



Thermal Testing Expertise from
CleanAir®
PERFORMANCE GROUP

Otter Tail Power Company
48450 144th Street
Big Stone City, SD 57216

**OTTER TAIL POWER COMPANY
FAR-FIELD NOISE EMISSIONS
TEST REPORT**

Otter Tail Astoria Station
Astoria, South Dakota

CleanAir Project No. 14203
Sargent & Lundy No. A12715
Otter Tail No. A-8805
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Submitted by:

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TEST PLAN REVISION HISTORY

Version	Revision	Date	Pages	Comments
Final	0	April 19, 2021	All	Original version of document.
Final	1	April 19, 2021	1,7	Added explanation of the effect of wind speed
			7	Corrected typo in Table 5-1

PROJECT CONTACT INFORMATION

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1. EXECUTIVE SUMMARY

Otter Tail Power Company (Otter Tail) contracted with CleanAir Engineering (CleanAir) to write a site-specific test plan, execute testing, and calculate results for far-field noise emissions testing of a Mitsubishi Hitachi Power Systems (MHPS) 501GAC gas turbine at the Otter Tail Astoria Power Station located in Astoria, South Dakota. This document describes the process to execute the far-field noise testing.

The objective of the testing was to ensure that far-field noise from Astoria Station meets the limits set forth by the South Dakota Public Utilities Commission. The far field noise testing was conducted by CleanAir's technical leader David Wheeler under the guidelines set forth in the site-specific test plan.

This test report summarizes the test results and documents the testing activities, the plant operating conditions under which the tests were performed, specifies the instrumentation used for the tests, and the evaluation of the test results. The sound pressure levels documented in the report were measured with the plant operating at average load of 235 MW, which is less than base load at the ambient condition prevailing at the time of the testing.

The results of the far field testing are summarized in Table 1-1.

Table 1-1: Far Field Noise Summary

	Units		
Site		ML1	ML2
Date		4/10/2021	4/10/2021
Test Period		07:50-09:49	10:13-12:12
Average A weighted sound pressure level	dBA	41.99	43.09
Maximum C weighted sound pressure level	dBc	64.72	63.54
Wind speed	mph	7	11
Date		4/9/2021	4/8/2021
Test Period		00:19-02:18	22:00-23:59
Average A weighted sound pressure level	dBA	37.00	29.74
Maximum C weighted sound pressure level	dBc	61.26	58.34
Wind speed	mph	7	7
Day/night average sound pressure level*	dBA	44.58	42.11
Permitted sound pressure level	dBA	55	55
Permit compliance		Pass	Pass
Maximum C weighted sound pressure level	dBc	64.72	63.54
Permitted sound pressure level	dBc	65	65
Permit compliance		Pass	Pass

* including 10 dB penalty for night sound level

ANSI B133.8 specifies that measurements be conducted when wind speeds are less than 7 mph. During three of the test periods, the measured wind speed was 7 mph, while the wind speed for the day measurement at ML2 was 11 mph. Wind speeds of greater than 7 mph constitute a positive bias (higher than the true value) because of the wind on the microphone. The microphone used by CleanAir in these measurements was covered by a wind shield which minimizes the positive bias.

CleanAir performance group personnel routinely provide noise testing services for power plant components. We have conducted dozens of tests at facilities both in the US and Internationally. We work with our clients to develop test programs and evaluations to meet the specific objectives of each project. All noise test programs developed by CleanAir are informed by the guidance of ANSI S1.13, ASME PTC 36 and ANSI B133.8. Additional information about CleanAir's noise testing capabilities is included in Appendix C.

End of Section

2. TEST OVERVIEW

Scope of Work

Otter Tail Power Company (Otter Tail) contracted with CleanAir Engineering (CleanAir) to write a site-specific test plan, execute testing, and calculate results for far-field noise emissions testing at the Otter Tail Astoria Power Station located in Astoria, South Dakota. This document summarizes the results of the far-field noise testing.

The objective of the testing was to ensure that far-field noise from Astoria Station meets the limits set forth by the South Dakota Public Utilities Commission. The far field noise testing was conducted by CleanAir's technical leader David Wheeler under the guidelines set forth in the site-specific test plan.

Plant Description

The Otter Tail Astoria Station is a 245-megawatt simple cycle facility which consists of one MHPS 501GAC gas turbine generator and supporting equipment which is fired solely on natural gas. The gas turbine is equipped with an evaporative cooler to increase power output when ambient conditions allow.

Test Boundaries

Far-field testing consisted of measurements at two points, as shown in Exhibit 13-3 in Appendix A:

- ML1, approximately 3800 feet southwest of the facility power block.
- ML2, approximately 6000 feet east-southeast of the facility power block.

Permit Requirements

Table 2-1 lists the permitted sound emissions levels according to South Dakota Public Utilities Commission Stipulation EL17-042, signed July 12, 2018. All noise test programs developed by CleanAir are informed by the guidance of ANSI S1.13, ASME PTC 36 and ANSI B133.8.

Table 2-1: Noise Emissions Requirements

Noise Requirement	Requirement Value
Day-Night Average (Ldn)	sound level of 55 dBA, which includes a nighttime penalty of 10 decibels
Maximum (Lmax)	C-weighted sound level of 65 dBC applicable at all times

Test Schedule

The daily schedule of events for the testing is shown in table 2-3.

Table 2-3: Schedule of Activities

Test Day	Time	List of Activities
4/7/2021	22:00-23:59	Test at ML1, Unit at base load
4/8/2021	00:23-02:23	Test at ML2, Unit at base load
4/8/2021	22:00-23:59	Test at ML2, Unit at 235 MW
4/9/2021	00:19-02:18	Test at ML1, Unit at 235 MW
04/10/2021	07:50-09:49	Test at ML1, Unit at 235 MW
04/10/2021	10:13-12:12	Test at ML2, Unit at 235 MW

After the testing at base load, it was apparent the unit would exceed its far field noise emission limit at base load due to high vibration in the exhaust duct and stack. This vibration was greatly reduced when the power output was reduced to 235 MW. The remainder of the far field tests were conducted at a gross power output of 235 MW.

Test Conditions

For the operating sound level measurements documented in this report, the unit was operated at a gross power output of 235 MW with all equipment in a normal operating configuration.

Testing was conducted under fair weather conditions without any precipitation occurring and no standing water or snow present on the ground.

Far-field measurements were recorded with the sound meter mounted on a tripod at an elevation of five feet above grade level at the two designated measurement locations for two hours. Winds were calm at the measurement locations at the time of the tests.

A test log was maintained during the test to record any occurrences affecting the test, the time of the occurrences, and the observed effect. These occurrences included nearby vehicular traffic, cattle bellowing, birds chirping, and farm machinery activity. When noted in the test log, emissions from nearby activities were purged from the test data. Both sites are near active roadway subject to nearly constant traffic in during daytime measurements. Daytime readings were unavoidably affected by such traffic.

3. METHODOLOGY

Test Instruments and Calibration

The temporary test instrumentation supplied by CleanAir for the testing has calibrations traceable to the National Institute of Standards and Technology (NIST), nationally recognized standards, or physical constants. The calibration records for the performance instruments are provided in Appendix D.

A summary of the test instruments that were used for the noise emissions tests are found in Table 3-1.

Table 3-1: Test Instrumentation

Parameter	Instrument	Supplier
Ambient Air Temperature	One RTD	CleanAir
Ambient Wet Bulb Temperature	One RTD installed in a mechanically aspirated psychrometer	CleanAir
Barometric Pressure	One hand-held barometer	CleanAir
Wind Speed	One Davis wind station	CleanAir
Sound Pressure Level	One B&K 2250L Sound Level Analyzer	CleanAir

Temperature measurements were made with precision RTDs with a calibrated accuracy of 0.1°F. Ambient dry bulb and wet bulb temperatures were measured with a precision RTD placed in a mechanically aspirated psychrometer mounted on a tripod such that it is five feet above grade level. The tripod was placed where it was not influenced by any operating plant equipment.

Wind speed was measured with an RM Young wind speed station mounted in an unobstructed location near the ambient temperature instrumentation. The wind speed station was calibrated within one year of the test date and has a calibrated accuracy of 1% of reading.

Sound pressure levels were recorded with a B&K 2250L sound level analyzer. The sound analyzer was calibrated within one year of the test date and underwent a field calibration with a calibrated field calibrator before and after each measurement sequence. The sound level analyzer meets or exceeds all the requirements for an ANSI Type I sound meter. The sound level meter was equipped with a random incidence microphone. Readings were recorded with the meter mounted on a tripod with no obstructions between the meter and sound source and free from the influence of reflective surfaces.

Due to the steady sound pressure levels produced by a power plant running at steady state, the noise will not fluctuate or exhibit “noise events” during the day or night testing, and a full 24 hour test cycle was not necessary to accurately quantify the day-night average. Testing consisted of a two-hour daytime measurement and a two-hour nighttime measurement at each of the two far-field test locations referenced in Exhibit 13-3 in Appendix A. A 10 dB penalty was applied to the nighttime test measurements.

4. CALCULATION METHODOLOGY

Far-field Sound

Far-field sound was measured at the two designated points, ML1 and ML2, during both daytime and nighttime hours. Sound levels were recorded with an integrating and averaging sound level analyzer for a minimum time period of 5 minutes. The overall A-weighted equivalent sound pressure level (LA_{eq}), maximum C-weighted sound level (L_{max}), and one-third octave band sound levels were recorded and stored for each measurement period. The day-night average sound level was calculated as:

$$L_{dn} = 10 \log \left(\frac{15 * 10^{0.1L_d} + 9 * 10^{0.1(L_n+10)}}{24} \right)$$

where:

L_{dn}	=	the day-night average overall A-weighted sound pressure level (SPL), dBA
L_d	=	the recorded daytime overall A-weighted SPL, dBA
L_n	=	the recorded nighttime overall A-weighted SPL, dBA

End of Section

5. RESULT CALCULATION

Result Summary

The results of the far field sound testing are summarized in Table 5-1.

Table 5-1: Far Field Noise Summary

	Units		
Site		ML1	ML2
Date		4/10/2021	4/10/2021
Test Period		07:50-09:49	10:13-12:12
Average A weighted sound pressure level	dBA	41.99	43.09
Maximum C weighted sound pressure level	dbc	64.72	63.54
Wind speed	mph	7	11
Date		4/9/2021	4/8/2021
Test Period		00:19-02:18	22:00-23:59
Average A weighted sound pressure level	dBA	37.00	29.74
Maximum C weighted sound pressure level	dbc	61.26	58.34
Wind speed	mph	7	7
Day/night average sound pressure level*	dBA	44.58	42.11
Permitted sound pressure level	dBA	55	55
Permit compliance		Pass	Pass
Maximum C weighted sound pressure level	dbc	64.72	63.54
Permitted sound pressure level	dbc	65	65
Permit compliance		Pass	Pass

* including 10 dB penalty for night sound level

ANSI B133.8 specifies that measurements be conducted when wind speeds are less than 7 mph. During three of the test periods, the measured wind speed was 7 mph, while the wind speed for the day measurement at ML2 was 11 mph. Wind speeds of greater than 7 mph constitute a positive bias (higher than the true value) because of the wind on the microphone. The microphone used by CleanAir in these measurements was covered by a wind shield which minimizes the positive bias.

The daytime noise levels at both locations were significantly higher than those for nighttime measurements. These differences should be attributed to a difference in local activity at the working farms and traffic noise rather than any difference in plant operation.

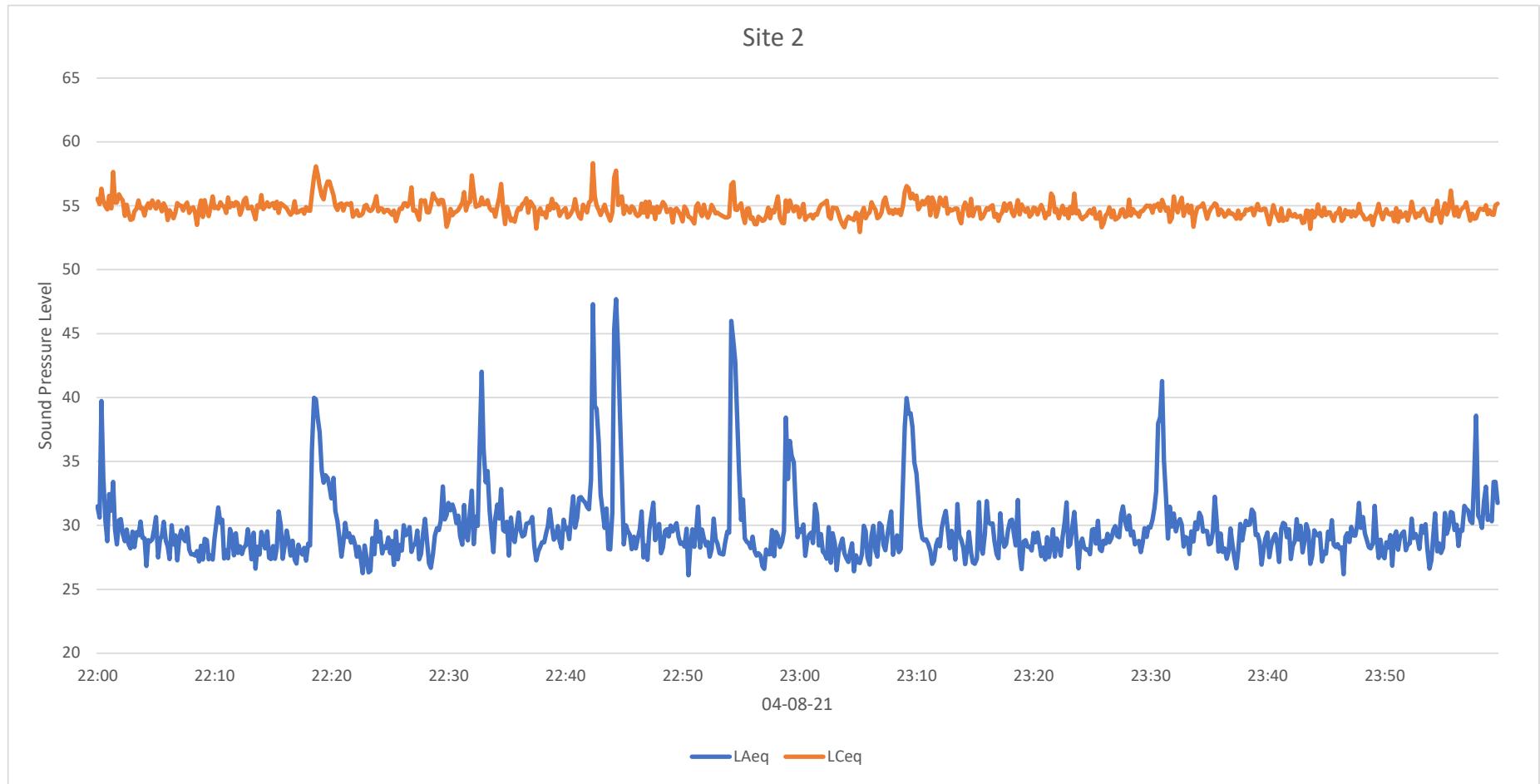
End of Section

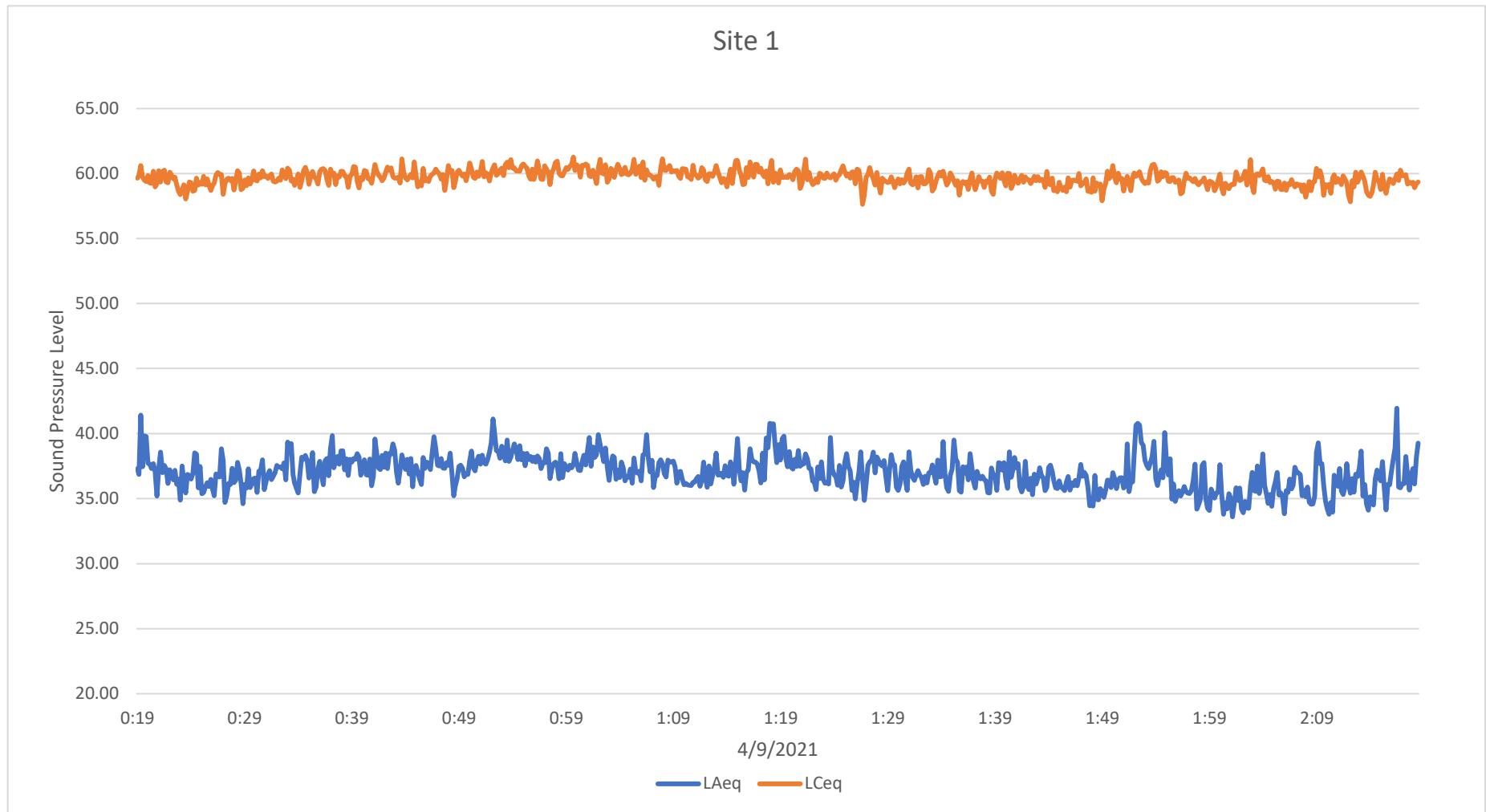
APPENDIX A: FAR-FIELD MEASUREMENT LOCATIONS

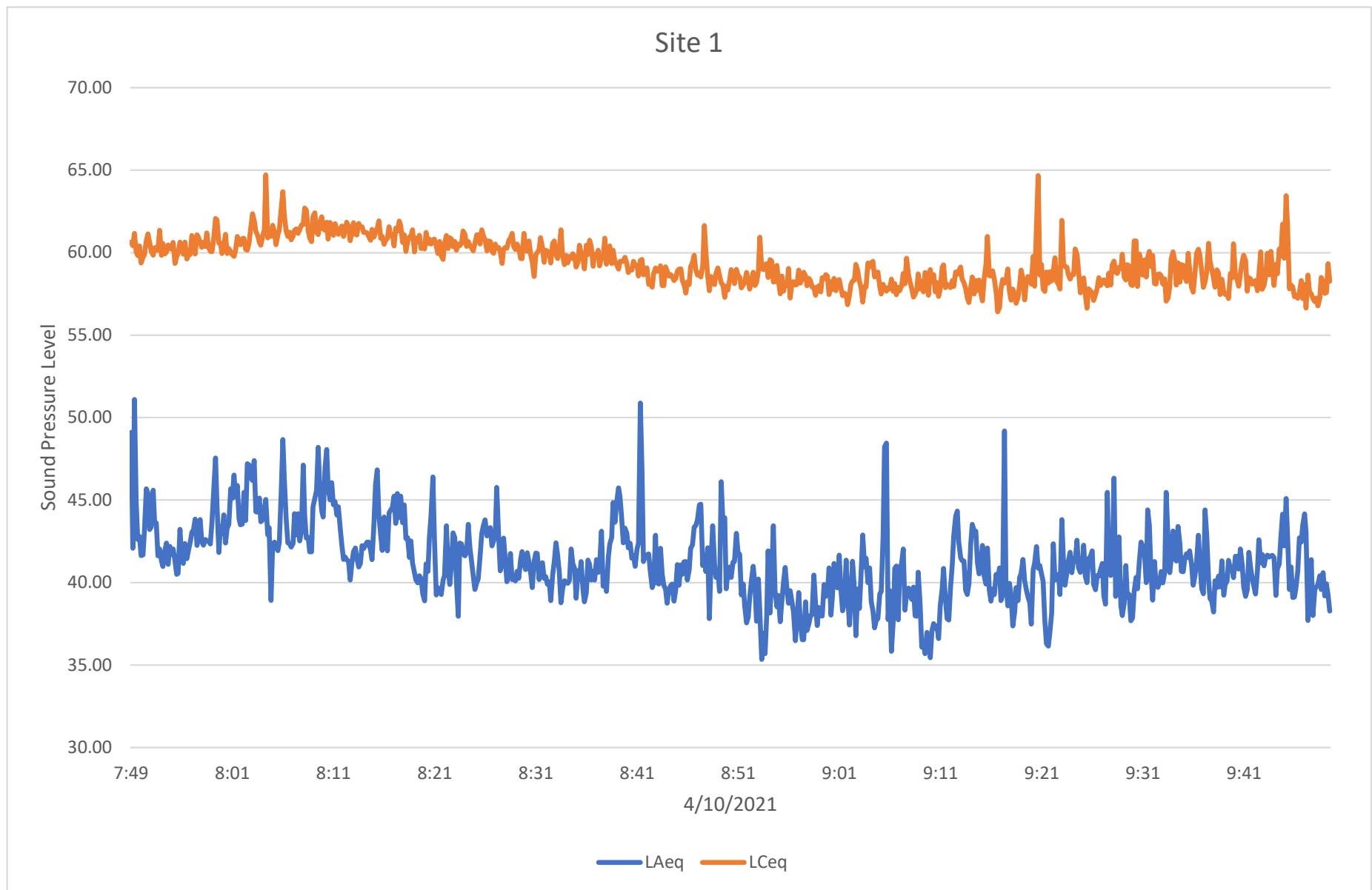
Exhibit 13-3. Noise Monitoring Locations

