

Background Ambient Noise Study Rosemont Copper

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Memorandum

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Doc #: 013/10 – 15.3.2
Subject: Transmittal for Previously Transmitted Information
Date: March 17, 2010

Rosemont understands there are a number of reports that are included for the record that do not have a transmittal letter attached to them. This memorandum is designed to provide the transmittal for those documents that were previously submitted. Those reports are:

1. Background Ambient Noise Study, Tetra Tech, dated October 2008
2. Filtered Tailings Dry Stacks Current State of Practice Final Report, AMEC, dated November 2008
3. WEAC Economic Reports provided by Rosemont and prepared by WEAC for the Arizona Mining Association

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INTRODUCTION

Rosemont Copper is proposing to develop an open pit mining operation in the Rosemont Valley of Pima County, Arizona, near the northern portion of the Santa Rita Mountains. The proposed operation would extract copper, molybdenum, and silver from ore mined in an open pit, which would be accessed primarily from Highway 83. For its various uses, the approximately 4,415-acre project area would be a combination of 935 acres of private land, 3,330 acres of land administered by the United States Forest Service (USFS) in the Coronado National Forest, 15 acres of land administered by the Bureau of Land Management, and 75 acres of Arizona State Land Department State Trust land. The Coronado National Forest Service land provides livestock grazing and outdoor recreational uses and is preparing an environmental impact statement to evaluate the proposed project. The major components of the proposed mining project include the open pit mine, ore processing, waste rock storage areas, tailings storage, and ancillary facilities and general operational infrastructure. There is an area of rural residences near the southern portion of the proposed mining area, as well as clusters of rural residences along Highway 83, north of the proposed mining area.

Rosemont Copper requested a study of the noise conditions in the project area. Tetra Tech proposed a study involving concurrent ambient noise monitoring at multiple locations within or near the proposed mining operations area and a preliminary evaluation of noise attenuation between the proposed mining operation and the residences. This report presents the results of that study.

STUDY DESIGN

Tetra Tech's ambient noise monitoring survey includes the following major components:

- Noise monitoring for three continuous days at five locations between the proposed mine project area and the residences to the south;
- Additional noise monitoring for two continuous days at other locations in the proposed mining area; and
- Noise monitoring for shorter periods in the vicinity of an active copper mine.

Noise monitoring locations were chosen to provide information on noise levels attributable to traffic on Highway 83 and representative noise levels in various portions of the proposed mining area. The noise monitoring survey was conducted from Friday, May 23, 2008, through Thursday, May 29, 2008. It was scheduled to include the Memorial Day weekend in order to account for noise associated with recreational use of National Forest lands. Instrument locations were chosen to avoid proximity to significant off-road vehicle trails and camping areas so that resulting data would be representative of general background noise conditions.

Activity at the proposed mine project area included drilling at various locations around the site and other testing involving vehicle traffic throughout the project area. Other activity on the land of the project area included cattle grazing.

The primary noise monitoring instruments used were five Larson Davis model 820 type 1 sound level meters, supplemented with three Center 322 type 2 sound level meters. All sound level meters were mounted on lightweight camera tripods to provide a consistent microphone height of about five feet above ground level. The Larson Davis 820 sound meters were operated with internal nine-volt lithium batteries and external 12-volt, five-amp-hour, sealed lead-acid batteries. The Center 322 sound meters were operated with internal nine-volt lithium batteries. The meters measured the sound in the "A" weighted decibel scale (dBA), which measures particular sound pressure levels that are most sensitive to the parts of the spectrum where human hearing is most sensitive.

INSTRUMENTATION

In addition to the Larson Davis and Center Technology equipment used during this study, instrumentation included one Larson Davis model 200 Class 1 acoustic calibrator (94 or 114 decibel [dB] at 1,000 hertz [Hz]) and five 12-volt, five-amp-hour, sealed lead-acid batteries used as external power sources for the Larson Davis model 820 meters.

Key features of Larson Davis 820 sound meters are as follows:

- A detachable free-field microphone and preamplifier (4 Hz to 40,000 Hz response range);
- A single dynamic measurement range of 20 dBA to 130 dBA;
- A choice of A or C weighting for primary data, with dual peak detectors for weighted and unweighted instantaneous peak dB;
- A choice of slow, fast, or impulse response settings;
- A choice of 3, 4, 5, or 6 dB exchange rates for data integration;
- Separate logging of the “equivalent continuous noise level” time history (Leq, the equivalent continuous noise level determined within a given time interval from a measured fluctuating sound level), user-set time interval statistics and exceedance events;
- 256 kilobytes (KB) of internal memory, with data stored in binary format;
- A choice of programmable or manual start and stop operations;
- An operating temperature range of 13 degrees Fahrenheit (°F) to 140°F; and
- Provisions for use of external 12-volt batteries to allow extended monitoring durations.

Key instrument settings for the Larson Davis 820 sound meters are as follows:

- A-scale weighting;
- Fast response (32 samples per second, integrated into 1/8-second Leq values);
- 3-dB exchange rate;
- 1-minute Leq time history logging with sound exposure level (SEL) and Lmax (the maximum time and frequency weighted sound level or maximum sound level occurring within a specific period);
- 15-minute interval history logging with Leq, Lmin, Lmax, LpkA, LpkZ, L05, L10, L33, L50, L90, L95 SEL, and interval histograms (see definitions for these terms in Table 2);
- Exceedance event logging disabled;

- Overall measurement period histograms and statistics; and
- Programmed start and stop for most meter operations.

Key features of the Center 322 sound meters are as follows:

- A detachable free-field microphone and preamplifier (31.5 Hz to 8,000 Hz response range);
- A choice of three fixed measurement ranges or auto ranging;
- An overall measurement range of 30 dBA to 130 dBA;
- A choice of A- or C-weighting;
- A choice of slow or fast response settings;
- Logging of spot sample readings at intervals of 1 second to 60 seconds;
- Internal memory for 32,000 data records; and
- An operating temperature range of 32°F to 104°F.

The settings used for Center 322 sound meters were as follows:

- A-weighting;
- Fast response;
- Auto-ranging;
- One-second data logging interval for short-term monitoring;
- Three-second data logging interval for 24-hour monitoring; and
- Manual start and stop of data logging.

All instrument microphones were fitted with foam ball windscreens, and instruments were calibrated before each monitoring episode. All monitoring was conducted with instruments mounted on lightweight camera tripods extended to a height of about five feet above ground level. Instruments were placed in relatively open vegetation areas to minimize the influence of gusty wind blowing through trees and other tall vegetation. Instruments had resealable plastic bags placed around the meter body to provide protection from the forecasted scattered showers. Plastic tape and hook-and-loop strapping were used to secure the bags to avoid any flapping in the wind. Instruments were calibrated with a class 1 calibrator before use, and calibration was checked at the conclusion of monitoring. All instruments showed stable calibration, and no adjustments to monitoring data were necessary.

MONITORING LOCATIONS

Noise monitoring locations were selected during field visits, in consultation with Rosemont Copper staff. Figure 1 is an overview of the locations used for noise monitoring in the proposed mining operations area.

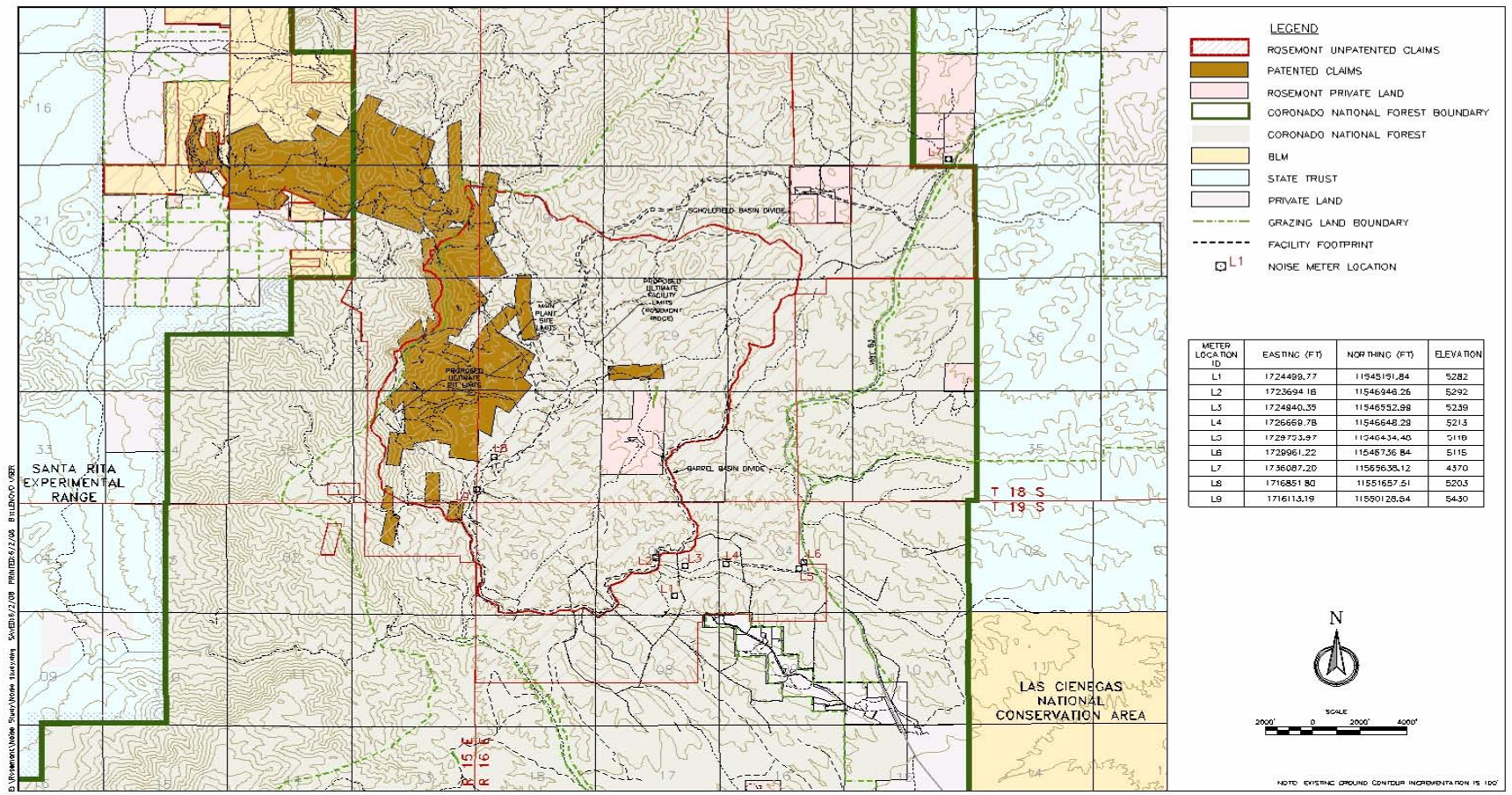


Figure 1. Locations Used for Background Noise Monitoring

FIGURE 1
NOISE LEVEL STUDY
ROSEMONT COPPER PROJECT

BACKGROUND NOISE LEVELS IN THE PROPOSED MINING AREA

Five locations in the southern part of the proposed mining area (L1 through L5) were monitored with Larson Davis 820 sound meters for 72 consecutive hours over the Memorial Day weekend. Monitoring location L1 was on the down slope of a ridge, with a view of the southern residences to the southeast and the proposed mine area to the northwest. L2 was located near the top of a ridge that faced west, with an open view of the proposed mine area to the northwest. Monitoring locations L3, L4, and L5 were at different elevations in a canyon that trends east toward Highway 83. Monitoring location L6 was on a flat area at an elevation similar to that of the Highway 83 roadway. L6 was monitored for about nine hours with a Center 322 sound meter.

Table 1 is a summary of the dates and duration of monitoring at the six sites during the Memorial Day weekend; Table 2 is a summary of the noise level data collected at each of these sites.

Table 1. Memorial Day Weekend Monitoring Sites

Location ID	Start Date	Start Time	Monitoring Duration	Instrument
L1	Saturday, May 24, 2008	12:00 AM	72 hours	Larson Davis 820, # 1642
L2	Saturday, May 24, 2008	12:00 AM	72 hours	Larson Davis 820, # 1615
L3	Saturday, May 24, 2008	12:00 AM	72 hours	Larson Davis 820, # 1634
L4	Saturday, May 24, 2008	12:00 AM	72 hours	Larson Davis 820, # 1688
L5	Saturday, May 24, 2008	12:00 AM	72 hours	Larson Davis 820, # 1704
L6	Friday, May 23, 2008	3:44 PM	8.89 hours	Center 322, #631

Table 2. Summary of Noise Levels at Memorial Day Weekend Monitoring Sites (dBA)

Site ID	Ldn	Leq	Lmax	L05	L10	L33	L50	L90	L95	Lmin
L1	54.8 46.0 43.0	49.5	77.1	49.7	45.2	37.4	34.2	30.9	30.8	30.1
L2	55.2 50.6 51.8	49.0	80.1	54.7	50.6	41.2	38.3	36.3	36.2	35.7
L3	49.2 48.6 48.7	43.3	81.0	47.1	44.9	41.9	41.3	40.4	40.4	40.0
L4	43.3 42.0 42.1	37.9	75.6	41.3	39.2	35.7	34.3	32.6	32.5	32.1
L5	47.4 46.7 45.7	43.9	84.9	48.9	45.9	38.8	35.3	32.1	31.9	31.4
L6	NA	50.0	73.6	55.9	53.5	46.5	42.4	32.3	30.9	27.4

Ldn = day-night average noise level, a 24-hour average with annoyance penalty of 10 dBA for nighttime noise. Ldn values for each day are shown.

Leq = equivalent continuous noise level for the entire data set

Lmax = maximum sound level (fast response setting)

L05 = sound level exceeded 5% of the time

L10 = sound level exceeded 10% of the time

L33 = sound level exceeded 33% of the time

L50 = sound level exceeded 50% of the time

L90 = sound level exceeded 90% of the time

L95 = sound level exceeded 95% of the time

Lmin = minimum sound level (fast response setting)

NA = not applicable; monitoring duration not long enough to calculate Ldn

After the Memorial Day weekend, additional noise monitoring was conducted at the northern end of the proposed mining operations area and at locations closer to the proposed mining pit. One Larson Davis sound meter and a Center 322 sound meter were placed near Highway 83, at the northeast corner of the mining operations area. Two additional Larson Davis meters were placed along a ridge on the southeastern face of the proposed mining pit area. Table 3 is a summary of the dates and duration of monitoring at the additional weekday monitoring sites; Table 4 is a summary of the noise level data collected at each of these sites.

Table 3. Additional Weekday Monitoring Sites

Location ID	Start Date	Start Time	Monitoring Duration	Instrument
L7	Tuesday, May 27, 2008	3:00 PM	48 hours	Larson Davis 820, # 1634
L7B	Tuesday, May 27, 2008	2:10 PM	8.89 hours	Center 322, # 1916
L8	Tuesday, May 27, 2008	3:00 PM	48 hours	Larson Davis 820, # 1688
L9	Tuesday, May 27, 2008	4:00 PM	48 hours	Larson Davis 820, # 1704

Table 4. Summary of Noise Levels at Additional Weekday Monitoring Sites (dBA)

Site ID	Ldn	Leq	Lmax	L05	L10	L33	L50	L90	L95	Lmin
L7	55.2 54.6	50.3	82.4	56.0	52.3	43.1	41.4	40.5	40.4	39.9
L7B	NA	50.1	77.6	55.7	52.0	41.9	35.2	27.3	27.0	26.9
L8	43.4 44.3	39.3	71.0	43.8	41.0	36.6	35.2	33.5	33.1	32.3
L9	43.7 45.4	40.3	81.8	45.7	42.6	36.3	34.7	32.8	32.6	31.7

Ldn = day-night average noise level, a 24-hour average with annoyance penalty of 10 dBA for nighttime noise. Ldn values for each day are shown.

Leq = equivalent continuous noise level for the entire data set

Lmax = maximum sound level (fast response setting)

L05 = sound level exceeded 5% of the time

L10 = sound level exceeded 10% of the time

L33 = sound level exceeded 33% of the time

L50 = sound level exceeded 50% of the time

L90 = sound level exceeded 90% of the time

L95 = sound level exceeded 95% of the time

Lmin = minimum sound level (fast response setting)

NA = not applicable; monitoring duration not long enough to calculate Ldn

Figures 2 through 51 at the end of the text illustrate the noise levels monitored over the Memorial Day weekend and at the additional sites monitored during the weekdays.

NOISE LEVELS AT AN ACTIVE COPPER MINE

In addition to noise monitoring in the vicinity of the proposed Rosemont Copper mining operation, one day of noise monitoring was conducted at an active open pit copper mine. Three monitoring locations were planned at different distances from an active pit. An instrument problem prevented collection of noise data on a ridge overlooking the active pit area, but data was collected for more than 24 hours at two other locations, one along a haul road on a slope below the lip of the pit and another near the boundary of the mining operation.

Terrain shielding by the pit walls was obvious at all locations and effectively reduced both heavy equipment and blasting noise. One large blast was reported to have occurred during the noise monitoring, but it was not identifiable in the time history data from the noise monitoring locations. This was most likely due to the terrain shielding, which was reported by the mine operators. Most brief noise peaks in the monitoring data represented vehicle traffic on nearby haul roads.

Figures 52 through 56 at the end of the text illustrate the noise monitoring data collected on-site and at the site boundary of the active mine.

COMPARISON NOISE LEVELS AT A SUBURBAN TUCSON AREA BACKYARD

One day of noise monitoring also was conducted in a Tucson area suburban backyard to provide a comparison of noise levels from a more urbanized location. Figures 57 through 58 at the end of the text illustrate the results of the monitoring from that location.

DATA EVALUATION

The monitoring data collected from the proposed mining operations area demonstrate the low background noise conditions expected for areas with limited development and few major roadways. Noise levels were highest close to Highway 83. Traffic noise levels from Highway 83 became a low background noise component at distances of more than a few thousand feet from the highway. Noise levels tended to be somewhat higher on ridgelines than in valley areas, as would generally be expected due to terrain shielding by ridges and mountains. This is evident from the lower overall noise readings and Leqs from L3 and L4, which were located in a canyon below the ridgeline, compared to the overall noise readings and Leqs from L1 and L2, which were located on ridgelines in exposed areas. No distinct spatial patterns in background noise levels were identifiable, other than the influence of Highway 83 at locations relatively close to the roadway. The influence of the traffic noise from Highway 83 is clearly evident on the results from monitoring locations L5, L6, and L7, which exhibited reduced noise levels during off hours of travel from approximately 9:00 PM to 6:00 AM.

The noise monitoring data from the Memorial Day weekend in the proposed mining operations area generally showed higher noise levels on Saturday than on Sunday or Monday, at least partially due to somewhat higher wind conditions on Saturday.

The noise monitoring data from the active copper mine were similar to the background noise levels measured at the proposed Rosemont Copper mining operations area. Even though the active mine had vehicle traffic and other noise, L11, the monitoring location at the active mine, had an overall Leq for the 15-minute intervals of 38.8 dBA. The monitoring locations near the proposed Rosemont Copper mine, L8 and L9, had overall Leqs for the 15-minute intervals of 39.3 and 40.3 dBA, which are similar to the active mine level. These lower levels could be attributed to the terrain shielding from the ridges and mountains present on and around the active mine and at the proposed Rosemont Copper mining area.

As would be expected in a populated area, noise level data from the suburban backyard were somewhat higher than noise levels measured in the proposed Rosemont Copper mining operations in the rural area. Overall Ldn levels in the suburban backyard were similar to those measured in the southern part of the proposed Rosemont Copper mining area on the Saturday of the Memorial Day weekend.

FIGURES

**15-MINUTE INTERVAL NOISE DATA, ROSEMONT COPPER BASELINE NOISE SURVEY
SITE L1, SATURDAY - MONDAY, MAY 24 - 26, 2008**

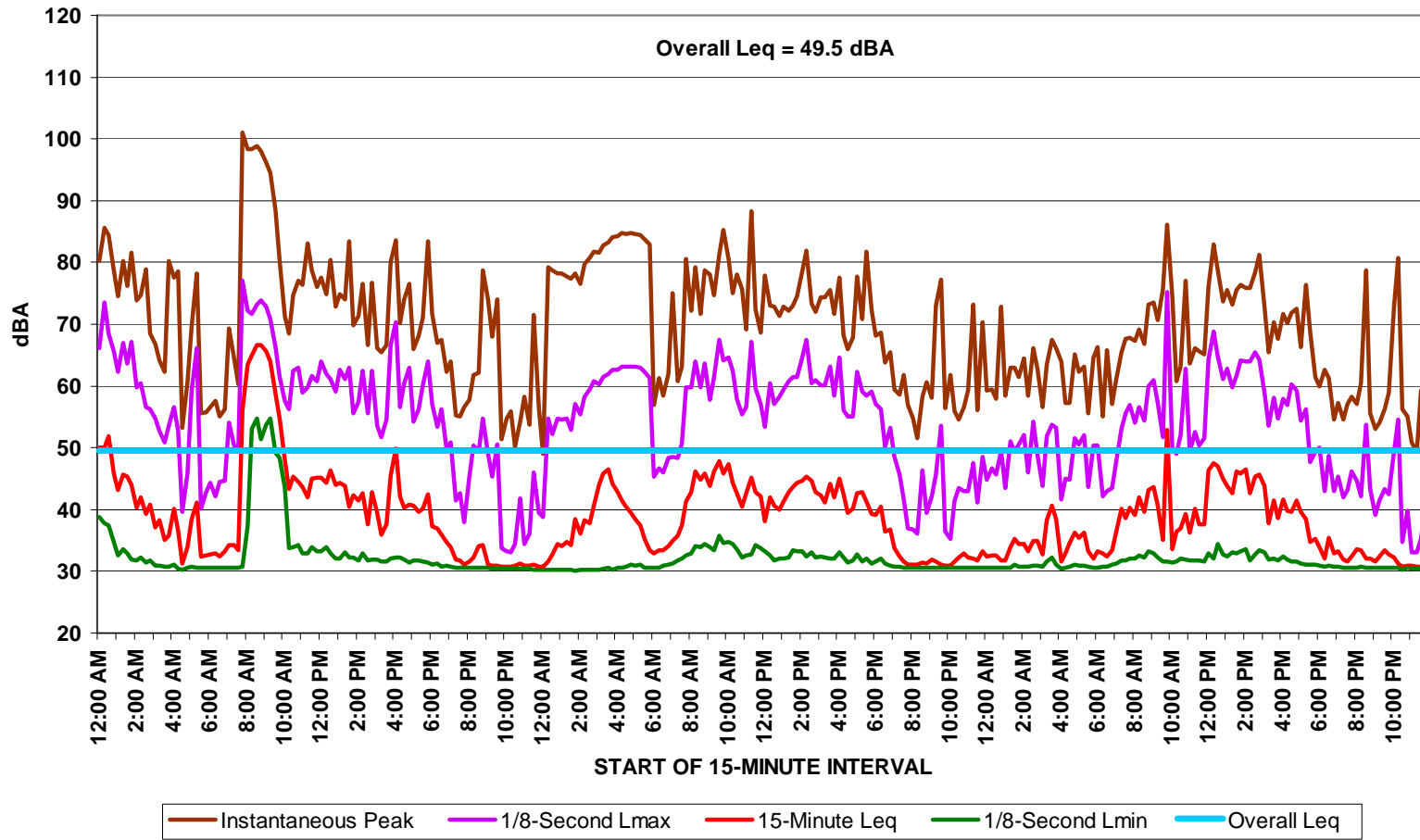


Figure 2. 15-Minute Interval Noise Data, Rosemont Copper Baseline Noise Survey, Site L1, May 24 – 26, 2008

**15-MINUTE INTERVAL NOISE DATA, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L1 ON SATURDAY, MAY 24, 2008**

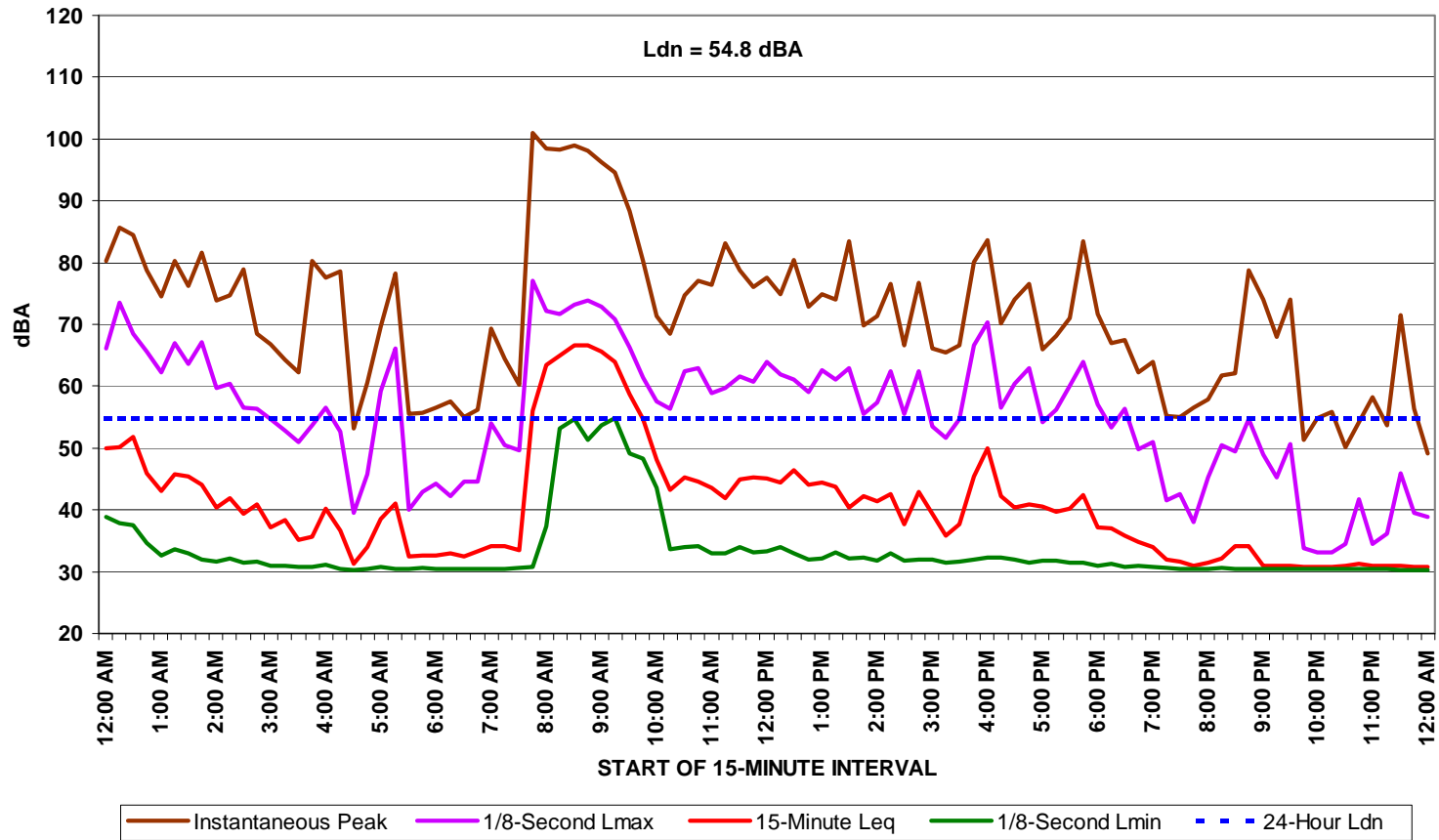


Figure 3. 15-Minute Interval Noise Data, Rosemont Copper Background Noise Study, Site L1, May 24, 2008

