

**APPENDIX G:
NOISE MODELING ANALYSIS**

Site Number: SH-1			
Recorded By: Danielle Regimbal			
Job Number: 171776			
Date: March 28, 2019			
Time: 10:55 a.m.			
Location: On Gundry Avenue approximately 216 feet south of Hill Street.			
Source of Peak Noise: Construction drilling and street traffic on Gundry Avenue.			
Noise Data			
Leq (dB)	Lmin (dB)	Lmax (dB)	Peak (dB)
51.4	46.0	63.3	86.0

Equipment						
Category	Type	Vendor	Model	Serial No.	Cert. Date	Note
Sound	Sound Level Meter	Brüel & Kjær	2250	3011133	3/29/2018	
	Microphone	Brüel & Kjær	4189	3086765	3/29/2018	
	Preamp	Brüel & Kjær	ZC 0032	25380	3/29/2018	
	Calibrator	Brüel & Kjær	4231	2545667	3/29/2018	
Weather Data						
Est.	Duration: 10 minutes			Sky: Partly Cloudy		
	Note: dBA Offset = -0.01			Sensor Height (ft): 5 ft		
	Wind Ave Speed (mph / m/s)		Temperature (degrees Fahrenheit)		Barometer Pressure (hPa)	
	WSW 14 mph		65		30.21 inHg	

Photo of Measurement Location



2250

Instrument:		2250
Application:		BZ7225 Version 4.7.4
Start Time:		03/28/2019 10:55:39
End Time:		03/28/2019 11:05:39
Elapsed Time:		00:10:00
Bandwidth:		1/3-octave
Max Input Level:		142.06

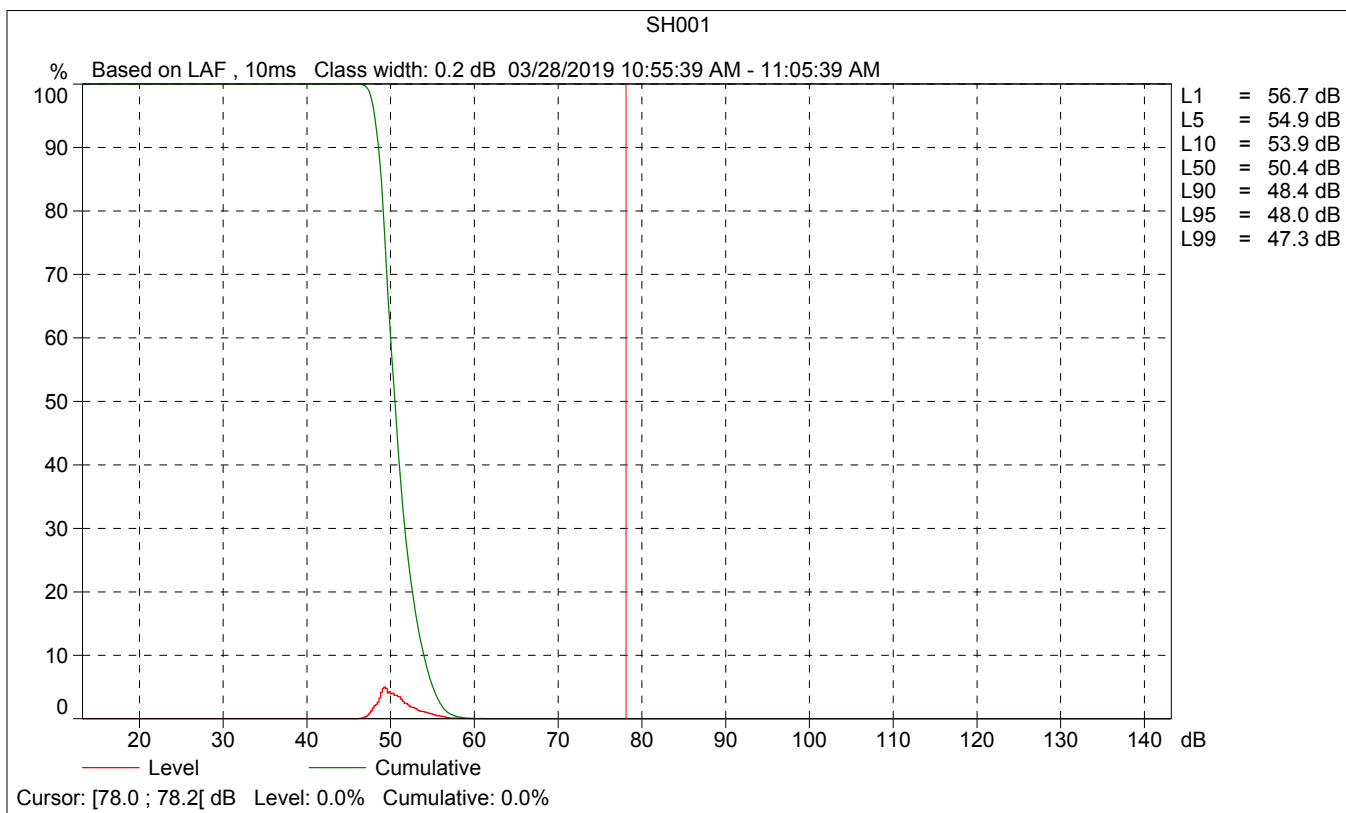
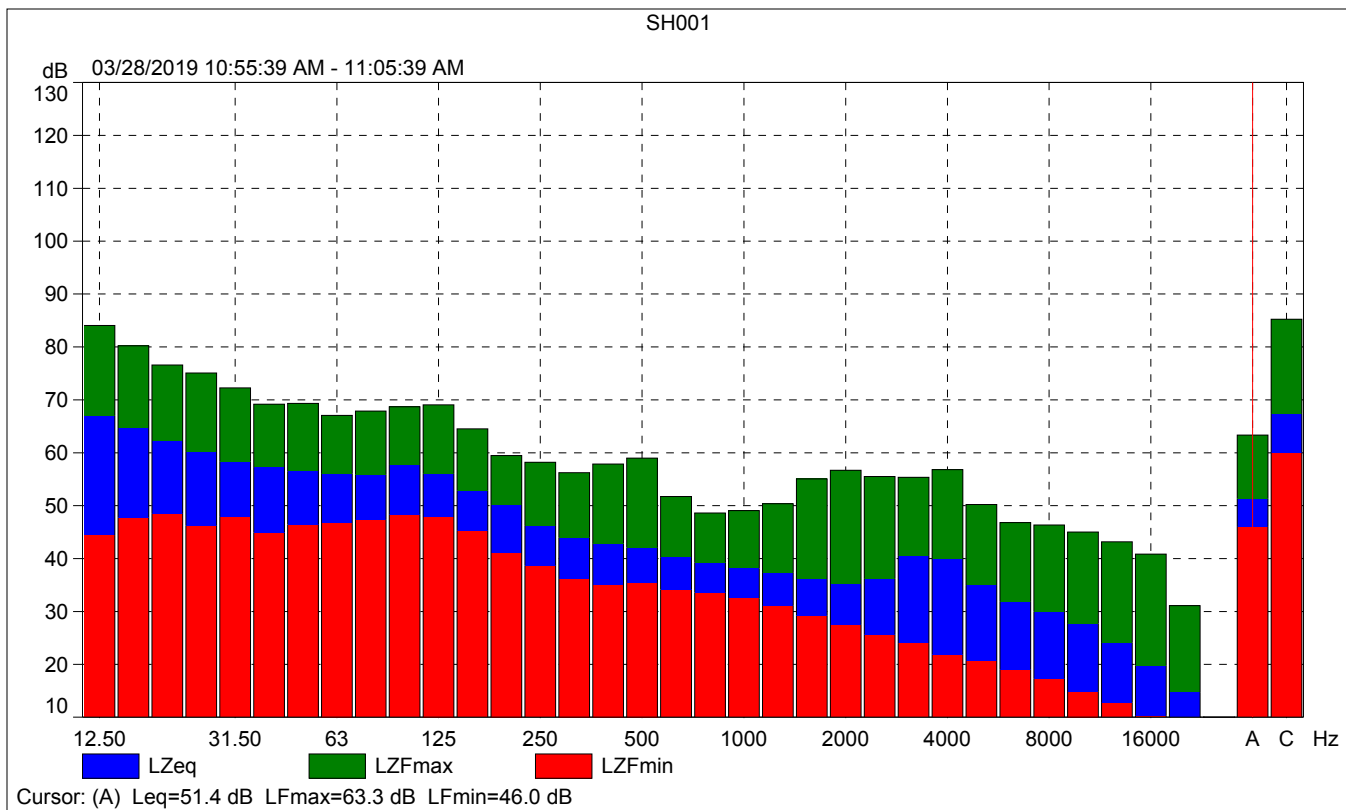
	Time	Frequency
Broadband (excl. Peak):	FSI	AC
Broadband Peak:		C
Spectrum:	FS	Z

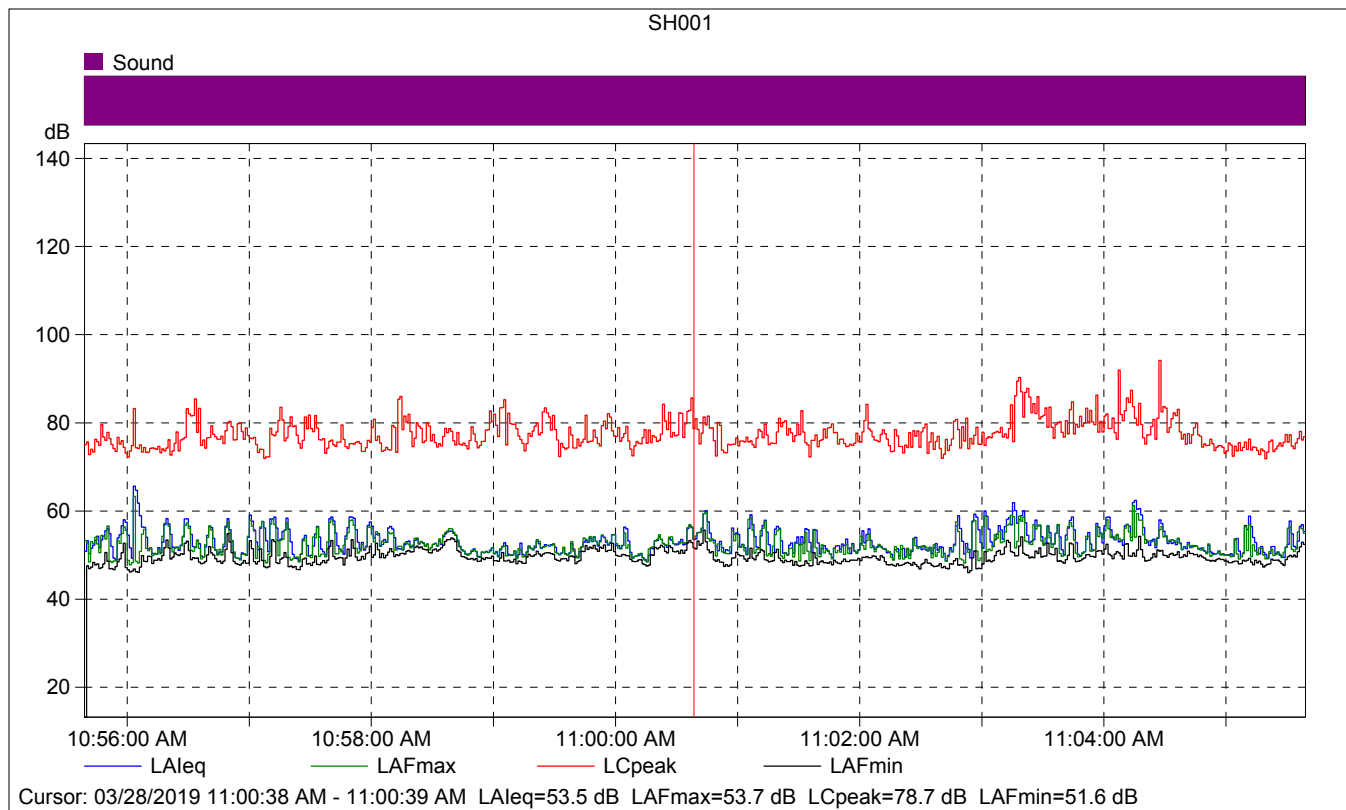
Instrument Serial Number:		3011133
Microphone Serial Number:		3086765
Input:		Top Socket
Windscreen Correction:		UA-1650
Sound Field Correction:		Free-field

Calibration Time:		03/28/2019 08:51:52
Calibration Type:		External reference
Sensitivity:		43.9491011202335 mV/Pa

