph) NB EB / SB WB
AUTOS:	____ / ____	____ / ____	____ / ____	____ / ____
MED. TRUCKS:	____ / ____	____ / ____	____ / ____	____ / ____
HVY TRUCKS:	____ / ____	____ / N/A	____ / ____	____ / ____
BUSES:	____ / ____	____ / ____	____ / ____	____ / ____
MOTORCYCLES:	____ / ____	____ / ____	____ / ____	____ / ____

SPEED ESTIMATED BY: RADAR / DRIVING / OBSERVER

OTHER NOISE SOURCES: distant AIRCRAFT overhead / RUSTLING LEAVES / distant BARKING DOGS / BIRDS
distant CHILDREN PLAYING / distant TRAFFIC / distant LANDSCAPING / distant TRAINS
OTHER:

TERRAIN: HARD SOFT MIXED FLAT OTHER:
PHOTOS: YES
OTHER COMMENTS / SKETCH:

Description / sketch

ST-5A 50' N. OF LONG ℄ OF STACK, // W/ LAT ℄
ST-5B 25' N. OF COOLING TOWER
42' E. OF STACK ℄ (LAT)
& 22' S. OF STACK ℄ (LONG)
(ST-5A, MOSTLY INLET, ETC.
ST-5B, MORE COOLING-TOWER)

meas form4.xls

2020 East First Street, Suite 400, Santa Ana, CA 92705, 714-835-6886 fax 714-433-7701

FIELD NOISE MEASUREMENT DATA

URS

Project: Warrior Generating Station (LADWP)

ID

SITE IDENTIFICATION: ST-6 OBSERVER(s): Czech, Greene, M.
START DATE & TIME: 2/20/04 1145 END DATE & TIME: 2/20/04 1205
ADDRESS: Parcel 5, 1st St. = ST-1

Weather

TEMP: 60 °F HUMIDITY: 59 % R.H. WIND: (CALM) LIGHT MODERATE VARIABLE
WINDSPEED 0-5 MPH DIR: N NE E SE S SW W (NW) STEADY GUSTY
SKY (OVRCST) PARTLY CLOUDY CLEAR SUNNY FOG RAIN Other: a little sprinkle

Acoustic Measurements

INSTRUMENT: BK 2231 TYPE: (1) 2 SERIAL #: 1413404
CALIBRATOR: BK 4231 SERIAL #: 1850301
CALIBRATION CHECK: PRE-TEST 93.8 dBA SPL POST-TEST 93.8 dBA SPL WINDSCREEN ✓
SETTINGS: (A-WEIGHTED) (SLOW) FAST FRONTAL RANDOM (ANSI) OTHER:

	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}
1145-1205	62.4	73.5	56.4	58.5	60.5	65.0

COMMENTS:

Source Info and Traffic Counts

SOURCE: (TRAFFIC) AIRCRAFT (RAIL horn) INDUSTRIAL OTHER: peakers, siren distant on Harry Bridges
ROADWAY TYPE: ~~Undivided~~

COUNT DURATION: 20 MINUTE (1st)

	SPEED (mph)		#2 COUNT: (Arden)	SPEED (mph)	
	NB / (EB) / SB / (WB)	NB EB / SB WB	(NB) / EB / (SB) / WB	NB EB / SB WB	
AUTOS:	//// /	0-30 /	//// / ///	40 /	
MED. TRUCKS:	/	/	// /	/	
HVY TRUCKS:	1 /	/	/// /	/	
BUSES:	/	/	/	/	
MOTORCYCLES:	/	/	/	/	

SPEED ESTIMATED BY: RADAR / DRIVING / OBSERVER

OTHER NOISE SOURCES: distant (AIRCRAFT) overhead / RUSTLING LEAVES / distant BARKING DOGS / BIRDS
distant CHILDREN PLAYING / (distant TRAFFIC) / distant LANDSCAPING / distant TRAINS
OTHER: horn (horn)

Description / sketch

TERRAIN: HARD SOFT MIXED FLAT OTHER:
PHOTOS: no
OTHER COMMENTS / SKETCH:

See ST-1

measform4.xls

FIELD NOISE MEASUREMENT DATA

URS Project: Walnut Generating Station (L170WP)

SITE IDENTIFICATION: ST-7 **OBSERVER(s):** Czech, Greene, M.
START DATE & TIME: 2/20/04 1230 **END DATE & TIME:** 2/20/04 1300
ADDRESS: @ LT-2

TEMP: ____ °F HUMIDITY: ____ % R.H. WIND: CALM LIGHT MODERATE VARIABLE
WINDSPEED ____ MPH DIR: N NE E SE S SW W NW STEADY GUSTY
SKY: (OVRCST) PARTLY CLOUDY CLEAR SUNNY FOG (RAIN) Other: on/off 50.nkle