**HOURLY NOISE LEVELS, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L1 ON SATURDAY, MAY 24, 2008**

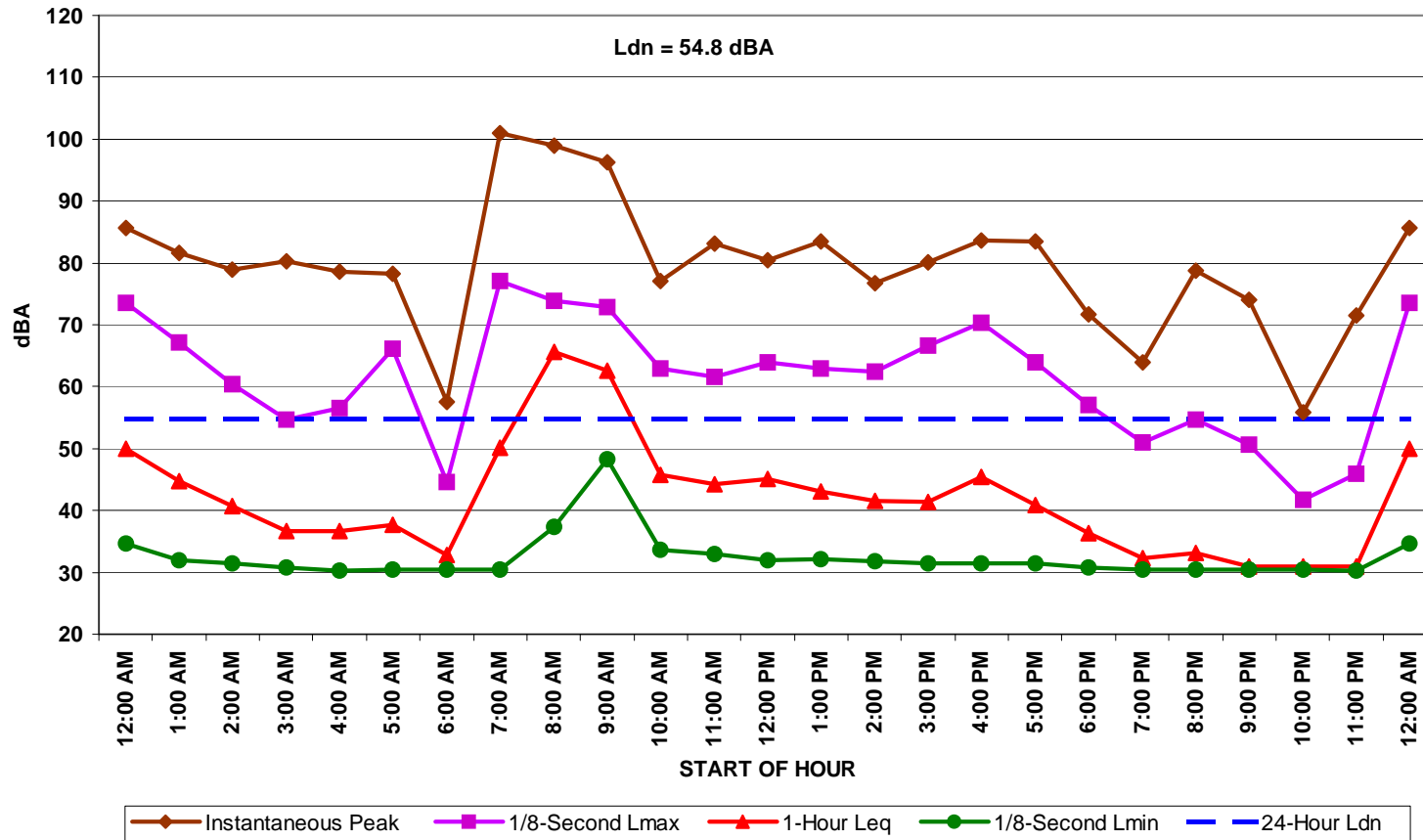


Figure 4. Hourly Noise Levels, Site L1, May 24, 2008

**15-MINUTE INTERVAL NOISE DATA, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L1 ON SUNDAY, MAY 25, 2008**

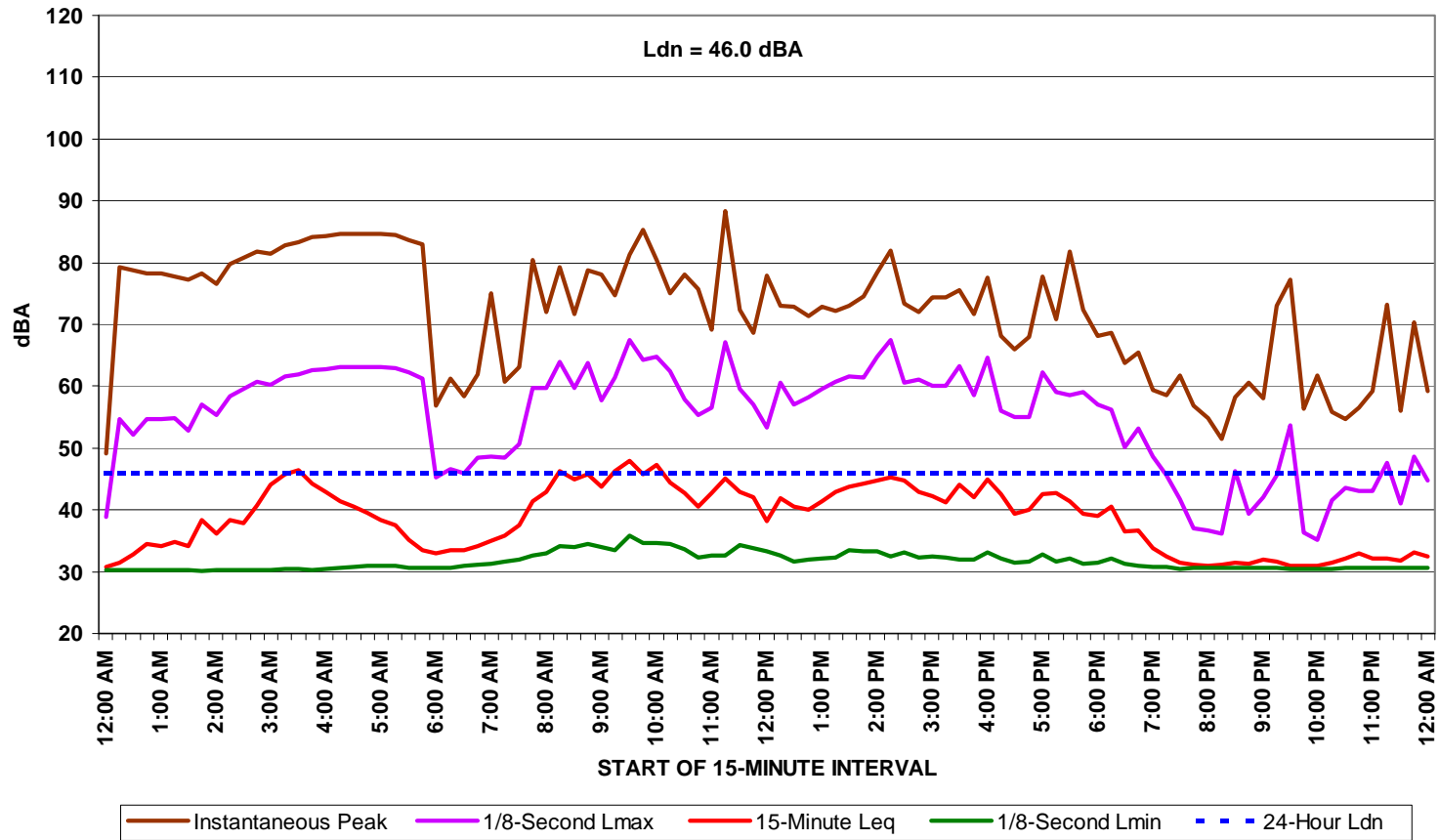


Figure 5. 15-Minute Interval Noise Data, Site L1, May 25, 2008

**HOURLY NOISE LEVELS, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L1 ON SUNDAY, MAY 25, 2008**

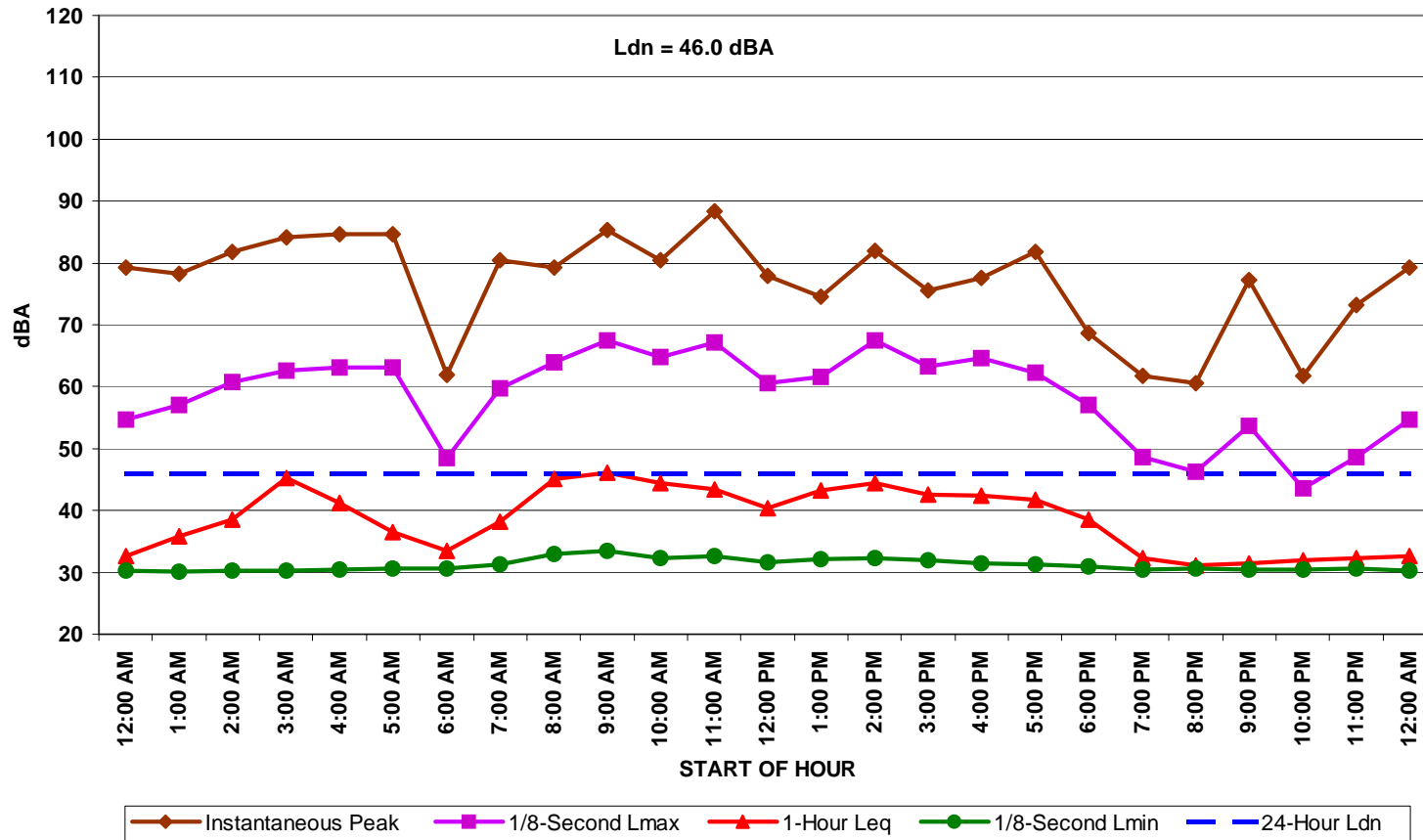


Figure 6. Hourly Noise Levels, Site L1, May 25, 2008

**15-MINUTE INTERVAL NOISE DATA, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L1 ON MONDAY, MAY 26, 2008**

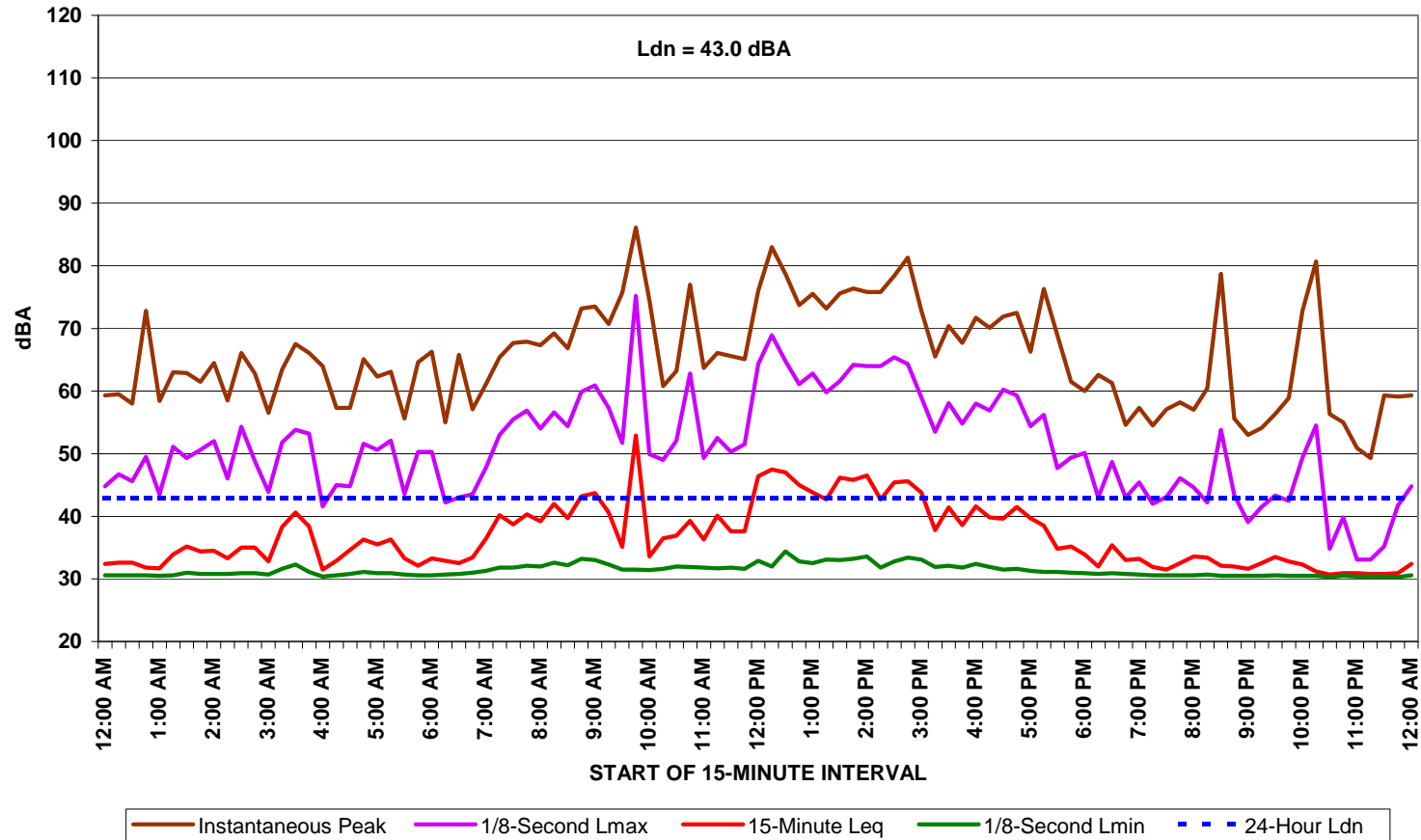


Figure 7. 15-Minute Interval Noise Data, Site L1, May 26, 2008

**HOURLY NOISE LEVELS, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L1 ON MONDAY, MAY 26, 2008**

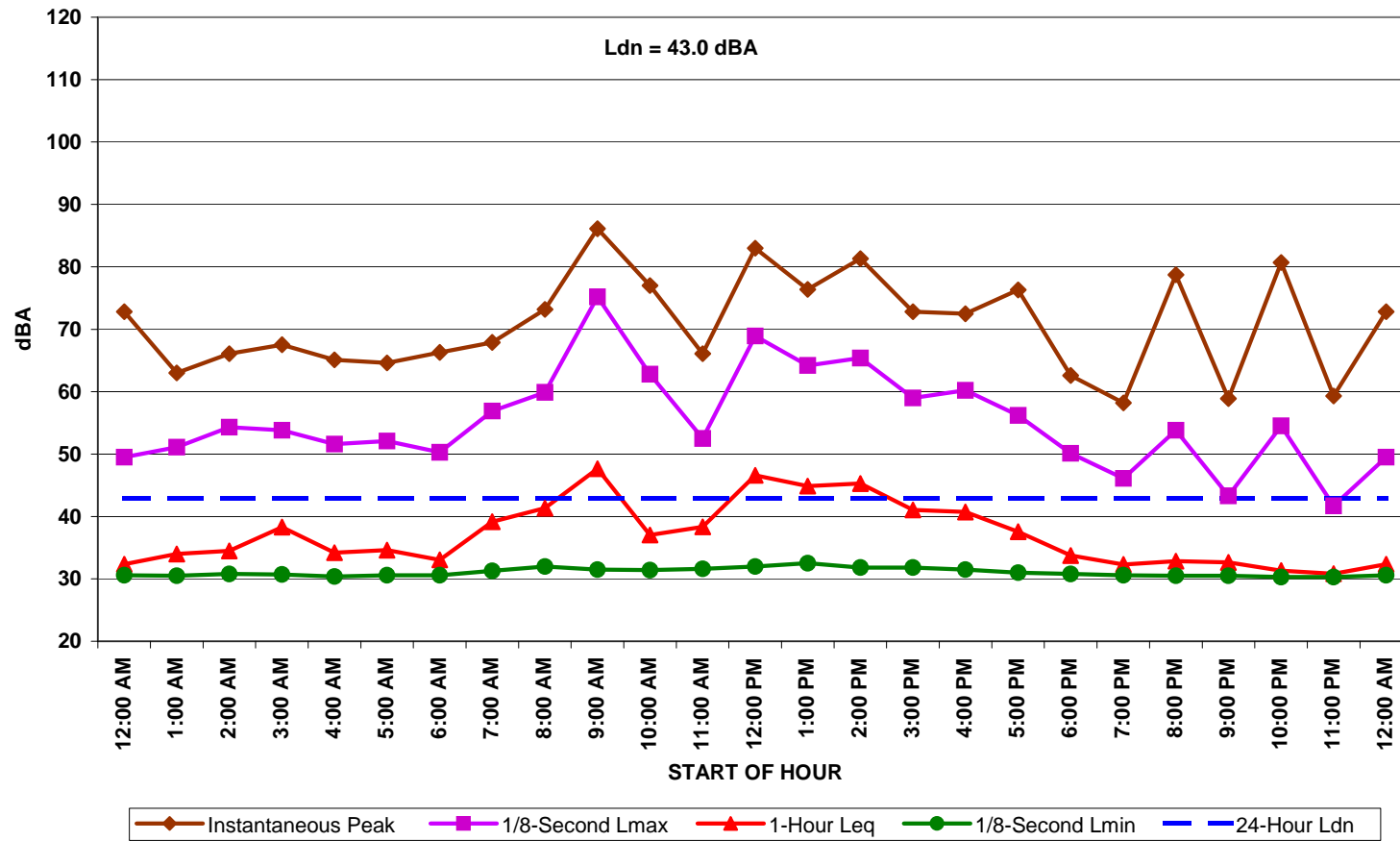


Figure 8. Hourly Noise Levels, Site L1, May 26, 2008

**15-MINUTE INTERVAL NOISE DATA, ROSEMONT COPPER BASELINE NOISE SURVEY
SITE L2, SATURDAY - MONDAY, MAY 24 - 26, 2008**

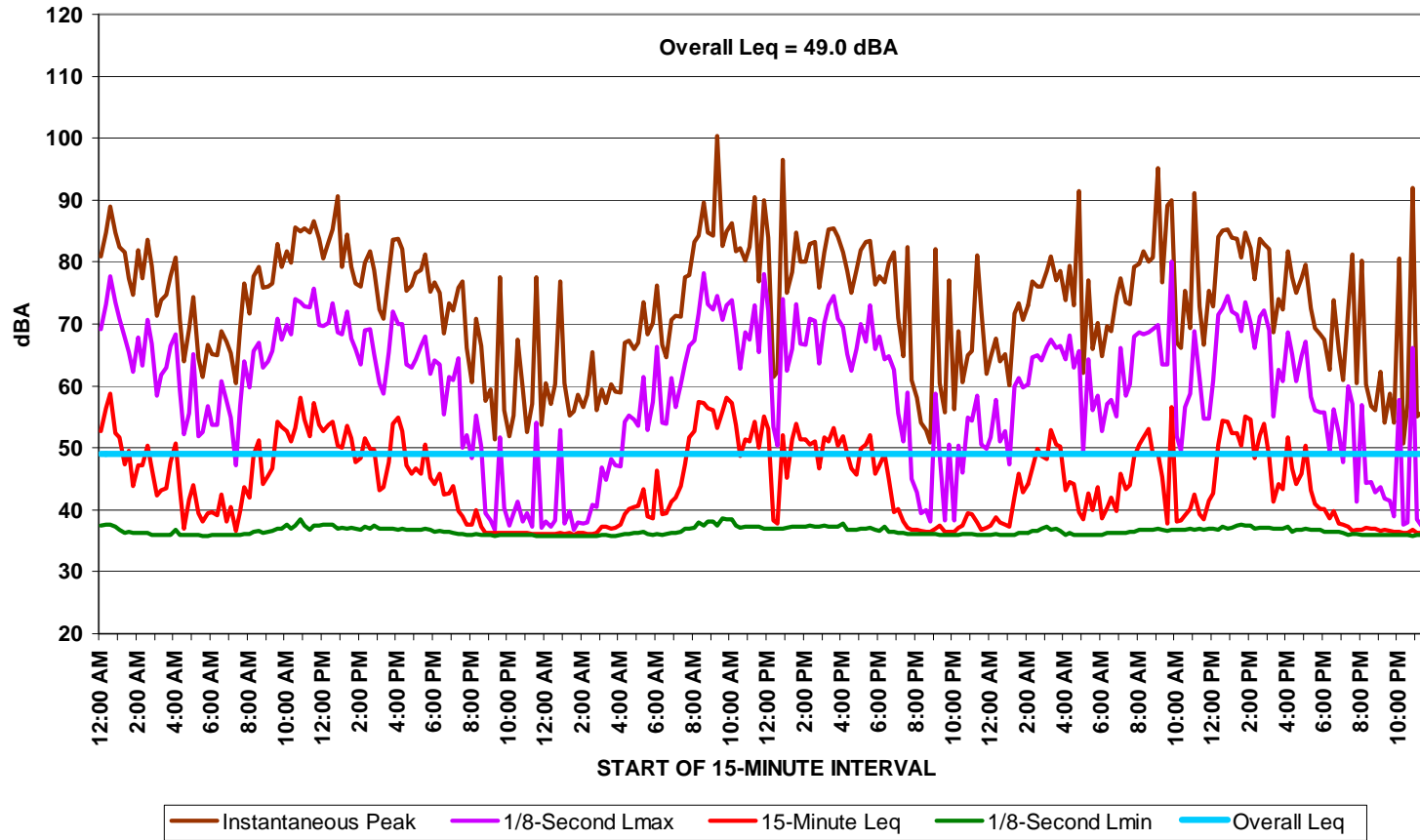


Figure 9. 15-Minute Interval Noise Data, Rosemont Copper Baseline Noise Survey, Site L2, May 24 – 26, 2008

**15-MINUTE INTERVAL NOISE DATA, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L2 ON SATURDAY, MAY 24, 2008**

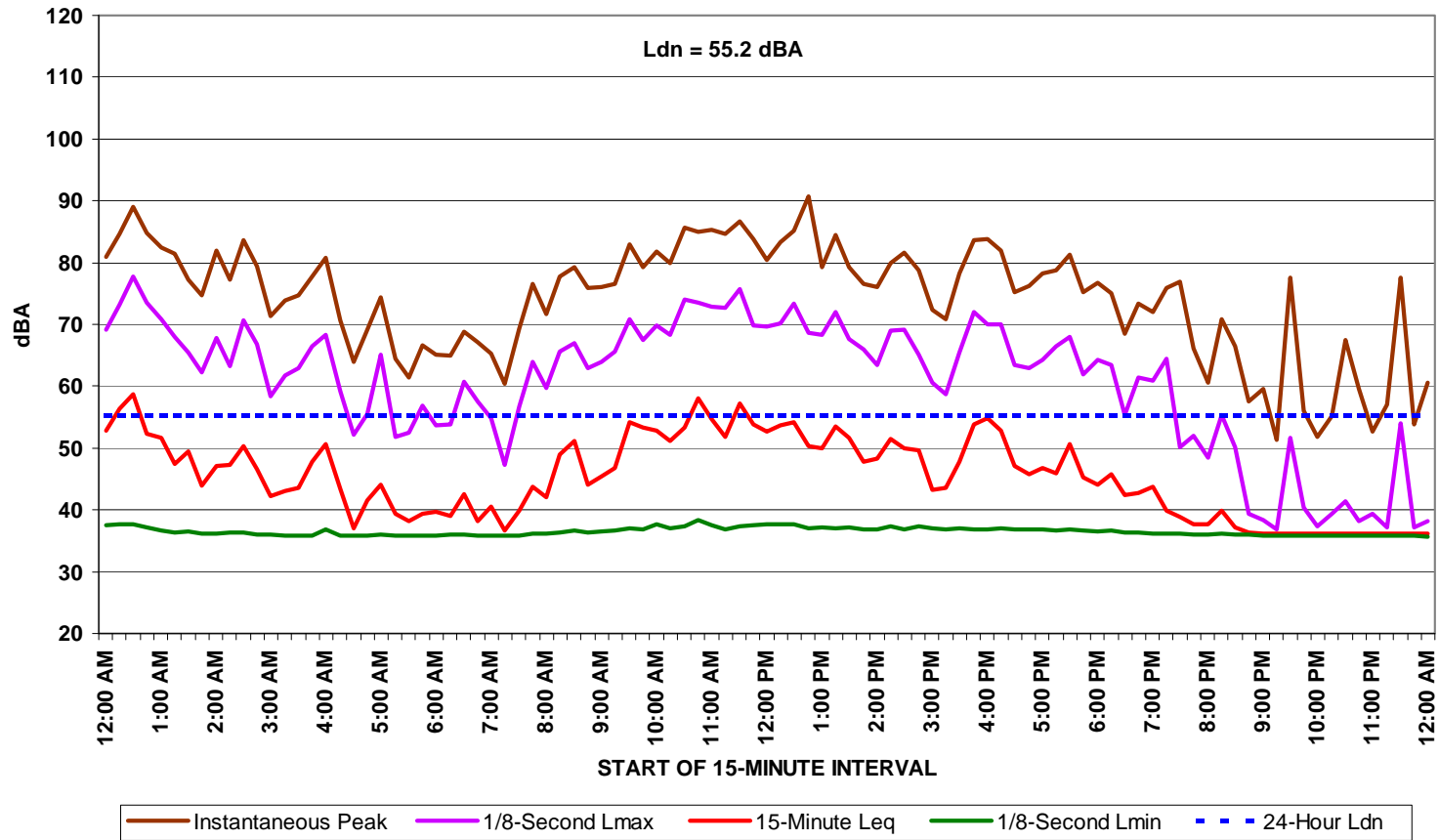


Figure 10. 15-Minute Interval Noise Data, Rosemont Copper Background Noise Study, Site L2, May 24, 2008

**HOURLY NOISE LEVELS, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L2 ON SATURDAY, MAY 24, 2008**

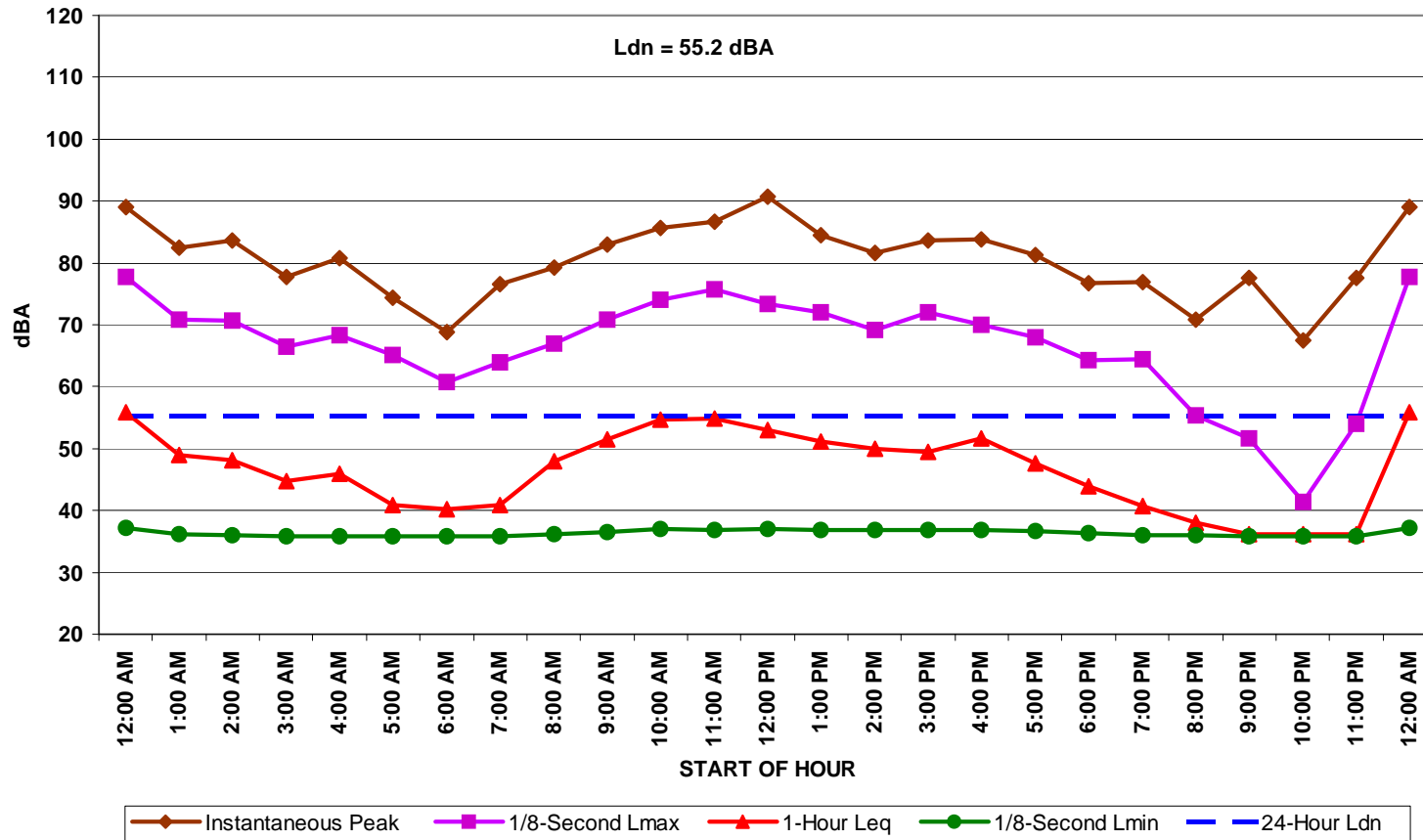


Figure 11. Hourly Noise Levels, Site L2, May 24, 2008

15-MINUTE INTERVAL NOISE DATA, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L2 ON SUNDAY, MAY 25, 2008