SH001

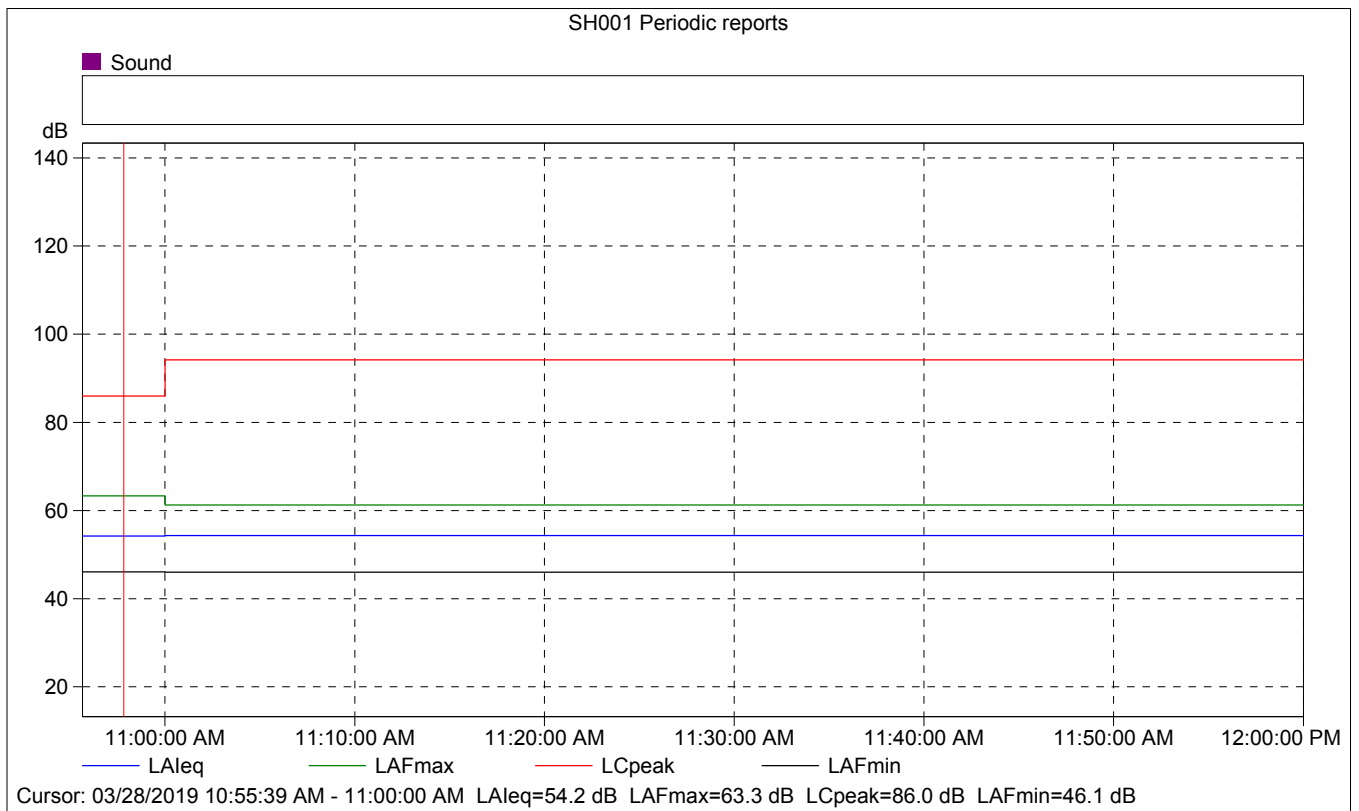
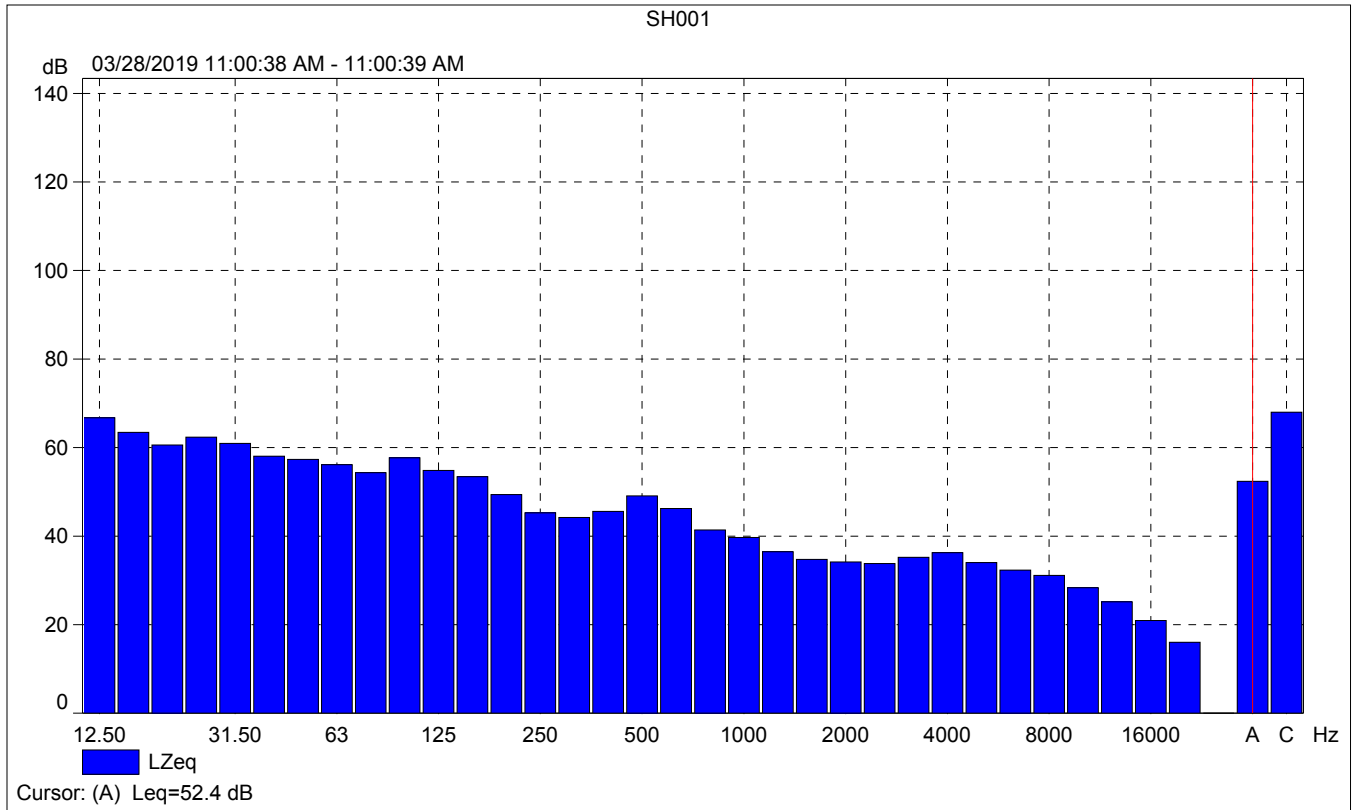
	Start time	End time	Elapsed time	Overload [%]	LAeq [dB]	LAFmax [dB]	LAFmin [dB]
Value				0.00	51.4	63.3	46.0
Time	10:55:39 AM	11:05:39 AM	0:10:00				
Date	03/28/2019	03/28/2019					





SH001

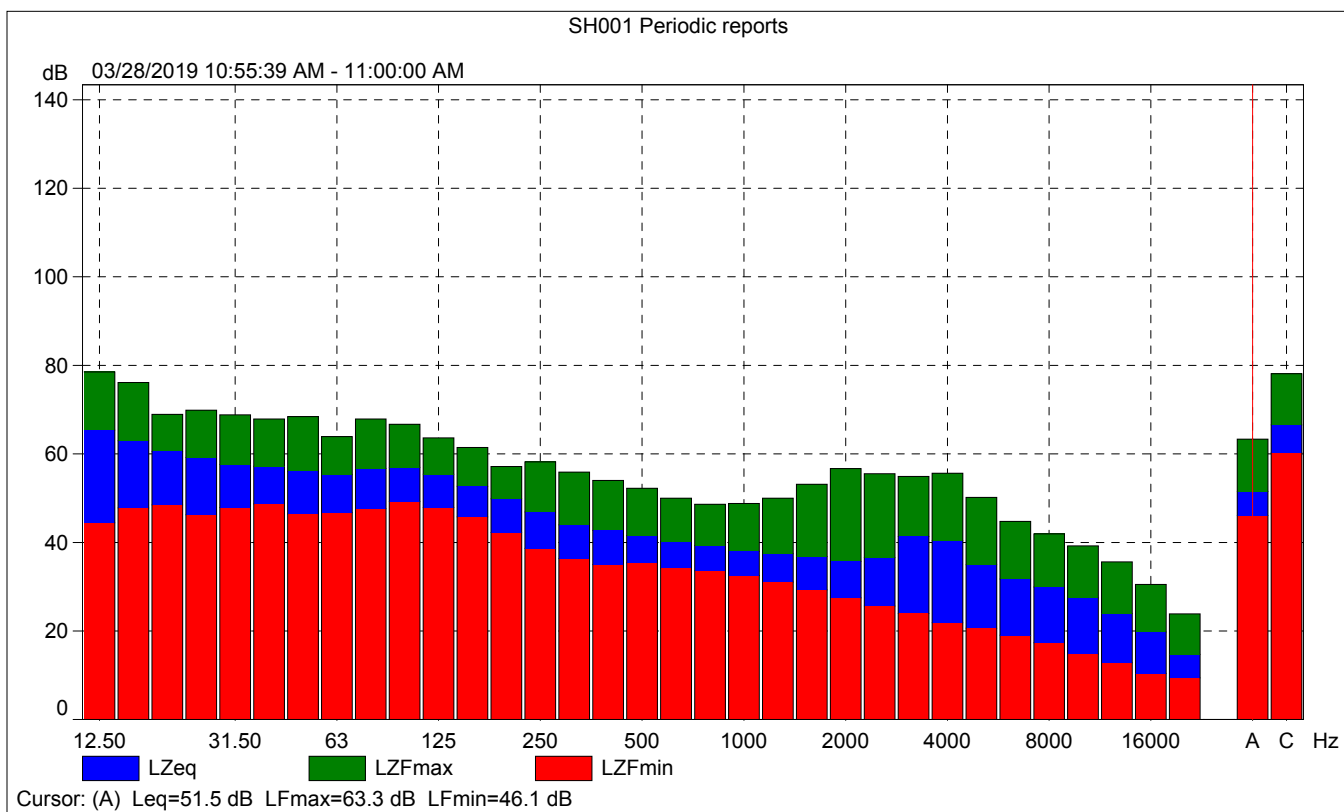
	Start time	Elapsed time	LAeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			53.5	53.7	51.6
Time	11:00:38 AM	0:00:01			
Date	03/28/2019				





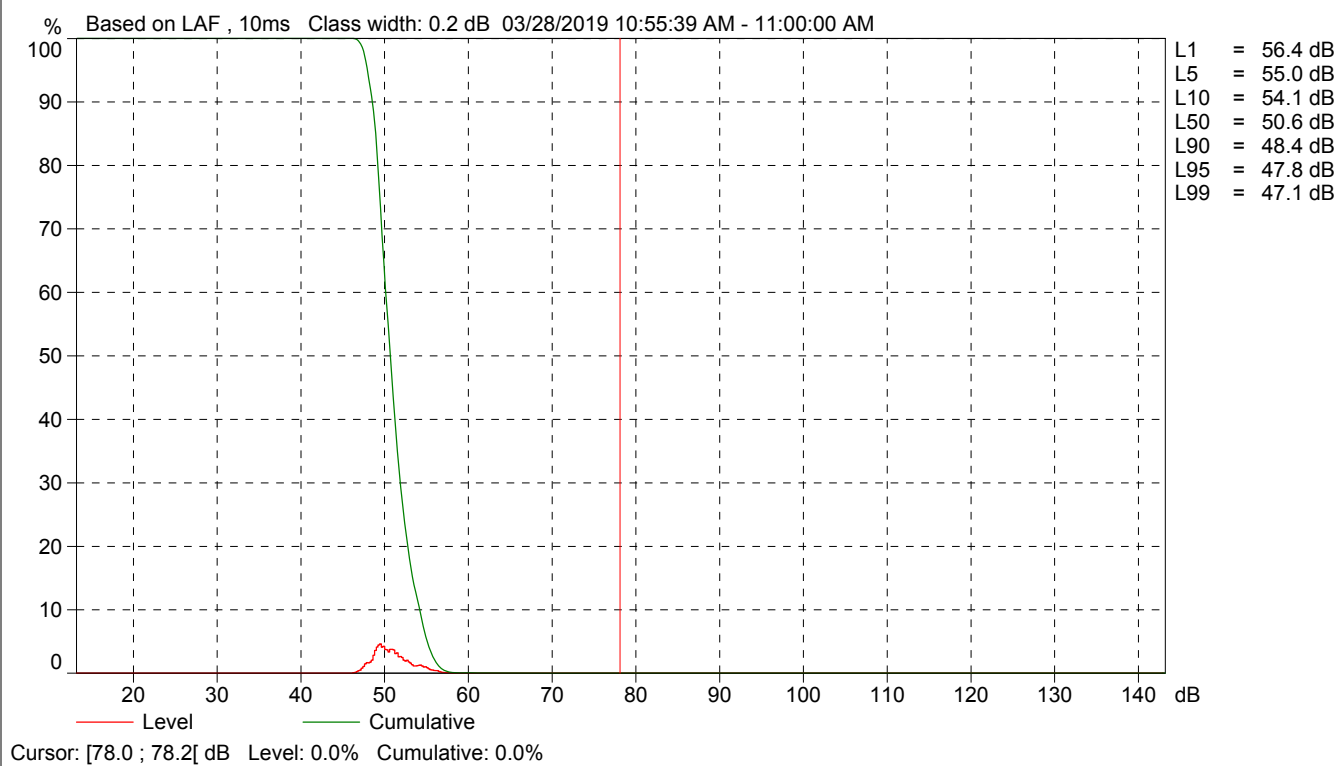
SH001 Periodic reports

	Start time	Elapsed time	Overload [%]	LALeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			0.00	54.2	63.3	46.1
Time	10:55:39 AM	0:04:21				
Date	03/28/2019					





SH001 Periodic reports



Site Number: SH-2			
Recorded By: Danielle Regimbal			
Job Number: 171776			
Date: March 28, 2019			
Time: 11:21 a.m.			
Location: On Walnut Avenue approximately 346 feet south of Hill Street.			
Source of Peak Noise: Street traffic on Walnut Avenue, car door slamming, and pedestrian conversation.			
Noise Data			
Leq (dB)	Lmin (dB)	Lmax (dB)	Peak (dB)
65.3	56.1	77.7	98.3