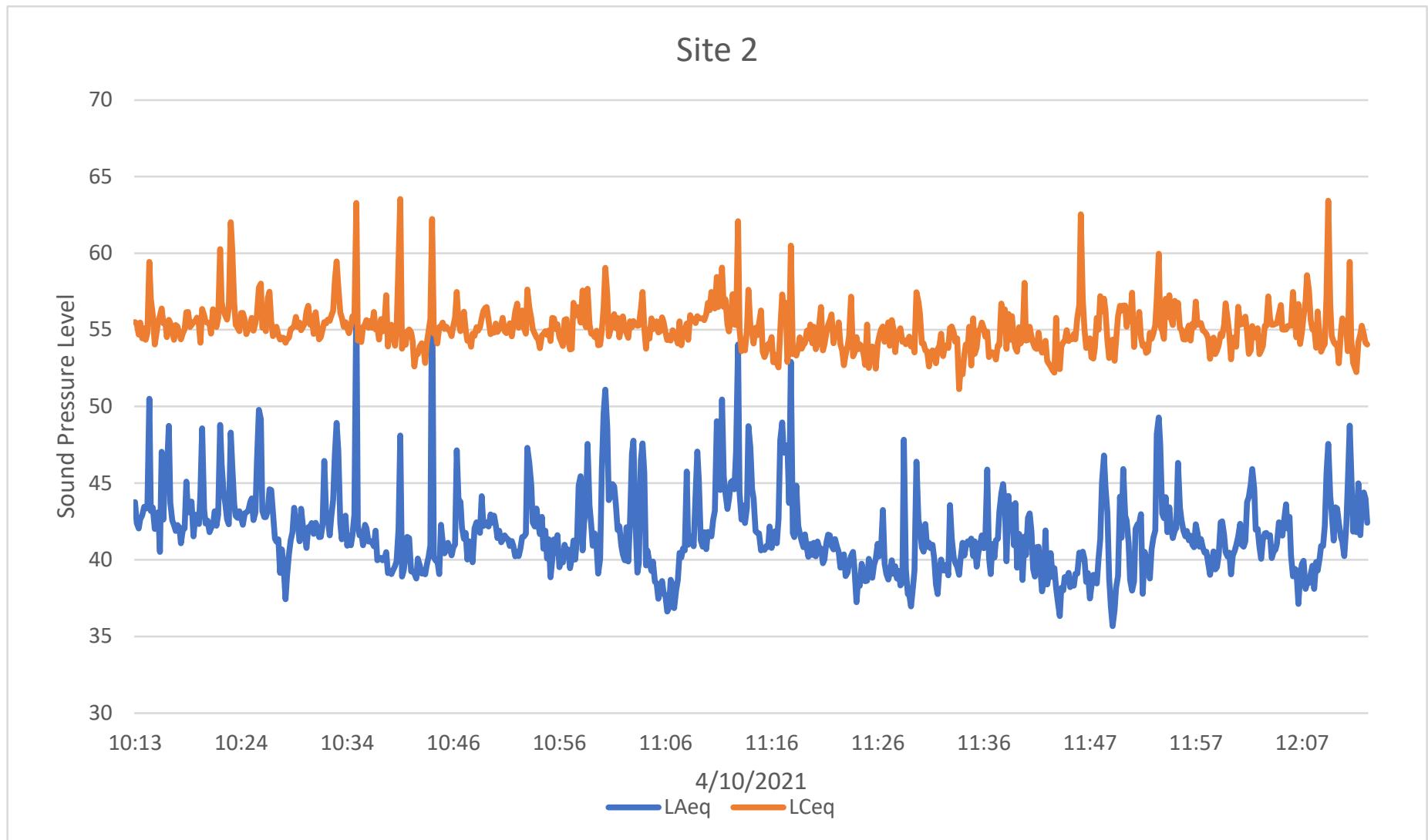


APPENDIX B: TEST DATA









Site 2 time	4/8/21		
	L _{Aeq}	L _{Ceq}	
21:59	32.16	55.62	
22:00	31.49	55.55	
22:00	30.60	55.13	
22:00	39.74	56.34	
22:00	33.72	55.43	
22:00	30.33	54.96	
22:00	28.77	54.72	
22:01	32.44	55.78	
22:01	31.16	54.81	
22:01	33.41	57.64	
22:01	29.68	55.25	
22:01	28.50	55.25	
22:01	30.40	55.90	
22:02	30.48	55.61	
22:02	29.33	55.44	
22:02	28.76	54.22	
22:02	29.66	55.08	
22:02	28.52	54.39	
22:02	28.19	53.91	
22:03	29.51	53.96	
22:03	28.30	54.56	
22:03	29.46	54.78	
22:03	29.20	55.43	
22:03	30.29	54.80	
22:03	29.02	54.82	
22:04	28.99	54.24	
22:04	26.82	54.90	
22:04	28.84	55.20	
22:04	28.75	54.83	
22:04	28.91	55.41	
22:04	29.70	55.07	
22:05	30.67	54.79	
22:05	27.49	55.34	
22:05	28.87	55.00	
22:05	29.15	54.56	
22:05	30.27	55.19	
22:05	28.81	54.84	
22:06	28.37	53.88	
22:06	27.37	54.65	
22:06	30.02	54.32	
22:06	28.50	54.03	
22:06	29.23	54.45	
22:06	27.26	55.22	
22:07	29.07	55.02	
22:07	29.61	55.01	
22:07	28.99	54.62	
22:07	28.76	55.04	
22:07	29.83	55.24	
22:07	28.08	54.43	
22:08	27.73	54.78	
22:08	27.73	54.88	
22:08	27.62	54.46	
22:08	27.99	53.52	
22:08	27.18	54.73	
22:08	28.40	55.41	
22:09	27.32	54.12	
22:09	28.95	55.45	
22:09	28.84	54.59	
22:09	27.34	54.19	
22:09	27.66	54.86	
22:09	27.33	55.72	
22:10	28.98	54.83	
22:10	30.18	54.91	
22:10	31.39	54.78	
22:10	30.21	55.28	
22:10	30.45	55.03	
22:10	27.41	54.93	
22:11	28.06	54.43	
22:11	27.43	55.66	
22:11	29.72	54.88	
22:11	29.21	55.21	
22:11	27.66	54.99	
22:11	29.39	55.31	
22:12	27.84	55.20	

Site 2 time	4/8/21	
	LAeq	LCeq
22:12	28.37	54.29
22:12	27.76	54.69
22:12	28.27	55.44
22:12	28.46	55.63
22:12	29.69	54.81
22:13	28.79	54.82
22:13	27.34	54.96
22:13	29.43	54.44
22:13	26.62	53.95
22:13	28.32	55.05
22:13	27.72	54.88
22:14	29.49	55.84
22:14	29.00	54.74
22:14	28.20	54.94
22:14	29.54	55.29
22:14	27.47	54.91
22:14	27.36	55.11
22:15	28.38	55.21
22:15	27.39	54.81
22:15	28.26	55.32
22:15	31.08	54.43
22:15	30.00	55.20
22:15	27.38	55.08
22:16	28.45	54.96
22:16	29.59	54.83
22:16	28.71	54.52
22:16	27.65	54.29
22:16	28.80	54.50
22:16	27.32	55.35
22:17	27.01	54.47
22:17	28.49	54.52
22:17	27.91	54.62
22:17	27.72	54.71
22:17	28.24	54.38
22:17	27.23	54.90
22:18	28.56	54.64
22:18	28.42	54.61
22:18	35.95	55.93
22:18	39.98	57.28
22:18	39.84	58.08
22:18	38.38	57.43
22:19	37.28	56.56
22:19	34.27	55.78
22:19	33.35	55.51
22:19	33.91	56.39
22:19	33.72	56.91
22:19	33.01	56.91
22:20	32.12	56.39
22:20	33.72	55.84
22:20	31.13	54.99
22:20	30.32	54.68
22:20	29.09	55.11
22:20	27.56	55.19
22:21	28.63	54.62
22:21	30.21	55.10
22:21	29.09	55.17
22:21	29.37	55.07
22:21	28.65	55.21
22:21	29.10	54.15
22:22	28.50	54.39
22:22	27.55	54.66
22:22	28.32	54.22
22:22	27.33	54.26
22:22	26.27	54.41
22:22	28.44	54.99
22:23	27.53	55.06
22:23	26.31	54.68
22:23	26.45	54.58
22:23	29.00	54.72
22:23	27.74	55.18
22:23	30.33	55.77
22:24	28.75	54.57
22:24	29.50	54.81
22:24	27.81	54.77

Site 2 time	4/8/21	
	LAeq	LCeq
22:24	28.36	54.50
22:24	28.21	54.67
22:24	29.05	54.68
22:25	27.83	54.48
22:25	28.79	54.30
22:25	26.91	54.62
22:25	29.55	53.80
22:25	27.34	54.33
22:25	28.47	54.79
22:26	28.03	54.76
22:26	30.01	55.17
22:26	29.22	55.21
22:26	29.37	54.96
22:26	29.86	55.23
22:27	27.92	56.45
22:27	28.43	54.64
22:27	28.56	54.67
22:27	29.60	54.33
22:27	27.35	53.91
22:27	27.75	55.45
22:28	29.42	55.37
22:28	30.52	55.44
22:28	28.92	54.51
22:28	27.04	54.50
22:28	26.69	55.03
22:28	27.77	55.97
22:29	29.19	55.61
22:29	29.77	55.41
22:29	29.64	55.12
22:29	30.35	55.46
22:29	33.06	55.45
22:29	30.46	54.76
22:30	30.81	53.38
22:30	31.76	53.82
22:30	31.18	54.76
22:30	31.64	54.25
22:30	31.17	54.45
22:30	30.18	54.55
22:31	30.76	54.67
22:31	29.16	54.93
22:31	28.49	55.23
22:31	31.59	56.08
22:31	29.26	54.62
22:31	28.82	55.20
22:32	31.12	55.31
22:32	32.71	57.38
22:32	28.52	56.14
22:32	30.69	54.92
22:32	29.96	55.03
22:32	35.89	55.03
22:33	42.01	55.65
22:33	36.03	55.14
22:33	33.38	55.15
22:33	34.25	55.45
22:33	31.07	54.83
22:33	29.47	54.64
22:34	27.90	54.71
22:34	30.55	54.14
22:34	31.64	55.00
22:34	30.53	55.66
22:34	32.84	56.72
22:34	29.63	54.75
22:35	29.50	53.58
22:35	30.27	54.91
22:35	27.65	54.48
22:35	30.60	53.83
22:35	29.04	53.98
22:35	28.69	53.75
22:36	29.92	54.51
22:36	31.02	54.83
22:36	29.64	54.71
22:36	29.14	55.14
22:36	29.27	55.25
22:36	30.13	55.58

Site 2 time	4/8/21	
	LAeq	LCeq
22:37	30.19	54.45
22:37	30.27	55.34
22:37	30.64	55.12
22:37	28.33	54.84
22:37	27.25	53.22
22:37	27.97	54.43
22:38	28.32	54.81
22:38	28.67	54.35
22:38	28.67	54.48
22:38	29.36	54.07
22:38	29.97	54.99
22:38	31.25	54.68
22:39	29.89	55.55
22:39	28.88	54.81
22:39	29.07	55.15
22:39	29.95	54.91
22:39	28.77	54.21
22:39	28.22	54.50
22:40	30.44	54.68
22:40	29.68	54.82
22:40	29.79	54.08
22:40	28.93	54.20
22:40	30.88	54.48
22:40	32.28	54.79
22:41	29.81	55.52
22:41	30.58	54.58
22:41	32.14	54.14
22:41	32.20	53.97
22:41	31.97	55.08
22:41	31.79	54.81
22:42	31.46	54.49
22:42	31.25	55.25
22:42	33.62	55.42
22:42	47.29	58.34
22:42	39.35	55.76
22:42	39.11	55.03
22:43	36.46	54.65
22:43	32.39	54.27
22:43	31.21	54.63
22:43	29.80	55.09
22:43	31.33	54.57
22:43	28.16	54.19
22:44	28.12	53.85
22:44	31.02	54.49
22:44	45.35	57.21
22:44	47.70	57.75
22:44	43.49	55.07
22:44	38.44	55.68
22:45	33.63	55.74
22:45	28.50	54.36
22:45	30.00	54.99
22:45	29.58	54.76
22:45	29.26	54.45
22:45	28.14	54.97
22:46	29.11	54.81
22:46	28.20	54.36
22:46	28.91	54.20
22:46	29.66	54.33
22:46	31.09	55.17
22:46	27.49	54.45
22:47	28.42	55.32
22:47	27.30	54.12
22:47	29.64	55.33
22:47	30.66	54.51
22:47	31.78	54.86
22:47	28.84	53.96
22:48	29.60	54.94
22:48	30.11	54.50
22:48	27.83	54.90
22:48	28.25	55.31
22:48	29.58	55.07
22:48	29.71	54.51
22:49	29.13	54.66
22:49	29.98	54.75

Site 2 time	4/8/21	
	LAeq	LCeq
22:49	29.52	53.70
22:49	29.89	54.67
22:49	30.19	54.80
22:49	29.10	54.54
22:50	28.54	54.27
22:50	28.66	53.78
22:50	28.34	54.93
22:50	29.75	54.70
22:50	26.10	54.16
22:50	28.32	54.08
22:51	29.70	53.87
22:51	28.32	53.61
22:51	29.51	54.98
22:51	31.47	55.20
22:51	28.27	54.53
22:51	29.66	54.20
22:52	28.99	55.08
22:52	28.41	54.40
22:52	28.69	54.07
22:52	27.56	54.44
22:52	28.10	55.06
22:52	30.53	54.76
22:53	28.93	54.40
22:53	28.56	54.48
22:53	27.83	54.34
22:53	27.75	54.25
22:53	27.72	54.18
22:53	28.65	54.08
22:54	29.51	54.09
22:54	29.42	54.18
22:54	46.00	56.64
22:54	44.37	56.85
22:54	42.79	54.72
22:54	38.55	54.67
22:55	34.30	54.98
22:55	30.43	55.20
22:55	32.03	54.24
22:55	28.96	53.65
22:55	28.69	54.79
22:55	28.59	54.81
22:56	28.21	53.98
22:56	29.12	54.08
22:56	27.97	53.58
22:56	27.65	53.55
22:56	27.83	54.16
22:56	27.63	54.01
22:57	26.79	53.82
22:57	26.59	53.88
22:57	28.11	54.20
22:57	27.73	54.87
22:57	27.74	54.03
22:57	29.64	54.66
22:58	27.59	54.50
22:58	29.49	55.11
22:58	29.17	55.74
22:58	28.31	54.06
22:58	28.71	53.68
22:58	29.55	53.63
22:59	38.43	55.42
22:59	33.63	54.56
22:59	36.60	55.44
22:59	35.44	54.94
22:59	34.93	54.57
22:59	31.57	54.98
23:00	29.06	54.89
23:00	29.68	54.10
23:00	29.48	54.64
23:00	30.08	55.15
23:00	27.60	53.90
23:00	28.85	54.16
23:01	29.26	54.24
23:01	29.42	54.32
23:01	28.61	54.01
23:01	31.66	54.35

Site 2 time	4/8/21	
	LAeq	LCeq
23:01	30.88	54.30
23:01	28.43	54.71
23:02	29.31	55.06
23:02	27.95	55.15
23:02	27.79	55.27
23:02	27.39	55.39
23:02	29.86	54.19
23:02	27.08	54.00
23:03	29.40	54.86
23:03	28.60	54.82
23:03	26.49	54.82
23:03	27.86	54.39
23:03	28.44	53.91
23:03	28.97	53.54
23:04	27.82	53.31
23:04	27.45	53.87
23:04	27.13	54.14
23:04	27.97	54.02
23:04	28.58	53.98
23:04	26.41	53.88
23:05	27.67	54.48
23:05	27.12	54.32
23:05	27.05	52.94
23:05	27.73	54.46
23:05	29.97	54.85
23:05	29.55	54.04
23:06	27.49	54.35
23:06	26.93	54.50
23:06	29.19	55.28
23:06	29.97	54.96
23:06	28.01	54.70
23:06	27.56	54.03
23:07	30.18	54.14
23:07	29.96	54.52
23:07	28.48	55.36
23:07	28.04	55.66
23:07	29.12	54.99
23:07	30.20	54.43
23:08	31.09	54.66
23:08	27.69	54.37
23:08	28.67	54.72
23:08	29.22	54.44
23:08	27.91	54.70
23:08	28.16	54.28
23:09	33.18	54.99
23:09	37.71	56.10
23:09	39.96	56.55
23:09	38.72	56.36
23:09	38.78	55.60
23:09	37.67	55.95
23:10	34.92	55.54
23:10	34.07	55.80
23:10	32.11	54.72
23:10	29.99	54.99
23:10	28.98	55.37
23:10	28.83	55.12
23:11	28.91	55.41
23:11	28.54	55.67
23:11	28.01	54.25
23:11	26.98	55.65
23:11	27.24	55.30
23:11	28.48	54.14
23:12	28.91	54.68
23:12	28.37	55.65
23:12	29.79	55.38
23:12	30.60	54.99
23:12	31.14	55.64
23:12	29.78	54.38
23:13	28.21	54.76
23:13	29.58	54.64
23:13	28.67	54.70
23:13	27.33	54.80
23:13	31.68	54.78
23:13	29.19	54.00

Site 2 time	4/8/21	
	LAeq	LCeq
23:14	28.88	53.62
23:14	28.26	54.87
23:14	26.97	55.25
23:14	28.12	54.92
23:14	29.48	54.22
23:14	27.88	55.55
23:15	27.09	54.19
23:15	26.98	54.69
23:15	27.38	54.86
23:15	31.83	54.86
23:15	28.32	53.98
23:15	27.77	54.11
23:16	29.31	54.48
23:16	31.89	54.82
23:16	30.24	54.69
23:16	30.09	54.95
23:16	30.14	55.05
23:16	28.78	54.13
23:17	27.76	54.37
23:17	27.42	53.82
23:17	30.94	54.27
23:17	29.13	54.50
23:17	28.32	55.19
23:17	28.55	54.60
23:18	29.61	55.05
23:18	30.36	55.19
23:18	30.45	54.46
23:18	29.34	54.19
23:18	28.43	54.68
23:18	31.99	55.45
23:19	27.71	54.32
23:19	26.57	55.12
23:19	28.73	54.75
23:19	28.84	54.53
23:19	28.33	54.83
23:19	28.35	54.16
23:20	28.03	54.34
23:20	29.41	54.87
23:20	28.67	54.81
23:20	29.45	54.33
23:20	28.53	54.76
23:20	27.58	55.07
23:21	28.26	54.69
23:21	27.33	54.04
23:21	29.06	54.44
23:21	27.51	54.31
23:21	28.54	55.96
23:21	29.70	55.71
23:22	27.56	54.51
23:22	28.97	54.76
23:22	28.47	54.03
23:22	27.64	54.56
23:22	29.07	55.01
23:22	30.25	54.31
23:23	31.81	54.73
23:23	28.32	54.04
23:23	28.51	54.92
23:23	29.92	54.40
23:23	31.04	55.97
23:23	28.94	54.40
23:24	26.63	54.61
23:24	28.56	54.13
23:24	28.96	53.95
23:24	28.26	54.13
23:24	28.08	54.22
23:24	28.12	54.49
23:25	27.73	54.68
23:25	29.65	54.39
23:25	29.72	54.80
23:25	28.56	54.02
23:25	30.37	54.01
23:25	28.14	54.52
23:26	27.99	53.31
23:26	28.80	53.61

Site 2 time	4/8/21		
	LAEQ		LCeq
23:26	28.57		54.25
23:26	29.33		54.41
23:26	28.68		54.88
23:26	29.01		54.10
23:27	29.65		54.64
23:27	29.95		53.92
23:27	29.17		54.02
23:27	29.08		54.18
23:27	30.82		54.67
23:27	31.49		54.73
23:28	30.30		54.13
23:28	29.67		54.24
23:28	30.78		55.48
23:28	29.22		54.24
23:28	29.53		54.73
23:28	28.50		54.43
23:29	28.71		54.43
23:29	28.78		54.15
23:29	27.90		54.57
23:29	28.64		54.58
23:29	29.77		54.81
23:29	29.10		55.03
23:30	29.89		54.98
23:30	29.82		55.00
23:30	30.45		54.47
23:30	31.33		55.04
23:30	32.67		54.96
23:30	37.95		55.17
23:31	38.48		54.60
23:31	41.28		55.46
23:31	35.08		55.06
23:31	32.11		54.60
23:31	28.97		54.87
23:31	31.48		53.73
23:32	29.91		54.05
23:32	30.92		55.72
23:32	29.53		54.80
23:32	30.19		54.49
23:32	30.48		55.25
23:32	30.05		55.64
23:33	28.35		54.21
23:33	29.10		54.71
23:33	28.96		55.06
23:33	27.76		54.44
23:33	29.53		55.00
23:33	28.73		53.38
23:34	30.24		54.26
23:34	29.71		54.83
23:34	31.00		54.91
23:34	30.65		54.98
23:34	29.50		55.19
23:34	29.60		54.68
23:35	29.55		53.97
23:35	28.50		54.46
23:35	28.59		54.78
23:35	29.54		54.98
23:35	32.22		55.19
23:35	30.39		55.09
23:36	27.95		54.27
23:36	29.35		54.71
23:36	27.92		54.54
23:36	28.20		54.16
23:36	27.39		54.33
23:36	27.93		54.65
23:37	29.76		54.38
23:37	28.59		54.41
23:37	27.43		54.23
23:37	26.63		53.98
23:37	27.96		54.62
23:37	30.11		53.97
23:38	28.82		54.28
23:38	29.67		54.33
23:38	30.36		54.72
23:38	30.03		54.66

Site 2 time	4/8/21	
	LAeq	LCeq
23:38	30.07	54.76
23:38	31.23	54.82
23:39	30.95	54.26
23:39	29.24	54.73
23:39	29.30	55.16
23:39	28.73	54.67
23:39	26.93	54.65
23:39	28.02	54.77
23:40	28.97	54.78
23:40	29.45	54.10
23:40	27.51	53.55
23:40	28.41	54.22
23:40	28.99	55.04
23:40	29.31	54.52
23:41	28.47	54.20
23:41	27.12	53.81
23:41	29.74	54.80
23:41	30.21	53.82
23:41	30.10	54.05
23:41	29.06	53.91
23:42	29.71	54.66
23:42	27.37	54.25
23:42	28.38	54.18
23:42	28.78	54.37
23:42	30.49	54.10
23:42	28.88	54.18
23:43	29.97	54.21
23:43	27.89	53.64
23:43	28.73	53.72
23:43	30.09	54.64
23:43	29.53	54.58
23:43	27.00	53.21
23:44	27.57	54.62
23:44	29.61	54.10
23:44	29.31	54.39
23:44	29.19	55.10
23:44	29.41	54.36
23:44	27.19	54.20
23:45	27.96	54.87
23:45	27.80	54.28
23:45	29.51	54.50
23:45	28.89	54.50
23:45	30.40	54.12
23:45	28.49	53.82
23:46	28.30	54.42
23:46	28.53	54.42
23:46	28.17	54.83
23:46	28.29	53.81
23:46	26.17	54.00
23:46	29.10	54.68
23:47	29.37	54.35
23:47	28.70	54.57
23:47	29.89	54.17
23:47	29.23	54.59
23:47	29.19	54.20
23:47	30.01	54.38
23:48	31.75	55.16
23:48	29.79	54.47
23:48	30.66	54.28
23:48	29.40	53.95
23:48	28.88	53.95
23:48	28.31	54.02
23:49	28.19	54.22
23:49	28.57	53.48
23:49	31.53	54.13
23:49	28.89	54.59
23:49	27.44	55.15
23:49	28.88	54.45
23:50	27.67	53.95
23:50	27.42	54.45
23:50	28.67	54.74
23:50	28.26	54.38
23:50	29.24	54.30
23:50	26.83	54.48

Site 2	4/8/21	
time	LAeq	LCeq
23:51	29.06	53.79
23:51	29.52	54.82
23:51	28.08	53.74
23:51	29.05	54.57
23:51	29.34	54.13
23:51	29.54	54.26
23:52	28.04	54.50
23:52	28.49	53.83
23:52	28.58	54.43
23:52	30.53	55.33
23:52	29.00	54.66
23:52	29.31	54.07
23:53	28.97	54.41
23:53	28.16	54.22
23:53	29.96	54.59
23:53	29.42	54.78
23:53	30.10	54.41
23:53	28.14	53.93
23:54	26.61	53.83
23:54	27.25	53.82
23:54	29.18	54.77
23:54	30.93	54.36
23:54	27.98	55.39
23:54	28.58	54.19
23:55	27.85	53.69
23:55	28.25	54.66
23:55	30.97	55.20
23:55	29.34	54.33
23:55	29.84	54.73
23:55	31.04	56.19
23:56	30.98	55.00
23:56	29.63	54.24
23:56	30.05	54.89
23:56	28.38	54.14
23:56	29.65	54.60
23:56	29.57	54.80
23:57	31.52	54.92
23:57	31.27	55.29
23:57	31.17	54.59
23:57	30.36	53.83
23:57	30.18	54.38
23:57	33.80	53.98
23:58	38.58	54.03
23:58	30.76	54.54
23:58	30.47	54.78
23:58	29.80	54.73
23:58	31.94	54.67
23:58	33.02	55.04
23:59	30.43	54.34
23:59	30.74	54.66
23:59	30.32	54.31
23:59	33.41	54.29
23:59	33.40	55.04
23:59	31.75	55.17

Maximum	47.70	58.34
Minimum	26.10	52.94
Average	29.74	54.72

Site 1	4/9/21	
Time	LAeq	LCeq
4/9/2021 0:18	40.91	59.40
0:18	39.09	59.05
0:19	37.29	59.64
0:19	36.86	59.84
0:19	41.42	60.61
0:19	37.45	59.73
0:19	39.83	59.48
0:19	39.78	59.39
0:20	37.73	59.84
0:20	37.64	59.26
0:20	37.31	59.25
0:20	37.69	60.17
0:20	37.06	58.97
0:20	35.20	59.23
0:21	37.31	60.20
0:21	38.57	59.35
0:21	37.01	60.14
0:21	37.56	60.24
0:21	37.27	59.35
0:21	36.17	59.29
0:22	37.22	60.09
0:22	36.76	59.88
0:22	36.45	59.58
0:22	37.17	59.72
0:22	36.11	59.13
0:22	36.52	58.63
0:23	34.88	58.38
0:23	37.52	58.78
0:23	36.27	59.12
0:23	35.44	58.05
0:23	36.87	58.61
0:23	36.78	59.35
0:24	36.51	59.29
0:24	36.95	58.64
0:24	38.52	58.69
0:24	38.41	59.63
0:24	35.85	59.11
0:24	37.48	59.30
0:25	35.38	59.17
0:25	35.47	59.77
0:25	35.94	59.12
0:25	36.24	59.57
0:25	35.94	59.08
0:25	36.49	58.70
0:26	35.69	59.08
0:26	35.22	59.26
0:26	36.90	59.87
0:26	36.79	60.06
0:26	36.66	59.91
0:26	38.82	59.92
0:27	37.92	58.40
0:27	34.71	59.25
0:27	35.23	59.55
0:27	36.17	59.64
0:27	36.10	59.47
0:27	37.33	59.62
0:28	36.23	58.73
0:28	36.44	59.41
0:28	37.79	60.20
0:28	37.18	60.02
0:28	36.13	58.75
0:28	34.60	58.87
0:29	36.09	59.50
0:29	35.80	59.07
0:29	37.29	59.65
0:29	35.86	59.18
0:29	36.18	59.53
0:29	36.55	60.18
0:30	36.59	59.51
0:30	35.48	59.42
0:30	37.11	59.96
0:30	37.18	59.65
0:30	37.99	60.20
0:30	35.69	59.75

