

Roseville Anglican College Sports & Wellbeing Centre

Noise and Vibration Monitoring Report 10

SYDNEY

9 Sarah St
MASCOT NSW 2020
(02) 8339 8000

ABN 98 145 324 714
www.acousticlogic.com.au

The information in this document is the property of Acoustic Logic Pty Ltd 98 145 324 714 and shall be returned on demand. It is issued on the condition that, except with our written permission, it must not be reproduced, copied or communicated to any other party nor be used for any purpose other than that stated in particular enquiry, order or contract with which it is issued.

Project ID	20220917.5
Document Title	Noise and Vibration Monitoring Report 10
Attention To	Taylor Construction Group Pty Ltd

Revision	Date	Document Reference	Prepared By	Checked By	Approved By
0	16/05/2023	20220917.5/1605A/R0/SW	SW		AW

TABLE OF CONTENTS

1	INTRODUCTION	4
2	SITE DESCRIPTION	4
3	PROJECT CRITERIA	6
3.1	VIBRATION CRITERIA	6
3.1.1	Structure Borne Vibrations (Building Damage Criteria)	6
4	VIBRATION MONITORING	7
4.1	MEASUREMENT EQUIPMENT	7
4.2	MEASUREMENT LOCATIONS	7
5	VIBRATION MONITORING RESULTS	9
6	CONCLUSION	9
	APPENDIX 1: DAILY GRAPHS M7427 HERITAGE (FRONT)	10
	APPENDIX 2: DAILY GRAPHS M7496 HERITAGE (REAR)	11
	APPENDIX 3: DAILY GRAPHS M7715 (RESIDENTIAL BUILDING)	12

1 INTRODUCTION

Acoustic Logic (AL) has been engaged to conduct vibration monitoring for the demolition, excavation and piling works undertaken at Roseville Anglican College – Sports & Wellbeing Centre. Monitoring has been conducted in accordance with the Construction Noise and Vibration Plan (CNVMP) by this office (*ref: 20220917.1/1907A/R0/SW dated 19th July 2022*).

This is the final monitoring report as in ground works for base building is now completed. This report will cover the remaining monitoring period between Monday 1st May 2023 to Monday 15th May 2023.

2 SITE DESCRIPTION

The project site is surrounded by existing residential dwellings as well as existing commercial buildings of Roseville Colleges Refer to Figure 1 for the arial view of the project site and locations of vibration monitors.



Figure 1: Aerial view of the project site and the sensitive receivers (Sourced : SixMaps)

3 PROJECT CRITERIA

3.1 VIBRATION CRITERIA

Vibration caused by construction at any residence or structure outside the subject site must be limited to:

- For structural damage vibration, German Standard DIN 4150-3 *Structural Vibration: Effects of Vibration on Structures*; and
- For human exposure to vibration, the evaluation criteria presented in the British Standard BS 6472:1992 *Guide to Evaluate Human Exposure to Vibration in Buildings (1Hz to 80Hz)* for low probability of adverse comment.

3.1.1 Structure Borne Vibrations (Building Damage Criteria)

German Standard DIN 4150-3 (2016-12) provides vibration velocity guideline levels for use in evaluating the effects of vibration on structures. The criteria presented in DIN 4150-3 (2016-12) are presented in Table 3.

It is noted that the peak velocity is the value of the maximum of any of the three orthogonal component particle velocities as measured at the foundation, and the maximum levels measured in the x- and y-horizontal directions in the plane of the floor of the uppermost storey.

Table 1 – DIN 4150-3 (2016-12) Safe Limits for Building Vibration

TYPE OF STRUCTURE		PEAK PARTICLE VELOCITY (mms ⁻¹)			
		At Foundation at a Frequency of			Plane of Floor of Uppermost Storey
		< 10Hz	10Hz to 50Hz	50Hz to 100Hz	All Frequencies
1	Buildings used in commercial purposes, industrial buildings and buildings of similar design	20	20 to 40	40 to 50	40
2	Dwellings and buildings of similar design and/or use	5	5 to 15	15 to 20	15
3	Structures that because of their particular sensitivity to vibration, do not correspond to those listed in Lines 1 or 2 and have intrinsic value (e.g. buildings that are under a preservation order)	3	3 to 8	8 to 10	8

The surrounding heritage building would be considered Type 3, educational buildings would be considered a Type 1 structure, whilst residences would be considered a Type 2 structure.

4 VIBRATION MONITORING

4.1 MEASUREMENT EQUIPMENT

Vibration monitoring was conducted using Texcel ETM vibration monitors with external Tri-axial Geophones. The monitors are programmed to store statistical vibration data every 5-minute intervals, along with any 'triggered' events that occur throughout the monitoring period.

4.2 MEASUREMENT LOCATIONS

A total of three (3) vibration monitors was installed for this project site along the western and eastern boundary as demolition, excavation and piling works to be undertaken in proximity to these receivers.

A detailed measurement locations are presented in Figure 1 above; the following figures shows the vibration monitors that are currently on site.



Figure 2: M7427 at the front area of the heritage building



Figure 3: M7496 at the rear end of the heritage building



Figure 4: M7715 at the eastern boundary of the project site

5 VIBRATION MONITORING RESULTS

Appendix 1-3 presents the available vibration results for the monitoring period.

- M7496 did not measure any exceedances for this monitoring period.
- M7427 did not measure any exceedances for this monitoring period.
- M7715 did not measure any exceedances for this monitoring period.
- Notwithstanding, project team was notified for all continuous exceedances via SMS notifications and the construction activities are identified, site practices are to be modified to prevent or mitigate to prevent the likelihood of recurrence.

6 CONCLUSION

Acoustic Logic has undertaken noise and vibration monitoring for the project site at Roseville Anglican College- Sports & Wellbeing Centre.

This report presents the noise and vibration results for the monitoring period Monday 1st May 2023 to Monday 15th May 2023,

We trust this information is satisfactory. Please contact us should you have any further queries.

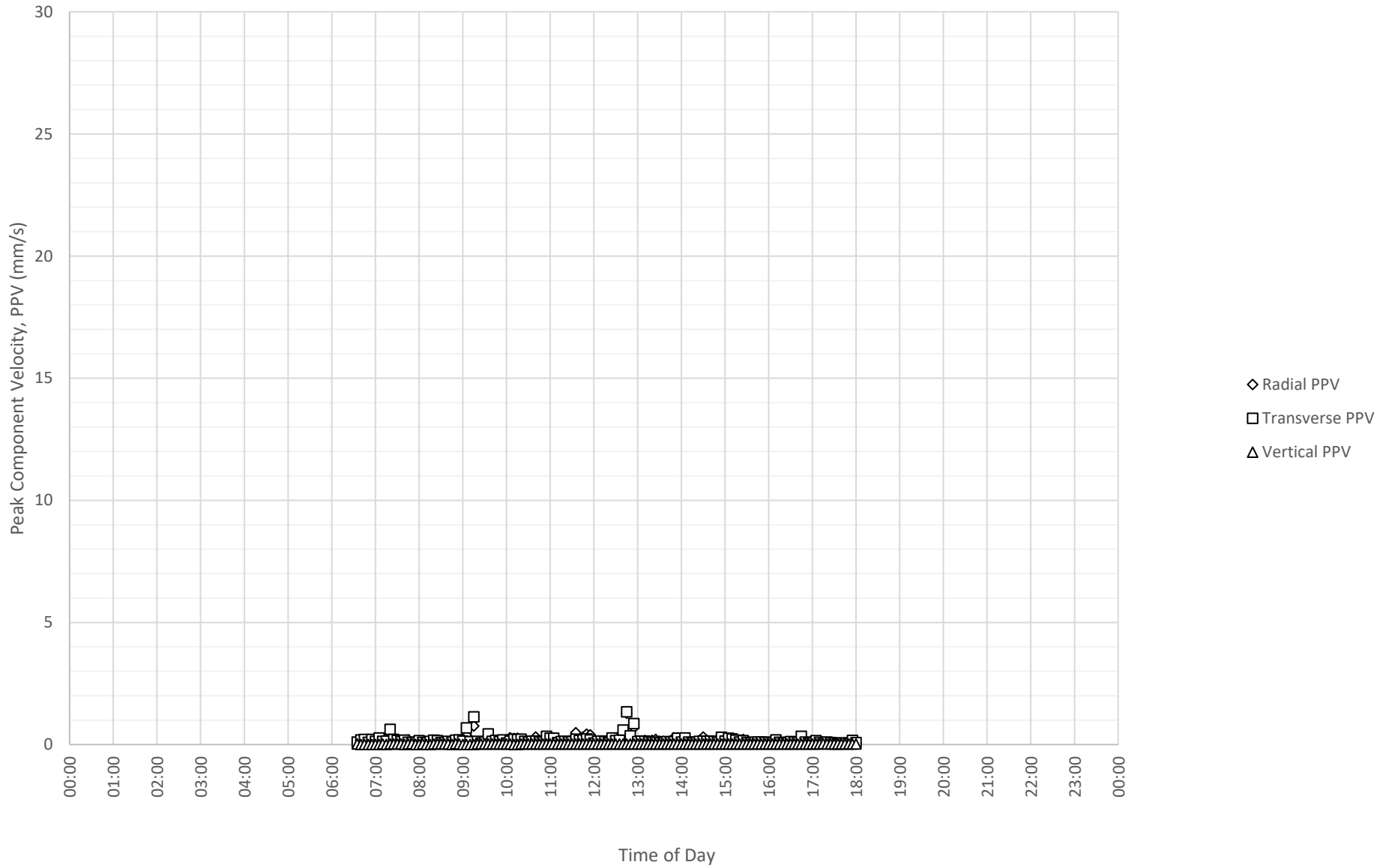
Yours faithfully,



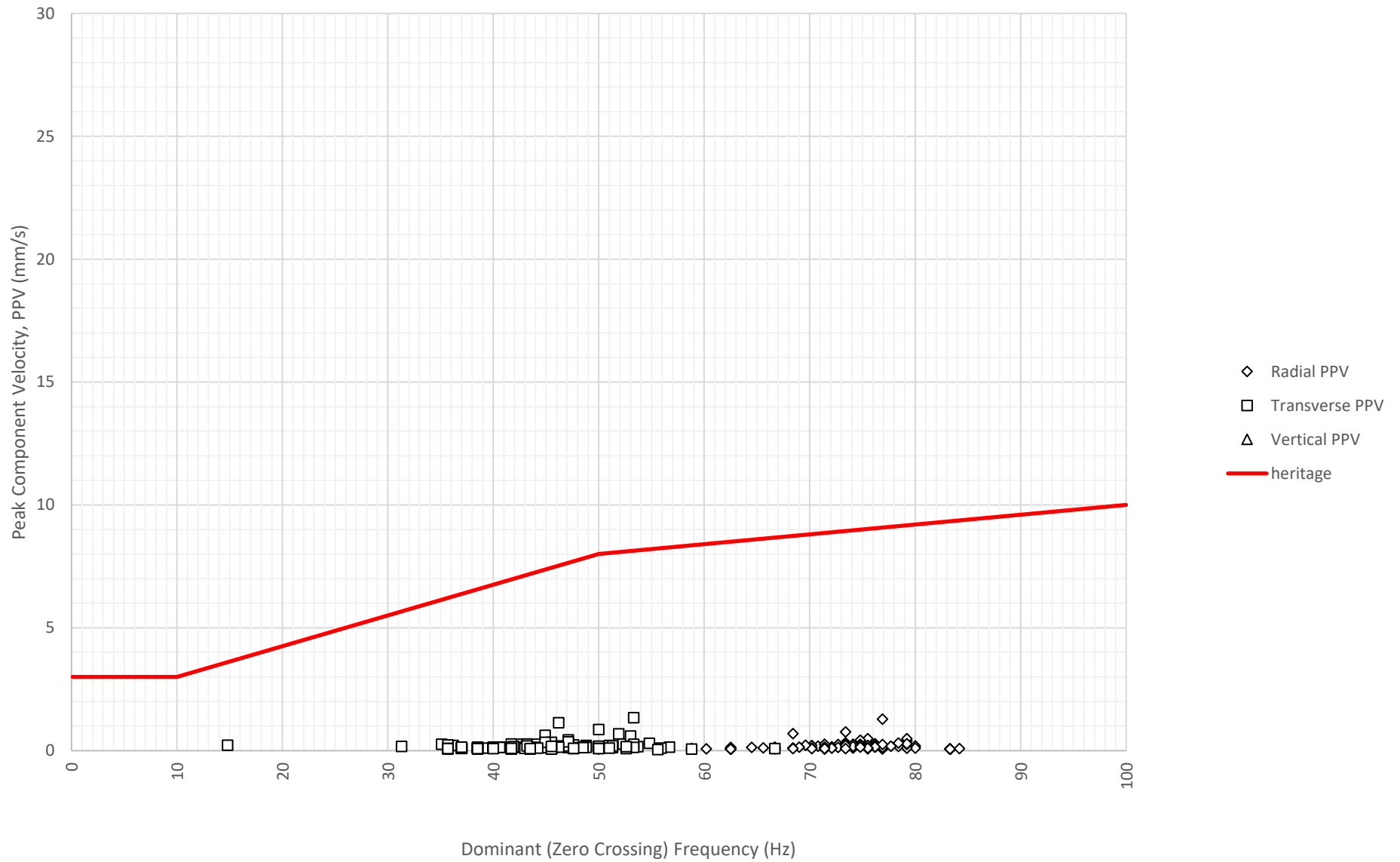
Acoustic Logic Pty Ltd
Samantha Wong

APPENDIX 1: DAILY GRAPHS M7427 HERITAGE (FRONT)

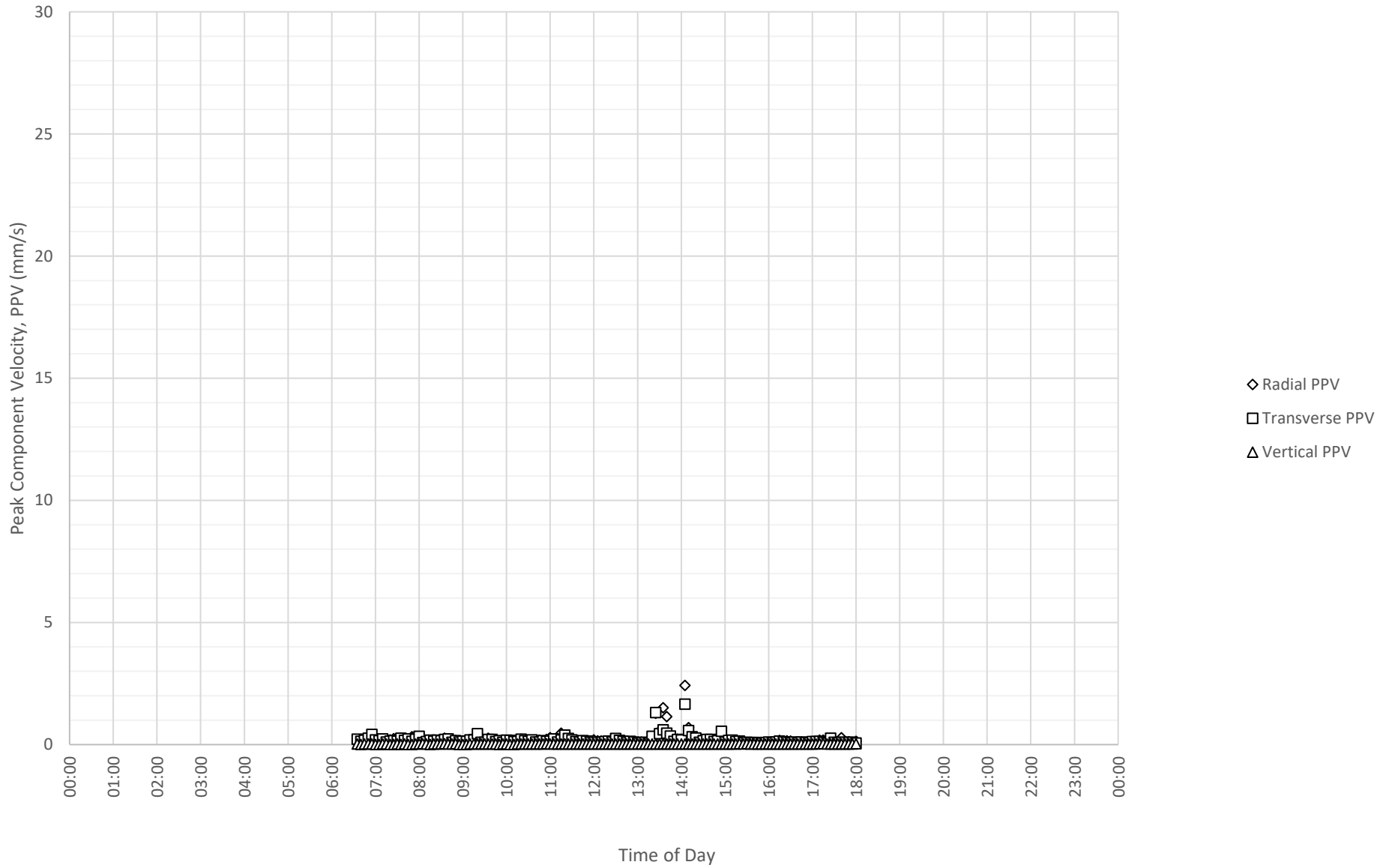
Daily Monitored Vibration Levels at M7427 Heritage (Front) on 1-05-2023



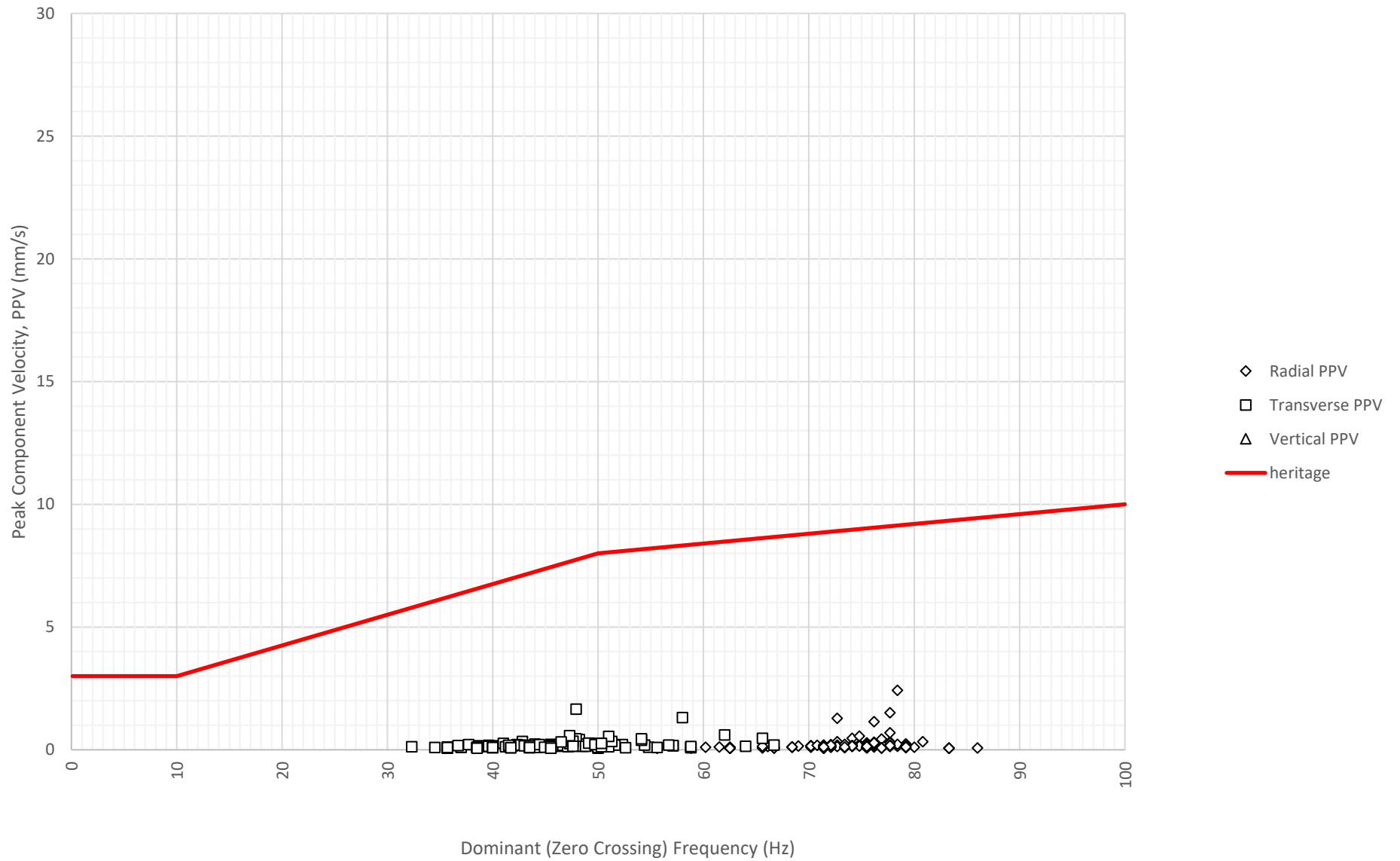
Frequency Content of Vibration Levels at M7427 Heritage (Front) on 1-05-2023



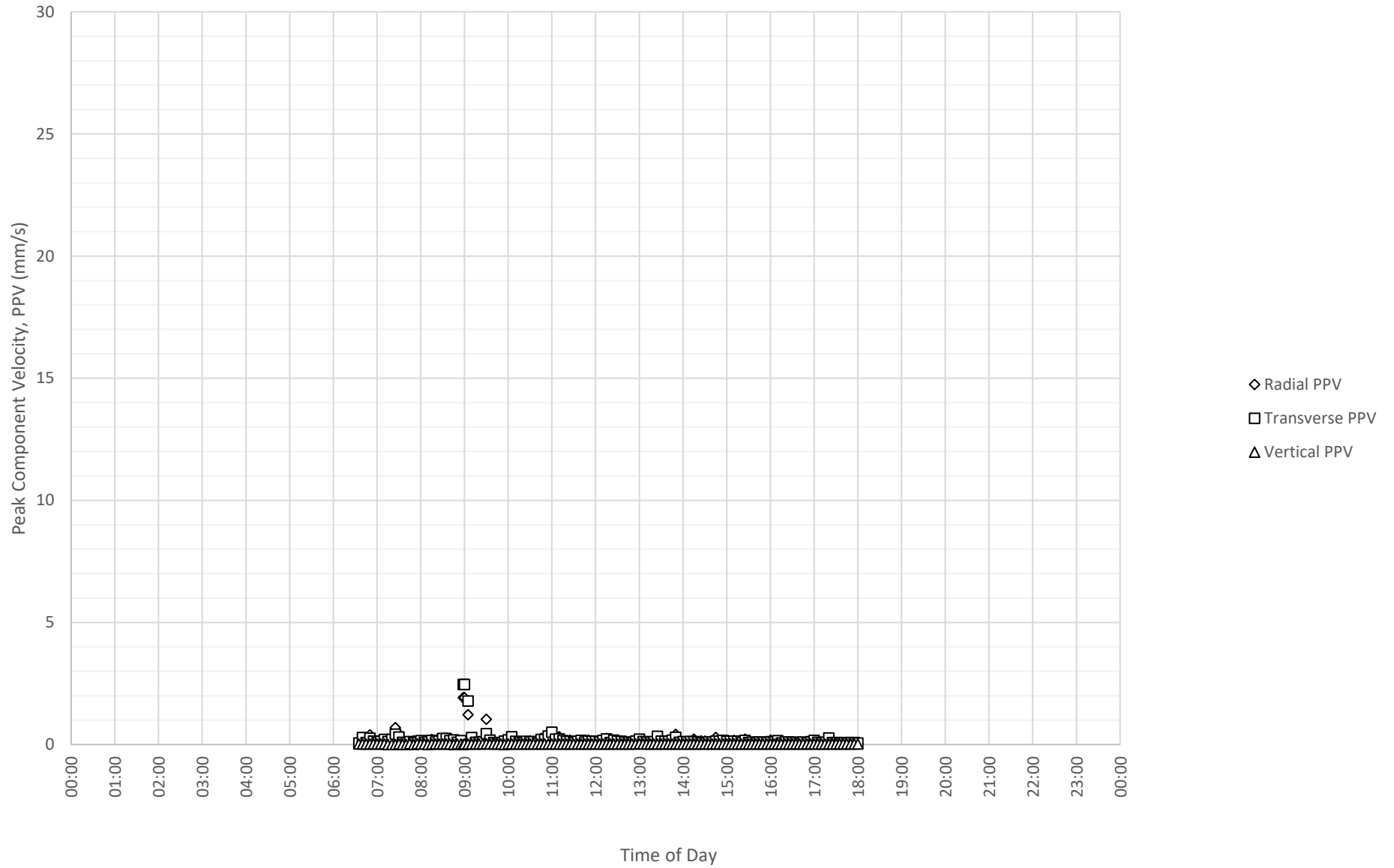
Daily Monitored Vibration Levels at M7427 Heritage (Front) on 2-05-2023



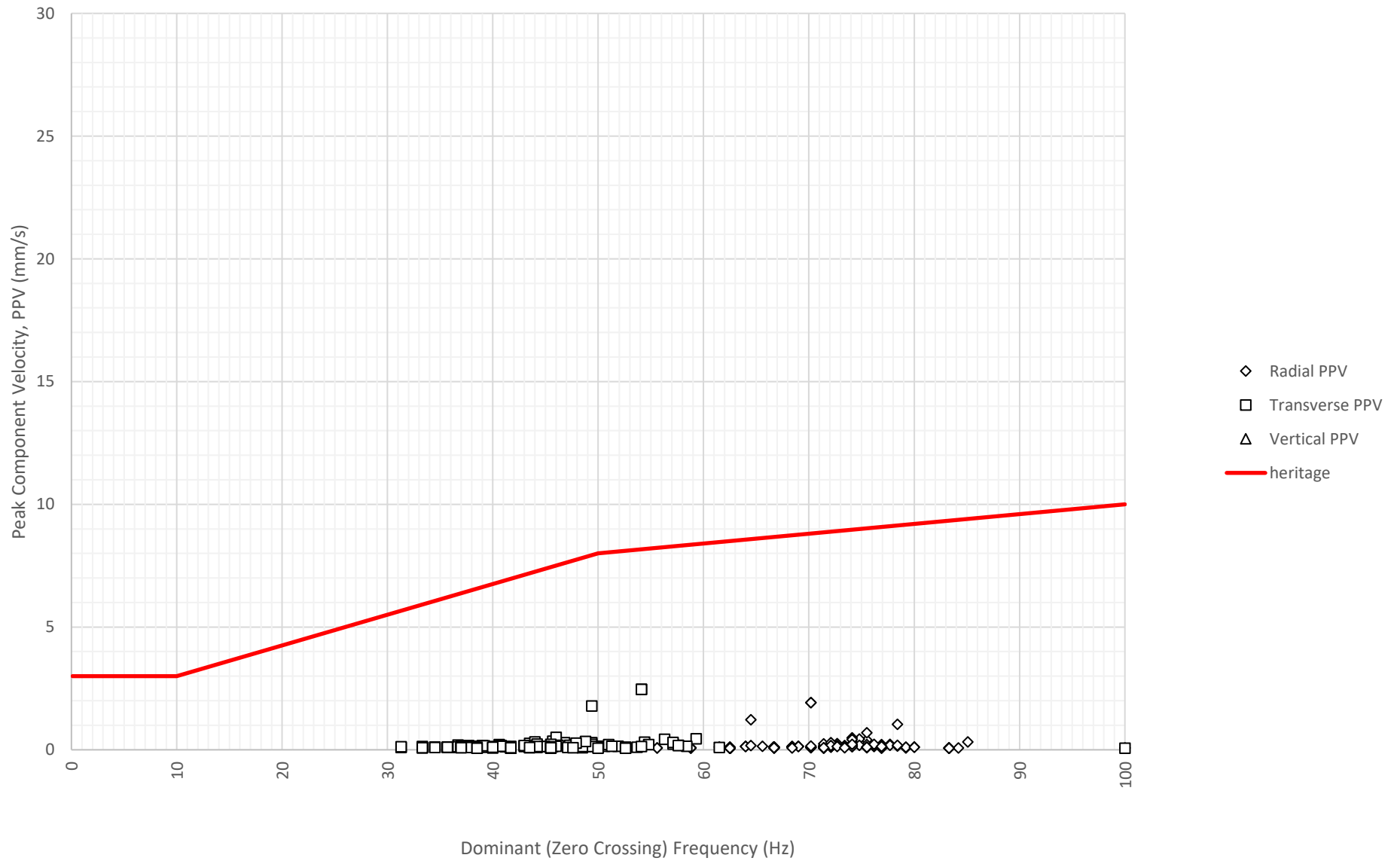
Frequency Content of Vibration Levels at M7427 Heritage (Front) on 2-05-2023



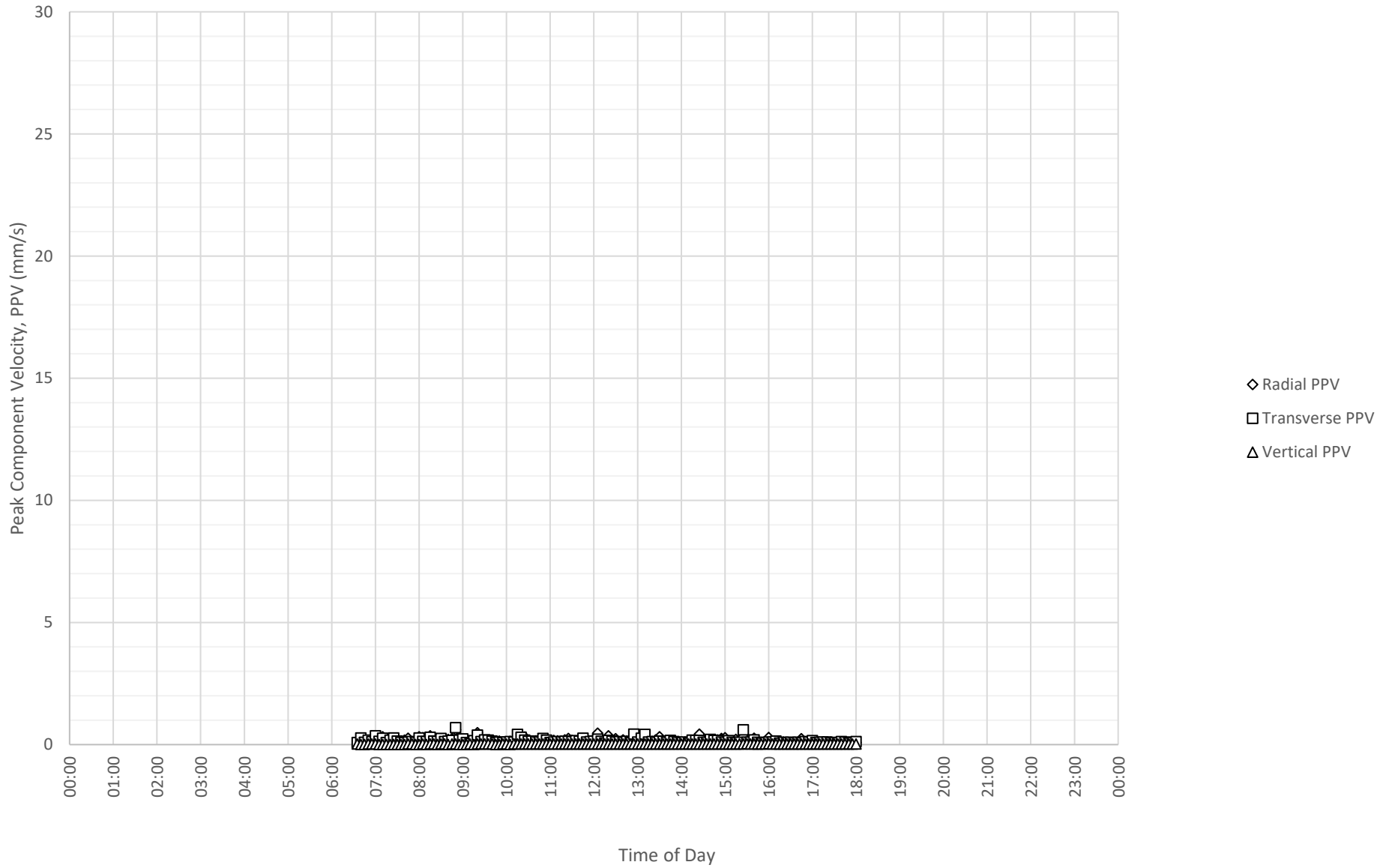
Daily Monitored Vibration Levels at M7427 Heritage (Front) on 3-05-2023