Equipment						
Category	Type	Vendor	Model	Serial No.	Cert. Date	Note
Sound	Sound Level Meter	Brüel & Kjær	2250	3011133	3/29/2018	
	Microphone	Brüel & Kjær	4189	3086765	3/29/2018	
	Preamp	Brüel & Kjær	ZC 0032	25380	3/29/2018	
	Calibrator	Brüel & Kjær	4231	2545667	3/29/2018	
Weather Data						
Est.	Duration: 10 minutes			Sky: Partly Cloudy		
	Note: dBA Offset = -0.01			Sensor Height (ft): 5 ft		
	Wind Ave Speed (mph / m/s)		Temperature (degrees Fahrenheit)		Barometer Pressure (hPa)	
	WSW 14 mph		65		30.21 inHg	

Photo of Measurement Location





2250

Instrument:		2250
Application:		BZ7225 Version 4.7.4
Start Time:		03/28/2019 11:21:51
End Time:		03/28/2019 11:31:51
Elapsed Time:		00:10:00
Bandwidth:		1/3-octave
Max Input Level:		142.06

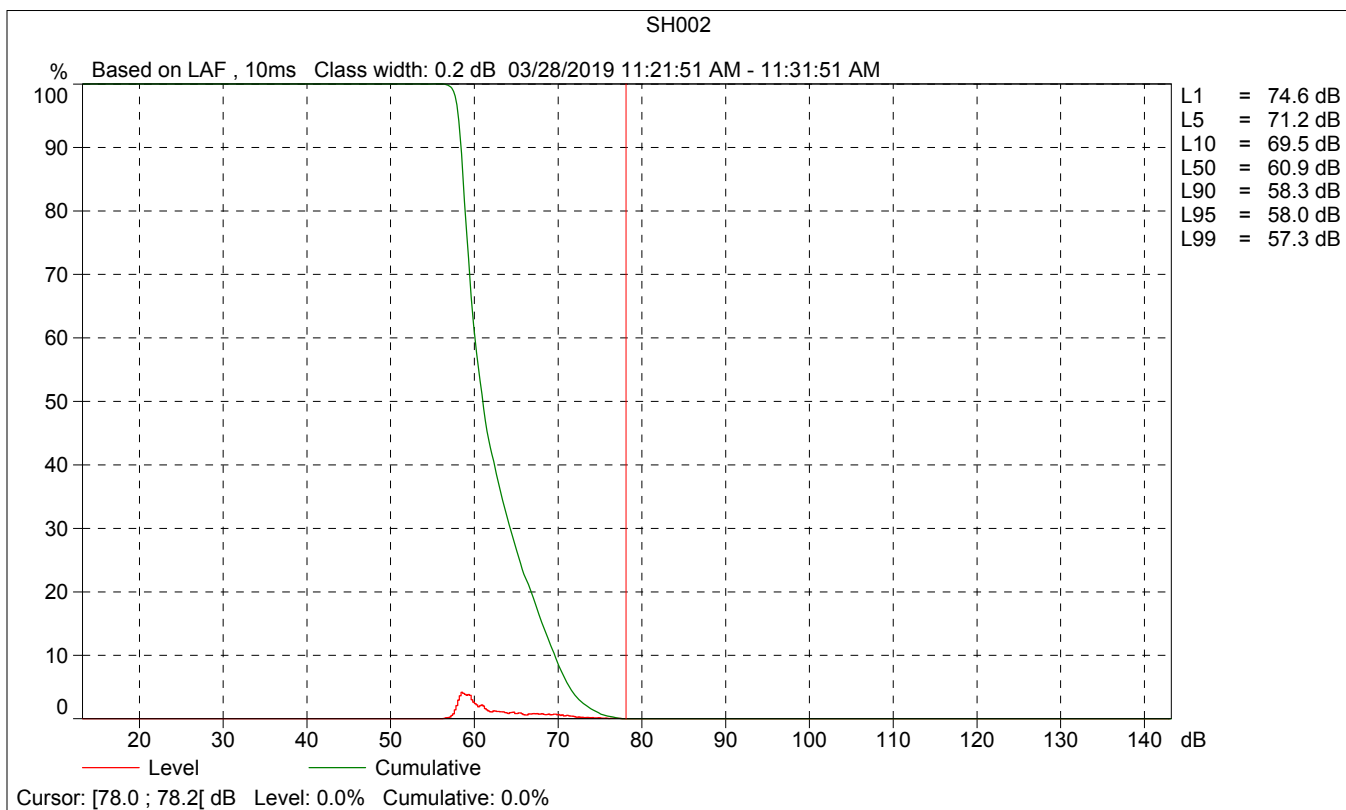
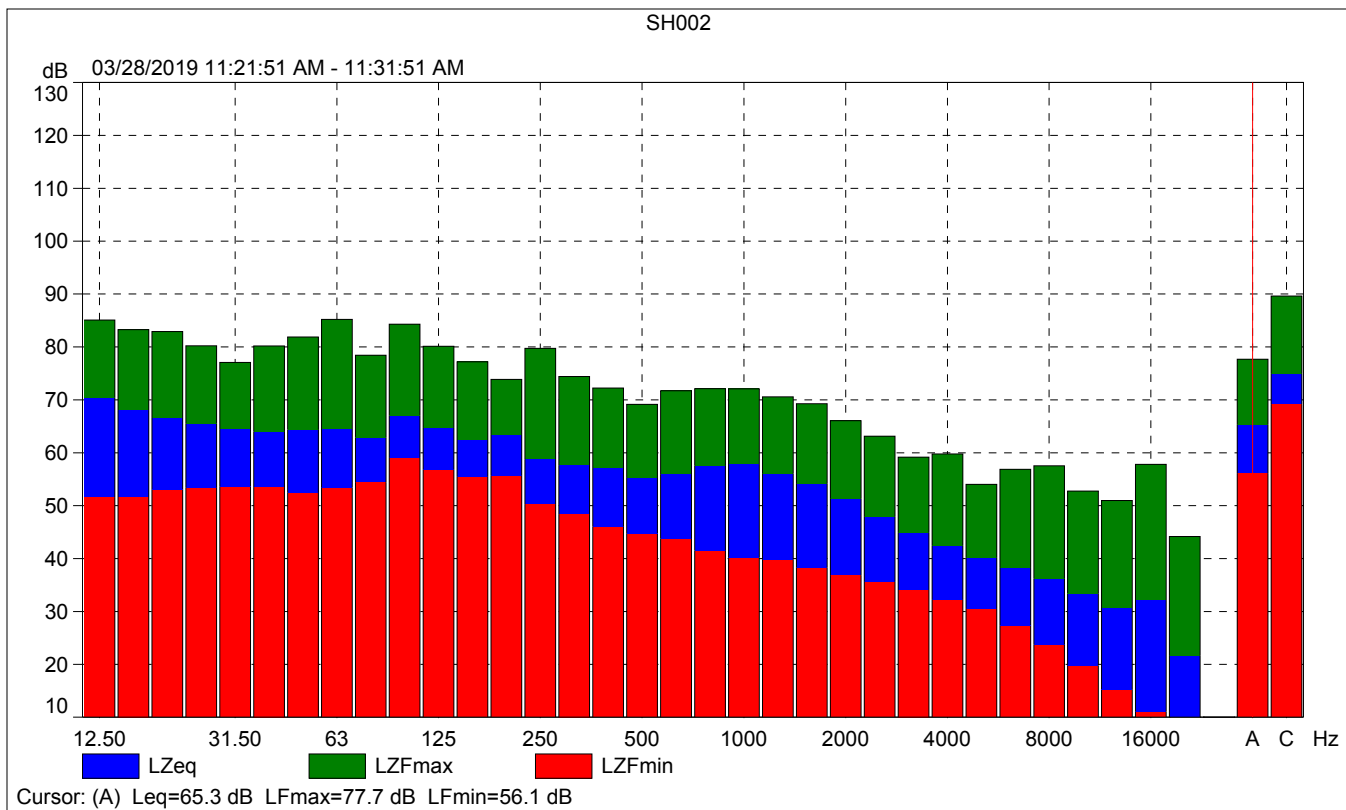
	Time	Frequency
Broadband (excl. Peak):	FSI	AC
Broadband Peak:		C
Spectrum:	FS	Z

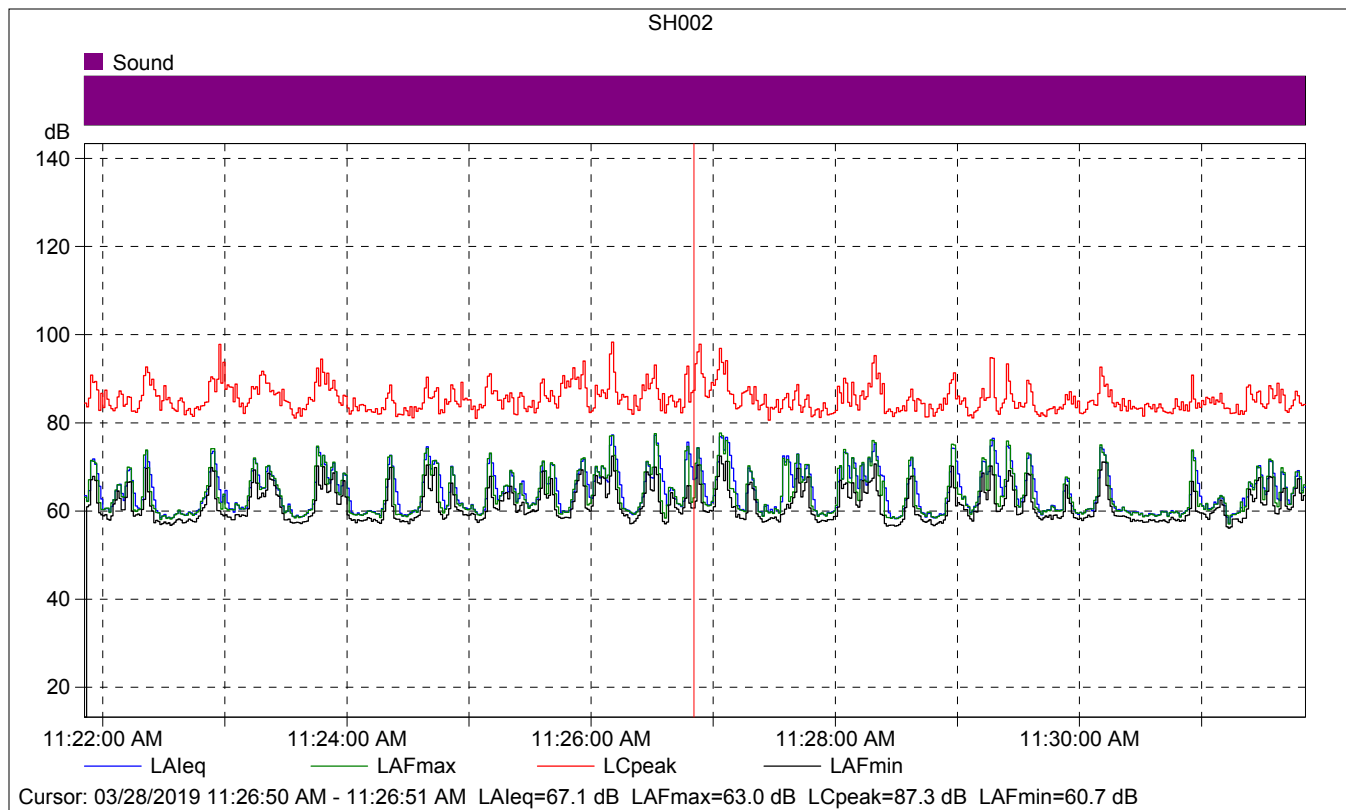
Instrument Serial Number:		3011133
Microphone Serial Number:		3086765
Input:		Top Socket
Windscreen Correction:		UA-1650
Sound Field Correction:		Free-field

Calibration Time:		03/28/2019 08:51:52
Calibration Type:		External reference
Sensitivity:		43.9491011202335 mV/Pa