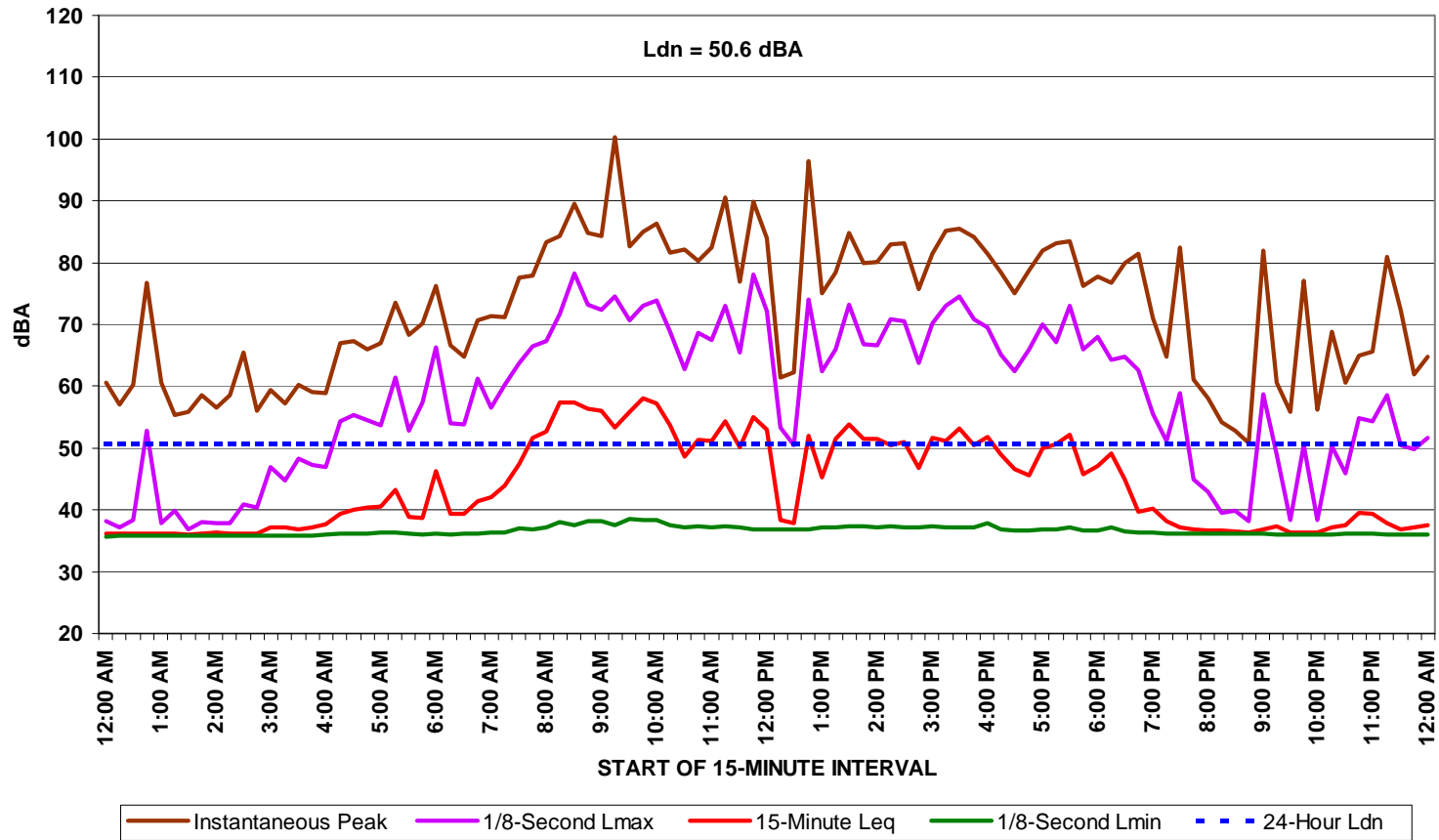


Figure 12. 15-Minute Interval Noise Data, Site L2, May 25, 2008

**HOURLY NOISE LEVELS, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L2 ON SUNDAY, MAY 25, 2008**

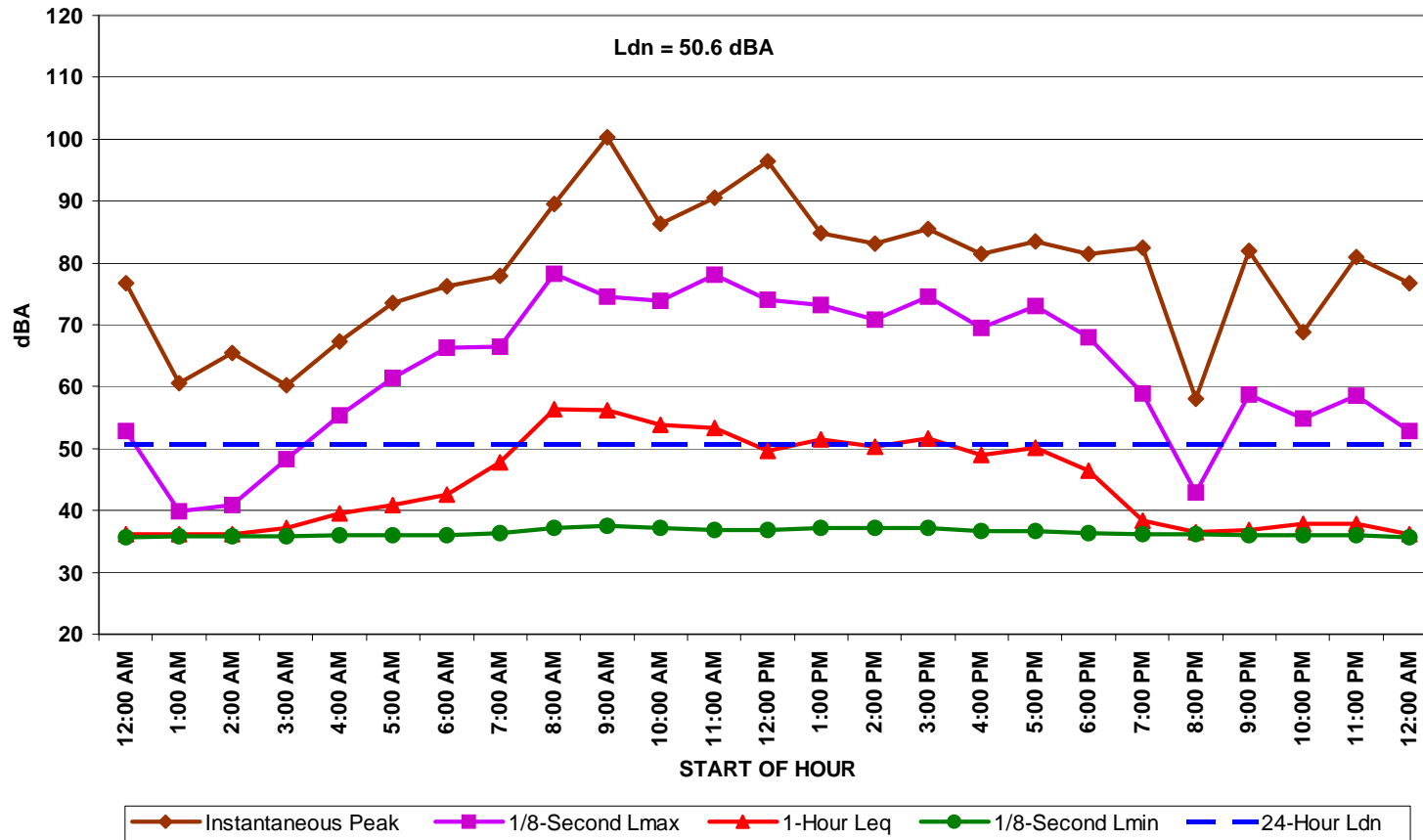


Figure 13. Hourly Noise Levels, Site L2, May 25, 2008

**15-MINUTE INTERVAL NOISE DATA, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L2 ON MONDAY, MAY 26, 2008**

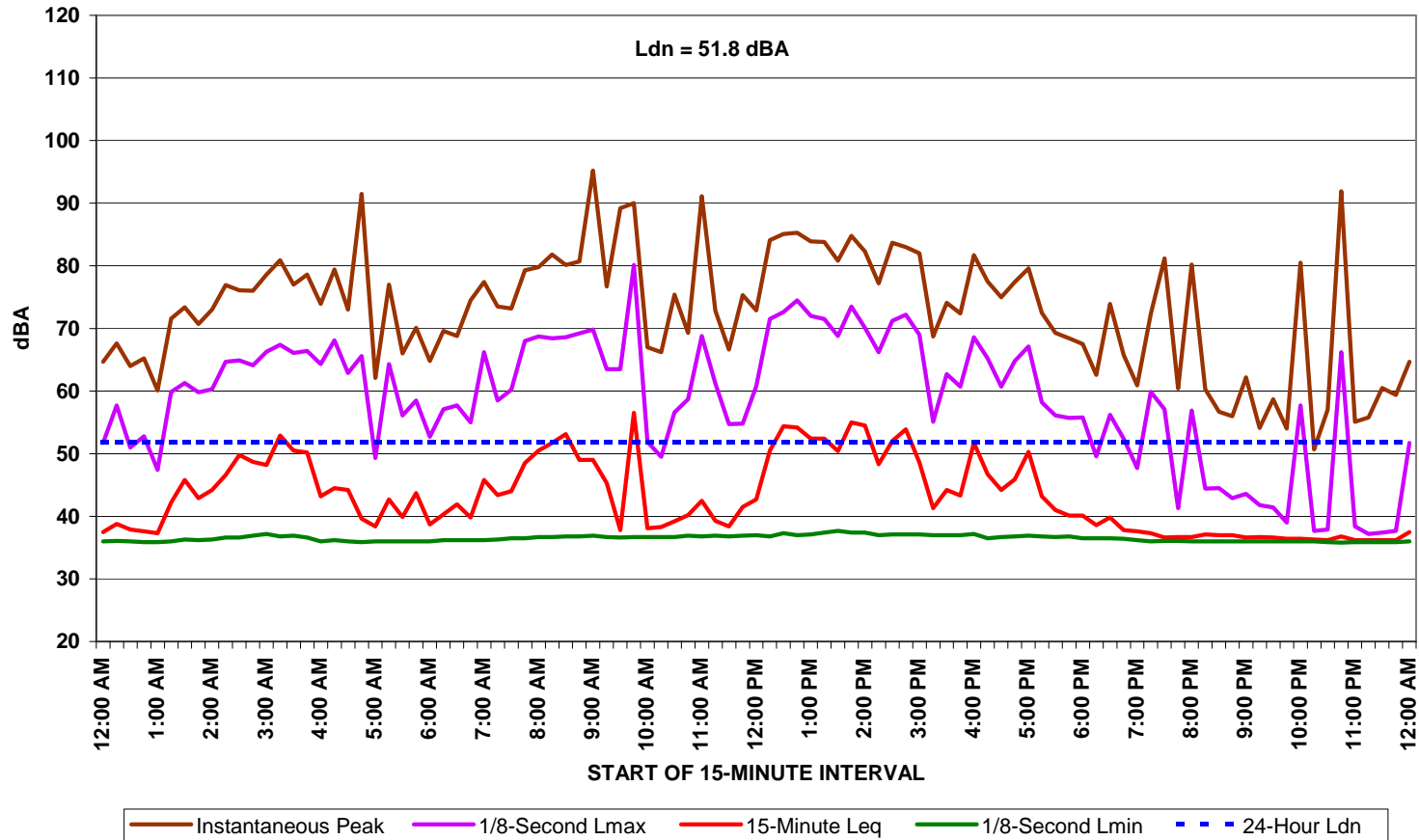


Figure 14. 15-Minute Interval Noise Data, Site L2, May 26, 2008

**HOURLY NOISE LEVELS, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L2 ON MONDAY, MAY 26, 2008**

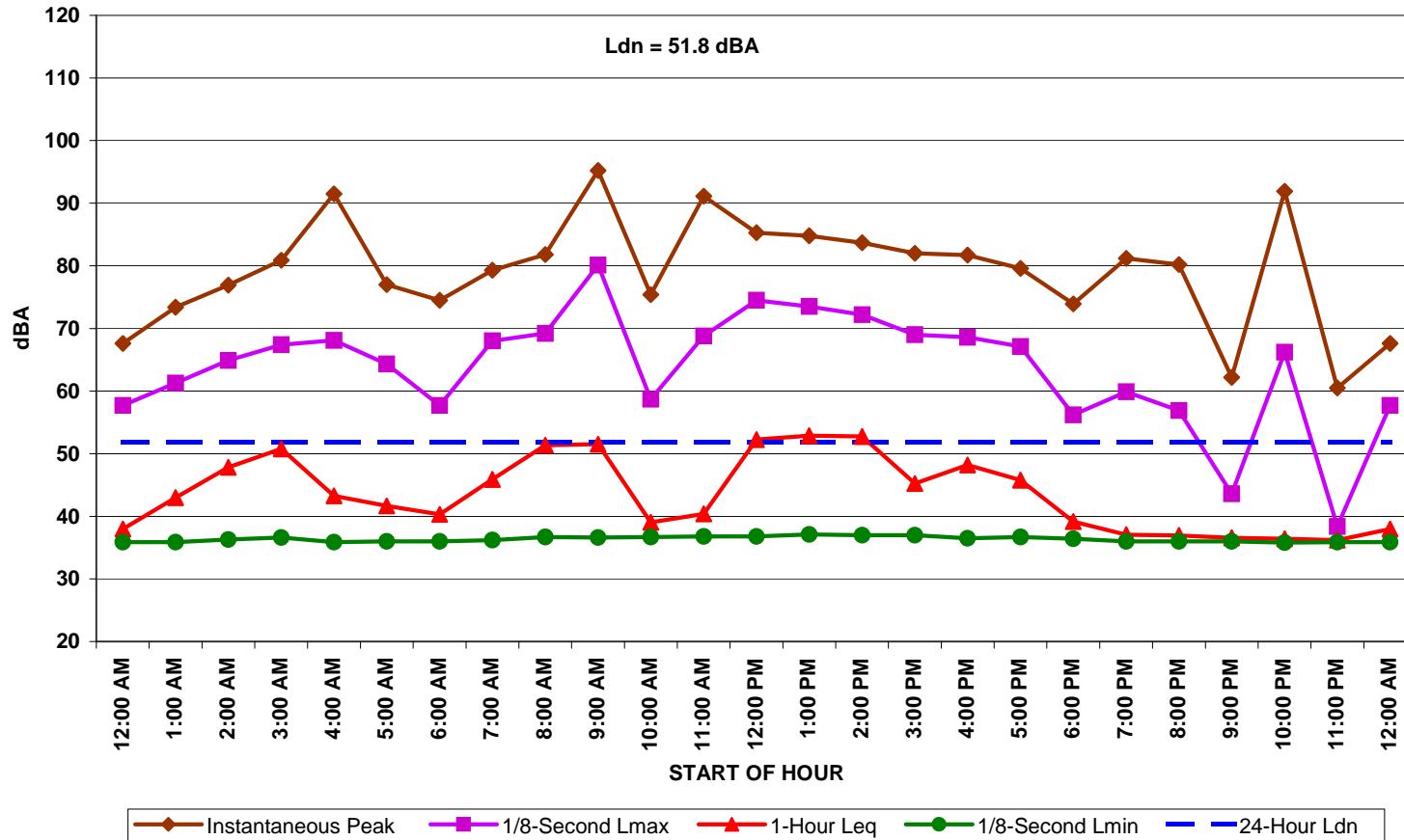


Figure 15. Hourly Noise Levels, Site L2, May 26, 2008

**15-MINUTE INTERVAL NOISE DATA, ROSEMONT COPPER BASELINE NOISE SURVEY
SITE L3, SATURDAY - MONDAY, MAY 24 - 26, 2008**

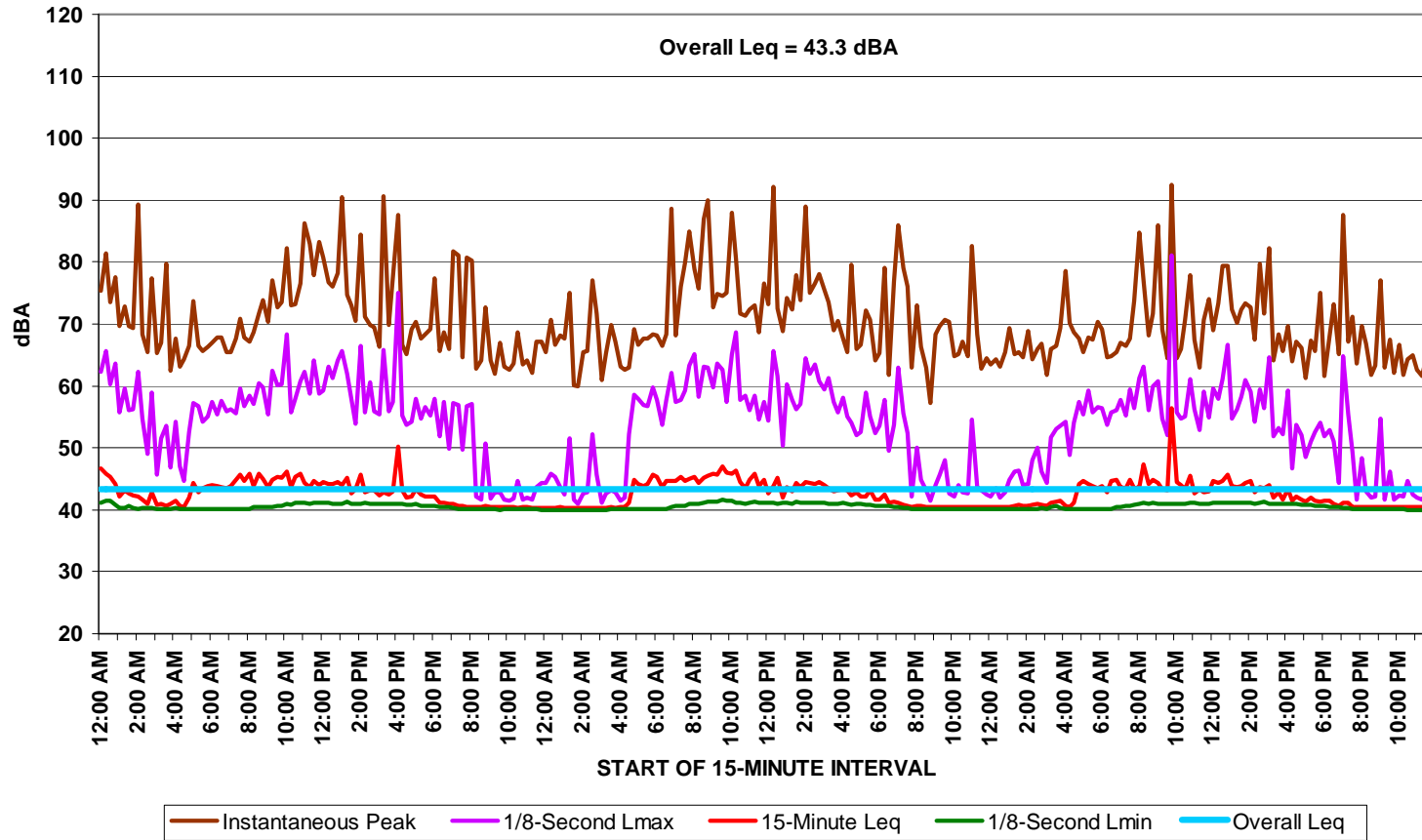


Figure 16. 15-Minute Interval Noise Data, Rosemont Copper Baseline Noise Survey, Site L3, May 24 – 26, 2008

**15-MINUTE INTERVAL NOISE DATA, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L3 ON SATURDAY, MAY 24, 2008**

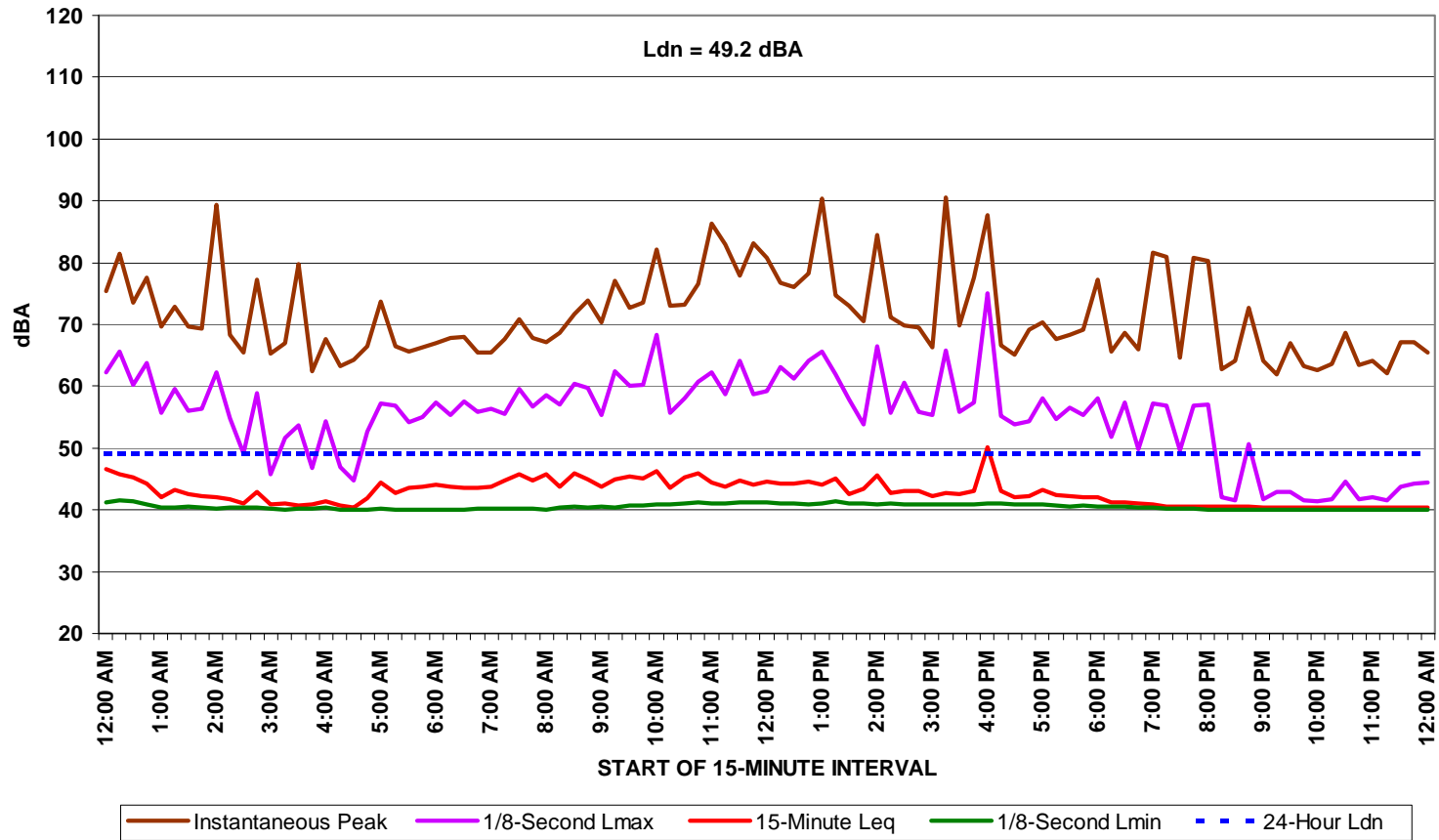


Figure 17. 15-Minute Interval Noise Data, Rosemont Copper Background Noise Study, Site L3, May 24, 2008