INSTRUMENT: LD824 **TYPE** (1) 2 **SERIAL #:** 824A1143
CALIBRATOR: CAL200 **SERIAL #:** 2794
CALIBRATION CHECK: **PRE-TEST** 93.9 **dBA SPL** **POST-TEST** 93.9 **dBA SPL WINDSCREEN** Y
SETTINGS: (A-WEIGHTED) (SLOW) FAST FRONTAL RANDOM (ANSI) OTHER: ____

rec'd ST-7a ST-7b

	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}	
Skamblow	94.7	100.6	72.4	~~64.1~~ 72.6	~~70.0~~ 86.3	~~73.1~~ 99.3	
1247-1252	70.9	97.0	68.8	69.1	70.8	73.1	

COMMENTS:

Acoustic Measurements

SOURCE: **TRAFFIC AIRCRAFT RAIL INDUSTRIAL OTHER:** ____
ROADWAY TYPE: ____

COUNT DURATION: ____-MINUTE	NB / EB / SB / WB	SPEED (mph) NB EB / SB WB	#2 COUNT: NB / EB / SB / WB	SPEED (mph) NB EB / SB WB
AUTOS:	____ / ____	____ / ____	____ / ____	____ / ____
MED. TRUCKS:	____ / ____	____ / ____	____ / ____	____ / ____
HVY TRUCKS:	____ / ____	____ / ____ N/A	____ / ____	____ / ____
BUSES:	____ / ____	____ / ____	____ / ____	____ / ____
MOTORCYCLES:	____ / ____	____ / ____	____ / ____	____ / ____

SPEED ESTIMATED BY: RADAR / DRIVING / OBSERVER

OTHER NOISE SOURCES: distant AIRCRAFT overhead / RUSTLING LEAVES / distant BARKING DOGS / BIRDS
distant CHILDREN PLAYING / distant TRAFFIC / distant LANDSCAPING / distant TRAINS
OTHER: ____

Source Info and Traffic Counts

TERRAIN: **HARD SOFT MIXED FLAT OTHER:** ____
PHOTOS: NO
OTHER COMMENTS / SKETCH:

See LT-2

Description / sketch

measform4.xls

FIELD NOISE MEASUREMENT DATA

URS Project: HARBOR Generating Station (LADWP)

ID

SITE IDENTIFICATION: ST-8 OBSERVER(s): Green, M., Czech
START DATE & TIME: 2/20/04 END DATE & TIME: 2/20/04
ADDRESS: @ ST-3

Weather

TEMP: 64 °F HUMIDITY: 49 % R.H. WIND: CALM (LIGHT) MODERATE VARIABLE
WINDSPEED 0-3 MPH DIR: N NE E SE S SW W NW STEADY GUSTY
SKY: (OVRCST) PARTLY CLOUDY CLEAR SUNNY FOG RAIN Other:

Acoustic Measurements

INSTRUMENT: BK 2231 TYPE: (1) 2 SERIAL #: 413464
CALIBRATOR: BK 4231 SERIAL #: 1850301
CALIBRATION CHECK: PRE-TEST 93.8 dBA SPL POST-TEST 93.9 dBA SPL WINDSCREEN ✓
SETTINGS: ~~A-WEIGHTED~~ (SLOW) FAST FRONTAL (RANDOM) (ANSI) OTHER:

1412-1432	L_{eq} 56.7	L_{max} 64.8	L_{min} 53.7	L_{90} 55.0	L_{50} 56.5	L_{10} 58.0	
	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}	
	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}	
	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}	

COMMENTS: no people around storage yard; no milling about;

Source Info and Traffic Counts

SOURCE: TRAFFIC AIRCRAFT RAIL INDUSTRIAL OTHER:
ROADWAY TYPE:

COUNT DURATION: ____-MINUTE	NB / EB / SB / WB	SPEED (mph) NB EB / SB WB	#2 COUNT: NB / EB / SB / WB	SPEED (mph) NB EB / SB WB
AUTOS:	____ / ____	____ / ____	____ / ____	____ / ____
MED. TRUCKS:	____ / ____	____ / ____	____ / ____	____ / ____
HVY TRUCKS:	____ / ____	____ / N/A	____ / ____	____ / ____
BUSES:	____ / ____	____ / ____	____ / ____	____ / ____
MOTORCYCLES:	____ / ____	____ / ____	____ / ____	____ / ____

SPEED ESTIMATED BY: RADAR / DRIVING / OBSERVER

OTHER NOISE SOURCES: distant AIRCRAFT overhead / RUSTLING LEAVES / distant BARKING DOGS / BIRDS
distant CHILDREN PLAYING / distant TRAFFIC / distant LANDSCAPING / distant TRAINS
OTHER:

Description / sketch

TERRAIN: HARD SOFT MIXED FLAT OTHER:
PHOTOS: no
OTHER COMMENTS / SKETCH:

See ST-3

measform4.xls

FIELD NOISE MEASUREMENT DATA

URS Project: HARBOR Marine Generating Station (LADWP)