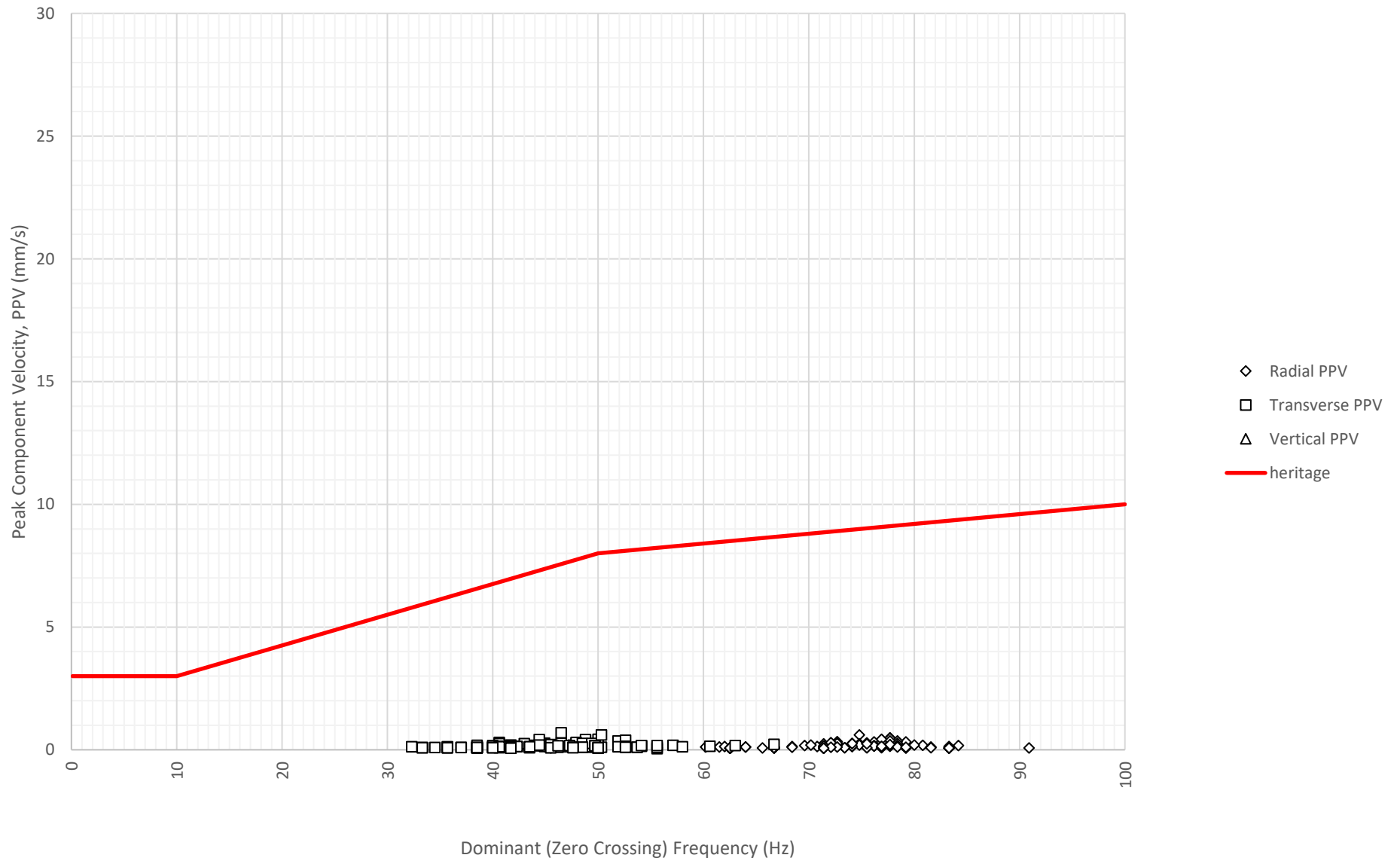
Frequency Content of Vibration Levels at M7427 Heritage (Front) on 3-05-2023



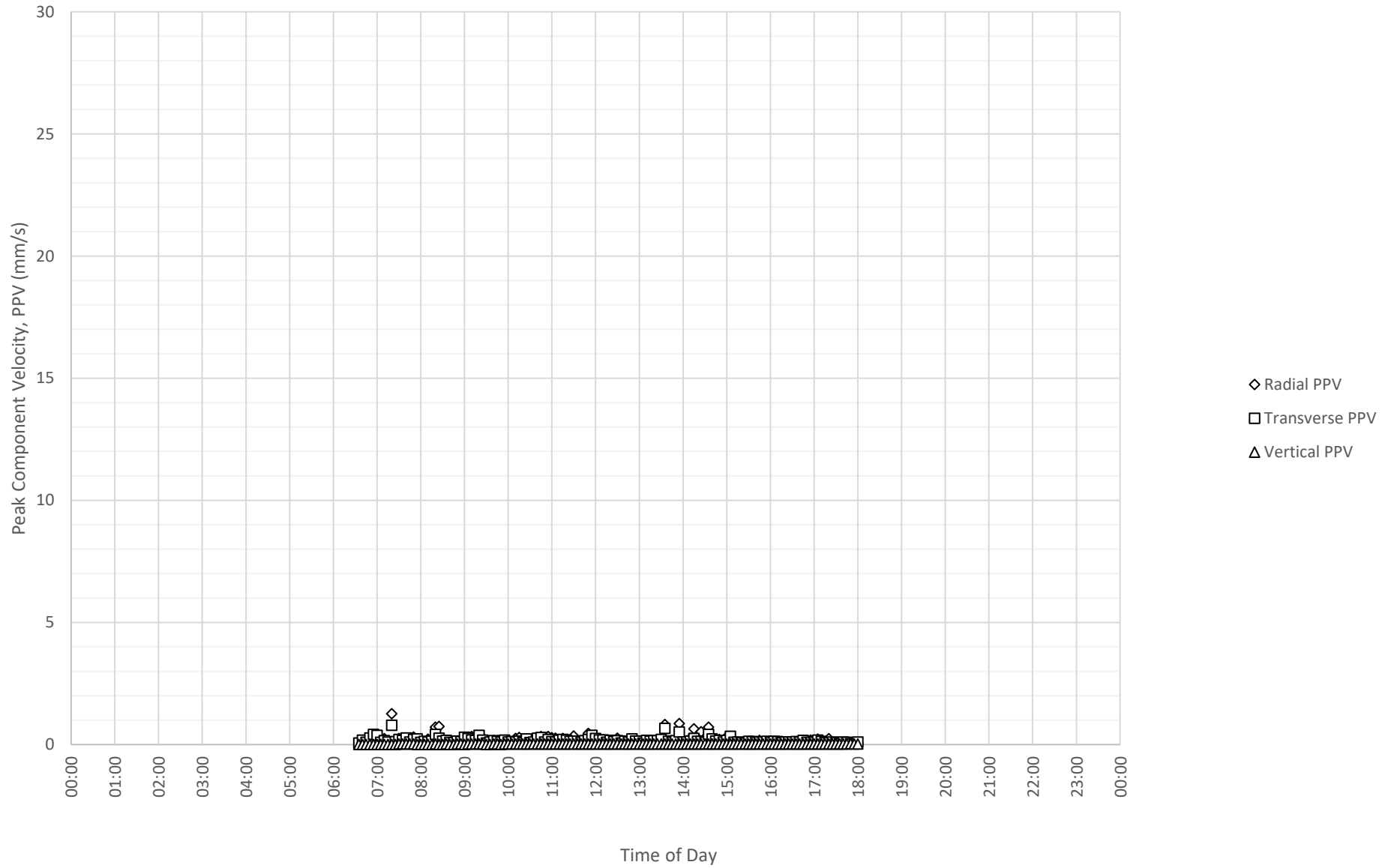
Daily Monitored Vibration Levels at M7427 Heritage (Front) on 4-05-2023



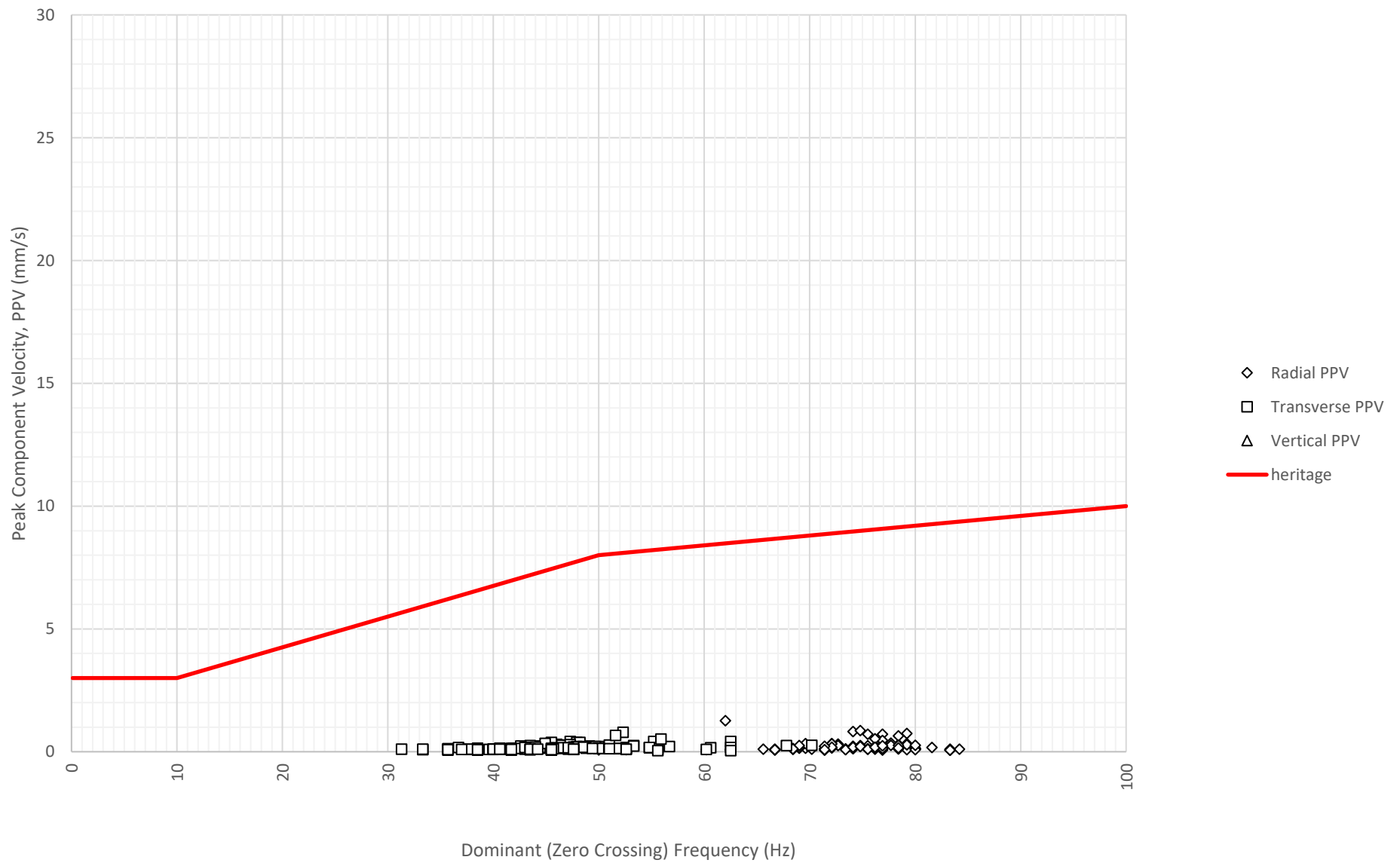
Frequency Content of Vibration Levels at M7427 Heritage (Front) on 4-05-2023



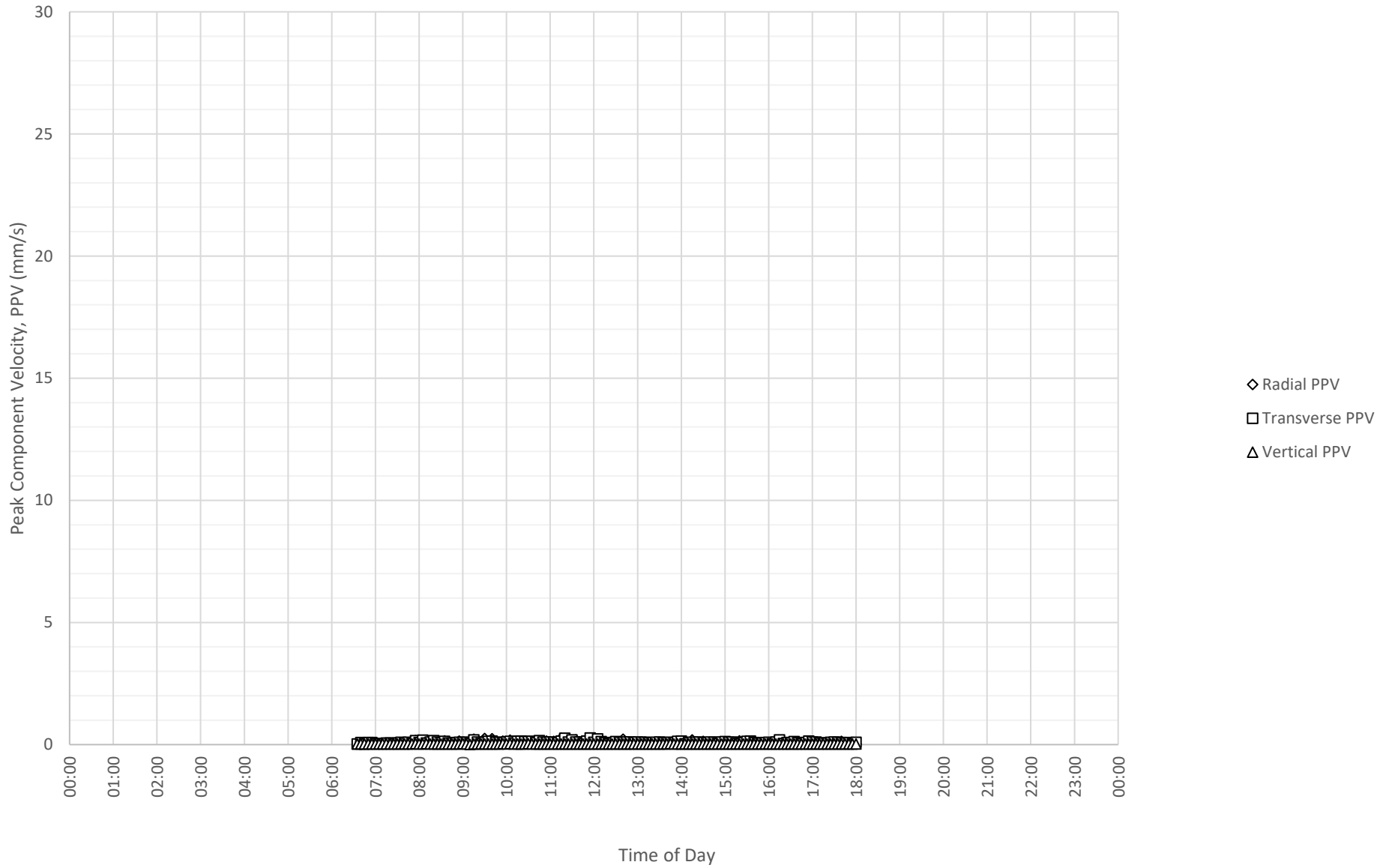
Daily Monitored Vibration Levels at M7427 Heritage (Front) on 5-05-2023



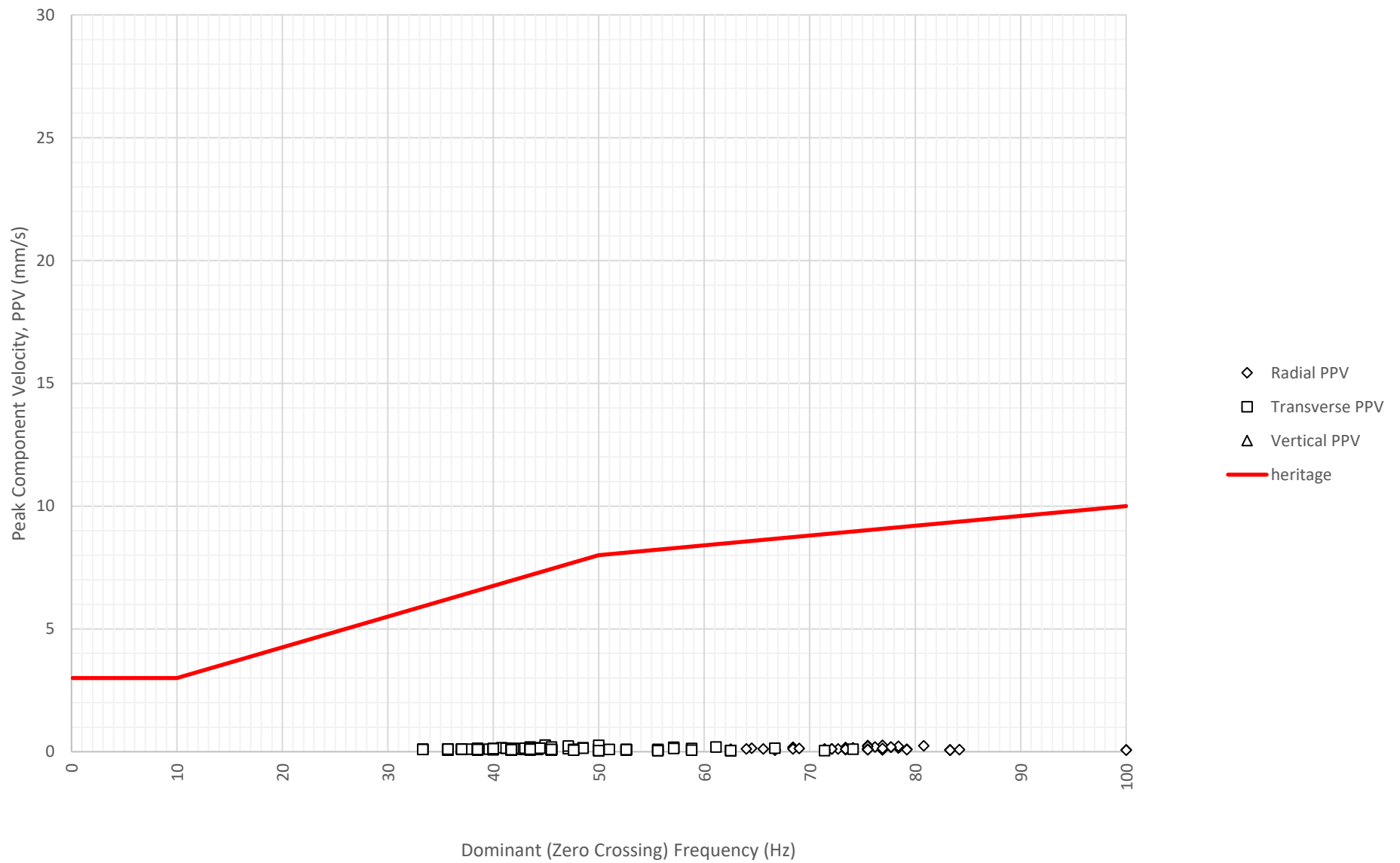
Frequency Content of Vibration Levels at M7427 Heritage (Front) on 5-05-2023



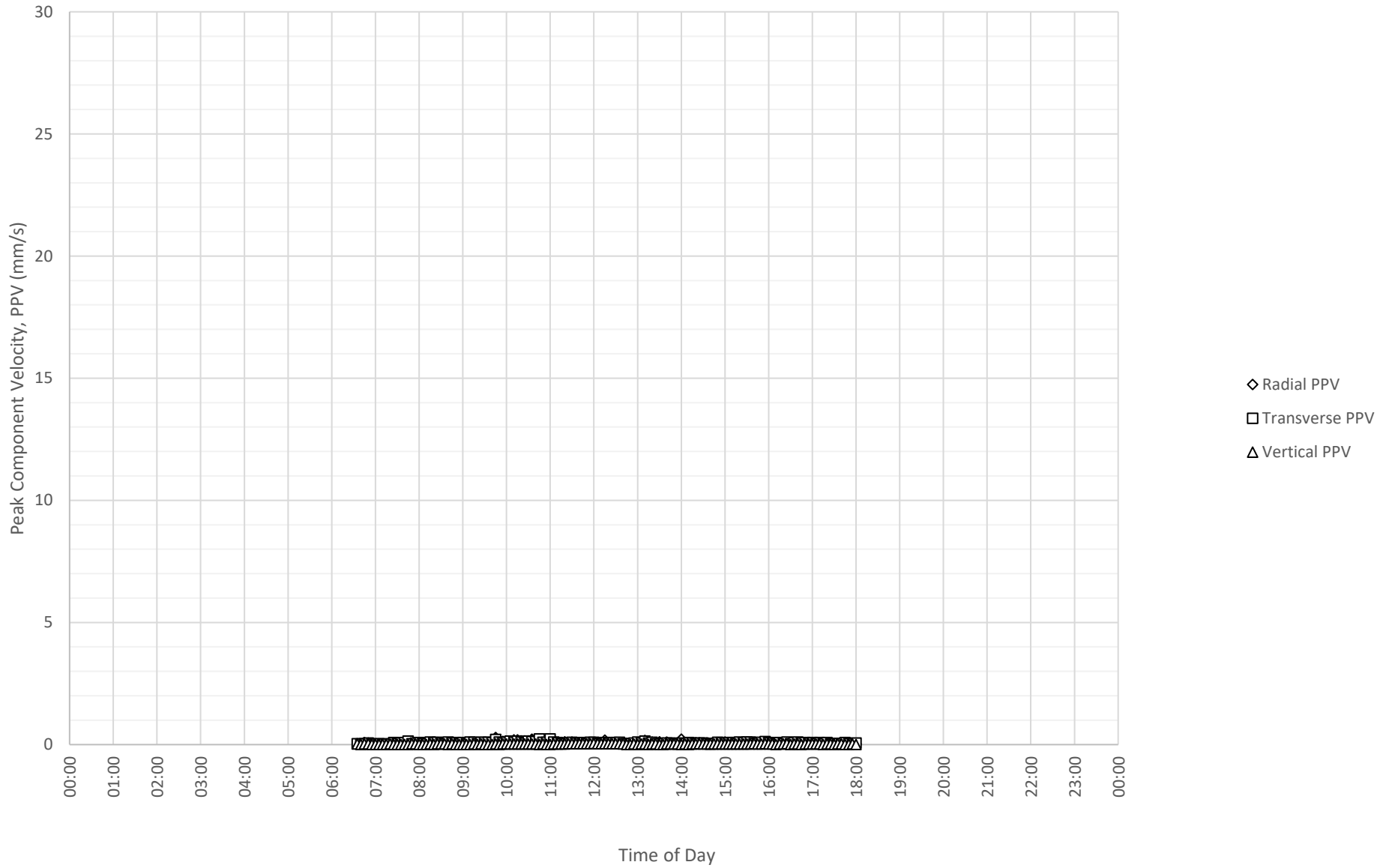
Daily Monitored Vibration Levels at M7427 Heritage (Front) on 6-05-2023



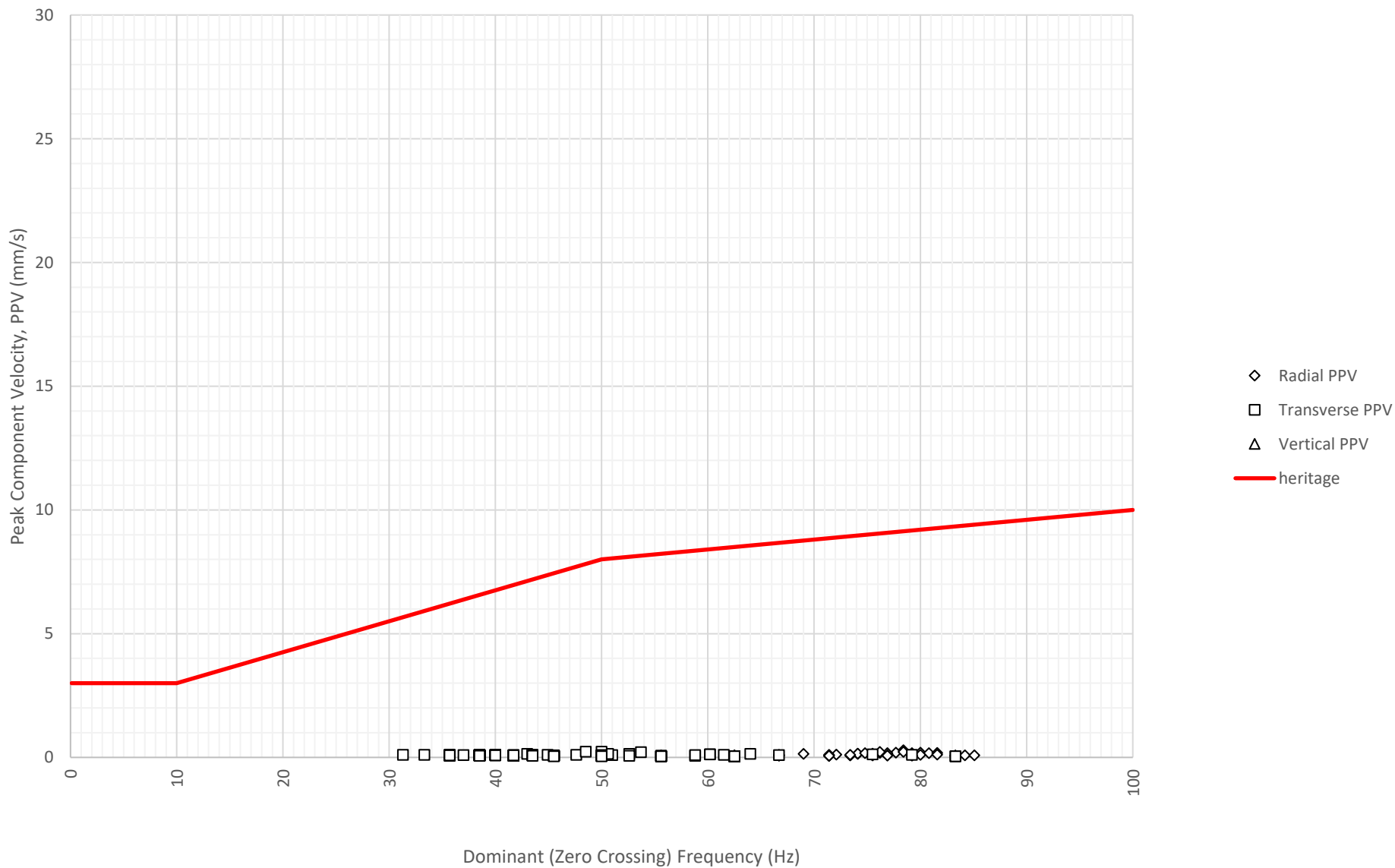
Frequency Content of Vibration Levels at M7427 Heritage (Front) on 6-05-2023



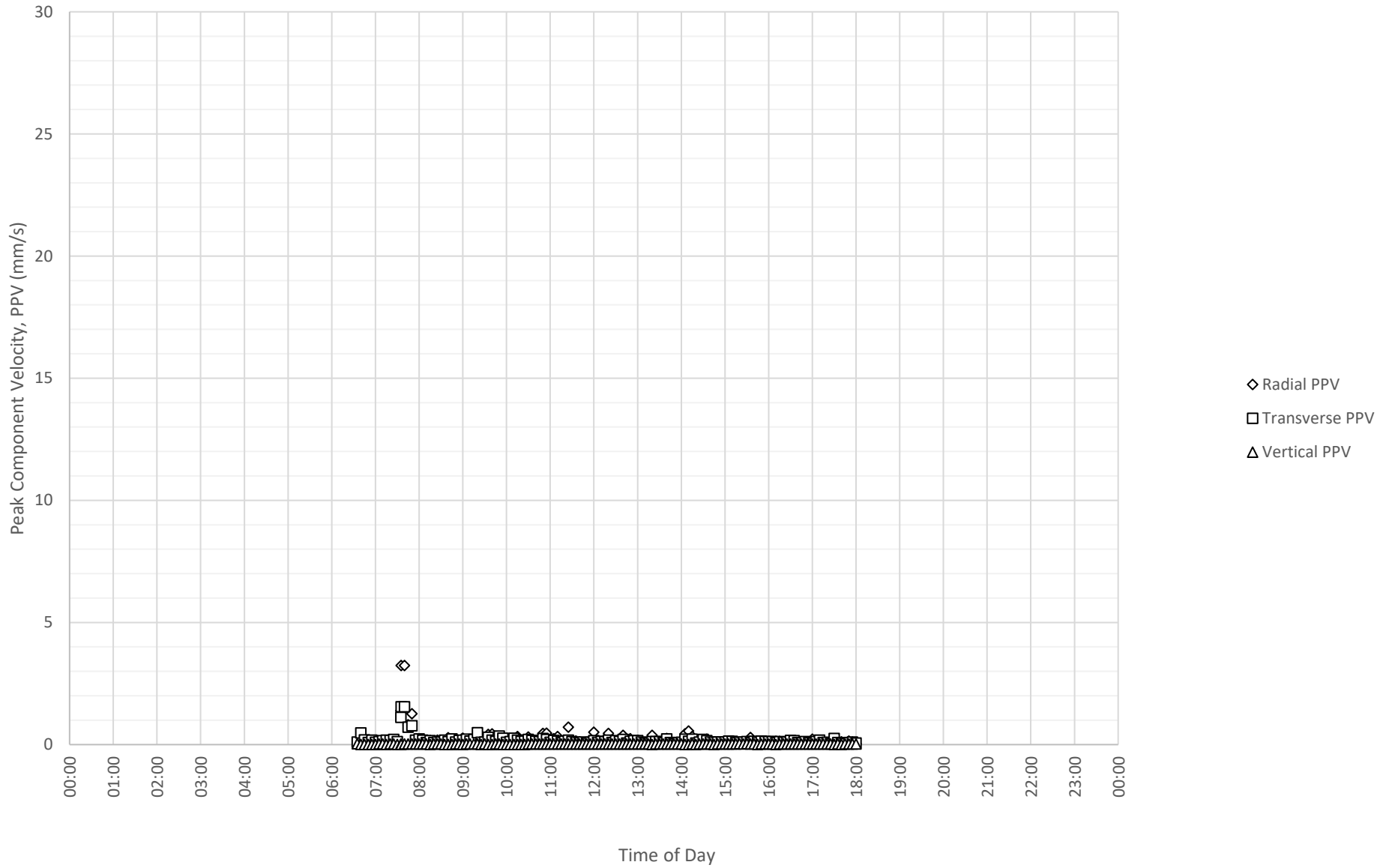
Daily Monitored Vibration Levels at M7427 Heritage (Front) on 7-05-2023