**15-MINUTE INTERVAL NOISE DATA, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L3 ON SATURDAY, MAY 24, 2008**

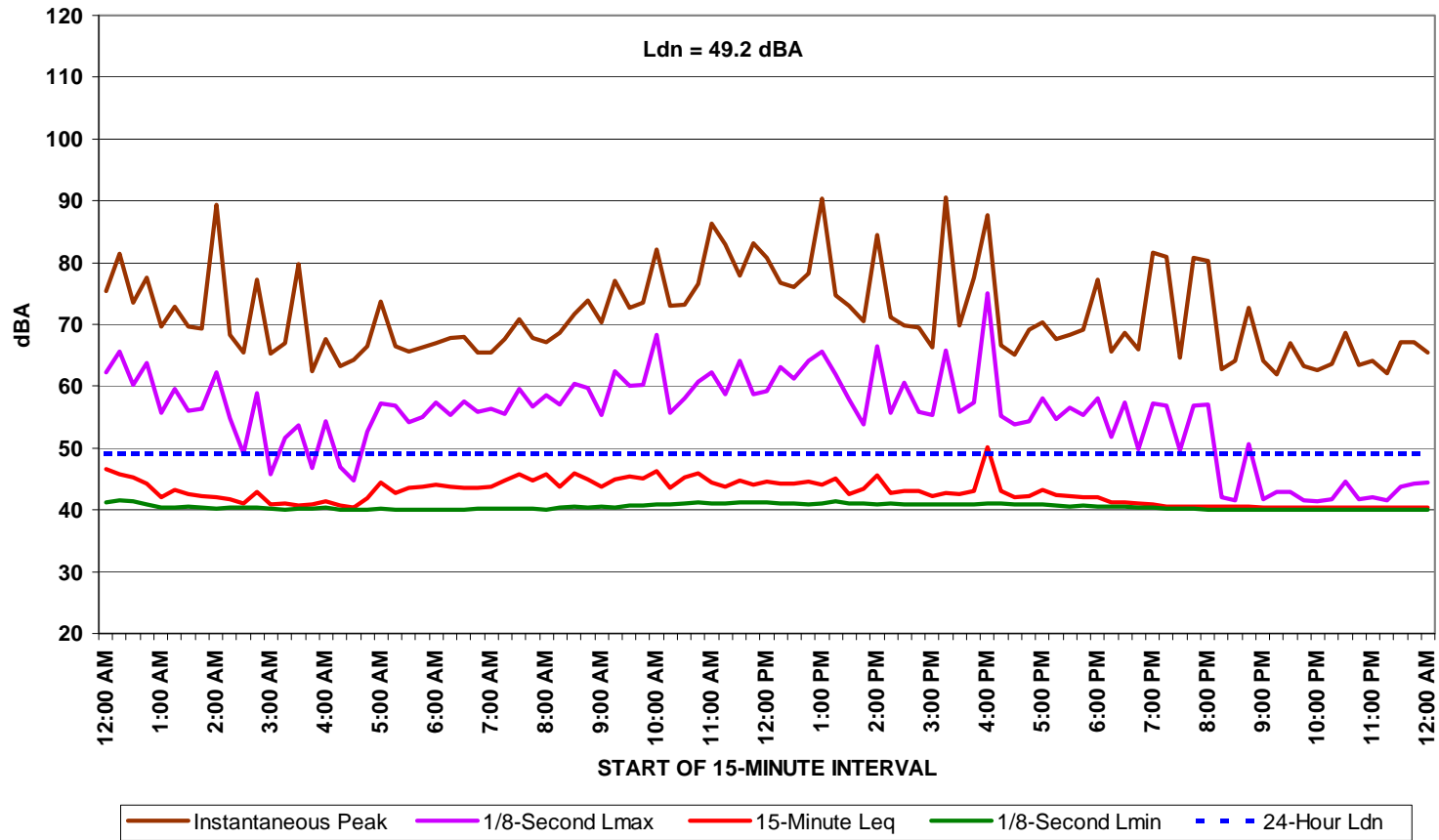


Figure 18. 15-Minute Interval Noise Data, Site L3, May 24, 2008

**HOURLY NOISE LEVELS, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L3 ON SUNDAY, MAY 25, 2008**

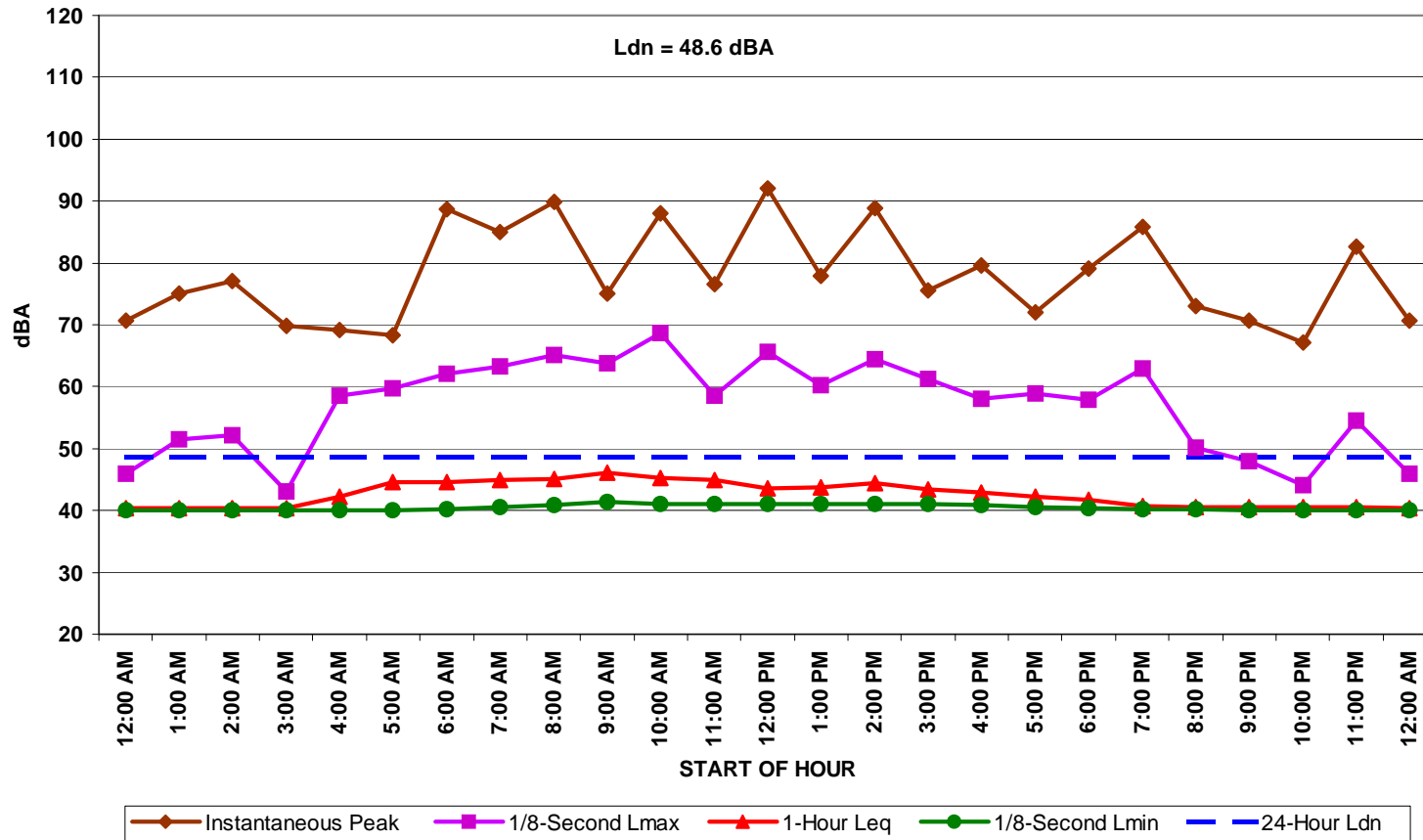


Figure 19. Hourly Noise Levels, Site L3, May 25, 2008

**15-MINUTE INTERVAL NOISE DATA, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L3 ON MONDAY, MAY 26, 2008**

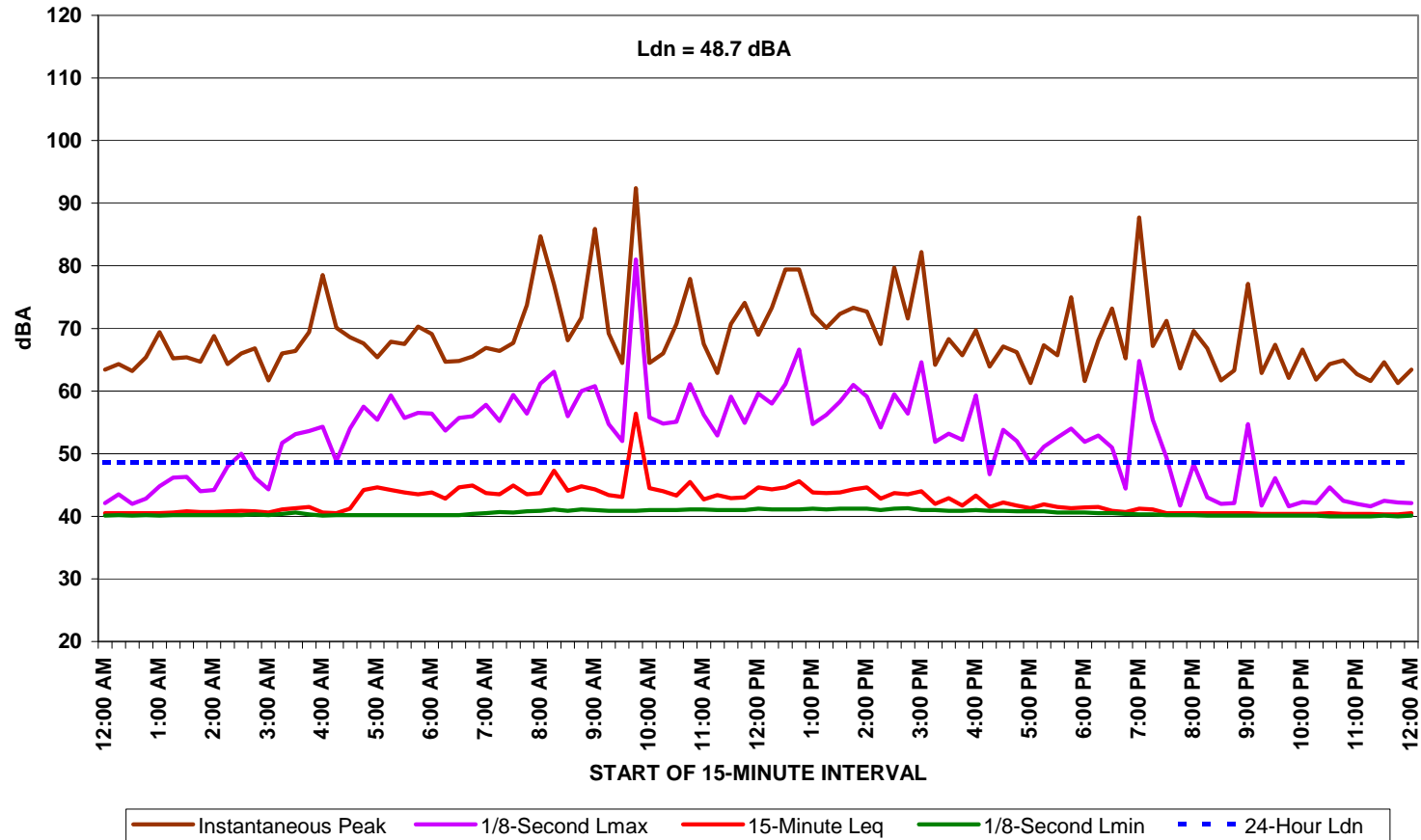


Figure 20. 15-Minute Interval Noise Data, Site L3, May 26, 2008

**HOURLY NOISE LEVELS, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L3 ON MONDAY, MAY 26, 2008**

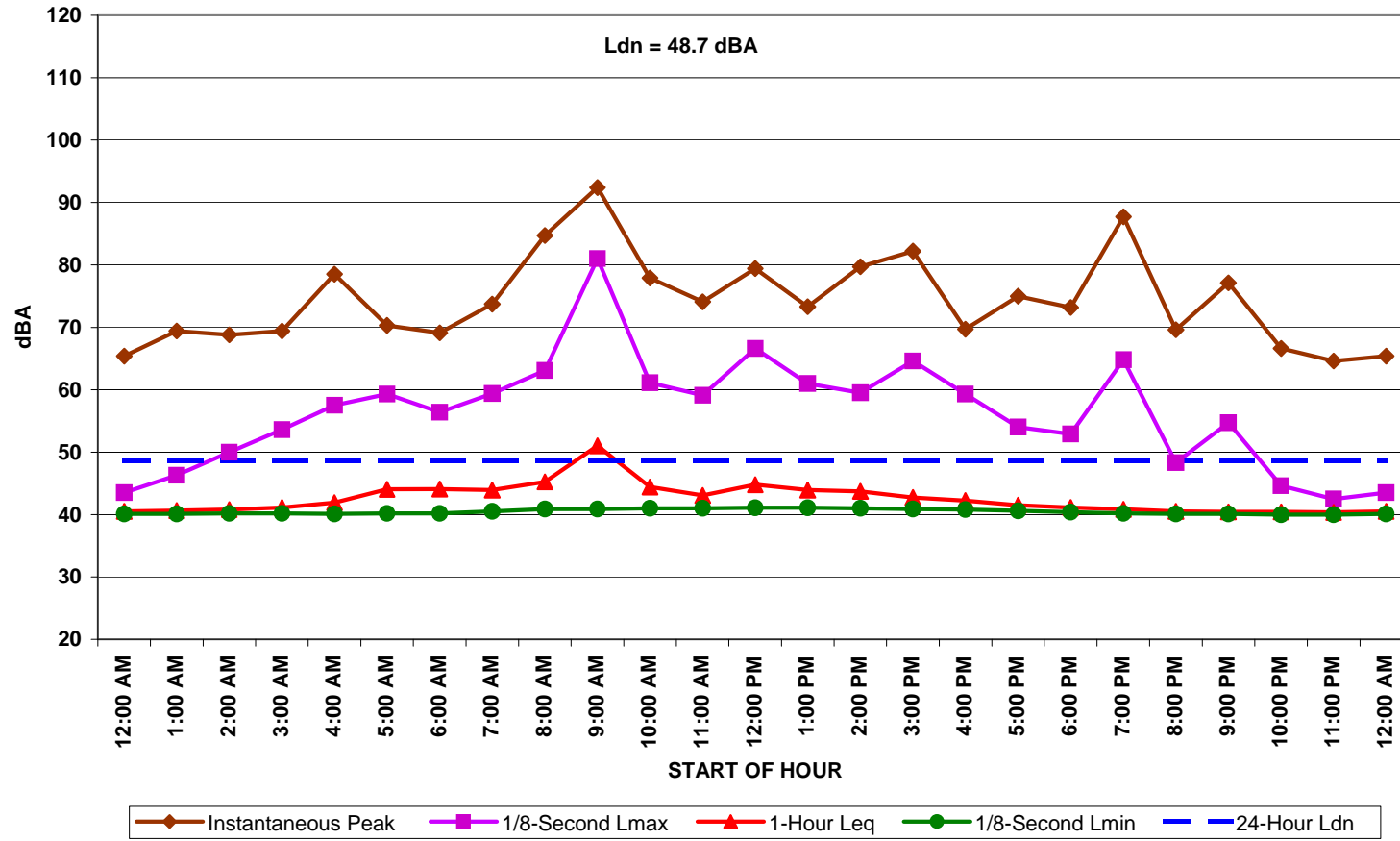


Figure 21. Hourly Noise Levels, Site L3, May 26, 2008

**15-MINUTE INTERVAL NOISE DATA, ROSEMONT COPPER BASELINE NOISE SURVEY
SITE L4, SATURDAY - MONDAY, MAY 24 - 26, 2008**

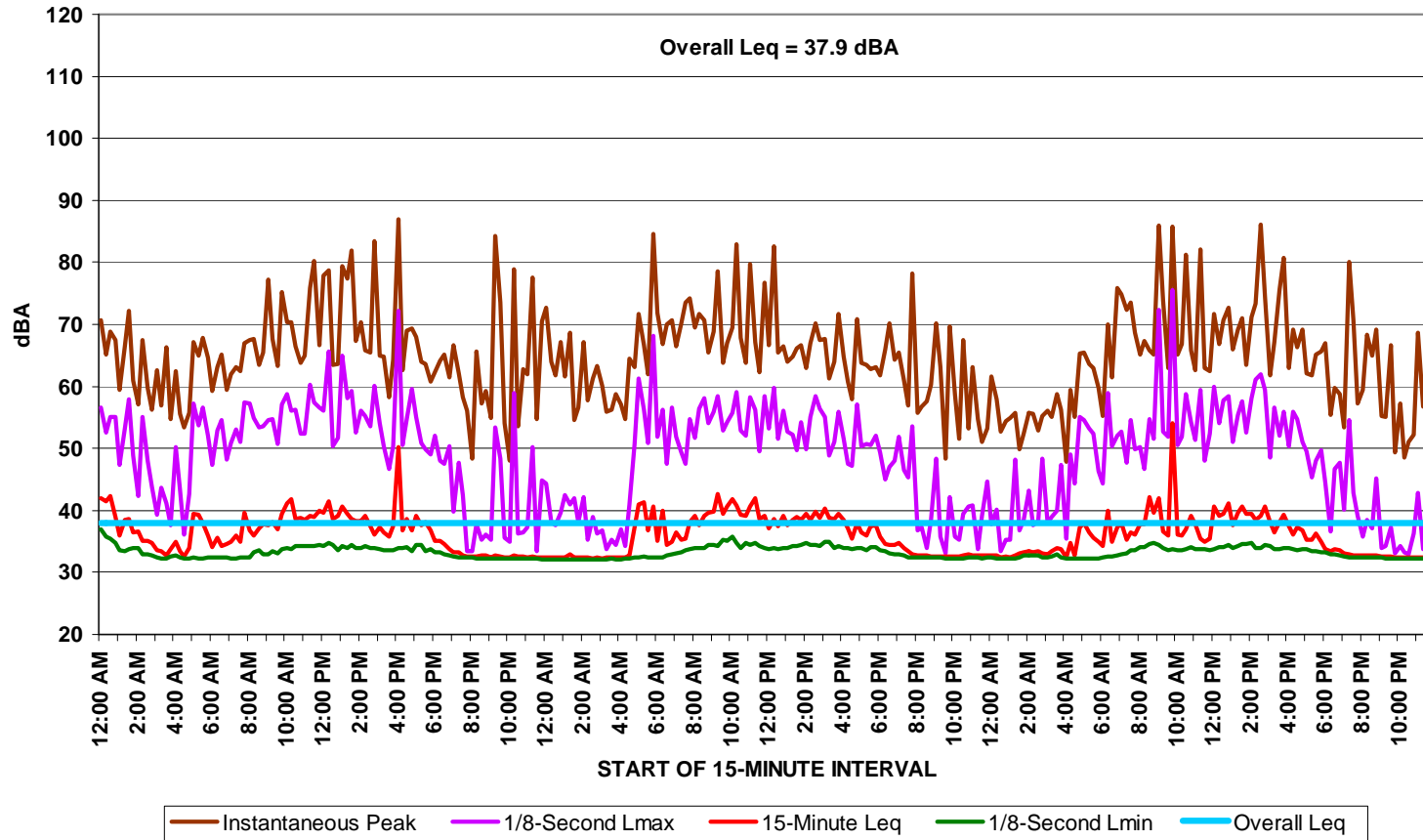


Figure 22. 15-Minute Interval Noise Data, Rosemont Copper Baseline Noise Survey, Site L4, May 24 – 26, 2008

**15-MINUTE INTERVAL NOISE DATA, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L4 ON SATURDAY, MAY 24, 2008**

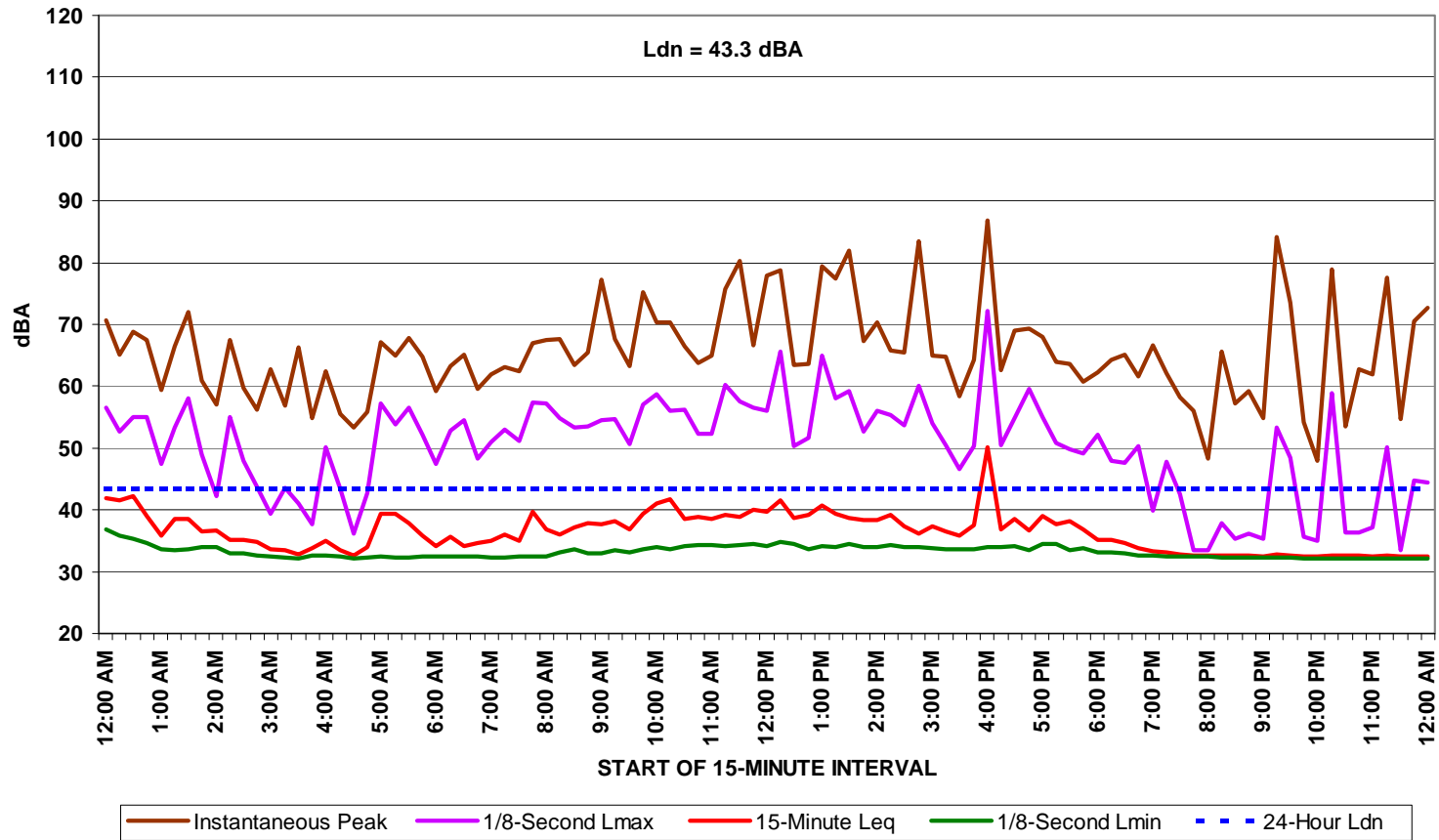


Figure 23. 15-Minute Interval Noise Data, Rosemont Copper Background Noise Study, Site L4, May 24, 2008