SH002

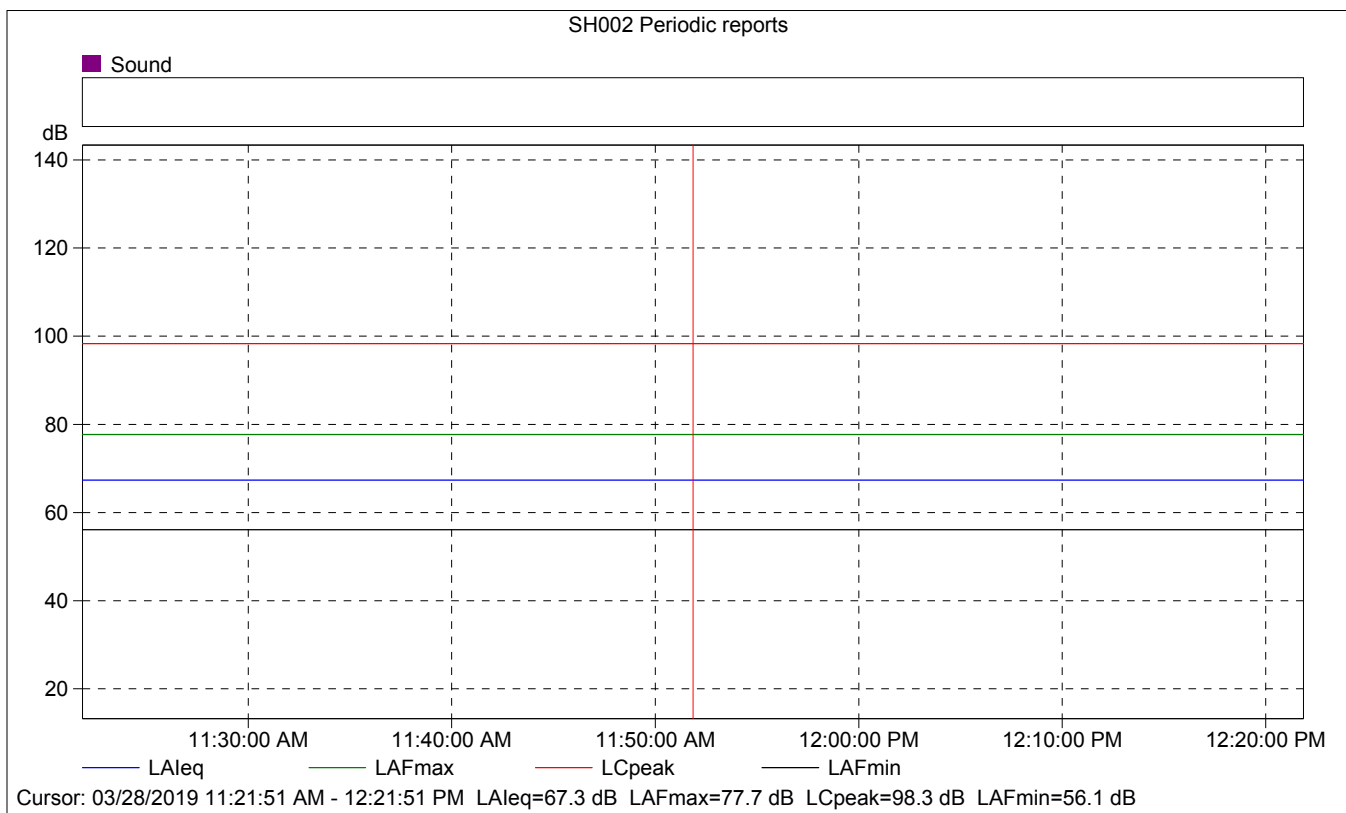
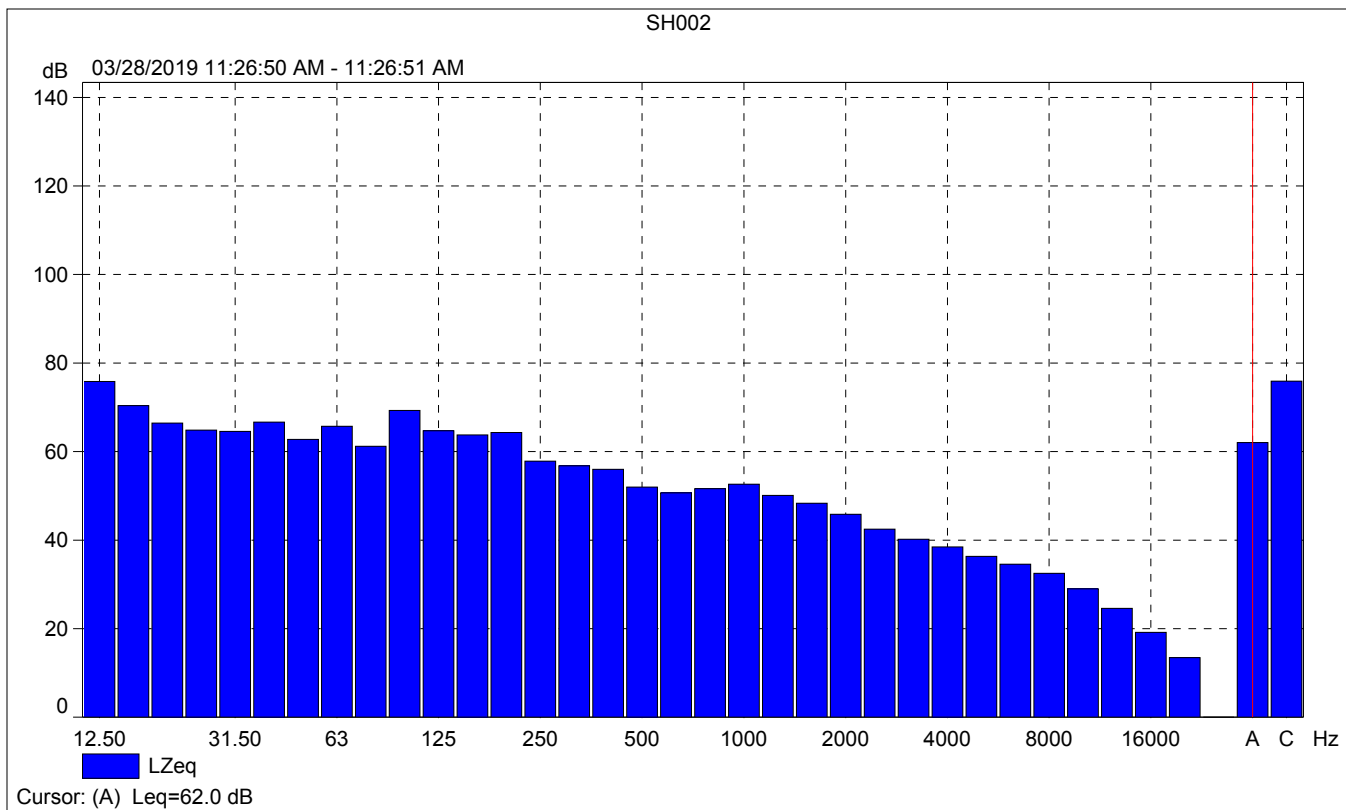
	Start time	End time	Elapsed time	Overload [%]	LAeq [dB]	LAFmax [dB]	LAFmin [dB]
Value				0.00	65.3	77.7	56.1
Time	11:21:51 AM	11:31:51 AM	0:10:00				
Date	03/28/2019	03/28/2019					





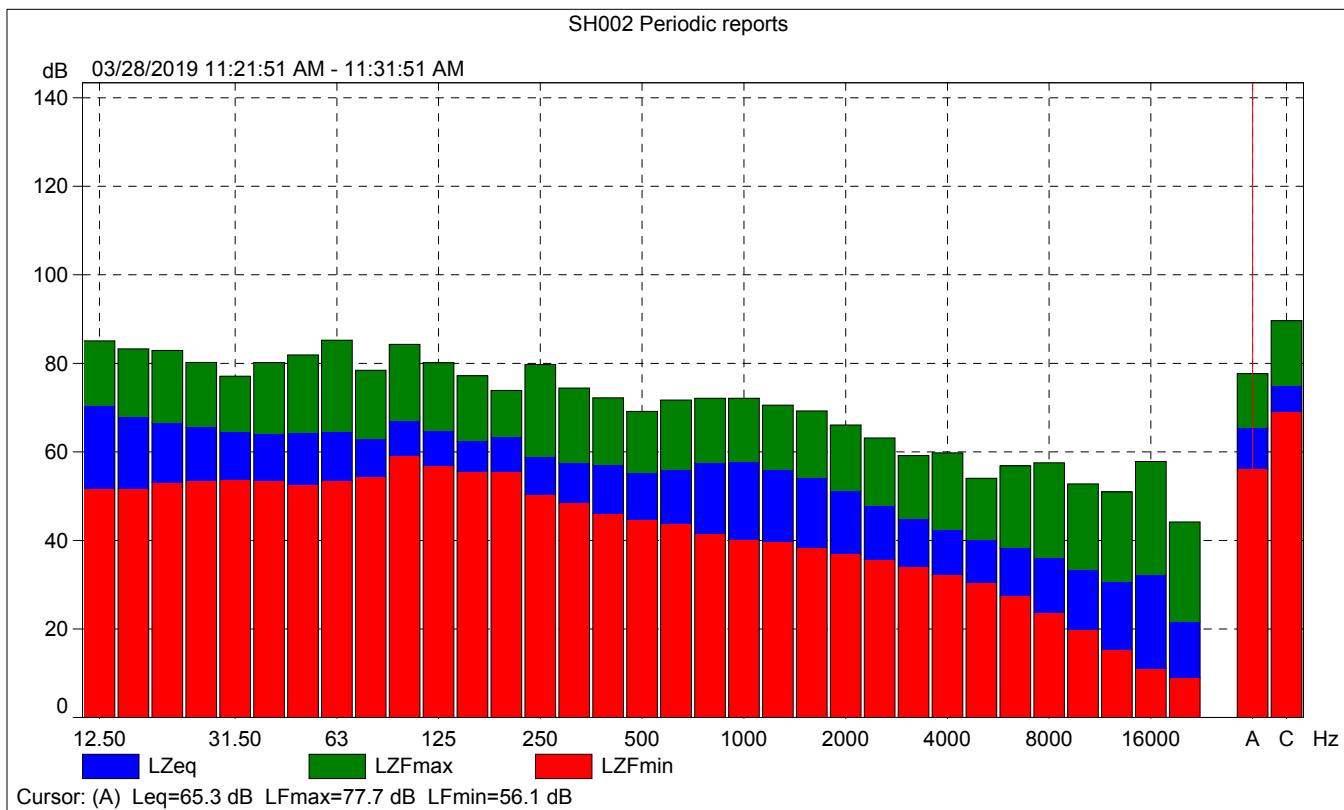
SH002

	Start time	Elapsed time	LAeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			67.1	63.0	60.7
Time	11:26:50 AM	0:00:01			
Date	03/28/2019				



SH002 Periodic reports

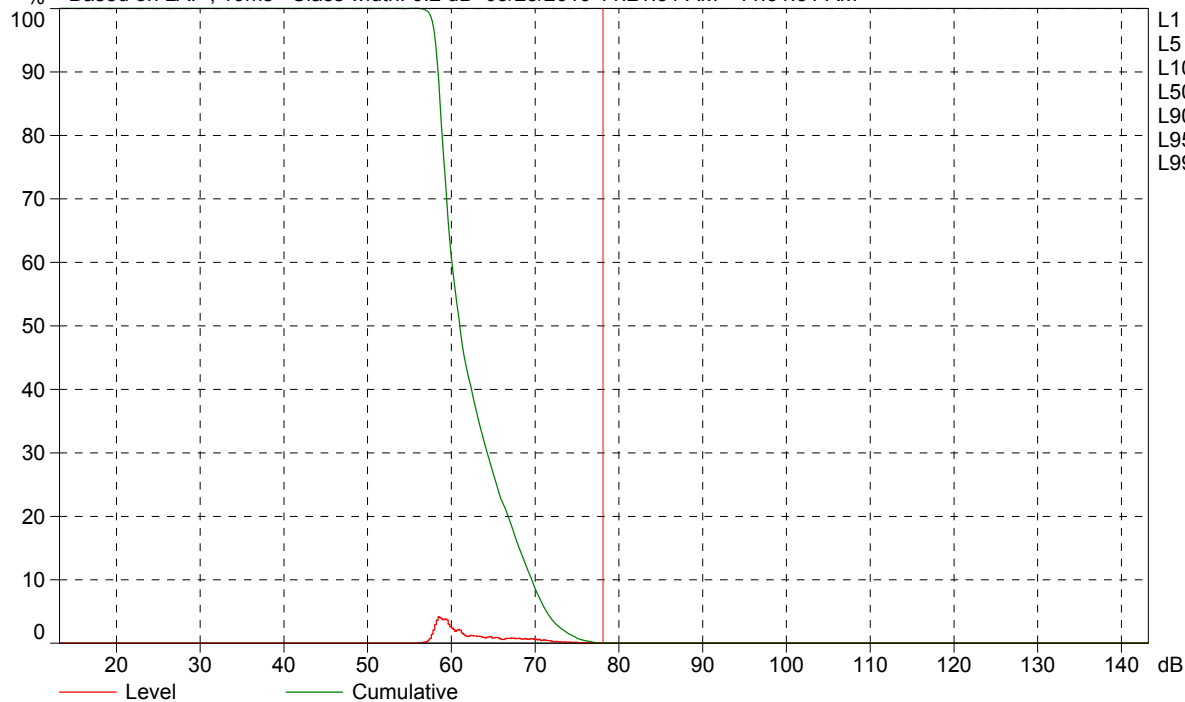
	Start time	Elapsed time	Overload [%]	LAFeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			0.00	67.3	77.7	56.1
Time	11:21:51 AM	0:10:00				
Date	03/28/2019					





SH002 Periodic reports

% Based on LAF, 10ms Class width: 0.2 dB 03/28/2019 11:21:51 AM - 11:31:51 AM



- L1 = 74.6 dB
- L5 = 71.2 dB
- L10 = 69.5 dB
- L50 = 60.9 dB
- L90 = 58.3 dB
- L95 = 58.0 dB
- L99 = 57.3 dB

Cursor: [78.0 ; 78.2] dB Level: 0.0% Cumulative: 0.0%

Site Number: SH-3			
Recorded By: Danielle Regimbal			
Job Number: 171776			
Date: March 28, 2019			
Time: 11:37 a.m.			
Location: On Gaviota Avenue approximately 96 feet north Alamos Avenue.			
Source of Peak Noise: Street traffic on Gaviota Avenue, as well as helicopter and plane overflights.			
Noise Data			
Leq (dB)	Lmin (dB)	Lmax (dB)	Peak (dB)
57.1	49.0	75.1	95.8

Equipment						
Category	Type	Vendor	Model	Serial No.	Cert. Date	Note
Sound	Sound Level Meter	Brüel & Kjær	2250	3011133	3/29/2018	
	Microphone	Brüel & Kjær	4189	3086765	3/29/2018	
	Preamp	Brüel & Kjær	ZC 0032	25380	3/29/2018	
	Calibrator	Brüel & Kjær	4231	2545667	3/29/2018	
Weather Data						
Est.	Duration: 10 minutes			Sky: Partly Cloudy		
	Note: dBA Offset = -0.01			Sensor Height (ft): 5 ft		
	Wind Ave Speed (mph / m/s)		Temperature (degrees Fahrenheit)		Barometer Pressure (hPa)	
	WSW 14 mph		65		30.21 inHg	

