

NSP Phase 3 Thornwood Park Project
Wilmette, Illinois

**VIBRATION
MONITORING
REPORT-6**

Mike Zika
Berger Excavating
1205 Garland Rd
Wauconda, IL 60084

August 15, 2022

Cti



4262 Old Grand Ave
Suite 102
Chicago, IL 60031

August 15, 2022

Mike Zika
Berger Excavating
1205 Garland Rd
Wauconda, IL 60084

RE: **Report 6:** - *Ground Vibration Monitoring for the Wilmette NSP Phase 3 Thornwood Park Project located in Wilmette, Illinois.*

Mr. Zika,

Construction Testing and Instrumentation, Inc. (CTI) have prepared this vibration monitoring report to evaluate vibrations during all construction activities. This report summarizes the results of ground vibration monitoring for three seismographs, all located around the surrounding project site (see attached location diagram). This summary report covers the monitoring period from **August 8, 2022 through August 12, 2022.**

The vibration equipment at the site are Geosonic seismographs that have the capacity to record peak particle velocity (PPV) and frequency (Hertz). The maximum allowable peak particle velocity is 0.50 inches per second (IPS), which is based upon the specifications established by the U.S Bureau of Mines (USBM) and a typical threshold for construction vibration monitoring. The seismographs are set to trigger whenever vibration levels exceed 0.003 in/s lowest (PPV) and continuously monitor vibrations during all construction activities.

All vibration recordings during this report period have been below the 0.50-inch per second threshold limit. The maximum PPV for the monitoring period are below.

August 12, 2022	Southwest Corner of Park	Unit #3734	V	0.105 (in/s)
August 9, 2022	2345 Thornwood Avenue	Unit #3733	L	0.198 (in/s)
August 9, 2022	East Side of Park – Colgate St.	Unit #3647	T	0.078 (in/s)


V- Vertical Vibration
T- Transversal Vibration
L- Longitudinal Vibration

Sincerely,

Daniel W. McCarthy
Senior Instrumentation Engineer

NSP Phase 3 Thornwood Park Seismograph Locations



 Seismograph Location

SN: 3734 v3.22
Date: 08/08/2022 **Time:** 10:17:00
Event: 74
Client: BERGER
Operation: CONSTRUCTION
Location: THORNWOOD PARK
Distance: 25.
Operator: CTI INC
Comment: SW CORNER OF PARK

**Continuous Monitor Recording
Summary Data**

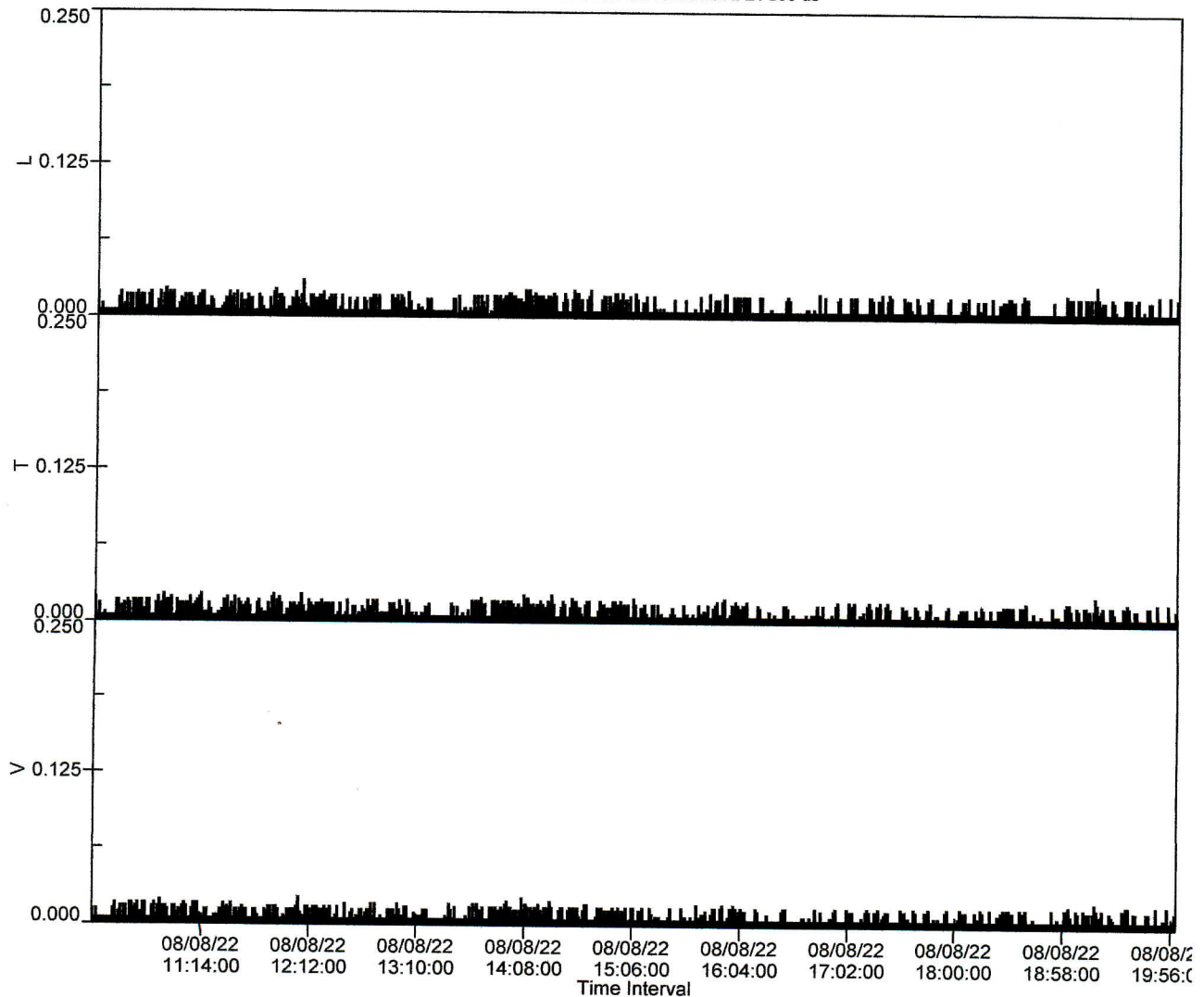
	L	T	V
PPV (in/s)	0.030	0.023	0.023
FREQ (Hz)	17.9	3.1	14.7
Peak Air Pressure:	108 db		
Recording Time:	582 minutes		
Sample Size:	1440		
Interval Size:	60 seconds		

Additional Info:

Shaketable Calibrated: 04/12/2022
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

SN: 3734 Event: 74

Record Max PPV: 0.030 in/s Record Max DB: 108 db



SN: 3734 v3.22
Date: 08/09/2022 **Time:** 06:01:00
Event: 75
Client: BERGER
Operation: CONSTRUCTION
Location: THORNWOOD PARK
Distance: 25.
Operator: CTI INC
Comment: SW CORNER OF PARK