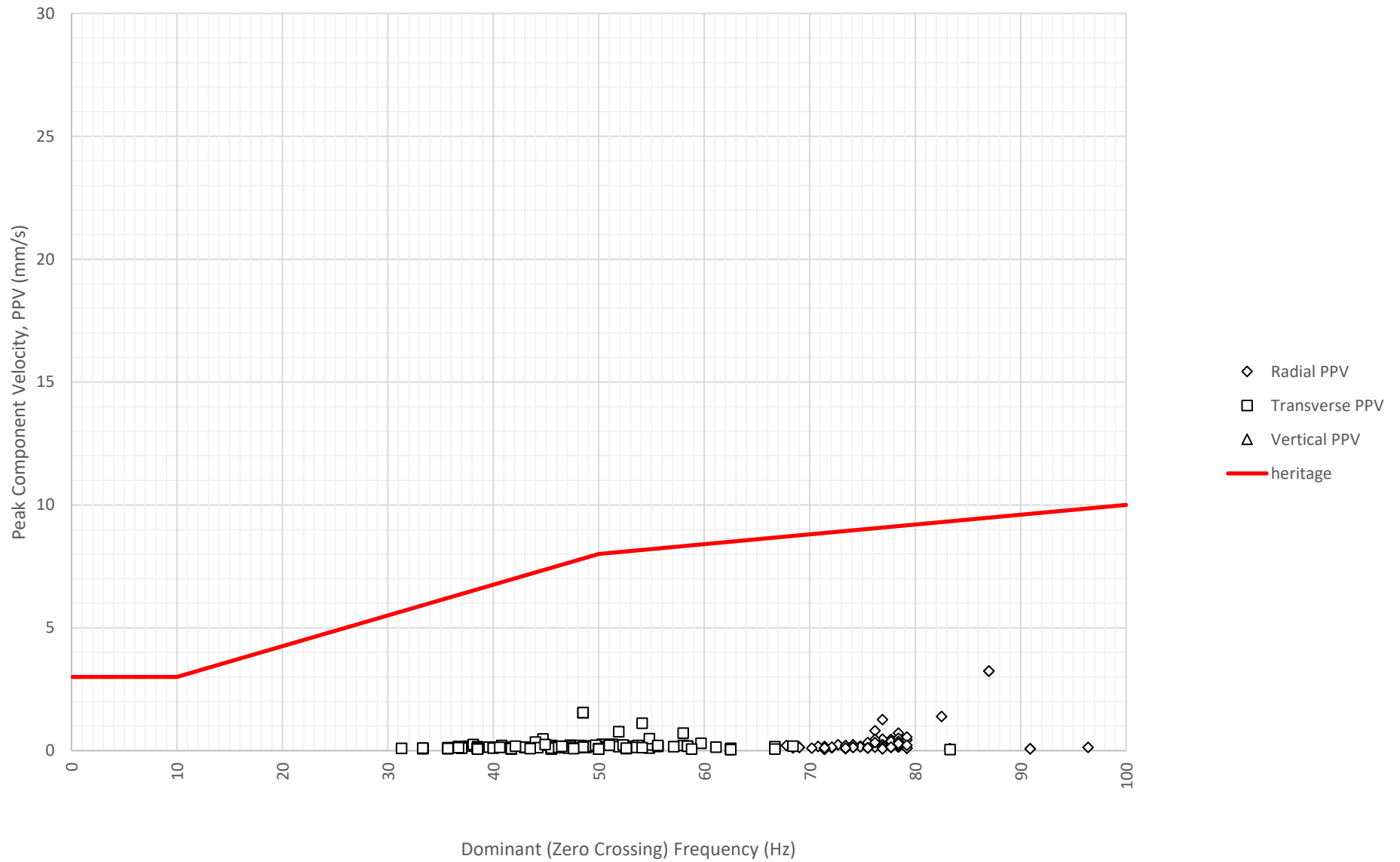
Frequency Content of Vibration Levels at M7427 Heritage (Front) on 7-05-2023



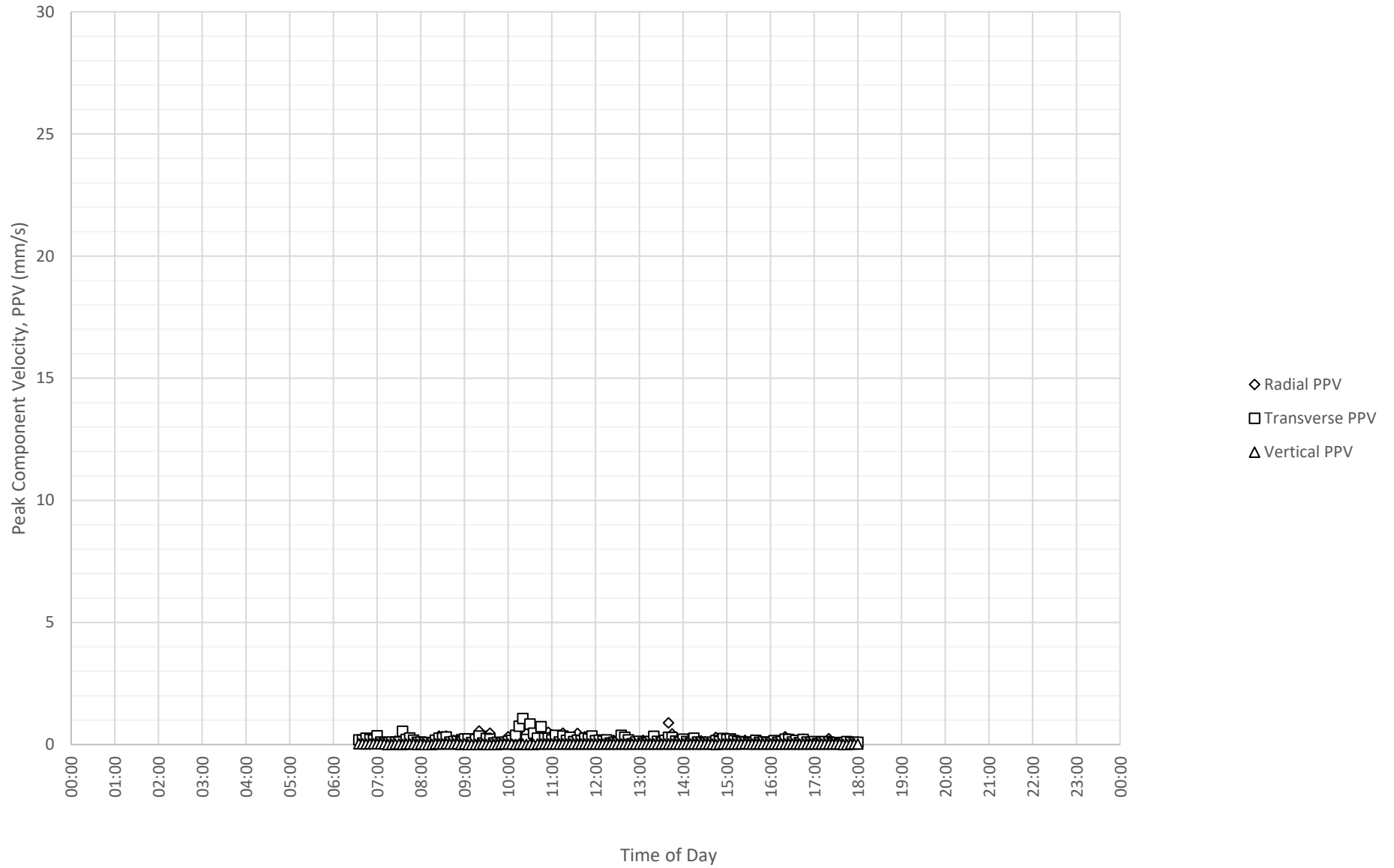
Daily Monitored Vibration Levels at M7427 Heritage (Front) on 8-05-2023



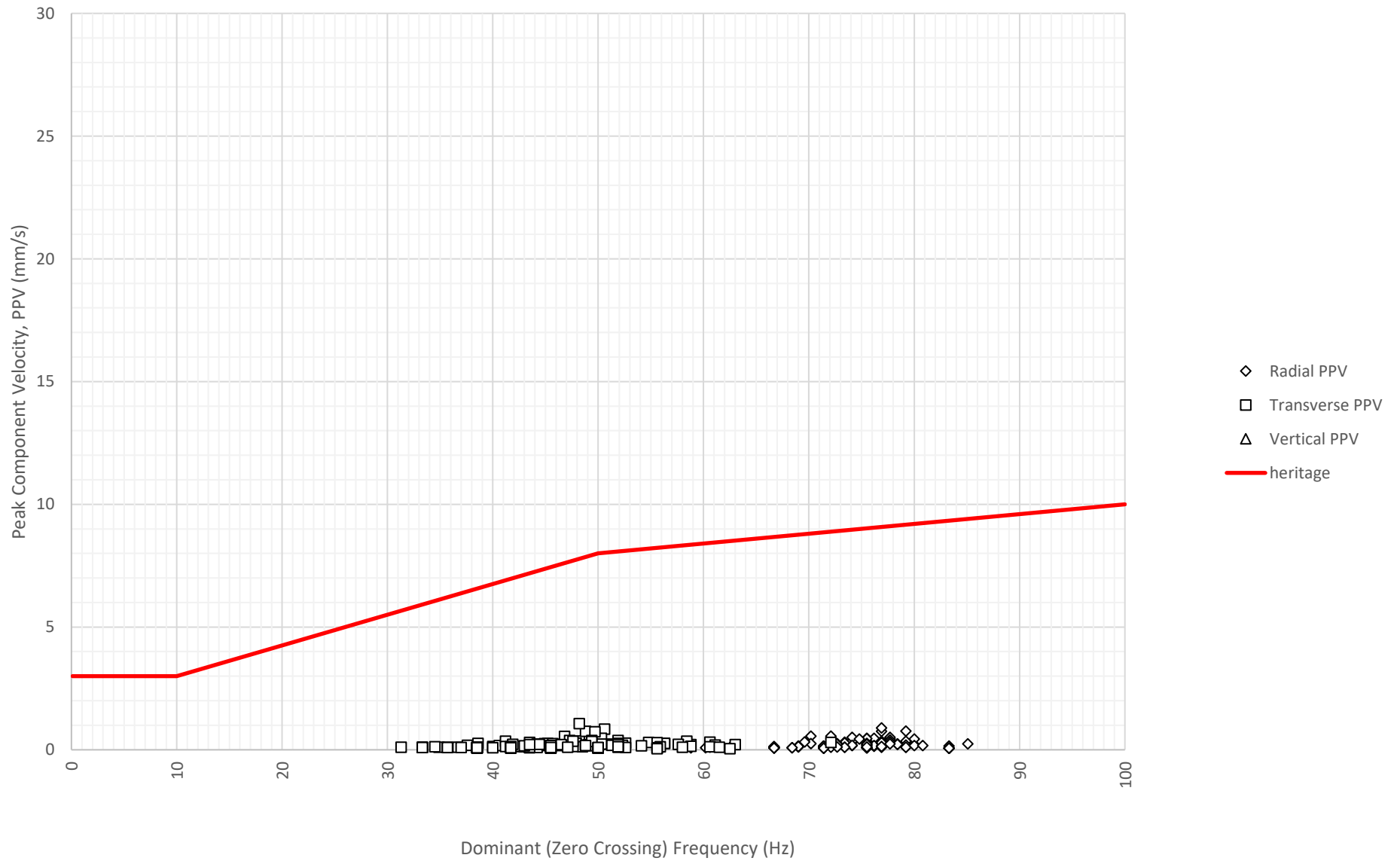
Frequency Content of Vibration Levels at M7427 Heritage (Front) on 8-05-2023



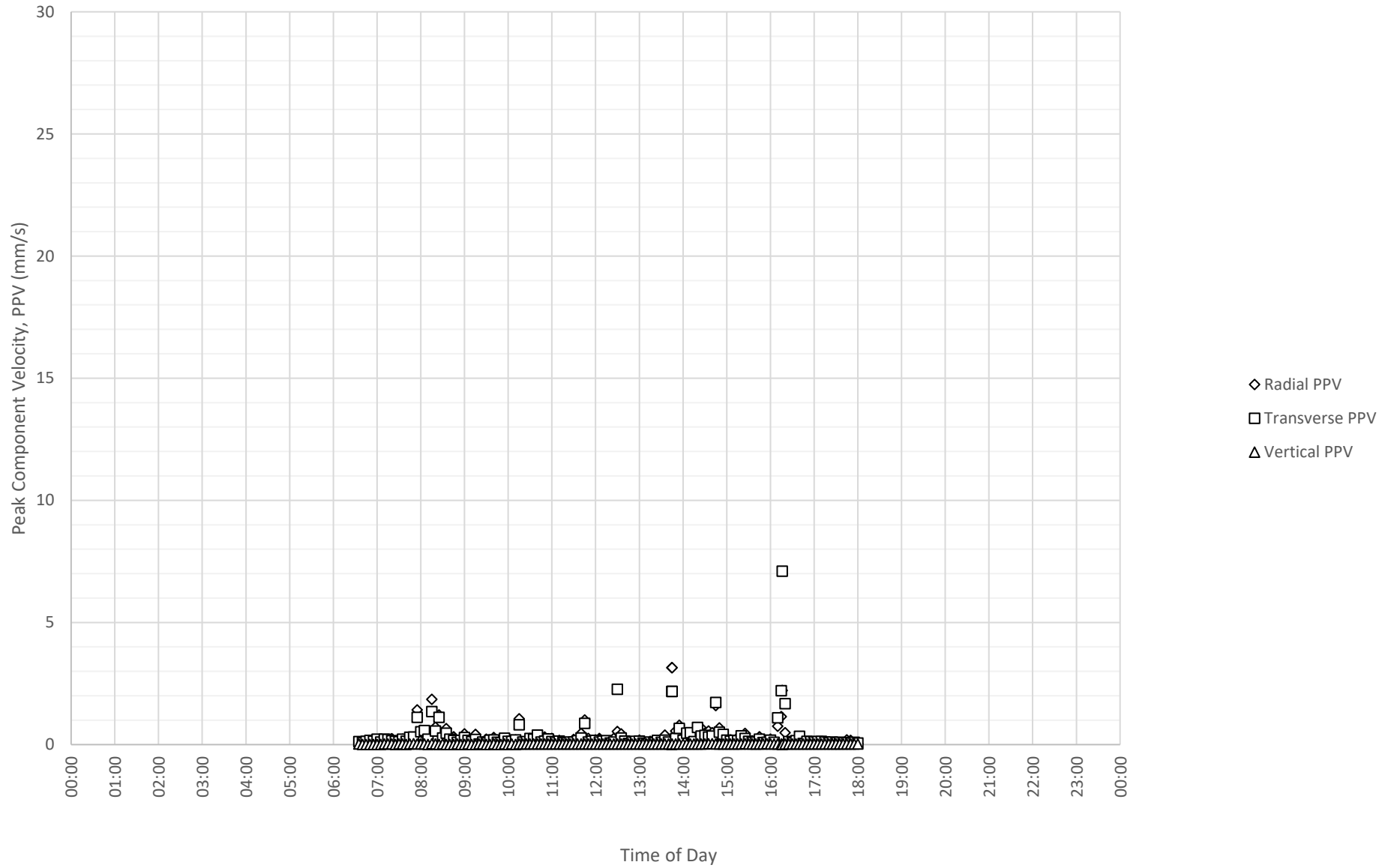
Daily Monitored Vibration Levels at M7427 Heritage (Front) on 9-05-2023



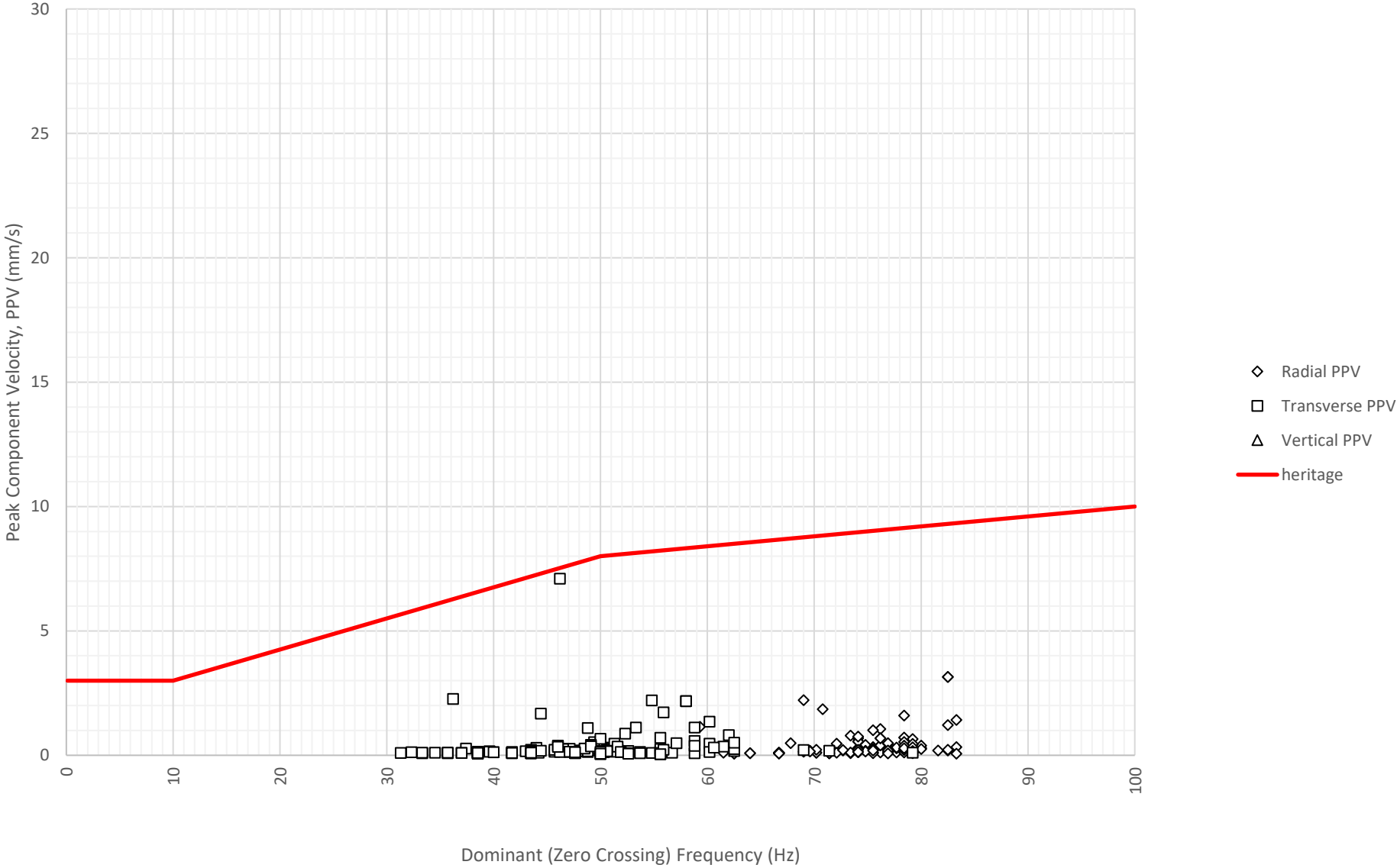
Frequency Content of Vibration Levels at M7427 Heritage (Front) on 9-05-2023



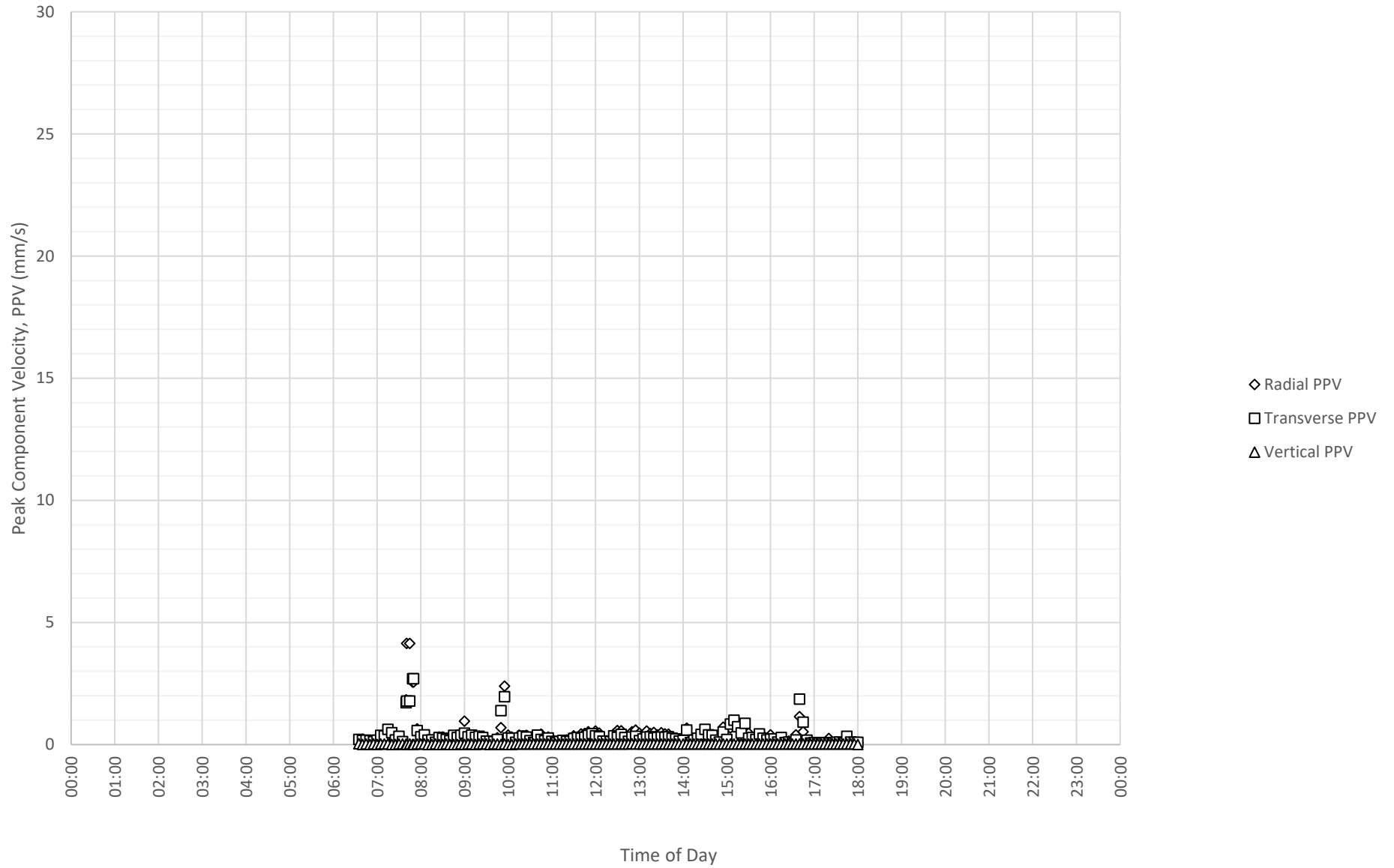
Daily Monitored Vibration Levels at M7427 Heritage (Front) on 10-05-2023



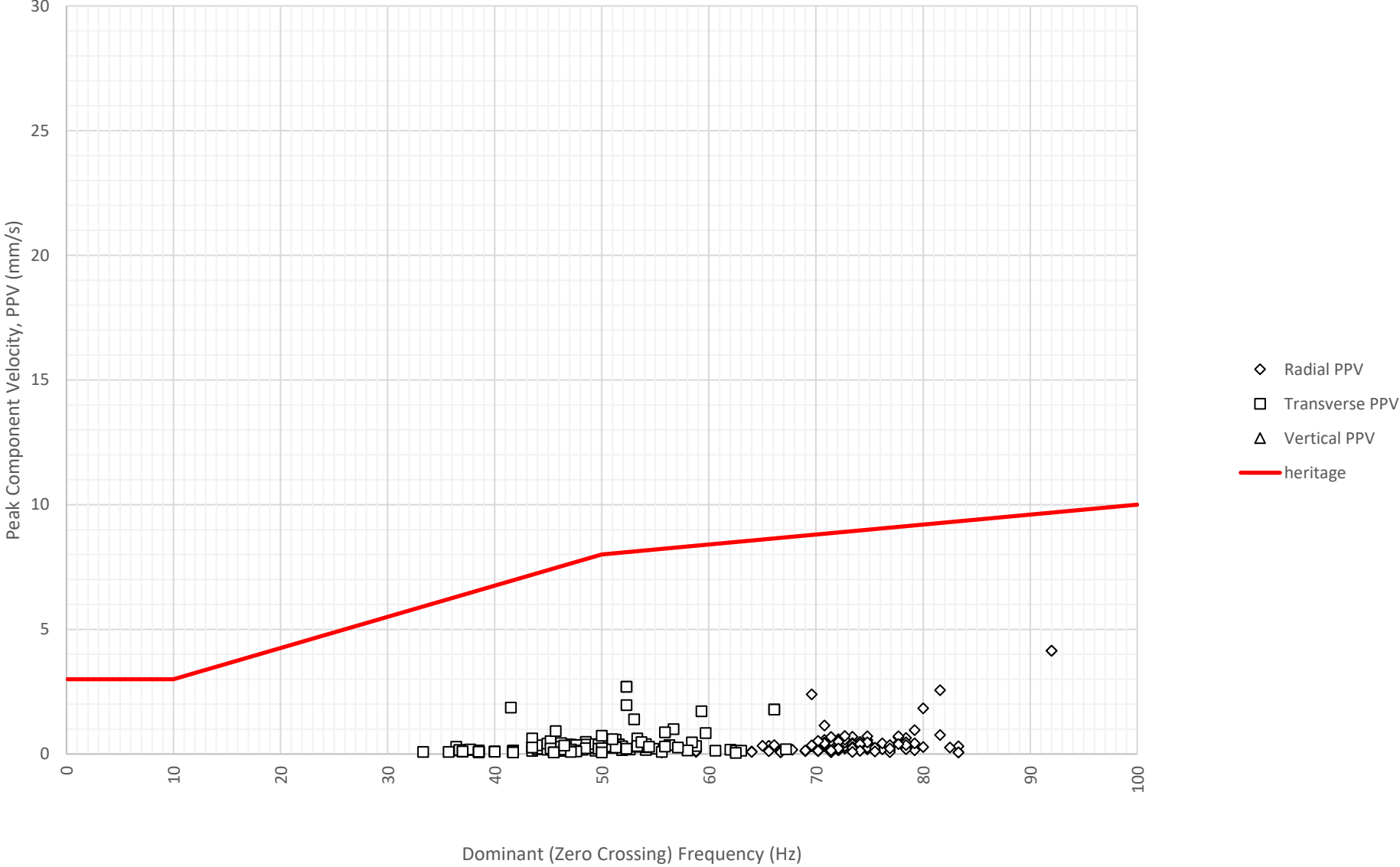
Frequency Content of Vibration Levels at M7427 Heritage (Front) on 10-05-2023



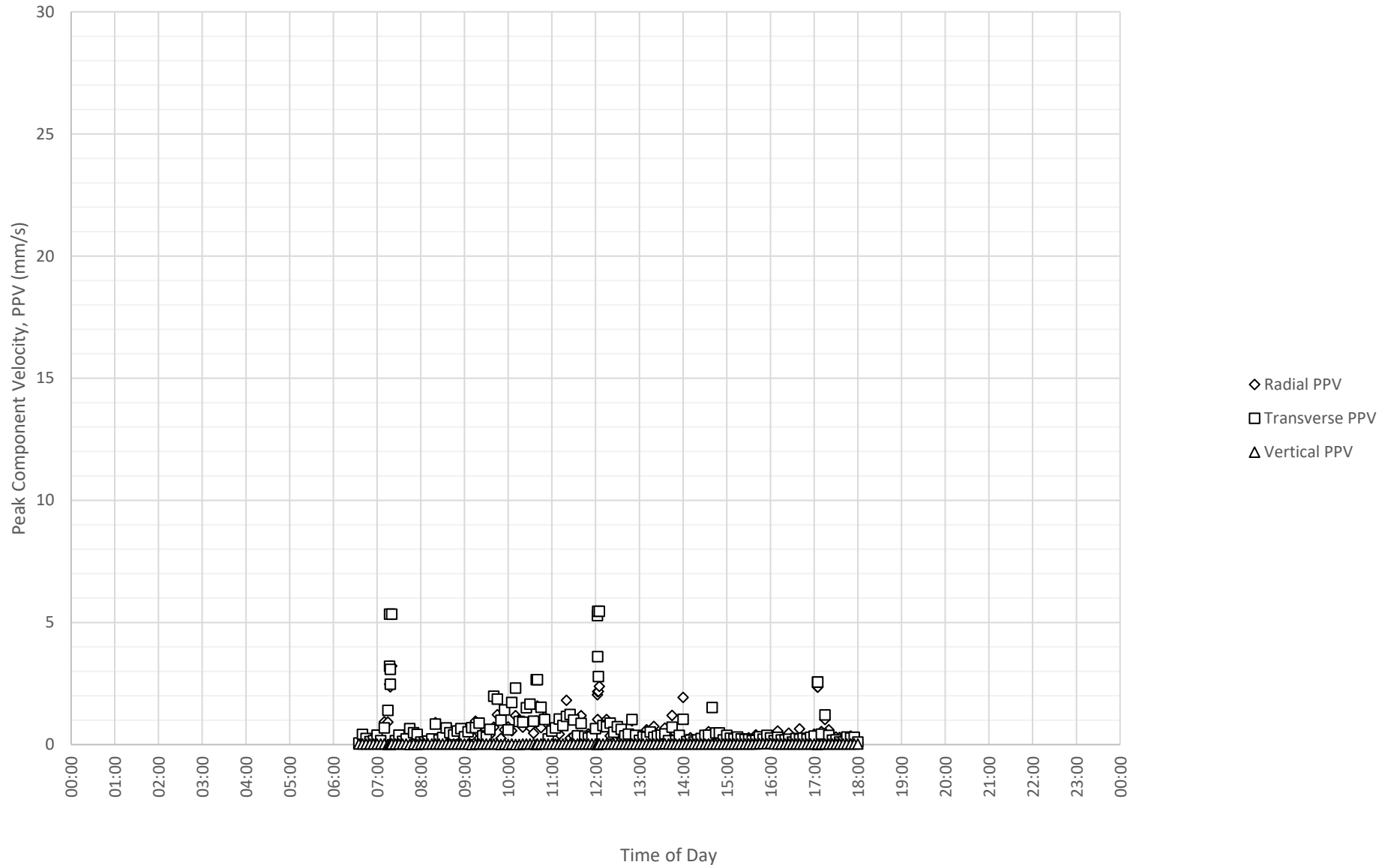
Daily Monitored Vibration Levels at M7427 Heritage (Front) on 11-05-2023