Photo of Measurement Location





2250

Instrument:		2250
Application:		BZ7225 Version 4.7.4
Start Time:		03/28/2019 11:37:27
End Time:		03/28/2019 11:47:27
Elapsed Time:		00:10:00
Bandwidth:		1/3-octave
Max Input Level:		142.06

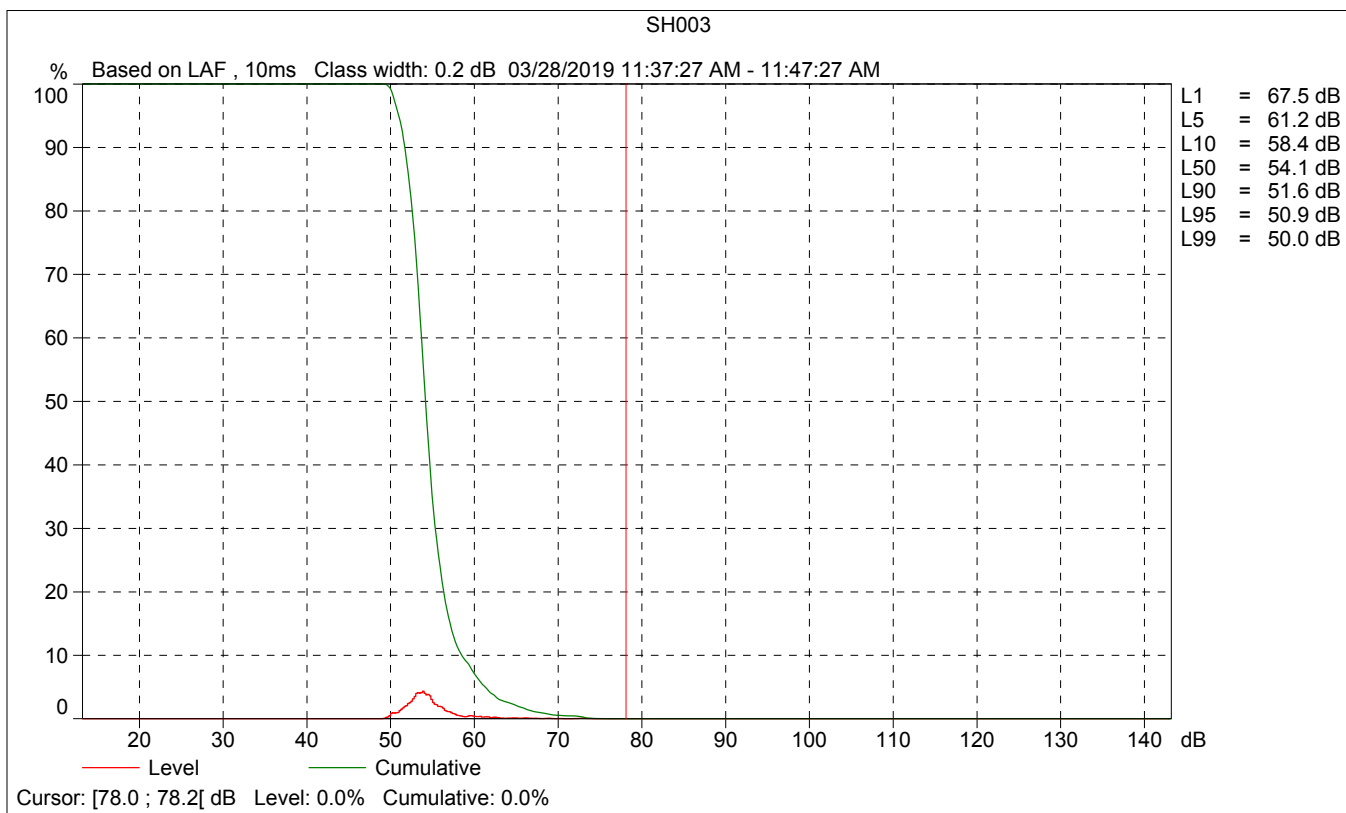
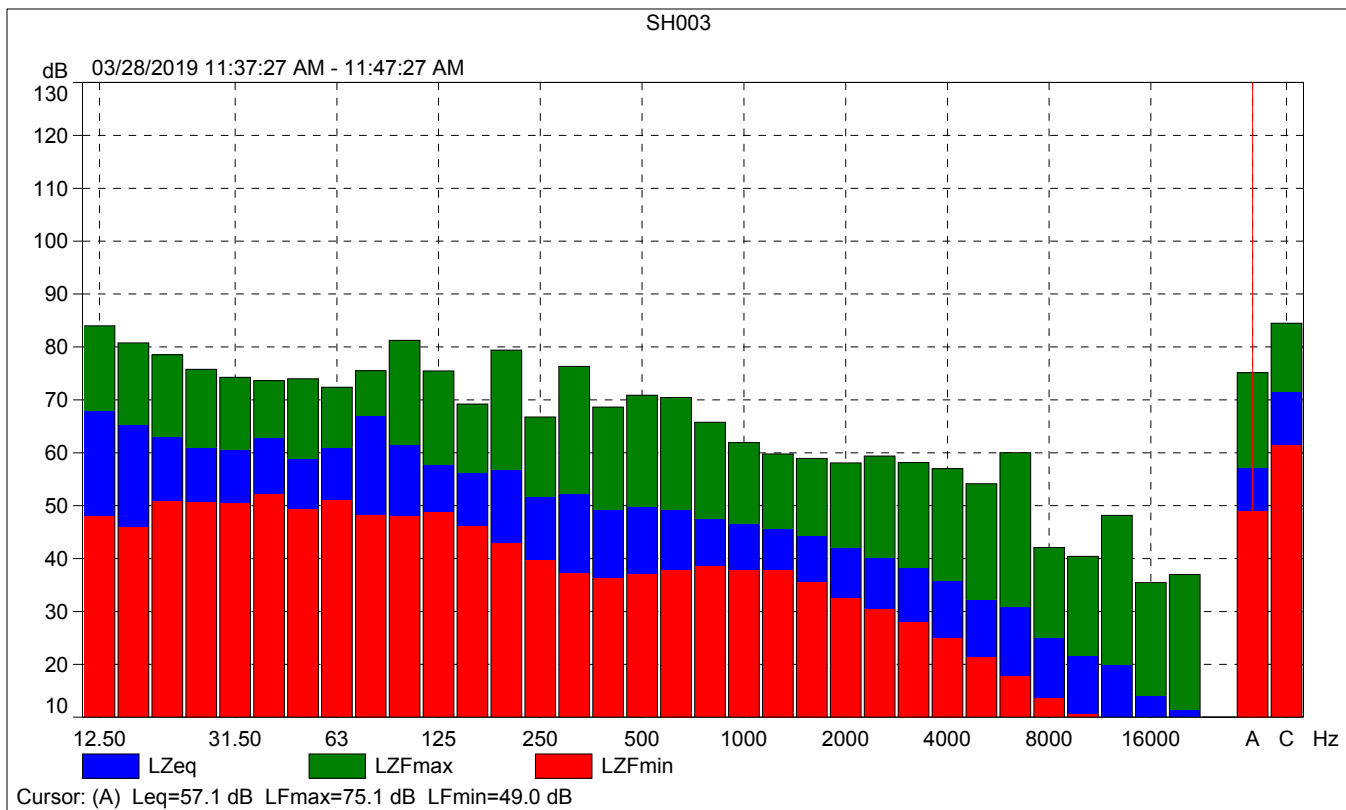
	Time	Frequency
Broadband (excl. Peak):	FSI	AC
Broadband Peak:		C
Spectrum:	FS	Z

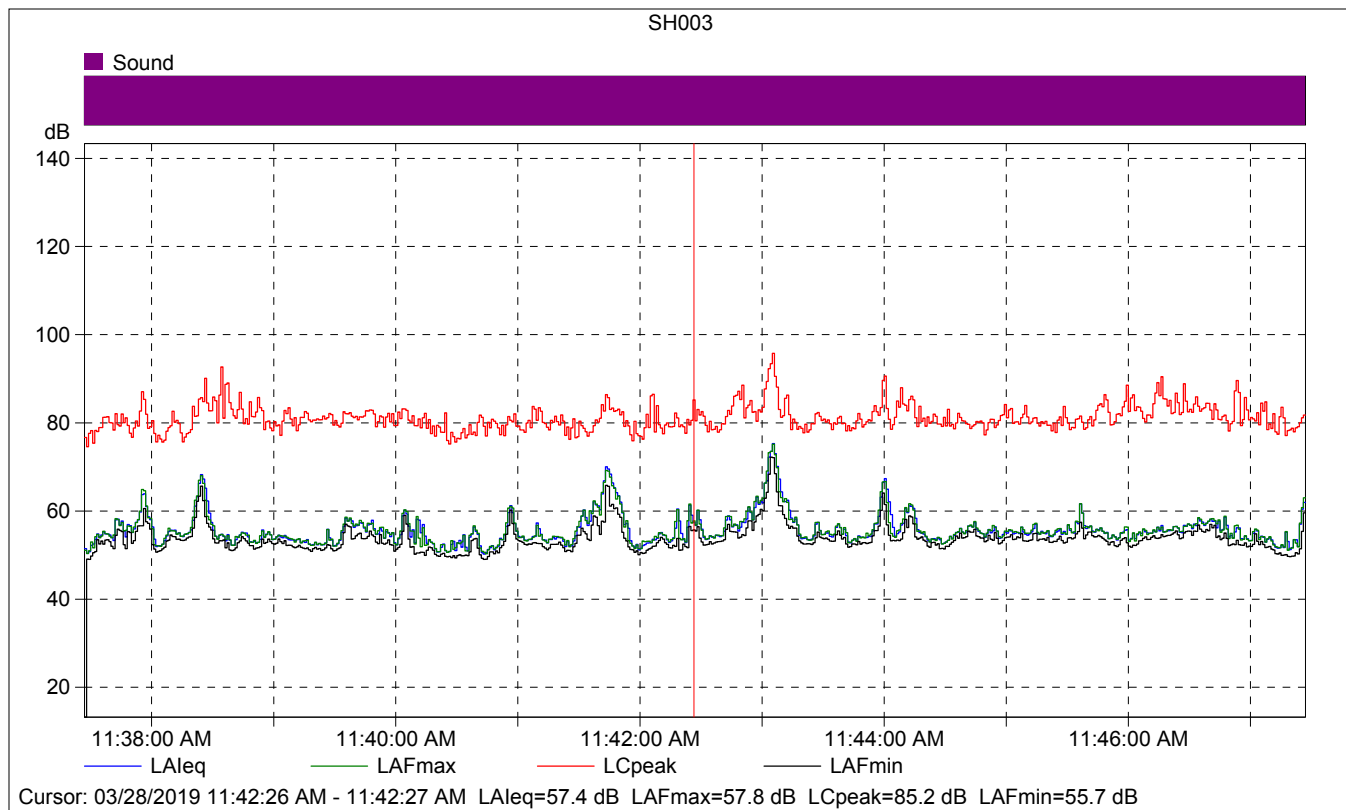
Instrument Serial Number:		3011133
Microphone Serial Number:		3086765
Input:		Top Socket
Windscreen Correction:		UA-1650
Sound Field Correction:		Free-field

Calibration Time:		03/28/2019 08:51:52
Calibration Type:		External reference
Sensitivity:		43.9491011202335 mV/Pa