**HOURLY NOISE LEVELS, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L4 ON SATURDAY, MAY 24, 2008**

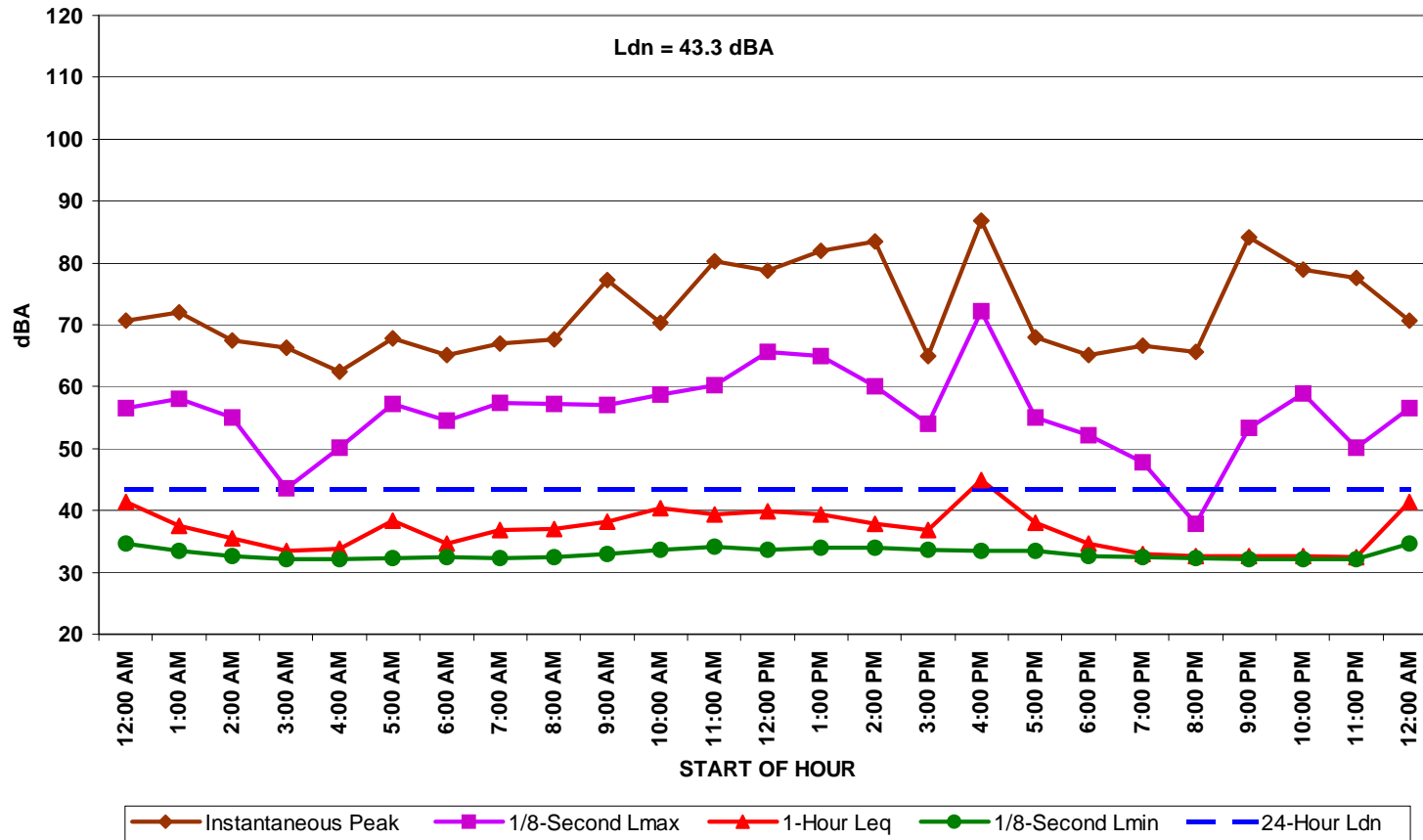


Figure 24. Hourly Noise Levels, Site L4, May 24, 2008

**15-MINUTE INTERVAL NOISE DATA, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L4 ON SUNDAY, MAY 25, 2008**

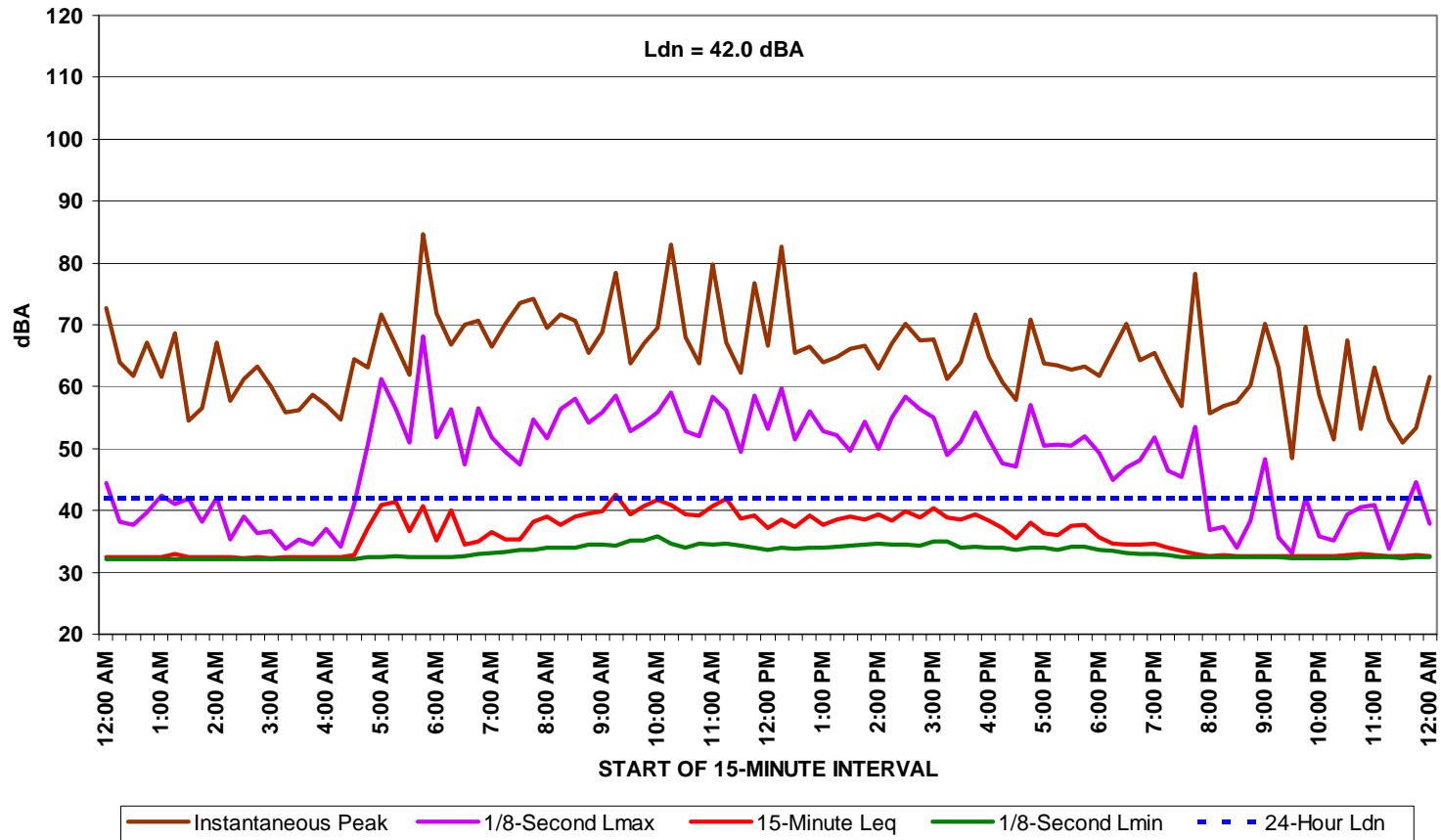


Figure 25. 15-Minute Interval Noise Data, Site L4, May 25, 2008

**HOURLY NOISE LEVELS, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L4 ON SUNDAY, MAY 25, 2008**

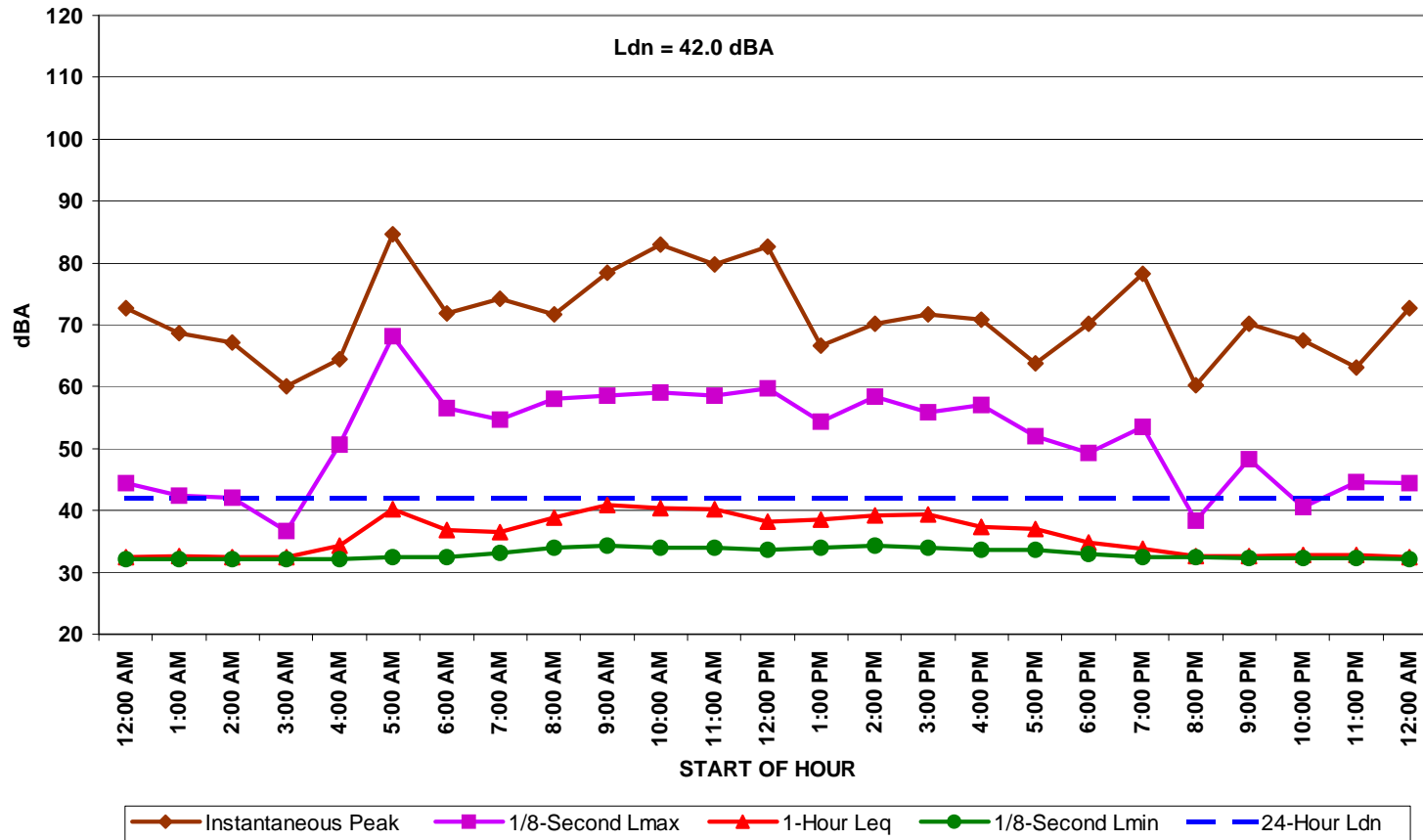


Figure 26. Hourly Noise Levels, Site L4, May 25, 2008

**15-MINUTE INTERVAL NOISE DATA, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L4 ON MONDAY, MAY 26, 2008**

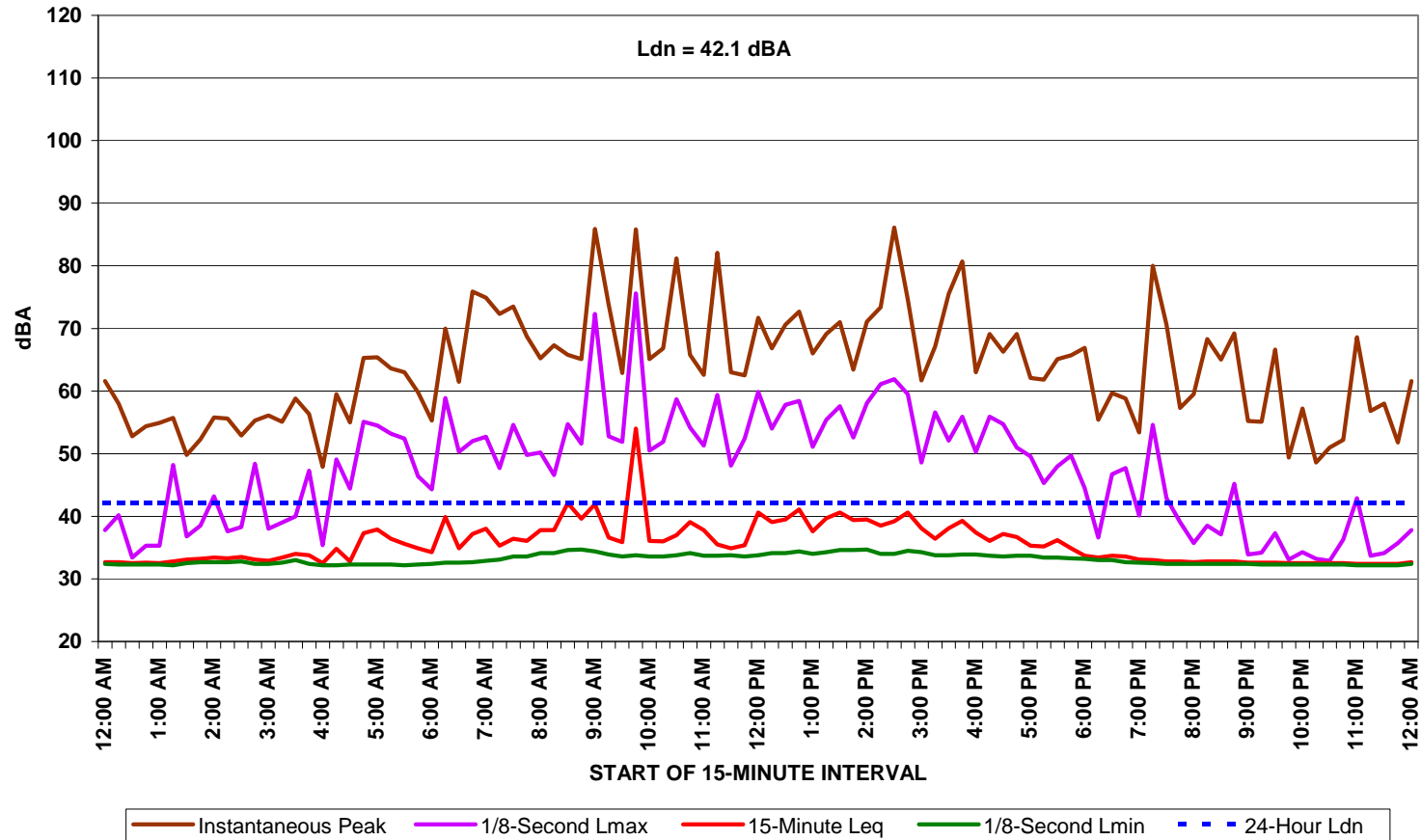


Figure 27. 15-Minute Interval Noise Data, Site L4, May 26, 2008

**HOURLY NOISE LEVELS, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L4 ON MONDAY, MAY 26, 2008**

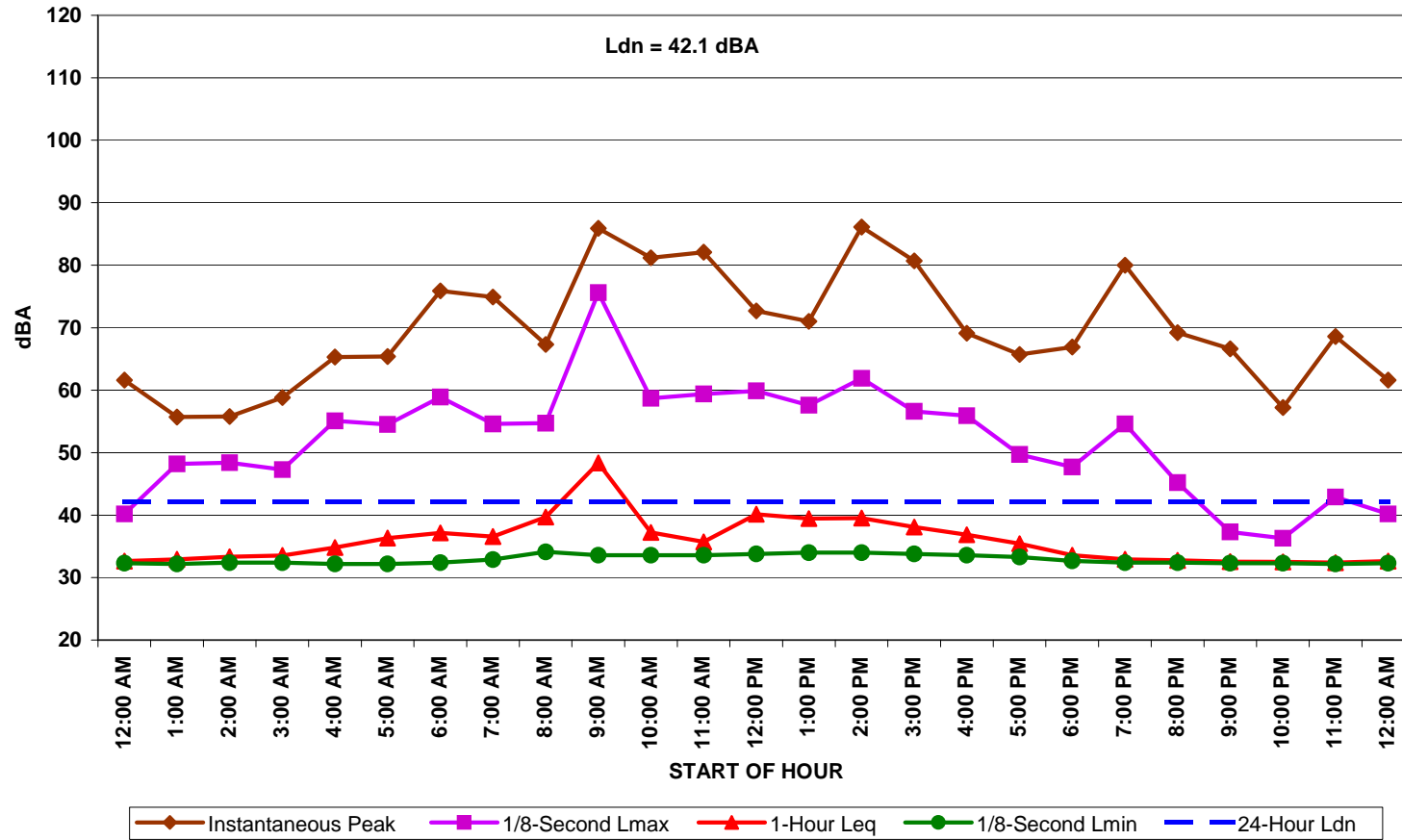


Figure 28. Hourly Noise Levels, Site L4, May 26, 2008

**15-MINUTE INTERVAL NOISE DATA, ROSEMONT COPPER BASELINE NOISE SURVEY
SITE L5, SATURDAY - MONDAY, MAY 24 - 26, 2008**

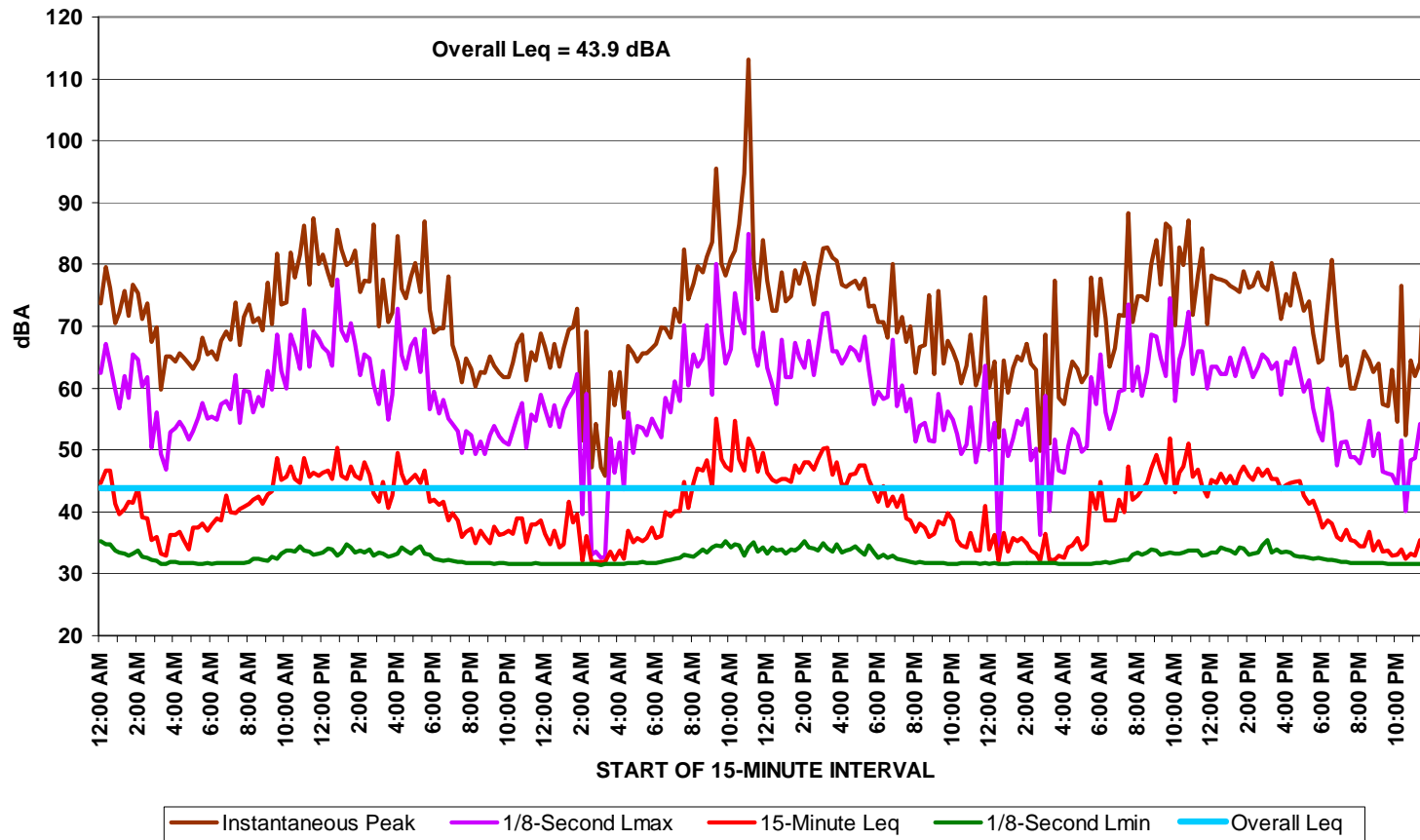


Figure 29. 15-Minute Interval Noise Data, Rosemont Copper Baseline Noise Survey, Site L5, May 24 – 26, 2008

15-MINUTE INTERVAL NOISE DATA, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L5 ON SATURDAY, MAY 24, 2008

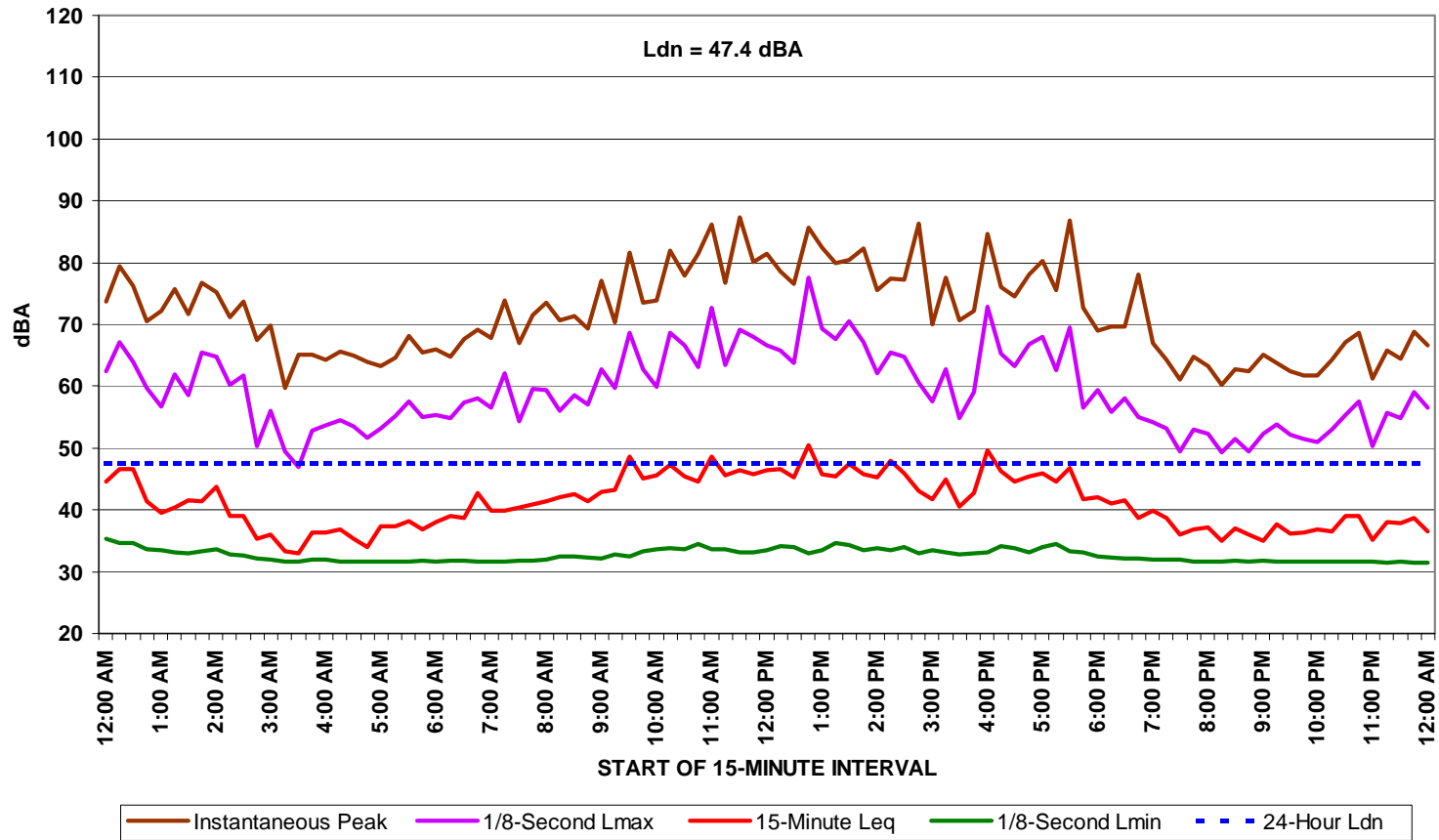


Figure 30. 15-Minute Interval Noise Data, Rosemont Copper Background Noise Study, Site L5, May 24, 2008

**15-MINUTE INTERVAL NOISE DATA, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L5 ON SUNDAY, MAY 25, 2008**

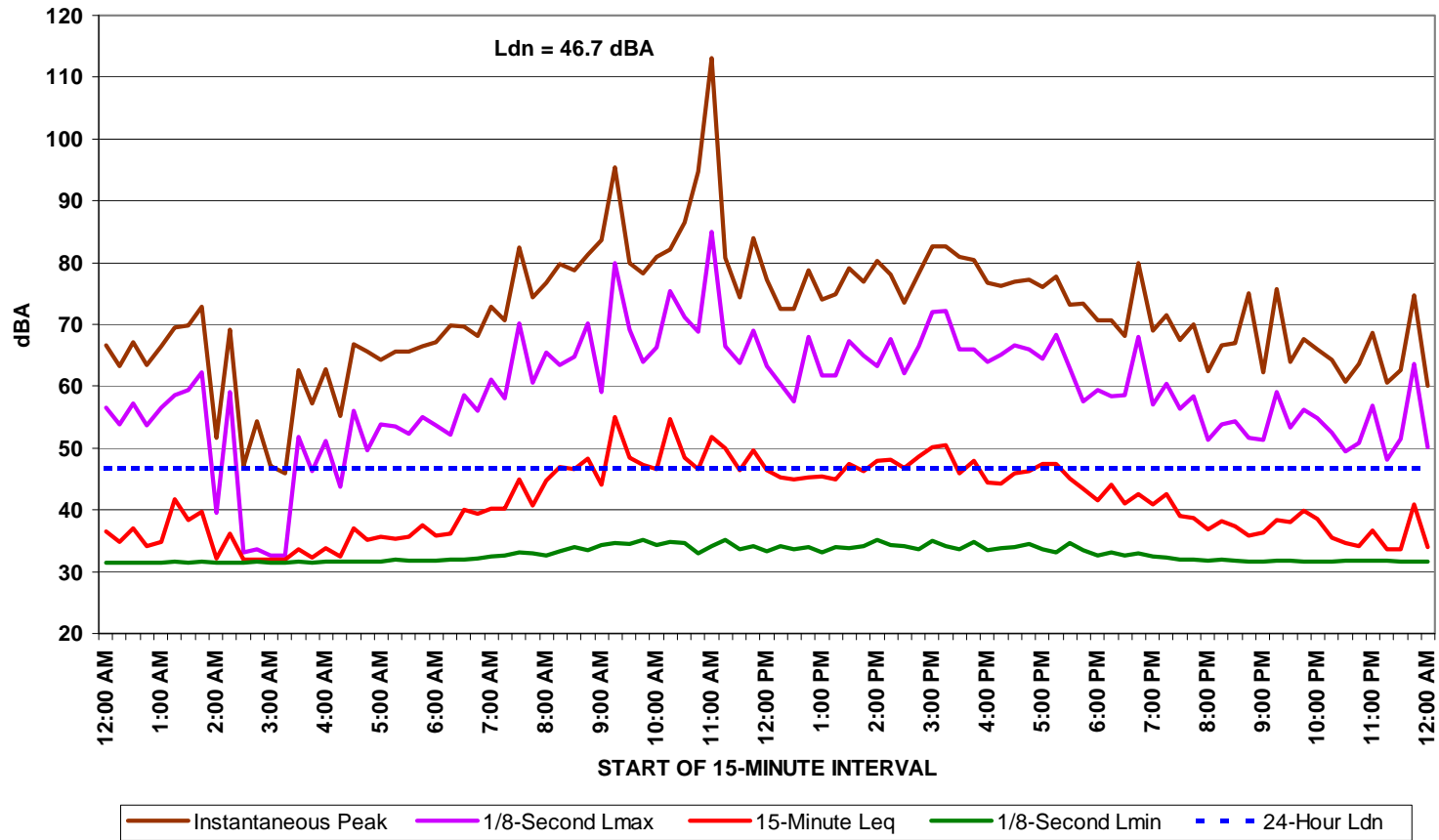


Figure 31. 15-Minute Interval Noise Data, Site L5, May 25, 2008

**HOURLY NOISE LEVELS, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L5 ON SUNDAY, MAY 25, 2008**

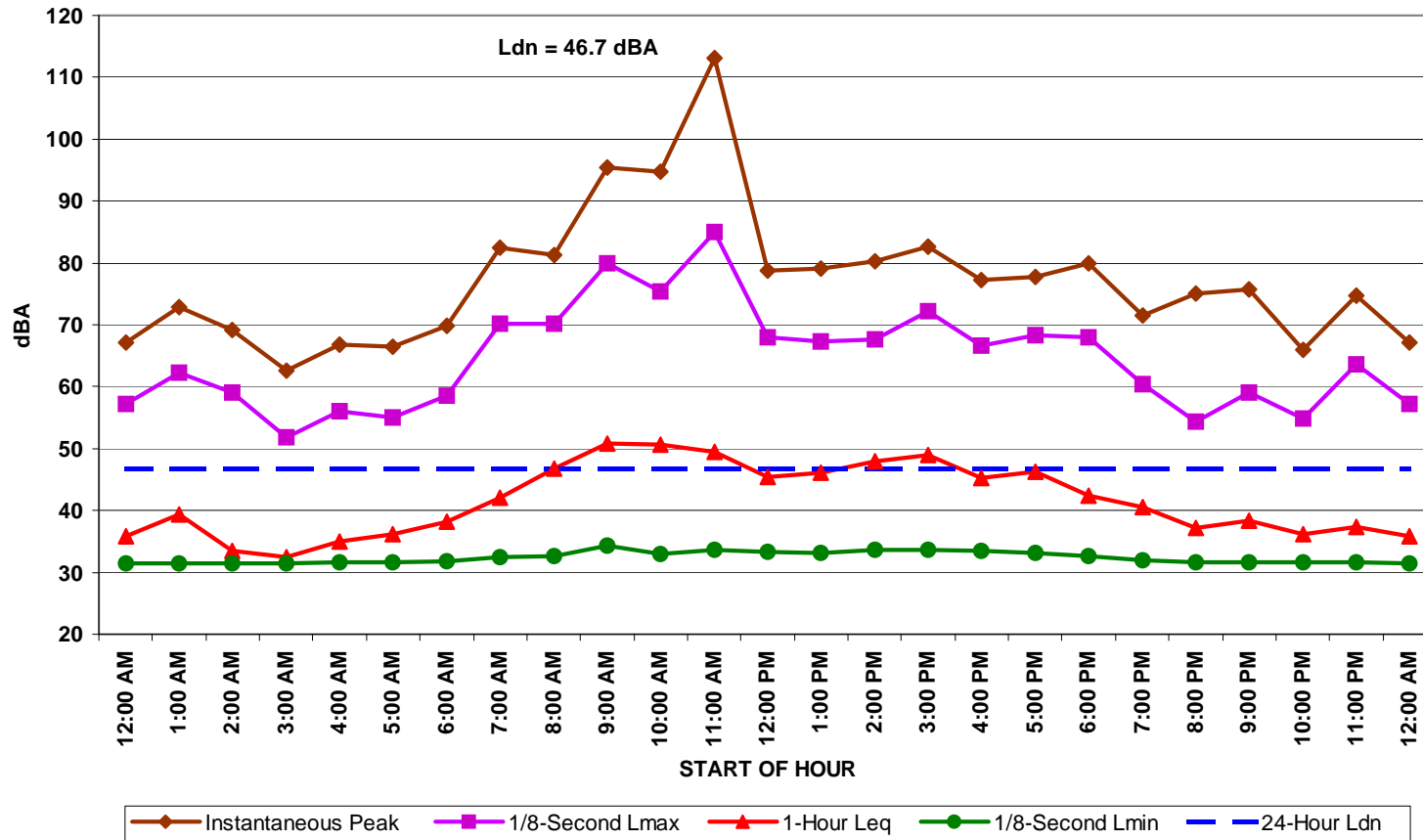


Figure 32. Hourly Noise Levels, Site L5, May 25, 2008

**15-MINUTE INTERVAL NOISE DATA, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L5 ON MONDAY, MAY 26, 2008**

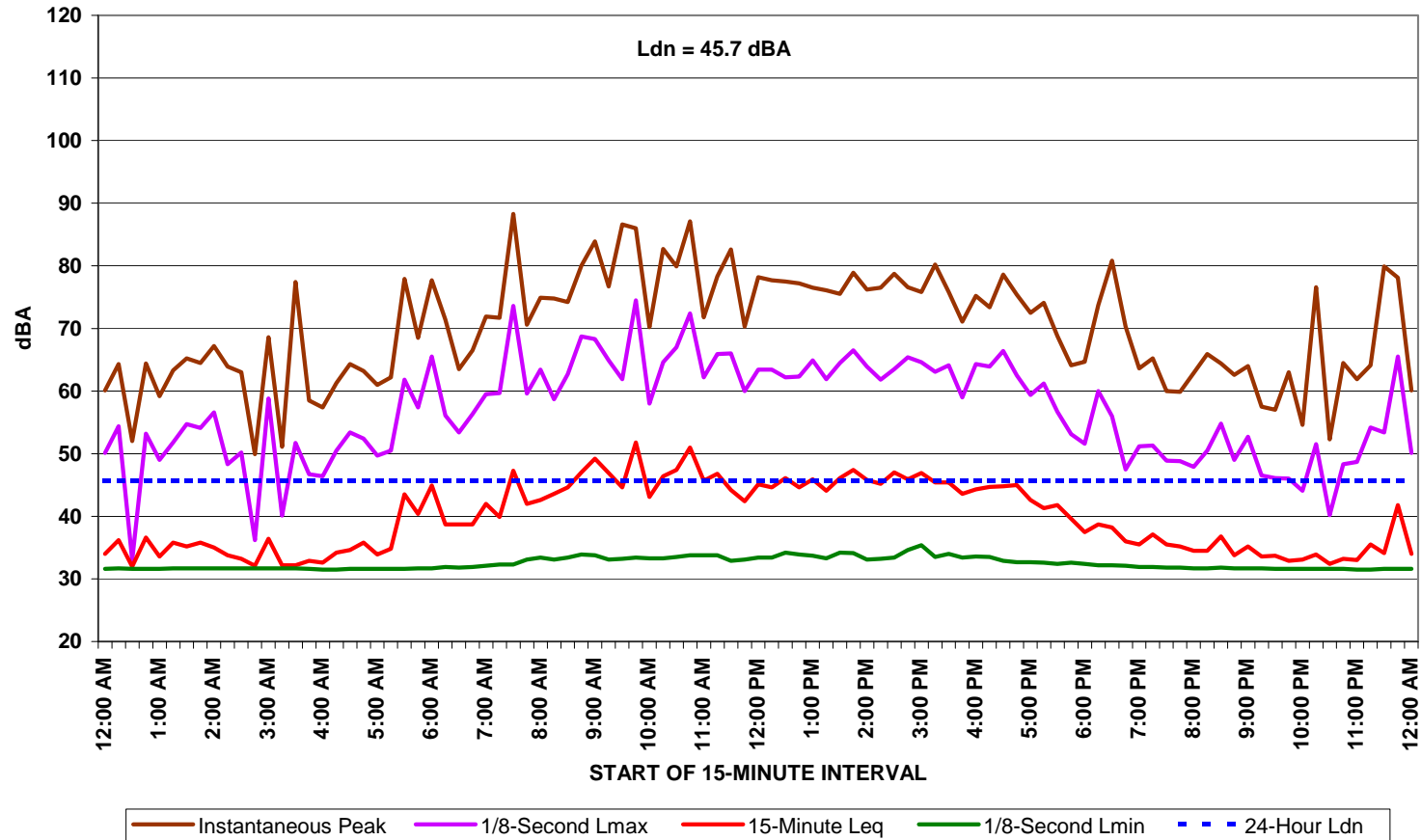


Figure 33. 15-Minute Interval Noise Data, Site L5, May 26, 2008

**HOURLY NOISE LEVELS, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L5 ON MONDAY, MAY 26, 2008**

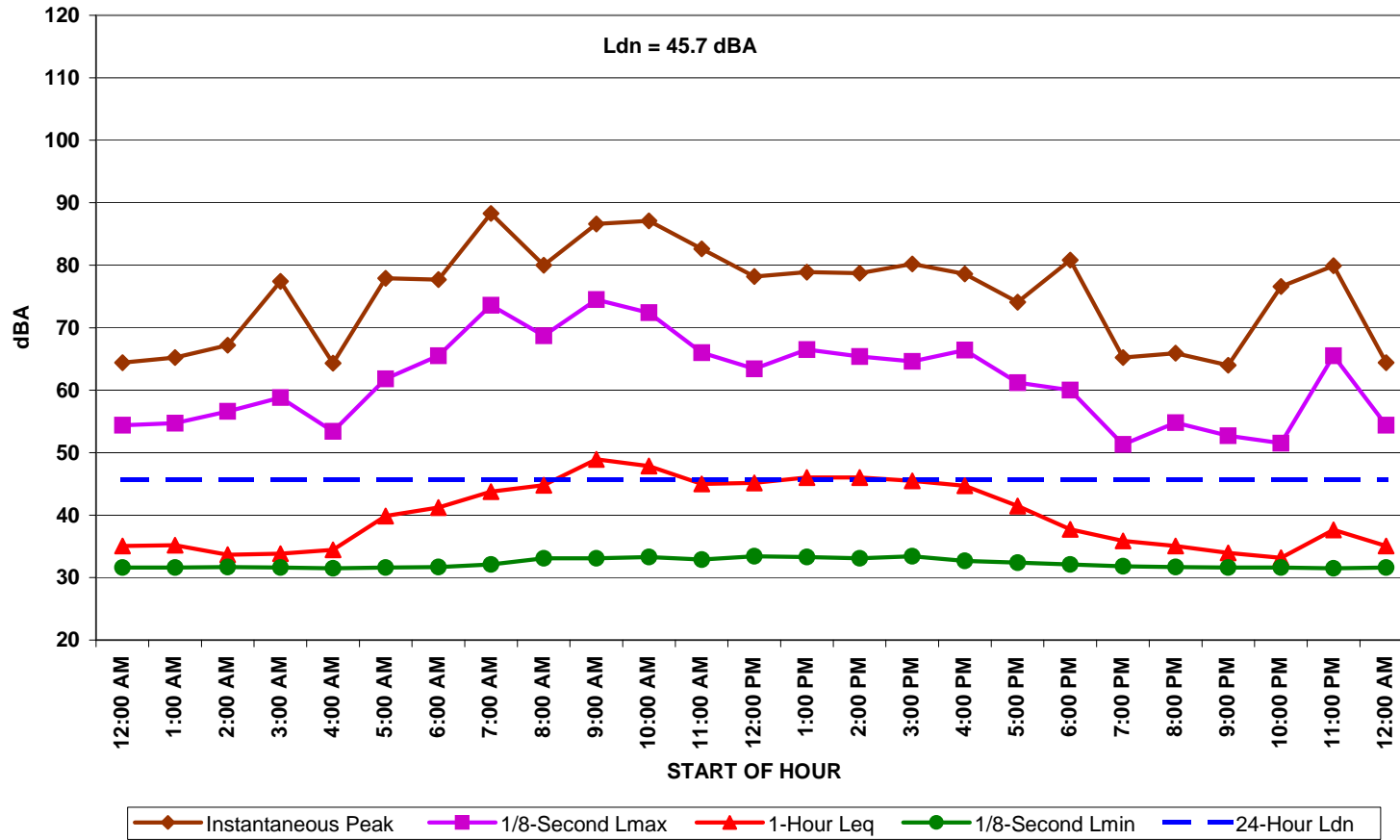


Figure 34. Hourly Noise Levels, Site L5, May 26, 2008

**1-MINUTE Leq HISTORY, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L6 ON FRIDAY-SATURDAY, MARCH 22 -24, 2008**

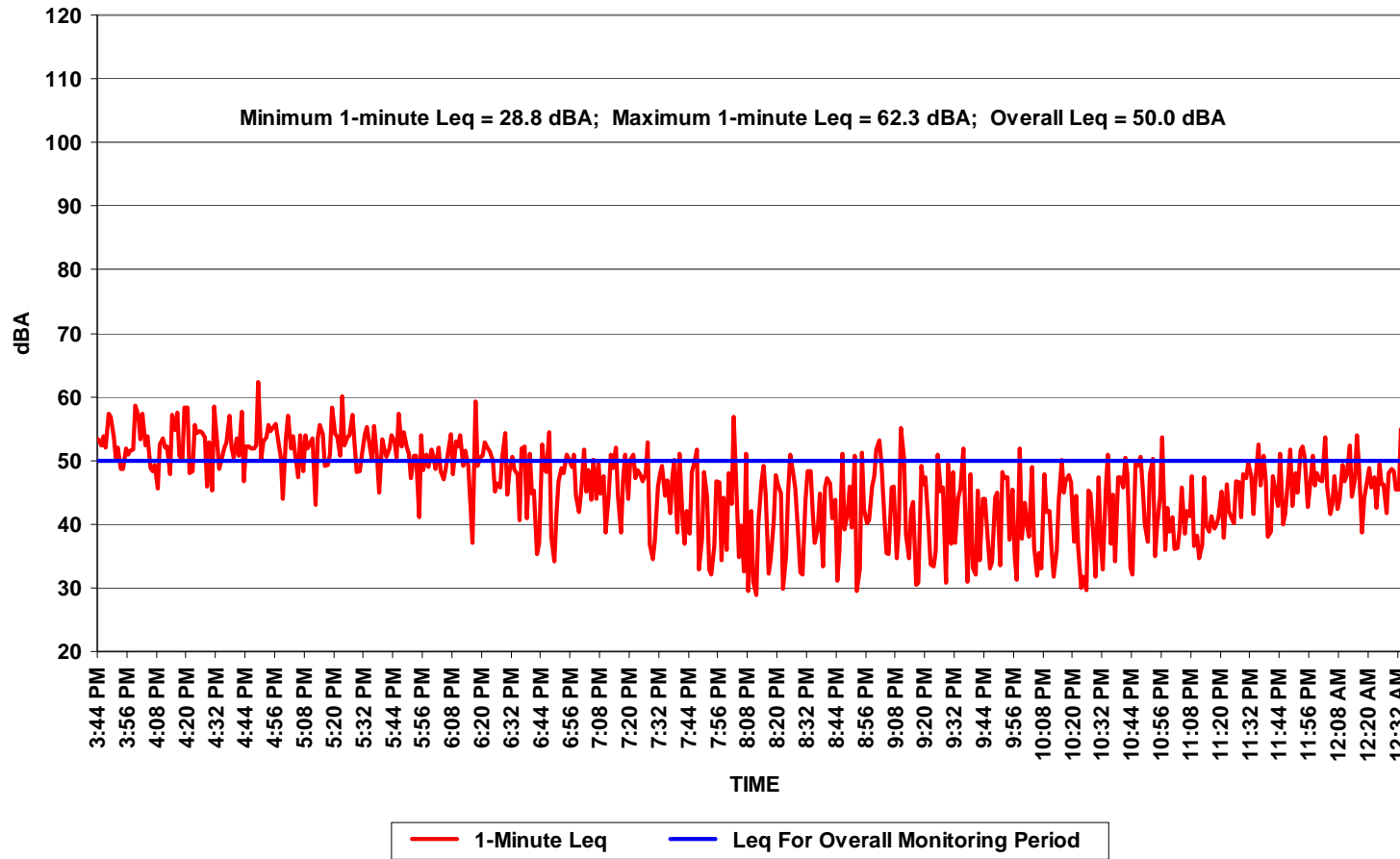


Figure 35. 1-Minute Leq History, Site L6, March 22 – 24, 2008

**15-MINUTE INTERVAL NOISE DATA, ROSEMONT COPPER BASELINE NOISE SURVEY
SITE L7, TUESDAY - THURSDAY, MAY 27 - 29, 2008**

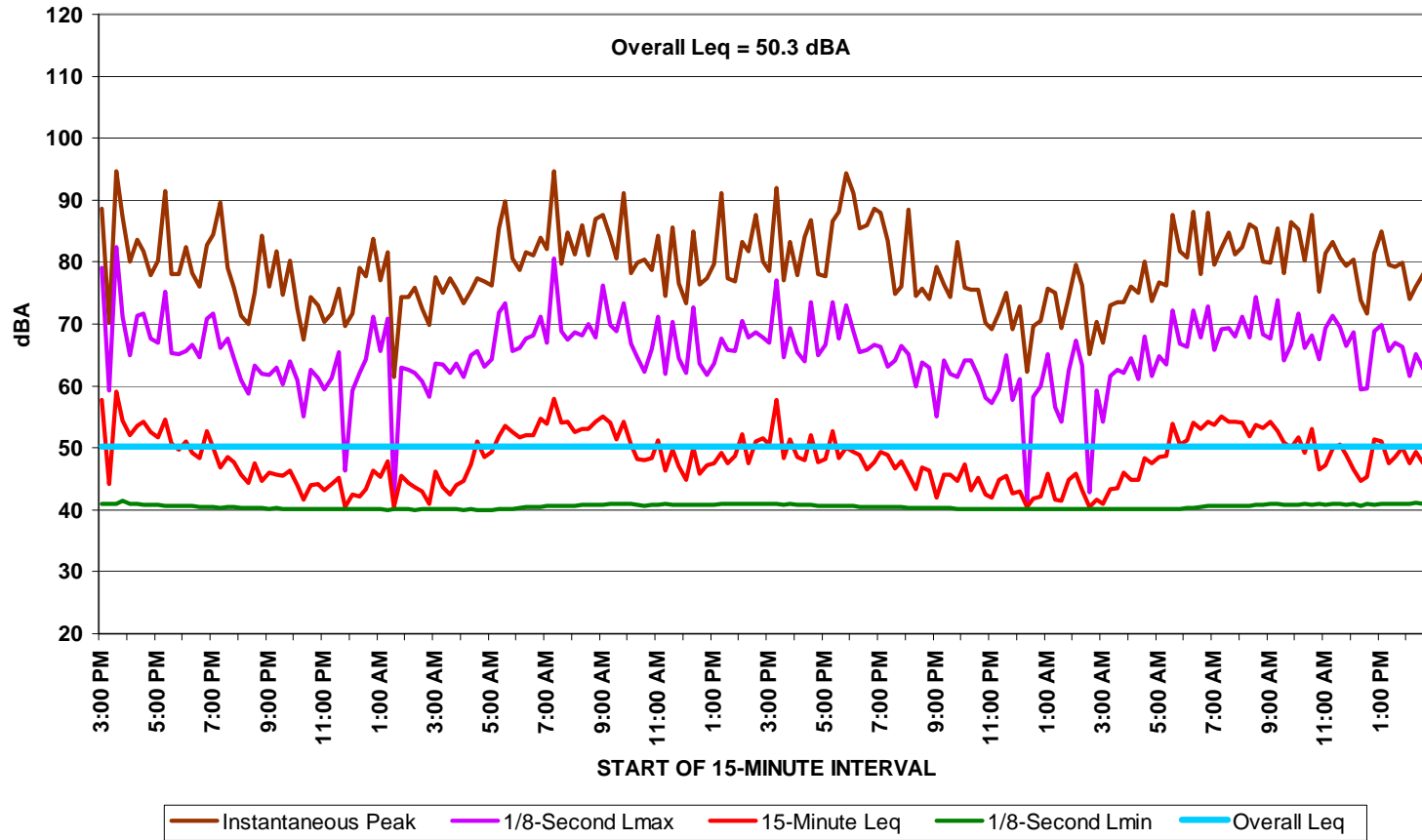


Figure 36. 15-Minute Interval Noise Data, Rosemont Copper Baseline Noise Survey, Site L7, May 27 – 29, 2008