SITE IDENTIFICATION: LT-1 **OBSERVER(s):** Greene, M. Czech
START DATE & TIME: 2/19/04 1200 **END DATE & TIME:** 2/20/04 ~1300
ADDRESS:
Valero Tank Farm west ~~end~~ of Tank 4051, east of Peaker Plant near fenceline

ID

TEMP: 67 °F HUMIDITY: 50 % R.H. WIND: CALM (LIGHT) MODERATE VARIABLE
WINDSPEED 4-7 MPH DIR: (N) NE E SE S SW W NW STEADY GUSTY
SKY: OVRCST (PARTLY CLOUDY) CLEAR (SUNNY) FOG RAIN Other:

Weather

INSTRUMENT: dB308 **TYPE:** 1 (2) **SERIAL #:** 3068
CALIBRATOR: CL304 **SERIAL #:** 3316
CALIBRATION CHECK: **PRE-TEST** 101.9 dBA SPL **POST-TEST** 101.6 dBA SPL **WINDSCREEN** Y
SETTINGS: (A-WEIGHTED) (SLOW) FAST FRONTAL RANDOM (ANSI) OTHER:

_____: L_{eq} _____, L_{max} _____, L_{min} _____, L_{90} _____, L_{50} _____, L_{10} _____, _____
_____: L_{eq} _____, L_{max} _____, L_{min} _____, L_{90} _____, L_{50} _____, L_{10} _____, _____
_____: L_{eq} _____, L_{max} _____, L_{min} _____, L_{90} _____, L_{50} _____, L_{10} _____, _____
_____: L_{eq} _____, L_{max} _____, L_{min} _____, L_{90} _____, L_{50} _____, L_{10} _____, _____

COMMENTS: exited site @ 1245 on 2/19/04; exited site @ ~1300 on 2/20/04

Acoustic Measurements

SOURCE: **TRAFFIC AIRCRAFT RAIL INDUSTRIAL OTHER:**
ROADWAY TYPE:
COUNT DURATION: _____-MINUTE

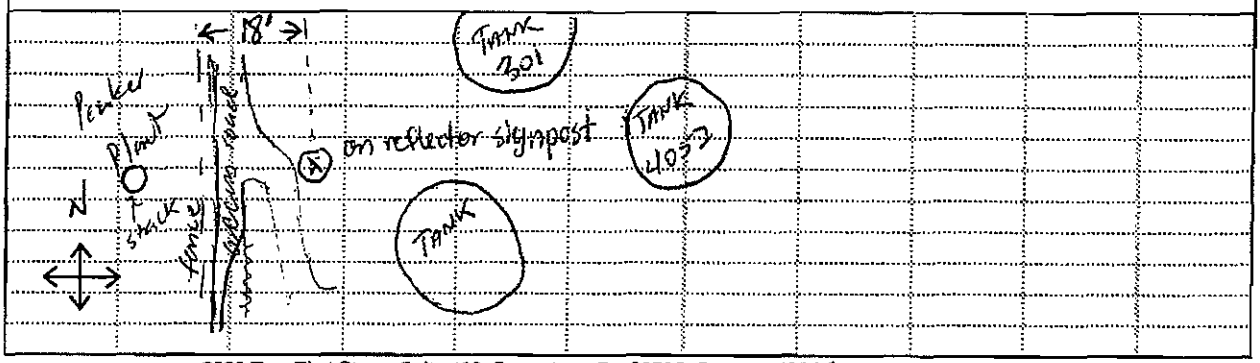
	SPEED (mph) NB / EB / SB / WB	#2 COUNT: NB / EB / SB / WB	SPEED (mph) NB EB / SB WB
AUTOS:	____ / ____ / ____ / ____	____ / ____	____ / ____
MED. TRUCKS:	____ / ____ / ____ / ____	____ / ____	____ / ____
HVY TRUCKS:	____ / ____ / ____ / N/A	____ / ____	____ / ____
BUSES:	____ / ____ / ____ / ____	____ / ____	____ / ____
MOTORCYCLES:	____ / ____ / ____ / ____	____ / ____	____ / ____

SPEED ESTIMATED BY: RADAR / DRIVING / OBSERVER

OTHER NOISE SOURCES: distant AIRCRAFT overhead / RUSTLING LEAVES / distant BARKING DOGS / BIRDS
distant CHILDREN PLAYING / distant TRAFFIC / distant LANDSCAPING / distant TRAINS
OTHER:

Source Info and Traffic Counts

TERRAIN: (HARD) SOFT MIXED FLAT OTHER:
PHOTOS: yes
OTHER COMMENTS / SKETCH:



Description / sketch

2020 East First Street, Suite 400, Santa Ana, CA 92705, 714-835-6886 fax 714-433-7701

FIELD NOISE MEASUREMENT DATA

URS Project: Harbor Generating Station (LADWP)