Site 1	4/9/21	
Time	LAeq	LCeq
0:31	36.32	59.80
0:31	36.86	59.61
0:31	37.16	59.82
0:31	36.47	59.95
0:31	36.73	59.41
0:31	37.01	59.35
0:32	37.56	59.41
0:32	37.43	59.63
0:32	37.44	59.49
0:32	37.29	60.26
0:32	37.75	59.88
0:32	36.46	59.59
0:33	39.36	60.40
0:33	38.54	60.24
0:33	39.24	59.43
0:33	36.87	59.56
0:33	36.22	59.09
0:33	35.82	59.40
0:34	35.44	59.96
0:34	36.90	58.93
0:34	38.18	59.45
0:34	38.03	60.21
0:34	38.31	60.48
0:34	37.97	60.08
0:35	36.59	59.17
0:35	37.36	59.77
0:35	38.53	60.14
0:35	35.54	59.74
0:35	35.90	59.60
0:35	37.28	59.18
0:36	37.87	60.13
0:36	36.79	60.32
0:36	36.08	60.37
0:36	37.93	60.23
0:36	38.08	59.56
0:36	36.77	59.09
0:37	38.86	60.33
0:37	39.84	59.89
0:37	37.38	60.04
0:37	37.91	59.14
0:37	38.24	59.82
0:37	37.64	59.72
0:38	38.66	60.17
0:38	38.66	60.15
0:38	37.22	59.81
0:38	38.07	59.76
0:38	36.79	58.94
0:38	38.03	59.77
0:39	37.80	59.93
0:39	38.09	60.54
0:39	38.03	60.50
0:39	38.46	59.41
0:39	38.19	58.89
0:39	36.81	59.69
0:40	37.42	59.52
0:40	37.99	60.22
0:40	36.84	60.17
0:40	36.81	59.59
0:40	38.05	59.59
0:40	36.00	59.25
0:41	36.72	60.00
0:41	39.60	60.69
0:41	38.45	60.16
0:41	37.36	59.88
0:41	37.24	59.71
0:41	38.32	59.44
0:42	37.41	59.63
0:42	38.50	60.09
0:42	37.31	60.51
0:42	38.47	60.22
0:42	38.41	60.45
0:42	39.21	59.76
0:43	38.71	59.64
0:43	37.05	59.66

Site 1	4/9/21	
Time	LAeq	LCeq
0:43	36.19	59.71
0:43	37.20	59.27
0:43	38.36	61.13
0:43	37.83	60.07
0:44	37.25	59.66
0:44	38.03	59.51
0:44	36.90	59.72
0:44	38.08	59.94
0:44	35.93	59.65
0:44	37.34	60.90
0:45	37.55	59.85
0:45	37.02	58.97
0:45	36.52	59.32
0:45	36.10	59.04
0:45	38.16	60.39
0:45	37.33	59.42
0:46	37.80	59.60
0:46	37.63	59.39
0:46	37.24	59.79
0:46	38.54	59.94
0:46	39.77	60.03
0:46	38.83	60.32
0:47	37.58	60.10
0:47	37.51	59.98
0:47	38.08	59.55
0:47	37.36	59.92
0:47	37.34	58.69
0:47	37.76	59.56
0:48	37.58	60.62
0:48	38.50	60.06
0:48	36.92	60.23
0:48	35.21	58.92
0:48	35.98	59.37
0:48	36.53	60.08
0:49	37.48	60.24
0:49	37.57	59.99
0:49	37.34	59.80
0:49	36.68	59.96
0:49	36.93	59.44
0:49	36.86	60.02
0:50	37.91	60.81
0:50	38.65	60.35
0:50	37.37	59.72
0:50	37.13	59.61
0:50	37.93	60.11
0:50	38.25	59.78
0:51	37.65	60.14
0:51	38.33	60.93
0:51	37.77	59.74
0:51	37.64	60.05
0:51	38.01	59.94
0:51	38.56	59.42
0:52	39.30	60.05
0:52	41.13	60.45
0:52	40.06	60.68
0:52	38.68	59.86
0:52	38.64	59.97
0:53	38.10	60.27
0:53	39.05	60.43
0:53	38.45	59.84
0:53	37.90	60.70
0:53	39.52	60.88
0:53	37.86	60.46
0:54	38.18	61.07
0:54	38.70	60.40
0:54	39.22	60.44
0:54	38.75	60.18
0:54	38.00	60.21
0:54	39.08	60.16
0:55	37.99	60.59
0:55	38.48	60.73
0:55	37.53	60.56
0:55	38.48	60.42
0:55	38.01	59.84

Site 1	4/9/21	
Time	LAeq	LCeq
0:55	38.24	59.56
0:56	37.86	60.33
0:56	38.18	59.54
0:56	37.81	60.11
0:56	38.28	60.98
0:56	38.09	60.25
0:56	37.31	59.56
0:57	37.76	59.54
0:57	37.75	60.60
0:57	38.82	60.35
0:57	38.50	60.09
0:57	36.56	59.15
0:57	37.32	60.07
0:58	37.68	60.35
0:58	37.81	60.85
0:58	37.54	60.96
0:58	36.54	60.02
0:58	38.46	59.84
0:58	36.63	59.81
0:59	37.68	60.13
0:59	37.37	60.46
0:59	37.20	60.30
0:59	37.57	60.56
0:59	37.38	60.71
0:59	37.61	61.26
1:00	38.48	60.23
1:00	37.76	60.67
1:00	37.20	60.55
1:00	37.16	59.72
1:00	37.82	60.64
1:00	38.33	60.59
1:01	37.60	60.74
1:01	38.68	60.64
1:01	39.71	59.81
1:01	37.49	59.75
1:01	38.99	60.24
1:01	38.15	59.80
1:02	38.37	59.23
1:02	39.93	60.39
1:02	39.17	61.08
1:02	38.55	60.04
1:02	37.85	59.95
1:02	38.89	60.68
1:03	37.43	59.32
1:03	36.42	59.56
1:03	37.60	60.39
1:03	38.28	60.21
1:03	38.17	59.69
1:03	36.50	60.28
1:04	37.20	60.71
1:04	36.62	60.38
1:04	37.80	59.91
1:04	37.38	60.00
1:04	36.38	60.48
1:04	36.68	59.95
1:05	36.65	59.89
1:05	37.28	60.01
1:05	36.19	60.30
1:05	38.12	61.08
1:05	37.06	59.94
1:05	36.96	60.18
1:06	37.11	60.58
1:06	36.38	59.68
1:06	38.36	60.89
1:06	38.41	59.49
1:06	39.93	60.26
1:06	38.07	59.92
1:07	37.06	59.85
1:07	37.95	59.76
1:07	35.87	59.56
1:07	36.74	59.73
1:07	36.78	59.75
1:07	37.77	59.08
1:08	37.99	60.43

Site 1	4/9/21	
Time	L _{Aeq}	L _{Ceq}
1:08	37.69	61.13
1:08	36.93	60.24
1:08	36.66	60.23
1:08	37.96	60.49
1:08	37.81	60.62
1:09	37.82	60.11
1:09	37.89	60.20
1:09	37.46	60.14
1:09	36.19	60.23
1:09	37.05	59.79
1:09	37.10	59.61
1:10	36.50	60.36
1:10	36.08	60.35
1:10	36.18	60.32
1:10	36.07	59.73
1:10	36.04	59.72
1:10	36.02	59.54
1:11	36.26	60.64
1:11	36.27	59.93
1:11	36.53	59.85
1:11	36.70	59.63
1:11	35.97	59.73
1:11	36.39	60.47
1:12	37.80	60.27
1:12	36.62	59.51
1:12	35.89	59.38
1:12	37.51	59.98
1:12	36.14	59.98
1:12	36.77	59.77
1:13	37.42	60.08
1:13	38.50	60.62
1:13	36.83	60.10
1:13	36.82	59.72
1:13	36.96	59.28
1:13	36.65	59.62
1:14	37.53	59.52
1:14	36.80	58.98
1:14	36.73	59.71
1:14	37.83	60.32
1:14	37.35	59.22
1:14	36.11	60.17
1:15	37.73	60.99
1:15	39.63	61.02
1:15	37.28	60.27
1:15	36.38	59.88
1:15	37.01	59.15
1:15	35.64	59.18
1:16	37.02	60.47
1:16	37.21	59.69
1:16	38.83	60.89
1:16	38.01	60.20
1:16	37.83	59.72
1:16	37.80	60.71
1:17	37.66	60.69
1:17	37.13	60.11
1:17	36.22	60.40
1:17	38.49	59.93
1:17	36.46	59.73
1:17	39.67	60.18
1:18	38.92	59.20
1:18	40.78	60.26
1:18	40.73	61.02
1:18	40.75	59.33
1:18	39.23	60.04
1:18	37.77	59.94
1:19	39.15	59.26
1:19	37.96	60.27
1:19	39.61	59.69
1:19	39.81	59.69
1:19	38.10	59.75
1:19	37.45	59.67
1:20	38.61	59.92
1:20	37.41	59.83
1:20	37.27	59.52

Site 1	4/9/21	
Time	LAeq	LCeq
1:20	38.03	60.14
1:20	37.48	60.32
1:20	38.68	60.21
1:21	37.49	58.85
1:21	37.64	59.18
1:21	37.67	60.19
1:21	38.44	61.11
1:21	38.09	59.52
1:21	37.34	60.07
1:22	37.30	59.47
1:22	36.35	59.15
1:22	36.30	59.24
1:22	35.69	59.60
1:22	37.43	59.31
1:22	36.56	60.01
1:23	37.82	59.93
1:23	36.47	59.64
1:23	36.19	59.61
1:23	36.26	60.03
1:23	36.14	59.74
1:23	39.70	59.65
1:24	37.27	59.79
1:24	36.84	59.98
1:24	36.73	59.49
1:24	36.04	59.79
1:24	37.56	59.90
1:24	35.90	60.29
1:25	36.37	60.60
1:25	37.80	60.13
1:25	38.45	59.79
1:25	37.49	59.95
1:25	37.14	59.63
1:25	35.63	60.11
1:26	36.28	60.11
1:26	34.98	59.21
1:26	36.19	60.33
1:26	37.03	60.23
1:26	38.60	59.31
1:26	36.61	57.63
1:27	34.87	58.35
1:27	36.12	59.72
1:27	37.58	59.91
1:27	37.83	60.46
1:27	37.94	59.92
1:27	38.57	59.57
1:28	36.98	59.10
1:28	38.19	60.06
1:28	37.93	59.12
1:28	37.63	58.50
1:28	37.51	59.63
1:28	37.92	59.47
1:29	36.69	59.38
1:29	35.61	59.31
1:29	37.16	59.34
1:29	38.38	59.74
1:29	37.66	59.37
1:29	37.60	58.92
1:30	35.89	59.30
1:30	35.63	59.57
1:30	36.11	59.20
1:30	37.47	59.53
1:30	37.83	59.27
1:30	36.42	59.46
1:31	35.63	60.04
1:31	38.59	60.33
1:31	37.17	59.24
1:31	36.64	59.12
1:31	36.41	59.27
1:31	36.83	59.74
1:32	37.15	58.90
1:32	36.82	59.73
1:32	36.60	59.76
1:32	36.09	59.21
1:32	36.72	59.20

Site 1	4/9/21	
Time	LAeq	LCeq
1:32	36.22	59.35
1:33	36.98	60.29
1:33	37.00	60.02
1:33	37.59	58.66
1:33	36.85	58.87
1:33	36.19	59.41
1:33	37.96	59.82
1:34	36.69	60.08
1:34	36.71	59.79
1:34	39.40	60.17
1:34	36.95	59.64
1:34	35.84	59.10
1:34	35.56	59.36
1:35	36.81	60.04
1:35	37.28	59.78
1:35	39.51	59.42
1:35	38.06	59.08
1:35	37.79	59.44
1:35	35.61	58.34
1:36	35.50	59.24
1:36	37.46	59.39
1:36	36.97	59.23
1:36	37.43	59.35
1:36	36.45	58.78
1:36	38.46	59.56
1:37	37.41	60.04
1:37	36.34	59.29
1:37	35.82	58.76
1:37	37.10	59.22
1:37	36.66	59.75
1:37	36.53	59.43
1:38	36.73	59.40
1:38	36.47	58.93
1:38	36.38	59.42
1:38	35.46	59.33
1:38	35.44	59.71
1:38	37.36	58.66
1:39	36.85	58.40
1:39	36.74	59.54
1:39	35.63	60.04
1:39	37.76	59.88
1:39	37.71	59.61
1:39	37.20	60.05
1:40	37.77	59.49
1:40	36.50	59.04
1:40	35.79	60.01
1:40	38.59	59.99
1:40	36.64	58.85
1:40	37.23	59.16
1:41	38.15	59.86
1:41	37.39	59.48
1:41	37.69	59.24
1:41	35.93	59.59
1:41	35.52	59.85
1:41	35.93	59.33
1:42	37.87	59.73
1:42	36.03	59.54
1:42	35.69	59.51
1:42	36.57	59.22
1:42	35.29	59.47
1:42	36.89	59.78
1:43	36.14	59.45
1:43	36.59	59.76
1:43	37.37	59.44
1:43	36.77	59.56
1:43	36.61	59.50
1:43	35.60	58.94
1:44	35.89	60.15
1:44	37.41	59.23
1:44	37.58	59.13
1:44	37.08	59.64
1:44	36.40	58.68
1:44	35.84	58.85
1:45	35.77	58.59

Site 1	4/9/21	
Time	LAeq	LCeq
1:45	36.38	59.32
1:45	35.93	58.89
1:45	35.77	58.69
1:45	35.61	58.95
1:45	36.27	58.60
1:46	36.71	59.66
1:46	35.65	58.96
1:46	36.22	59.45
1:46	36.01	59.50
1:46	36.42	59.47
1:46	36.01	59.41
1:47	36.61	60.00
1:47	37.63	59.04
1:47	36.73	59.23
1:47	37.02	59.26
1:47	36.79	59.58
1:47	35.88	58.63
1:48	34.46	58.63
1:48	34.49	58.55
1:48	34.44	59.65
1:48	36.78	58.64
1:48	34.94	59.27
1:48	34.91	59.12
1:49	35.77	59.19
1:49	35.53	57.91
1:49	35.10	58.80
1:49	35.65	59.25
1:49	36.44	60.17
1:49	36.41	59.59
1:50	35.86	59.85
1:50	37.00	60.62
1:50	36.54	59.68
1:50	35.77	59.28
1:50	36.44	60.01
1:50	36.60	59.56
1:51	36.60	59.62
1:51	35.82	58.66
1:51	35.99	59.37
1:51	39.22	59.78
1:51	35.53	59.21
1:51	36.38	58.67
1:52	36.29	59.69
1:52	38.37	60.03
1:52	40.65	59.77
1:52	40.79	59.95
1:52	40.66	60.12
1:52	39.32	59.62
1:53	39.12	59.39
1:53	37.95	59.23
1:53	37.56	59.36
1:53	37.32	59.27
1:53	37.74	60.21
1:53	38.24	60.66
1:54	39.41	60.71
1:54	36.55	60.36
1:54	36.03	59.40
1:54	36.75	59.52
1:54	37.21	60.13
1:54	36.61	59.75
1:55	40.09	60.07
1:55	37.81	60.01
1:55	36.83	59.41
1:55	38.06	59.39
1:55	34.97	59.68
1:55	36.13	59.68
1:56	34.79	59.33
1:56	35.26	59.37
1:56	35.61	59.50
1:56	35.20	58.44
1:56	35.49	58.53
1:56	35.94	59.47
1:57	35.54	60.01
1:57	35.42	59.62
1:57	35.40	59.65

Site 1	4/9/21	
Time	LAeq	LCeq
1:57	35.62	59.51
1:57	36.39	59.36
1:57	37.65	59.62
1:58	34.20	59.28
1:58	34.53	59.13
1:58	34.96	59.32
1:58	37.58	59.41
1:58	37.77	59.65
1:58	34.99	59.22
1:59	34.26	58.76
1:59	34.09	59.40
1:59	35.72	59.37
1:59	35.35	59.25
1:59	35.04	58.68
1:59	35.41	58.98
2:00	35.51	59.48
2:00	37.61	59.95
2:00	35.25	58.85
2:00	33.81	58.45
2:00	34.69	59.25
2:00	34.21	59.07
2:01	35.37	58.84
2:01	35.02	59.11
2:01	33.60	59.17
2:01	34.67	59.16
2:01	35.84	60.11
2:01	34.87	59.68
2:02	35.81	59.46
2:02	34.19	59.52
2:02	33.92	59.78
2:02	34.79	60.17
2:02	34.29	59.11
2:02	34.26	59.63
2:03	36.01	61.07
2:03	37.03	59.00
2:03	35.62	58.54
2:03	35.55	59.90
2:03	37.52	59.97
2:03	35.40	59.84
2:04	36.35	60.03
2:04	38.44	60.34
2:04	36.05	59.48
2:04	35.35	59.42
2:04	34.63	59.75
2:04	35.31	59.30
2:05	34.41	59.39
2:05	35.74	59.30
2:05	36.30	58.79
2:05	37.03	59.40
2:05	35.28	59.38
2:05	35.43	58.78
2:06	35.07	58.78
2:06	33.84	59.26
2:06	35.61	58.71
2:06	35.47	59.20
2:06	36.51	59.12
2:06	35.74	59.52
2:07	36.04	59.23
2:07	37.41	58.97
2:07	37.05	59.21
2:07	36.98	59.08
2:07	36.85	59.12
2:07	35.21	58.62
2:08	35.63	59.12
2:08	35.13	58.18
2:08	35.90	58.76
2:08	34.72	59.38
2:08	34.57	58.67
2:08	34.59	59.33
2:09	35.17	59.38
2:09	38.55	60.39
2:09	39.29	59.74
2:09	37.69	60.20
2:09	37.69	59.70

Site 1	4/9/21	
Time	LAeq	LCeq
2:09	36.07	58.33
2:10	34.83	59.15
2:10	34.21	59.00
2:10	33.81	59.16
2:10	34.70	58.48
2:10	33.96	59.66
2:10	36.80	59.89
2:11	36.29	59.31
2:11	35.97	59.61
2:11	37.32	59.43
2:11	35.59	59.14
2:11	35.32	59.82
2:11	35.89	59.56
2:12	37.69	59.28
2:12	36.21	58.30
2:12	35.42	57.84
2:12	36.55	59.45
2:12	35.49	58.98
2:12	36.88	60.08
2:13	36.70	59.32
2:13	37.37	59.70
2:13	38.65	60.11
2:13	35.19	59.79
2:13	36.09	59.40
2:13	34.57	58.61
2:14	34.12	58.34
2:14	35.13	58.24
2:14	34.68	58.54
2:14	34.51	59.10
2:14	36.54	60.09
2:14	37.19	59.53
2:15	36.67	59.40
2:15	36.37	58.77
2:15	37.85	59.94
2:15	35.80	58.91
2:15	34.14	58.48
2:15	36.10	59.15
2:16	36.08	59.57
2:16	37.10	59.50
2:16	38.03	59.22
2:16	38.87	59.57
2:16	41.96	59.95
2:16	35.91	59.46
2:17	35.85	60.24
2:17	36.16	59.83
2:17	36.15	59.82
2:17	38.23	59.89
2:17	36.79	59.18
2:17	35.65	59.34
2:18	36.85	59.22
2:18	37.32	59.32
2:18	36.14	58.91
2:18	38.14	59.21
4/9/2021 2:18	39.27	59.35
maximum	41.96	61.26
minimum	33.60	57.63
average	37.00	59.66

Site 1	4/10/2021	
	LAeq	LCeq
4/10/2021	7:49	49.10
	7:50	42.08
	7:50	51.10
	7:50	44.94
	7:50	42.62
	7:51	42.80
	7:51	41.64
	7:51	41.69
	7:51	43.14
	7:51	45.69
	7:51	45.41
	7:52	43.22
	7:52	43.39
	7:52	45.61
	7:52	43.62
	7:52	43.62
	7:52	41.63
	7:53	42.04
	7:53	41.33
	7:53	40.98
	7:53	41.94
	7:53	42.40
	7:53	41.11
	7:54	42.20
	7:54	41.71
	7:54	42.04
	7:54	41.31
	7:54	40.50
	7:54	40.56
	7:55	43.24
	7:55	41.47
	7:55	41.17
	7:55	42.37
	7:55	41.45
	7:55	41.89
	7:56	42.43
	7:56	43.05
	7:56	43.21
	7:56	43.85
	7:56	42.26
	7:56	43.25
	7:57	43.83
	7:57	42.48
	7:57	42.28
	7:57	42.62
	7:57	42.53
	7:57	42.50
	7:58	42.33
	7:58	43.70
	7:58	45.52
	7:58	47.55
	7:59	44.77
	8:00	41.83
	8:00	43.39
	8:00	42.97
	8:00	44.11
	8:00	42.40
	8:00	43.30
	8:01	43.54
	8:01	45.69
	8:01	45.11
	8:01	46.53
	8:01	45.18
	8:01	45.89
	8:02	43.89
	8:02	43.51
	8:02	43.56
	8:02	45.46
	8:02	43.76
	8:02	47.20
	8:03	47.13
	8:03	46.36

Site 1	4/10/2021	
	LAeq	LCeq
8:03	46.20	62.37
8:03	47.40	61.94
8:03	44.30	61.29
8:03	44.28	61.07
8:04	45.14	60.63
8:04	43.69	60.45
8:04	43.79	60.96
8:04	44.49	61.41
8:04	45.04	64.72
8:04	42.91	60.90
8:05	43.33	61.35
8:05	38.92	60.98
8:05	42.35	61.66
8:05	42.47	61.24
8:05	42.14	60.49
8:05	41.94	61.09
8:06	42.44	61.38
8:06	45.47	62.67
8:06	48.68	63.70
8:06	46.31	62.25
8:06	43.86	61.29
8:06	42.41	60.98
8:07	42.36	61.25
8:07	42.16	60.78
8:07	42.37	60.99
8:07	44.18	61.36
8:07	42.89	61.44
8:07	44.19	61.16
8:08	42.53	61.39
8:08	43.09	61.67
8:08	47.13	61.70
8:08	44.07	62.70
8:08	42.70	62.57
8:08	42.74	61.31
8:09	41.86	60.89
8:09	41.86	60.66
8:09	44.58	62.21
8:09	45.13	62.42
8:09	45.58	61.22
8:09	48.20	61.10
8:10	45.61	61.81
8:10	44.35	62.18
8:10	43.98	61.44
8:10	47.01	61.35
8:10	48.07	61.84
8:10	45.72	60.81
8:11	45.01	61.83
8:11	46.07	61.41
8:11	44.73	61.06
8:11	44.91	61.75
8:11	44.09	61.39
8:11	44.60	61.11
8:12	43.28	61.44
8:12	42.24	61.60
8:12	41.40	60.97
8:12	41.54	61.38
8:12	41.38	61.85
8:12	41.29	61.60
8:13	40.16	60.72
8:13	41.17	61.25
8:13	41.88	61.81
8:13	42.10	61.12
8:13	41.50	61.07
8:13	40.95	61.77
8:14	41.16	61.57
8:14	42.24	61.57
8:14	42.06	61.22
8:14	42.30	61.22
8:14	42.47	61.19
8:14	42.46	60.97
8:15	41.98	60.75
8:15	41.38	61.42