**15-MINUTE INTERVAL NOISE DATA, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L7 ON TUESDAY-WEDNESDAY, MAY 27 - 28, 2008**

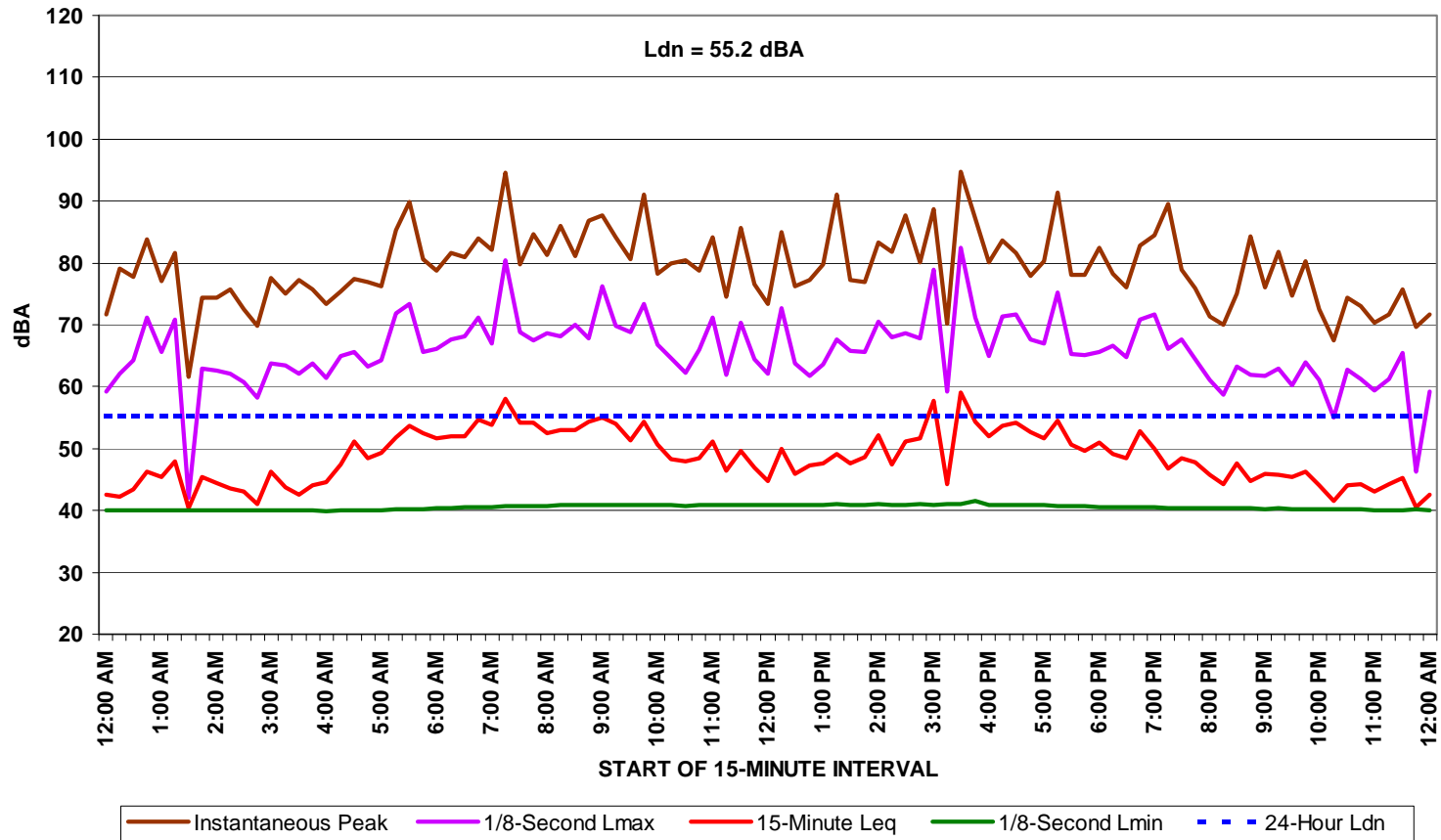


Figure 37. 15-Minute Interval Noise Data, Rosemont Copper Background Noise Study, Site L7, May 27 – 28, 2008

**HOURLY NOISE LEVELS, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L7 ON TUESDAY-WEDNESDAY, MAY 27 - 28, 2008**

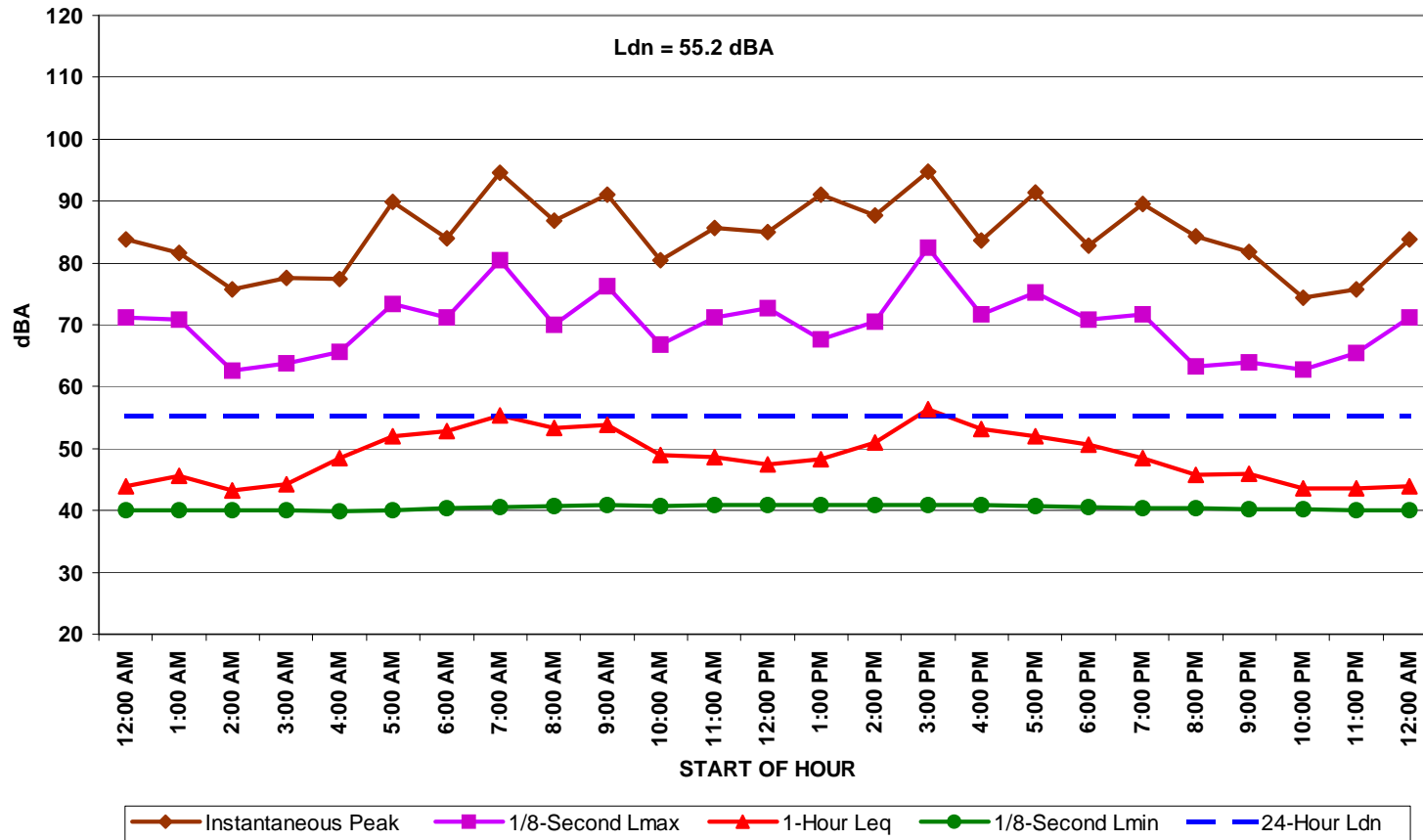


Figure 38. Hourly Noise Levels, Site L7, May 27 – 28, 2008

**15-MINUTE INTERVAL NOISE DATA, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L7 ON WEDNESDAY-THURSDAY, MAY 28 - 29, 2008**

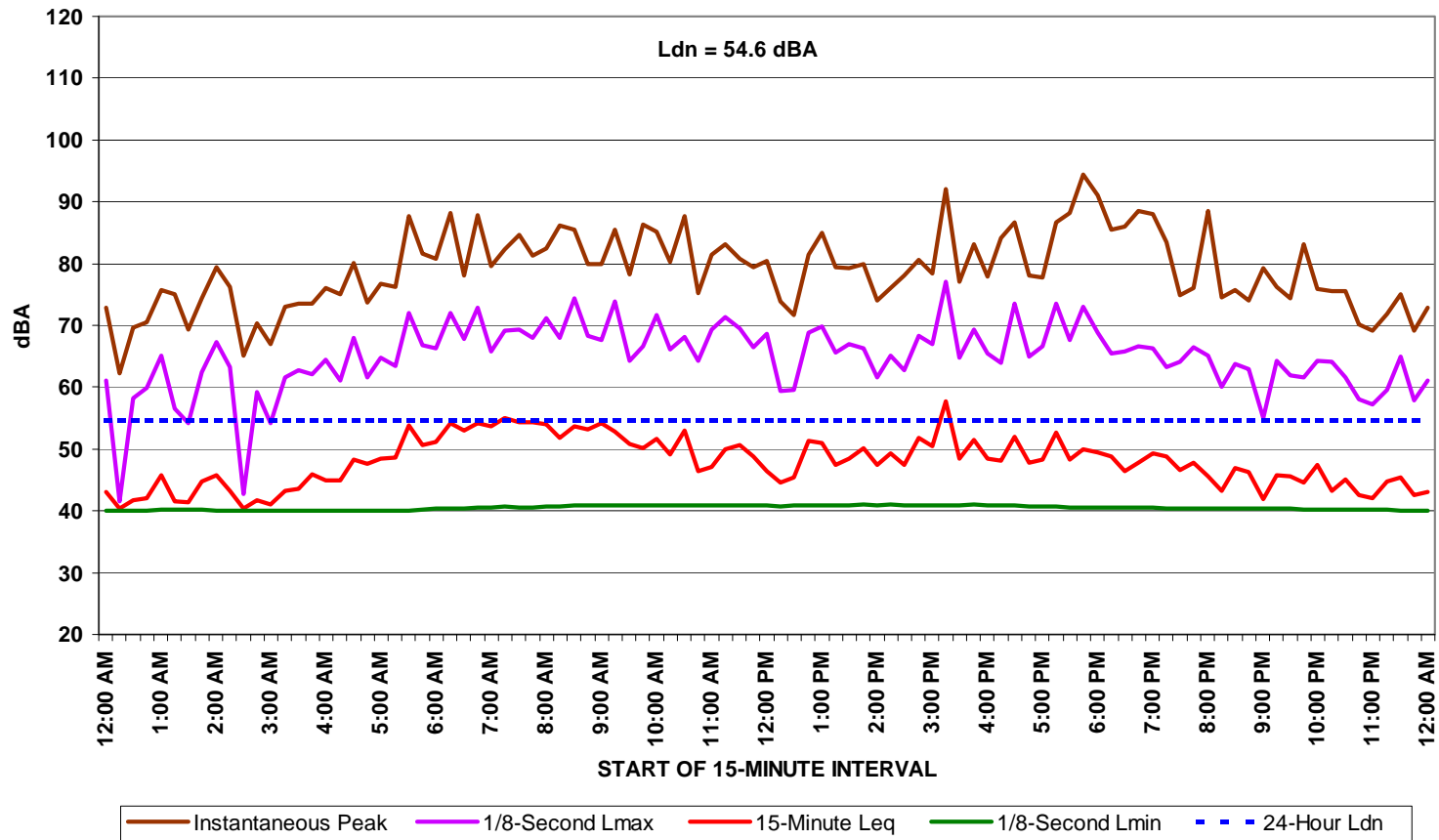


Figure 39. 15-Minute Interval Noise Data, Site L7, May 28 – 29, 2008

**HOURLY NOISE LEVELS, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L7 ON WEDNESDAY-THURSDAY, MAY 28 - 29, 2008**

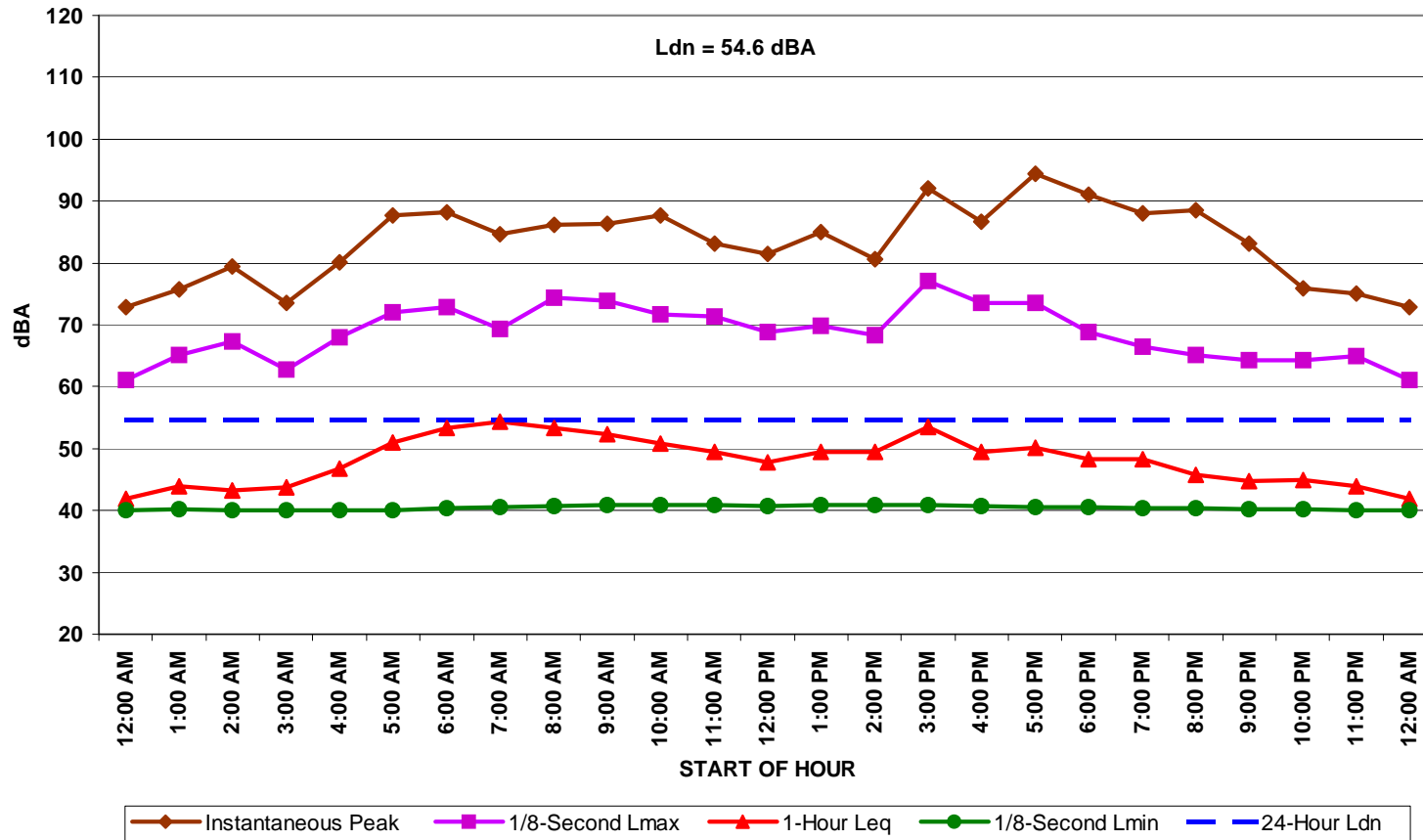


Figure 40. Hourly Noise Levels, Site L7, May 28 – 29, 2008

**1-MINUTE Leq HISTORY, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L7B ON TUESDAY, MAY 27, 2008**

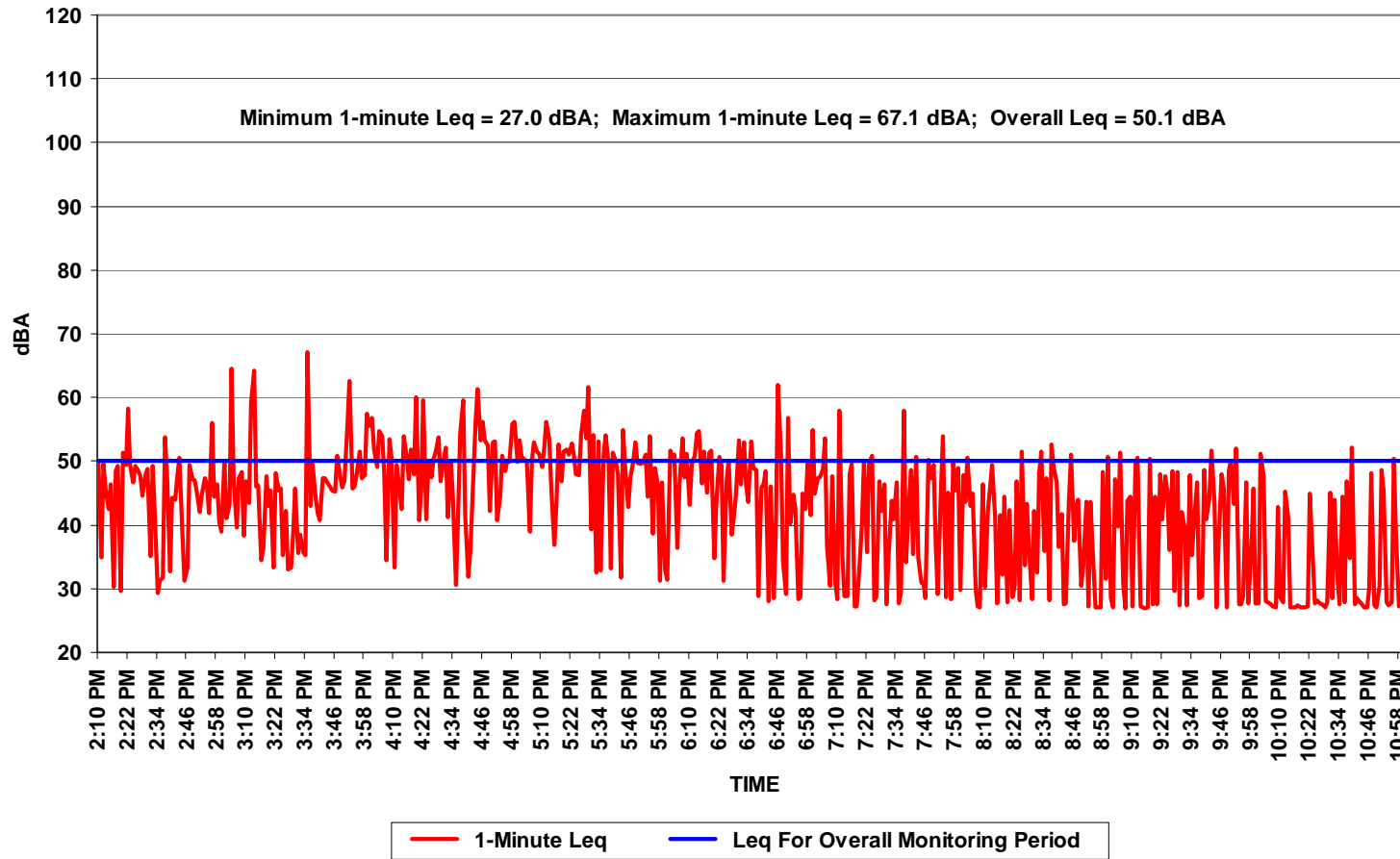


Figure 41. 1-Minute Leq History, Site L7B, May 27, 2008

**15-MINUTE INTERVAL NOISE DATA, ROSEMONT COPPER BASELINE NOISE SURVEY
SITE L8, TUESDAY - THURSDAY, MAY 27 - 29, 2008**

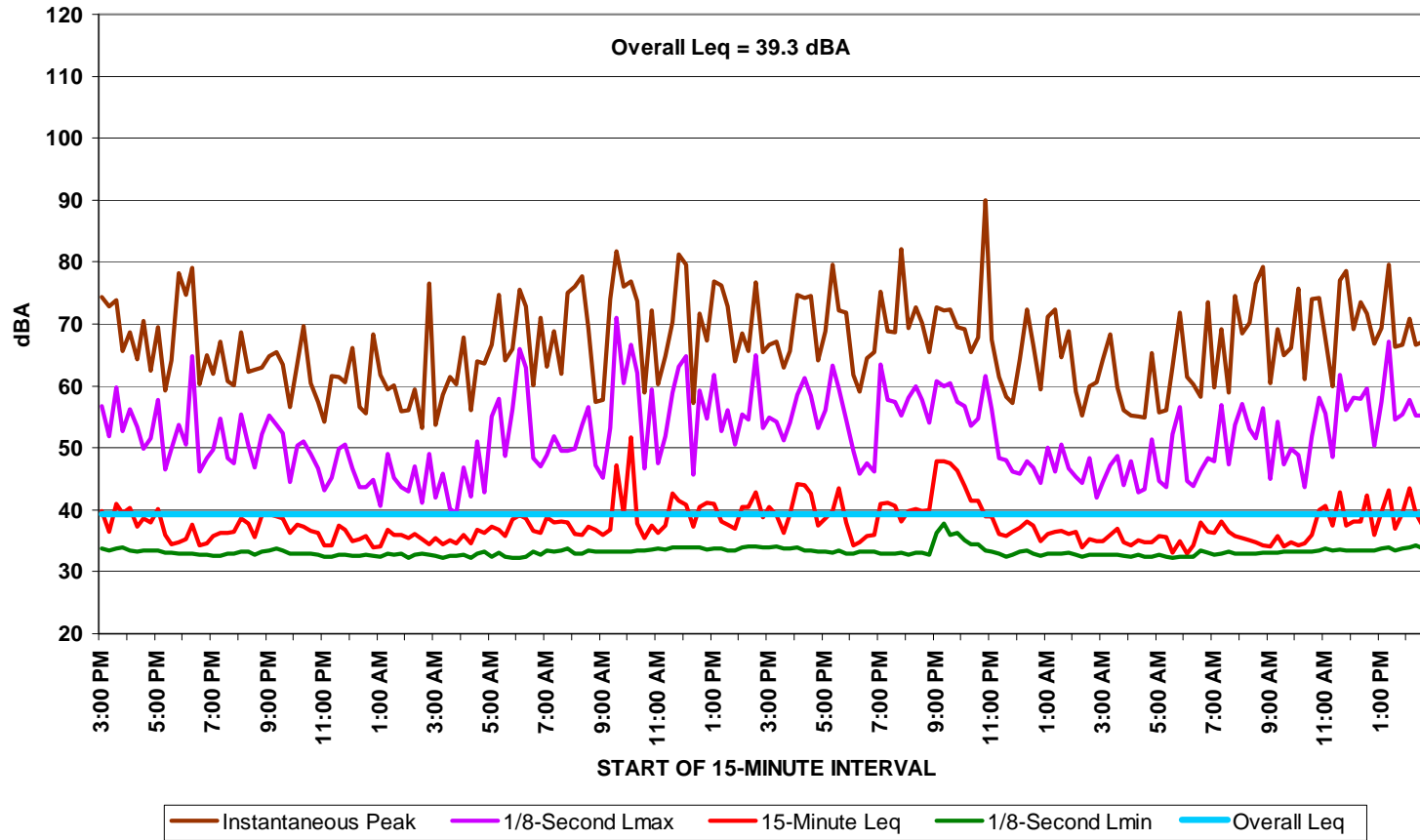


Figure 42. 15-Minute Interval Noise Data, Rosemont Copper Baseline Noise Survey, Site L8, May 27 – 29, 2008

**15-MINUTE INTERVAL NOISE DATA, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L8 ON TUESDAY-WEDNESDAY, MAY 27 - 28, 2008**

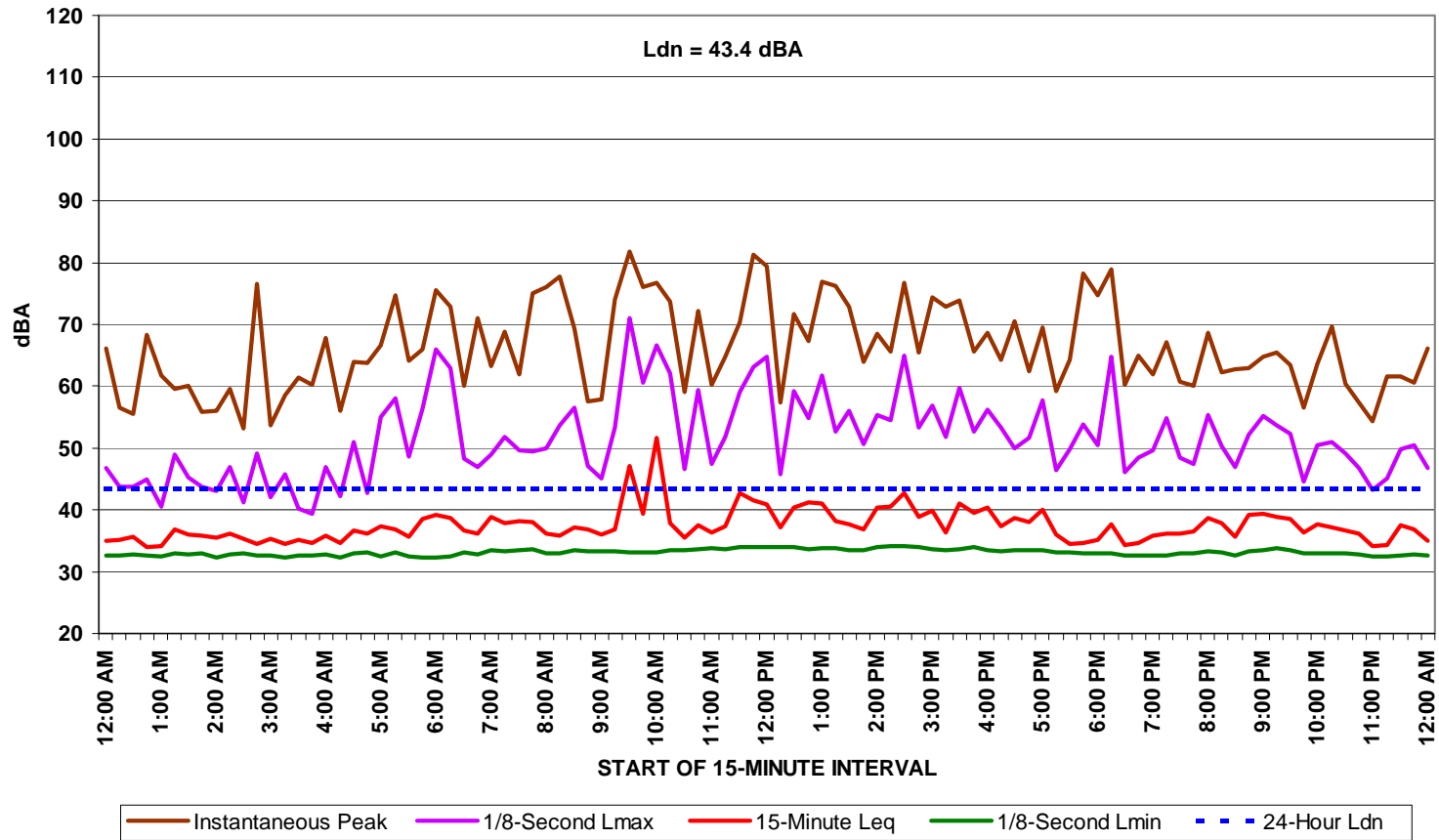


Figure 43. 15-Minute Interval Noise Data, Rosemont Copper Background Noise Study, Site L8, May 27 – 28, 2008