**Continuous Monitor Recording
Summary Data**

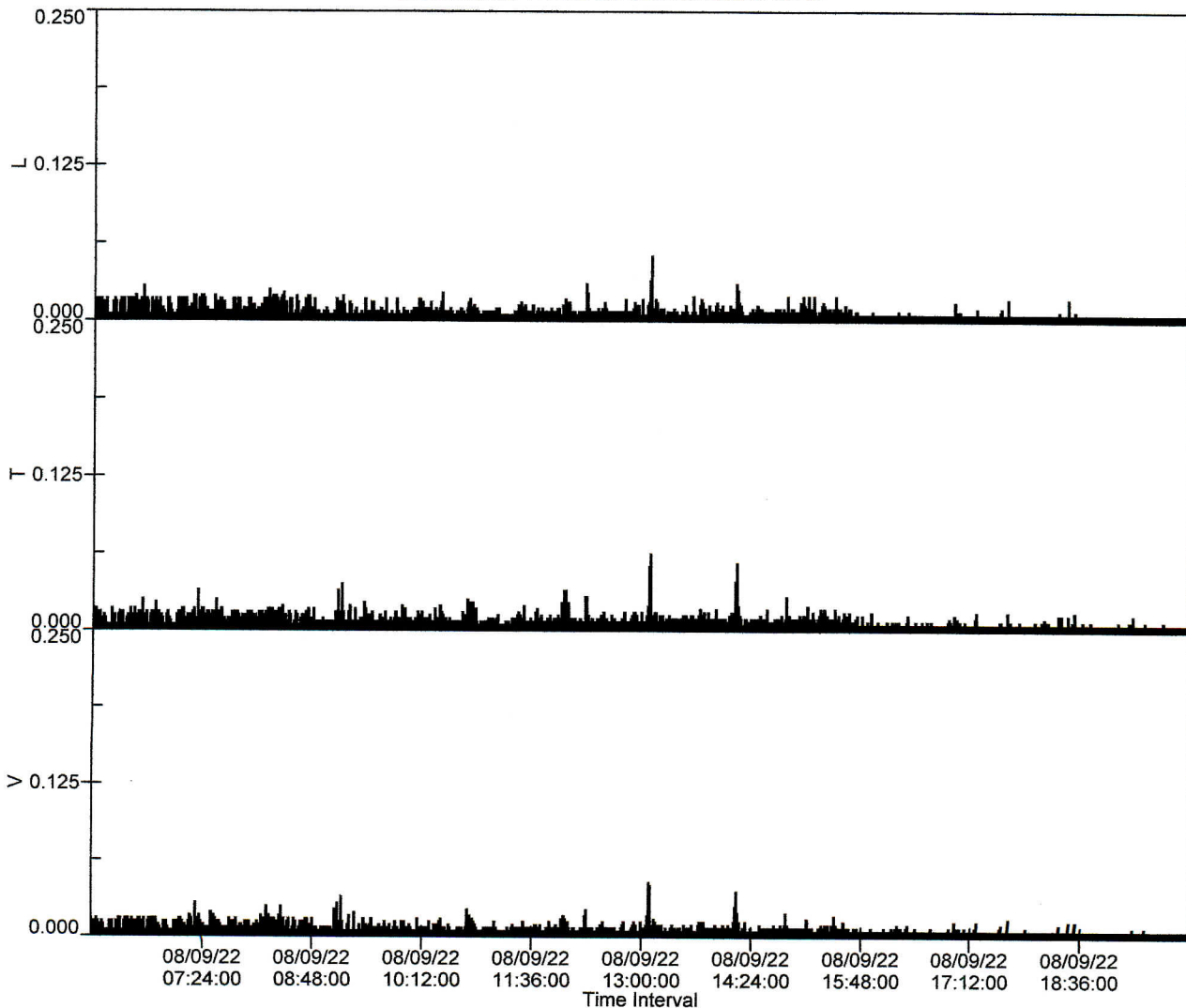
	L	T	V
PPV (in/s)	0.053	0.063	0.045
FREQ (Hz)	16.1	13.5	16.7
Peak Air Pressure:	104 db		
Recording Time:	838 minutes		
Sample Size:	1440		
Interval Size:	60 seconds		

Additional Info:

Shaketable Calibrated: 04/12/2022
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

SN: 3734 Event: 75

Record Max PPV: 0.063 in/s Record Max DB: 104 db



SN: 3734 v3.22
Date: 08/10/2022 **Time:** 06:01:00
Event: 76
Client: BERGER
Operation: CONSTRUCTION
Location: THORNWOOD PARK
Distance: 25.
Operator: CTI INC
Comment: SW CORNER OF PARK

**Continuous Monitor Recording
Summary Data**

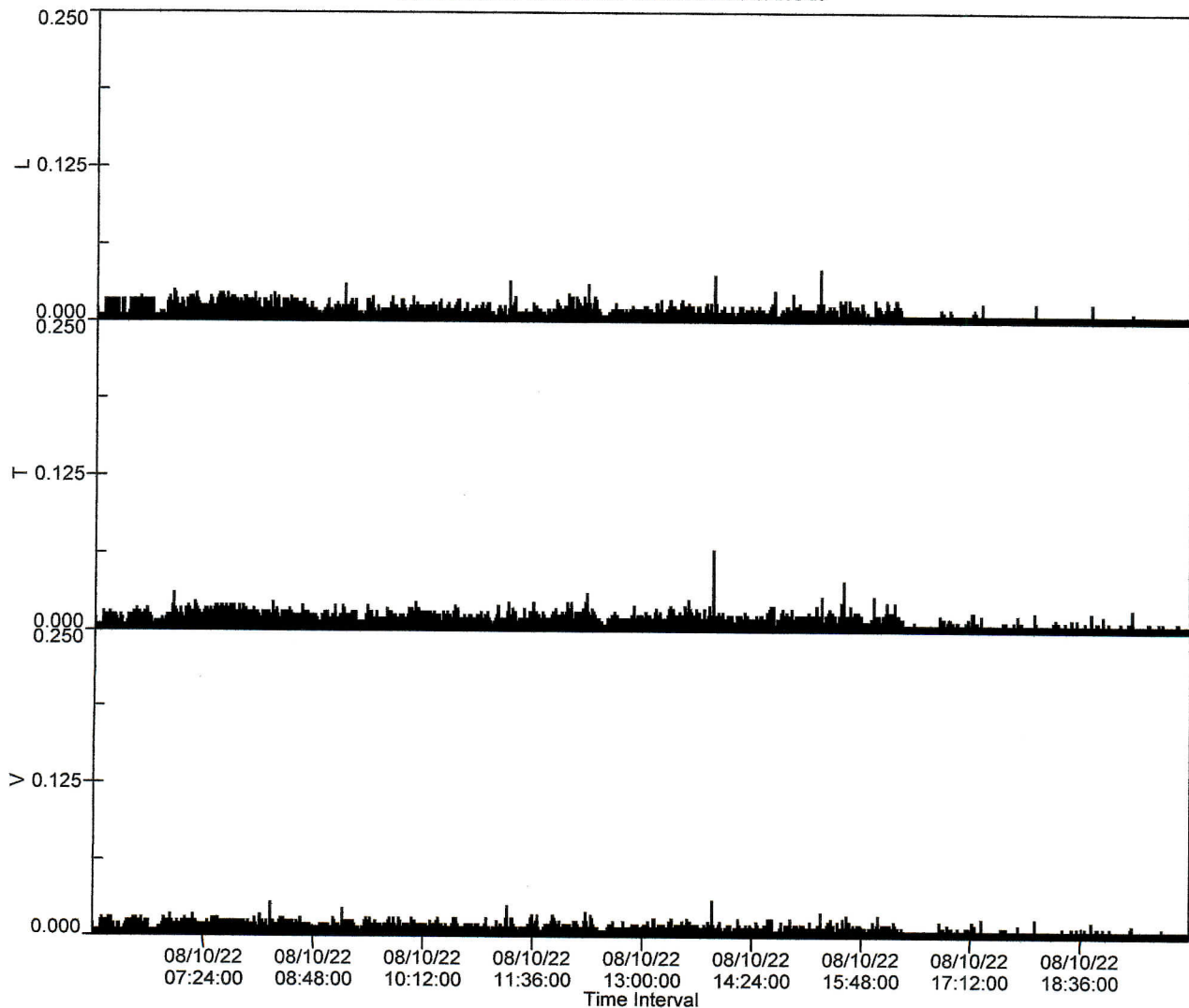
	L	T	V
PPV (in/s)	0.043	0.065	0.030
FREQ (Hz)	12.5	12.2	13.9
Peak Air Pressure:	108 db		
Recording Time:	838 minutes		
Sample Size:	1440		
Interval Size:	60 seconds		

Additional Info:

Shaketable Calibrated: 04/12/2022
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

SN: 3734 Event: 76

Record Max PPV: 0.065 in/s Record Max DB: 108 db



SN: 3734 v3.22
Date: 08/11/2022 **Time:** 06:01:00
Event: 77
Client: BERGER
Operation: CONSTRUCTION
Location: THORNWOOD PARK
Distance: 25.
Operator: CTI INC
Comment: SW CORNER OF PARK