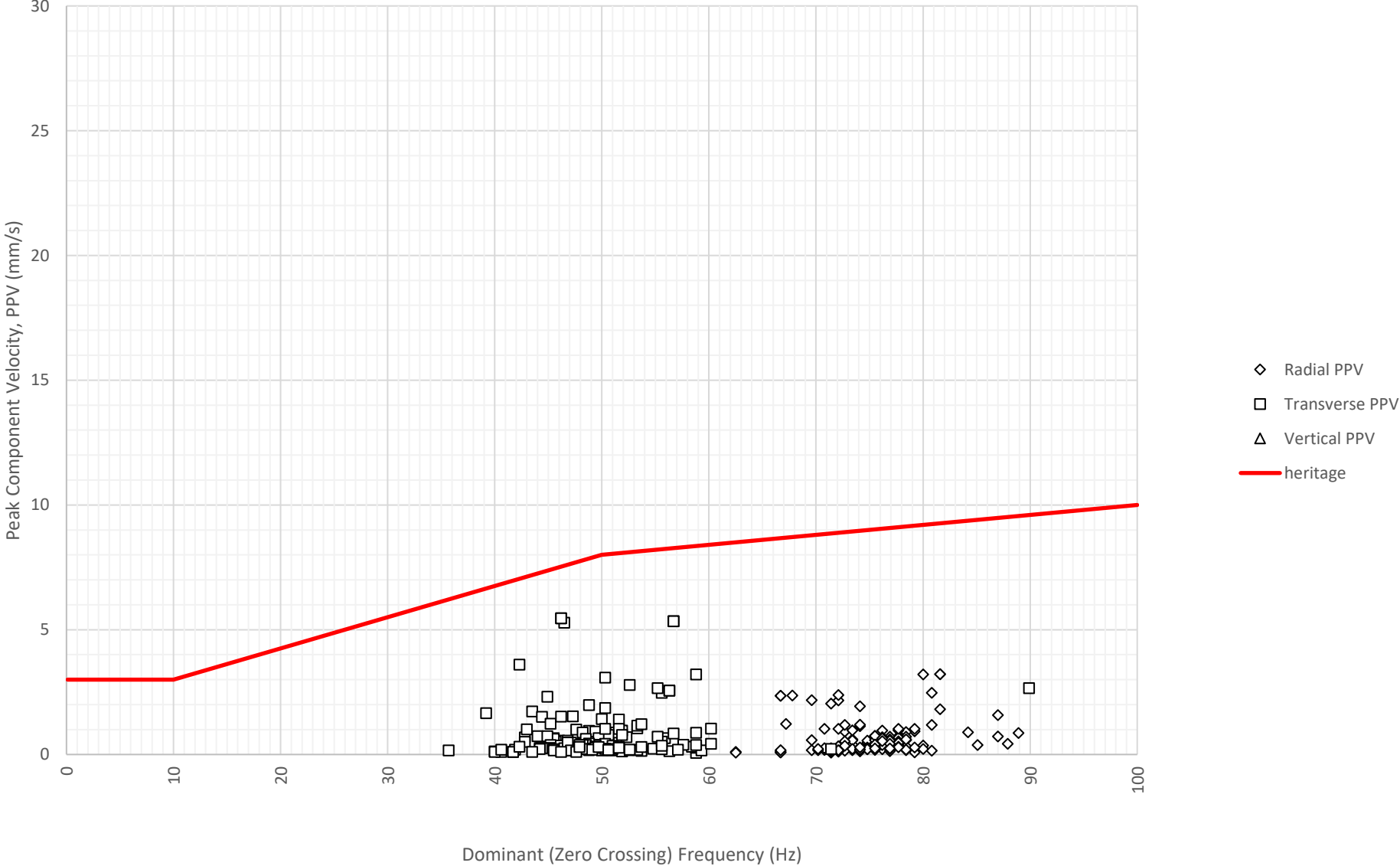
Frequency Content of Vibration Levels at M7427 Heritage (Front) on 11-05-2023



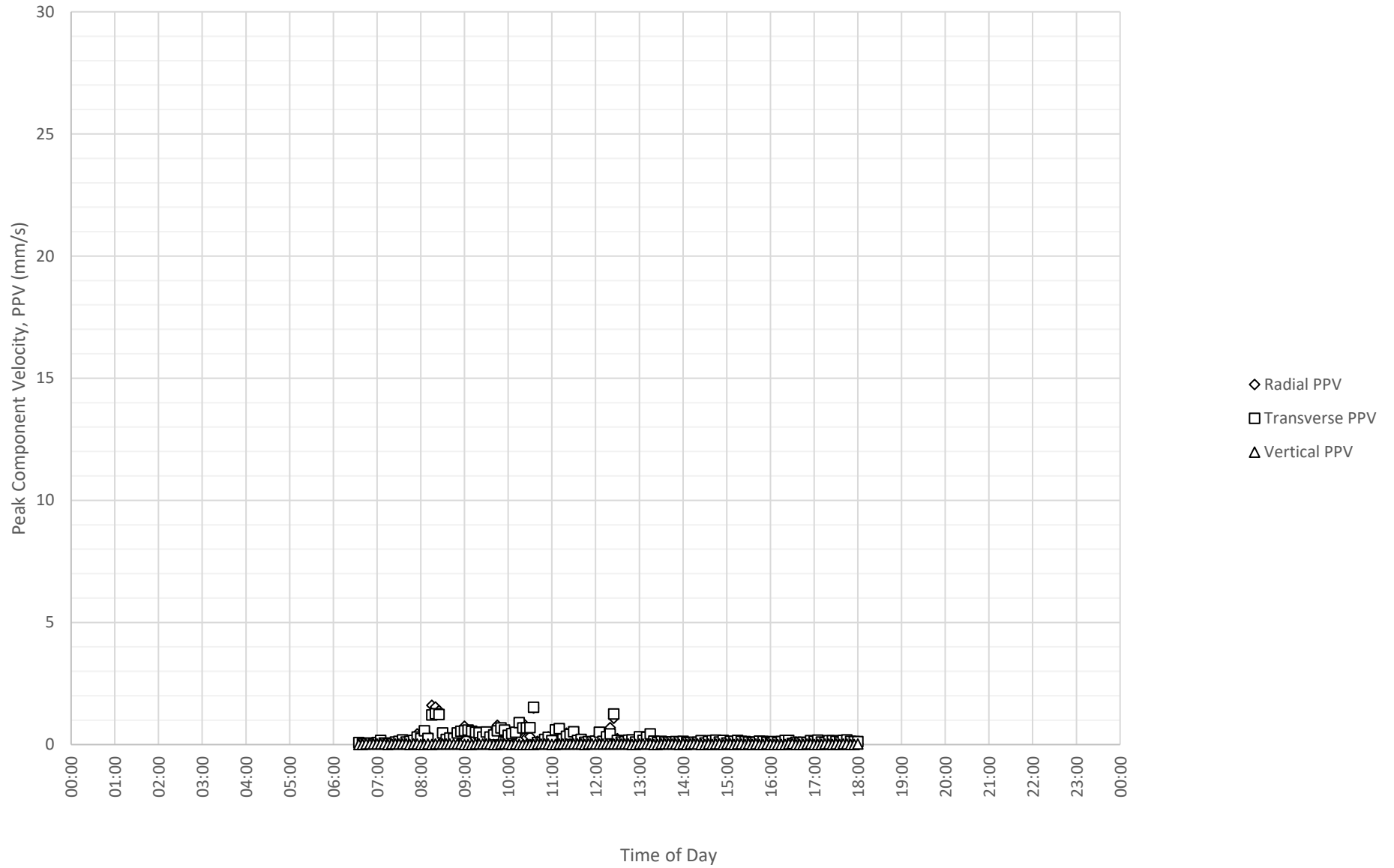
Daily Monitored Vibration Levels at M7427 Heritage (Front) on 12-05-2023



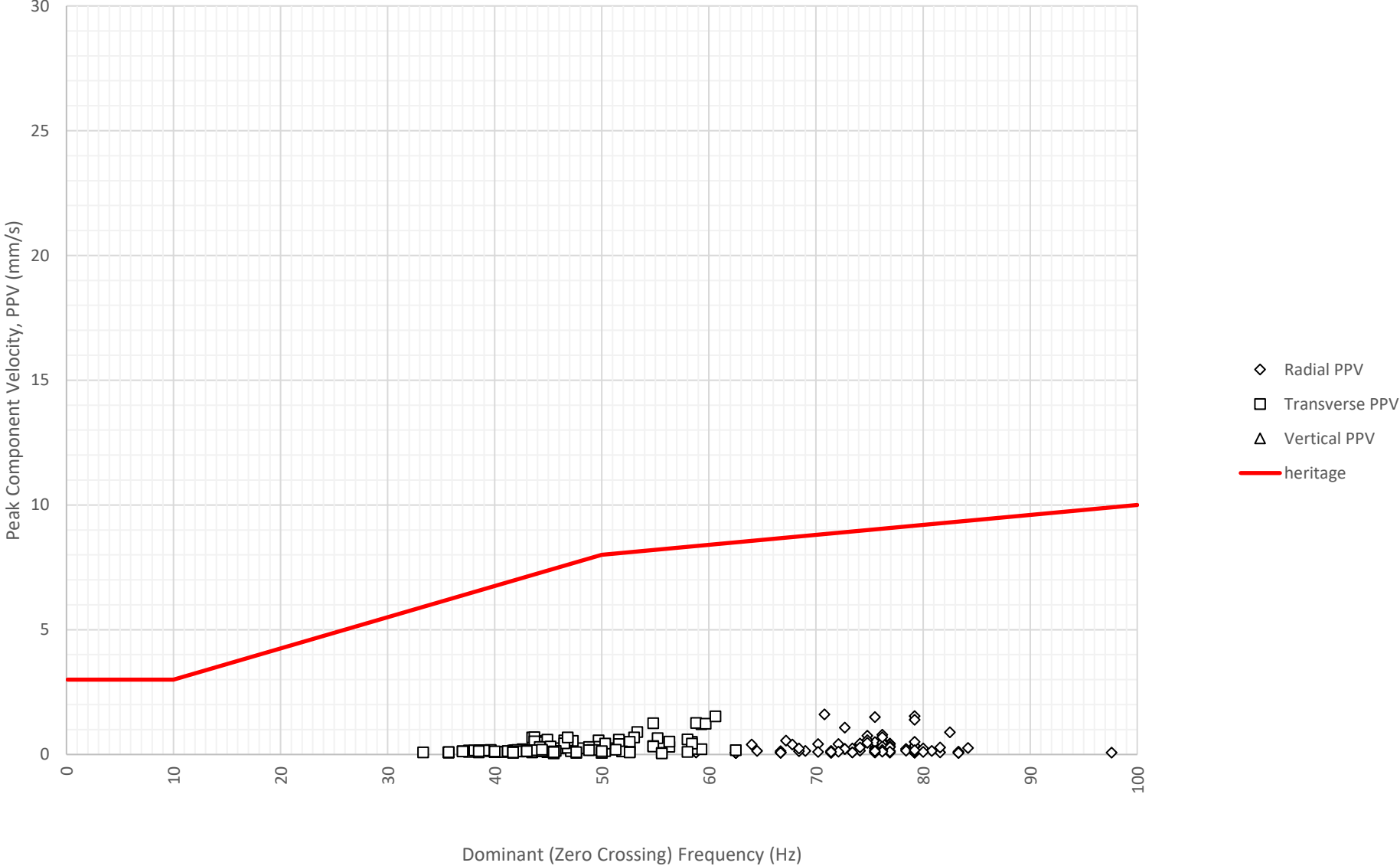
Frequency Content of Vibration Levels at M7427 Heritage (Front) on 12-05-2023



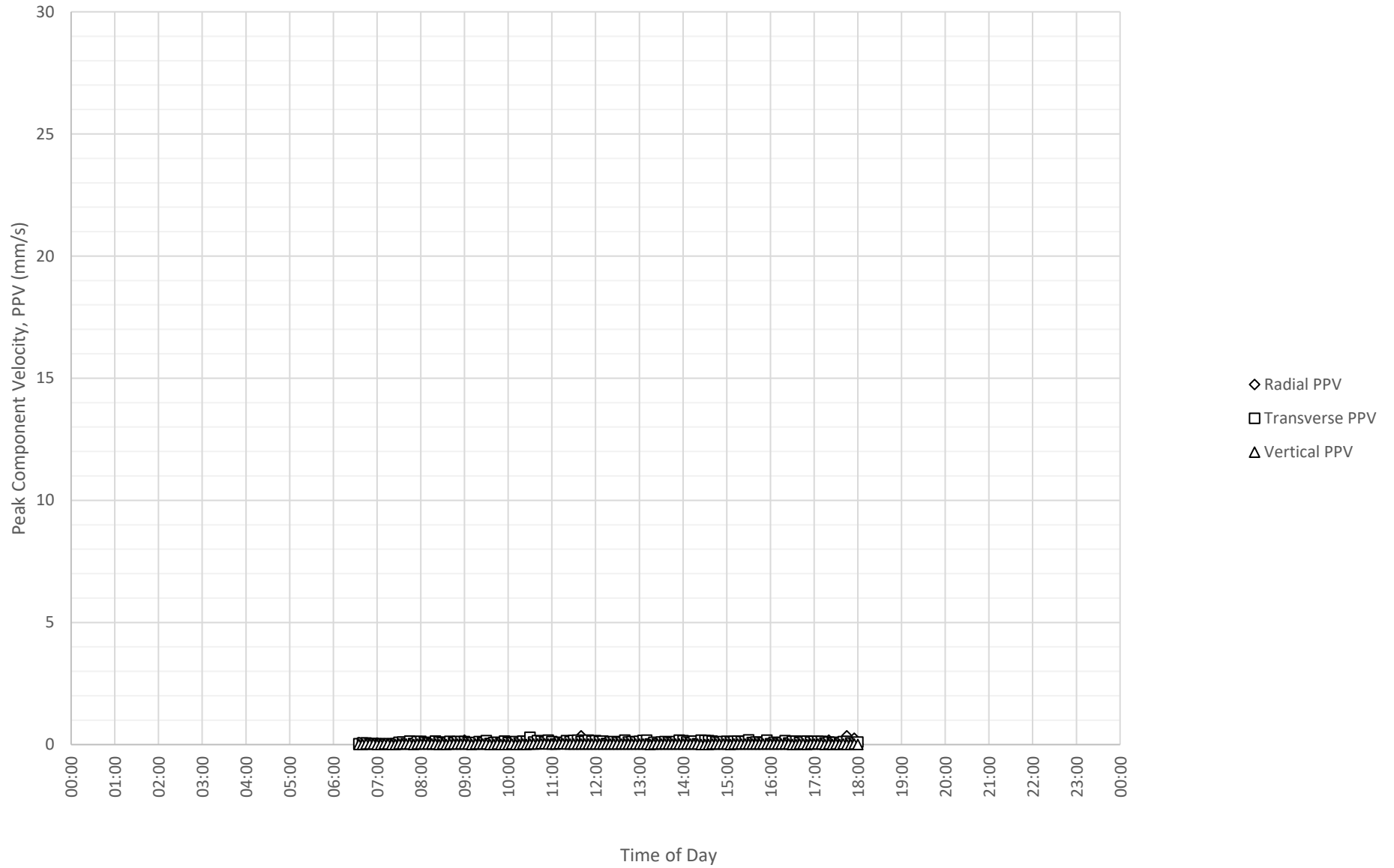
Daily Monitored Vibration Levels at M7427 Heritage (Front) on 13-05-2023



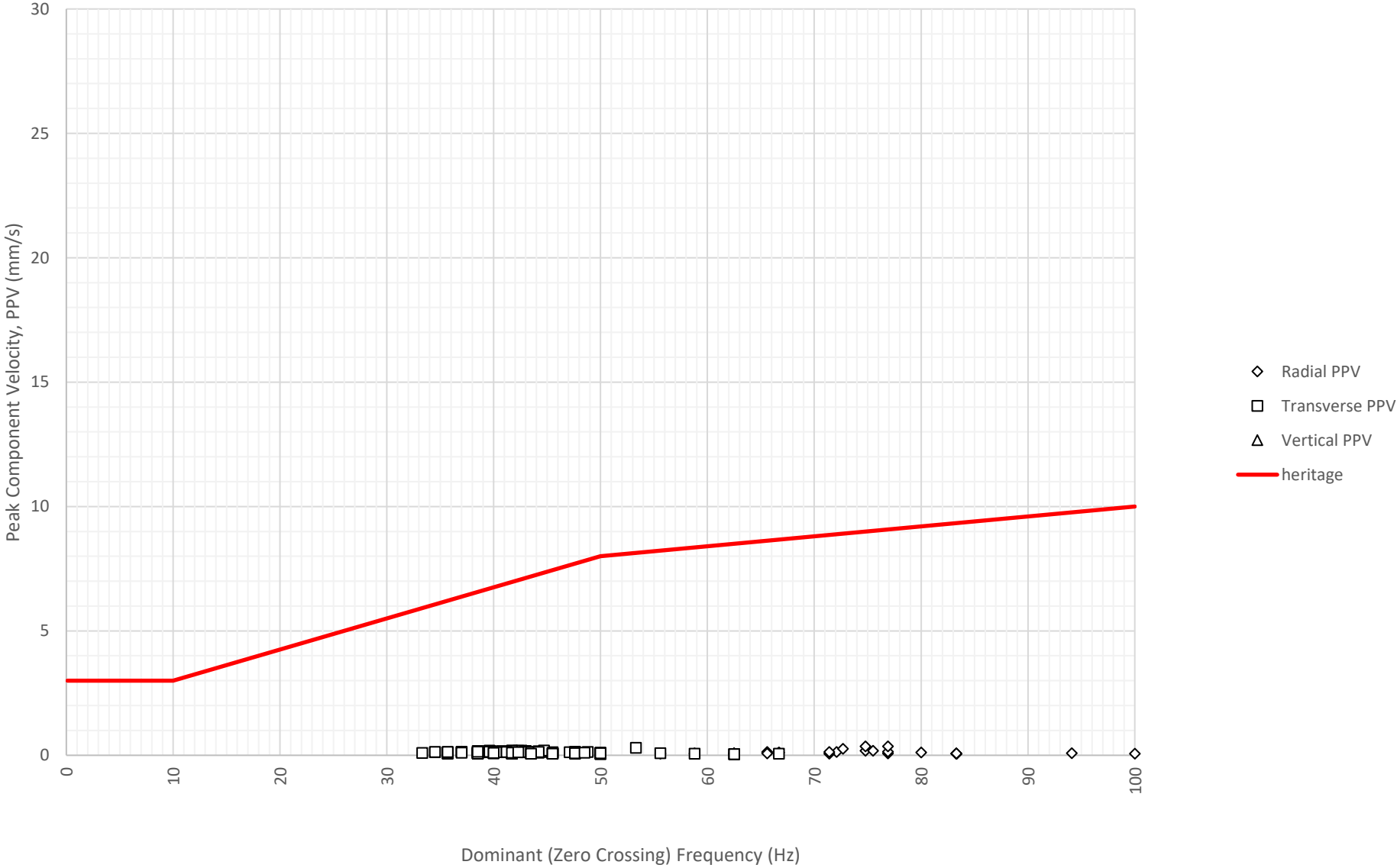
Frequency Content of Vibration Levels at M7427 Heritage (Front) on 13-05-2023



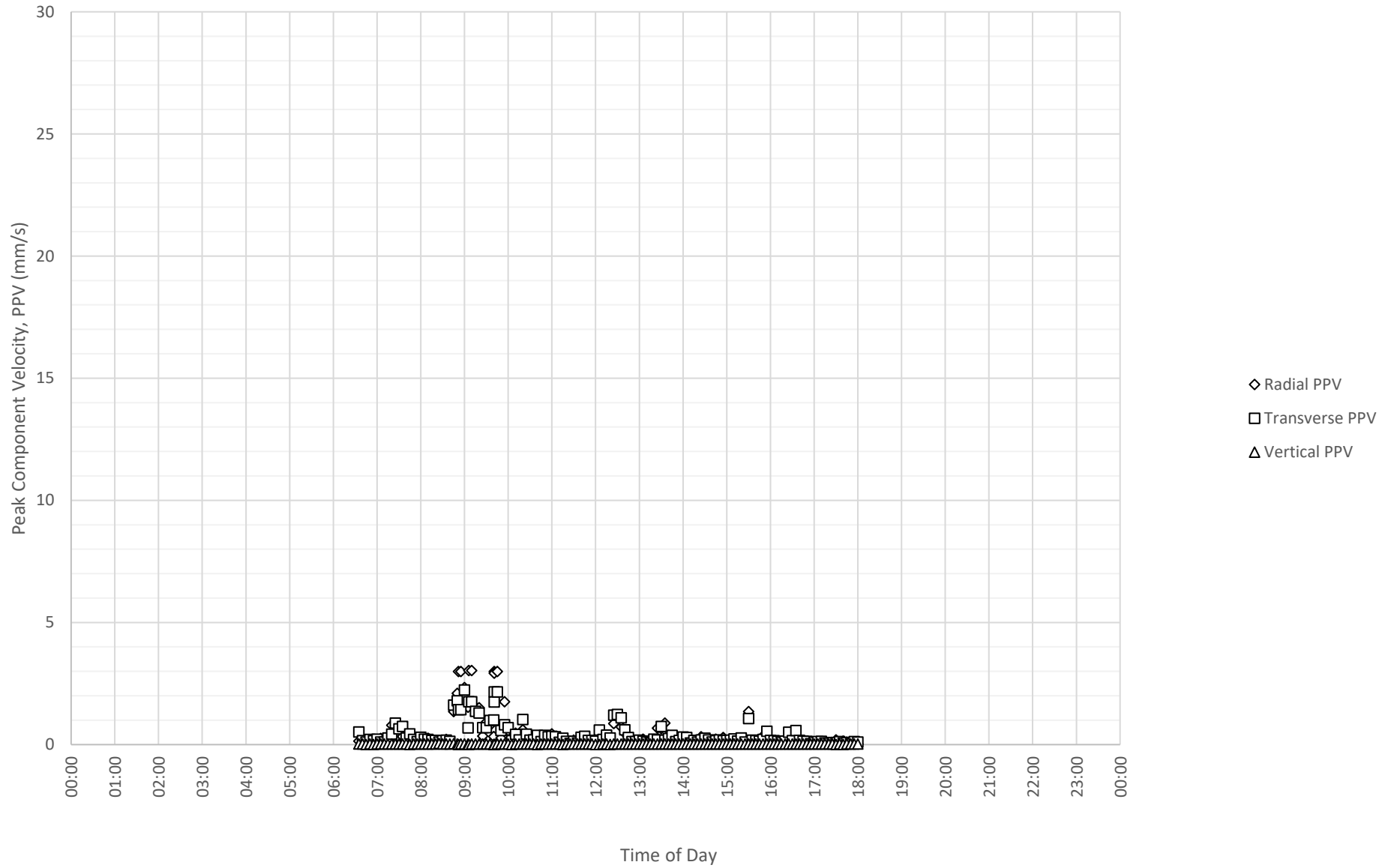
Daily Monitored Vibration Levels at M7427 Heritage (Front) on 14-05-2023



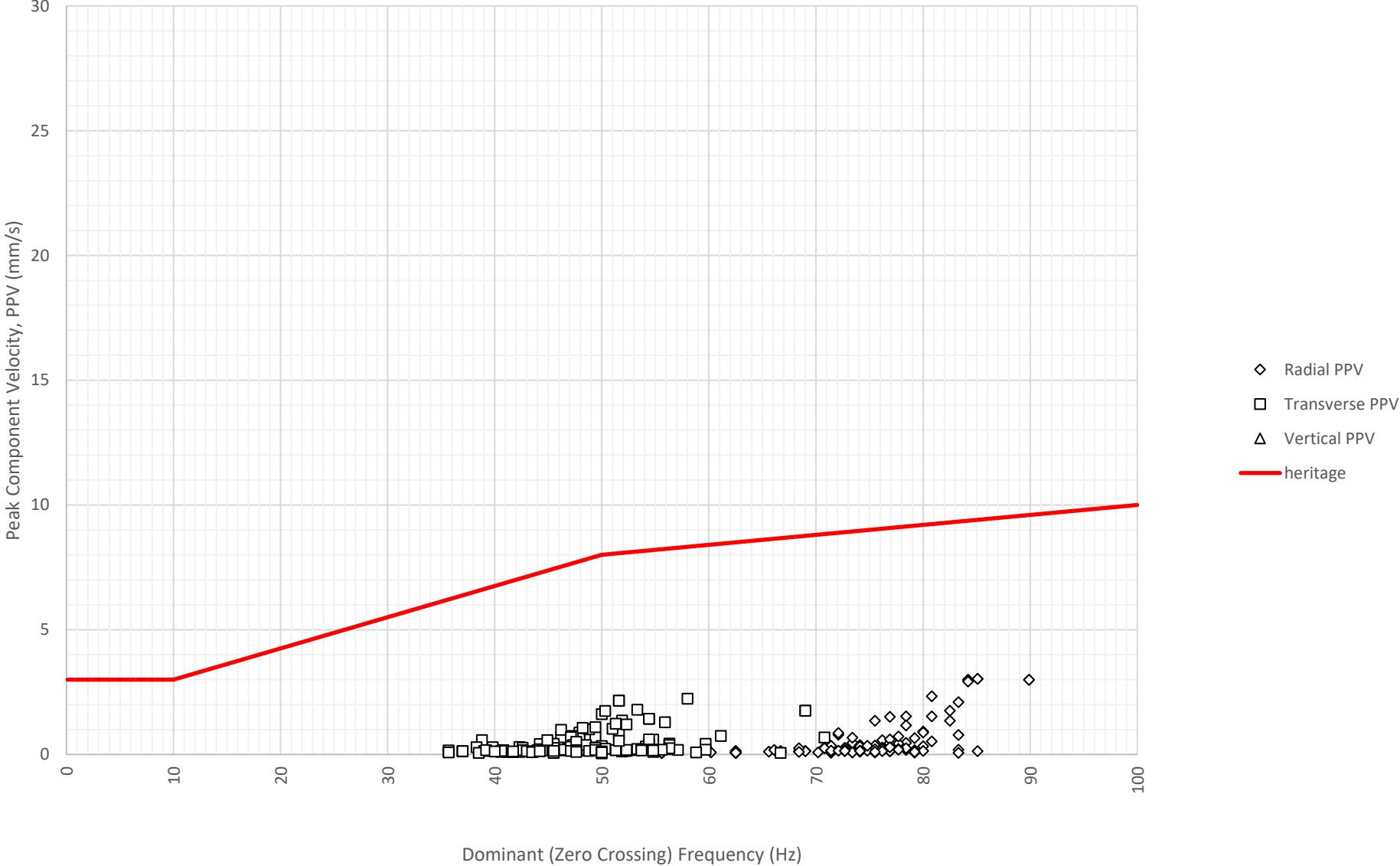
Frequency Content of Vibration Levels at M7427 Heritage (Front) on 14-05-2023