Site 1	4/10/2021	
	LAeq	LCeq
8:15	43.51	60.94
8:15	45.96	61.24
8:15	46.84	61.46
8:15	44.06	61.92
8:16	42.83	60.87
8:16	41.95	60.98
8:16	43.98	60.50
8:16	43.14	60.73
8:16	41.93	60.86
8:16	44.21	61.58
8:17	44.37	61.03
8:17	44.55	61.10
8:17	45.25	60.40
8:17	43.58	61.48
8:17	45.40	61.29
8:17	43.93	61.91
8:18	45.24	61.66
8:18	43.63	60.63
8:18	44.71	61.08
8:18	42.67	60.07
8:18	42.73	60.65
8:18	41.53	60.96
8:19	42.53	60.98
8:19	41.19	61.39
8:19	40.59	60.04
8:19	40.17	60.88
8:19	39.98	60.66
8:19	40.43	61.06
8:20	40.27	60.25
8:20	39.34	60.42
8:20	38.89	60.21
8:20	41.13	61.23
8:20	40.68	60.56
8:20	42.73	60.81
8:21	44.08	60.51
8:21	46.40	60.76
8:21	42.80	60.81
8:21	39.26	60.41
8:21	39.69	59.94
8:21	39.45	60.68
8:22	39.28	59.82
8:22	40.15	59.59
8:22	40.44	60.54
8:22	43.44	61.03
8:22	40.93	60.25
8:22	39.89	60.91
8:23	41.10	60.81
8:23	43.01	60.36
8:23	42.73	60.68
8:23	40.11	60.15
8:23	37.95	60.51
8:23	42.40	60.42
8:24	42.33	60.56
8:24	41.73	61.30
8:24	41.63	61.11
8:24	41.83	60.38
8:24	43.53	60.67
8:24	42.11	60.44
8:25	41.16	60.27
8:25	40.43	60.11
8:25	39.58	60.57
8:25	40.00	61.08
8:25	40.24	61.09
8:25	41.63	60.52
8:26	42.97	61.39
8:26	43.46	61.01
8:26	43.81	60.79
8:26	42.82	60.11
8:26	43.14	60.71
8:26	43.33	60.68
8:27	42.22	60.08
8:27	42.52	59.97

Site 1	4/10/2021	
	LAeq	LCeq
8:27	42.88	60.52
8:27	45.77	60.26
8:27	42.88	60.33
8:27	40.72	60.02
8:28	41.20	59.35
8:28	42.70	60.21
8:28	41.23	60.32
8:28	40.06	60.26
8:28	40.63	60.73
8:28	41.77	60.90
8:29	40.19	61.16
8:29	40.24	60.36
8:29	40.11	60.18
8:29	40.70	60.52
8:29	40.27	60.26
8:29	41.42	59.64
8:30	41.87	59.63
8:30	41.09	61.17
8:30	40.78	60.16
8:30	41.81	60.08
8:30	41.25	60.71
8:30	40.48	59.84
8:31	39.70	59.44
8:31	41.30	58.56
8:31	41.80	59.89
8:31	41.77	60.00
8:31	40.18	60.20
8:31	41.14	60.91
8:32	41.22	60.31
8:32	40.27	59.41
8:32	40.36	60.16
8:32	39.90	60.09
8:32	40.05	59.94
8:32	38.91	59.38
8:33	40.46	60.56
8:33	41.30	60.71
8:33	42.42	59.87
8:33	41.68	59.64
8:33	40.65	60.19
8:33	38.78	61.39
8:34	39.64	59.82
8:34	40.13	59.26
8:34	40.05	59.83
8:34	39.97	59.40
8:34	40.14	59.77
8:34	42.04	59.65
8:35	41.17	59.93
8:35	40.84	59.73
8:35	39.05	59.12
8:35	40.73	59.41
8:35	40.21	60.45
8:35	41.27	60.00
8:36	39.55	59.62
8:36	38.84	59.01
8:36	39.40	60.46
8:36	41.37	59.89
8:36	41.08	60.76
8:36	40.15	60.34
8:37	40.69	59.17
8:37	40.15	59.91
8:37	41.39	59.73
8:37	40.61	60.15
8:37	41.03	59.20
8:37	43.11	59.69
8:38	39.79	59.69
8:38	40.54	60.88
8:38	39.47	59.30
8:38	41.55	60.15
8:38	42.33	60.41
8:38	42.73	59.35
8:39	44.85	60.16
8:39	43.66	59.43

Site 1	4/10/2021	
	LAeq	LCeq
8:39	44.87	59.27
8:39	45.75	59.00
8:39	45.21	59.47
8:39	43.95	59.47
8:40	42.42	59.47
8:40	43.30	59.71
8:40	42.99	59.35
8:40	42.12	58.79
8:40	42.38	58.99
8:40	41.49	58.94
8:41	41.66	59.47
8:41	40.99	59.23
8:41	42.03	59.23
8:41	42.38	58.59
8:41	50.89	59.53
8:41	46.70	59.59
8:42	41.28	58.65
8:42	41.64	59.02
8:42	41.69	59.08
8:42	41.74	58.08
8:42	40.68	58.11
8:42	39.70	57.90
8:43	39.98	58.73
8:43	42.88	59.07
8:43	39.99	58.87
8:43	39.91	58.96
8:43	42.09	59.21
8:43	40.52	58.00
8:44	39.83	57.98
8:44	39.64	59.14
8:44	38.75	58.89
8:44	39.56	58.58
8:44	39.82	58.66
8:44	39.91	58.55
8:45	38.88	58.30
8:45	39.56	58.43
8:45	41.09	58.89
8:45	39.84	59.00
8:45	41.07	59.02
8:45	40.50	58.32
8:46	41.26	58.06
8:46	41.28	57.55
8:46	40.16	58.22
8:46	40.77	58.06
8:46	42.07	59.15
8:46	42.31	59.40
8:47	43.36	59.86
8:47	43.46	58.94
8:47	43.82	58.64
8:47	44.71	58.77
8:47	44.76	58.52
8:47	41.04	59.21
8:48	41.64	61.64
8:48	40.67	60.11
8:48	42.11	58.58
8:48	37.81	57.69
8:48	41.20	58.55
8:48	43.44	58.25
8:49	41.12	58.07
8:49	40.31	58.74
8:49	40.72	59.07
8:49	39.48	58.62
8:49	46.11	58.16
8:49	43.73	58.05
8:50	43.94	57.29
8:50	39.63	57.97
8:50	40.61	57.74
8:50	40.95	58.38
8:50	40.31	58.97
8:50	41.24	58.63
8:51	41.27	58.13
8:51	42.98	58.98

Site 1	4/10/2021	
	LAeq	LCeq
8:51	41.82	58.62
8:51	41.71	58.52
8:51	39.26	57.86
8:51	39.91	58.04
8:52	38.61	58.24
8:52	37.56	58.79
8:52	37.92	58.34
8:52	39.07	57.80
8:52	40.19	58.28
8:52	41.00	58.81
8:53	39.93	58.01
8:53	37.65	58.17
8:53	40.21	58.92
8:53	38.20	60.94
8:53	35.35	59.05
8:53	36.93	58.96
8:54	35.70	59.27
8:54	38.02	59.33
8:54	41.93	58.50
8:54	38.16	59.56
8:54	40.52	59.49
8:54	43.44	58.23
8:55	39.51	58.24
8:55	38.54	59.23
8:55	39.22	58.34
8:55	37.63	57.51
8:55	38.91	58.58
8:55	40.04	57.67
8:56	40.92	58.17
8:56	39.49	57.98
8:56	38.75	59.05
8:56	39.51	57.25
8:56	38.79	58.21
8:56	38.22	58.24
8:57	36.49	58.04
8:57	37.80	58.08
8:57	39.39	58.93
8:57	37.54	58.15
8:57	36.54	58.45
8:57	36.53	58.81
8:58	38.85	58.59
8:58	37.11	57.99
8:58	37.51	58.44
8:58	38.02	58.29
8:58	38.05	57.92
8:58	40.46	57.89
8:59	38.73	57.42
8:59	37.40	57.91
8:59	38.50	57.99
8:59	37.99	57.63
8:59	37.97	58.48
8:59	39.88	58.41
9:00	39.18	58.66
9:00	39.34	58.59
9:00	40.90	57.47
9:00	38.03	58.24
9:00	39.14	57.76
9:00	41.17	58.45
9:01	40.58	57.68
9:01	39.68	58.29
9:01	41.68	58.36
9:01	39.79	57.90
9:01	38.29	57.39
9:01	38.74	57.54
9:02	41.37	57.47
9:02	39.30	56.85
9:02	37.44	57.40
9:02	39.03	58.07
9:02	41.29	58.29
9:02	39.59	58.33
9:03	36.78	59.29
9:03	39.61	58.90

Site 1	4/10/2021	
	LAeq	LCeq
9:03	38.43	58.27
9:03	40.54	57.87
9:03	42.89	57.01
9:03	40.95	57.96
9:04	41.48	57.91
9:04	39.99	59.38
9:04	40.89	59.12
9:04	38.85	59.39
9:04	38.30	59.47
9:04	37.26	58.52
9:05	37.72	58.65
9:05	37.82	58.83
9:05	39.33	57.94
9:05	39.46	57.50
9:05	42.79	58.08
9:05	48.24	57.79
9:06	48.46	57.67
9:06	37.77	57.88
9:06	39.50	57.80
9:06	35.84	58.40
9:06	37.74	57.65
9:06	40.87	58.13
9:07	41.01	57.45
9:07	37.75	57.89
9:07	40.84	57.69
9:07	41.16	57.99
9:07	42.03	58.74
9:07	38.34	58.11
9:08	39.34	59.66
9:08	39.66	58.69
9:08	39.26	58.26
9:08	38.98	57.81
9:08	39.73	57.30
9:08	37.99	57.50
9:09	37.95	57.75
9:09	40.63	58.71
9:09	38.72	57.80
9:09	36.09	58.27
9:09	36.32	57.62
9:09	35.70	58.80
9:10	37.00	58.71
9:10	36.69	57.42
9:10	35.44	58.96
9:10	37.09	58.22
9:10	37.52	58.67
9:10	37.22	57.63
9:11	37.37	58.19
9:11	36.62	57.35
9:11	38.59	57.80
9:11	39.62	59.11
9:11	40.86	59.25
9:11	38.96	57.88
9:12	37.82	58.08
9:12	37.73	58.00
9:12	39.60	57.88
9:12	41.17	58.30
9:12	42.85	57.95
9:12	44.02	58.82
9:13	44.34	58.69
9:13	42.46	58.88
9:13	41.53	59.13
9:13	41.34	58.41
9:13	41.31	58.16
9:13	39.54	57.83
9:14	39.29	57.26
9:14	39.94	56.97
9:14	42.42	57.96
9:14	43.54	58.53
9:14	43.12	57.50
9:14	43.11	58.31
9:15	41.22	57.71
9:15	40.53	58.34

Site 1	4/10/2021	
	LAeq	LCeq
9:15	41.06	57.58
9:15	42.25	57.07
9:15	40.43	58.39
9:15	39.91	59.30
9:16	42.10	60.98
9:16	39.54	58.61
9:16	38.88	58.61
9:16	39.61	58.91
9:16	39.27	58.39
9:16	40.51	57.59
9:17	40.08	56.42
9:17	40.90	56.68
9:17	38.90	57.80
9:17	39.26	58.36
9:17	49.19	58.14
9:17	39.93	58.25
9:18	38.59	59.01
9:18	39.97	57.65
9:18	39.23	57.12
9:18	37.38	57.80
9:18	38.23	57.46
9:18	39.70	56.93
9:19	38.91	57.29
9:19	40.32	58.06
9:19	40.55	58.94
9:19	41.41	58.40
9:19	40.13	57.13
9:19	39.59	58.24
9:20	39.14	58.55
9:20	38.74	58.29
9:20	37.48	58.10
9:20	40.79	59.77
9:20	41.18	57.97
9:20	42.18	61.65
9:21	40.88	64.67
9:21	41.04	58.64
9:21	40.55	59.28
9:21	40.07	57.79
9:21	37.73	57.65
9:21	36.30	58.82
9:22	36.15	58.15
9:22	36.92	58.84
9:22	38.14	58.29
9:22	42.35	58.91
9:22	40.16	59.70
9:22	40.28	58.26
9:23	40.50	58.06
9:23	39.28	57.80
9:23	43.83	61.96
9:23	41.18	59.33
9:23	39.84	59.16
9:23	40.56	59.12
9:24	41.28	58.69
9:24	41.85	58.39
9:24	40.59	58.67
9:24	41.49	58.67
9:24	41.29	60.22
9:24	42.58	59.89
9:25	40.92	58.97
9:25	40.62	57.56
9:25	40.81	58.25
9:25	42.27	58.46
9:25	40.39	57.46
9:25	39.99	56.62
9:26	41.47	57.81
9:26	41.56	57.69
9:26	41.92	57.56
9:26	39.90	57.10
9:26	39.57	57.46
9:26	40.44	57.83
9:27	40.39	58.48
9:27	40.79	58.01

Site 1	4/10/2021	
	LAeq	LCeq
9:27	41.16	58.19
9:27	39.19	58.35
9:27	38.70	58.15
9:27	45.46	57.99
9:28	40.75	58.76
9:28	40.44	58.03
9:28	40.69	59.23
9:28	46.34	59.49
9:28	39.18	58.81
9:28	42.08	58.74
9:29	42.78	59.11
9:29	38.61	59.03
9:29	38.00	59.90
9:29	38.74	58.51
9:29	41.04	58.34
9:29	39.14	59.26
9:30	39.28	59.19
9:30	37.69	58.06
9:30	37.85	58.00
9:30	39.47	60.70
9:30	40.32	60.71
9:30	39.63	57.96
9:31	41.33	59.92
9:31	42.47	59.32
9:31	42.22	58.64
9:31	41.90	59.55
9:31	39.99	58.53
9:31	44.40	59.70
9:32	43.51	60.08
9:32	40.63	59.16
9:32	38.93	59.83
9:32	41.27	58.13
9:32	39.87	58.09
9:32	39.71	58.69
9:33	39.99	58.72
9:33	40.67	58.60
9:33	39.98	58.09
9:33	40.63	58.41
9:33	45.47	57.06
9:33	42.63	57.25
9:34	40.60	57.93
9:34	41.39	59.62
9:34	43.13	60.04
9:34	41.45	59.54
9:34	41.31	58.03
9:34	43.41	59.40
9:35	42.33	58.21
9:35	40.70	59.27
9:35	40.66	59.23
9:35	41.50	58.48
9:35	41.75	58.26
9:35	41.53	59.96
9:36	41.93	58.99
9:36	41.11	57.89
9:36	39.84	57.60
9:36	40.37	58.66
9:36	41.21	59.95
9:36	42.88	60.20
9:37	41.30	59.85
9:37	39.63	58.87
9:37	39.33	57.89
9:37	44.40	58.22
9:37	42.90	58.81
9:37	40.12	60.56
9:38	39.03	59.49
9:38	38.89	59.01
9:38	38.23	58.44
9:38	40.13	57.91
9:38	39.69	58.95
9:38	40.40	58.76
9:39	39.75	57.47
9:39	41.33	58.38

Site 1	4/10/2021	
	LAeq	LCeq
9:39	39.23	57.62
9:39	39.89	57.47
9:39	40.10	57.52
9:39	41.36	57.21
9:40	40.83	58.74
9:40	40.86	58.46
9:40	40.29	60.53
9:40	41.59	58.69
9:40	41.59	58.36
9:40	40.82	57.97
9:41	42.04	58.72
9:41	41.05	59.47
9:41	39.75	59.85
9:41	39.17	59.52
9:41	39.56	57.67
9:41	41.84	58.48
9:42	40.91	58.42
9:42	40.17	58.10
9:42	39.77	58.20
9:42	39.31	58.31
9:42	40.72	57.69
9:42	42.60	58.65
9:43	41.20	60.04
9:43	41.71	57.78
9:43	41.03	58.02
9:43	41.56	58.60
9:43	41.68	59.96
9:43	41.54	58.65
9:44	41.62	60.08
9:44	41.65	58.98
9:44	41.53	58.00
9:44	39.22	59.29
9:44	40.83	58.71
9:44	41.14	60.21
9:45	42.74	59.80
9:45	44.15	61.74
9:46	42.23	59.67
9:46	45.11	63.45
9:46	42.85	61.62
9:46	39.58	57.82
9:46	40.94	58.04
9:46	39.09	57.92
9:47	39.13	57.34
9:47	39.65	57.42
9:47	40.66	57.23
9:47	42.71	57.54
9:47	42.47	58.30
9:47	43.47	57.22
9:48	44.17	58.06
9:48	43.07	56.65
9:48	37.70	58.63
9:48	39.42	57.57
9:48	41.39	57.51
9:48	38.00	57.22
9:49	39.60	57.04
9:49	39.72	57.25
9:49	39.87	56.77
9:49	40.42	57.22
9:49	39.58	58.49
9:49	40.60	58.25
9:50	39.19	57.53
9:50	39.93	57.57
9:51	39.25	59.33
9:52	38.27	58.27
9:52	38.81	57.62
4/10/2021 9:52	53.17	58.69
Maximum	51.10	61.17
Minimum	35.35	56.42
Average	42.05	59.59

Site 2	4/10/21	
	L _{Aeq}	L _{Ceq}
10:13	43.76	55.51
10:13	42.40	55.41
10:13	42.04	54.70
10:14	42.64	55.47
10:14	42.90	54.46
10:14	43.45	55.11
10:14	43.38	54.35
10:14	43.38	54.78
10:15	50.52	59.43
10:15	43.19	57.04
10:15	43.41	55.96
10:15	42.01	54.04
10:15	42.36	54.68
10:16	43.11	55.56
10:16	40.51	55.93
10:16	47.04	56.40
10:16	42.62	55.44
10:17	46.67	55.51
10:17	45.75	54.53
10:17	48.73	55.65
10:18	43.71	55.45
10:18	42.56	54.86
10:18	42.26	54.36
10:18	41.88	55.31
10:18	42.26	55.22
10:18	42.10	54.71
10:19	41.08	54.39
10:19	41.99	54.78
10:19	42.04	55.04
10:19	45.11	56.15
10:19	43.09	56.16
10:19	43.76	55.18
10:20	43.80	55.32
10:20	41.54	55.51
10:20	42.95	55.59
10:20	42.50	55.81
10:20	42.34	55.32
10:20	44.36	54.16
10:21	48.57	56.38
10:21	43.29	55.97
10:21	42.38	55.51
10:21	42.56	55.47
10:21	41.81	55.38
10:21	42.07	54.77
10:22	42.29	56.36
10:22	43.17	55.56
10:22	42.23	55.19
10:22	42.95	55.76
10:22	48.81	60.28
10:22	46.27	56.83
10:23	44.37	56.19
10:23	43.65	55.92
10:23	42.63	55.68
10:23	42.31	56.43
10:23	48.32	62.02
10:24	46.18	60.28
10:24	43.61	56.75
10:24	42.87	55.34
10:24	42.73	55.14
10:24	43.16	54.93
10:24	42.75	56.11
10:25	42.29	56.10
10:25	43.04	55.63
10:25	43.09	54.71
10:25	43.21	55.04
10:25	43.75	55.30
10:25	44.00	55.78
10:26	42.60	54.94
10:26	43.09	55.46
10:26	46.37	55.99
10:26	49.77	57.76

Site 2	4/10/21	
	LAeq	LCeq
10:26	49.17	58.02
10:26	43.18	55.15
10:27	42.78	55.46
10:27	42.77	54.92
10:27	43.21	57.06
10:27	44.60	57.49
10:27	44.56	55.56
10:27	43.08	54.60
10:28	41.40	54.86
10:28	41.19	55.21
10:28	41.34	54.66
10:28	39.14	54.38
10:28	40.68	54.49
10:28	39.63	54.47
10:29	37.43	54.16
10:29	38.92	54.38
10:29	40.40	54.50
10:29	41.28	55.04
10:29	41.77	55.13
10:29	43.40	55.24
10:30	42.31	55.84
10:30	42.49	55.19
10:30	41.21	55.48
10:30	43.33	54.99
10:30	42.15	55.20
10:30	41.47	55.45
10:31	40.77	56.21
10:31	42.12	56.58
10:31	42.19	55.33
10:31	42.40	55.88
10:31	41.69	54.73
10:31	42.42	56.15
10:32	42.17	55.36
10:32	41.47	54.40
10:32	41.49	54.54
10:32	42.24	55.00
10:32	46.45	55.52
10:32	42.75	55.44
10:33	42.74	55.68
10:33	41.60	55.60
10:33	42.74	55.91
10:33	43.92	56.24
10:33	46.92	58.22
10:33	48.92	59.47
10:34	47.08	57.81
10:34	42.38	56.13
10:34	41.33	55.83
10:34	42.18	55.20
10:34	42.89	55.52
10:34	40.92	55.11
10:35	41.56	54.78
10:35	40.95	55.28
10:35	41.58	55.89
10:35	42.95	55.58
10:35	57.27	63.30
10:35	42.24	54.31
10:36	41.59	54.52
10:36	41.82	54.20
10:36	40.95	55.16
10:36	42.28	55.37
10:36	42.07	55.63
10:36	41.19	55.14
10:37	41.22	55.57
10:37	41.15	55.15
10:37	40.88	56.16
10:37	41.90	55.03
10:38	39.96	55.21
10:38	40.06	54.38
10:38	40.12	55.69
10:38	39.97	54.90
10:38	40.06	55.46

Site 2	4/10/21	
	LAeq	LCeq
10:39	40.50	57.27
10:39	39.13	53.92
10:39	39.28	55.22
10:39	39.06	55.33
10:39	39.33	54.58
10:39	39.60	53.97
10:40	39.91	55.02
10:40	42.01	59.49
10:40	48.11	63.54
10:40	38.90	53.79
10:40	39.30	54.22
10:40	40.30	54.03
10:41	41.50	54.91
10:41	41.42	55.03
10:41	39.24	54.85
10:41	39.21	54.29
10:41	39.12	52.62
10:41	38.77	53.55
10:42	40.08	53.42
10:42	39.63	53.93
10:42	39.10	54.13
10:42	39.24	54.02
10:42	39.05	52.85
10:42	39.63	54.09
10:43	40.21	54.94
10:43	40.95	55.71
10:43	59.19	62.24
10:43	40.16	54.77
10:43	39.94	54.79
10:44	39.97	54.10
10:44	39.07	55.19
10:45	42.29	55.25
10:45	41.17	55.47
10:45	40.41	55.07
10:45	40.67	55.20
10:45	41.11	55.04
10:46	40.71	54.93
10:46	40.29	54.59
10:46	40.80	55.26
10:46	41.01	55.80
10:46	47.14	57.47
10:46	43.93	55.48
10:47	43.77	54.93
10:47	42.10	55.47
10:47	41.37	56.19
10:47	41.75	55.03
10:47	40.02	54.30
10:47	41.21	54.45
10:48	40.66	53.90
10:48	39.85	54.77
10:48	42.07	54.61
10:48	42.45	55.17
10:48	42.34	54.94
10:48	41.75	55.16
10:49	44.14	55.76
10:49	42.20	56.22
10:49	42.46	56.44
10:49	42.27	56.50
10:49	42.17	55.62
10:49	42.96	54.72
10:50	42.41	54.87
10:50	42.89	54.82
10:50	42.26	55.41
10:50	41.41	54.87
10:50	41.91	55.04
10:50	41.15	55.31
10:51	41.28	55.79
10:51	41.60	54.92
10:51	41.41	54.79
10:51	41.34	54.87
10:51	40.91	55.43

Site 2	4/10/21	
	LAeq	LCeq
10:51	41.22	54.57
10:52	40.92	55.26
10:52	40.22	56.19
10:52	40.51	56.71
10:52	40.24	55.14
10:52	40.74	55.36
10:52	41.48	56.27
10:53	41.52	55.14
10:53	41.69	54.76
10:53	47.31	57.63
10:53	46.34	56.48
10:53	44.89	55.77
10:53	42.43	55.04
10:54	42.17	54.75
10:54	43.35	54.52
10:54	42.34	54.39
10:54	41.68	53.81
10:54	42.79	54.64
10:54	40.72	54.71
10:55	41.91	54.92
10:55	40.09	54.67
10:55	41.33	54.97
10:55	38.86	54.27
10:55	39.99	55.78
10:55	41.33	55.77
10:56	40.46	55.05
10:56	41.62	55.38
10:56	39.52	54.52
10:56	40.13	54.25
10:56	39.81	53.94
10:56	40.98	55.66
10:57	40.50	55.70
10:57	40.68	54.38
10:57	39.45	53.72
10:57	40.09	53.75
10:57	41.25	56.77
10:57	40.02	55.93
10:58	41.57	56.49
10:58	44.84	56.19
10:58	45.45	55.48
10:58	40.62	57.58
10:58	42.41	55.53
10:58	43.56	55.17
10:59	47.55	57.68
10:59	43.53	55.38
10:59	42.27	54.76
10:59	40.93	54.73
10:59	41.72	54.54
10:59	40.77	54.94
11:00	39.11	54.01
11:00	40.04	54.03
11:00	45.94	54.99
11:00	49.52	56.41
11:00	51.11	59.05
11:00	48.59	57.29
11:01	43.91	54.58
11:01	44.17	55.06
11:01	44.94	55.74
11:01	44.79	56.02
11:01	43.58	55.10
11:01	41.94	55.79
11:02	42.18	54.51
11:02	40.91	55.19
11:02	40.35	55.88
11:02	39.96	55.11
11:02	42.12	54.78
11:02	39.88	54.48
11:03	42.44	55.55
11:03	46.93	55.16
11:03	47.77	55.57
11:03	42.62	55.38