SH003

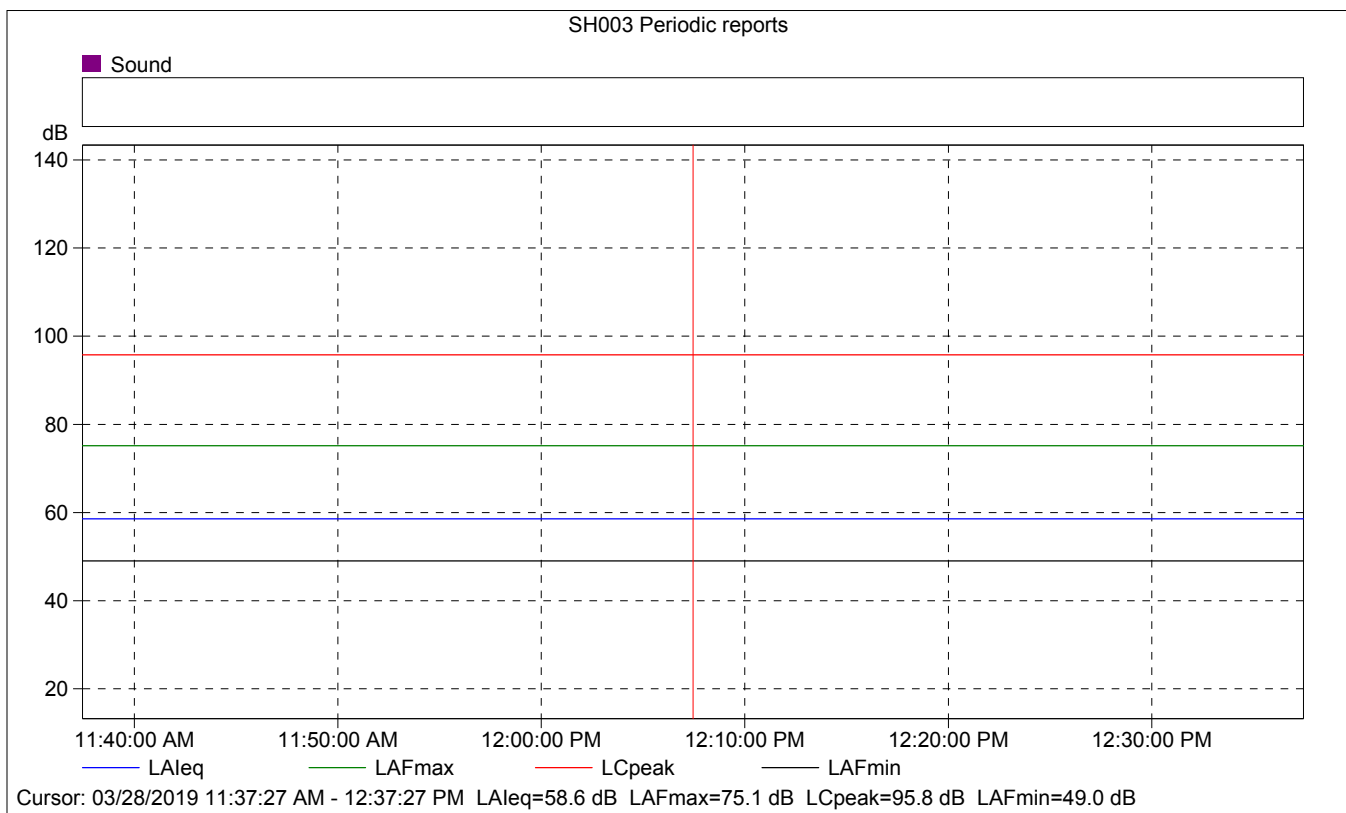
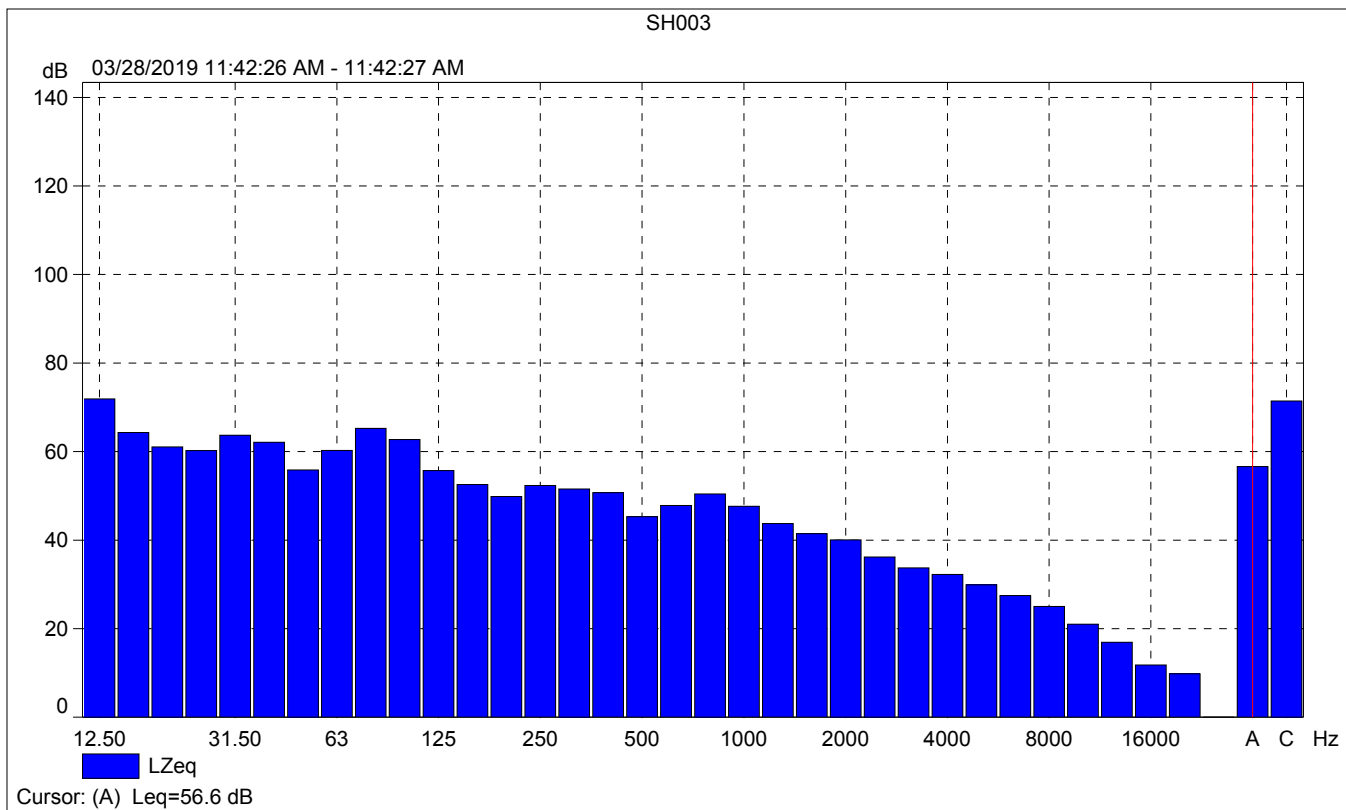
	Start time	End time	Elapsed time	Overload [%]	LAeq [dB]	LAFmax [dB]	LAFmin [dB]
Value				0.00	57.1	75.1	49.0
Time	11:37:27 AM	11:47:27 AM	0:10:00				
Date	03/28/2019	03/28/2019					





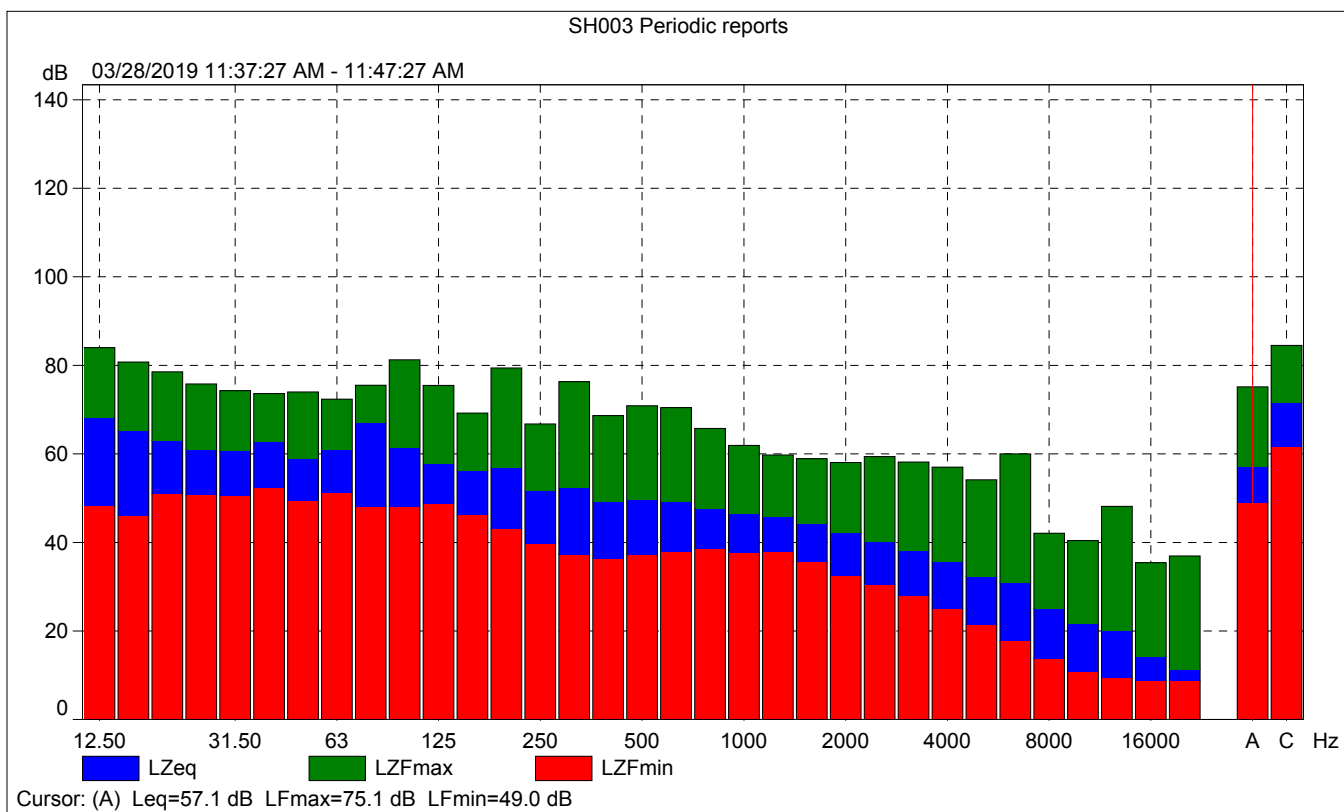
SH003

	Start time	Elapsed time	LAeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			57.4	57.8	55.7
Time	11:42:26 AM	0:00:01			
Date	03/28/2019				



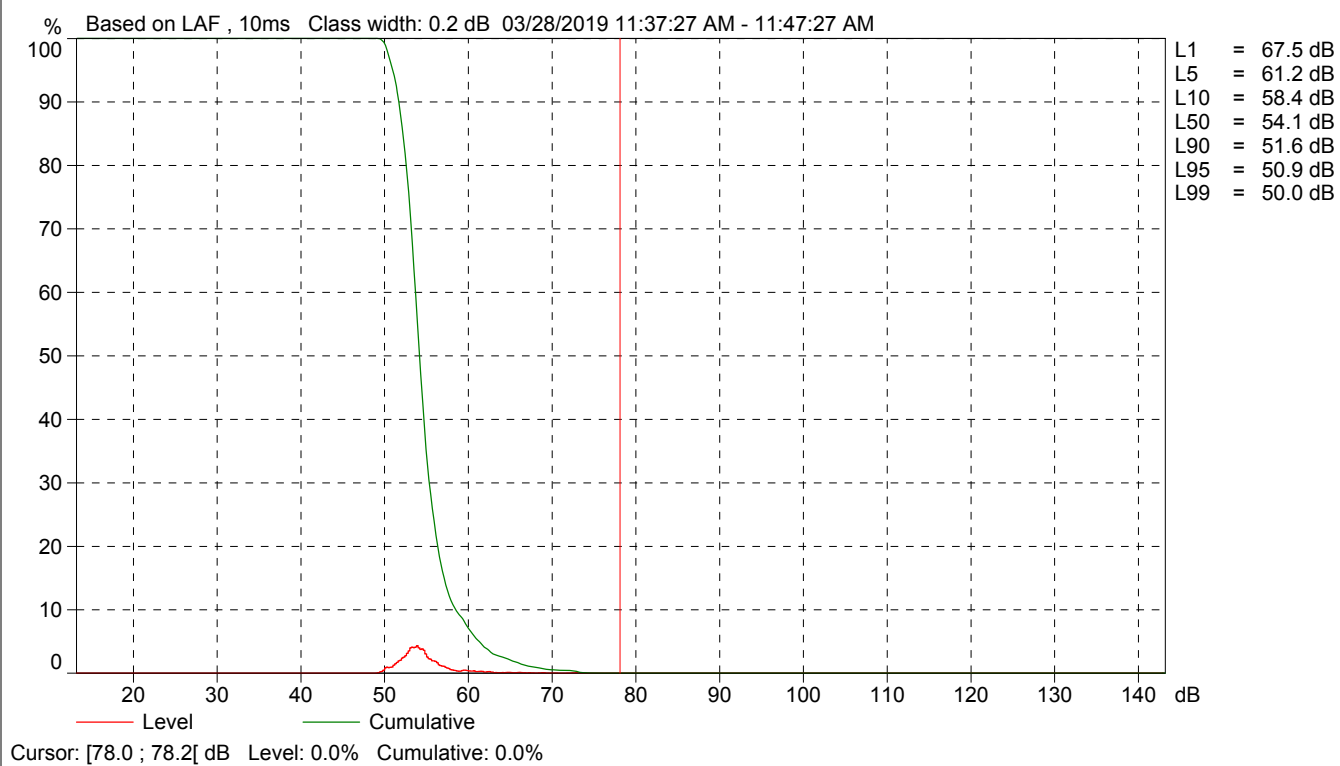
SH003 Periodic reports

	Start time	Elapsed time	Overload [%]	LAFeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			0.00	58.6	75.1	49.0
Time	11:37:27 AM	0:10:00				
Date	03/28/2019					





SH003 Periodic reports



Site Number: SH-4			
Recorded By: Danielle Regimbal			
Job Number: 171776			
Date: March 28, 2019			
Time: 11:53 a.m.			
Location: Grassy area along Wesley Drive, approximately 183 feet northwest of 20 th Street.			
Source of Peak Noise: Remediation construction and street traffic on Wesley Drive.			
Noise Data			
Leq (dB)	Lmin (dB)	Lmax (dB)	Peak (dB)
53.8	47.6	67.2	92.2

Equipment						
Category	Type	Vendor	Model	Serial No.	Cert. Date	Note
Sound	Sound Level Meter	Brüel & Kjær	2250	3011133	3/29/2018	
	Microphone	Brüel & Kjær	4189	3086765	3/29/2018	
	Preamp	Brüel & Kjær	ZC 0032	25380	3/29/2018	
	Calibrator	Brüel & Kjær	4231	2545667	3/29/2018	
Weather Data						
Est.	Duration: 10 minutes			Sky: Partly Cloudy		
	Note: dBA Offset = -0.01			Sensor Height (ft): 5 ft		
	Wind Ave Speed (mph / m/s)		Temperature (degrees Fahrenheit)		Barometer Pressure (hPa)	
	WSW 14 mph		65		30.21 inHg	

Photo of Measurement Location



2250

Instrument:		2250
Application:		BZ7225 Version 4.7.4
Start Time:		03/28/2019 11:53:44
End Time:		03/28/2019 12:03:44
Elapsed Time:		00:10:00
Bandwidth:		1/3-octave
Max Input Level:		142.06