Daily Monitored Vibration Levels at M7427 Heritage (Front) on 15-05-2023

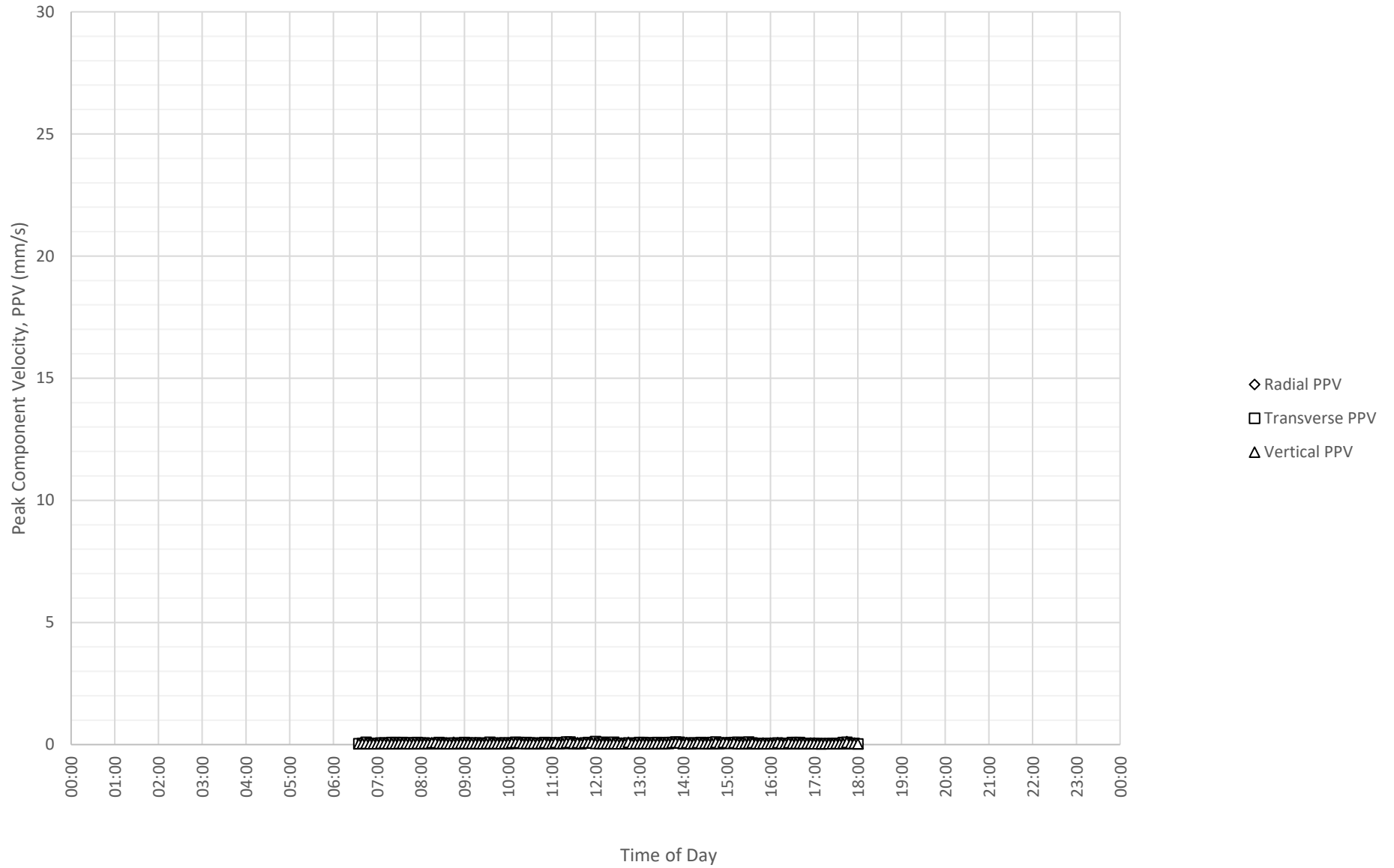


Frequency Content of Vibration Levels at M7427 Heritage (Front) on 15-05-2023

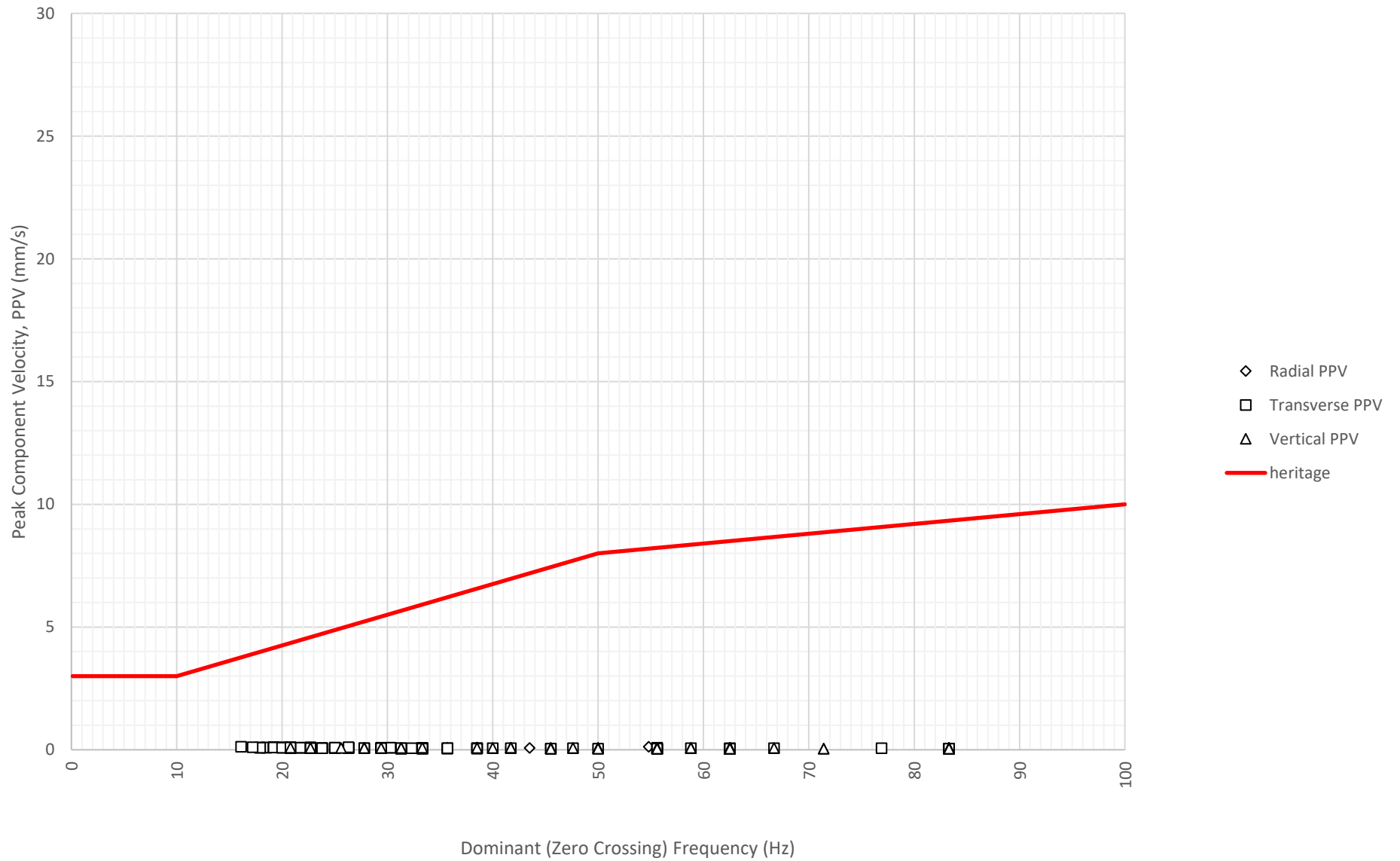


APPENDIX 2: DAILY GRAPHS M7496 HERITAGE (REAR)

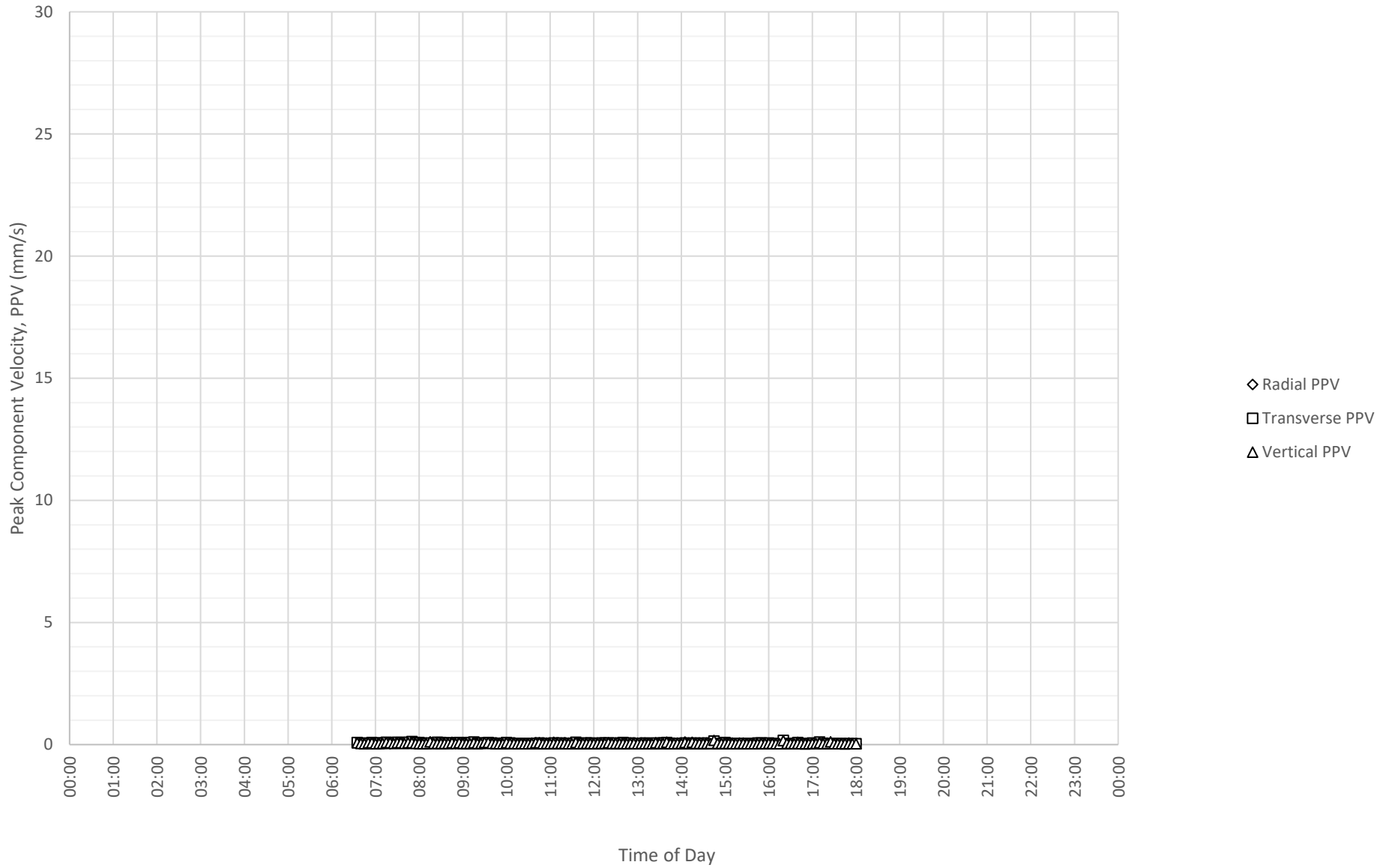
Daily Monitored Vibration Levels at M7496 Heritage (Rear) on 1-05-2023



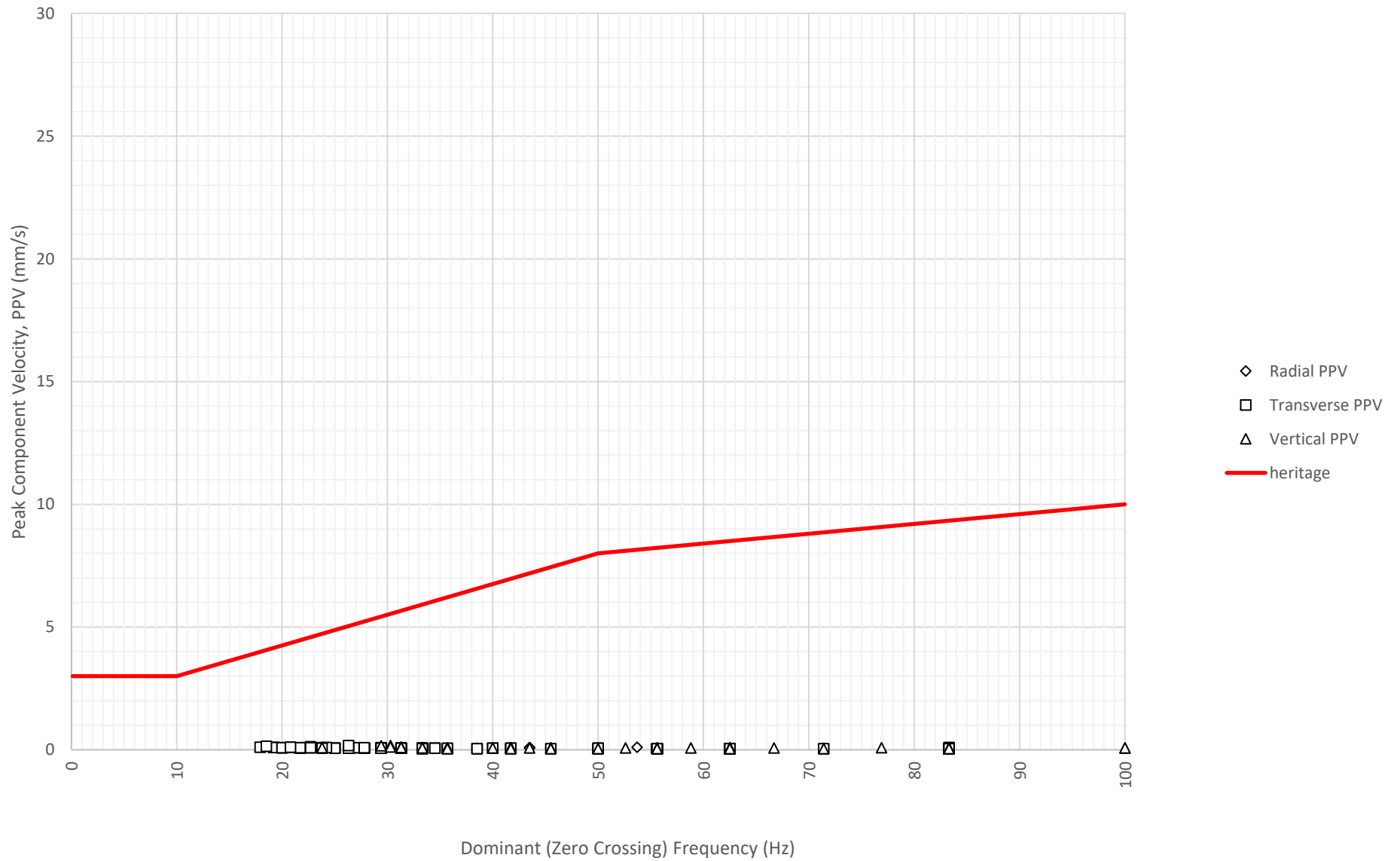
Frequency Content of Vibration Levels at M7496 Heritage (Rear) on 1-05-2023



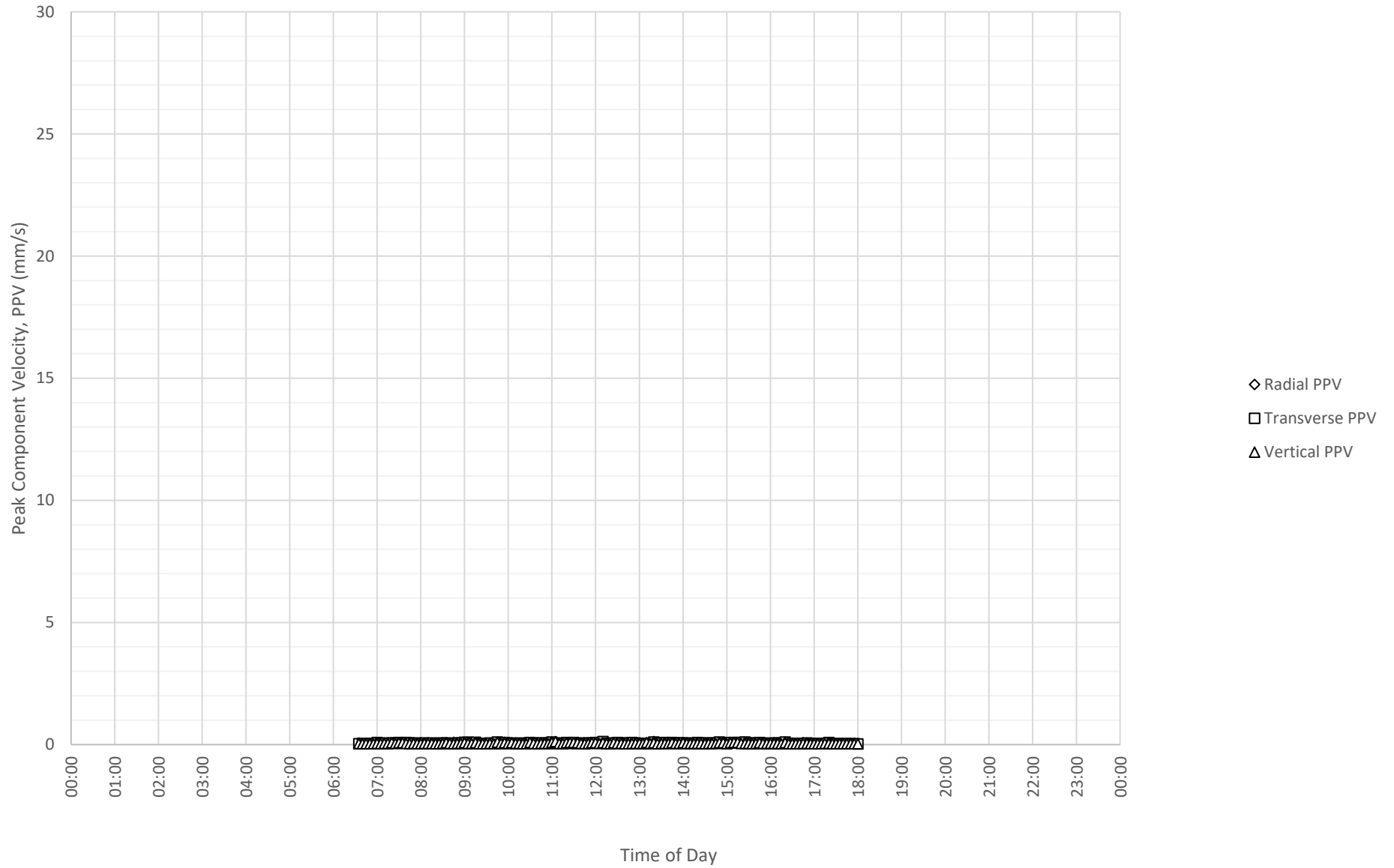
Daily Monitored Vibration Levels at M7496 Heritage (Rear) on 2-05-2023



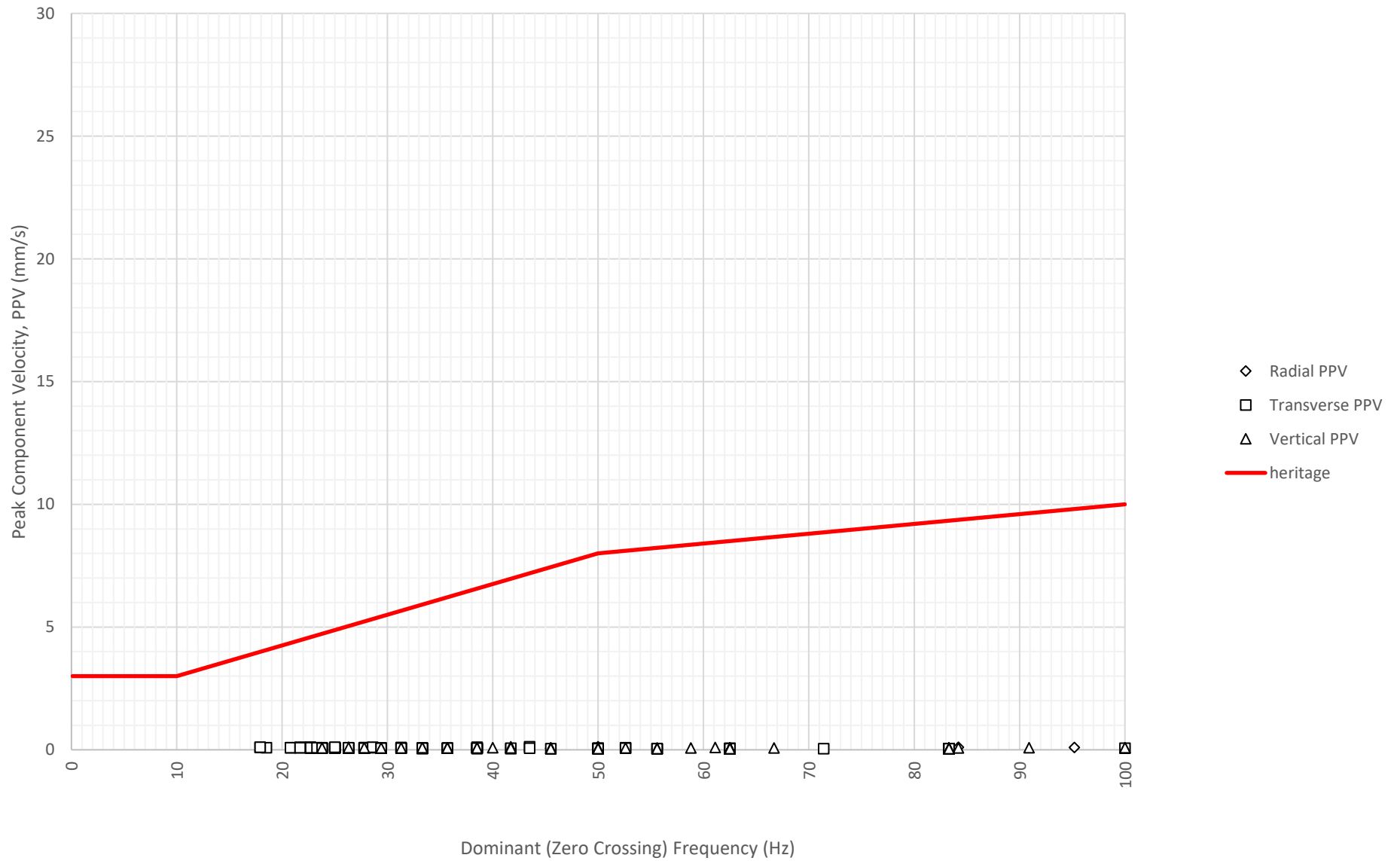
Frequency Content of Vibration Levels at M7496 Heritage (Rear) on 2-05-2023



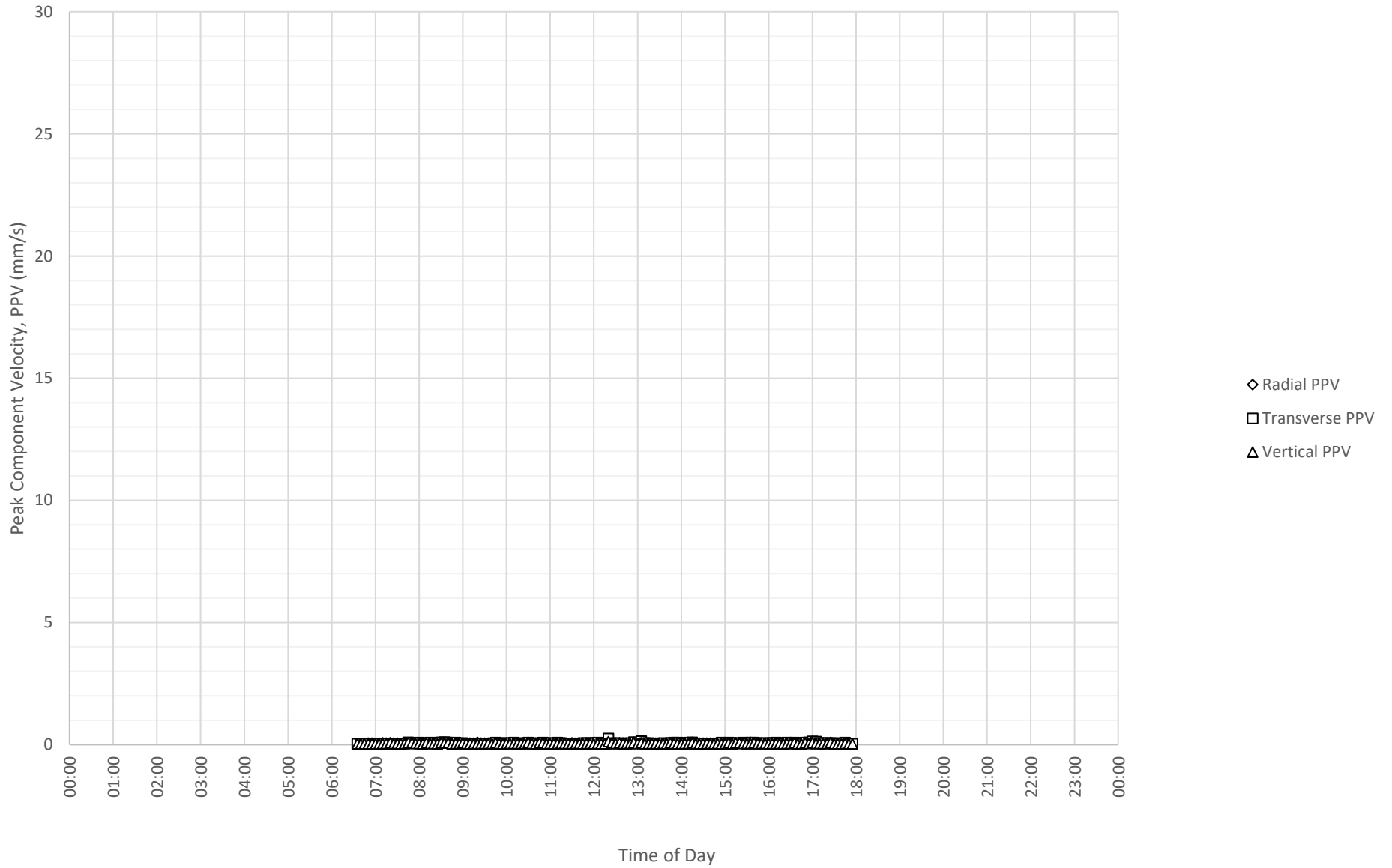
Daily Monitored Vibration Levels at M7496 Heritage (Rear) on 3-05-2023



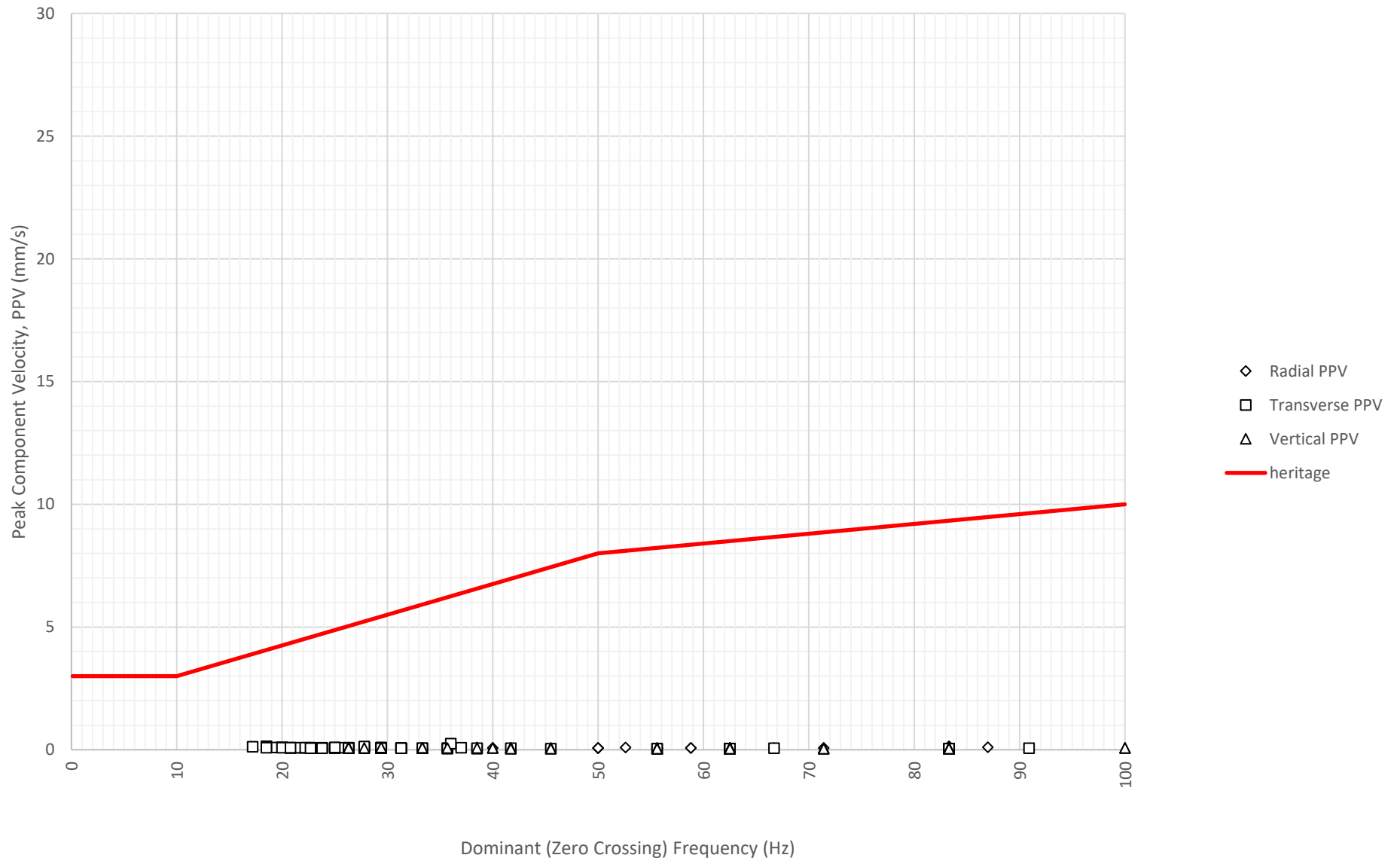
Frequency Content of Vibration Levels at M7496 Heritage (Rear) on 3-05-2023



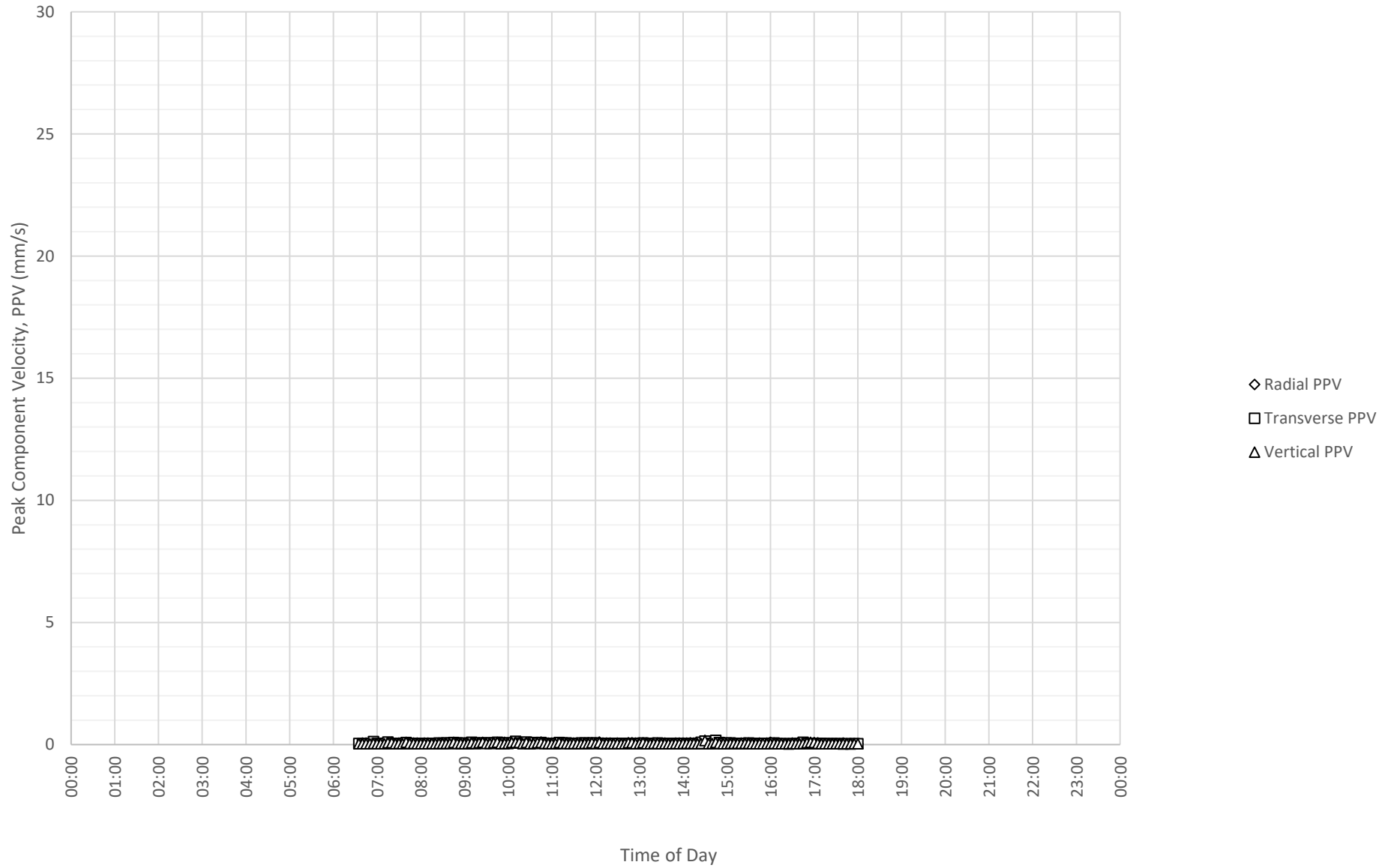
Daily Monitored Vibration Levels at M7496 Heritage (Rear) on 4-05-2023