Site 2	4/10/21	
	L _{Aeq}	L _{Ceq}
11:03	39.17	55.27
11:03	39.75	55.29
11:04	46.50	56.33
11:04	47.60	57.48
11:04	45.70	55.11
11:04	39.63	53.79
11:04	40.60	55.03
11:04	39.79	54.44
11:05	39.27	55.77
11:05	39.88	55.04
11:05	38.58	55.48
11:05	38.48	55.56
11:05	37.45	54.85
11:05	37.97	54.90
11:06	38.61	55.82
11:06	37.89	55.54
11:06	37.60	54.85
11:06	36.62	54.33
11:06	36.87	54.59
11:06	38.69	54.31
11:07	38.35	54.99
11:07	36.84	54.79
11:07	38.01	54.50
11:07	38.69	54.11
11:07	40.46	55.56
11:07	40.15	54.00
11:08	40.73	54.89
11:08	40.62	54.97
11:08	45.76	55.41
11:08	40.98	54.36
11:08	41.38	55.96
11:08	41.53	55.63
11:09	40.88	55.69
11:09	44.31	55.46
11:09	47.07	55.90
11:09	45.24	55.75
11:09	41.25	55.76
11:09	40.86	55.73
11:10	41.81	55.63
11:10	40.70	56.02
11:10	41.83	56.76
11:10	41.78	56.29
11:10	41.53	57.47
11:10	42.60	57.02
11:11	43.21	56.39
11:11	49.05	58.46
11:11	45.28	56.50
11:11	44.55	56.84
11:11	50.45	59.06
11:11	45.43	56.49
11:12	44.33	56.99
11:12	43.30	55.35
11:12	43.92	54.90
11:12	45.06	55.78
11:12	45.17	57.33
11:12	44.59	55.35
11:13	47.10	55.32
11:13	54.05	62.08
11:13	44.39	55.04
11:13	42.62	53.61
11:13	43.55	54.35
11:13	42.39	53.65
11:14	43.40	54.98
11:14	48.71	57.61
11:14	47.32	55.24
11:14	44.59	54.83
11:14	44.01	54.11
11:14	41.87	55.15
11:15	41.74	54.66
11:15	41.72	55.41
11:15	40.61	56.27

Site 2	4/10/21	
	LAeq	LCeq
11:15	40.69	53.57
11:15	40.63	53.23
11:15	40.90	53.53
11:16	40.84	54.09
11:16	42.16	54.04
11:16	40.78	54.53
11:16	41.58	52.89
11:16	41.86	53.40
11:16	41.09	52.87
11:17	42.64	52.56
11:17	47.80	54.98
11:17	48.96	57.31
11:17	46.98	56.40
11:17	47.16	56.77
11:17	47.47	52.91
11:18	43.70	53.90
11:18	52.93	60.50
11:18	41.73	53.42
11:18	41.47	53.83
11:18	44.84	53.33
11:18	42.20	53.82
11:19	41.75	54.52
11:19	41.21	53.78
11:19	40.81	54.02
11:19	41.65	54.12
11:19	40.76	54.94
11:19	40.19	54.45
11:20	41.03	55.35
11:20	40.34	54.12
11:20	41.10	55.20
11:20	40.22	53.74
11:20	41.19	54.06
11:20	40.78	55.37
11:21	40.74	56.49
11:21	39.78	53.66
11:21	40.03	54.05
11:21	41.10	54.81
11:21	41.64	55.31
11:21	41.60	55.62
11:22	40.91	56.00
11:22	40.67	54.13
11:22	41.35	54.80
11:22	40.86	54.65
11:22	40.50	55.49
11:22	39.50	54.05
11:23	40.11	53.64
11:23	40.36	52.69
11:23	38.95	53.39
11:23	39.19	53.95
11:23	39.85	54.56
11:23	40.25	57.16
11:24	40.52	53.28
11:24	39.40	53.49
11:24	37.23	54.53
11:24	38.78	53.74
11:24	38.29	54.06
11:24	39.73	53.93
11:25	38.96	53.42
11:25	38.59	52.72
11:25	38.64	55.36
11:25	40.06	52.51
11:25	39.58	53.33
11:25	38.81	53.93
11:26	39.66	53.52
11:26	40.04	52.47
11:26	41.04	54.11
11:26	40.23	54.55
11:26	40.87	55.05
11:26	43.25	55.22
11:27	39.74	54.23
11:27	39.08	54.49

Site 2	4/10/21	
	LAeq	LCeq
11:27	38.72	55.50
11:27	39.12	53.97
11:27	39.97	55.64
11:27	39.08	55.05
11:28	39.58	53.55
11:28	38.77	54.72
11:28	39.27	54.89
11:28	38.33	55.11
11:28	38.51	54.23
11:28	47.85	54.33
11:29	39.39	54.07
11:29	37.76	54.33
11:29	37.69	54.55
11:29	36.96	53.92
11:29	38.23	54.24
11:29	39.29	53.54
11:30	46.41	57.46
11:30	42.62	56.85
11:30	42.11	56.08
11:30	40.79	54.12
11:31	40.54	54.11
11:31	42.33	53.65
11:31	40.84	53.62
11:31	41.10	52.62
11:31	40.76	53.41
11:32	40.98	53.65
11:32	40.08	53.33
11:32	38.41	52.83
11:32	37.75	53.75
11:32	39.39	53.94
11:32	40.03	54.77
11:33	39.30	53.29
11:33	39.30	53.83
11:33	39.70	54.00
11:33	38.98	53.82
11:33	43.57	55.12
11:33	41.44	55.23
11:34	40.17	54.84
11:34	39.81	54.23
11:34	39.56	54.45
11:34	39.03	51.14
11:34	40.09	52.45
11:34	41.10	52.11
11:35	40.27	53.37
11:35	40.86	54.04
11:35	41.20	53.86
11:35	41.03	55.20
11:35	41.39	52.67
11:35	40.25	55.77
11:36	41.20	53.44
11:36	39.56	53.85
11:36	40.47	54.94
11:36	41.02	55.03
11:36	41.59	55.48
11:36	40.75	55.09
11:37	41.28	54.55
11:37	45.88	54.89
11:37	40.17	53.23
11:37	39.07	53.55
11:37	41.03	53.53
11:37	40.14	53.46
11:38	41.26	53.06
11:38	41.37	54.01
11:38	43.13	54.00
11:38	44.34	56.72
11:38	44.95	55.23
11:38	43.66	56.36
11:39	39.91	53.77
11:39	44.17	56.04
11:39	42.49	54.35
11:39	43.57	55.91

Site 2	4/10/21	
	LAeq	LCeq
11:40	40.95	54.35
11:40	43.69	53.83
11:40	39.50	53.58
11:40	41.69	55.17
11:40	41.45	54.10
11:40	38.67	54.39
11:41	41.52	58.07
11:41	40.32	54.32
11:41	42.74	54.34
11:41	43.02	55.20
11:42	41.87	54.55
11:42	39.41	54.14
11:42	38.91	53.84
11:42	40.82	53.76
11:42	40.87	54.83
11:42	39.62	53.99
11:43	37.95	53.52
11:43	38.62	53.63
11:43	41.93	54.29
11:43	38.40	52.96
11:43	39.19	52.76
11:43	40.43	52.61
11:44	38.88	52.35
11:44	39.46	52.21
11:44	38.17	55.78
11:44	37.26	52.50
11:44	36.34	52.44
11:44	38.17	53.91
11:45	38.01	54.19
11:45	38.89	54.26
11:45	38.82	54.98
11:45	39.15	54.28
11:45	38.21	54.51
11:45	38.55	54.39
11:46	38.30	54.74
11:46	39.09	54.39
11:46	39.11	55.78
11:46	40.47	56.66
11:46	40.06	62.53
11:46	40.54	57.01
11:47	40.05	55.04
11:47	38.56	53.82
11:47	39.12	54.29
11:47	37.47	54.46
11:47	38.23	53.21
11:47	39.02	53.12
11:48	38.66	53.82
11:48	38.46	55.79
11:48	40.07	55.01
11:48	41.35	57.20
11:48	45.05	56.21
11:48	46.79	57.04
11:49	44.81	56.30
11:49	43.07	54.30
11:49	38.83	53.17
11:49	36.92	53.80
11:49	35.68	54.37
11:49	36.72	52.99
11:50	38.17	54.27
11:50	38.95	55.90
11:50	44.13	56.58
11:50	41.43	56.24
11:50	45.92	56.60
11:50	42.88	56.60
11:51	42.55	55.21
11:51	41.07	56.18
11:51	38.67	55.57
11:51	37.98	57.44
11:51	38.59	53.89
11:51	42.01	55.63
11:52	42.31	54.85

Site 2	4/10/21	
	L _{Aeq}	L _{Ceq}
11:52	42.40	56.17
11:52	42.98	54.51
11:52	37.78	53.94
11:52	40.51	54.04
11:52	40.12	53.50
11:53	39.90	53.62
11:53	38.77	54.81
11:53	40.68	54.42
11:53	41.41	54.76
11:53	41.93	55.34
11:53	48.20	57.04
11:54	49.29	59.97
11:54	47.55	55.28
11:54	43.03	54.94
11:54	42.72	54.41
11:54	44.09	57.02
11:54	41.80	55.87
11:55	43.44	57.27
11:55	42.20	55.78
11:55	41.41	55.31
11:55	41.92	56.91
11:55	42.06	56.02
11:55	46.33	56.76
11:56	43.40	55.11
11:56	42.61	55.03
11:56	41.91	54.39
11:56	41.53	54.38
11:56	41.88	54.92
11:56	41.27	55.30
11:57	41.57	54.31
11:57	41.01	55.40
11:57	40.82	55.17
11:57	42.31	56.85
11:58	41.75	55.33
11:58	40.86	55.39
11:58	41.35	55.46
11:58	40.77	54.97
11:58	40.48	54.89
11:58	40.54	54.74
11:59	39.81	54.46
11:59	39.03	53.10
11:59	39.68	53.80
11:59	40.56	54.49
11:59	39.37	53.41
11:59	39.52	53.64
12:00	40.32	54.01
12:00	42.45	54.76
12:00	42.51	54.57
12:00	41.59	55.33
12:00	40.49	56.73
12:00	40.21	55.74
12:01	40.47	54.71
12:01	39.04	53.08
12:01	40.26	54.49
12:01	40.59	53.97
12:01	40.95	53.90
12:01	41.51	56.52
12:02	42.35	55.35
12:02	40.99	55.37
12:02	40.86	55.68
12:02	41.20	55.86
12:02	43.75	54.88
12:02	44.08	53.43
12:03	44.95	53.68
12:03	45.92	55.24
12:03	44.63	54.68
12:03	41.97	54.49
12:03	42.01	55.11
12:03	40.86	53.41
12:04	40.06	53.63
12:04	41.29	53.94

Site 2	4/10/21	
	LAeq	LCeq
12:04	41.71	55.27
12:04	41.76	55.25
12:04	41.49	57.18
12:04	41.61	55.74
12:05	40.10	55.34
12:05	40.52	55.33
12:05	40.66	55.40
12:05	41.04	55.44
12:05	42.46	56.04
12:05	42.28	56.62
12:06	41.57	55.03
12:06	42.57	55.01
12:06	43.62	55.03
12:06	42.05	55.24
12:06	42.81	55.28
12:06	40.30	55.27
12:07	38.93	57.47
12:07	39.42	55.47
12:07	39.33	54.52
12:07	37.13	56.67
12:07	38.94	54.09
12:07	39.72	54.85
12:08	39.94	55.89
12:08	38.11	56.84
12:08	38.46	58.58
12:08	38.50	57.56
12:08	39.08	55.62
12:08	39.61	55.03
12:09	38.10	55.13
12:09	39.86	53.85
12:09	39.28	56.20
12:09	40.09	54.60
12:09	40.91	53.57
12:09	40.90	53.90
12:10	42.21	54.08
12:10	45.68	57.26
12:10	47.56	63.43
12:10	44.16	56.73
12:10	43.08	54.62
12:10	41.24	54.22
12:11	43.43	54.04
12:11	43.35	54.10
12:11	42.39	52.82
12:11	41.49	54.83
12:11	41.19	55.75
12:11	40.24	55.45
12:12	42.19	55.05
12:12	44.87	53.61
12:12	48.75	59.43
12:12	45.78	54.45
12:12	41.84	52.85
12:12	42.38	52.51
12:13	41.80	52.24
12:13	44.98	54.21
12:13	41.61	54.71
12:13	43.57	55.26
12:13	44.39	54.71
12:14	44.01	54.16
12:14	42.42	54.04
Maximum	59.19	63.54
Minimum	35.68	51.14
Average	43.09	55.43

Channel Name:	Ambient_WB	Ambient_Df	Wind_Speed	Wind_Direction	
Input Source/Channel N	DAS/ 101	DAS/ 102	DAS/ 201	DAS/ 202	
Parameter:					
Units:	F	F	MPH	Deg	
Sensor Name:	LT0833	LT0283	MET101WSMET101WD		
	4/8/2021 22:00	4/8/2021 23:59			
Average	40.54	40.56	7.37	328.38	
Maximum	40.61	40.64	10.08	357.66	
Minimum	40.49	40.50	5.20	111.06	
Std Deviation	0.02	0.03	0.94	35.00	
	4/9/2021 0:18	4/9/2021 2:17			
Average	40.40	40.50	7.52	328.46	
Maximum	40.53	40.59	9.99	384.64	
Minimum	40.33	40.44	5.80	217.41	
Std Deviation	0.05	0.03	0.87	26.17	
	4/8/2021 21:59	40.55	40.57	7.73	229.03
	4/8/2021 22:00	40.56	40.58	6.38	335.63
	4/8/2021 22:01	40.58	40.60	7.65	340.35
	4/8/2021 22:02	40.59	40.61	6.16	342.26
	4/8/2021 22:03	40.56	40.58	7.54	339.12
	4/8/2021 22:04	40.54	40.55	7.70	111.06
	4/8/2021 22:05	40.55	40.56	6.61	357.66
	4/8/2021 22:06	40.56	40.58	7.92	315.72
	4/8/2021 22:07	40.54	40.55	8.47	335.53
	4/8/2021 22:08	40.53	40.53	8.29	346.38
	4/8/2021 22:09	40.55	40.56	7.22	332.41
	4/8/2021 22:10	40.54	40.55	7.42	331.34
	4/8/2021 22:11	40.54	40.55	6.91	348.12
	4/8/2021 22:12	40.54	40.55	6.92	345.59
	4/8/2021 22:13	40.54	40.55	6.74	339.16
	4/8/2021 22:14	40.56	40.57	8.49	333.65
	4/8/2021 22:15	40.57	40.58	8.15	330.96
	4/8/2021 22:16	40.56	40.57	6.93	327.50
	4/8/2021 22:17	40.54	40.55	7.26	344.78
	4/8/2021 22:18	40.56	40.57	6.08	332.31
	4/8/2021 22:19	40.58	40.60	6.13	336.16
	4/8/2021 22:20	40.56	40.58	5.95	330.98
	4/8/2021 22:21	40.55	40.57	6.56	317.97
	4/8/2021 22:22	40.56	40.58	6.26	337.35
	4/8/2021 22:23	40.55	40.57	7.20	328.74
	4/8/2021 22:24	40.57	40.58	5.20	334.43
	4/8/2021 22:25	40.54	40.55	8.35	216.84
	4/8/2021 22:26	40.52	40.53	5.64	319.64
	4/8/2021 22:27	40.52	40.53	8.42	329.38
	4/8/2021 22:28	40.53	40.53	6.46	329.29
	4/8/2021 22:29	40.51	40.51	6.44	336.53
	4/8/2021 22:30	40.51	40.51	6.82	330.41
	4/8/2021 22:31	40.49	40.50	6.63	323.70
	4/8/2021 22:32	40.52	40.54	7.27	348.07
	4/8/2021 22:33	40.53	40.54	6.89	327.64
	4/8/2021 22:34	40.53	40.55	5.99	344.33
	4/8/2021 22:35	40.53	40.56	7.31	333.04
	4/8/2021 22:36	40.52	40.55	6.38	338.77
	4/8/2021 22:37	40.54	40.57	6.17	341.40
	4/8/2021 22:38	40.55	40.57	6.68	340.00
	4/8/2021 22:39	40.58	40.61	5.45	330.60
	4/8/2021 22:40	40.56	40.58	6.99	341.24
	4/8/2021 22:41	40.54	40.56	8.54	324.29
	4/8/2021 22:42	40.53	40.56	7.26	327.71

Channel Name:	Ambient_WB	Ambient_Df	Wind_Speed	Wind_Direction
Input Source/Channel N	DAS/ 101	DAS/ 102	DAS/ 201	DAS/ 202
Parameter:				
Units:	F	F	MPH	Deg
Sensor Name:	LT0833	LT0283	MET101WSMET101WD	
4/8/2021 22:43	40.54	40.57	7.39	338.47
4/8/2021 22:44	40.57	40.60	6.91	332.59
4/8/2021 22:45	40.56	40.59	5.93	337.65
4/8/2021 22:46	40.58	40.61	6.11	338.77
4/8/2021 22:47	40.57	40.60	6.85	341.79
4/8/2021 22:48	40.57	40.61	8.09	328.88
4/8/2021 22:49	40.61	40.64	6.44	335.68
4/8/2021 22:50	40.60	40.64	8.23	346.51
4/8/2021 22:51	40.57	40.61	6.84	336.40
4/8/2021 22:52	40.57	40.60	7.73	250.88
4/8/2021 22:53	40.56	40.60	8.27	345.53
4/8/2021 22:54	40.57	40.61	10.08	332.64
4/8/2021 22:55	40.57	40.61	7.43	338.12
4/8/2021 22:56	40.57	40.60	6.67	341.55
4/8/2021 22:57	40.58	40.61	6.92	337.18
4/8/2021 22:58	40.55	40.59	6.21	344.46
4/8/2021 22:59	40.55	40.57	7.34	345.27
4/8/2021 23:00	40.52	40.55	8.22	350.48
4/8/2021 23:01	40.50	40.52	6.88	340.46
4/8/2021 23:02	40.52	40.55	6.59	339.02
4/8/2021 23:03	40.53	40.56	7.31	232.40
4/8/2021 23:04	40.52	40.55	7.26	333.84
4/8/2021 23:05	40.50	40.52	7.11	338.52
4/8/2021 23:06	40.51	40.53	8.20	337.16
4/8/2021 23:07	40.55	40.56	8.09	231.55
4/8/2021 23:08	40.55	40.58	7.88	341.98
4/8/2021 23:09	40.57	40.59	6.80	342.69
4/8/2021 23:10	40.57	40.60	7.54	226.10
4/8/2021 23:11	40.55	40.58	6.47	334.32
4/8/2021 23:12	40.54	40.56	8.56	342.70
4/8/2021 23:13	40.50	40.53	6.45	341.96
4/8/2021 23:14	40.51	40.51	9.03	344.86
4/8/2021 23:15	40.52	40.53	8.31	337.73
4/8/2021 23:16	40.52	40.53	7.02	340.76
4/8/2021 23:17	40.53	40.55	6.61	330.30
4/8/2021 23:18	40.55	40.57	6.60	342.19
4/8/2021 23:19	40.54	40.55	7.74	329.40
4/8/2021 23:20	40.52	40.54	8.34	335.07
4/8/2021 23:21	40.54	40.56	7.27	247.62
4/8/2021 23:22	40.56	40.57	6.49	347.19
4/8/2021 23:23	40.53	40.55	9.48	224.28
4/8/2021 23:24	40.54	40.56	7.68	338.60
4/8/2021 23:25	40.52	40.53	7.01	222.72
4/8/2021 23:26	40.50	40.52	6.77	335.97
4/8/2021 23:27	40.54	40.55	7.63	341.92
4/8/2021 23:28	40.54	40.55	8.55	337.05
4/8/2021 23:29	40.57	40.58	9.47	338.39
4/8/2021 23:30	40.56	40.57	9.07	327.80
4/8/2021 23:31	40.56	40.58	8.53	343.42
4/8/2021 23:32	40.56	40.56	8.82	336.75
4/8/2021 23:33	40.53	40.53	9.30	338.28
4/8/2021 23:34	40.52	40.53	7.87	344.52
4/8/2021 23:35	40.51	40.52	9.40	332.37
4/8/2021 23:36	40.52	40.54	7.73	341.52
4/8/2021 23:37	40.53	40.55	8.06	346.70

Channel Name:	Ambient_WB	Ambient_Df	Wind_Speed	Wind_Direction
Input Source/Channel N	DAS/ 101	DAS/ 102	DAS/ 201	DAS/ 202
Parameter:				
Units:	F	F	MPH	Deg
Sensor Name:	LT0833	LT0283	MET101WSMET101WD	
4/8/2021 23:38	40.53	40.55	8.42	343.16
4/8/2021 23:39	40.52	40.54	9.21	343.16
4/8/2021 23:40	40.51	40.53	8.27	342.02
4/8/2021 23:41	40.53	40.54	7.48	329.24
4/8/2021 23:42	40.54	40.56	7.41	340.66
4/8/2021 23:43	40.54	40.55	7.43	335.58
4/8/2021 23:44	40.55	40.56	6.69	339.80
4/8/2021 23:45	40.55	40.56	6.09	332.11
4/8/2021 23:46	40.56	40.58	6.95	338.23
4/8/2021 23:47	40.57	40.58	8.01	342.54
4/8/2021 23:48	40.57	40.60	7.96	340.29
4/8/2021 23:49	40.56	40.58	7.02	335.03
4/8/2021 23:50	40.56	40.58	7.85	343.21
4/8/2021 23:51	40.53	40.55	8.03	341.10
4/8/2021 23:52	40.50	40.52	7.43	338.64
4/8/2021 23:53	40.49	40.52	8.51	340.37
4/8/2021 23:54	40.49	40.51	7.61	332.43
4/8/2021 23:55	40.52	40.55	7.77	336.40
4/8/2021 23:56	40.54	40.57	6.52	332.92
4/8/2021 23:57	40.58	40.60	7.29	329.05
4/8/2021 23:58	40.57	40.60	6.62	338.78
4/8/2021 23:59	40.52	40.55	6.85	342.21
4/9/2021	40.50	40.52	7.68	345.64
4/9/2021 0:01	40.50	40.52	7.07	330.30
4/9/2021 0:02	40.50	40.51	8.53	329.90
4/9/2021 0:03	40.51	40.53	8.02	346.37
4/9/2021 0:04	40.49	40.51	7.60	339.65
4/9/2021 0:05	40.51	40.52	7.12	345.47
4/9/2021 0:06	40.52	40.54	8.08	336.30
4/9/2021 0:07	40.53	40.55	7.97	339.00
4/9/2021 0:08	40.52	40.52	7.75	326.23
4/9/2021 0:09	40.52	40.52	8.50	338.83
4/9/2021 0:10	40.50	40.50	10.30	326.03
4/9/2021 0:11	40.50	40.51	7.01	330.97
4/9/2021 0:12	40.51	40.52	8.06	332.50
4/9/2021 0:13	40.52	40.54	9.70	330.89
4/9/2021 0:14	40.51	40.52	8.81	337.03
4/9/2021 0:15	40.52	40.52	8.02	338.23
4/9/2021 0:16	40.50	40.51	9.76	340.84
4/9/2021 0:17	40.50	40.51	8.57	331.28
4/9/2021 0:18	40.47	40.49	8.27	347.50
4/9/2021 0:19	40.48	40.51	6.82	331.44
4/9/2021 0:20	40.48	40.52	7.32	346.06
4/9/2021 0:21	40.49	40.54	8.21	336.51
4/9/2021 0:22	40.49	40.54	8.61	334.52
4/9/2021 0:23	40.47	40.52	7.02	338.88
4/9/2021 0:24	40.48	40.53	6.22	329.32
4/9/2021 0:25	40.50	40.55	8.02	228.67
4/9/2021 0:26	40.50	40.55	7.04	336.33
4/9/2021 0:27	40.48	40.52	7.13	329.54
4/9/2021 0:28	40.46	40.50	8.23	223.40
4/9/2021 0:29	40.45	40.49	7.28	341.80
4/9/2021 0:30	40.47	40.52	6.31	344.62
4/9/2021 0:31	40.47	40.52	7.51	344.98
4/9/2021 0:32	40.48	40.53	7.65	342.88