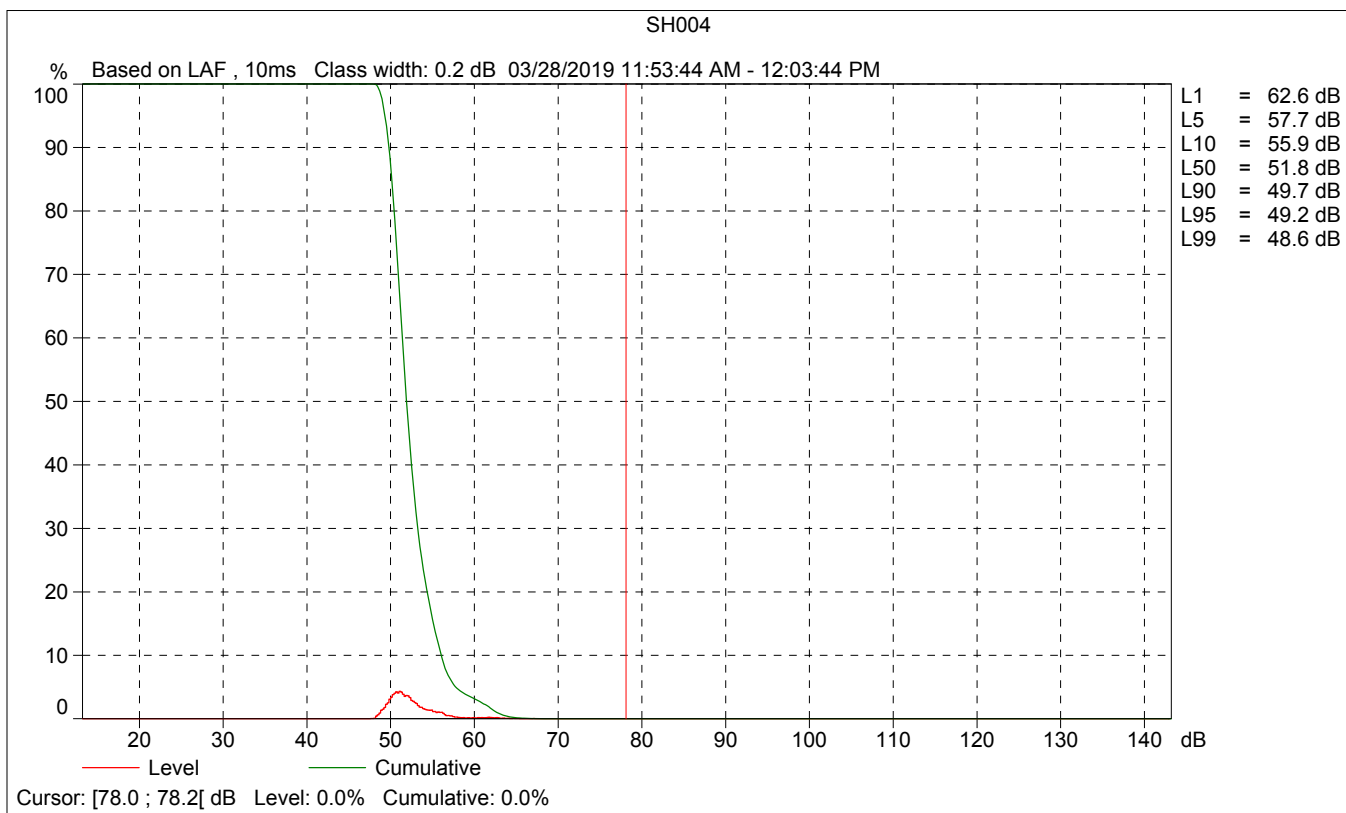
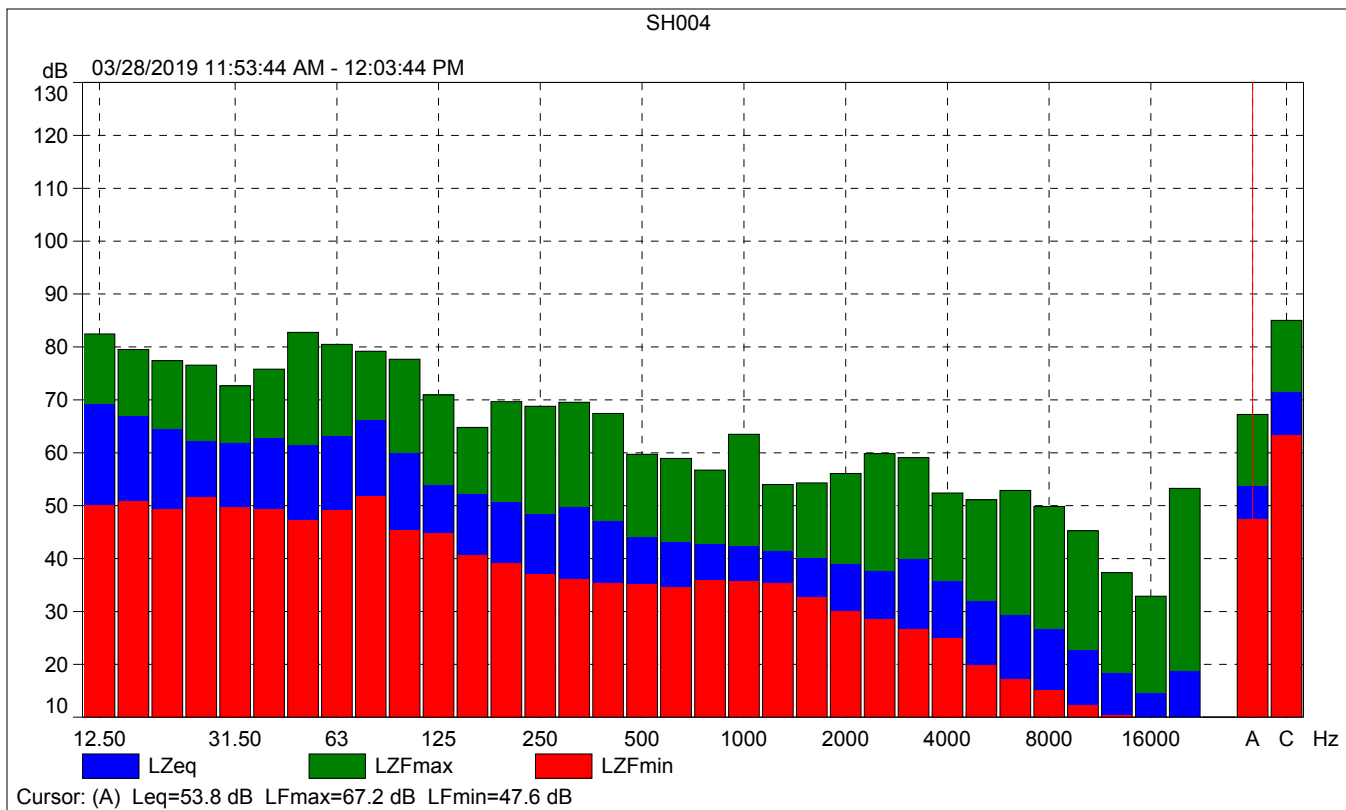
	Time	Frequency
Broadband (excl. Peak):	FSI	AC
Broadband Peak:		C
Spectrum:	FS	Z

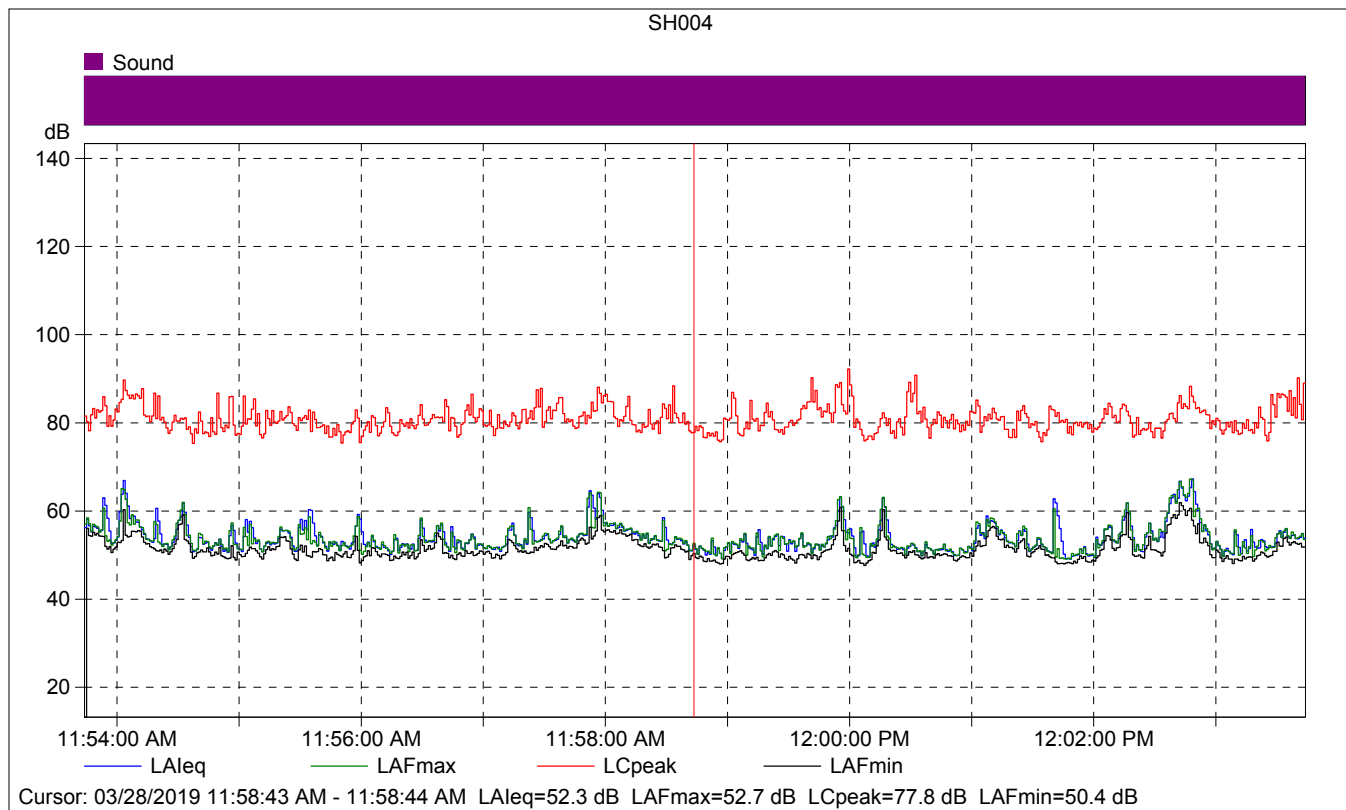
Instrument Serial Number:		3011133
Microphone Serial Number:		3086765
Input:		Top Socket
Windscreen Correction:		UA-1650
Sound Field Correction:		Free-field

Calibration Time:		03/28/2019 08:51:52
Calibration Type:		External reference
Sensitivity:		43.9491011202335 mV/Pa