SITE IDENTIFICATION: LT-2 **OBSERVER(s):** Greene, M., Atech
START DATE & TIME: 2/19/04 1400 **END DATE & TIME:** 2/20/04 1430
ADDRESS: Stow-It storage yard near fenceline with rail ROW and Tank Farm (Valero)

ID

TEMP: 68 °F HUMIDITY: 43 % R.H. WIND: (CALM) LIGHT MODERATE VARIABLE
WINDSPEED _____ MPH DIR: N NE E SE S SW W NW STEADY GUSTY
SKY: OVRCST PARTLY (CLOUDY) CLEAR SUNNY FOG RAIN Other: _____

Weather

INSTRUMENT: dB308 **TYPE:** 1 (2) **SERIAL #:** 2434
CALIBRATOR: CL304 **SERIAL #:** 3316
CALIBRATION CHECK: **PRE-TEST** 102.0 dBA SPL **POST-TEST** 102.2 dBA SPL **WINDSCREEN** Y
SETTINGS: (A-WEIGHTED) (SLOW) FAST FRONTAL RANDOM (ANSI) OTHER: _____

_____: L_{eq} _____, L_{max} _____, L_{min} _____, L_{90} _____, L_{50} _____, L_{10} _____, _____
_____: L_{eq} _____, L_{max} _____, L_{min} _____, L_{90} _____, L_{50} _____, L_{10} _____, _____
_____: L_{eq} _____, L_{max} _____, L_{min} _____, L_{90} _____, L_{50} _____, L_{10} _____, _____
_____: L_{eq} _____, L_{max} _____, L_{min} _____, L_{90} _____, L_{50} _____, L_{10} _____, _____

COMMENTS: exited site @ ~1430 on 2/20/04

Acoustic Measurements

SOURCE: (TRAFFIC) AIRCRAFT (RAIL) INDUSTRIAL OTHER: Pacific Harbor Line
ROADWAY TYPE: _____
COUNT DURATION: _____-MINUTE

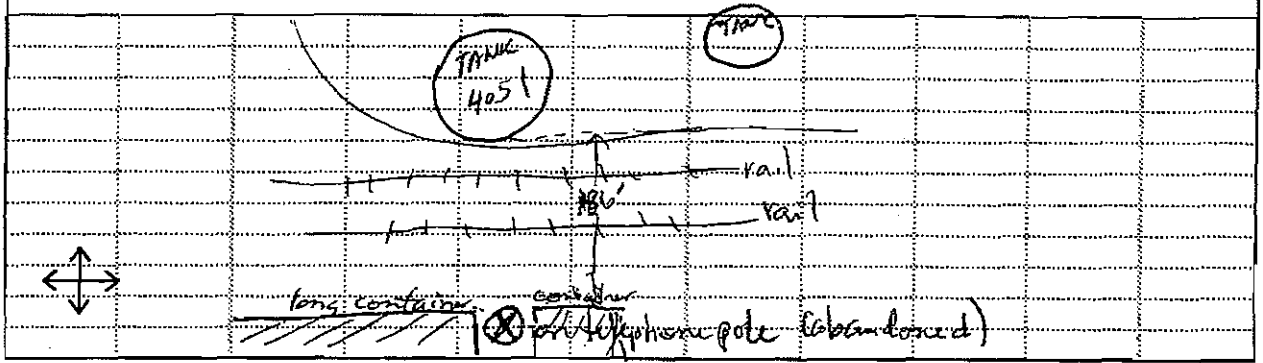
	SPEED (mph) NB / EB / SB / WB	SPEED (mph) NB EB / SB WB	#2 COUNT: NB / EB / SB / WB	SPEED (mph) NB EB / SB WB
AUTOS:	_____ / _____	_____ / _____	_____ / _____	_____ / _____
MED. TRUCKS:	_____ / _____	_____ / _____	_____ / _____	_____ / _____
HVY TRUCKS:	_____ / _____	_____ / N/A	_____ / _____	_____ / _____
BUSES:	_____ / _____	_____ / _____	_____ / _____	_____ / _____
MOTORCYCLES:	_____ / _____	_____ / _____	_____ / _____	_____ / _____

SPEED ESTIMATED BY: RADAR / DRIVING / OBSERVER

OTHER NOISE SOURCES: distant AIRCRAFT overhead / RUSTLING LEAVES / distant BARKING DOGS / BIRDS
distant CHILDREN PLAYING / distant TRAFFIC / distant LANDSCAPING / distant TRAINS
OTHER: _____