Channel Name:	Ambient_WB	Ambient_Df	Wind_Speed	Wind_Direction
Input Source/Channel N	DAS/ 101	DAS/ 102	DAS/ 201	DAS/ 202
Parameter:				
Units:	F	F	MPH	Deg
Sensor Name:	LT0833	LT0283	MET101WSMET101WD	
4/9/2021 0:33	40.48	40.54	7.46	334.85
4/9/2021 0:34	40.51	40.57	7.56	334.96
4/9/2021 0:35	40.50	40.58	6.82	323.72
4/9/2021 0:36	40.49	40.55	7.38	331.97
4/9/2021 0:37	40.53	40.59	6.41	332.28
4/9/2021 0:38	40.50	40.57	6.49	217.41
4/9/2021 0:39	40.47	40.53	6.50	334.25
4/9/2021 0:40	40.46	40.51	8.45	341.06
4/9/2021 0:41	40.44	40.51	7.42	345.90
4/9/2021 0:42	40.47	40.55	7.40	218.99
4/9/2021 0:43	40.46	40.54	7.16	337.89
4/9/2021 0:44	40.47	40.53	7.41	334.50
4/9/2021 0:45	40.46	40.52	7.68	336.21
4/9/2021 0:46	40.46	40.52	6.57	337.14
4/9/2021 0:47	40.48	40.56	7.71	329.44
4/9/2021 0:48	40.44	40.52	7.60	339.61
4/9/2021 0:49	40.42	40.49	7.87	341.27
4/9/2021 0:50	40.40	40.46	8.04	334.24
4/9/2021 0:51	40.38	40.44	8.05	346.27
4/9/2021 0:52	40.38	40.44	9.19	340.90
4/9/2021 0:53	40.39	40.45	9.82	328.59
4/9/2021 0:54	40.38	40.45	7.71	339.38
4/9/2021 0:55	40.37	40.45	8.76	341.74
4/9/2021 0:56	40.36	40.44	8.65	330.14
4/9/2021 0:57	40.38	40.45	7.68	271.23
4/9/2021 0:58	40.40	40.49	8.28	337.90
4/9/2021 0:59	40.37	40.49	6.71	338.45
4/9/2021 1:00	40.37	40.47	9.45	335.76
4/9/2021 1:01	40.36	40.47	9.17	334.08
4/9/2021 1:02	40.35	40.46	9.99	335.54
4/9/2021 1:03	40.33	40.44	8.24	331.38
4/9/2021 1:04	40.34	40.45	7.19	328.68
4/9/2021 1:05	40.36	40.47	6.16	337.71
4/9/2021 1:06	40.36	40.47	8.26	332.60
4/9/2021 1:07	40.34	40.45	7.24	334.66
4/9/2021 1:08	40.37	40.49	7.31	327.68
4/9/2021 1:09	40.37	40.49	6.81	335.81
4/9/2021 1:10	40.36	40.48	8.96	329.75
4/9/2021 1:11	40.34	40.47	7.71	333.33
4/9/2021 1:12	40.35	40.47	6.79	337.92
4/9/2021 1:13	40.35	40.48	7.20	337.77
4/9/2021 1:14	40.35	40.48	7.02	324.89
4/9/2021 1:15	40.34	40.46	8.57	332.19
4/9/2021 1:16	40.36	40.47	8.29	322.27
4/9/2021 1:17	40.36	40.48	7.71	334.84
4/9/2021 1:18	40.37	40.48	8.15	340.89
4/9/2021 1:19	40.36	40.48	7.85	335.56
4/9/2021 1:20	40.36	40.48	7.42	344.74
4/9/2021 1:21	40.37	40.49	8.15	338.63
4/9/2021 1:22	40.39	40.52	7.32	384.64
4/9/2021 1:23	40.37	40.51	7.40	337.01
4/9/2021 1:24	40.36	40.50	7.00	334.02
4/9/2021 1:25	40.37	40.51	7.14	338.48
4/9/2021 1:26	40.36	40.49	7.49	341.05
4/9/2021 1:27	40.34	40.47	6.41	335.17

Channel Name: Ambient_WB Ambient_Df Wind_Speed Wind_Direction

Input Source/Channel Nr DAS/ 101 DAS/ 102 DAS/ 201 DAS/ 202

Parameter:

Units:	F	F	MPH	Deg
Sensor Name:	LT0833	LT0283	MET101WSMET101WD	
4/9/2021 1:28	40.35	40.47	7.88	342.70
4/9/2021 1:29	40.35	40.48	6.86	326.75
4/9/2021 1:30	40.35	40.48	6.44	329.60
4/9/2021 1:31	40.37	40.51	6.45	319.54
4/9/2021 1:32	40.37	40.51	7.80	319.14
4/9/2021 1:33	40.35	40.48	7.49	337.01
4/9/2021 1:34	40.35	40.47	8.48	337.01
4/9/2021 1:35	40.35	40.48	6.60	346.23
4/9/2021 1:36	40.36	40.49	9.05	339.47
4/9/2021 1:37	40.35	40.49	7.23	222.16
4/9/2021 1:38	40.35	40.49	8.25	340.87
4/9/2021 1:39	40.37	40.51	7.52	330.12
4/9/2021 1:40	40.38	40.53	7.63	336.51
4/9/2021 1:41	40.38	40.54	6.40	330.53
4/9/2021 1:42	40.38	40.53	7.19	335.99
4/9/2021 1:43	40.38	40.52	6.90	331.34
4/9/2021 1:44	40.39	40.54	7.88	346.16
4/9/2021 1:45	40.38	40.54	6.89	337.13
4/9/2021 1:46	40.40	40.55	5.87	332.17
4/9/2021 1:47	40.42	40.58	7.50	327.11
4/9/2021 1:48	40.40	40.54	7.24	331.54
4/9/2021 1:49	40.38	40.52	6.93	333.94
4/9/2021 1:50	40.36	40.49	6.59	329.61
4/9/2021 1:51	40.36	40.48	8.62	330.40
4/9/2021 1:52	40.39	40.52	9.06	342.08
4/9/2021 1:53	40.40	40.54	6.57	318.22
4/9/2021 1:54	40.39	40.53	6.96	331.33
4/9/2021 1:55	40.39	40.52	6.64	335.05
4/9/2021 1:56	40.38	40.52	6.81	328.37
4/9/2021 1:57	40.37	40.51	6.34	333.06
4/9/2021 1:58	40.37	40.50	7.47	327.98
4/9/2021 1:59	40.38	40.50	6.33	330.20
4/9/2021 2:00	40.39	40.51	8.35	325.85
4/9/2021 2:01	40.37	40.48	8.54	338.50
4/9/2021 2:02	40.37	40.47	8.54	226.42
4/9/2021 2:03	40.36	40.47	7.61	330.80
4/9/2021 2:04	40.36	40.47	7.47	327.50
4/9/2021 2:05	40.36	40.47	6.87	330.40
4/9/2021 2:06	40.36	40.48	6.27	332.35
4/9/2021 2:07	40.37	40.47	8.29	327.72
4/9/2021 2:08	40.36	40.47	7.29	324.67
4/9/2021 2:09	40.36	40.47	6.99	335.52
4/9/2021 2:10	40.39	40.50	5.80	326.40
4/9/2021 2:11	40.40	40.52	8.66	321.68
4/9/2021 2:12	40.38	40.49	8.54	329.43
4/9/2021 2:13	40.37	40.48	9.44	322.77
4/9/2021 2:14	40.38	40.48	7.08	331.81
4/9/2021 2:15	40.39	40.51	6.69	331.50
4/9/2021 2:16	40.39	40.52	6.45	332.49
4/9/2021 2:17	40.38	40.51	6.48	326.19
4/9/2021 2:18	40.36	40.49	6.50	342.63
4/9/2021 2:19	40.36	40.49	7.80	331.09
4/9/2021 2:20	40.36	40.48	7.76	339.70

Channel Name:	Ambient_WB	Ambient_DB	Wind_Speed	Wind_Direction
Input Source/Channel Nu	DAS/ 101	DAS/ 102	DAS/ 201	DAS/ 202
Parameter:				
Units:	F	F	MPH	Deg
Sensor Name:	LT0833	LT0283	MET101WS	MET101WD
4/10/2021 7:50	4/10/2021 9:49			
Average	37.77	40.53	7.12	319
Maximum	40.41	43.95	11.12	352
Minimum	36.20	38.26	5.05	116
Std Deviation	1.39	1.97	1.30	38
4/10/2021 10:12	4/10/2021 12:11			
Average	47.62	48.23	10.60	260
Maximum	51.13	51.55	15.34	350
Minimum	40.87	45.24	7.68	2
Std Deviation	2.59	1.66	1.55	96
4/10/2021 7:48	35.43	37.34	4.57	309
4/10/2021 7:49	35.48	37.42	4.82	321
4/10/2021 7:50	35.50	37.47	4.46	323
4/10/2021 7:51	35.51	37.49	5.12	322
4/10/2021 7:52	35.54	37.50	5.82	331
4/10/2021 7:53	35.58	37.55	6.16	327
4/10/2021 7:54	35.63	37.62	5.60	330
4/10/2021 7:55	35.67	37.67	5.35	315
4/10/2021 7:56	35.72	37.70	5.32	315
4/10/2021 7:57	35.75	37.69	6.43	325
4/10/2021 7:58	35.78	37.72	5.56	319
4/10/2021 7:59	35.82	37.79	6.50	327
4/10/2021 8:00	35.87	37.83	6.22	320
4/10/2021 8:01	35.90	37.87	7.01	323
4/10/2021 8:02	35.92	37.87	6.17	315
4/10/2021 8:03	35.95	37.90	5.88	325
4/10/2021 8:04	35.97	37.92	6.89	319
4/10/2021 8:05	36.02	38.00	6.63	326
4/10/2021 8:06	36.05	38.07	7.27	316
4/10/2021 8:07	36.10	38.15	6.56	324
4/10/2021 8:08	36.11	38.17	6.21	325
4/10/2021 8:09	36.17	38.25	7.24	333
4/10/2021 8:10	36.20	38.26	6.62	322
4/10/2021 8:11	36.21	38.31	7.09	323
4/10/2021 8:12	36.23	38.35	7.71	327
4/10/2021 8:13	36.30	38.41	8.75	332
4/10/2021 8:14	36.35	38.48	7.55	322
4/10/2021 8:15	36.39	38.55	6.94	327
4/10/2021 8:16	36.43	38.63	6.89	331
4/10/2021 8:17	36.42	38.68	5.87	331
4/10/2021 8:18	36.45	38.69	6.46	324
4/10/2021 8:19	36.47	38.74	6.28	324
4/10/2021 8:20	36.59	38.88	7.43	322
4/10/2021 8:21	36.68	38.98	6.98	324
4/10/2021 8:22	36.71	38.99	5.40	323
4/10/2021 8:23	36.70	39.03	6.04	327
4/10/2021 8:24	36.68	39.09	6.12	334
4/10/2021 8:25	36.73	39.13	6.11	323
4/10/2021 8:26	36.81	39.21	5.59	326
4/10/2021 8:27	36.84	39.29	6.72	332
4/10/2021 8:28	36.85	39.32	7.00	319
4/10/2021 8:29	36.88	39.35	6.61	328
4/10/2021 8:30	36.92	39.39	6.68	337
4/10/2021 8:31	36.85	39.37	6.42	336

Channel Name:	Ambient_WB	Ambient_DB	Wind_Speed	Wind_Direction
Input Source/Channel Nu	DAS/ 101	DAS/ 102	DAS/ 201	DAS/ 202
Parameter:				
Units:	F	F	MPH	Deg
Sensor Name:	LT0833	LT0283	MET101WS	MET101WD
4/10/2021 8:32	36.91	39.42	6.38	328
4/10/2021 8:33	36.99	39.52	6.90	328
4/10/2021 8:34	37.08	39.57	5.80	334
4/10/2021 8:35	37.14	39.63	6.07	345
4/10/2021 8:36	37.25	39.67	6.64	335
4/10/2021 8:37	37.28	39.71	8.10	326
4/10/2021 8:38	37.38	39.77	6.72	332
4/10/2021 8:39	37.40	39.83	5.67	337
4/10/2021 8:40	37.46	39.92	6.14	342
4/10/2021 8:41	37.42	39.94	6.97	330
4/10/2021 8:42	37.53	40.00	6.22	334
4/10/2021 8:43	37.57	40.10	5.78	331
4/10/2021 8:44	37.55	40.15	6.28	340
4/10/2021 8:45	37.58	40.18	6.94	337
4/10/2021 8:46	37.64	40.21	5.39	334
4/10/2021 8:47	37.67	40.26	5.89	339
4/10/2021 8:48	37.72	40.35	5.05	329
4/10/2021 8:49	37.77	40.42	6.02	337
4/10/2021 8:50	37.73	40.41	6.02	231
4/10/2021 8:51	37.77	40.41	6.33	221
4/10/2021 8:52	37.87	40.51	6.64	334
4/10/2021 8:53	37.96	40.62	7.16	340
4/10/2021 8:54	37.88	40.60	6.20	344
4/10/2021 8:55	37.86	40.66	6.71	349
4/10/2021 8:56	37.92	40.73	6.21	333
4/10/2021 8:57	38.03	40.82	7.73	338
4/10/2021 8:58	38.22	40.94	5.64	336
4/10/2021 8:59	38.28	40.98	5.79	330
4/10/2021 9:00	38.31	41.05	6.79	333
4/10/2021 9:01	38.30	41.12	7.71	334
4/10/2021 9:02	38.20	41.10	6.62	223
4/10/2021 9:03	38.22	41.11	6.33	343
4/10/2021 9:04	38.28	41.16	7.37	345
4/10/2021 9:05	38.29	41.21	7.29	335
4/10/2021 9:06	38.37	41.30	6.46	324
4/10/2021 9:07	38.30	41.33	8.15	342
4/10/2021 9:08	38.25	41.37	7.07	351
4/10/2021 9:09	38.26	41.43	6.05	344
4/10/2021 9:10	38.35	41.47	6.24	259
4/10/2021 9:11	38.53	41.57	6.53	335
4/10/2021 9:12	38.73	41.70	6.78	339
4/10/2021 9:13	38.70	41.81	7.63	221
4/10/2021 9:14	38.64	41.84	7.24	342
4/10/2021 9:15	38.63	41.90	8.12	340
4/10/2021 9:16	38.77	42.07	8.70	230
4/10/2021 9:17	38.83	42.15	9.20	229
4/10/2021 9:18	38.89	42.22	8.63	247
4/10/2021 9:19	38.99	42.32	8.13	344
4/10/2021 9:20	38.95	42.40	9.54	341
4/10/2021 9:21	38.90	42.45	9.45	333
4/10/2021 9:22	39.00	42.52	9.00	352
4/10/2021 9:23	39.01	42.55	9.96	231
4/10/2021 9:24	39.00	42.56	8.14	231
4/10/2021 9:25	39.03	42.59	8.93	347
4/10/2021 9:26	39.18	42.68	7.10	334
4/10/2021 9:27	39.26	42.75	10.07	331

Channel Name:	Ambient_WB	Ambient_DB	Wind_Speed	Wind_Direction
Input Source/Channel Number:	DAS/ 101	DAS/ 102	DAS/ 201	DAS/ 202
Parameter:				
Units:	F	F	MPH	Deg
Sensor Name:	LT0833	LT0283	MET101WS	MET101WD
4/10/2021 9:28	39.41	42.82	7.85	337
4/10/2021 9:29	39.71	43.02	7.32	340
4/10/2021 9:30	39.69	43.09	8.72	335
4/10/2021 9:31	39.68	43.14	9.31	343
4/10/2021 9:32	39.68	43.17	9.30	342
4/10/2021 9:33	39.69	43.19	7.15	344
4/10/2021 9:34	39.60	43.23	7.72	235
4/10/2021 9:35	39.53	43.24	8.45	345
4/10/2021 9:36	39.64	43.26	8.94	228
4/10/2021 9:37	39.73	43.35	10.90	228
4/10/2021 9:38	39.54	43.30	9.46	351
4/10/2021 9:39	39.57	43.27	9.30	235
4/10/2021 9:40	39.70	43.30	6.54	330
4/10/2021 9:41	39.83	43.39	8.41	329
4/10/2021 9:42	39.96	43.54	8.03	348
4/10/2021 9:43	40.02	43.63	8.00	330
4/10/2021 9:44	40.24	43.76	7.49	336
4/10/2021 9:45	40.41	43.95	8.52	338
4/10/2021 9:46	40.22	43.92	9.33	335
4/10/2021 9:47	40.11	43.84	11.12	116
4/10/2021 9:48	39.99	43.78	9.15	338
4/10/2021 9:49	39.90	43.78	6.76	341
4/10/2021 9:50	40.04	43.90	8.92	344
4/10/2021 9:51	40.14	44.01	8.88	336
4/10/2021 9:52	40.23	44.07	10.38	346
4/10/2021 9:53	40.17	44.06	12.59	233
4/10/2021 9:54	40.05	44.02	8.79	230
4/10/2021 9:55	40.26	44.10	7.76	336
4/10/2021 9:56	40.43	44.31	8.65	228
4/10/2021 9:57	40.50	44.50	9.91	343
4/10/2021 9:58	40.39	44.48	9.75	232
4/10/2021 9:59	40.39	44.43	10.67	345
4/10/2021 10:00	40.55	44.53	8.42	226
4/10/2021 10:01	40.60	44.66	7.75	339
4/10/2021 10:02	40.62	44.75	8.13	224
4/10/2021 10:03	40.74	44.82	11.52	338
4/10/2021 10:04	40.83	44.91	10.67	230
4/10/2021 10:05	40.75	44.88	10.37	331
4/10/2021 10:06	40.82	45.06	8.31	325
4/10/2021 10:07	41.07	45.31	11.38	329
4/10/2021 10:08	41.18	45.47	11.01	330
4/10/2021 10:09	41.21	45.56	9.81	229
4/10/2021 10:10	41.20	45.45	11.37	327
4/10/2021 10:11	41.12	45.44	10.53	334
4/10/2021 10:12	41.02	45.49	10.91	339
4/10/2021 10:13	40.87	45.35	10.76	350
4/10/2021 10:14	40.97	45.24	9.41	328
4/10/2021 10:15	41.47	45.44	8.88	233
4/10/2021 10:16	41.96	45.75	9.44	331
4/10/2021 10:17	42.23	46.00	9.93	323
4/10/2021 10:18	42.38	46.15	7.96	337
4/10/2021 10:19	42.62	46.22	9.29	325
4/10/2021 10:20	42.81	46.29	12.35	344
4/10/2021 10:21	42.74	46.08	12.84	349
4/10/2021 10:22	42.94	46.04	9.52	342
4/10/2021 10:23	43.33	46.20	8.61	339

Channel Name:	Ambient_WB	Ambient_DB	Wind_Speed	Wind_Direction
Input Source/Channel Number:	DAS/ 101	DAS/ 102	DAS/ 201	DAS/ 202
Parameter:				
Units:	F	F	MPH	Deg
Sensor Name:	LT0833	LT0283	MET101WS	MET101WD
4/10/2021 10:24	43.80	46.46	10.29	330
4/10/2021 10:25	43.86	46.48	13.79	346
4/10/2021 10:26	43.82	46.24	12.51	228
4/10/2021 10:27	43.98	46.27	12.23	228
4/10/2021 10:28	44.18	46.18	9.19	328
4/10/2021 10:29	44.61	46.35	10.98	334
4/10/2021 10:30	44.88	46.48	9.58	348
4/10/2021 10:31	44.88	46.26	11.50	337
4/10/2021 10:32	44.97	46.14	9.24	343
4/10/2021 10:33	45.16	46.12	11.17	228
4/10/2021 10:34	45.33	46.24	10.49	230
4/10/2021 10:35	45.59	46.40	10.65	344
4/10/2021 10:36	45.93	46.65	9.41	117
4/10/2021 10:37	46.21	46.85	10.69	118
4/10/2021 10:38	46.38	46.87	12.97	299
4/10/2021 10:39	46.56	46.95	10.91	336
4/10/2021 10:40	46.57	46.92	11.54	9
4/10/2021 10:41	46.50	46.76	11.27	334
4/10/2021 10:42	46.60	46.83	9.88	227
4/10/2021 10:43	46.60	46.87	10.50	340
4/10/2021 10:44	46.59	46.74	12.10	345
4/10/2021 10:45	46.71	46.87	12.38	117
4/10/2021 10:46	46.57	46.73	9.77	347
4/10/2021 10:47	46.58	46.57	9.04	347
4/10/2021 10:48	46.71	46.74	11.89	114
4/10/2021 10:49	46.54	46.68	13.47	24
4/10/2021 10:50	46.50	46.56	11.22	306
4/10/2021 10:51	46.83	46.86	8.07	341
4/10/2021 10:52	47.05	47.18	9.80	334
4/10/2021 10:53	47.01	47.14	10.59	225
4/10/2021 10:54	47.02	47.11	10.92	345
4/10/2021 10:55	47.20	47.31	10.35	344
4/10/2021 10:56	47.16	47.26	9.05	339
4/10/2021 10:57	47.13	47.15	9.91	233
4/10/2021 10:58	47.23	47.19	10.36	320
4/10/2021 10:59	47.35	47.45	9.65	342
4/10/2021 11:00	47.25	47.32	10.12	331
4/10/2021 11:01	47.37	47.36	8.27	228
4/10/2021 11:02	47.61	47.61	11.35	229
4/10/2021 11:03	47.75	47.76	13.05	227
4/10/2021 11:04	47.68	47.82	11.37	346
4/10/2021 11:05	47.55	47.77	12.61	232
4/10/2021 11:06	47.58	47.76	10.68	119
4/10/2021 11:07	47.81	47.93	9.74	346
4/10/2021 11:08	48.08	48.09	9.96	218
4/10/2021 11:09	48.11	48.18	9.21	229
4/10/2021 11:10	48.12	48.15	11.04	275
4/10/2021 11:11	48.00	48.02	9.53	341
4/10/2021 11:12	48.13	48.06	9.28	345
4/10/2021 11:13	48.42	48.37	8.41	328
4/10/2021 11:14	48.67	48.70	10.24	119
4/10/2021 11:15	48.77	49.06	8.03	123
4/10/2021 11:16	48.78	49.05	11.30	234
4/10/2021 11:17	48.85	49.13	7.68	348
4/10/2021 11:18	48.87	48.86	8.65	342
4/10/2021 11:19	48.56	48.51	10.15	350

Channel Name:	Ambient_WB	Ambient_DB	Wind_Speed	Wind_Direction
Input Source/Channel Number:	DAS/ 101	DAS/ 102	DAS/ 201	DAS/ 202
Parameter:				
Units:	F	F	MPH	Deg
Sensor Name:	LT0833	LT0283	MET101WS	MET101WD
4/10/2021 11:20	48.60	48.45	9.51	339
4/10/2021 11:21	48.75	48.75	9.39	225
4/10/2021 11:22	48.91	48.91	9.53	340
4/10/2021 11:23	48.90	48.94	10.46	341
4/10/2021 11:24	48.87	48.85	9.08	345
4/10/2021 11:25	48.81	48.84	9.08	226
4/10/2021 11:26	48.86	48.89	11.34	344
4/10/2021 11:27	48.90	48.97	9.88	221
4/10/2021 11:28	49.00	49.05	12.10	345
4/10/2021 11:29	49.18	49.26	12.15	117
4/10/2021 11:30	49.02	49.12	11.29	341
4/10/2021 11:31	48.92	48.93	14.19	2
4/10/2021 11:32	48.99	49.03	10.92	345
4/10/2021 11:33	49.01	49.12	10.78	242
4/10/2021 11:34	48.90	49.02	12.69	119
4/10/2021 11:35	49.03	49.13	10.61	231
4/10/2021 11:36	49.23	49.18	8.50	326
4/10/2021 11:37	49.36	49.30	9.94	347
4/10/2021 11:38	49.68	49.66	11.77	338
4/10/2021 11:39	49.56	49.60	8.25	119
4/10/2021 11:40	50.08	50.27	12.83	8
4/10/2021 11:41	50.25	50.52	10.89	337
4/10/2021 11:42	50.23	50.22	10.71	240
4/10/2021 11:43	49.93	49.91	10.26	223
4/10/2021 11:44	50.01	49.93	9.09	336
4/10/2021 11:45	50.06	50.04	10.22	242
4/10/2021 11:46	49.91	49.89	10.45	335
4/10/2021 11:47	49.67	49.52	10.83	327
4/10/2021 11:48	49.41	49.27	8.17	326
4/10/2021 11:49	49.44	49.28	8.31	334
4/10/2021 11:50	49.67	49.72	9.49	124
4/10/2021 11:51	49.90	50.26	10.07	114
4/10/2021 11:52	49.82	50.15	9.34	227
4/10/2021 11:53	49.82	49.89	10.31	121
4/10/2021 11:54	49.89	49.82	10.47	92
4/10/2021 11:55	50.28	50.28	15.24	233
4/10/2021 11:56	50.31	50.35	12.91	140
4/10/2021 11:57	50.19	50.23	13.80	235
4/10/2021 11:58	50.01	49.88	9.94	342
4/10/2021 11:59	50.05	49.93	11.67	223
4/10/2021 12:00	50.45	50.51	10.80	229
4/10/2021 12:01	50.64	50.72	10.58	121
4/10/2021 12:02	51.13	51.55	11.69	21
4/10/2021 12:03	51.09	51.54	10.38	124
4/10/2021 12:04	51.03	51.24	12.35	341
4/10/2021 12:05	50.99	50.97	12.12	234
4/10/2021 12:06	50.91	50.74	13.23	117
4/10/2021 12:07	50.66	50.40	15.34	236
4/10/2021 12:08	50.70	50.42	9.48	226
4/10/2021 12:09	50.75	50.74	11.54	127
4/10/2021 12:10	51.11	51.32	11.72	346
4/10/2021 12:11	51.13	51.16	8.43	231
4/10/2021 12:12	50.85	50.94	10.11	230

MET-AI01 COR.UNIT1@NET0
JEMSTAR GROSS MW CORRECTED
MW

Average	234.83
Maximum	235.27
Minimum	234.37
4/8/2021 23:30:00	234.82
4/8/2021 23:31:00	234.82
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APPENDIX C: TEST LOG

Date 4/08/21-4/29/21

Site ML2 / ml1

Date 4/10/21
Site ML1/ML2

Time	Activity
07:50	Start of Test at ML 1
07:58	Owner truck started Bird chirping - constant
08:20	Geese overhead
08:43	Owner's truck started
09:13	End of Test
10:10	Start alt test at ML 2 Constant road traffic
10:15	Cows bellowing
10:20	
10:30	→ Moving ground body to
10:40	
10:40	Cows bellowing
11:57	Motor cycle &
12:05	More bellowing
12:10	End of Test at ML 2

APPENDIX D: CALIBRATION CERTIFICATES



The Brüel & Kjær Calibration Laboratory
3079 Premiere Parkway Suite 120
Duluth, GA 30097
Telephone: 770/209-6907
Fax: 770/447-4033
Web site address: <http://www.bkhome.com>

CERTIFICATE OF CALIBRATION

Certificate No: CAS-437893-H1G1P7-301

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CALIBRATION OF:

Sound Level Meter:	Brüel & Kjær	2250L	Serial No: 2766765
Microphone:	Brüel & Kjær	4950	Serial No: 2745841
Preamplifier:	Brüel & Kjær	ZC-0032	Serial No: 14473
Supplied Calibrator:	Brüel & Kjær	4231	Serial No: 2376289
Software version:	BZ7222 Version 4.7.4		

CLIENT:

Clean Air Engineering
7936 Conner Road
Powell, TN 37849

CALIBRATION CONDITIONS:

Preconditioning: 4 hours at 23 ± 3 °C
Environment conditions See actual values in Environmental Condition sections

SPECIFICATIONS:

This document certifies that the instrument as listed under "Model/Serial Number" has been calibrated and unless otherwise indicated under "Final Data", meets acceptance criteria as prescribed by the referenced Procedure. The reported expanded uncertainty is based on the standard uncertainty multiplied by a coverage factor $k = 2$ providing a level of confidence of approximately 95%. Statements of compliance, where applicable, are based on calibration results falling within specified criteria with no reduction by the uncertainty of the measurement. The calibration of the listed instrumentation, was accomplished using a test system which conforms with the requirements of ISO/IEC 17025, ANSI/NCSL Z540-1, and ISO 10012-1. For "as received" and/or "final" data, see the attached page(s). Items marked with one asterisk (*) are not covered by the scope of the current A2LA accreditation. This Certificate and attached data pages shall not be reproduced, except in full, without the written approval of the Brüel and Kjær Calibration Laboratory-Duluth, GA. Results relate only to the items tested. This instrument has been calibrated using Measurement Standards with values traceable to the National Institute of Standards and Technology, National Measurement Institutes or derived from natural physical constants.