**Continuous Monitor Recording
Summary Data**

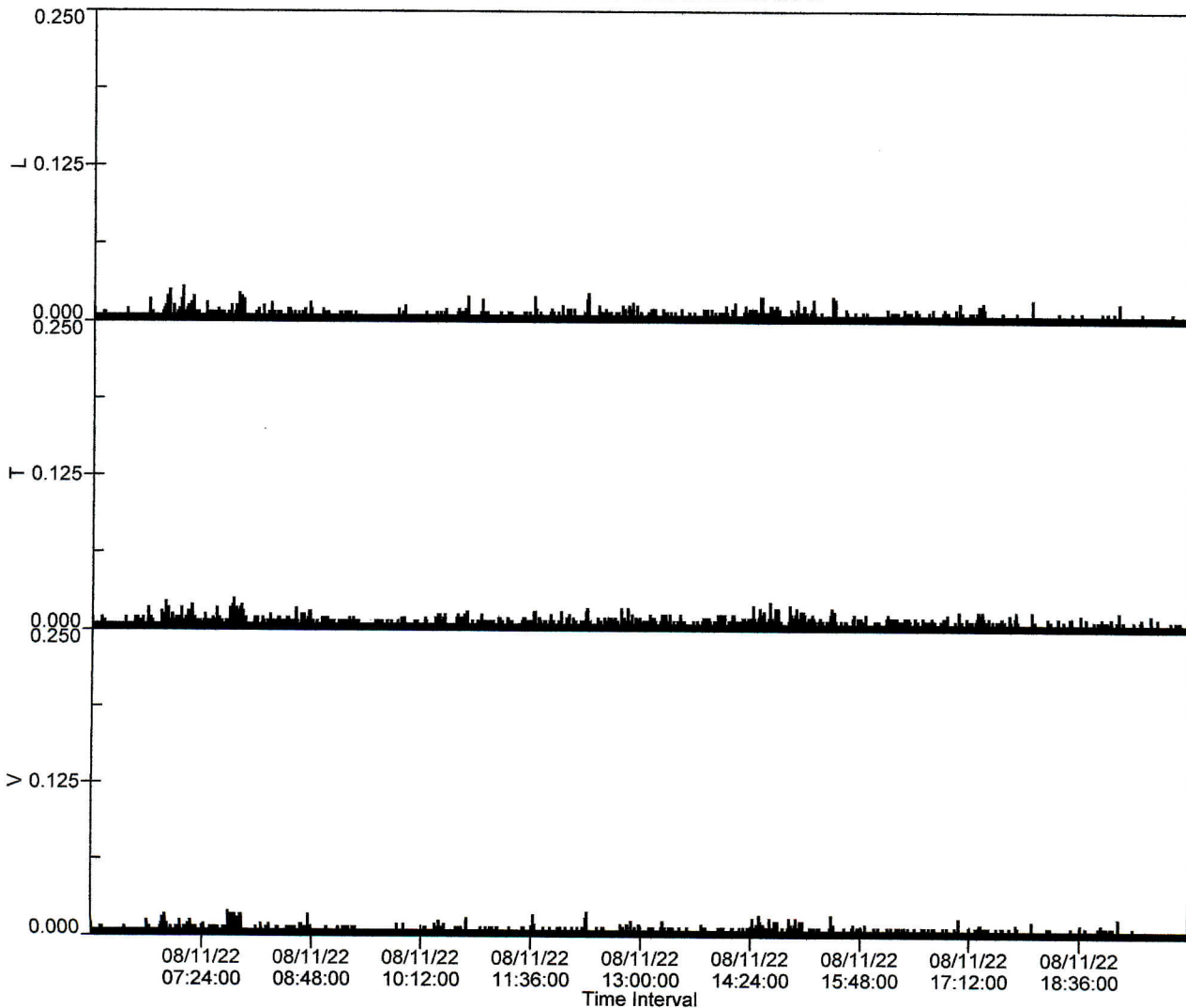
	L	T	V
PPV (in/s)	0.028	0.025	0.020
FREQ (Hz)	10.2	45.5	31.3
Peak Air Pressure:	106 db		
Recording Time:	838 minutes		
Sample Size:	1440		
Interval Size:	60 seconds		

Additional Info:

Shaketable Calibrated: 04/12/2022
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

SN: 3734 Event: 77

Record Max PPV: 0.028 in/s Record Max DB: 106 db



SN: 3734 v3.22
Date: 08/12/2022 **Time:** 06:01:00
Event: 78
Client: BERGER
Operation: CONSTRUCTION
Location: THORNWOOD PARK
Distance: 25.
Operator: CTI INC
Comment: SW CORNER OF PARK

**Continuous Monitor Recording
Summary Data**

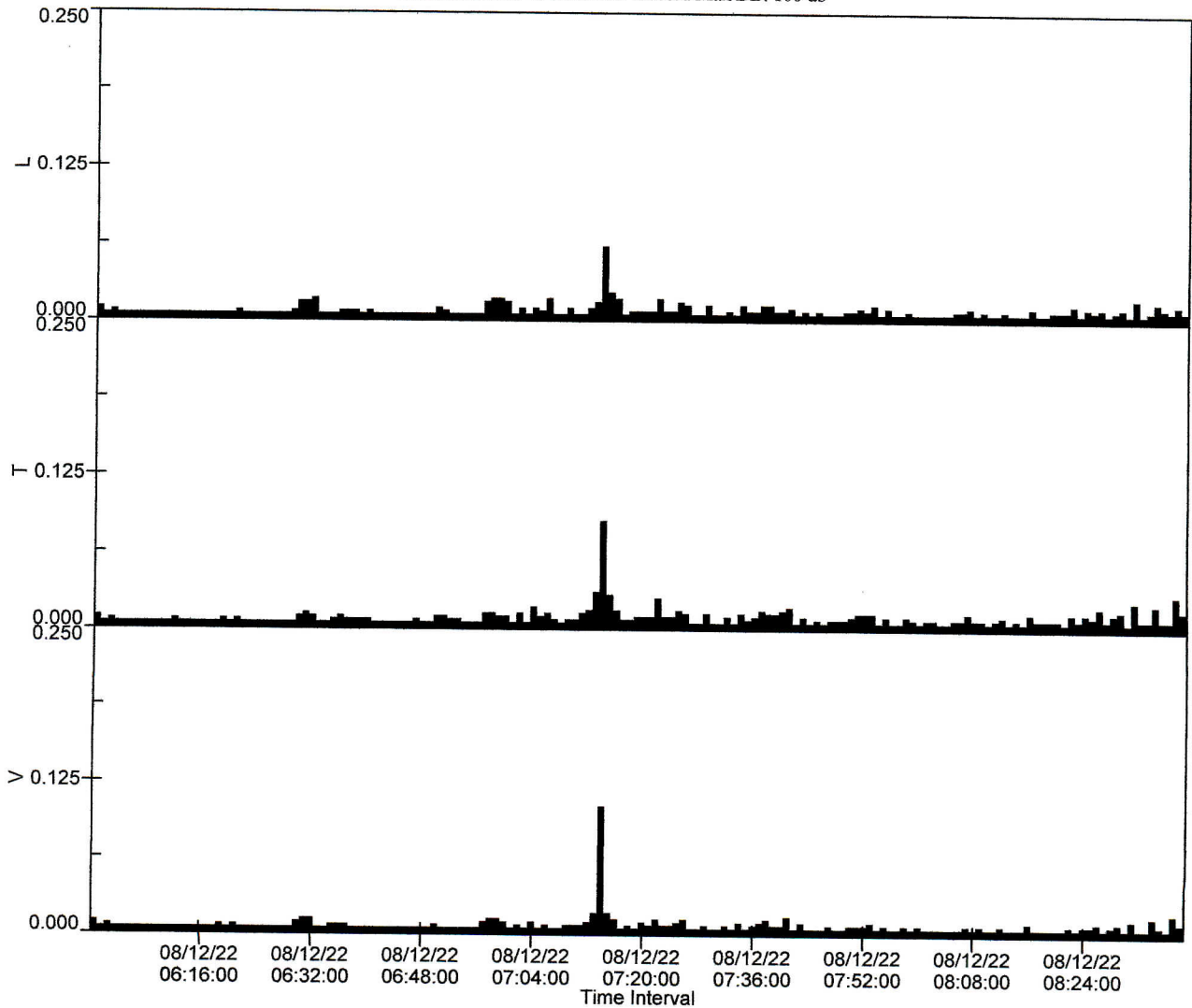
	L	T	V
PPV (in/s)	0.060	0.088	0.105
FREQ (Hz)	16.1	19.2	31.3
Peak Air Pressure: 100 db			
Recording Time: 158 minutes			
Sample Size: 1440			
Interval Size: 60 seconds			

Additional Info:

Shaketable Calibrated: 04/12/2022
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

SN: 3734 Event: 78

Record Max PPV: 0.105 in/s Record Max DB: 100 db



SN: 3733 v3.22
Date: 08/08/2022 **Time:** 10:29:00
Event: 74
Client: BERGER
Operation: CONSTRUCTION
Location: THORNWOOD PARK
Distance: 25.
Operator: CTI INC
Comment: 2345 THORNWOOD