**HOURLY NOISE LEVELS, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L8 ON TUESDAY-WEDNESDAY, MAY 27 - 28, 2008**

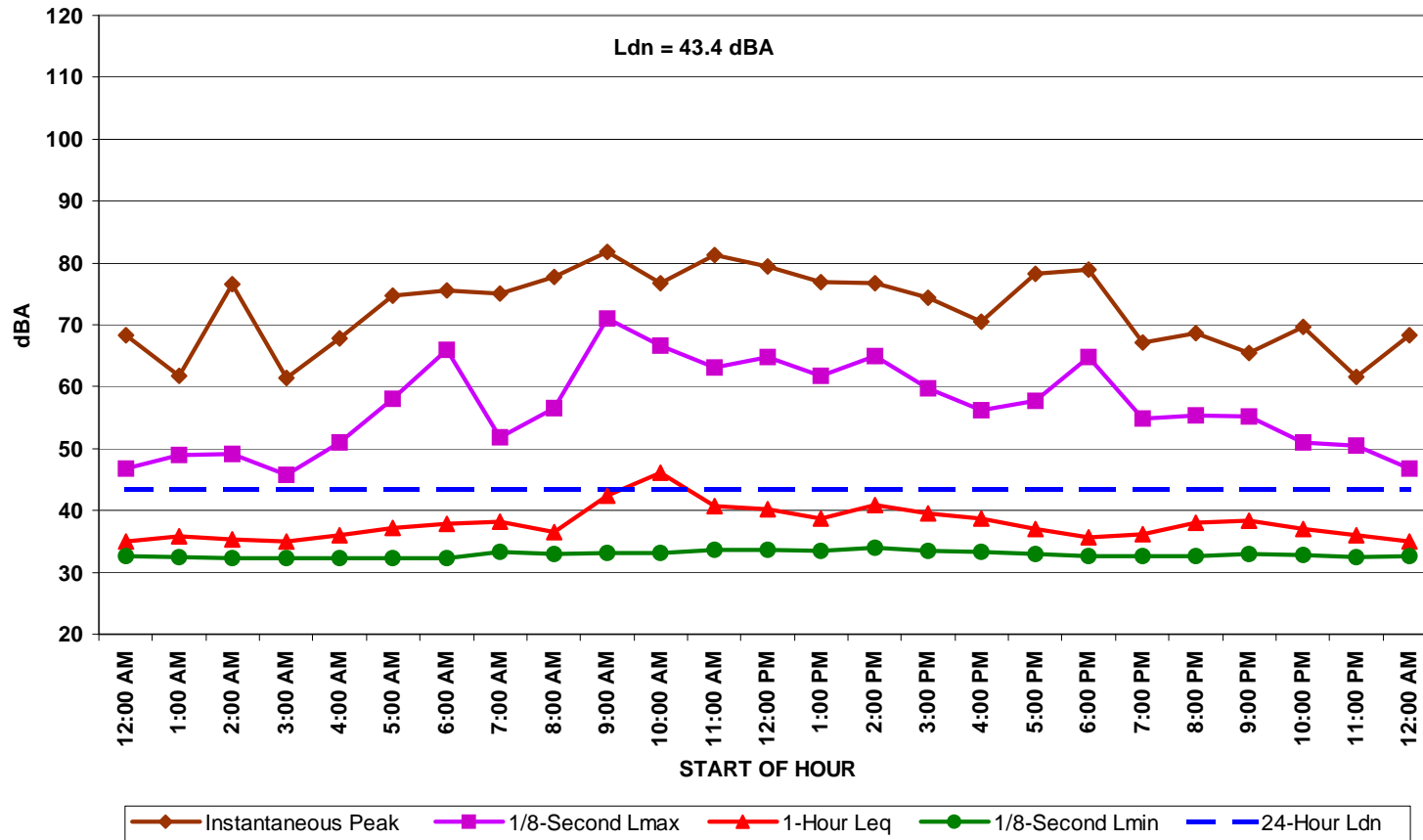


Figure 44. Hourly Noise Levels, Site L8, May 27 – 28, 2008

**15-MINUTE INTERVAL NOISE DATA, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L8 ON WEDNESDAY-THURSDAY, MAY 28 - 29, 2008**

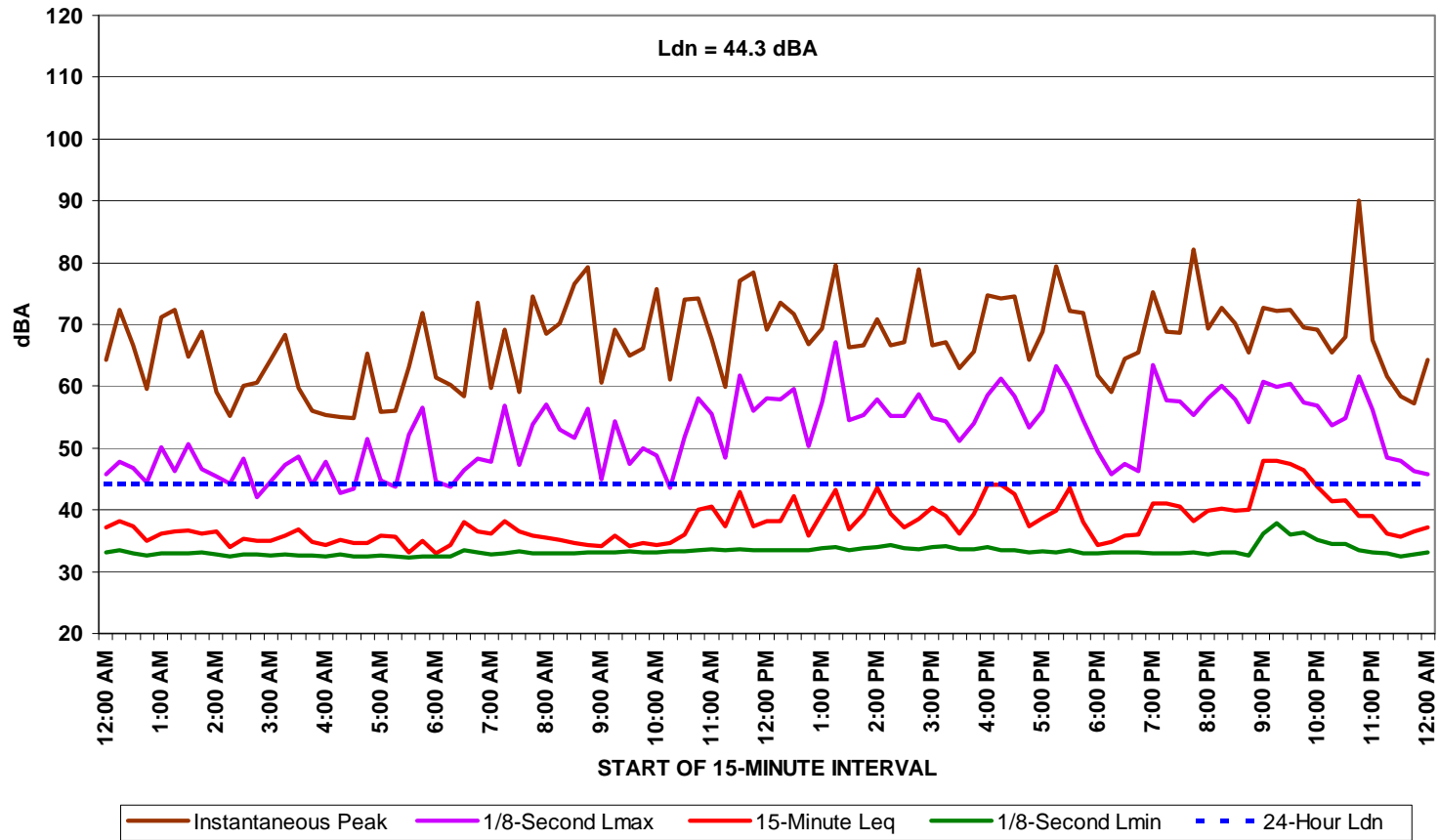


Figure 45. 15-Minute Interval Noise Data, Site L8, May 28 – 29, 2008

**HOURLY NOISE LEVELS, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L8 ON WEDNESDAY-THURSDAY, MAY 28 - 29, 2008**

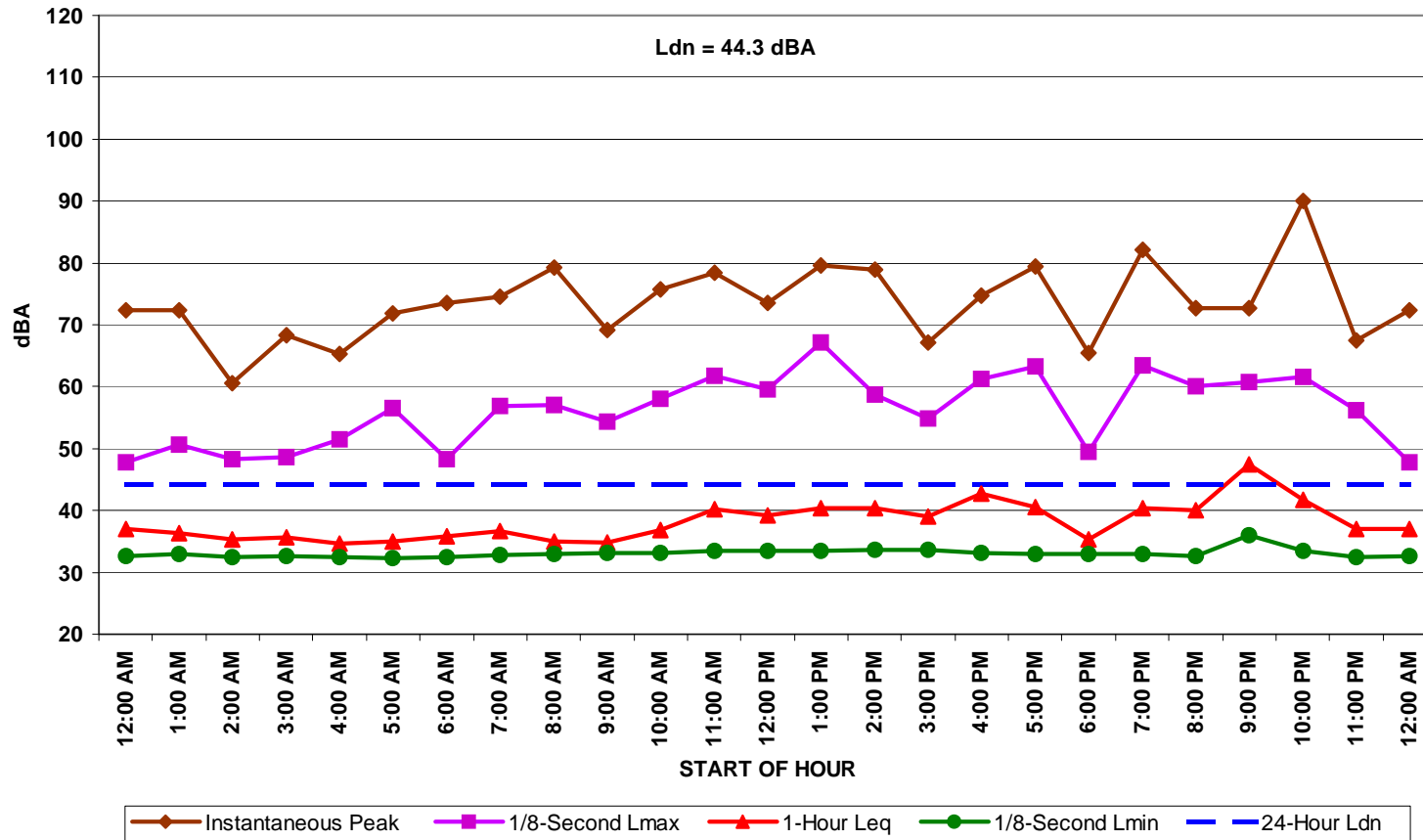


Figure 46. Hourly Noise Levels, Site L8, May 28 – 29, 2008

**15-MINUTE INTERVAL NOISE DATA, ROSEMONT COPPER BASELINE NOISE SURVEY
SITE L9, TUESDAY - THURSDAY, MAY 27 - 29, 2008**

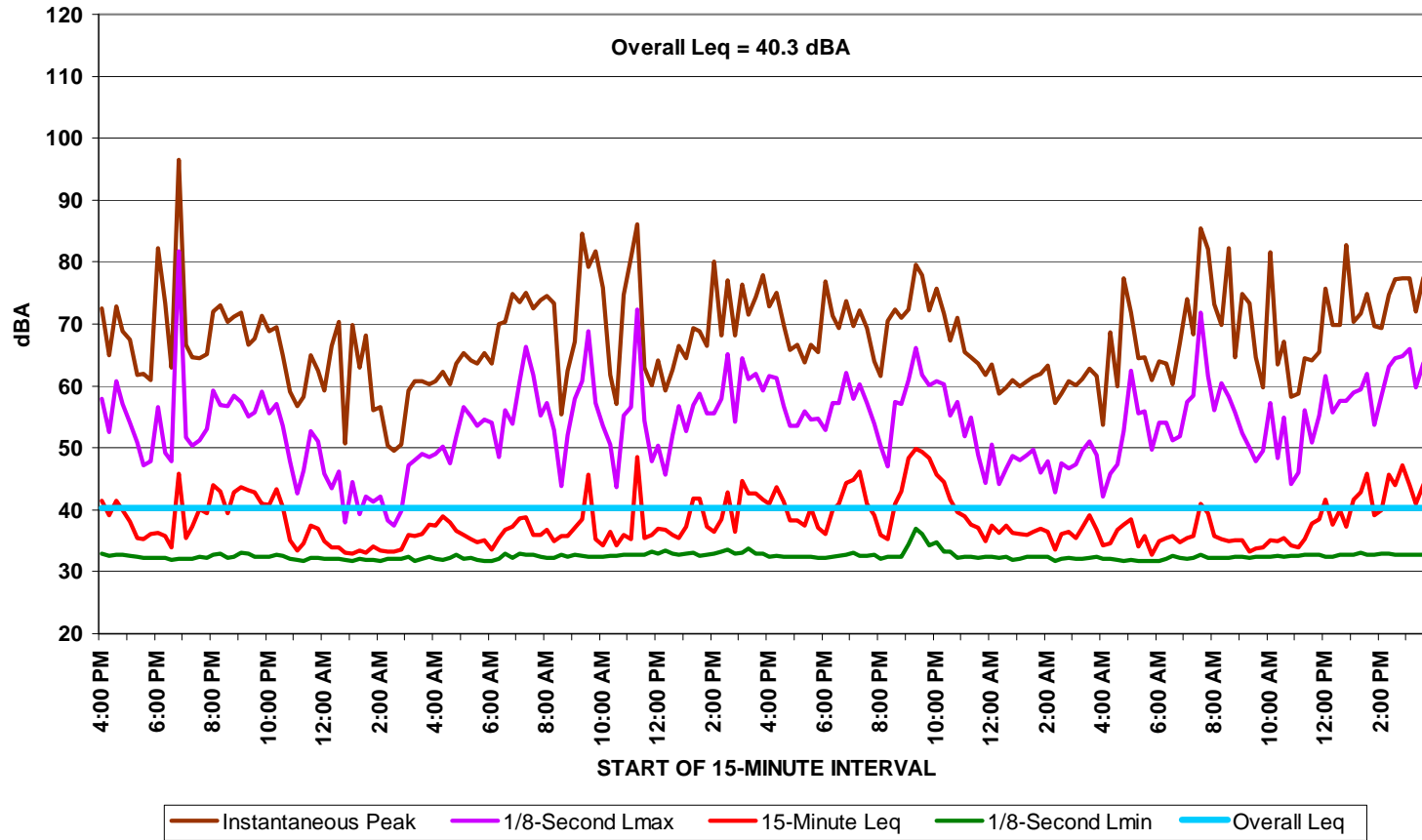


Figure 47. 15-Minute Interval Noise Data, Rosemont Copper Baseline Noise Survey, Site L9, May 27 – 29, 2008

**15-MINUTE INTERVAL NOISE DATA, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L9 ON TUESDAY-WEDNESDAY, MAY 27 - 28, 2008**

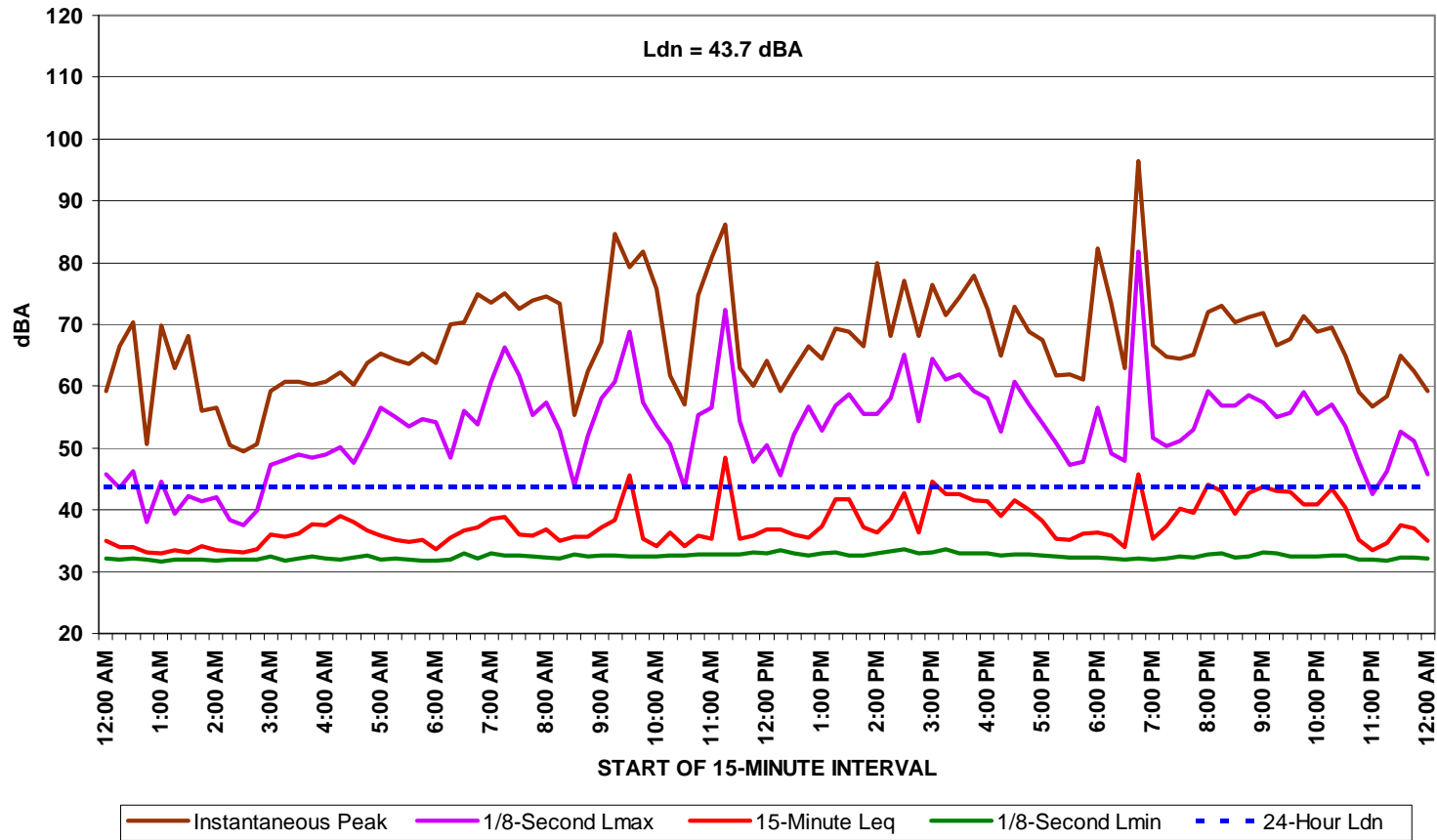


Figure 48. 15-Minute Interval Noise Data, Rosemont Copper Background Noise Study, Site L9, May 27 – 28, 2008

**HOURLY NOISE LEVELS, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L9 ON TUESDAY-WEDNESDAY, MAY 27 - 28, 2008**

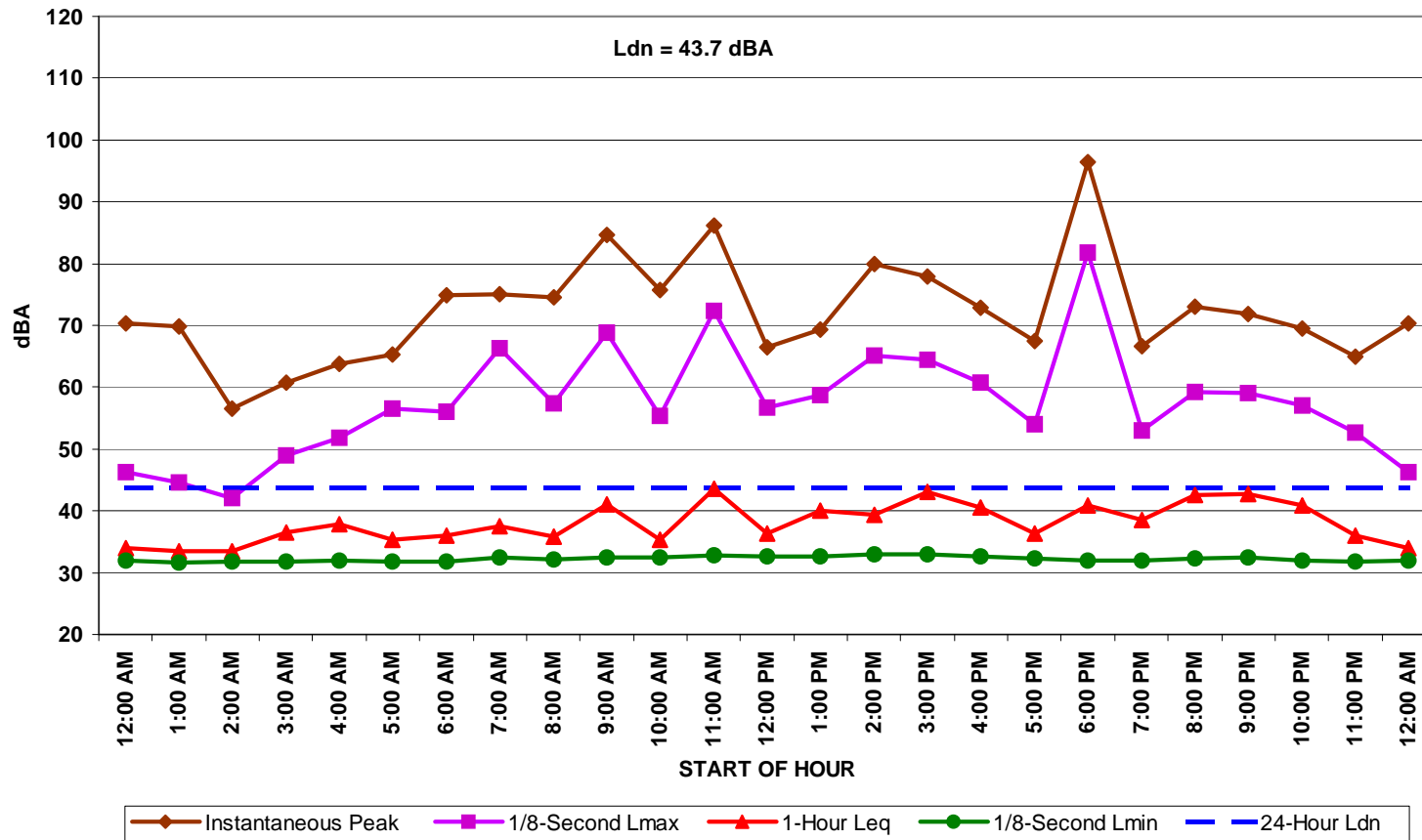


Figure 49. Hourly Noise Levels, Site L9, May 27 – 28, 2008

**15-MINUTE INTERVAL NOISE DATA, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L9 ON WEDNESDAY-THURSDAY, MAY 28 - 29, 2008**