PROCEDURE:

Brüel and Kjær Model 3630 Sound Level Meter Calibration System Software 7763 Version 8.0 - DB: 8.00 Test Collection 2250-L-4950.

RESULTS:

As Received Condition	As Received Data	Final Data
<input checked="" type="checkbox"/> Received in good condition	<input checked="" type="checkbox"/> Within acceptance criteria	<input checked="" type="checkbox"/> Within acceptance criteria
<input type="checkbox"/> Damaged - See attached report	<input type="checkbox"/> Outside acceptance criteria	<input type="checkbox"/> Limited test - See attached details
	<input type="checkbox"/> Inoperative	
	<input type="checkbox"/> Data not taken	

Date of Calibration: 24 Feb. 2020

Certificate issued: 24 Feb. 2020

Kyle Chancey

Calibration Technician

Quality Representative

Instruments

<u>Category:</u>	<u>Type:</u>	<u>Manufacturer:</u>	<u>Serial No.:</u>	<u>Next Calibration Date:</u>	<u>Traceable to:</u>
Generator	Pulse Generator	Brüel & Kjær	2604447	02 Jun. 2020	CAS-388250-K5F5M6-311
Calibrator	4226	Brüel & Kjær	2590978	31 Mar. 2020	CAS-356856-X2Q0T5-902
AmplifierDivider	3111 Output Module	Brüel & Kjær	2590603	02 Jun. 2020	CAS-388250-K5F5M6-311
Adaptor	WA0302A, 12 pF	Brüel & Kjær	2460917	31 Jan. 2021	436123
Voltmeter	DMM34970A	Agilent	MY44076819	31 Aug. 2020	444427

Preliminary inspection

Visually inspect instrument, and operate all relevant controls. (section 5)

Result

Visual inspection OK

Environmental conditions, Prior to calibration

Actual environmental conditions prior to calibration. (section 7)

Expected	Accept - Limit	Accept + Limit	Measured
			[Deg / kPa / %RH]

Air temperature	23.00	-3.00	3.00	23.00
Air pressure	101.30	-21.30	3.70	98.00
Relative humidity	50.00	-25.00	20.00	30.00

Reference information

Information about reference range, level and channel. (section 22.h + 22.m)

Value	[dB SPL]
Reference sound pressure level	94
Reference level range	140
Channel number	1

Indication at the calibration check frequency

Measure and adjust sound level meter using the supplied calibrator. (section 10 + 22.m)

Expected	Measured	Uncertainty
[dB SPL / Hz]	[dB SPL / Hz]	[dB]
Calibration check frequency (supplied calibrator)	1000.00	1.00
Initial indication (supplied calibrator)	94.00	0.14
Adjusted indication (supplied calibrator)	94.00	0.14

Electrical signal tests of frequency weightings, A weighting

Frequency response measured with electrical signal relative to level at 1 kHz in reference range. (section 13)

Electrical and acoustical response and body influence corrections are adjusted with the respective correction values at the reference frequency, in accordance with section 13.6

	Input Level [dBV]	Expected [dB SPL]	Measured [dB SPL]	Response Corr. [dB]	Body Influence [dB]	Corr. Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]
1000Hz, Ref.	-24.33	95.00	95.00	0.00	0.00	95.00	-0.5	0.5	0.00	0.12
63.096Hz	1.87	95.00	95.07	0.00	0.09	95.16	-1.0	1.0	0.16	0.12
125.89Hz	-8.23	95.00	95.03	0.00	0.09	95.12	-1.0	1.0	0.12	0.12
251.19Hz	-15.73	95.00	94.98	0.00	0.15	95.13	-1.0	1.0	0.13	0.12
501.19Hz	-21.13	95.00	94.97	0.00	0.31	95.28	-1.0	1.0	0.28	0.12
1995.3Hz	-25.53	95.00	94.99	0.01	0.08	95.08	-1.0	1.0	0.08	0.12
3981.1Hz	-25.33	95.00	94.91	0.07	0.03	95.01	-1.0	1.0	0.01	0.12
7943.3Hz	-23.23	95.00	94.68	0.32	-0.08	94.92	-2.5	1.5	-0.08	0.12
15849Hz	-17.73	95.00	95.58	-0.60	0.08	95.06	-16.0	2.5	0.06	0.12

Electrical signal tests of frequency weightings, C weighting

Frequency response measured with electrical signal relative to level at 1 kHz in reference range. (section 13)

Electrical and acoustical response and body influence corrections are adjusted with the respective correction values at the reference frequency, in accordance with section 13.6

	Input Level [dBV]	Expected [dB SPL]	Measured [dB SPL]	Response Corr. [dB]	Body Influence [dB]	Corr. Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]
1000Hz, Ref.	-24.33	95.00	95.00	0.00	0.00	95.00	-0.5	0.5	0.00	0.12
63.096Hz	-23.53	95.00	95.03	0.00	0.09	95.12	-1.0	1.0	0.12	0.12
125.89Hz	-24.13	95.00	95.05	0.00	0.09	95.14	-1.0	1.0	0.14	0.12
251.19Hz	-24.33	95.00	95.01	0.00	0.15	95.16	-1.0	1.0	0.16	0.12
501.19Hz	-24.33	95.00	95.04	0.00	0.31	95.35	-1.0	1.0	0.35	0.12
1995.3Hz	-24.13	95.00	95.02	0.01	0.08	95.11	-1.0	1.0	0.11	0.12
3981.1Hz	-23.53	95.00	94.92	0.07	0.03	95.02	-1.0	1.0	0.02	0.12
7943.3Hz	-21.33	95.00	94.69	0.32	-0.08	94.93	-2.5	1.5	-0.07	0.12
15849Hz	-15.83	95.00	95.56	-0.60	0.08	95.04	-16.0	2.5	0.04	0.12

Level linearity on the reference level range, Upper

Level linearity in reference range, measured at 8 kHz until overload. (section 16)

Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]
94 dB	94.00	94.00	-0.2	0.2	0.00
99 dB	99.00	99.00	-0.8	0.8	0.00
104 dB	104.00	104.00	-0.8	0.8	0.00
109 dB	109.00	109.01	-0.8	0.8	0.01
114 dB	114.00	114.01	-0.8	0.8	0.01
119 dB	119.00	119.02	-0.8	0.8	0.02
124 dB	124.00	124.02	-0.8	0.8	0.02
129 dB	129.00	129.02	-0.8	0.8	0.02
134 dB	134.00	134.02	-0.8	0.8	0.02
135 dB	135.00	135.02	-0.8	0.8	0.02
136 dB	136.00	136.02	-0.8	0.8	0.02
137 dB	137.00	137.02	-0.8	0.8	0.02
138 dB	138.00	138.02	-0.8	0.8	0.02
139 dB	139.00	139.02	-0.8	0.8	0.02

Level linearity on the reference level range, Lower

Level linearity in reference range, measured at 8 kHz down to lower limit, or until underrange. (section 16)

Expected [dB SPL]	Measured [dB SPL]	Accept - Limit [dB]	Accept + Limit [dB]	Deviation [dB]	Uncertainty [dB]
94 dB	94.00	94.00	-0.2	0.2	0.00
89 dB	89.00	88.99	-0.8	0.8	-0.01
84 dB	84.00	83.99	-0.8	0.8	-0.01
79 dB	79.00	79.00	-0.8	0.8	0.00
74 dB	74.00	73.99	-0.8	0.8	-0.01
69 dB	69.00	68.99	-0.8	0.8	-0.01
64 dB	64.00	63.99	-0.8	0.8	-0.01
59 dB	59.00	58.99	-0.8	0.8	-0.01
54 dB	54.00	53.99	-0.8	0.8	-0.01
49 dB	49.00	49.00	-0.8	0.8	0.00
44 dB	44.00	44.01	-0.8	0.8	0.01
39 dB	39.00	39.02	-0.8	0.8	0.02
34 dB	34.00	34.07	-0.8	0.8	0.07
30 dB	30.00	30.16	-0.8	0.8	0.16
29 dB	29.00	29.20	-0.8	0.8	0.20
28 dB	28.00	28.25	-0.8	0.8	0.25
27 dB	27.00	27.31	-0.8	0.8	0.31
26 dB	26.00	26.39	-0.8	0.8	0.39
25 dB	25.00	25.48	-0.8	0.8	0.48
24 dB	24.00	24.55	-0.8	0.8	0.55

Overload indication

Overload indication in the least sensitive range determined with a 4 kHz positive/negative half-cycle signal. (section 20)

	Measured / Input Level Accept - Limit	Accept + Limit	Deviation	Uncertainty
	[dB SPL]	[dB]	[dB]	[dB]
Continuous	140.00	-0.5	0.5	0.00
Half-sine, Positive	141.08	-10.0	10.0	1.08
Half-sine, Negative	141.28	-10.0	10.0	1.28
Difference	141.28	-1.5	1.5	0.20
				0.24

Long-term stability, 1. relative

Long-term stability over 25 to 35 minutes, with steady 1kHz signal at reference level. (section 15)

Relative to prior adjustment to reference level indication.

	Measured	Accept - Limit	Accept + Limit	Deviation	Timestamp	Uncertainty
	[dB SPL / Min]	[dB / Min]	[dB / Min]	[dB / Min]		[dB]
Measurement	94.00	-0.1	0.1	0.00	2020-02-24 09:25:26	0.10
Time passed	18.46	0.0	35.0	18.46		0.00

High-level stability

High-level stability over 5 minutes, with steady 1kHz signal, 1dB below upper boundary. (section 21)

	Measured	Accept - Limit	Accept + Limit	Deviation	Uncertainty
	[dB SPL]	[dB]	[dB]	[dB]	[dB]
High-level, Ref.	139.00	-0.5	0.5	0.00	0.10
High-level, after 5min	139.00	-0.1	0.1	0.00	0.10

Long-term stability, 2. relative

Long-term stability over 25 to 35 minutes, with steady 1kHz signal at reference level. (section 15)

Relative to prior adjustment to reference level indication.

	Measured	Accept - Limit	Accept + Limit	Deviation	Timestamp	Uncertainty
	[dB SPL / Min]	[dB / Min]	[dB / Min]	[dB / Min]		[dB]
Wait	25.11	25.0	120.0	25.11		0.00
Measurement	94.00	-0.1	0.1	0.00	2020-02-24 09:32:14	0.10

Environmental conditions, Following calibration

Actual environmental conditions following calibration. (section 7)

	Expected	Accept - Limit	Accept + Limit	Measured
				[Deg / kPa / %RH]
Air temperature	23.00	-3.00	3.00	23.00
Air pressure	101.30	-21.30	3.70	98.00
Relative humidity	50.00	-25.00	20.00	30.00

The Brüel and Kjaer Calibration Laboratory
3079 Premiere Parkway Suite 120
Duluth, GA 30097
Telephone: 770-209-6907
Fax: 770-447-4033
Web site address: <http://www.bksv.com>



Calibration
Certificate
1568.01

CERTIFICATE OF CALIBRATION

No.: CAS-437893-H1G1P7-901

Page 1 of 4

CALIBRATION OF:

Microphone: Brüel & Kjær Type 4950 Serial No. 2745841

CUSTOMER:

Clean Air Engineering
7936 Conner Road
Powell, TN 37849

CALIBRATION CONDITIONS:

Environment conditions:	Air temperature:	23 °C
	Air pressure:	97.325 kPa
	Relative Humidity:	39 %RH
Applied polarization voltage:	0 Vdc	

SPECIFICATIONS:

This document certifies that the instrument as listed under "Type" has been calibrated and unless otherwise indicated under "Final Data", meets acceptance criteria as prescribed by the referenced Procedure. Statements of compliance, where applicable, are based on calibration results falling within specified criteria with no reduction by the uncertainty of the measurements. The calibration of the listed transducer was accomplished using a test system which conforms to the requirements of ISO/IEC 17025, ANSI/NCSL Z540-1, and guidelines of ISO 10012-1. For "as received" and "final" data, see the attached page(s). Items marked with one asterisk (*) are not covered by the scope of the current A2LA accreditation. This Certificate and attached data pages shall not be reproduced, except in full, without written approval of the Brüel and Kjaer Calibration Laboratory-Duluth, GA. Results relate only to the items tested. The transducer has been calibrated using Measurement Standards with values traceable to the National Institute of Standards and Technology, National Measurement Institutes or derived from natural physical constants.

PROCEDURE:

The measurements have been performed with the assistance of Brüel & Kjær Microphone Calibration System B&K 9721 with application software WT9649 and WT9650 version 5.2 using calibration procedure: 4950-S251-FF-01

RESULTS:

- | | |
|--|--|
| <input checked="" type="checkbox"/> "As Received" Data: Within Acceptance Criteria | <input type="checkbox"/> "As Received" Data: Outside Acceptance Criteria |
| <input checked="" type="checkbox"/> "Final" Data : Within Acceptance Criteria | <input type="checkbox"/> "Final" Data : Outside Acceptance Criteria |

The reported expanded uncertainty is based on the standard uncertainty multiplied by a coverage factor $k=2$ providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with EA-4/02 from elements originating from standards, calibration method, effect of environmental conditions and any short term contribution from the device under calibration.

Date of Calibration: 26 February 2020

Certificate issued: 26 February 2020

Harold Williams

Calibration Technician

Quality Representative

CERTIFICATE OF CALIBRATION

No.: CAS-437893-H1G1P7-901

Type: 4950

Serial No.: 2745841

Page 2 of 4

Sensitivity

Nominal sensitivity:	-26 dB re. 1V/Pa	+/-	2 dB
Sensitivity at calibration conditions:	-27.19 dB re. 1V/Pa	or	43.68 mV/Pa
Sensitivity at reference conditions:	-27.27 dB re. 1V/Pa	or	43.28 mV/Pa
Uncertainty:	+/- 0.12 dB		
Correction factor K at reference conditions:	1.27 dB		
Calibration Frequency:	251.19 Hz		

Reference Conditions:

Pressure: 101.3 kPa

Temperature: 23 °C

Relative Humidity: 50%

Traceable references

Type	Serial no	Cal. date	Due date	Calibrated by	Trace number
4180	2602440	2019-05-08	2021-05-31	DPLA	M2.10-1304-3.1

Condition "As Received":

GOOD

Comments:

CERTIFICATE OF CALIBRATION

No.: CAS-437893-H1G1P7-901

Type: 4950

Serial No.: 2745841

Page 3 of 4

Normalized Frequency Response

Normalization Frequency: 251.19 Hz

Actuator Response is valid at Calibration Conditions

Applied Sound Field Correction: Free-field Corrections with Grid at 0 degrees Incidence

Frequency [Hz]	Actuator Response [dB]	Sound Field Response [dB]	Combined Uncertainty [dB]	Upper Tolerance [dB]	Lower Tolerance [dB]	Tolerance Exceeded
19.9526	0.54	0.54	0.36	2.00	-2.00	
25.1189	0.47	0.47	0.28	2.00	-2.00	
31.6228	0.41	0.41	0.20	2.00	-2.00	
39.8107	0.35	0.35	0.19	2.00	-2.00	
50.1187	0.31	0.31	0.17	2.00	-2.00	
63.0957	0.24	0.24	0.16	2.00	-2.00	
79.4328	0.19	0.19	0.16	2.00	-2.00	
100.000	0.14	0.14	0.16	2.00	-2.00	
125.893	0.10	0.10	0.16	2.00	-2.00	
158.489	0.06	0.06	0.16	2.00	-2.00	
199.526	0.04	0.04	0.16	2.00	-2.00	
251.189	0.00	0.00	0.02	2.00	-2.00	
316.228	-0.04	-0.03	0.16	2.00	-2.00	
398.107	-0.05	-0.04	0.16	2.00	-2.00	
501.187	-0.08	-0.05	0.16	2.00	-2.00	
630.957	-0.10	-0.05	0.16	2.00	-2.00	
794.328	-0.13	-0.06	0.16	2.00	-2.00	
1000.00	-0.16	-0.05	0.16	2.00	-2.00	
1258.93	-0.20	-0.04	0.16	2.00	-2.00	
1584.89	-0.27	-0.04	0.16	2.00	-2.00	
1995.26	-0.37	-0.03	0.17	2.00	-2.00	
2511.89	-0.51	-0.01	0.17	2.00	-2.00	
3162.28	-0.75	0.00	0.18	2.00	-2.00	
3981.07	-1.09	0.05	0.19	2.00	-2.00	
5011.87	-1.63	0.09	0.19	2.00	-2.00	
6309.57	-2.47	0.16	0.20	2.00	-2.00	
7943.28	-3.78	0.24	0.21	2.00	-2.00	
10000.0	-6.00	0.21	0.27	2.00	-2.00	
12589.3	-8.47	-0.03	0.34	2.00	-2.00	
15848.9	-11.05	-1.13	0.43	2.00	-2.00	

CERTIFICATE OF CALIBRATION

No.: CAS-437893-H1G1P7-901

Type: 4950

Serial No.: 2745841

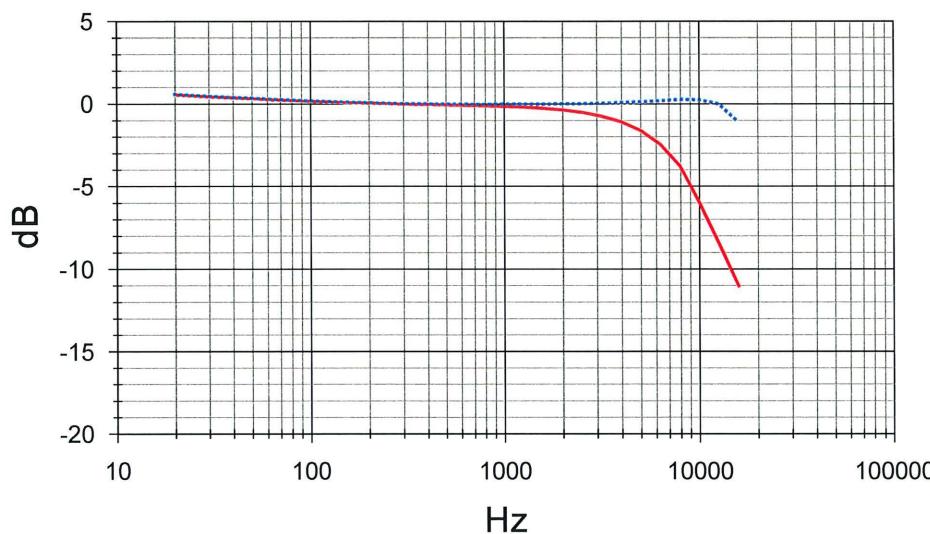
Page 4 of 4

Measured Frequency Response

Solid curve: Actuator response

Dotted curve: Sound field response

Applied Sound Field Correction: Free-field Corrections with Grid at 0 degrees Incidence

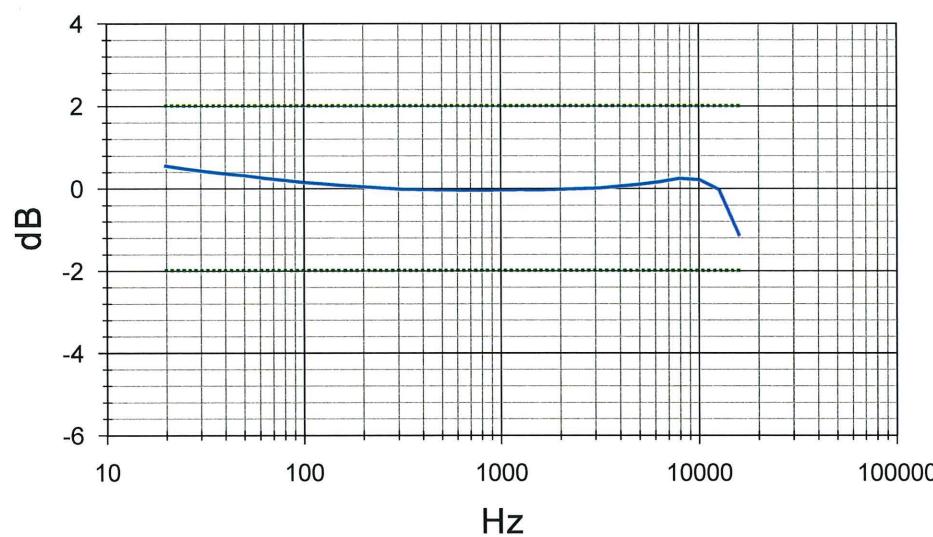


Result Response

Solid curve: Sound field response

Dotted curves: Tolerance limits

Applied Sound Field Correction: Free-field Corrections with Grid at 0 degrees Incidence



The Brüel and Kjaer Calibration Laboratory
3079 Premiere Parkway Suite 120
Duluth, GA 30097
Telephone: 770-209-6907
Fax: 770-447-4033
Web site address: <http://www.bksv.com>



Calibration
Certificate
1568.01

CERTIFICATE OF CALIBRATION

No.: CAS-437893-H1G1P7-401

Page 1 of 2

CALIBRATION OF:

Calibrator: Brüel & Kjær Type 4231 Serial No.: 2376289
IEC Class: 1

CUSTOMER:

Clean Air Engineering
7936 Conner Road
Powell, TN 37849

CALIBRATION CONDITIONS:

Environment conditions: Air temperature: 23.8 °C
Air pressure: 97.18 kPa
Relative Humidity: 34.6 %RH

SPECIFICATIONS:

This document certifies that the acoustic calibrator as listed under "Type" has been calibrated and unless otherwise indicated under "Final Data", meets acceptance criteria as prescribed by the referenced Procedure. Statements of compliance, where applicable, are based on calibration results falling within specified criteria with no reduction by the uncertainty of the measurements. The calibration of the listed transducer was accomplished using a test system which conforms to the requirements of ISO/IEC 17025, ANSI/NCSL Z540-1, and guidelines of ISO 10012-1. For "as received" and "final" data, see the attached page(s). Items marked with one asterisk (*) are not covered by the scope of the current A2LA accreditation. This Certificate and attached data pages shall not be reproduced, except in full, without written approval of the Brüel and Kjaer Calibration Laboratory-Duluth, GA. Results relate only to the items tested. The transducer has been calibrated using Measurement Standards with values traceable to the National Institute of Standards and Technology, National Measurement Institutes or derived from natural physical constants. The acoustic calibrator has been calibrated in accordance with the requirements as specified in IEC60942.