**Continuous Monitor Recording
Summary Data**

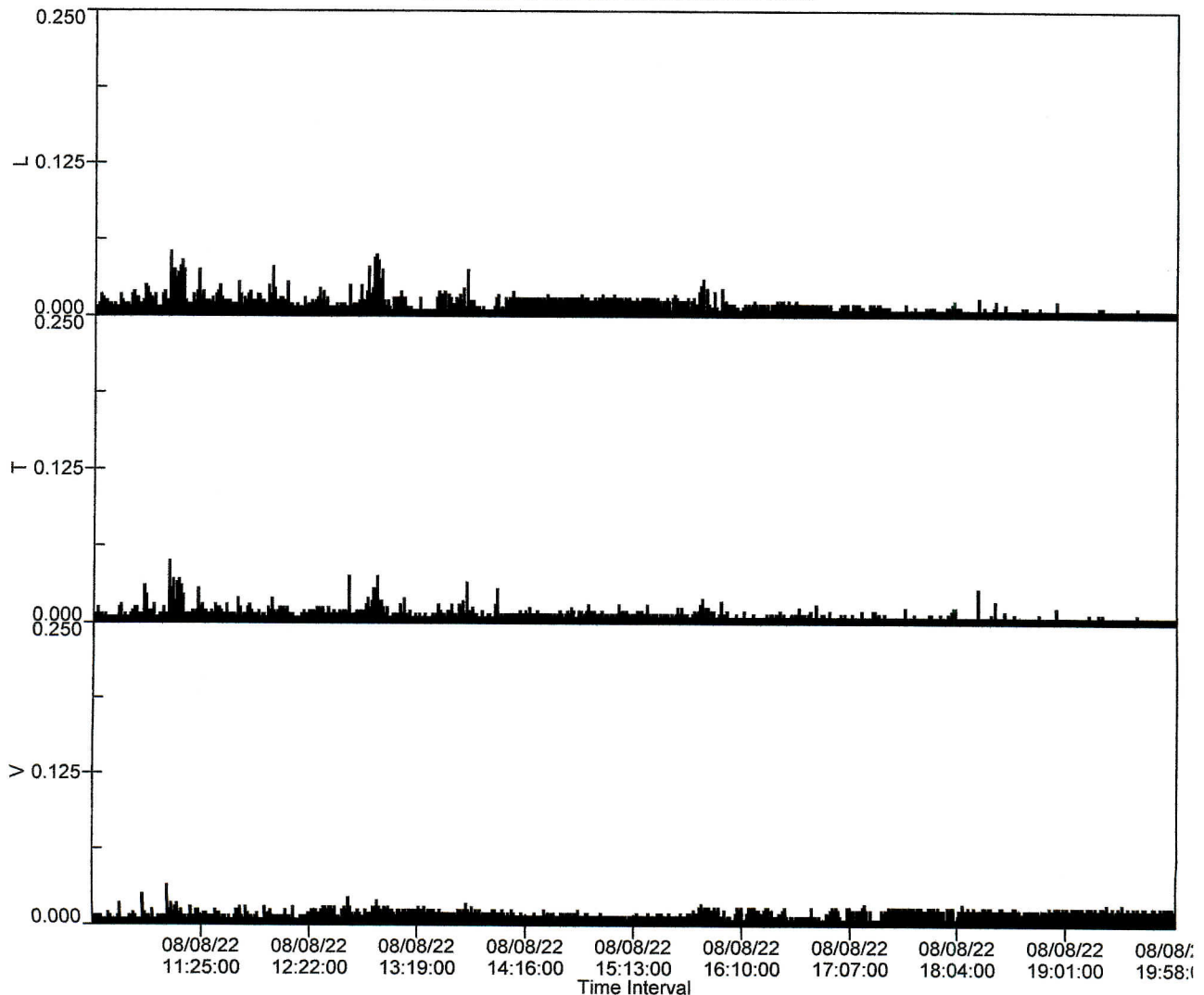
	L	T	V
PPV (in/s)	0.053	0.050	0.033
FREQ (Hz)	12.8	8.5	17.9
Peak Air Pressure:	101 db		
Recording Time:	570 minutes		
Sample Size:	1440		
Interval Size:	60 seconds		

Additional Info:

Shaketable Calibrated: 12/28/2021
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

SN: 3733 Event: 74

Record Max PPV: 0.053 in/s Record Max DB: 101 db



SN: 3733 v3.22
Date: 08/09/2022 **Time:** 06:01:00
Event: 75
Client: BERGER
Operation: CONSTRUCTION
Location: THORNWOOD PARK
Distance: 25.
Operator: CTI INC
Comment: 2345 THORNWOOD

Continuous Monitor Recording

Summary Data

	L	T	V
PPV (in/s)	0.198	0.130	0.100
FREQ (Hz)	18.5	14.7	16.7
Peak Air Pressure:	101 db		

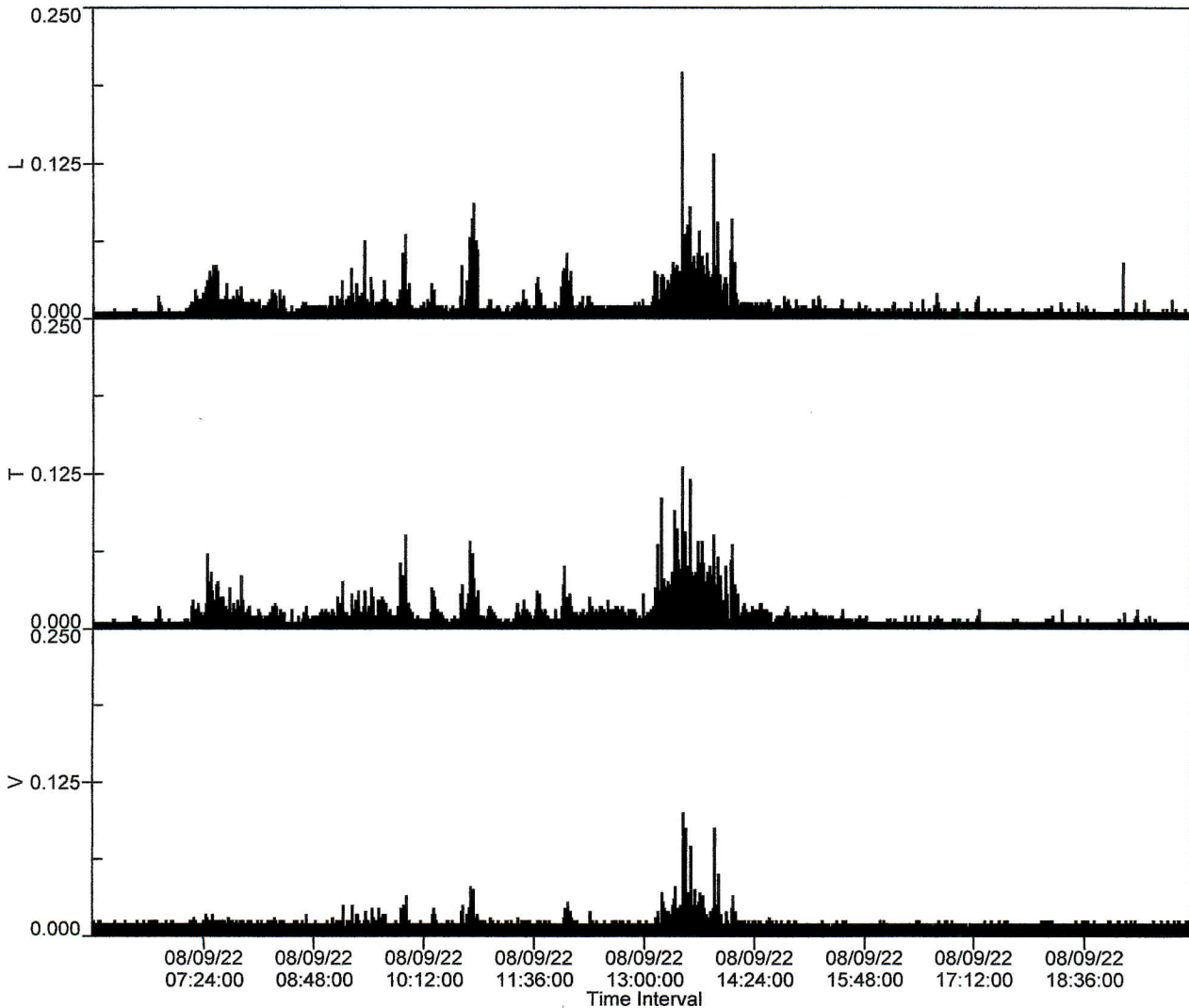
Recording Time: 838 minutes
Sample Size: 1440
Interval Size: 60 seconds