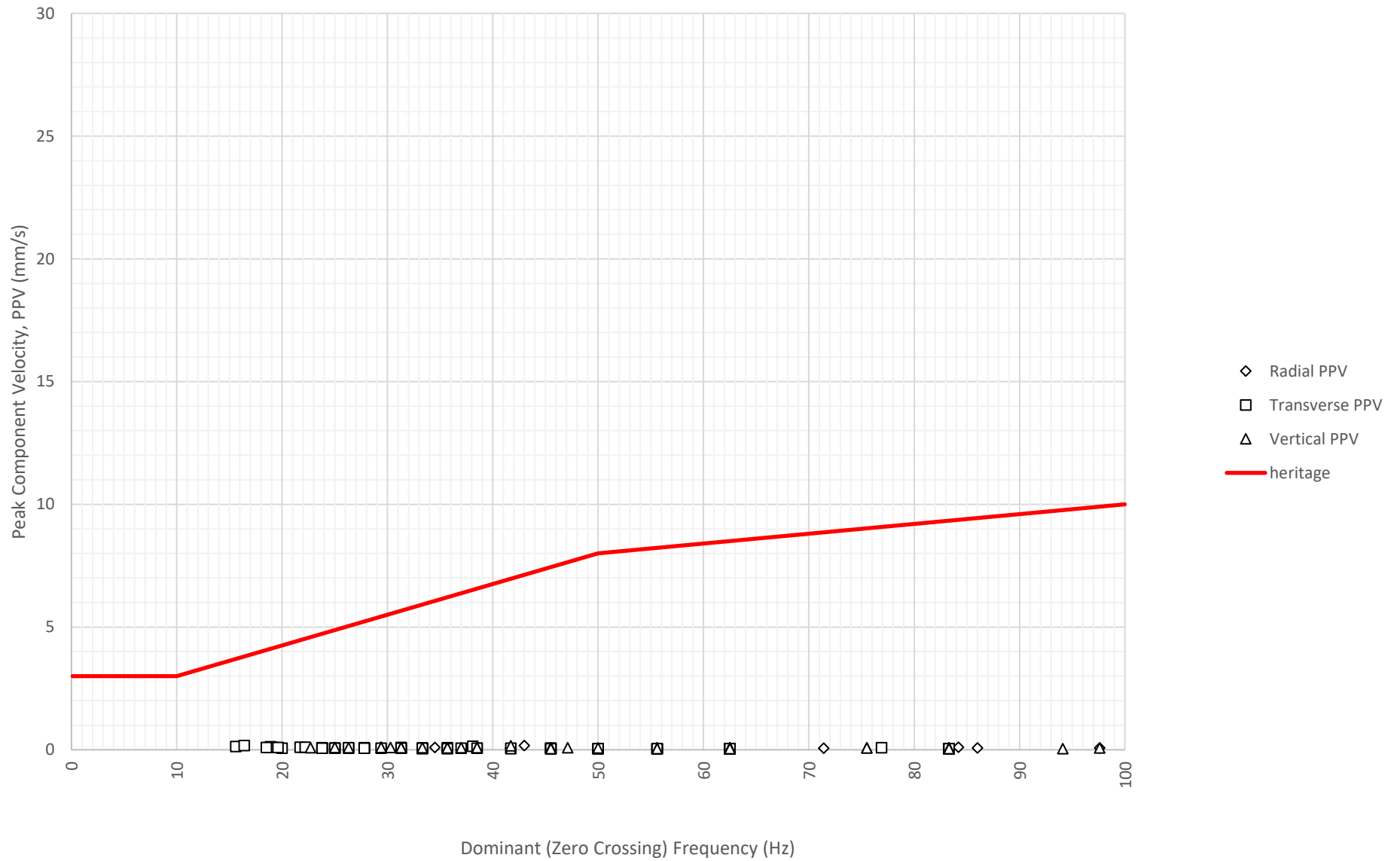
Frequency Content of Vibration Levels at M7496 Heritage (Rear) on 4-05-2023



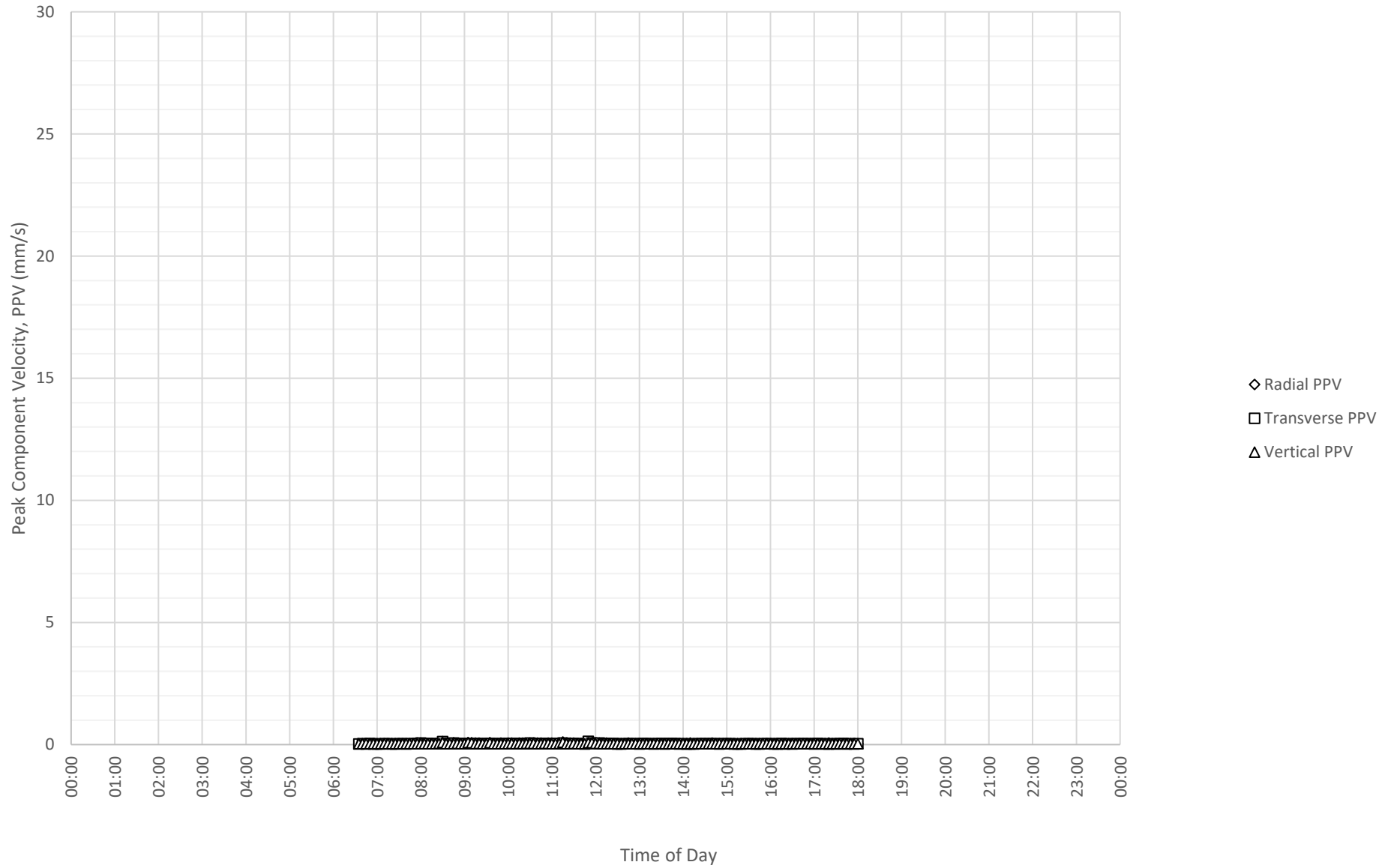
Daily Monitored Vibration Levels at M7496 Heritage (Rear) on 5-05-2023



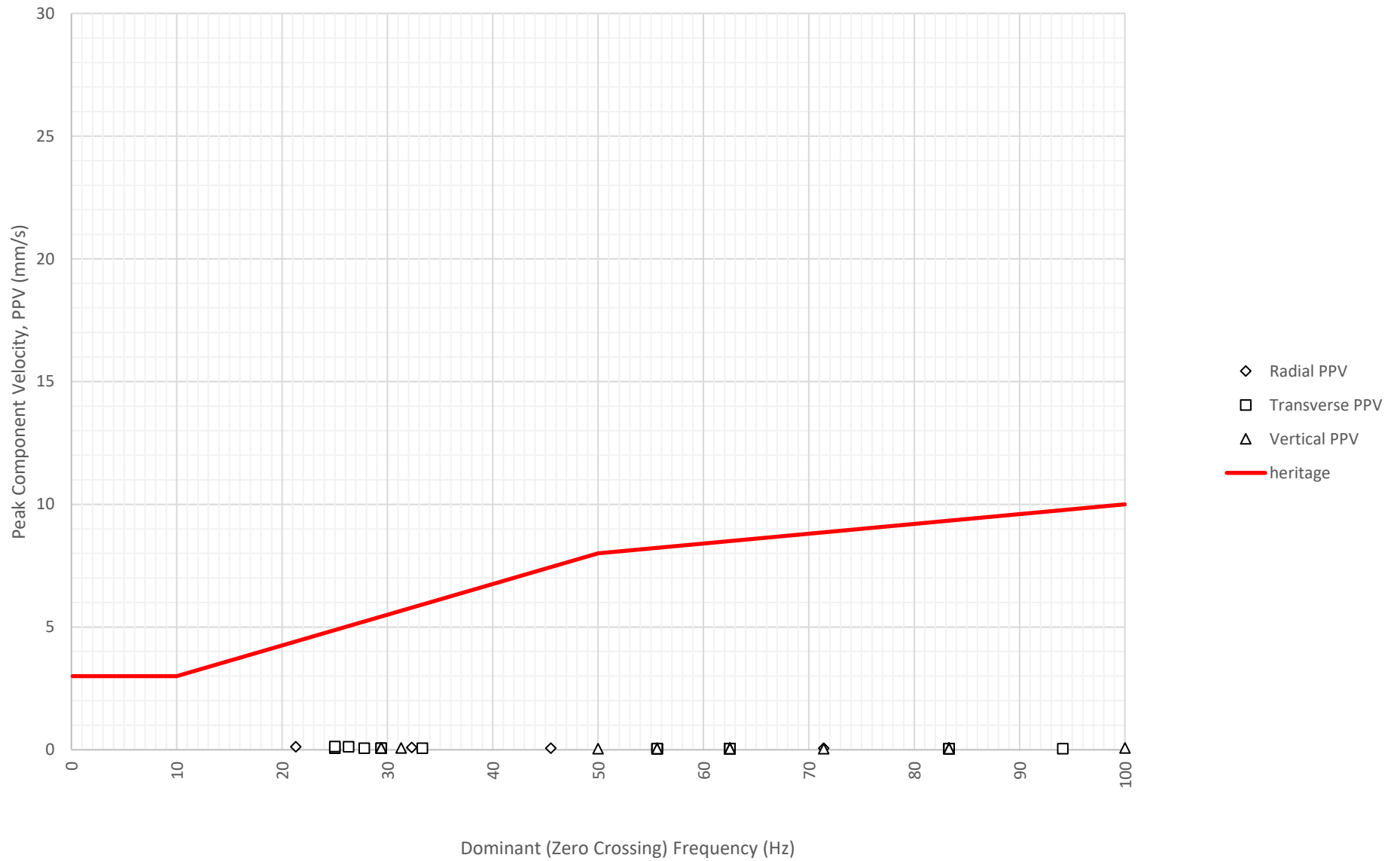
Frequency Content of Vibration Levels at M7496 Heritage (Rear) on 5-05-2023



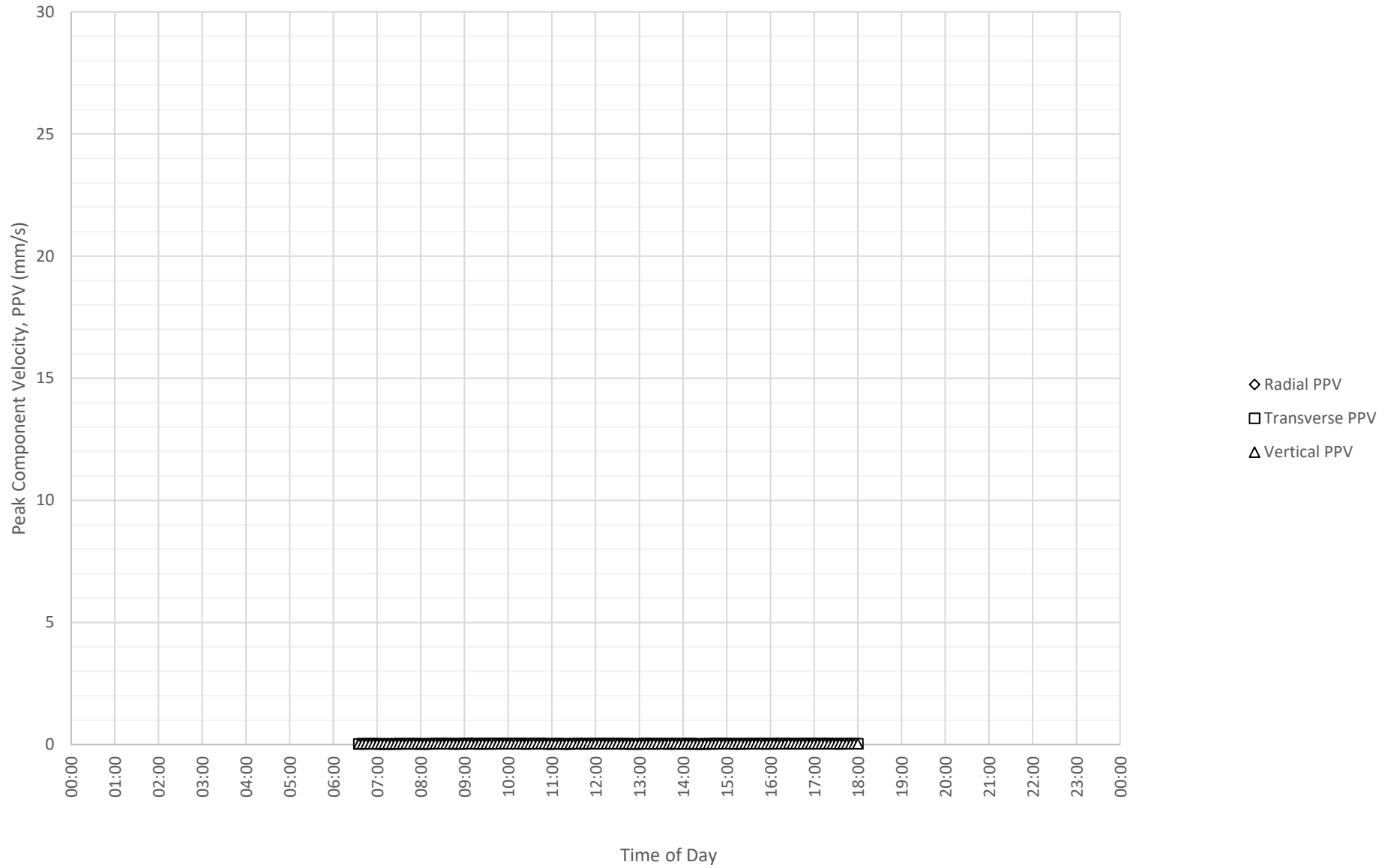
Daily Monitored Vibration Levels at M7496 Heritage (Rear) on 6-05-2023



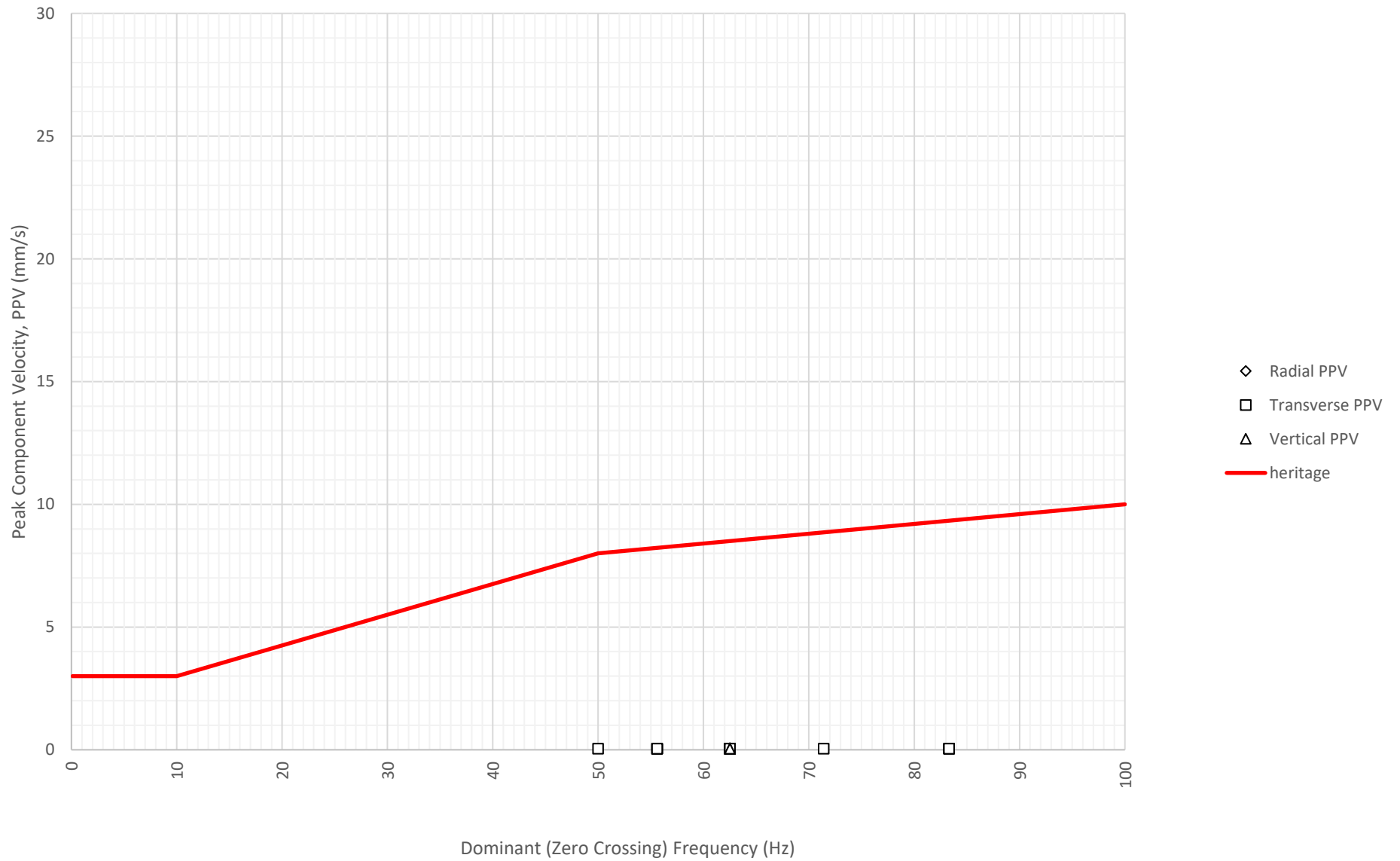
Frequency Content of Vibration Levels at M7496 Heritage (Rear) on 6-05-2023



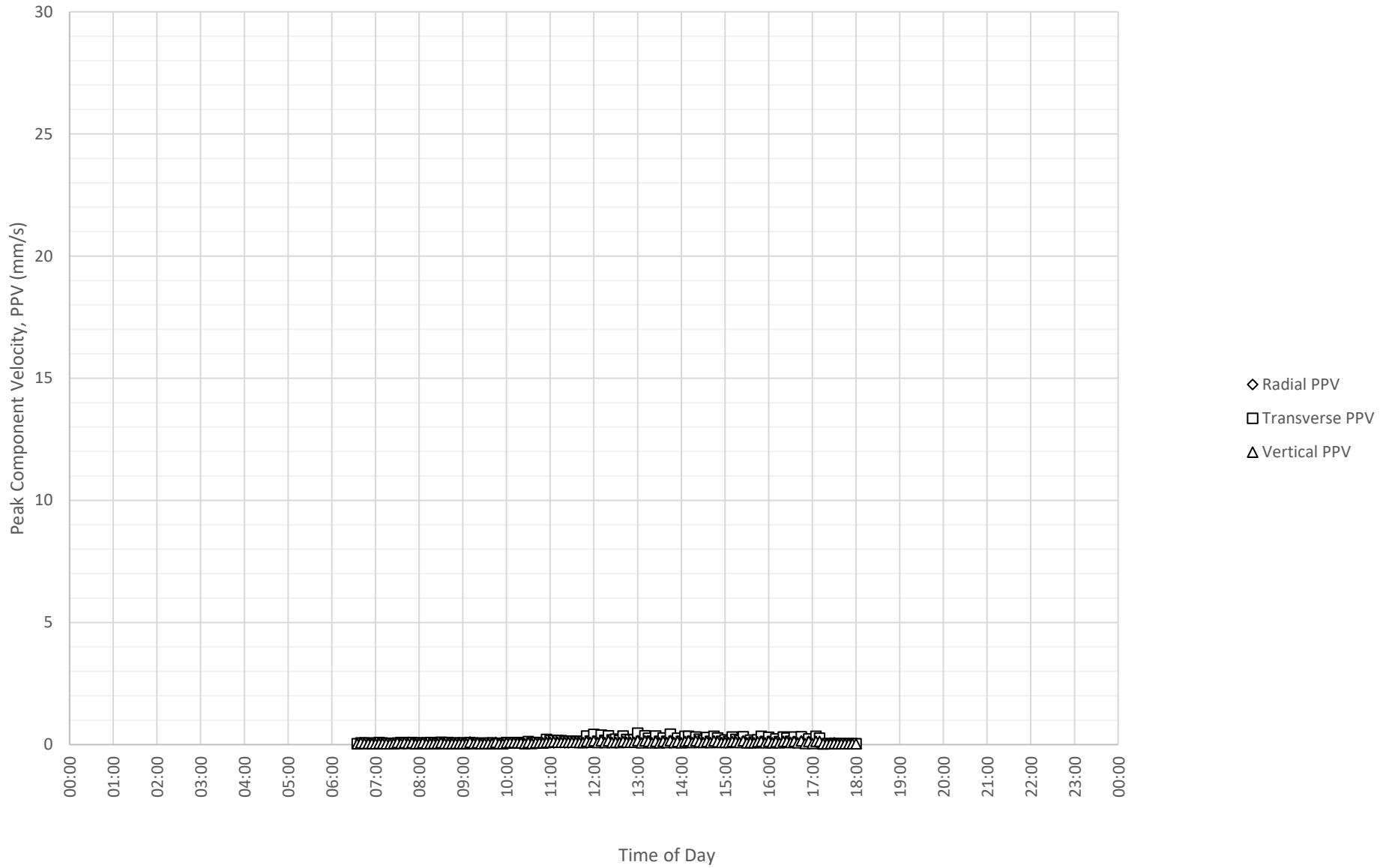
Daily Monitored Vibration Levels at M7496 Heritage (Rear) on 7-05-2023



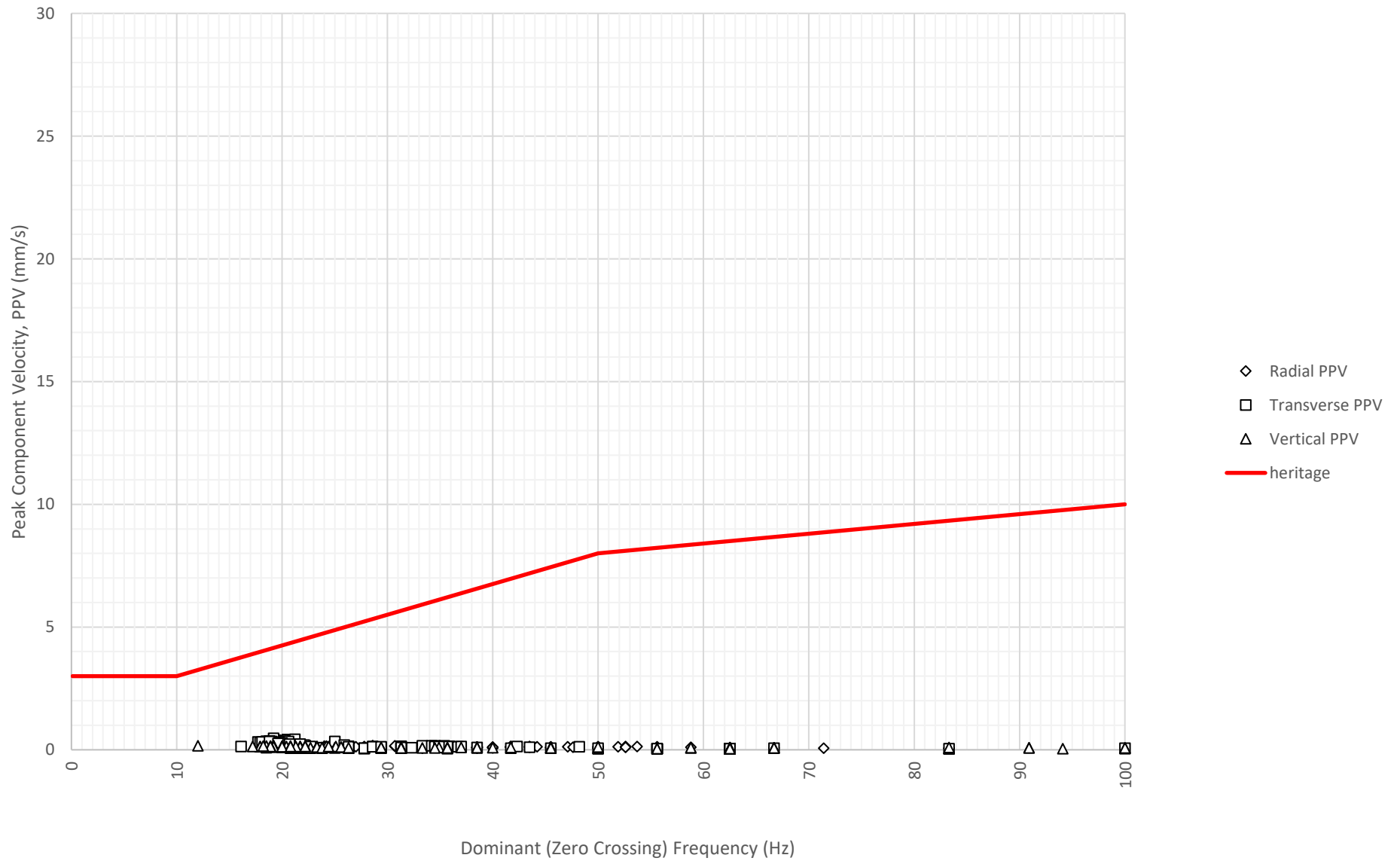
Frequency Content of Vibration Levels at M7496 Heritage (Rear) on 7-05-2023



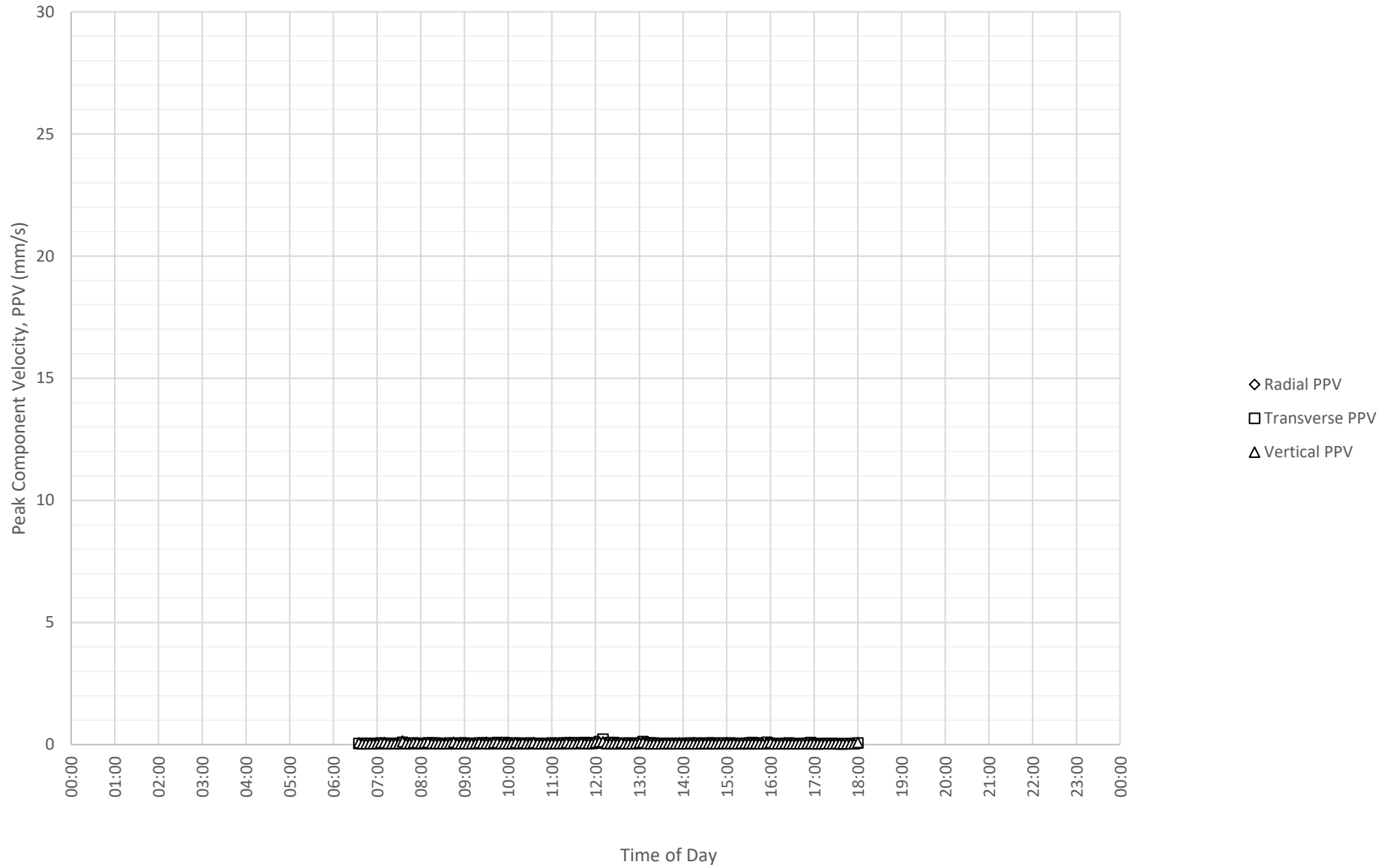
Daily Monitored Vibration Levels at M7496 Heritage (Rear) on 8-05-2023