PROCEDURE:

The measurements have been performed with the assistance of Brüel & Kjær acoustic calibrator calibration application Software version 2.3.4 Type 7794 using calibration procedure 4231 Complete

RESULTS:

- | | |
|--|--|
| <input checked="" type="checkbox"/> "As Received" Data: Within Acceptance Criteria | <input type="checkbox"/> "As Received" Data: Outside Acceptance Criteria |
| <input checked="" type="checkbox"/> "Final" Data : Within Acceptance Criteria | <input type="checkbox"/> "Final" Data : Outside Acceptance Criteria |

The reported expanded uncertainty is based on the standard uncertainty multiplied by a coverage factor $k = 2$, providing a level of confidence of approximately 95%. The uncertainty evaluation has been carried out in accordance with EA-4/02 from elements originating from the standards, calibration method, effect of environmental conditions and any short time contribution from the calibrator under calibration.

Date of Calibration: February 25, 2020

Certificate issued: February 25, 2020

Meshaun Hobbs

Calibration Technician

Harold Williams

Quality Representative

Sound Pressure Levels

All stated values are valid at environmental reference conditions

Nominal Level [dB]	Accept Limit Lower [dB]	Accept Limit Upper [dB]	Measured Level [dB]	Measurement Uncertainty [dB]
94	93.80	94.20	93.98	0.12
114	113.80	114.20	114.02	0.12

Frequency

Nominal Frequency [Hz]	Accept Limit Lower [Hz]	Accept Limit Upper [Hz]	Measured Frequency [Hz]	Measurement Uncertainty [Hz]
1000	999.00	1001.00	999.96	0.10

Total Distortion*

Distortion mode: TD* THD*

Calibration Level [dB]*	Accept Limit [%]*	Measured Distortion [%]*	Measurement Uncertainty [%]*
94	1.00	0.70	0.13
114	1.00	0.14	0.13

Environmental Reference Conditions:

Pressure: 101.3 kPa, Temperature: 23 °C, Relative Humidity: 50%

Instrument List

Type	Description	Serial no	Cal. date	Due date	Calibrated by	Trace number
3560	PULSE Analyzer	2723320	2019-10-17	2020-10-31	JCA	CAS-413598-Q8W9Z2-101
9545	Transfer Microphone	3	2019-10-16	2020-10-31	MH	CAS-413598-Q8W9Z2-401
4228	Reference Sound Source	1618502	2019-04-05	2021-04-30	W.Shipman	CAS-375162-C8J4Z3-705

During the calibration the calibrator has been loaded by the load volume of the Transfer Microphone. The load volumes for a number of different types of Transfer Microphones are listed in the table below.

For Brüel & Kjær Pistonphones types 4220 and 4228 the result of the SPL calibration has been corrected to be valid for a load volume of 1333 mm³. For all other types the result is valid with the actual load volume.

Transfer Microphone Type	Fulfils standard IEC 61094-1 LS	Fulfils standard IEC 61094-4 WS	Load Volume 1" (1/2" mic including DP-0776)	Load Volume 1/2"
4180	yes	yes	1126 mm ³	43 mm ³
4192	-	yes	1273 mm ³	190 mm ³
9545	-	-	1333 mm ³	-

Condition "As Received":

Good

Comments



Certificate #: DAS35_03302021AL

Certificate of Calibration

Clean Air Engineering
Performance Group
7936 Conner Rd
Powell, TN 37921

Test Result: **PASS**Calibration Date: **30 March 2021***Due Date: **30 September 2021**

UUT Description: Agilent 34970A
Data Acquisition Switch Unit
Serial Number: US37045684
Asset Number: DAS35

Temperature: 23.0 °C
Humidity: 45 %RH
Data Type: AS-LEFT

Calibrated By: Madeline Loveday
Procedure Used: Agilent 34970A Calibration (1 year)

Notes:

This instrument was calibrated using laboratory standards that are traceable to the National Institute of Standards and Technology (NIST), nationally recognized standards or natural physical constants, or are derived using self-calibrating ratio techniques. The CleanAir calibration program complies with the requirements of ANSI/NCSL Z540.1-1994.

Measurement uncertainties are calculated in accordance with the methods described in NIST TN1297, using a coverage factor $k=2$, resulting in a measurement confidence level of approximately 95%. The collective uncertainty of the standard utilized in this procedure does not exceed 25% of the unit under test (UUT) accuracy specification (TUR<4:1) unless otherwise specified in the test data or notes.

*A calibration due date determined by the customer, manufacturers specifications, or instrument history; is provided for reference only and does not imply continued conformance to specification.

This document shall not be reproduced except in full, without written approval of CleanAir Engineering.

Madeline Loveday

Calibration Performed By

Hayden Ottinger

Calibration Reviewed By

Standards Used

Asset #	Description	Cal Date	Due Date
110253	Fluke 5520A Multifunction Calibrator	5/18/2020	5/18/2021

CleanAir Engineering
Performance Division
7936 Conner Road
Powell, TN 37849

865-938-7555
www.cleanair.com

Report of Cal Ver - Cleanair
Certificate #: DAS35_03302021AL
Asset Number:DAS35
Date Printed:03/31/2021

Test Results

<u>Test Description</u>	<u>System Actual</u>	<u>UUT Value</u>	<u>Tolerance</u>	<u>Deviation</u>	<u>Condition</u>	<u>Exp Uncert</u>	<u>TUR</u>
ENVIRONMENTAL CONDITIONS							
Temperature: 26.5 C, Humidity: 35.2 %RH							
CALIBRATION VERIFICATION							
Self-Test							
ZERO OFFSET TESTS							
10 mADC Range							
0.00000 mA	0.000000	-0.00002	0.002000	-0.000017 mA	Pass		
100 mADC Range							
0.00000 mA	0.000000	0.00000	0.005000	0.000000 mA	Pass		
1 ADC Range							
0.000000 A	0.0000000	-0.000002	0.0001000	-0.0000016 A	Pass		
100 mVDC Range							
0.0000 mV	0.00000	-0.0004	0.00400	-0.00042 mV	Pass		
1 VDC Range							
0.000000 V	0.0000000	0.000000	0.0000070	0.0000000 V	Pass		
10 VDC Range							
0.00000 V	0.000000	-0.00000	0.000050	-0.000001 V	Pass		
100 VDC Range							
0.0000 V	0.00000	0.0001	0.00060	0.00008 V	Pass		
300 VDC Range							
0.000 V	0.0000	0.000	0.0090	0.0000 V	Pass		
100 Ohm, 2-Wire							
0.0000 Ohm	0.00000	-0.0002	1.00400	-0.00016 Ohm	Pass		
1 kOhm, 2-Wire							
0.000000 kOhm	0.0000000	-0.000144	0.0010100	-0.0001440 kOhm	Pass		
10 kOhm, 2-Wire							
0.00000 kOhm	0.000000	-0.00014	0.001100	-0.000140 kOhm	Pass		
100 kOhm, 2-Wire							
0.00000 kOhm	0.000000	-0.0001	0.00200	-0.00010 kOhm	Pass		
1 MOhm, 2-Wire							
0.000000 MOhm	0.0000000	0.000000	0.0000110	0.0000003 MOhm	Pass		
10 MOhm, 2-Wire							
0.00000 MOhm	0.000000	0.00000	0.000101	0.000003 MOhm	Pass		

CleanAir Engineering
Performance Division
7936 Conner Road
Powell, TN 37849

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Report of Cal Ver - Cleanair
Certificate #: DAS35_03302021AL
Asset Number:DAS35
Date Printed:03/31/2021

Test Results							
<u>Test Description</u>	<u>System Actual</u>	<u>UUT Value</u>	<u>Tolerance</u>	<u>Deviation</u>	<u>Condition</u>	<u>Exp Uncert</u>	<u>TUR</u>
100 MOhm, 2-Wire							
0.0000 MOhm	0.00000	0.0000	0.010001	0.00000 MOhm	Pass		
100 Ohm, 4-Wire							
0.00000 Ohm	0.00000	0.0000	0.00400	0.00003 Ohm	Pass		
1 kOhm, 4-Wire							
0.000000 kOhm	0.0000000	0.000000	0.0000100	0.0000003 kOhm	Pass		
10 kOhm, 4-Wire							
0.000000 kOhm	0.000000	-0.00001	0.000100	-0.000005 kOhm	Pass		
100 kOhm, 4-Wire							
0.00000 kOhm	0.00000	0.0000	0.00100	0.00000 kOhm	Pass		
1 MOhm, 4-Wire							
0.000000 MOhm	0.0000000	0.000001	0.0000100	0.0000008 MOhm	Pass		
10 MOhm, 4-Wire							
0.00000 MOhm	0.000000	0.00000	0.000100	0.000000 MOhm	Pass		
100 MOhm, 4-Wire							
0.00000 MOhm	0.00000	0.0000	0.01000	0.00000 MOhm	Pass		
DC VOLTAGE : Gain Verification							
100mV Range							
100.0000 mV	100.00000	99.9999	0.00900	-0.00010 mV	Pass	2.326e-006 V	3.00
1V Range							
1.000000 V	1.0000000	1.000005	0.0000470	0.0000048 V	Pass	1.009e-005 V	3.62
10V Range							
10.00000 V	10.000000	10.00005	0.000400	0.000053 V	Pass	1.087e-004 V	2.86
-10.00000 V	-10.000000	-10.00008	0.000400	-0.000075 V	Pass	1.087e-004 V	2.86
100V Range							
100.0000 V	100.00000	100.0007	0.00510	0.00070 V	Pass	1.513e-003 V	2.62
300V Range							
300.0000 V	300.00000	299.9973	0.02250	-0.00272 V	Pass	4.303e-003 V	
FREQUENCY RESPONSE							
100mV Range							
100.0000 Hz @ 10 mV	100.00000	99.9787	0.10000	-0.02130 Hz	Pass	2.059e-004 Hz	
1V Range							
100.0000 kHz @ 1 V	100.00000	100.0003	0.01000	0.00029 kHz	Pass	2.022e-001 Hz	

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Report of Cal Ver - Cleanair
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Asset Number:DAS35
Date Printed:03/31/2021

Test Results

<u>Test Description</u>	<u>System Actual</u>	<u>UUT Value</u>	<u>Tolerance</u>	<u>Deviation</u>	<u>Condition</u>	<u>Exp Uncert</u>	<u>TUR</u>
4-WIRE OHMS : Gain Verification							
100 Ohm Range							
100.00000 Ohm	100.00000	100.0013	0.01400	0.00131 Ohm	Pass	3.256e-003 Ohm	3.33
1 kOhm Range							
1.000000 kOhm	1.0000	1.000	0.0101	0.0000 Ohm	Pass	2.326e-002 Ohm	
100.000 Ohm	100.0000	100.004	0.0200	0.0037 Ohm	Pass	3.307e-003 Ohm	
120.000 Ohm	120.0000	120.001	0.0220	0.0009 Ohm	Pass	4.195e-003 Ohm	
140.000 Ohm	140.0000	140.003	0.0240	0.0029 Ohm	Pass	4.625e-003 Ohm	
200.000 Ohm	200.0000	200.004	0.0300	0.0036 Ohm	Pass	5.920e-003 Ohm	3.95
250.000 Ohm	250.0000	250.004	0.0350	0.0036 Ohm	Pass	7.001e-003 Ohm	3.89
300.000 Ohm	300.0000	300.007	0.0400	0.0068 Ohm	Pass	8.083e-003 Ohm	3.85
10 kOhm Range							
10.000000 kOhm	10.000000	10.00005	0.001100	0.000052 kOhm	Pass	2.326e-001 Ohm	3.67
100 kOhm Range							
100.00000 kOhm	100.00000	100.0016	0.01100	0.00163 kOhm	Pass	2.326e+000 Ohm	3.67
2-WIRE OHMS : Gain Verification							
100 Ohm Range							
100.00000 Ohm	100.00000	100.6281	1.01400	0.62805 Ohm	Pass	3.256e-003 Ohm	
1 kOhm Range							
1.000000 kOhm	1.0000000	1.000639	0.0011100	0.0006390 kOhm	Pass	2.326e-002 Ohm	
10 kOhm Range							
10.000000 kOhm	10.000000	10.00069	0.002100	0.000688 kOhm	Pass	2.326e-001 Ohm	
100 kOhm Range							
100.00000 kOhm	100.00000	100.0022	0.01200	0.00216 kOhm	Pass	2.326e+000 Ohm	4.00
1 MOhm Range							
1.000000 MOhm	1.0000000	1.000005	0.0001110	0.0000049 MOhm	Pass	2.636e+001 Ohm	3.26
10 MOhm Range							
10.00000 MOhm	10.000000	9.99899	0.004100	-0.001005 MOhm	Pass	1.047e+003 Ohm	3.04

Reference Junction Temperature

28.98047 Deg C

***** End of Certificate *****

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Performance Division
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Report of Cal Ver - Cleanair
Certificate #: DAS35_03302021AL
Asset Number:DAS35
Date Printed:03/31/2021



Certificate #: 10615106-092220AL

Certificate of Calibration

Calibrated For: CleanAir Engineering
Performance Division
7936 Conner Road
Powell, TN 37849

Test Result: **PASS**Calibration Date: **22 September 2020***Due Date: **22 September 2021**

UUT Description: Testo 511
Hand Held Barometer
Serial Number: 39113980/702
Asset Number: 10615106

Temperature: 23.0 °C
Humidity: 45 %RH

Data Type: AS-LEFT

Calibrated By: Skyler Turner
Procedure Used: Field Deployable Barometer: Cal Ver

Notes:

This instrument was calibrated using laboratory standards that are traceable to the National Institute of Standards and Technology (NIST), nationally recognized standards or natural physical constants, or are derived using self-calibrating ratio techniques. The CleanAir calibration program complies with the requirements of ANSI/NCSL Z540.1-1994.

Measurement uncertainties are calculated in accordance with the methods described in NIST TN1297, using a coverage factor k=2, resulting in a measurement confidence level of approximately 95%. The collective uncertainty of the standard utilized in this procedure does not exceed 25% of the unit under test (UUT) accuracy specification (TUR<4:1) unless otherwise specified in the test data or notes.

**A calibration due date determined by the customer, manufacturers specifications, or instrument history; is provided for reference only and does not imply continued conformance to specification.*

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Calibration Performed By

Calibration Reviewed By

Standards Used

<u>Asset #</u>	<u>Description</u>	<u>Cal Date</u>	<u>Due Date</u>
110259	Druck DPI-150 Pressure Indicator	5/14/2020	5/14/2021

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Report of Cal Ver - Cleanair
Certificate #: 10615106-092220AL
Asset Number: 10615106
Date Printed: 03/31/2021

Test Results

<u>Test Description</u>	<u>System Actual</u>	<u>UUT Value</u>	<u>Tolerance</u>	<u>Deviation</u>	<u>Condition</u>	<u>Exp Uncert</u>	<u>TUR</u>
PRESSURE VERIFICATION							
12.000 psi	12.000	11.98	0.050	-0.016 psi	Pass	5.965e-003 psi	
13.000 psi	13.000	13.00	0.050	-0.003 psi	Pass	5.965e-003 psi	
14.000 psi	14.000	14.00	0.050	-0.002 psi	Pass	5.965e-003 psi	
15.000 psi	15.000	15.01	0.050	0.013 psi	Pass	5.965e-003 psi	
16.000 psi	16.000	16.01	0.050	0.007 psi	Pass	5.965e-003 psi	

***** End of Certificate *****



Certificate #: LT0283-033021AL

Certificate of Calibration

Calibrated For: CleanAir Engineering

Performance Group
7936 Conner Road
Powell, TN 37849

Test Result: **PASS**

Calibration Date: **30 March 2021**

*Due Date: **30 March 2022**

UUT Description: Pyromation 4-wire Precision RTD
1/4 in. x 16 in. Low Temperature

Serial Number: N/A

Asset Number: LT0283

Customer ID#: N/A

Calibrated By: Colt Drennon

Procedure Used: Low Temp RTD CofC

Notes: Unit in tolerance utilizing supplied coefficients.

Temperature: 23.3°C
Humidity: 31% RH
Cal Location: In-House
Seals Intact: N/A
Data Type: As Left

Revision: 0

This instrument was calibrated using laboratory standards that are traceable to the National Institute of Standards and Technology (NIST), nationally recognized standards or natural physical constants, or are derived using self-calibrating ratio techniques. The CleanAir calibration program complies with the requirements of ANSI/NCSL Z540.1-1994.

**A calibration due date determined by the customer, manufacturers specifications, or instrument history; is provided for reference only and does not imply continued conformance to specification.*

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Colt Drennon

Calibration Performed By

Hayden Ottinger

Calibration Reviewed By

Standards Used

<u>Asset #</u>	<u>Description</u>	<u>Cal Date</u>	<u>Due Date</u>
210811100	Hewlett Packard 3458A Multimeter	6/9/2020	6/9/2021
210117101	Hart Scientific 5628 Platinum Resistance Thermometer	3/23/2021	3/23/2022
210010117	Data Acquisition Switch Unit	2/1/2021	5/2/2021



Certificate #: LT0283-033021AL

Certificate of Calibration

Probe ID#: LT0283

DAS Ch. #: 203

Tolerance: 0.1°F

Range: 40 to 180°F

Calibrated For: CleanAir Engineering

Performance Group
7936 Conner Road
Powell, TN 37849

Phone: 865-938-7555

Contact Name: Corey Mullen

Data Type: As Left

Callendar-Van Dusen Equation

$$R(T) = R(0) + R(0) * \alpha * [T - \delta * (T/100) - 1] * (T/100)$$

where:

As Left Coefficients

$$R(0) = 9.998109E+01$$

$$\alpha = 3.854888E-03$$

$$\delta = 1.530791E+00$$

As Left Results

Calibration Point	Reference Temperature (°F)	UUT Resistance (Ohms)	Calculated UUT Temperature (°F)	Calculated Temperature (°C)	UUT Deviation from Reference (°F)	Calibration Result
1	39.708	101.6561	39.710	4.283	0.001	PASS
2	62.660	106.6288	62.657	17.032	-0.003	PASS
3	86.627	111.8028	86.628	30.349	0.001	PASS
4	109.621	116.7460	109.621	43.123	0.000	PASS
5	132.619	121.6713	132.620	55.900	0.001	PASS
6	156.591	126.7844	156.592	69.218	0.001	PASS
7	179.594	131.6708	179.593	81.996	-0.001	PASS



Certificate #: LT0343-033021AL

Certificate of Calibration

Calibrated For: CleanAir Engineering

Performance Group
7936 Conner Road
Powell, TN 37849

Test Result: **PASS**

Calibration Date: **30 March 2021**

*Due Date: **30 March 2022**

UUT Description: Pyromation 4-wire Precision RTD
1/4 in. x 16 in. Low Temperature

Serial Number: N/A

Asset Number: LT0343

Customer ID#: N/A

Calibrated By: Colt Drennon

Procedure Used: Low Temp RTD CofC

Notes: Unit in tolerance utilizing supplied coefficients.

Temperature: 23.3°C
Humidity: 31% RH
Cal Location: In-House
Seals Intact: N/A
Data Type: As Left

Revision: 0

This instrument was calibrated using laboratory standards that are traceable to the National Institute of Standards and Technology (NIST), nationally recognized standards or natural physical constants, or are derived using self-calibrating ratio techniques. The CleanAir calibration program complies with the requirements of ANSI/NCSL Z540.1-1994.

**A calibration due date determined by the customer, manufacturers specifications, or instrument history; is provided for reference only and does not imply continued conformance to specification.*

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Colt Drennon

Calibration Performed By

Hayden Ottinger

Calibration Reviewed By

Standards Used

<u>Asset #</u>	<u>Description</u>	<u>Cal Date</u>	<u>Due Date</u>
210811100	Hewlett Packard 3458A Multimeter	6/9/2020	6/9/2021
210117101	Hart Scientific 5628 Platinum Resistance Thermometer	3/23/2021	3/23/2022
210010117	Data Acquisition Switch Unit	2/1/2021	5/2/2021



Certificate #: LT0343-033021AL

Certificate of Calibration

Probe ID#: LT0343

DAS Ch. #: 204

Tolerance: 0.1°F

Range: 40 to 180°F

Calibrated For: CleanAir Engineering

Performance Group
7936 Conner Road
Powell, TN 37849

Phone: 865-938-7555

Contact Name: Corey Mullen

Data Type: As Left

Callendar-Van Dusen Equation

$$R(T) = R(0) + R(0) * \alpha * [T - \delta * (T/100) - 1] * (T/100)$$

where:

As Left Coefficients

$$R(0) = 1.002659E+02$$

$$\alpha = 3.852923E-03$$

$$\delta = 1.728104E+00$$

As Left Results

Calibration Point	Reference Temperature (°F)	UUT Resistance (Ohms)	Calculated UUT Temperature (°F)	Calculated Temperature (°C)	UUT Deviation from Reference (°F)	Calibration Result
1	39.708	101.9464	39.703	4.279	-0.005	PASS
2	62.660	106.9418	62.666	17.037	0.007	PASS
3	86.627	112.1321	86.632	30.351	0.005	PASS
4	109.621	117.0884	109.620	43.122	-0.001	PASS
5	132.619	122.0237	132.611	55.895	-0.008	PASS
6	156.591	127.1481	156.592	69.218	0.001	PASS
7	179.594	132.0415	179.596	81.998	0.002	PASS



Certificate #: LT0833-033021AL

Certificate of Calibration

Calibrated For: CleanAir Engineering

Performance Group
7936 Conner Road
Powell, TN 37849

Test Result: **PASS**

Calibration Date: **30 March 2021**

*Due Date: **30 March 2022**

UUT Description: Pyromation 4-wire Precision RTD
1/4 in. x 16 in. Low Temperature

Serial Number: N/A

Asset Number: LT0833

Customer ID#: N/A

Calibrated By: Colt Drennon

Procedure Used: Low Temp RTD CofC

Notes: Unit in tolerance utilizing supplied coefficients.

Temperature: 23.3°C
Humidity: 31% RH
Cal Location: In-House
Seals Intact: N/A
Data Type: As Left

Revision: 0

This instrument was calibrated using laboratory standards that are traceable to the National Institute of Standards and Technology (NIST), nationally recognized standards or natural physical constants, or are derived using self-calibrating ratio techniques. The CleanAir calibration program complies with the requirements of ANSI/NCSL Z540.1-1994.

**A calibration due date determined by the customer, manufacturers specifications, or instrument history; is provided for reference only and does not imply continued conformance to specification.*

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Colt Drennon

Calibration Performed By

Hayden Ottinger

Calibration Reviewed By

Standards Used

<u>Asset #</u>	<u>Description</u>	<u>Cal Date</u>	<u>Due Date</u>
210811100	Hewlett Packard 3458A Multimeter	6/9/2020	6/9/2021
210117101	Hart Scientific 5628 Platinum Resistance Thermometer	3/23/2021	3/23/2022
210010117	Data Acquisition Switch Unit	2/1/2021	5/2/2021



Certificate #: LT0833-033021AL

Certificate of Calibration

Probe ID#: LT0833

DAS Ch. #: 205

Tolerance: 0.1°F

Range: 40 to 180°F

Calibrated For: CleanAir Engineering

Performance Group
7936 Conner Road
Powell, TN 37849

Phone: 865-938-7555

Contact Name: Corey Mullen

Data Type: As Left

Callendar-Van Dusen Equation

$$R(T) = R(0) + R(0) * \alpha * [T - \delta * (T/100) - 1] * (T/100)$$

where:

As Left Coefficients

$$R(0) = 9.998999E+01$$

$$\alpha = 3.856387E-03$$

$$\delta = 1.520884E+00$$

As Left Results

Calibration Point	Reference Temperature (°F)	UUT Resistance (Ohms)	Calculated UUT Temperature (°F)	Calculated Temperature (°C)	UUT Deviation from Reference (°F)	Calibration Result
1	39.708	101.6650	39.707	4.282	-0.001	PASS
2	62.660	106.6413	62.662	17.034	0.002	PASS
3	86.627	111.8152	86.622	30.346	-0.005	PASS
4	109.621	116.7644	109.632	43.129	0.011	PASS
5	132.619	121.6902	132.623	55.902	0.003	PASS
6	156.591	126.8012	156.573	69.207	-0.019	PASS
7	179.594	131.6964	179.603	82.002	0.009	PASS