Source Info and Traffic Counts

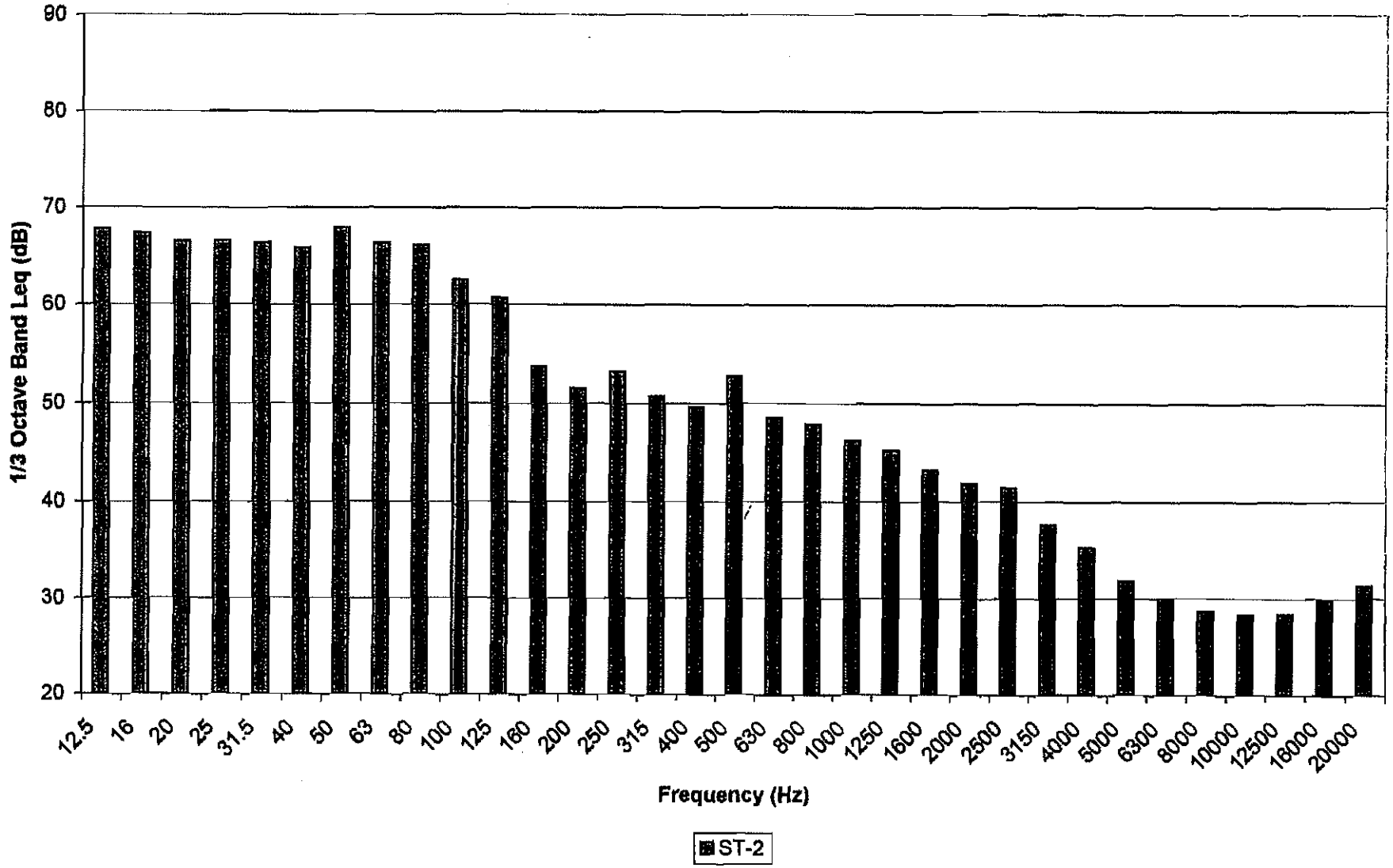
TERRAIN: HARD SOFT (MIXED) FLAT OTHER:
PHOTOS: from site to plant
OTHER COMMENTS / SKETCH:



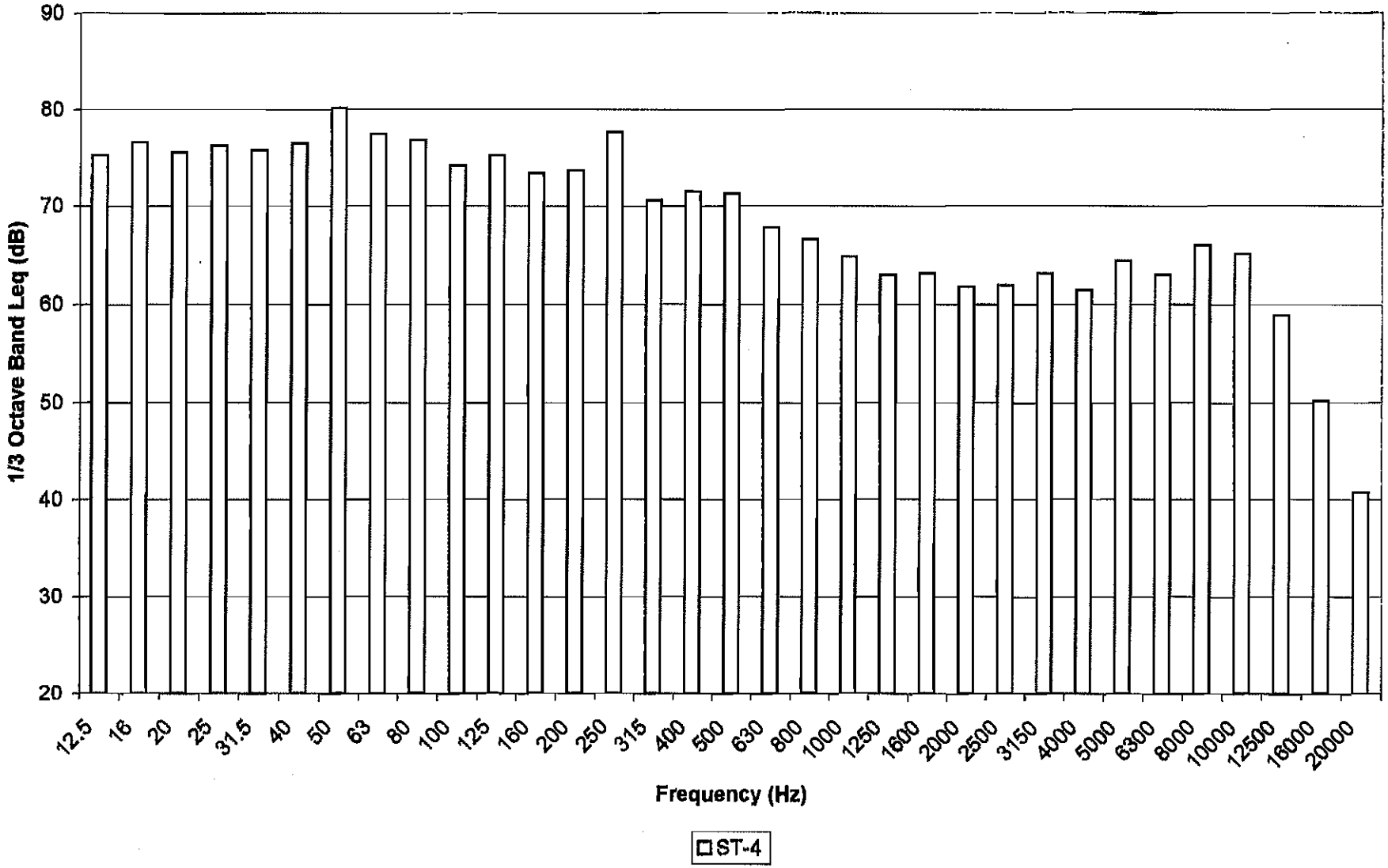
Description / sketch

measform4.xls

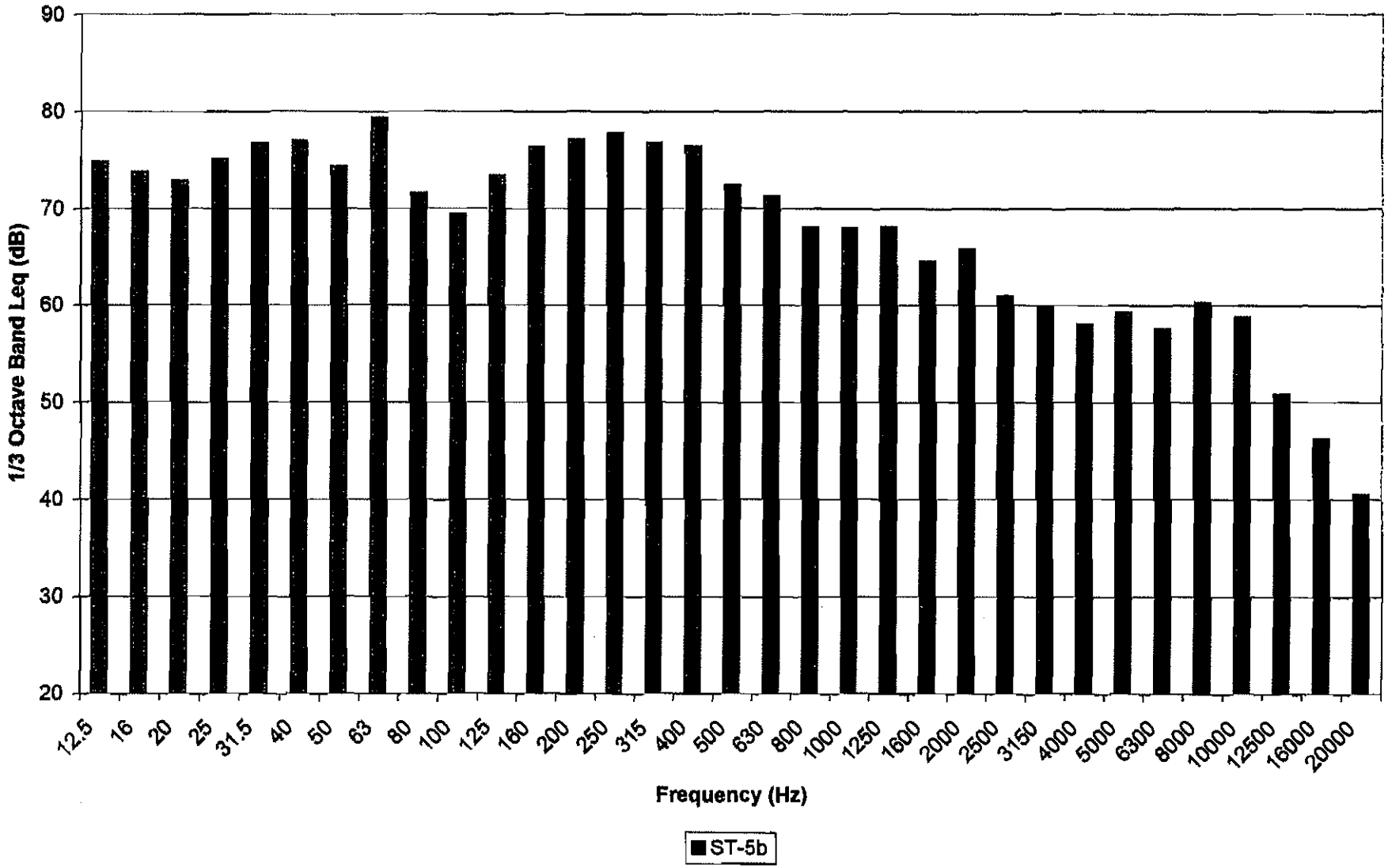
Spectrum for ST-2 (20 minutes)