Additional Info:

Shaketable Calibrated: 12/28/2021
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

SN: 3733 Event: 75

Record Max PPV: 0.198 in/s Record Max DB: 101 db



SN: 3733 v3.22
Date: 08/10/2022 **Time:** 06:01:00
Event: 76
Client: BERGER
Operation: CONSTRUCTION
Location: THORNWOOD PARK
Distance: 25.
Operator: CTI INC
Comment: 2345 THORNWOOD

**Continuous Monitor Recording
Summary Data**

	L	T	V
PPV (in/s)	0.045	0.058	0.035
FREQ (Hz)	18.5	19.2	22.7
Peak Air Pressure:	92 db		

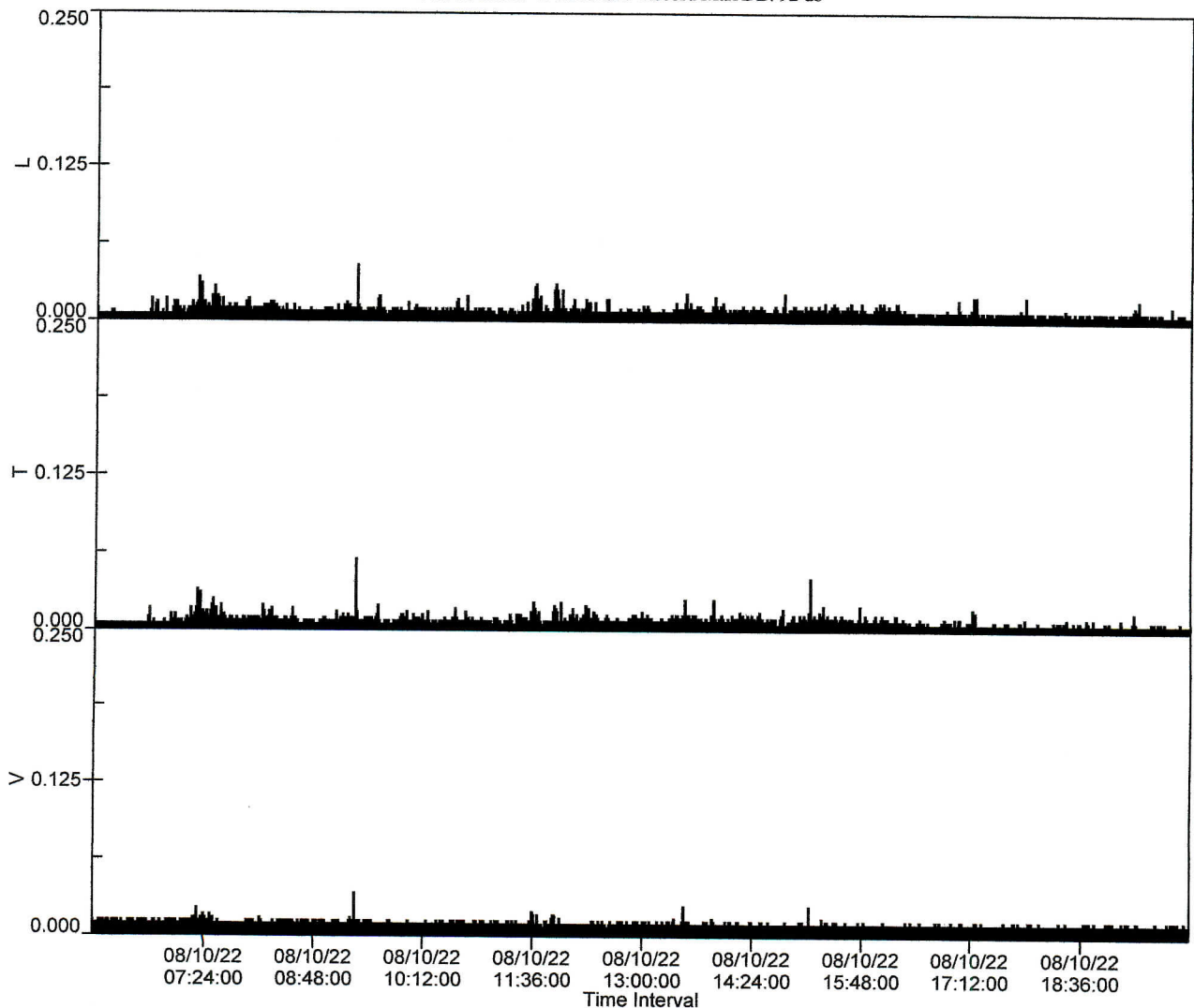
Recording Time: 838 minutes
Sample Size: 1440
Interval Size: 60 seconds

Additional Info:

Shaketable Calibrated: 12/28/2021
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

SN: 3733 Event: 76

Record Max PPV: 0.058 in/s Record Max DB: 92 db



SN: 3733 v3.22
Date: 08/11/2022 **Time:** 06:01:00
Event: 77
Client: BERGER
Operation: CONSTRUCTION
Location: THORNWOOD PARK
Distance: 25.
Operator: CTI INC
Comment: 2345 THORNWOOD

**Continuous Monitor Recording
Summary Data**

	L	T	V
PPV (in/s)	0.065	0.083	0.058
FREQ (Hz)	20.0	18.5	20.0
Peak Air Pressure:	97 db		

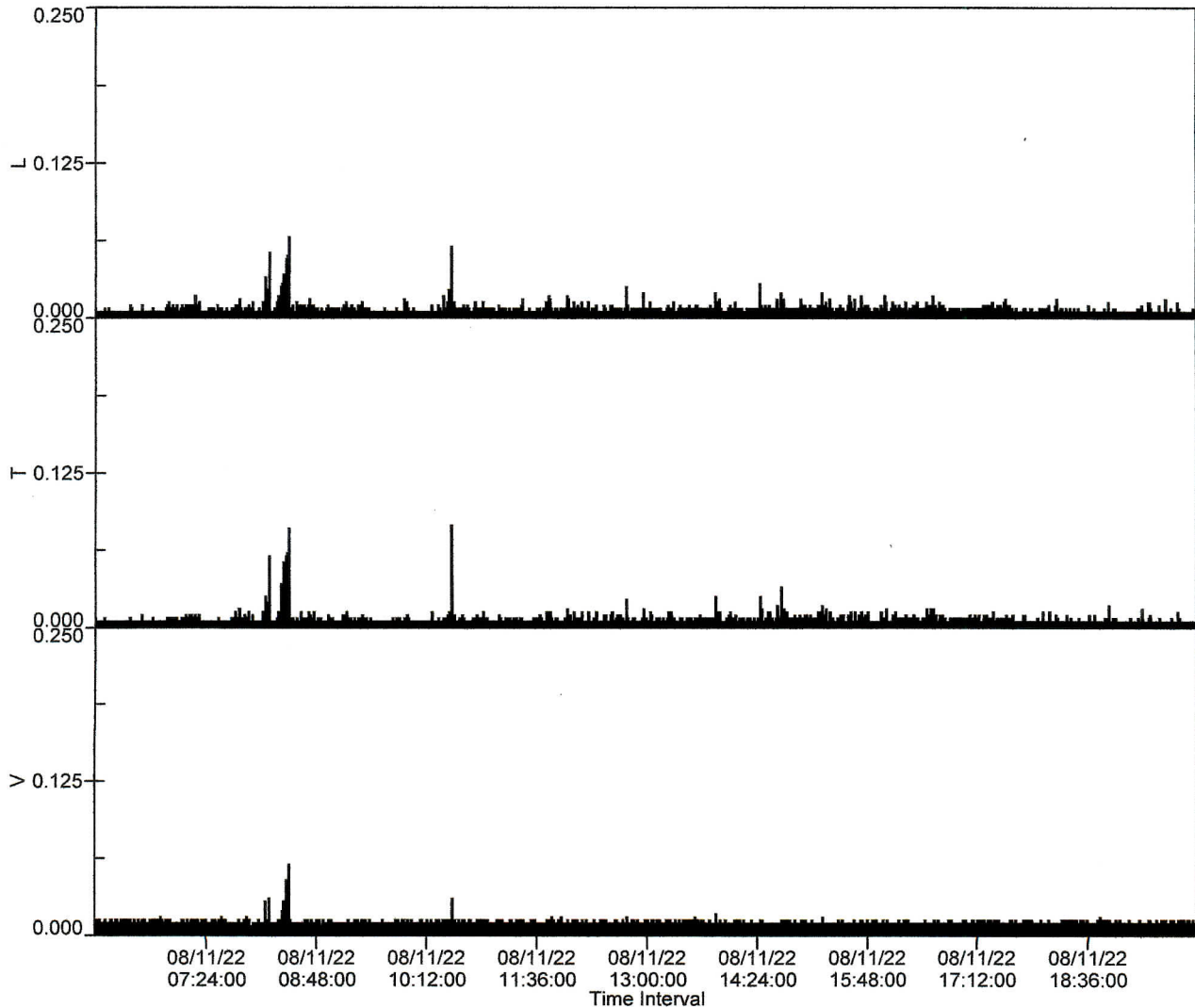
Recording Time: 838 minutes
Sample Size: 1440
Interval Size: 60 seconds