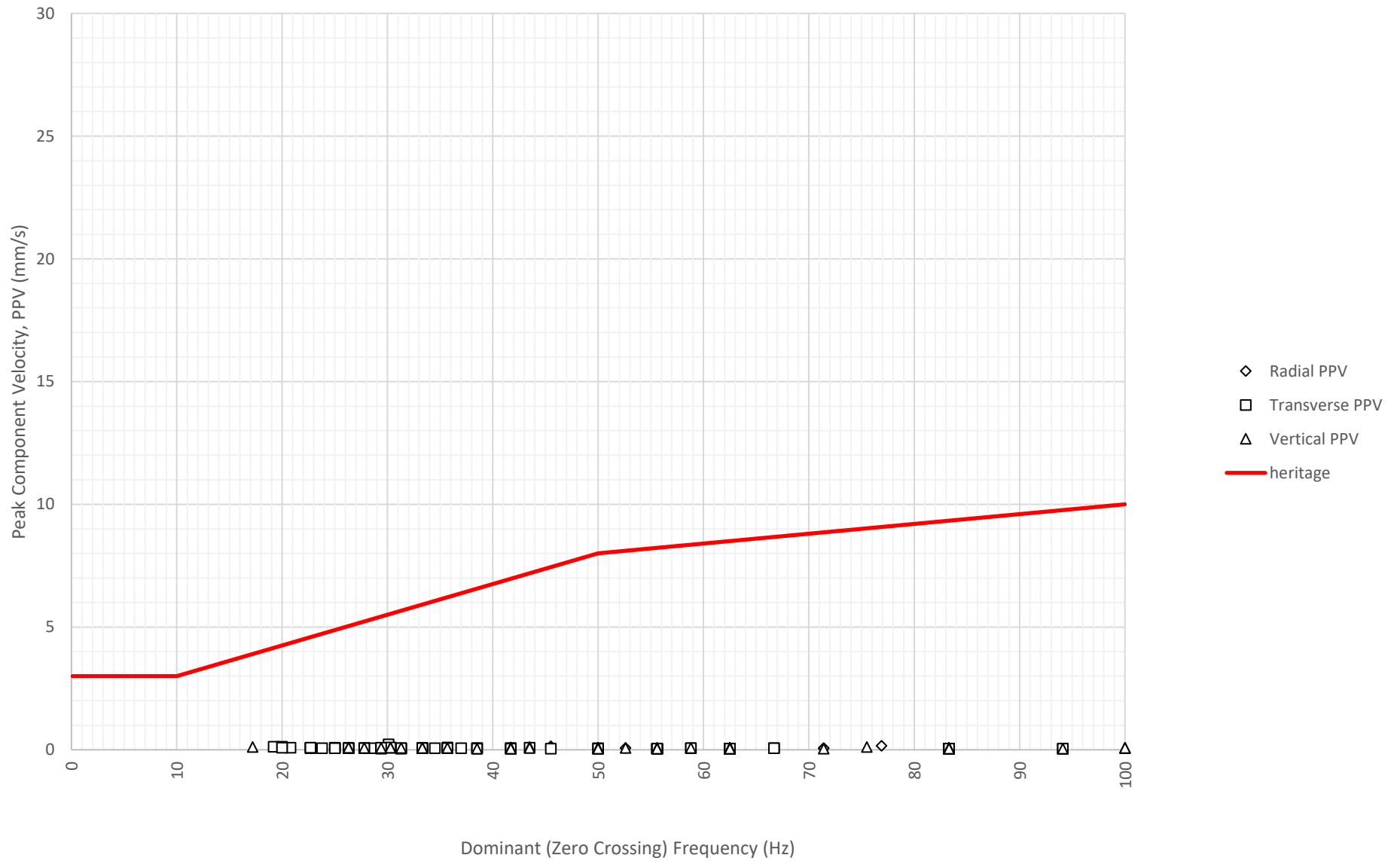
Frequency Content of Vibration Levels at M7496 Heritage (Rear) on 8-05-2023



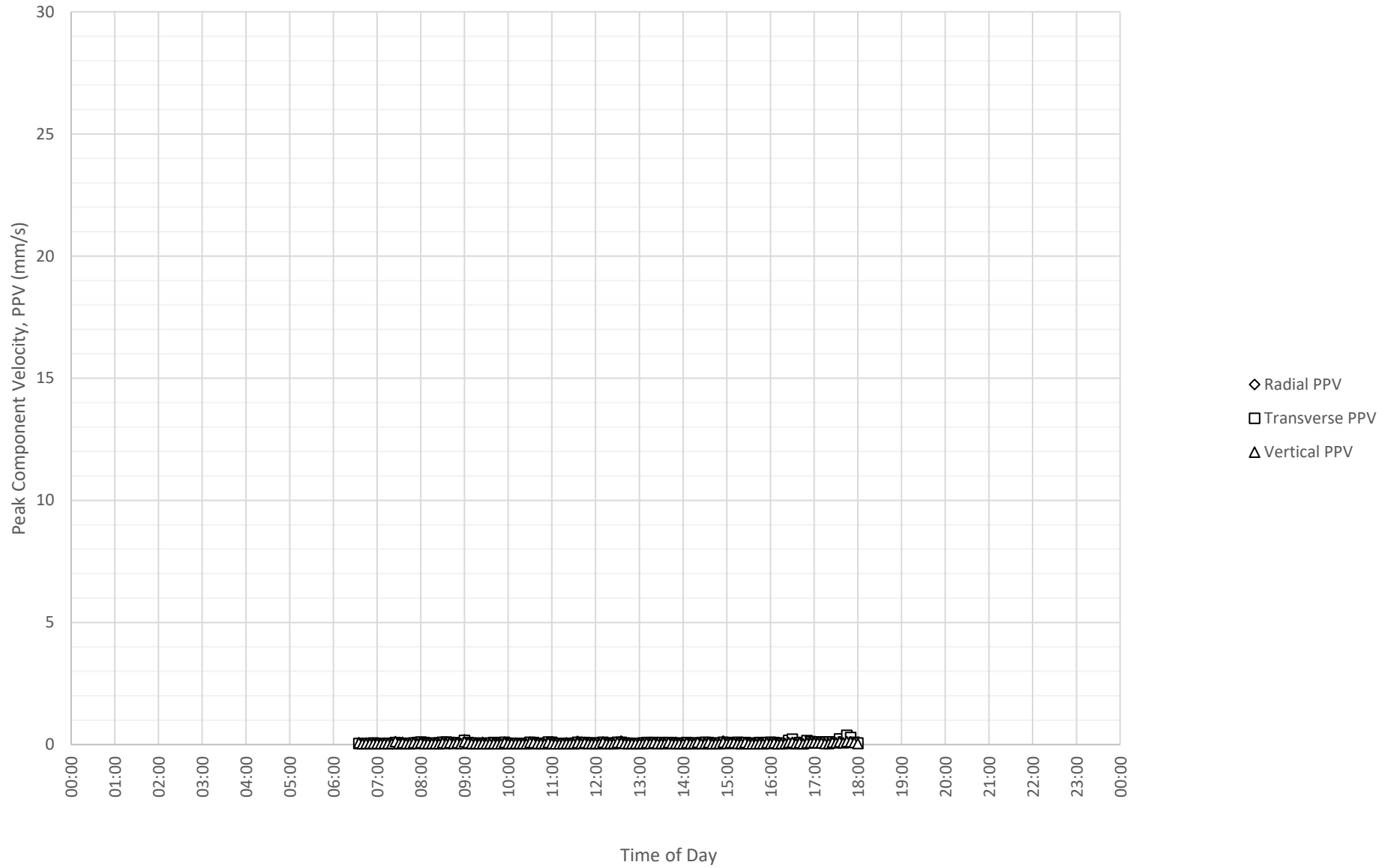
Daily Monitored Vibration Levels at M7496 Heritage (Rear) on 9-05-2023



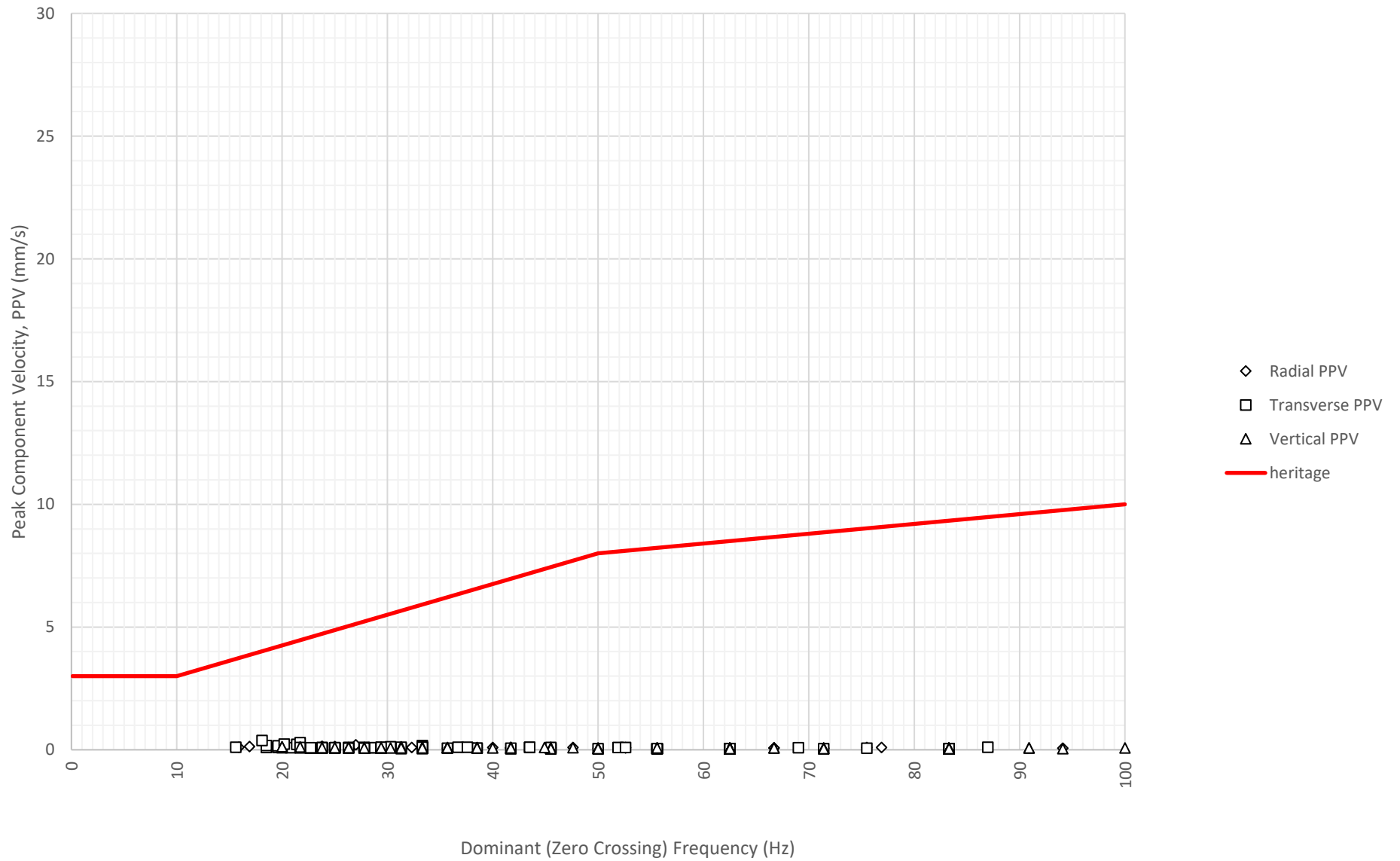
Frequency Content of Vibration Levels at M7496 Heritage (Rear) on 9-05-2023



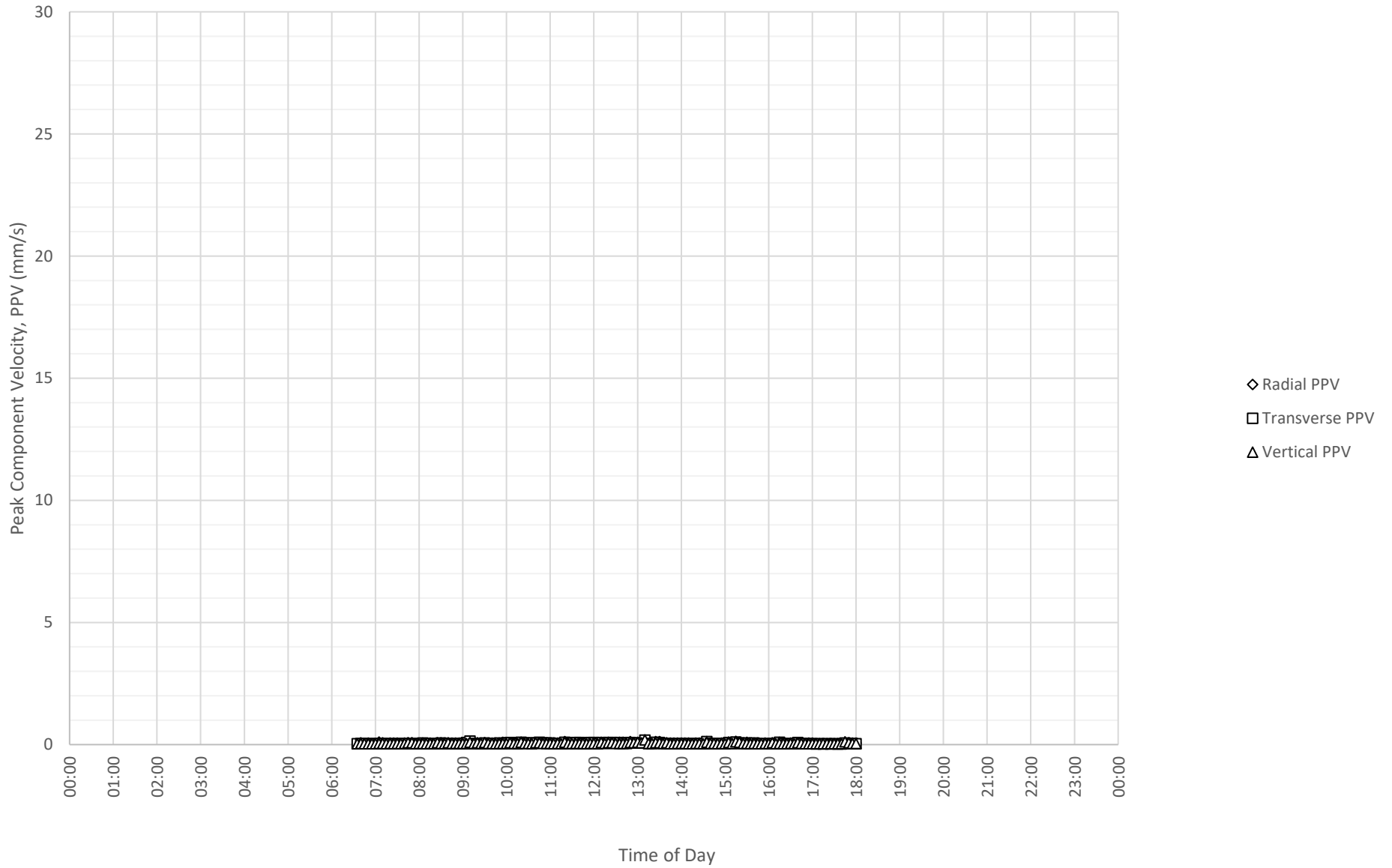
Daily Monitored Vibration Levels at M7496 Heritage (Rear) on 10-05-2023



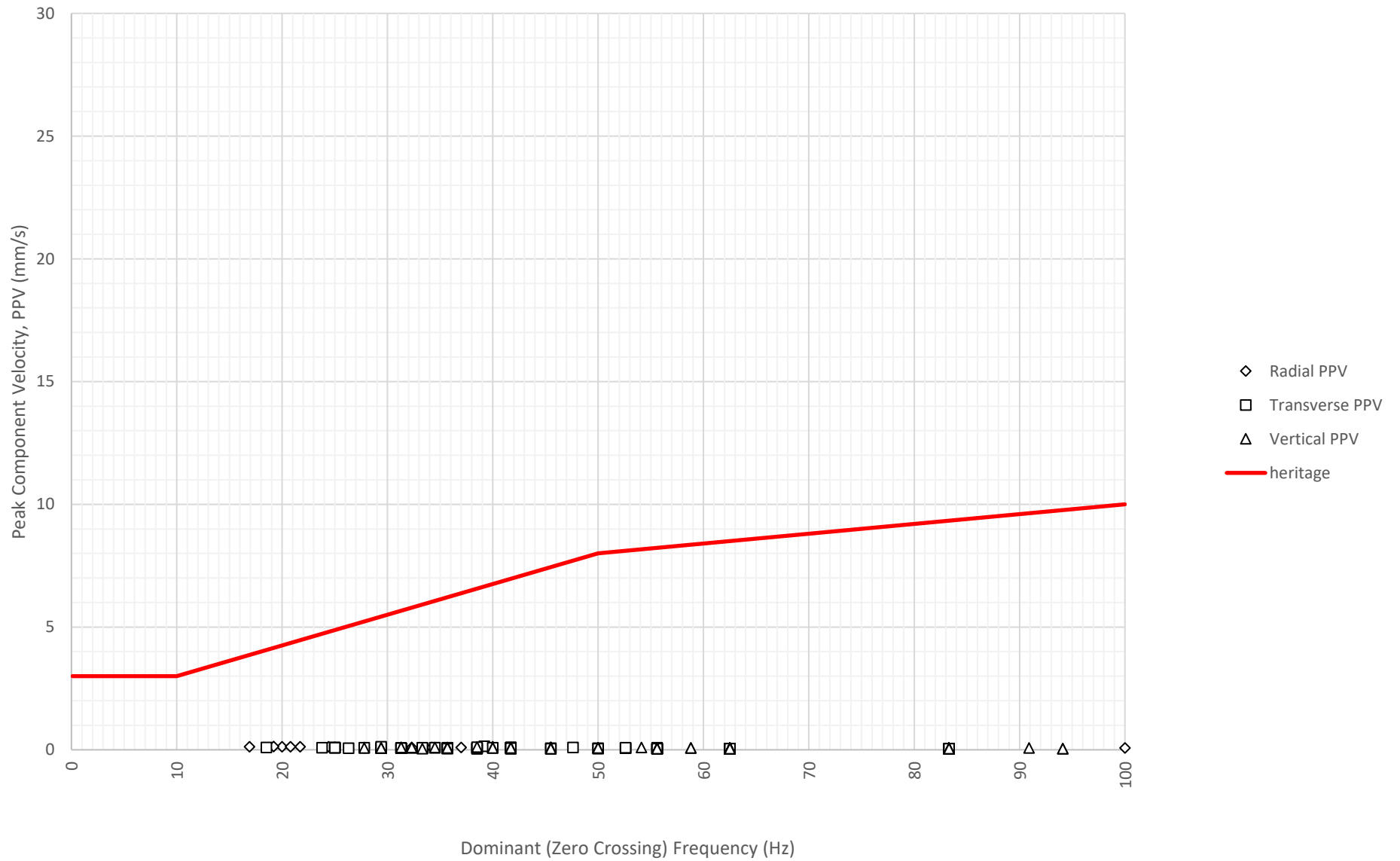
Frequency Content of Vibration Levels at M7496 Heritage (Rear) on 10-05-2023



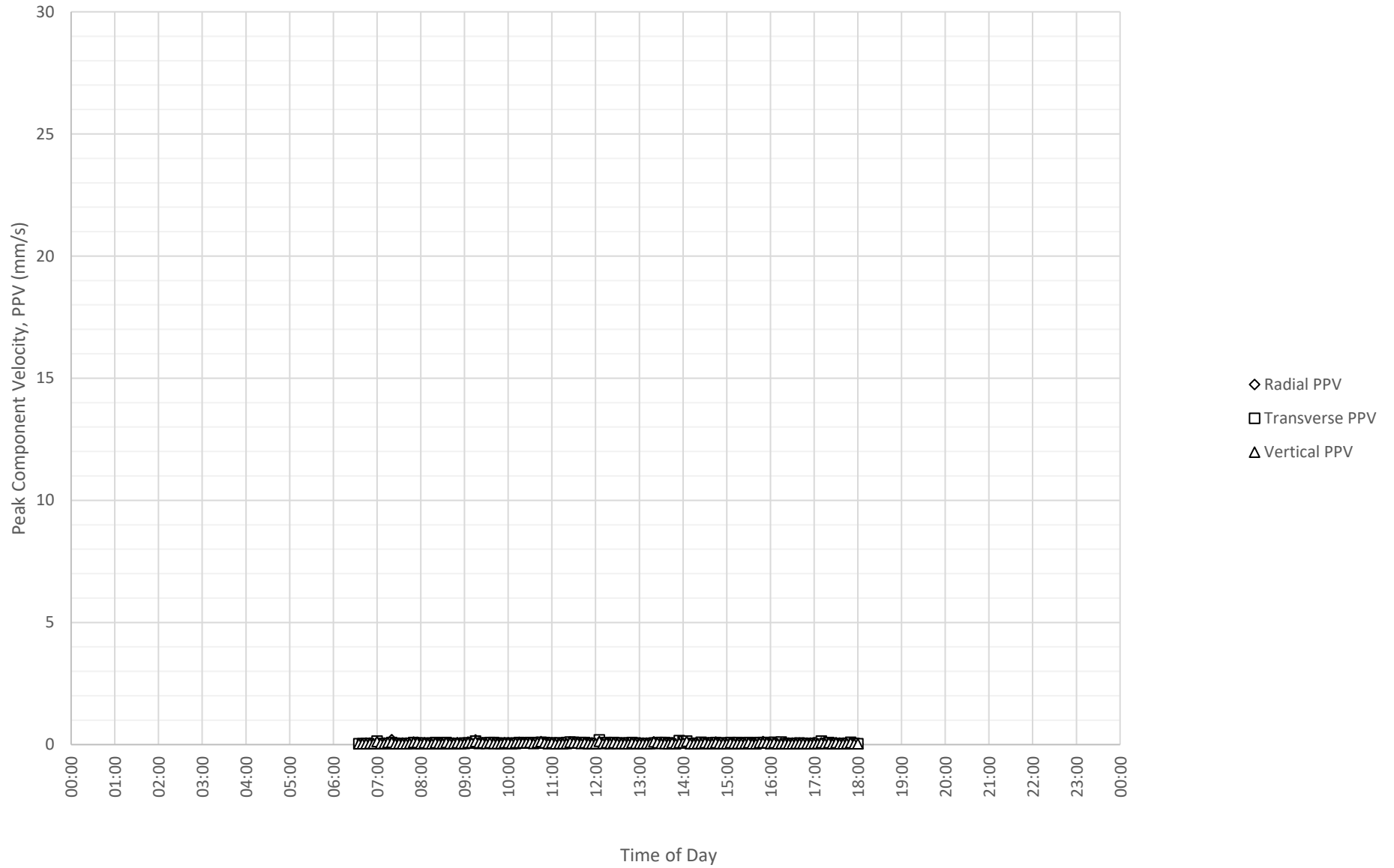
Daily Monitored Vibration Levels at M7496 Heritage (Rear) on 11-05-2023



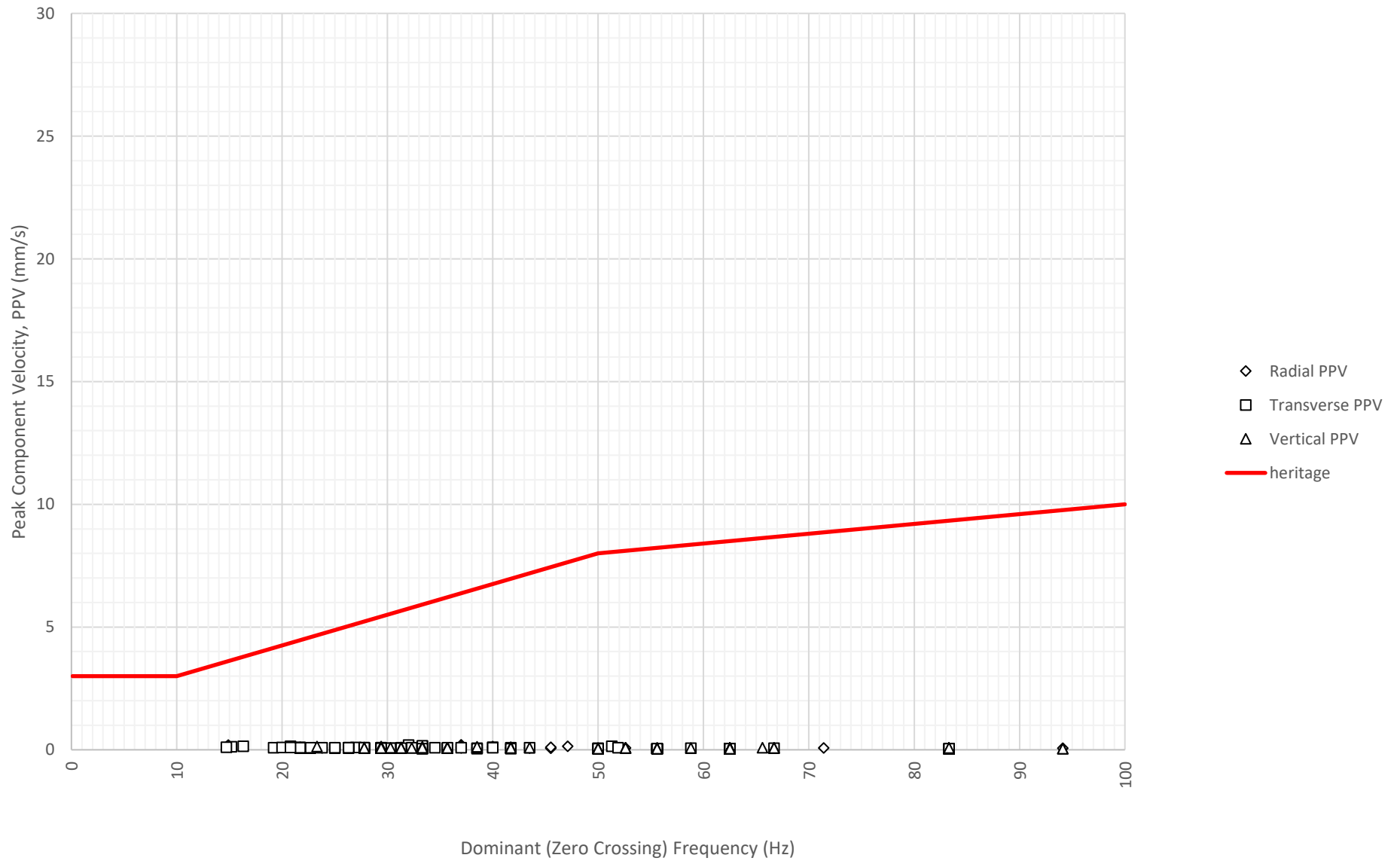
Frequency Content of Vibration Levels at M7496 Heritage (Rear) on 11-05-2023



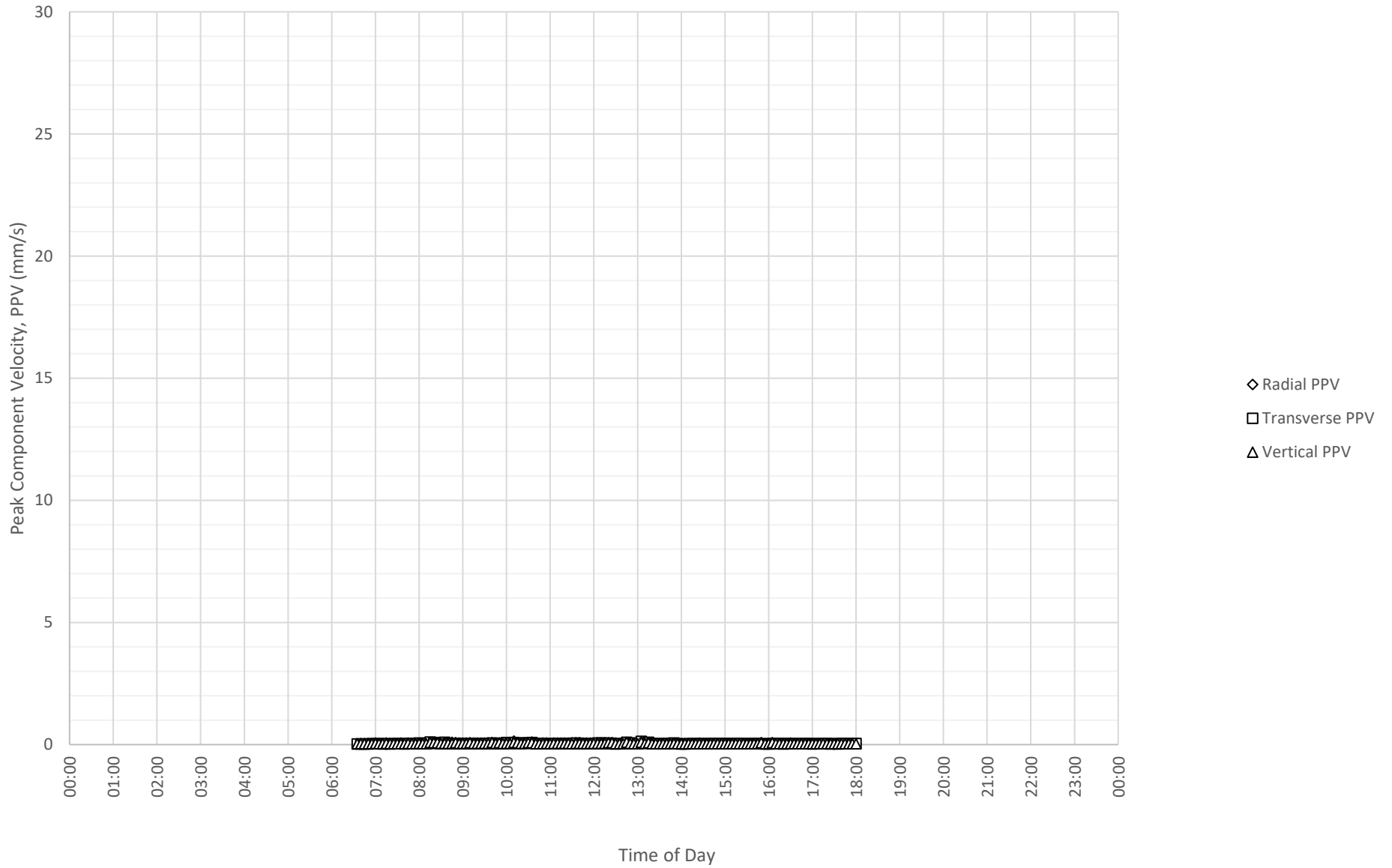
Daily Monitored Vibration Levels at M7496 Heritage (Rear) on 12-05-2023