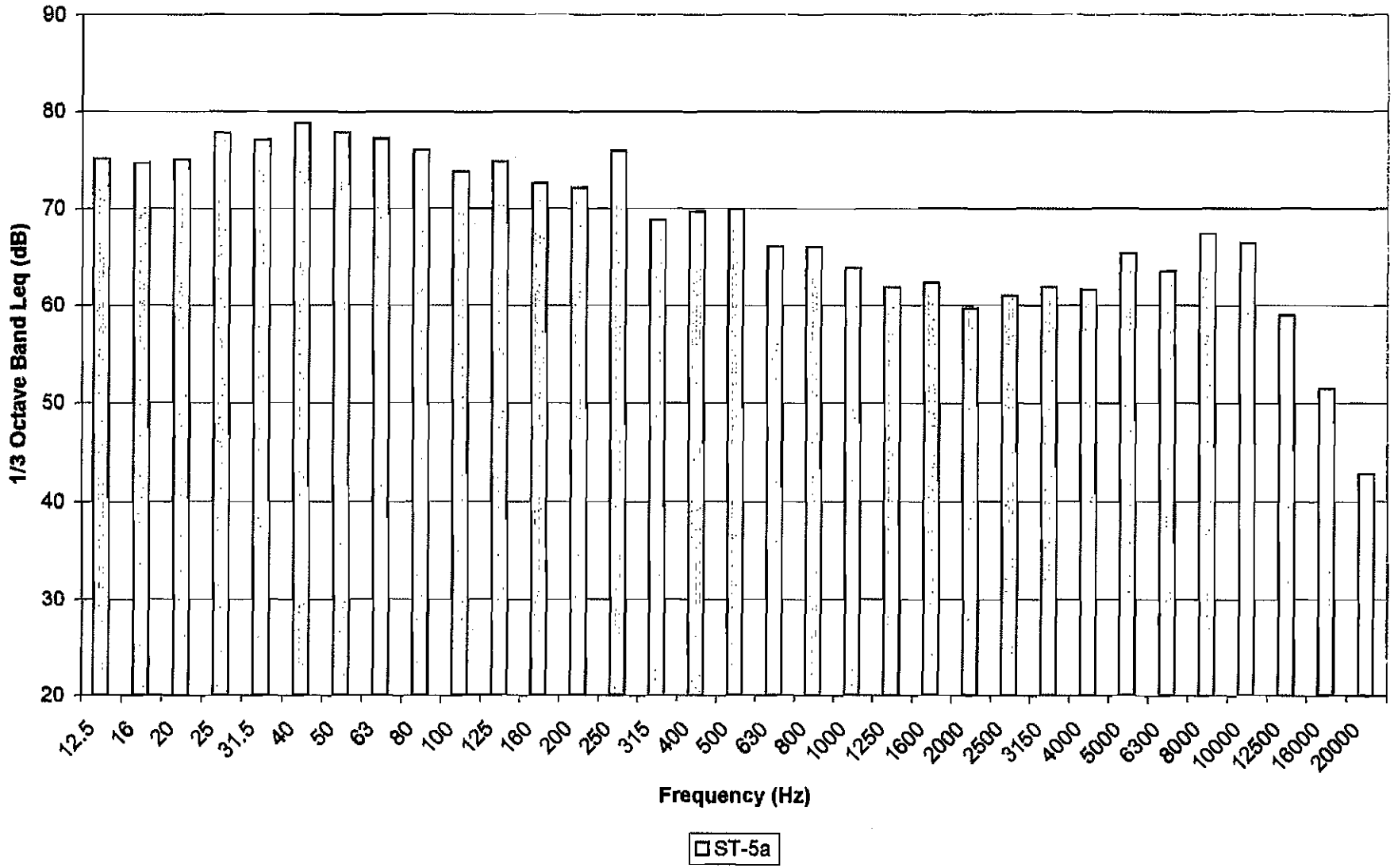
Spectrum for ST-4 (5 minutes; HGS on)