Additional Info:

Shaketable Calibrated: 12/28/2021
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

SN: 3733 Event: 77

Record Max PPV: 0.083 in/s Record Max DB: 97 db



SN: 3733 v3.22
Date: 08/12/2022 **Time:** 06:01:00
Event: 78
Client: BERGER
Operation: CONSTRUCTION
Location: THORNWOOD PARK
Distance: 25.
Operator: CTI INC
Comment: 2345 THORNWOOD

Continuous Monitor Recording

Summary Data

	L	T	V
PPV (in/s)	0.060	0.118	0.033
FREQ (Hz)	13.5	12.8	16.7
Peak Air Pressure:	84 db		

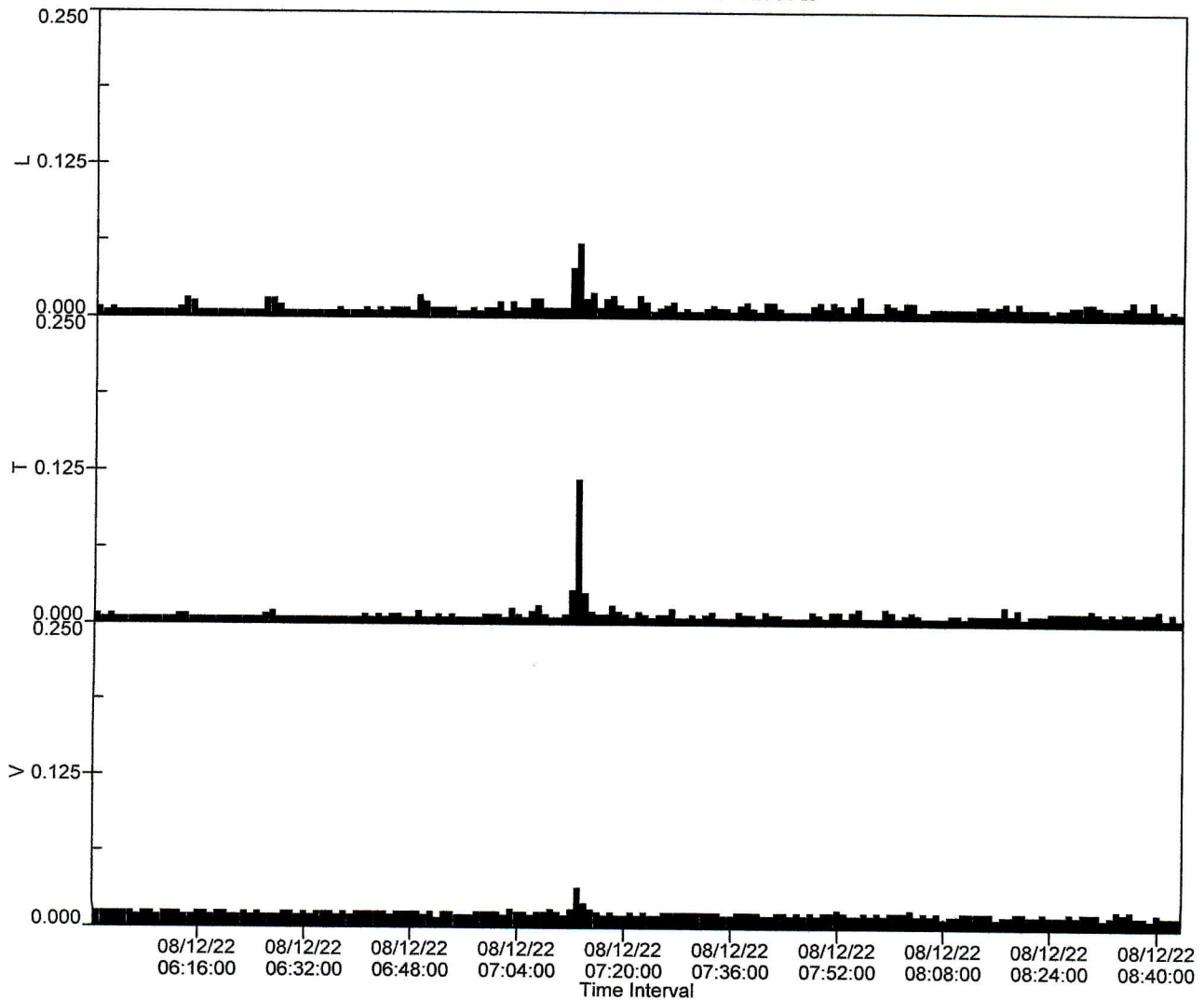
Recording Time: 163 minutes
Sample Size: 1440
Interval Size: 60 seconds

Additional Info:

Shaketable Calibrated: 12/28/2021
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

SN: 3733 Event: 78

Record Max PPV: 0.118 in/s Record Max DB: 84 db



SN: 3647 v2.75
Date: 08/08/2022 **Time:** 10:40:00
Event: 74
Client: BERGER
Operation: CONSTRUCTION
Location: THORNWOOD PARK
Distance: 25.
Operator: CTI INC
Comment: E SIDE COLGATE ST

Continuous Monitor Recording

Summary Data

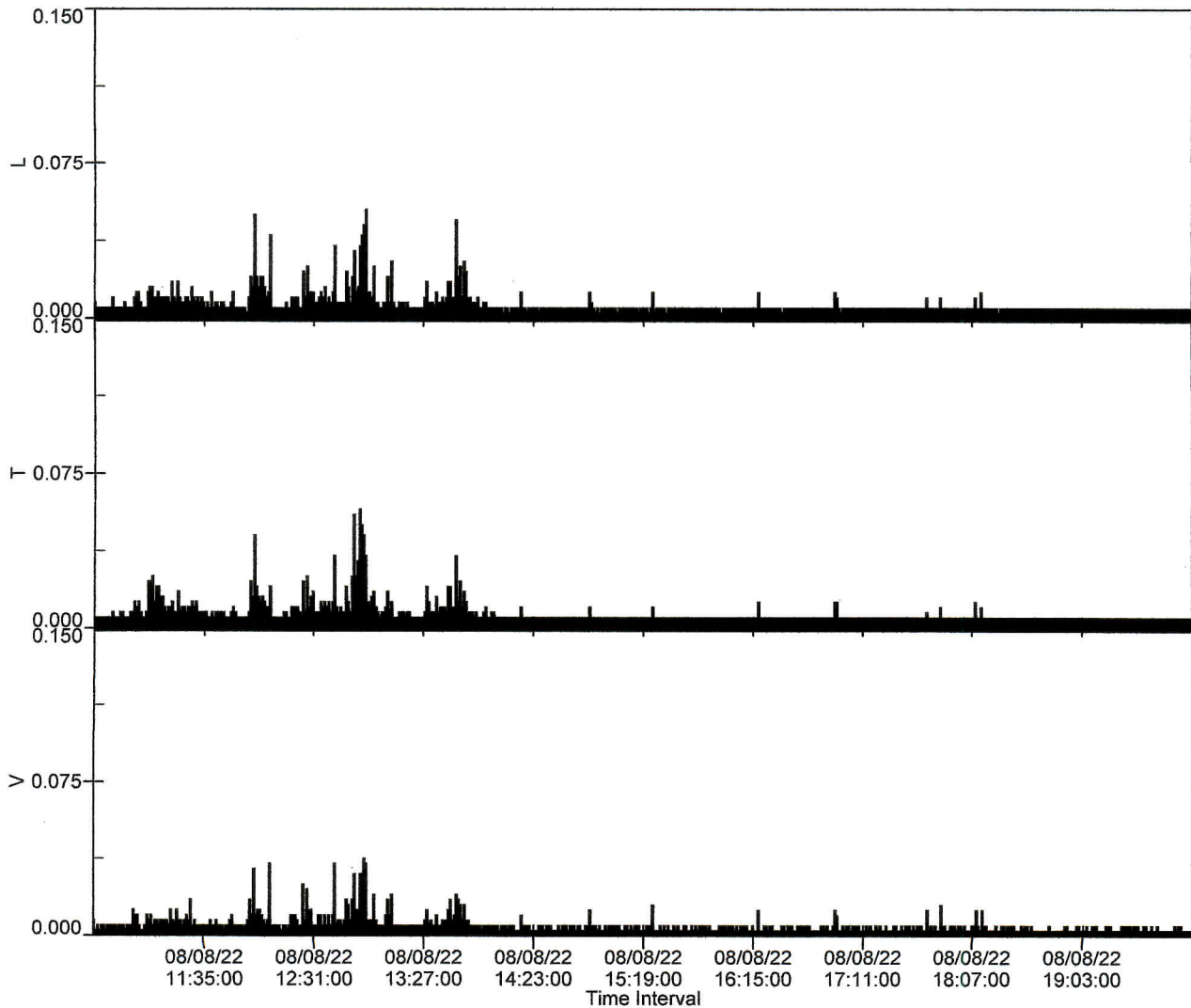
	L	T	V
PPV (in/s)	0.053	0.058	0.038
FREQ (Hz)	11.6	10.2	11.4
Peak Air Pressure:	101 db		
Recording Time:	559 minutes		
Sample Size:	1440		
Interval Size:	60 seconds		