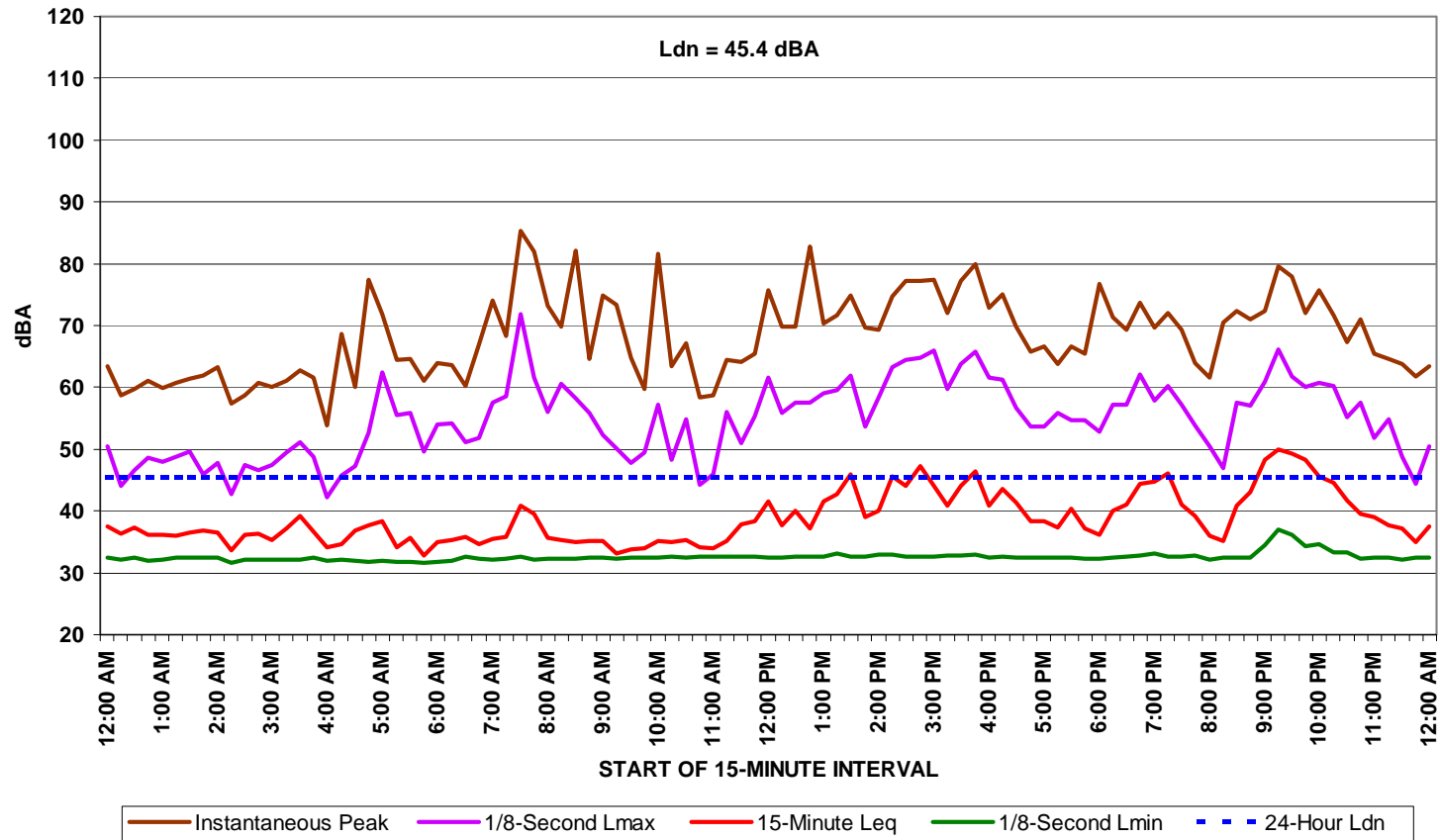


Figure 50. 15-Minute Interval Noise Data, Site L9, May 28 – 29, 2008

**HOURLY NOISE LEVELS, ROSEMONT COPPER BACKGROUND NOISE STUDY
SITE L9 ON WEDNESDAY-THURSDAY, MAY 28 - 29, 2008**

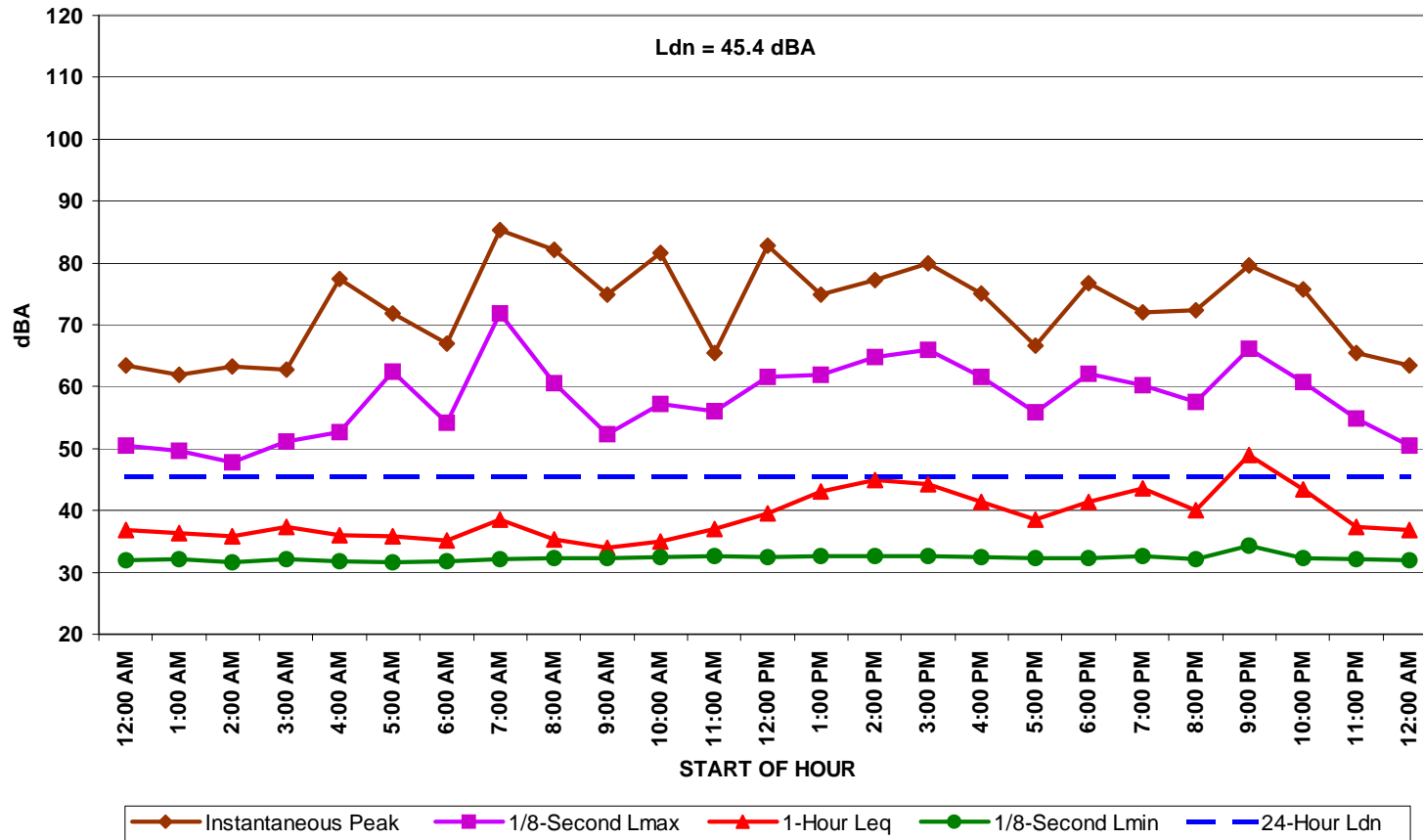


Figure 51. Hourly Noise Levels, Site L9, May 28 – 29, 2008

**15-MINUTE INTERVAL NOISE DATA FOR ACTIVE COPPER MINE
SITE L11 (ON-SITE) ON WEDNESDAY-THURSDAY, MAY 28 - 29, 2008**

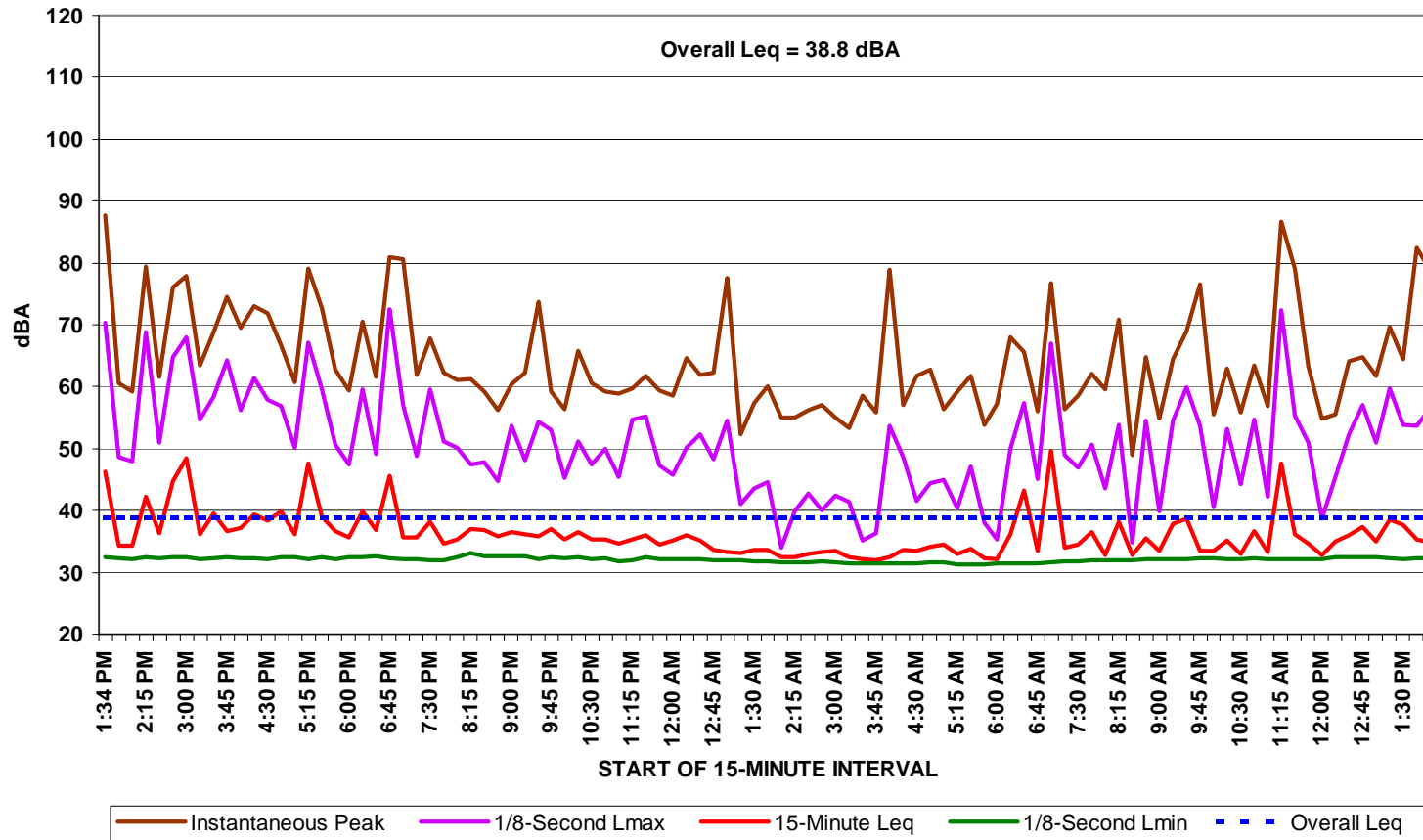


Figure 52. 15-Minute Interval Noise Data, Active Copper Mine, Site L11, May 28 – 29, 2008

**15-MINUTE INTERVAL NOISE DATA, ACTIVE COPPER MINE
SITE L11 (ON-SITE) ON WEDNESDAY-THURSDAY, MAY 28 - 29, 2008**

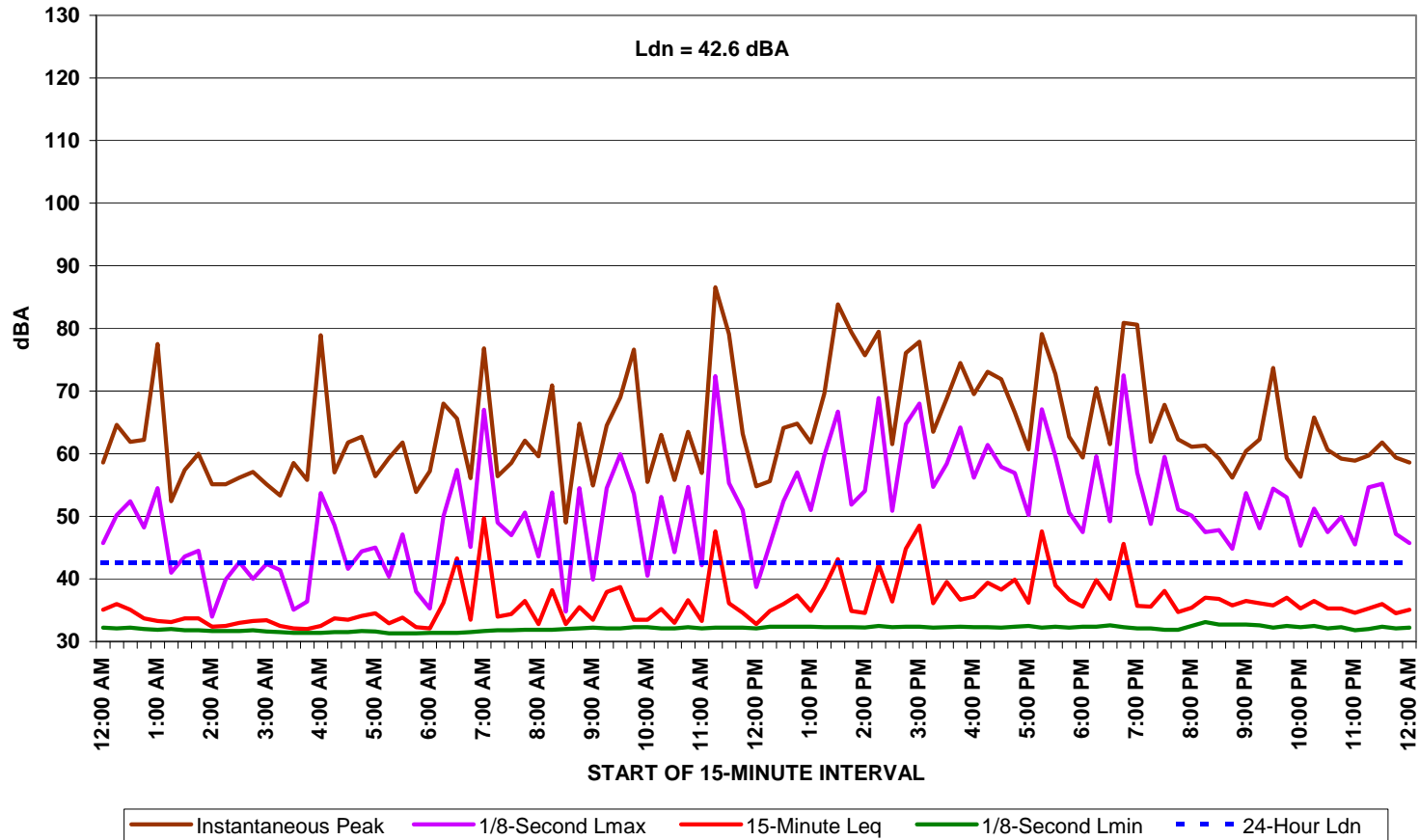


Figure 53. 15-Minute Interval Noise Data, Site L11, May 28 – 29, 2008

**HOURLY NOISE LEVELS AT ACTIVE COPPER MINE
SITE L11 (ON-SITE) ON WEDNESDAY-THURSDAY, MAY 28 -29, 2008**

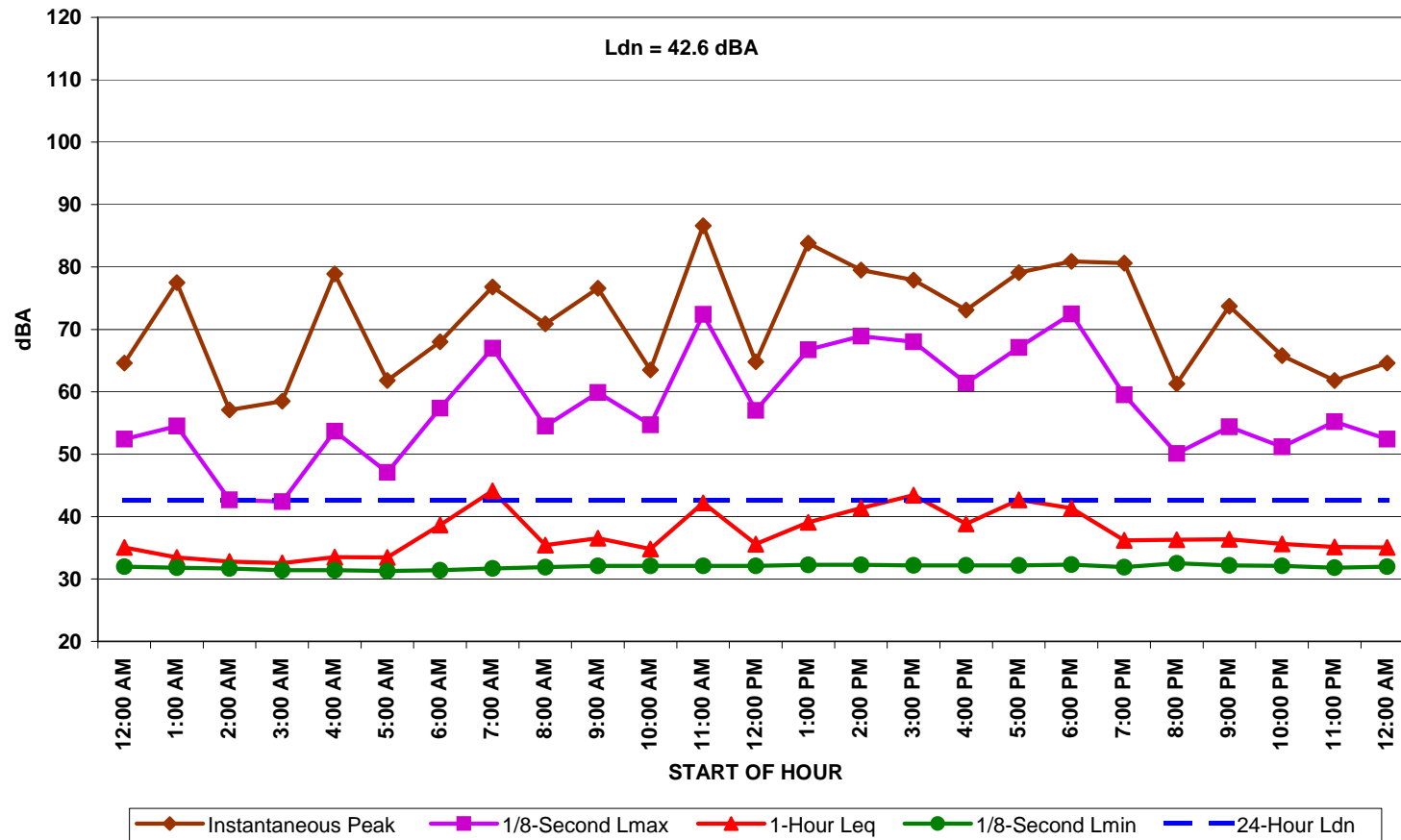


Figure 54. Hourly Noise Levels, Site L11, May 28 – 29, 2008

**1-MINUTE Leq HISTORY AT ACTIVE COPPER MINE
SITE L12 (PROPERTY LINE) ON WEDNESDAY-THURSDAY, MAY 28 - 29, 2008**

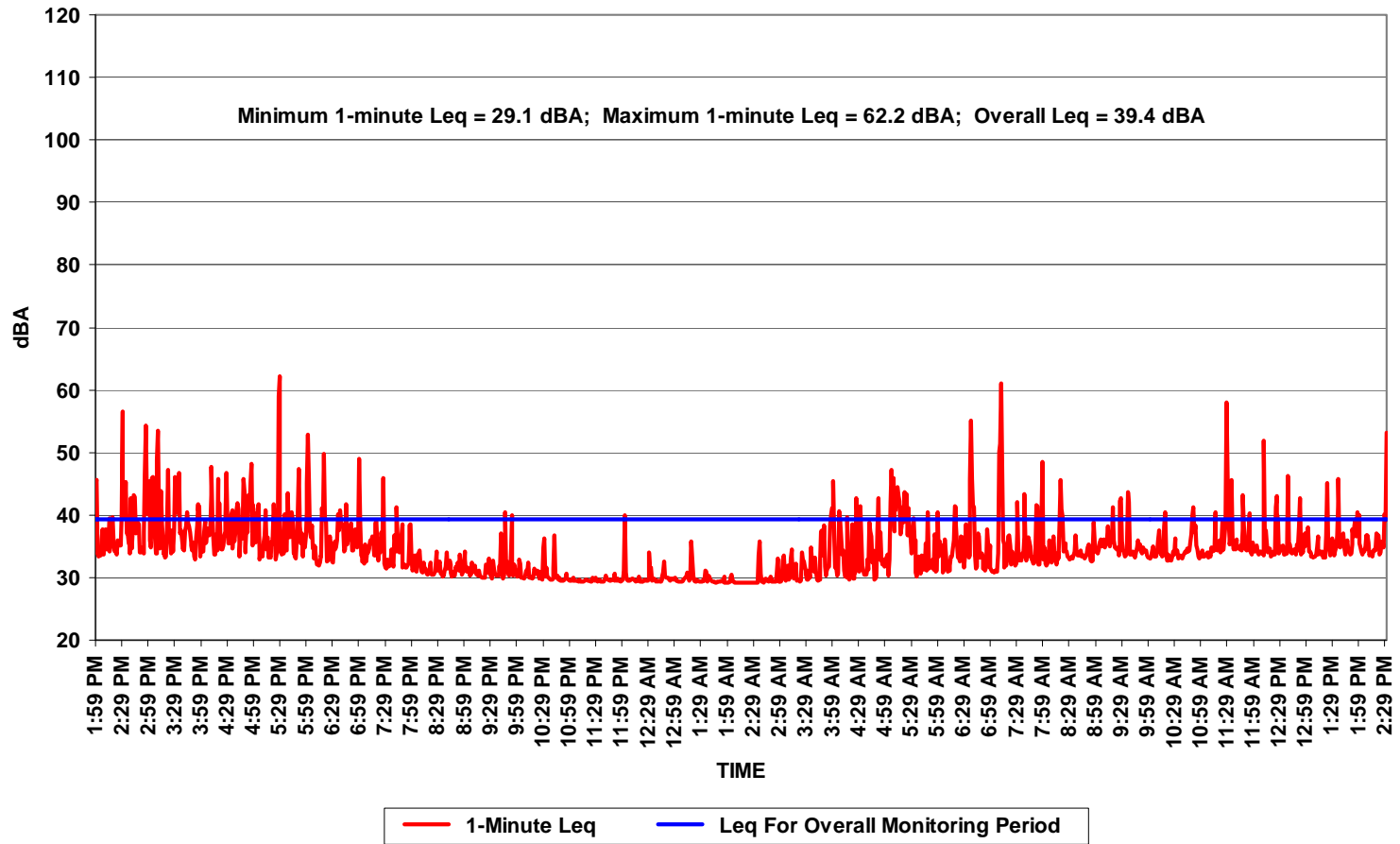


Figure 55. 1-Minute Leq History, Site L12, May 28 – 29, 2008

**HOURLY Leq LEVELS AT ACTIVE COPPER MINE
SITE L12 (PROPERTY LINE) ON WEDNESDAY-THURSDAY, MAY 28 - 29, 2008**

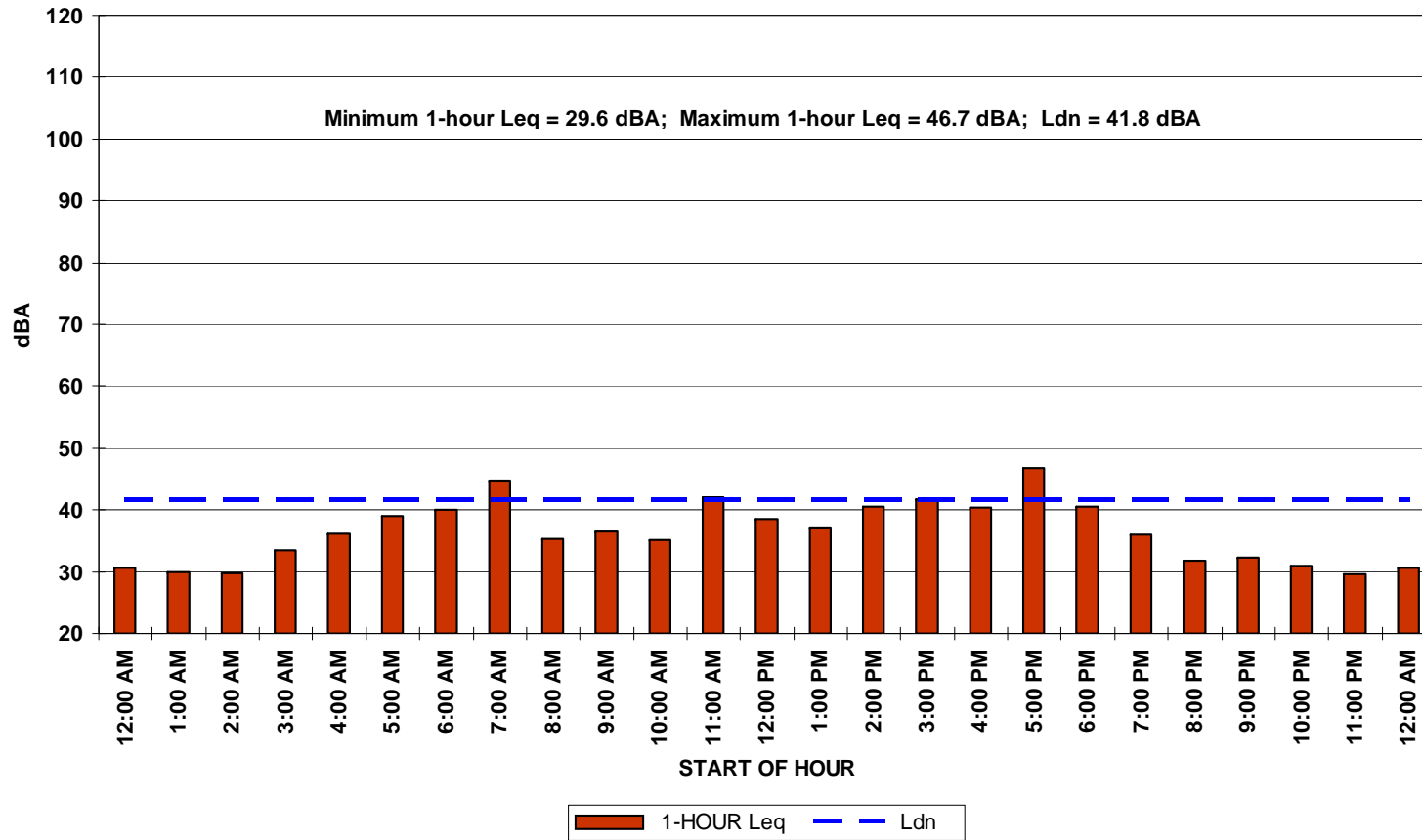


Figure 56. Hourly Leq Levels, Site L12, May 28 – 29, 2008

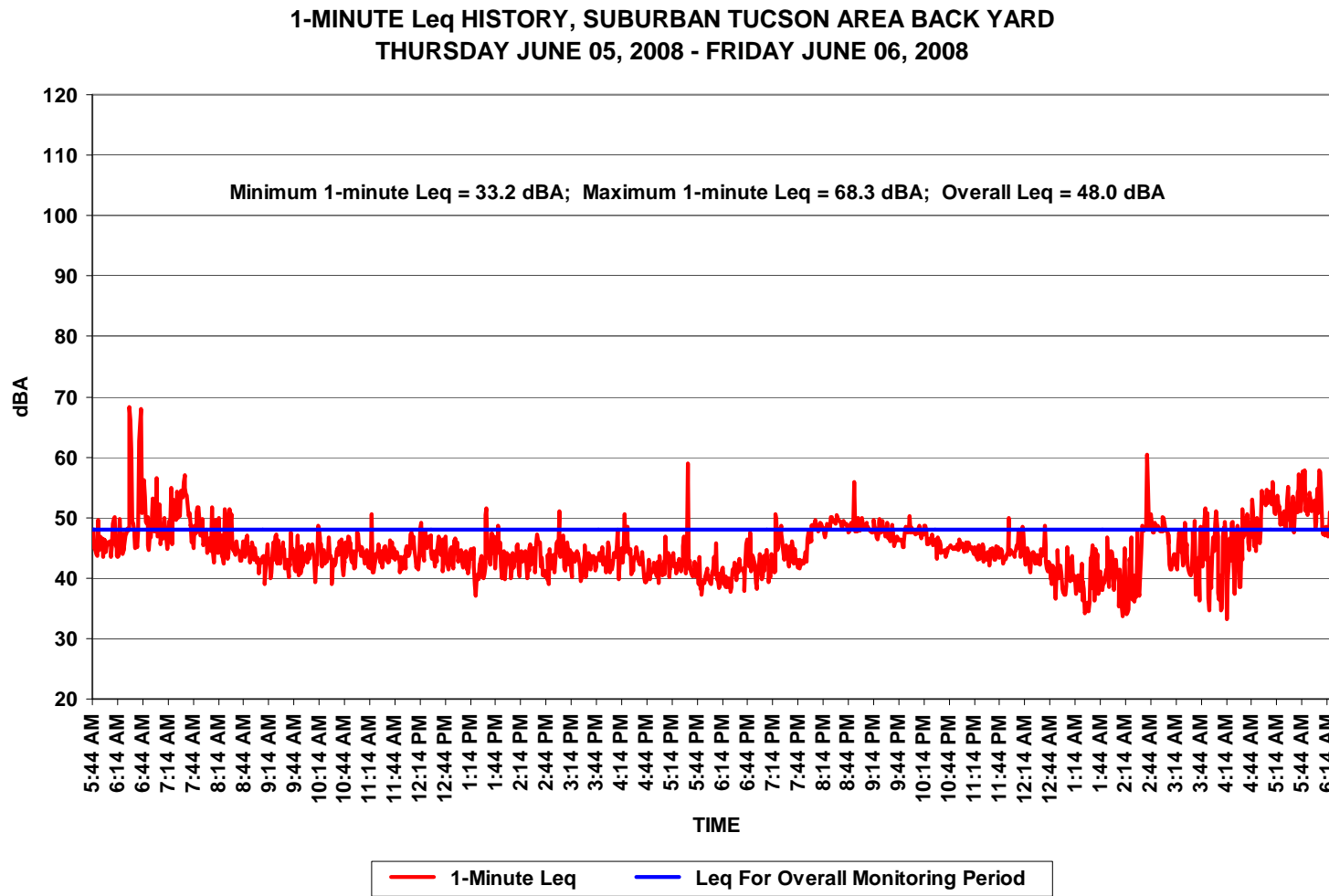


Figure 57. 1-Minute Leq History, Suburban Tucson Area Back Yard, June 5 – 6, 2008

**HOURLY Leq LEVELS IN SUBURBAN TUCSON AREA BACK YARD
THURSDAY JUNE 05, 2008 - FRIDAY JUNE 06, 2008**

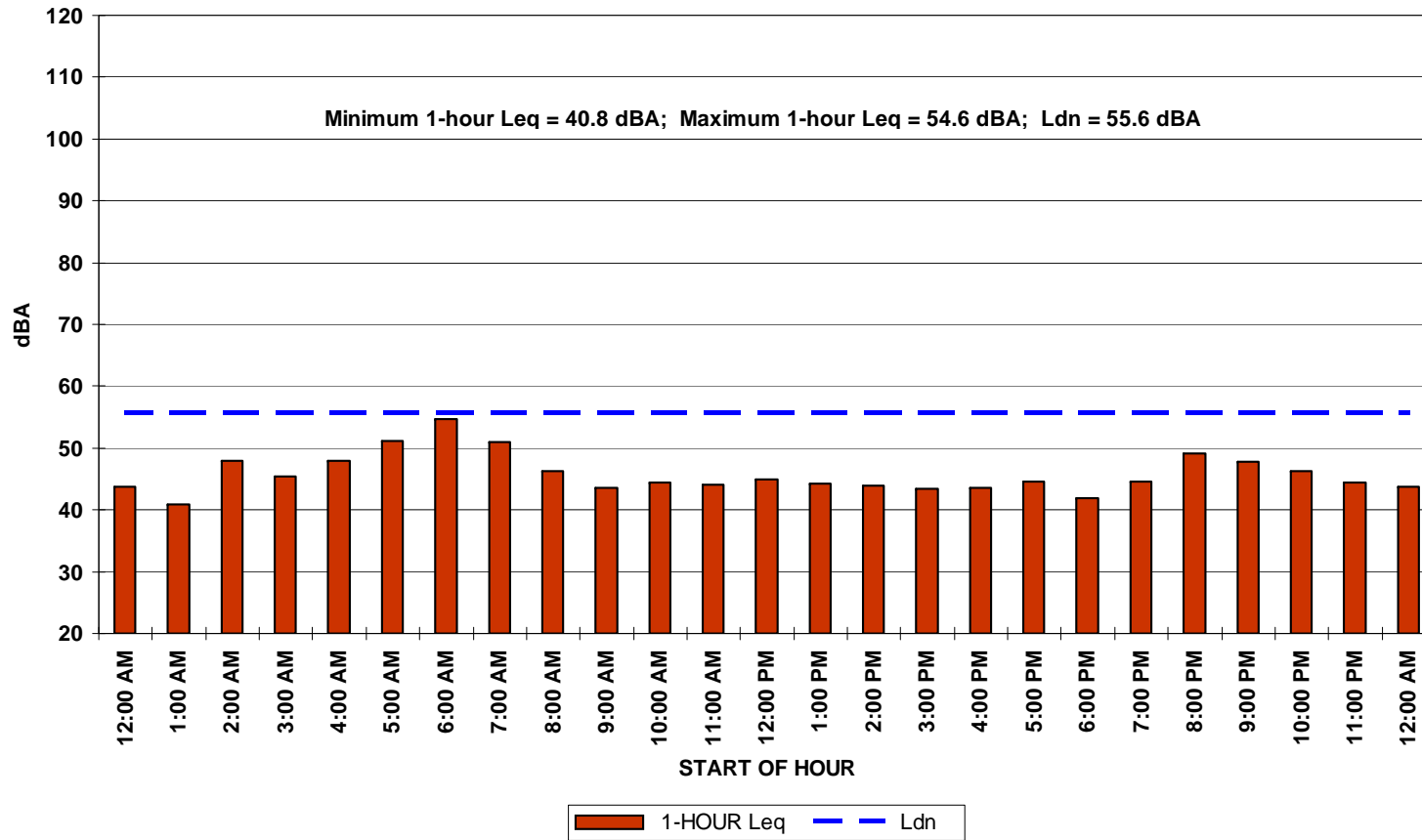


Figure 58. Hourly Leq Levels, June 5 – 6, 2008