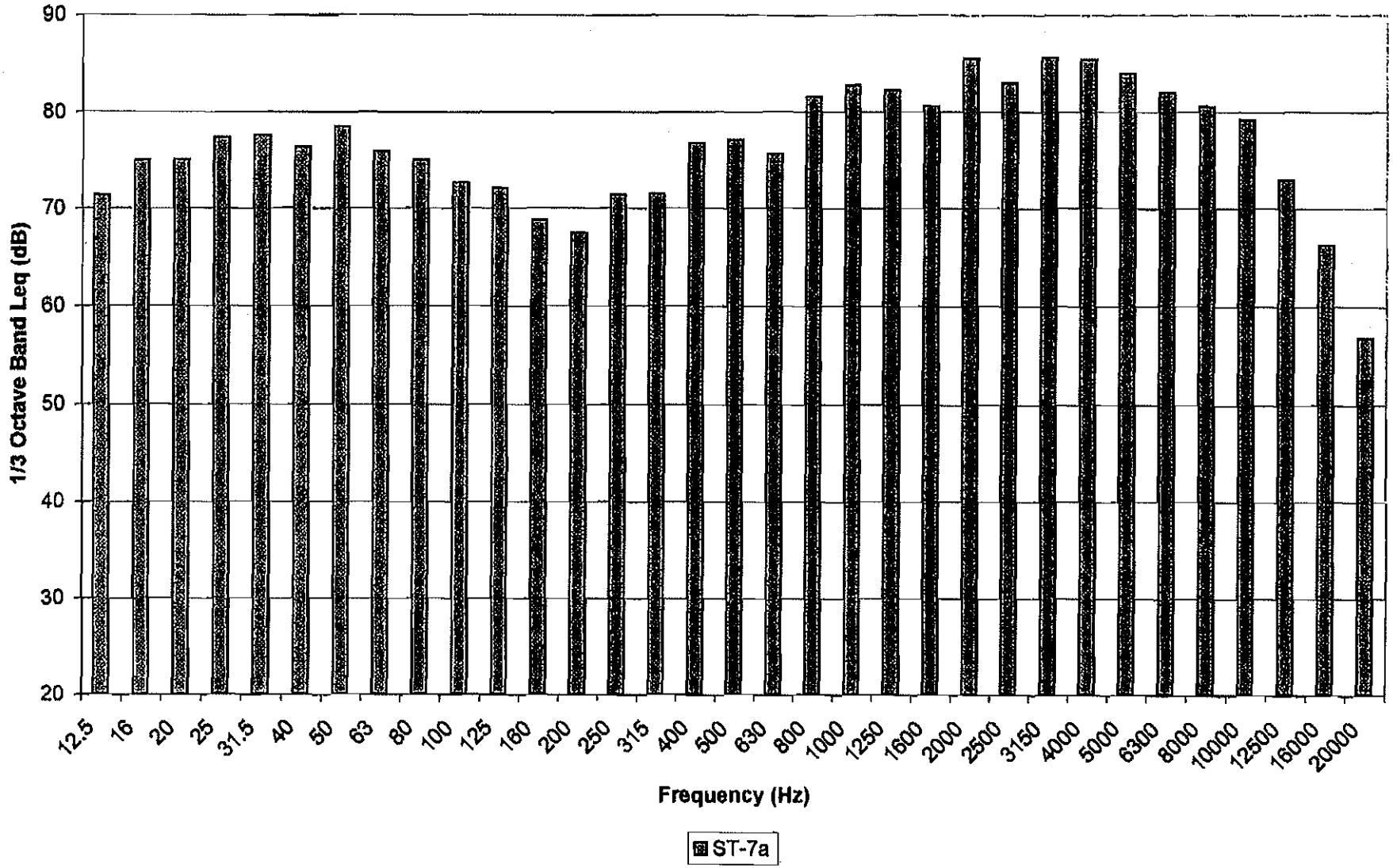
Spectrum for ST-5b (3 minutes; HGS on)



Spectrum for ST-5a (5 minutes; HGS on)



Spectrum for ST-7a (1 minute; HGS on [steamblow])



Spectrum for ST-7b (5 minutes; HGS on)