Additional Info:

Shaketable Calibrated: 03/22/2022
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

SN: 3647 Event: 74

Record Max PPV: 0.058 in/s Record Max DB: 101 db



SN: 3647 v2.75
Date: 08/09/2022 **Time:** 06:01:00
Event: 75
Client: BERGER
Operation: CONSTRUCTION
Location: THORNWOOD PARK
Distance: 25.
Operator: CTI INC
Comment: E SIDE COLGATE ST

**Continuous Monitor Recording
Summary Data**

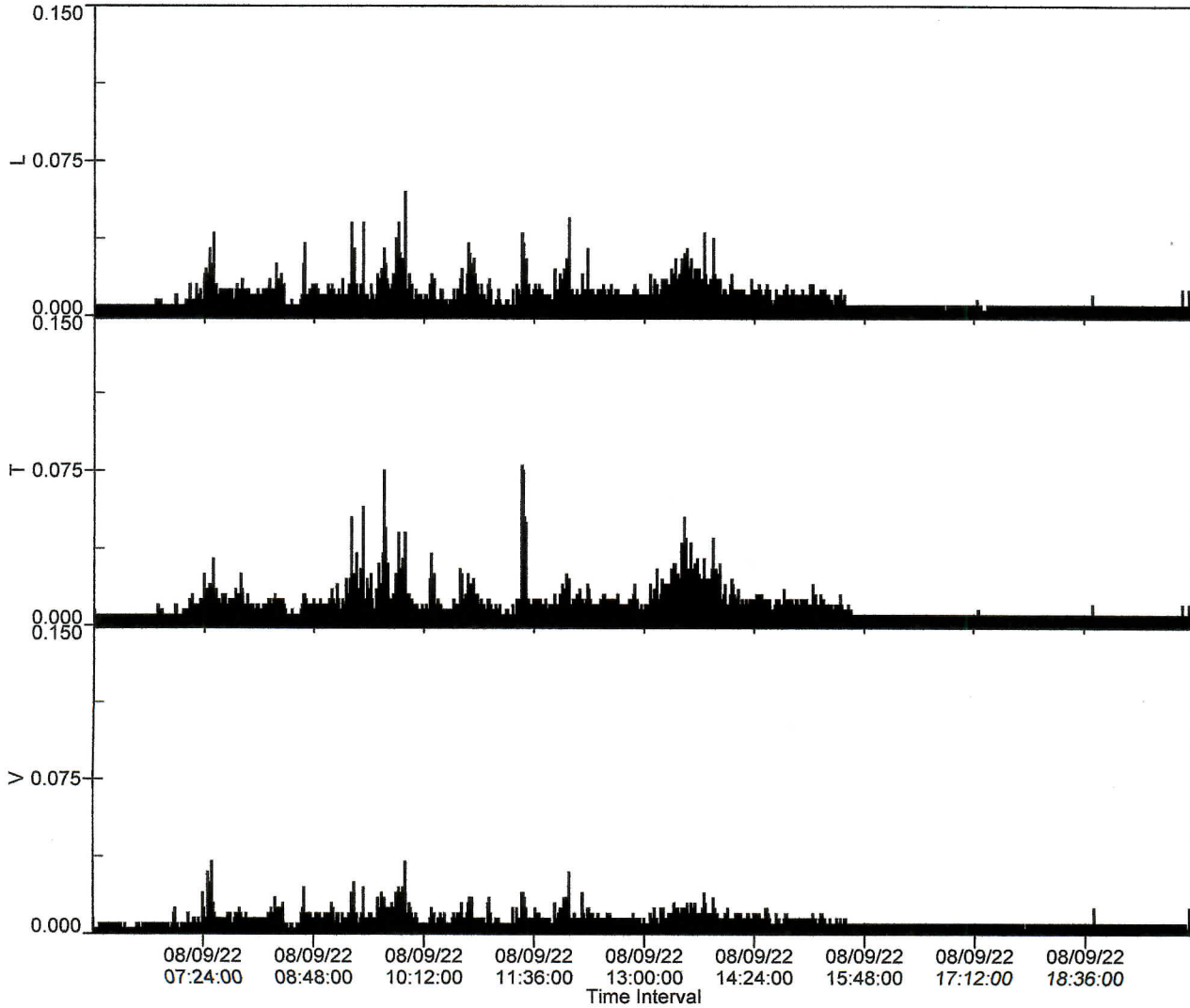
	L	T	V
PPV (in/s)	0.060	0.078	0.035
FREQ (Hz)	14.7	10.4	14.7
Peak Air Pressure:	101 db		
Recording Time:	838 minutes		
Sample Size:	1440		
Interval Size:	60 seconds		

Additional Info:

Shaketable Calibrated: 03/22/2022
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

SN: 3647 Event: 75

Record Max PPV: 0.078 in/s Record Max DB: 101 db



SN: 3647 v2.75
Date: 08/10/2022 **Time:** 06:01:00
Event: 76
Client: BERGER
Operation: CONSTRUCTION
Location: THORNWOOD PARK
Distance: 25.
Operator: CTI INC
Comment: E SIDE COLGATE ST

Continuous Monitor Recording

Summary Data

	L	T	V
PPV (in/s)	0.050	0.043	0.030
FREQ (Hz)	18.5	12.5	16.1
Peak Air Pressure:	95 db		