SH004

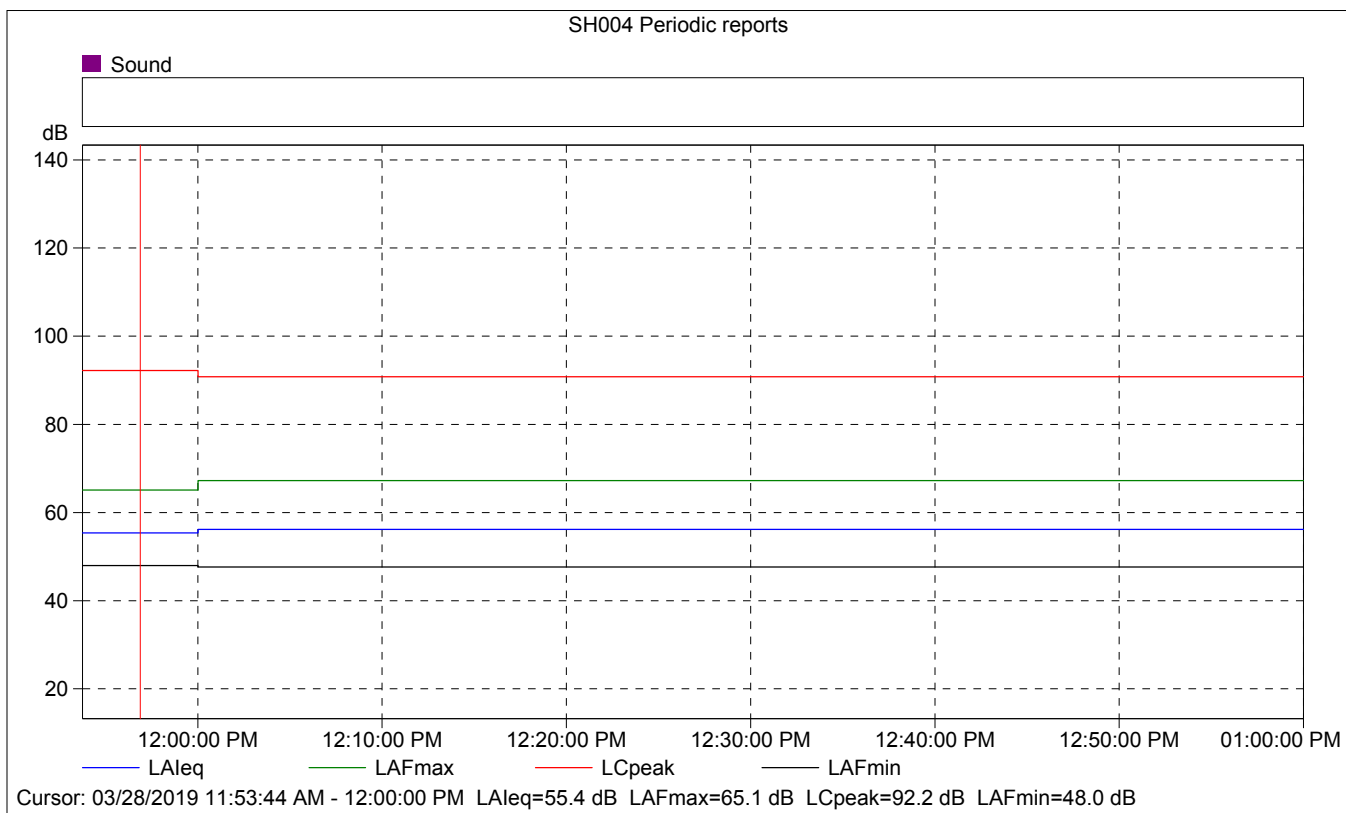
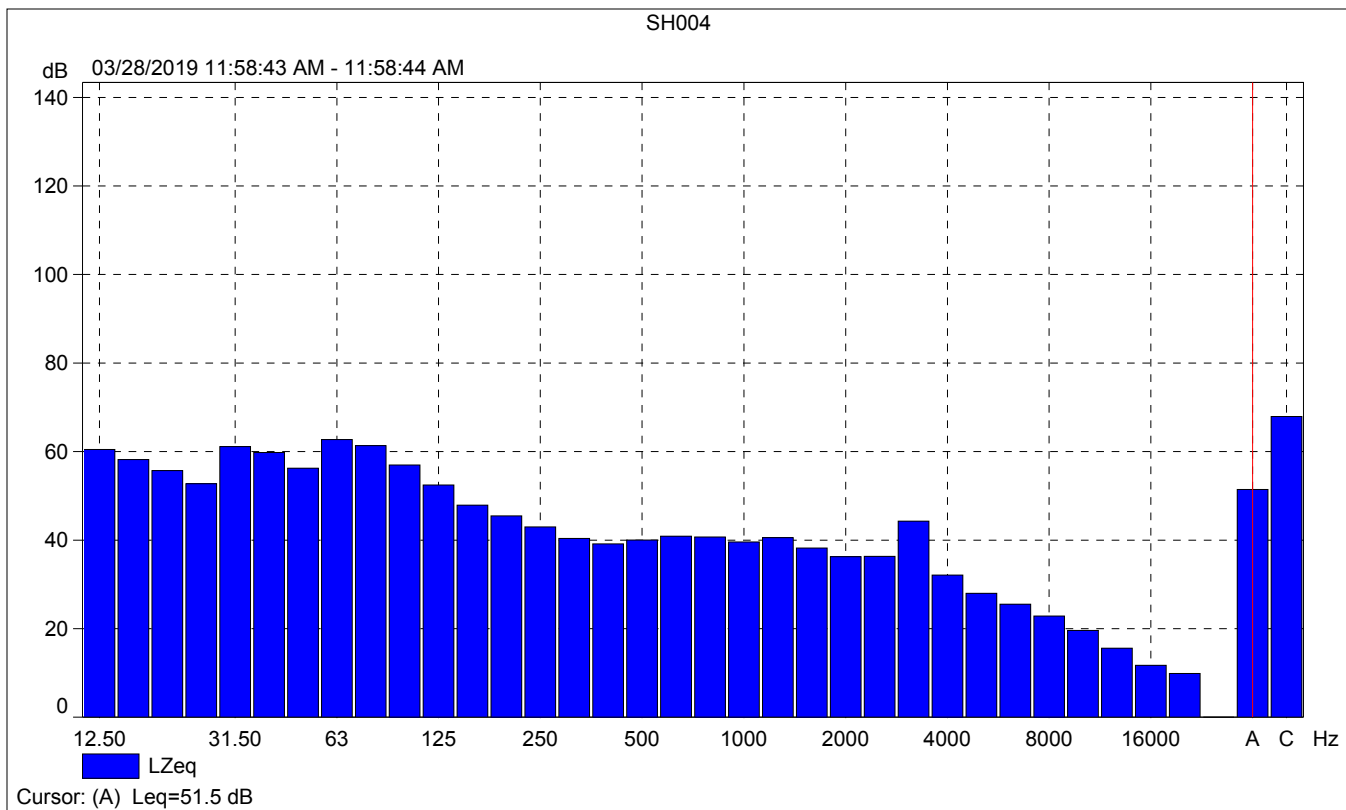
	Start time	End time	Elapsed time	Overload [%]	LAeq [dB]	LAFmax [dB]	LAFmin [dB]
Value				0.00	53.8	67.2	47.6
Time	11:53:44 AM	12:03:44 PM	0:10:00				
Date	03/28/2019	03/28/2019					





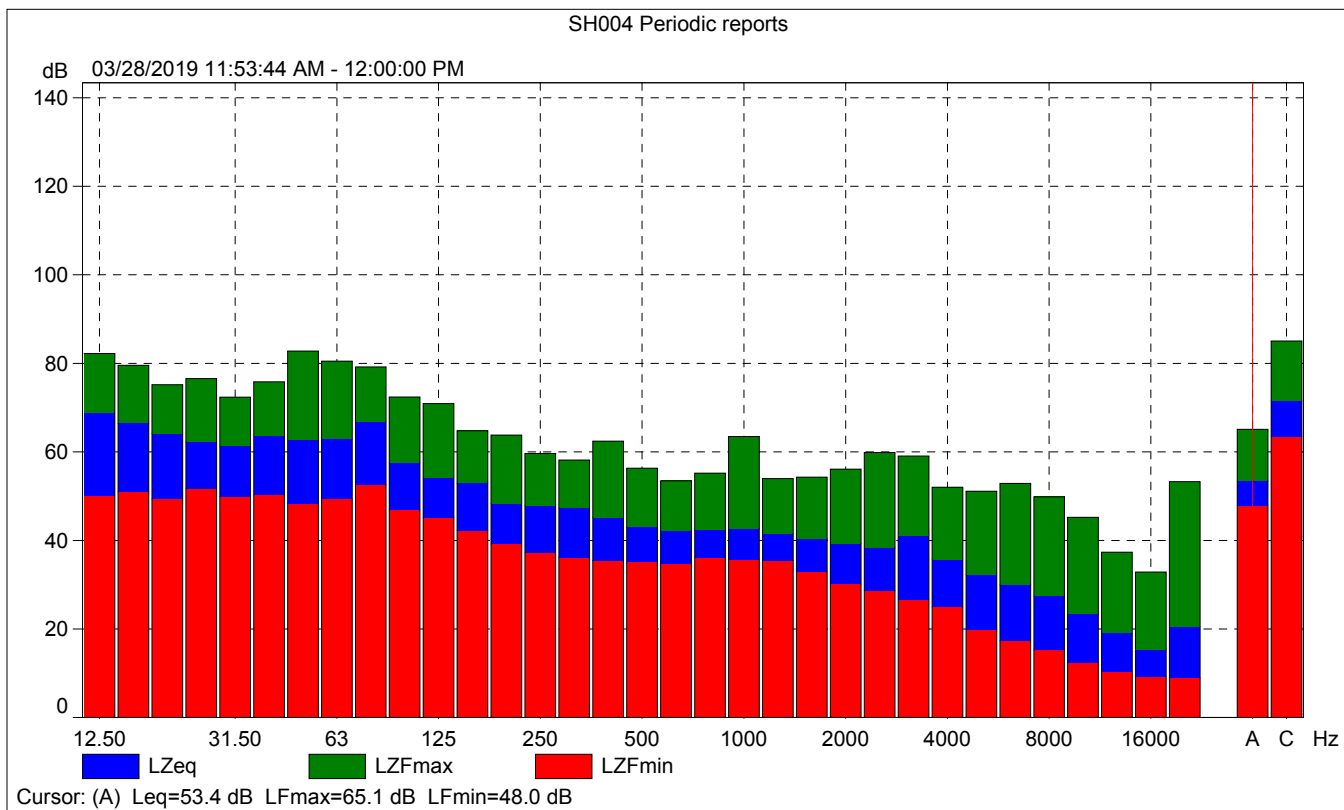
SH004

	Start time	Elapsed time	LAeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			52.3	52.7	50.4
Time	11:58:43 AM	0:00:01			
Date	03/28/2019				



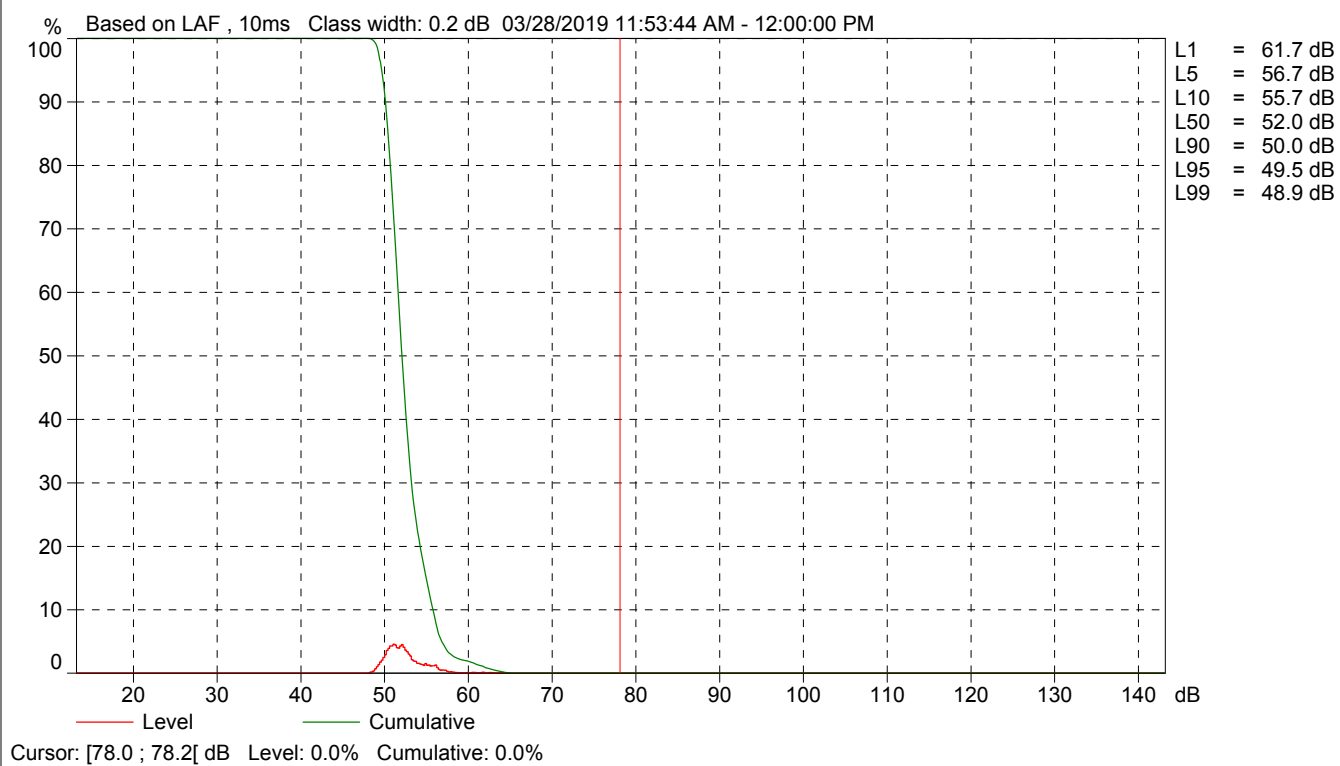
SH004 Periodic reports

	Start time	Elapsed time	Overload [%]	LAFeq [dB]	LAFmax [dB]	LAFmin [dB]
Value			0.00	55.4	65.1	48.0
Time	11:53:44 AM	0:06:16				
Date	03/28/2019					





SH004 Periodic reports



**Federal Highway Administration RD-77-108
Traffic Noise Prediction Model (CALVENO)**

Project Name: Signal Hill Business Park ISMND Scenario: Existing Plus Project
 Analyst: Ryan Chiene Job #: 158738
 Roadway: Gundry Avenue
 Road Segment: South of Hill Street

PROJECT DATA		SITE DATA				
Centerline Dist to Barrier	0	Road Grade:	0			
Barrier (0=wall, 1= berm):	0	Average Daily Traffic:	680			
Receiver Barrier Dist:	0	Peak Hour Traffic:	68			
Centerline Dist. To Observer:	100	Vehicle Speed:	25			
Barrier Near Lane CL Dist:	0	Centerline Separation:	28			
Barrier Far lane CL Dist:	0	NOISE INPUTS				
Pad Elevation:	0.5	Site conditions HARD SITE				
Road Elevation:	0	FLEET MIX				
Observer Height (above grade):	0	Type	Day	Evening	Night	Daily
Barrier Height:	0	Auto	0.775	0.129	0.096	0.9742
Rt View: 90 Lft View: -90		Med. Truck	0.848	0.049	0.103	0.0184
NOISE SOURCE ELEVATIONS (Feet)		Heavy Truck	0.865	0.027	0.108	0.0074
Autos:	0					
Medium Trucks:	2.3					
Heavy Trucks:	8					

UNMITIGATED NOISE LEVELS (No topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	34.1	42.8	41.1	35.0	43.6	44.2
Medium Trucks:	45.7	37.6	31.3	29.7	38.2	38.4
Heavy Trucks:	51.9	39.9	30.9	32.1	42.5	42.6
Vehicle Noise:	54.5	46.1	42.1	38.2	46.7	47.1

MITIGATED NOISE LEVELS (With topographic or barrier attenuation)						
Vehicle Type	Peak Leq	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:						
Medium Trucks:						
Heavy Trucks:						
Vehicle Noise:						

CENTERLINE NOISE CONTOUR	
Unmitigated	
60 dBA	6
65 dBA	2
70 dBA	1
Mitigated	
60 dBA	
65 dBA	
70 dBA	