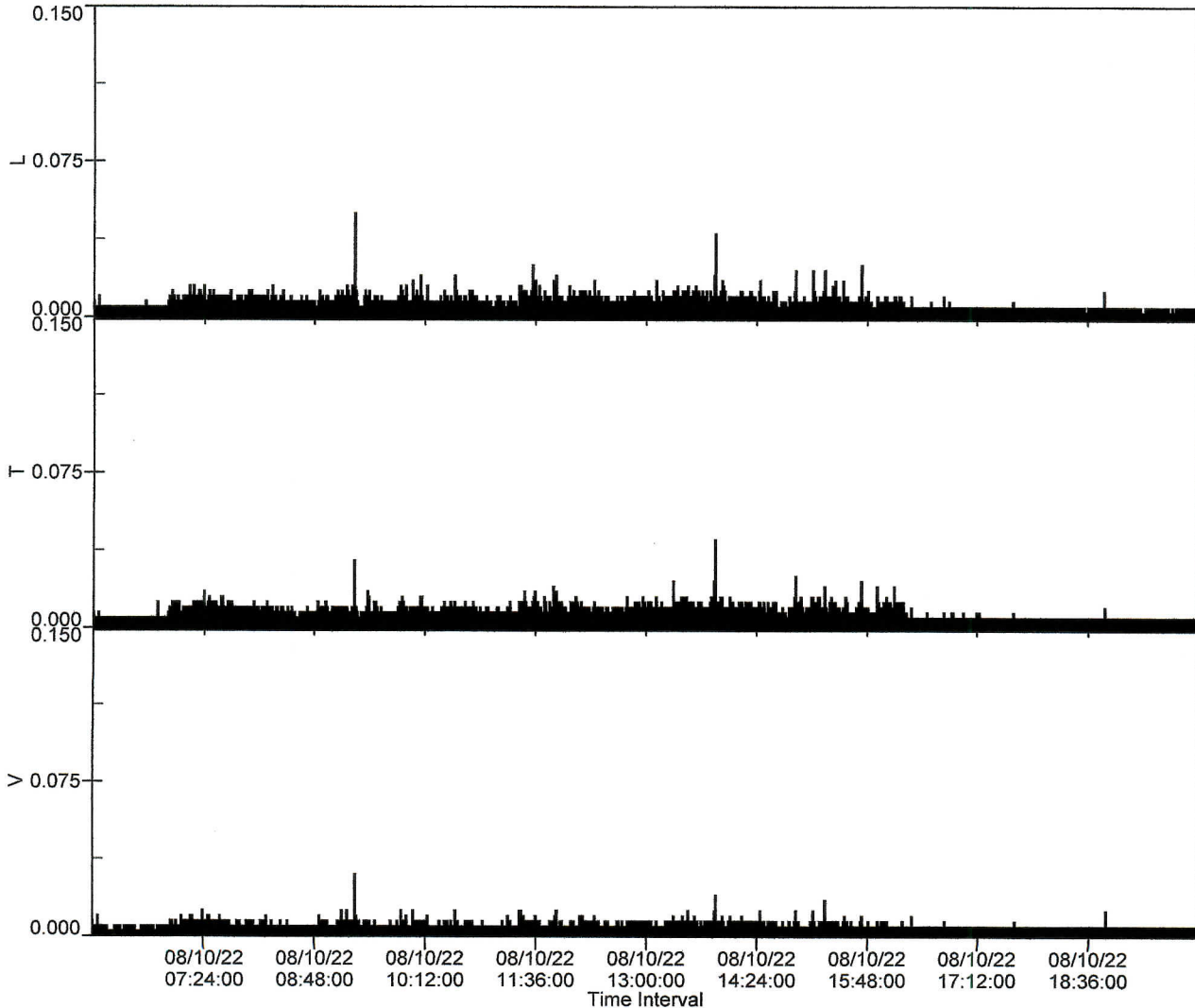
Recording Time: 838 minutes
Sample Size: 1440
Interval Size: 60 seconds

Additional Info:

Shaketable Calibrated: 03/22/2022
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

SN: 3647 Event: 76

Record Max PPV: 0.050 in/s Record Max DB: 95 db



SN: 3647 v2.75
Date: 08/11/2022 **Time:** 06:01:00
Event: 77
Client: BERGER
Operation: CONSTRUCTION
Location: THORNWOOD PARK
Distance: 25.
Operator: CTI INC
Comment: E SIDE COLGATE ST

Continuous Monitor Recording

Summary Data

	L	T	V
PPV (in/s)	0.020	0.018	0.015
FREQ (Hz)	13.9	7.9	12.5
Peak Air Pressure:	95 db		

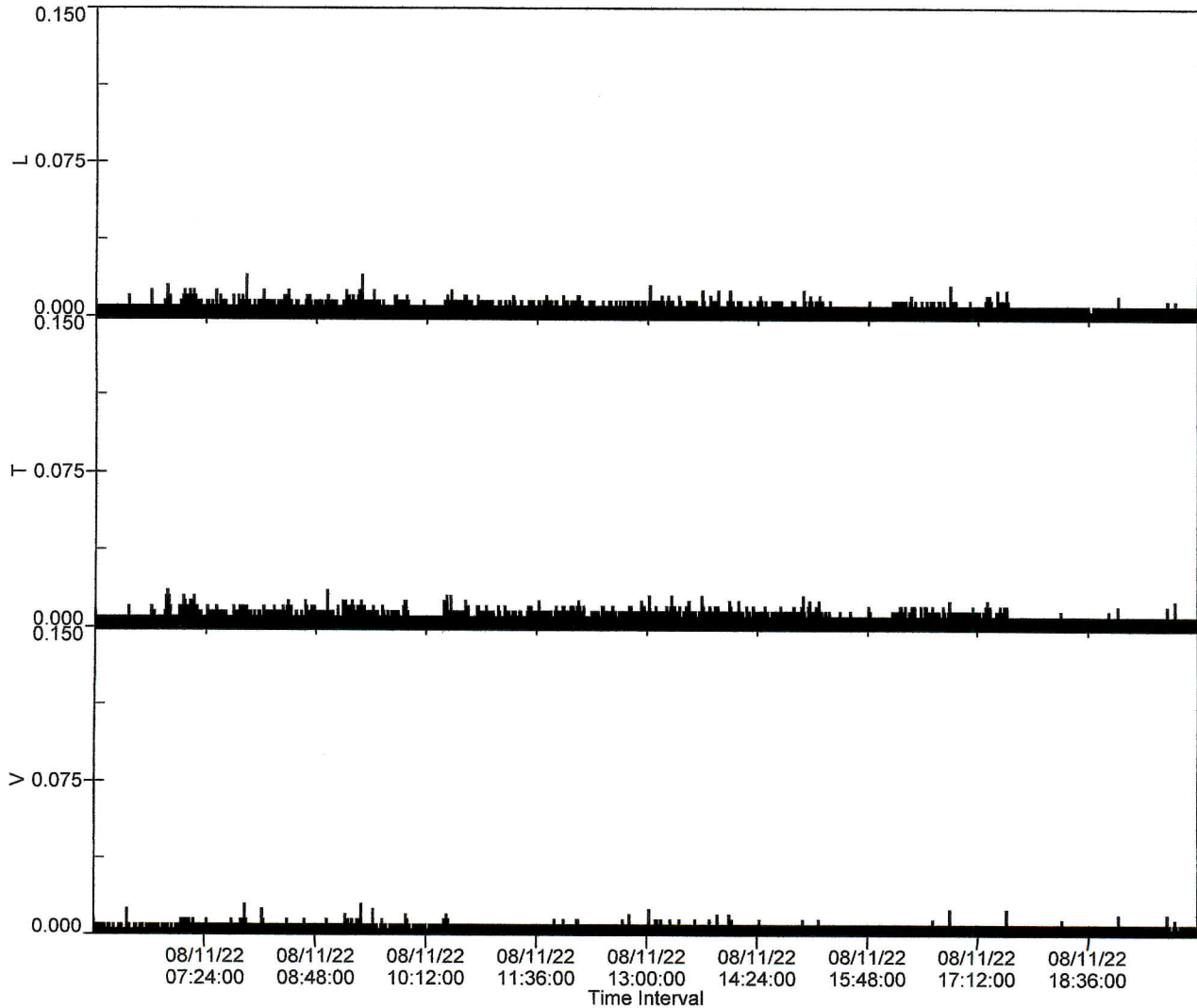
Recording Time: 838 minutes
Sample Size: 1440
Interval Size: 60 seconds

Additional Info:

Shaketable Calibrated: 03/22/2022
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

SN: 3647 Event: 77

Record Max PPV: 0.020 in/s Record Max DB: 95 db



SN: 3647 v2.75
Date: 08/12/2022 **Time:** 06:01:00
Event: 78
Client: BERGER
Operation: CONSTRUCTION
Location: THORNWOOD PARK
Distance: 25.
Operator: CTI INC
Comment: E SIDE COLGATE ST

Continuous Monitor Recording

Summary Data

	L	T	V
PPV (in/s)	0.025	0.025	0.028
FREQ (Hz)	13.2	13.5	11.1
Peak Air Pressure:	78 db		

Recording Time: 159 minutes
Sample Size: 1440
Interval Size: 60 seconds

Additional Info:

Shaketable Calibrated: 03/22/2022
By: GeoSonics Inc.
 359 Northgate Drive
 Warrendale, PA 15086 U.S.A.
 TEL: 724.934.2900 FAX: 724.934.2999

SN: 3647 Event: 78

Record Max PPV: 0.028 in/s Record Max DB: 78 db