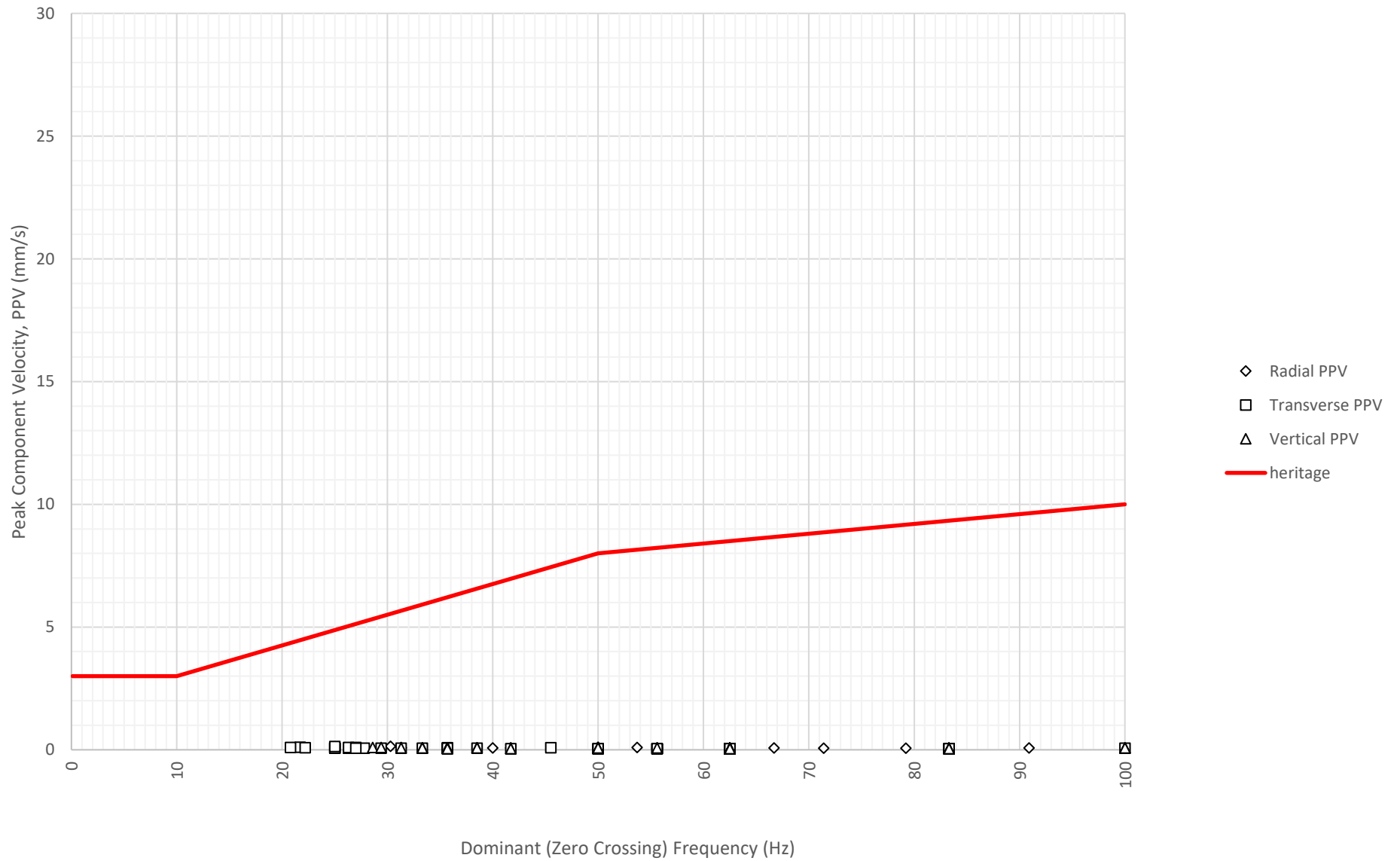
Frequency Content of Vibration Levels at M7496 Heritage (Rear) on 12-05-2023



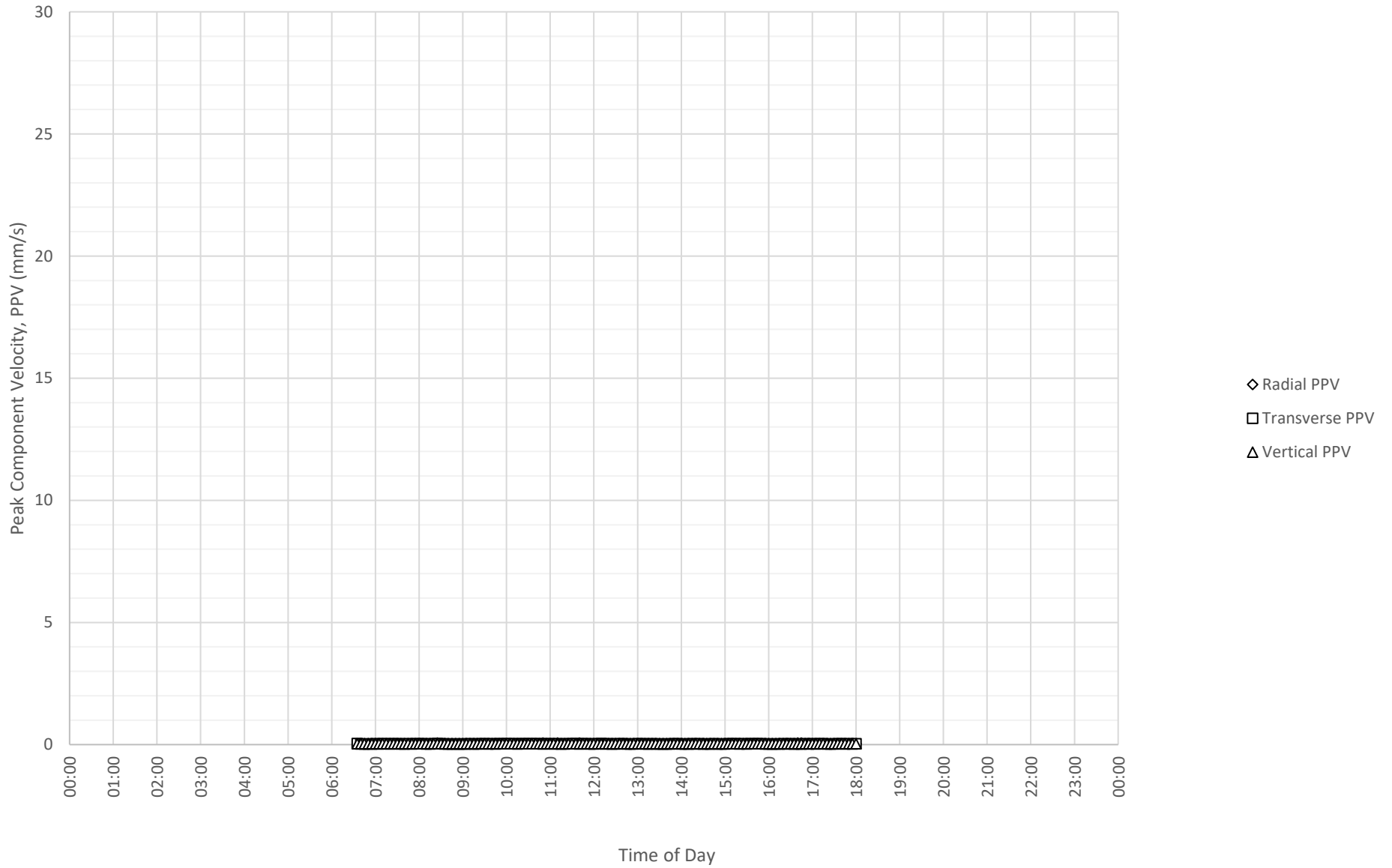
Daily Monitored Vibration Levels at M7496 Heritage (Rear) on 13-05-2023



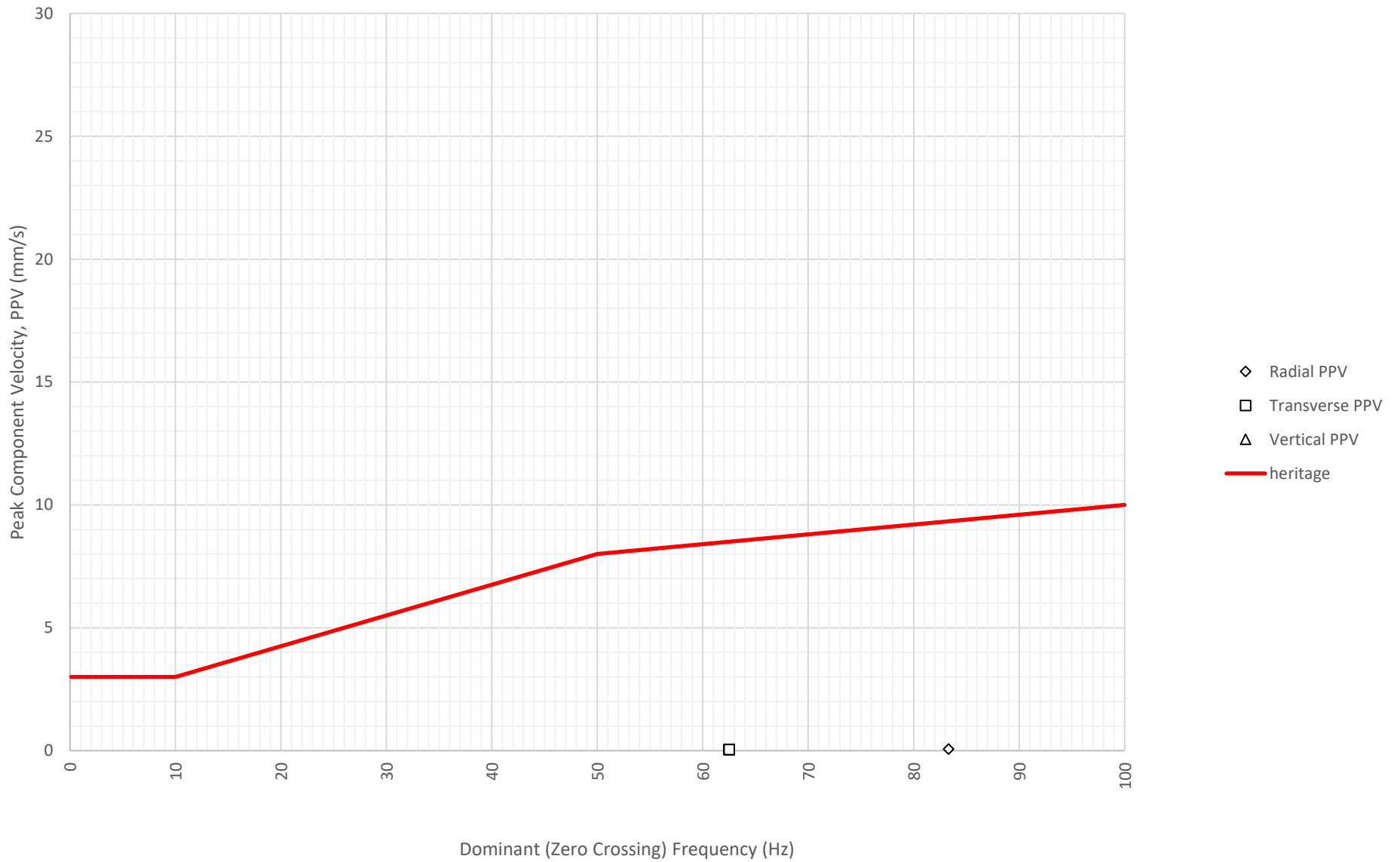
Frequency Content of Vibration Levels at M7496 Heritage (Rear) on 13-05-2023



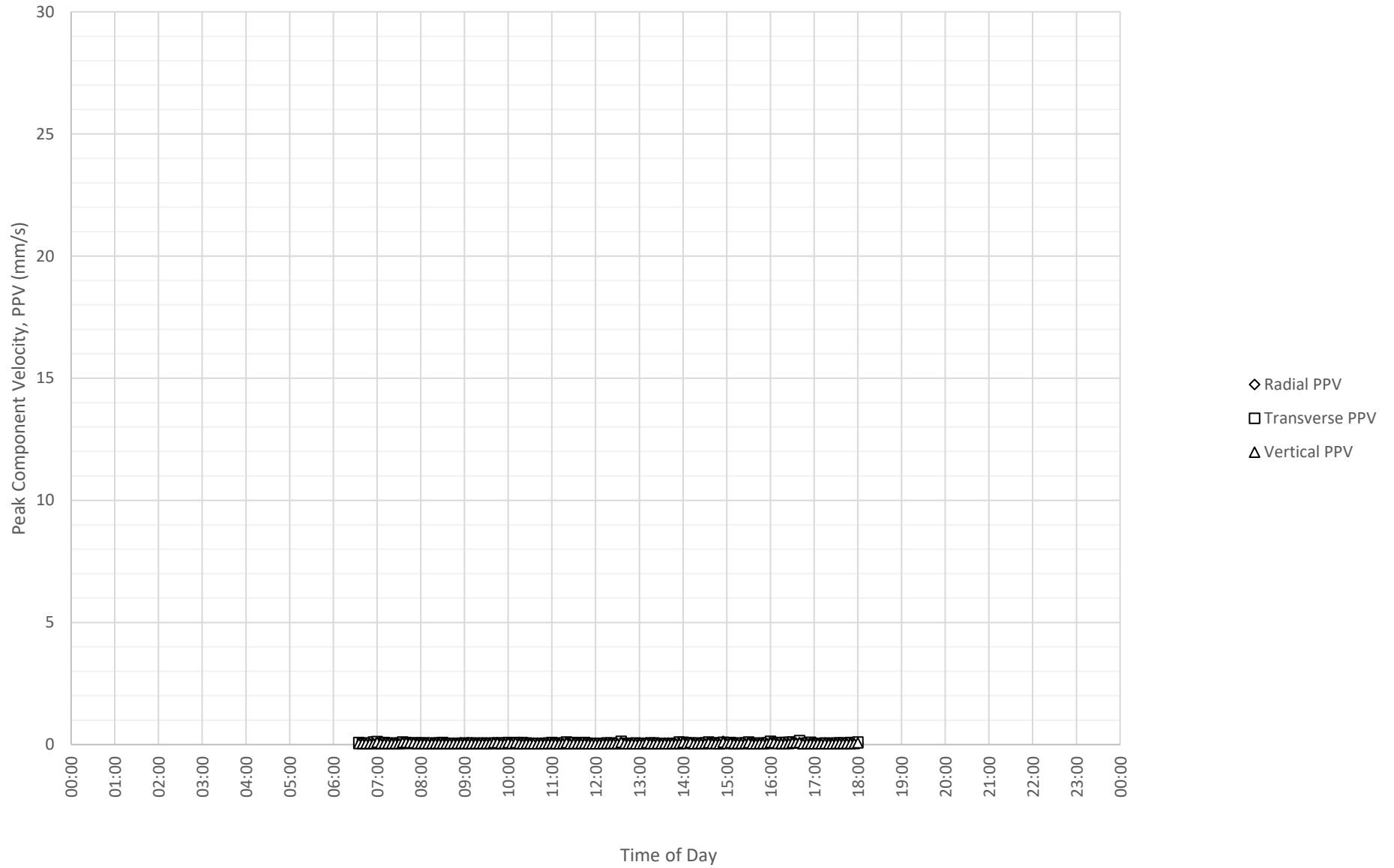
Daily Monitored Vibration Levels at M7496 Heritage (Rear) on 14-05-2023



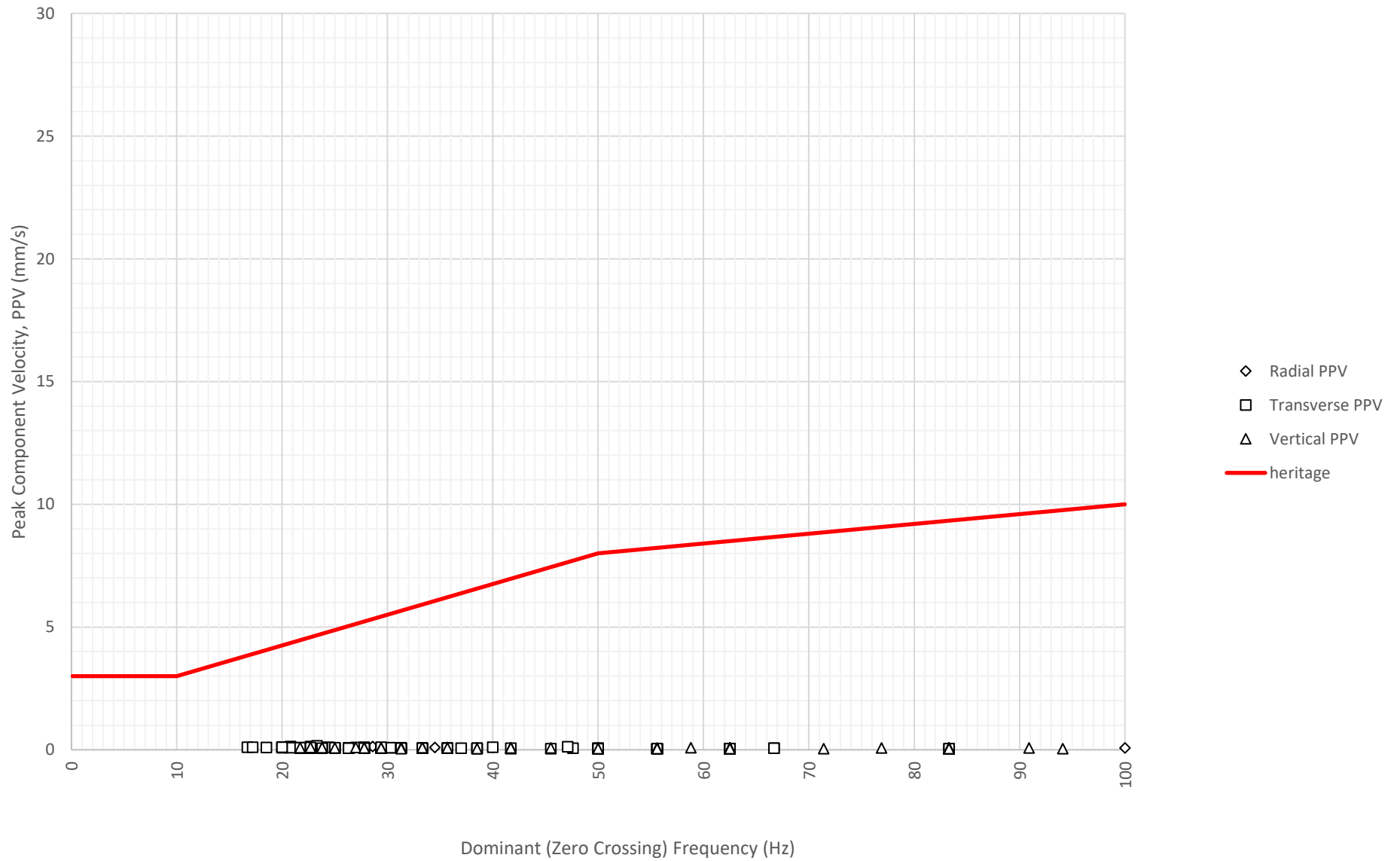
Frequency Content of Vibration Levels at M7496 Heritage (Rear) on 14-05-2023



Daily Monitored Vibration Levels at M7496 Heritage (Rear) on 15-05-2023

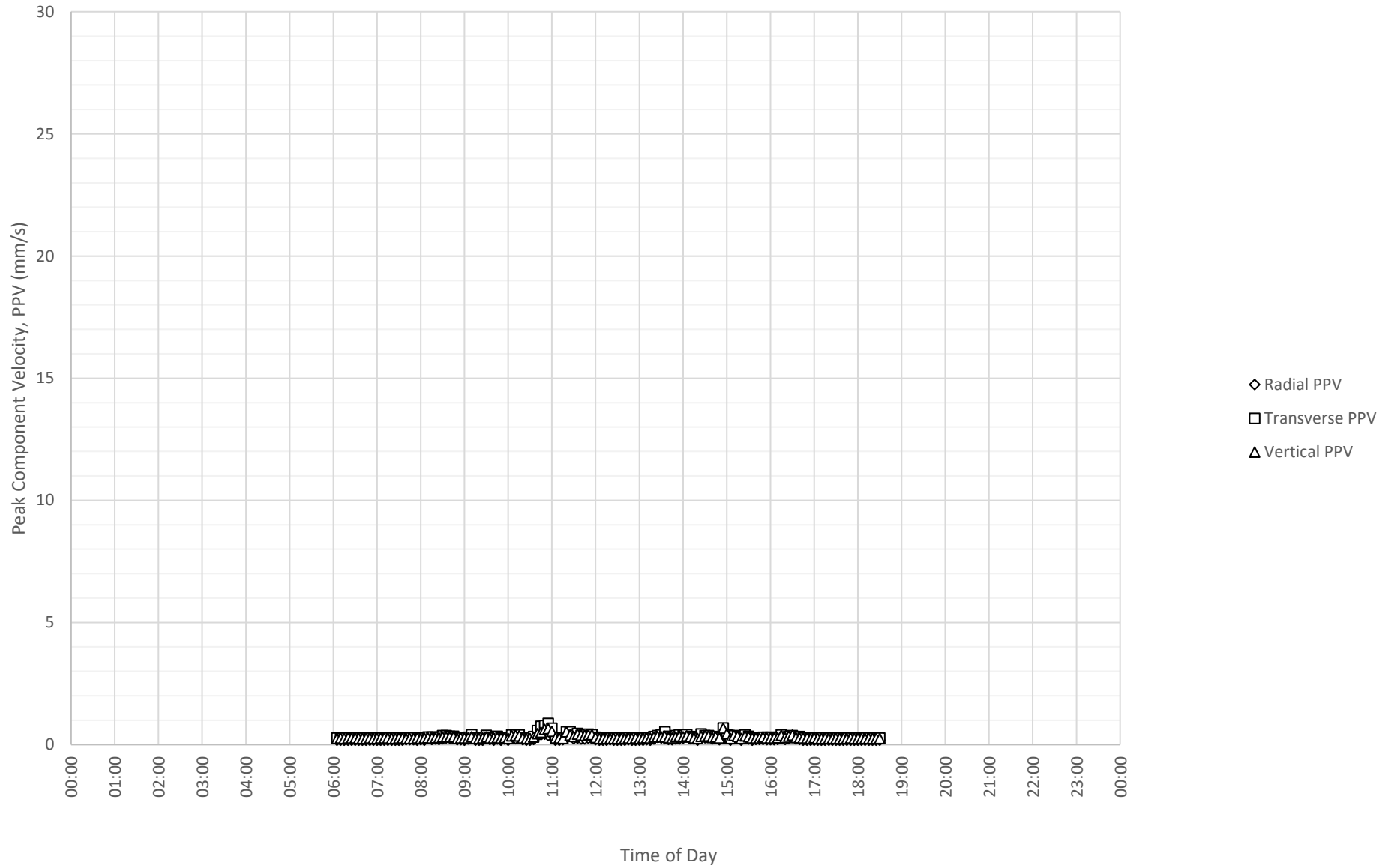


Frequency Content of Vibration Levels at M7496 Heritage (Rear) on 15-05-2023

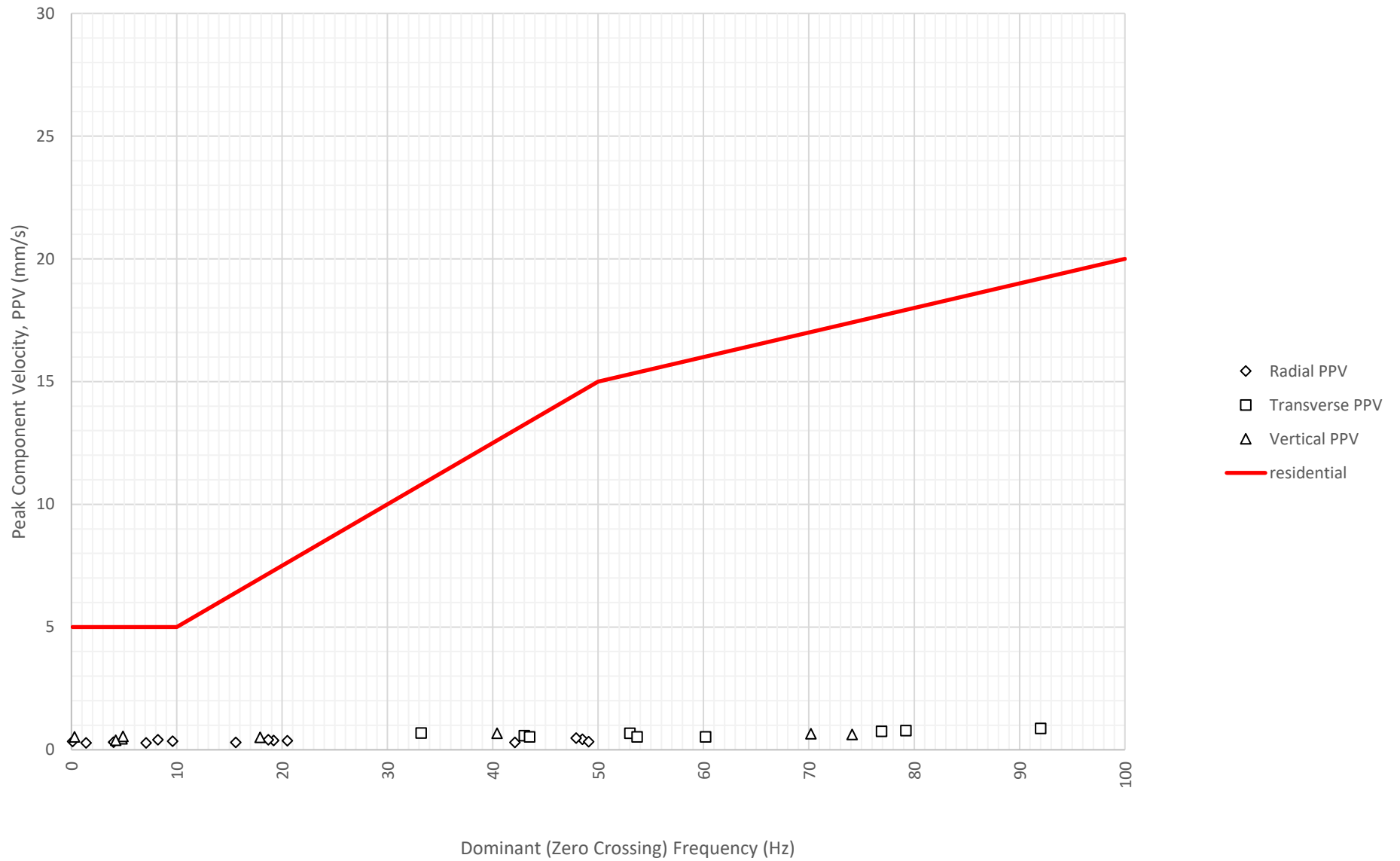


APPENDIX 3: DAILY GRAPHS M7715 (RESIDENTIAL BUILDING)

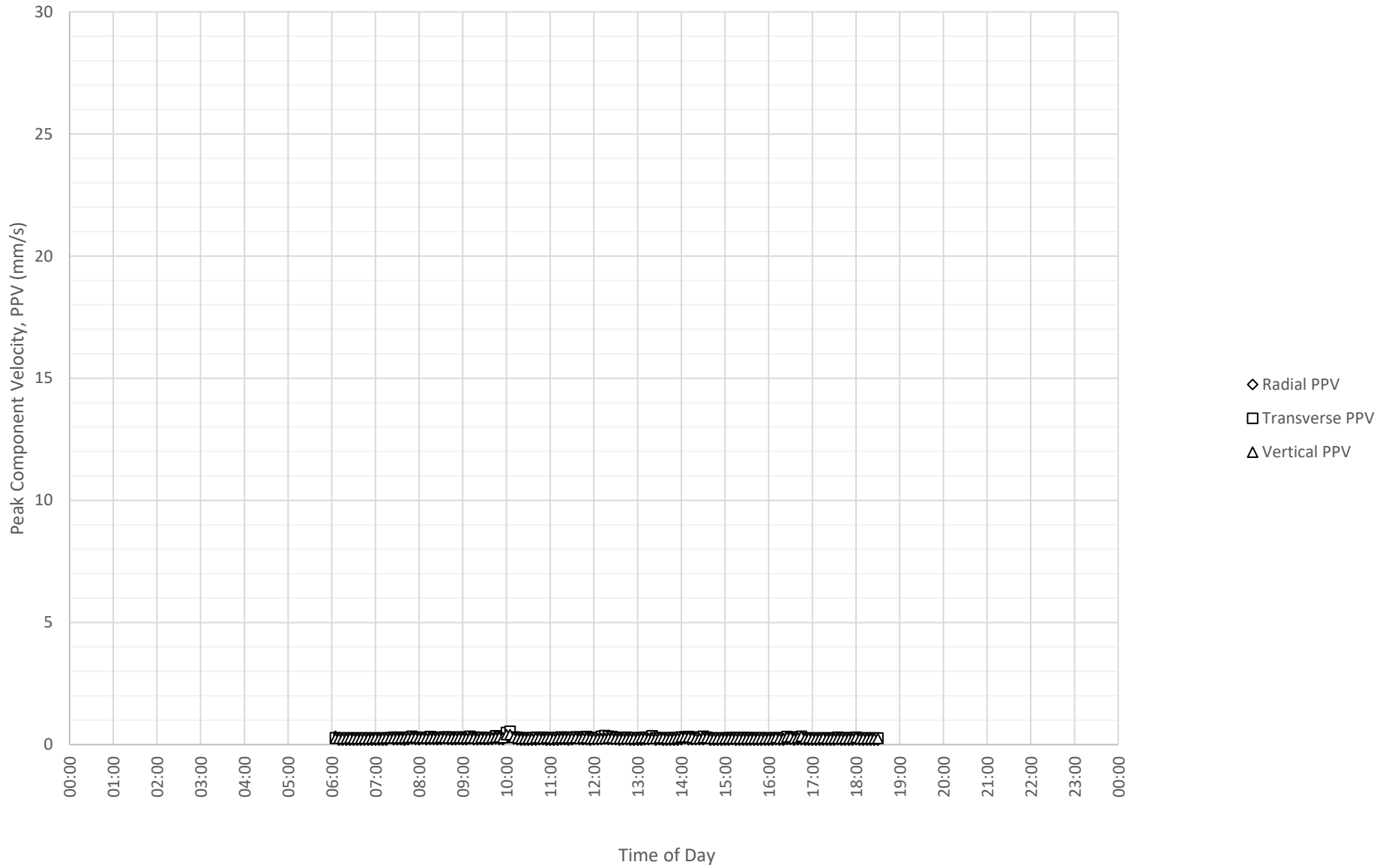
Daily Monitored Vibration Levels at M7715 Residential Boundary on 1-05-2023



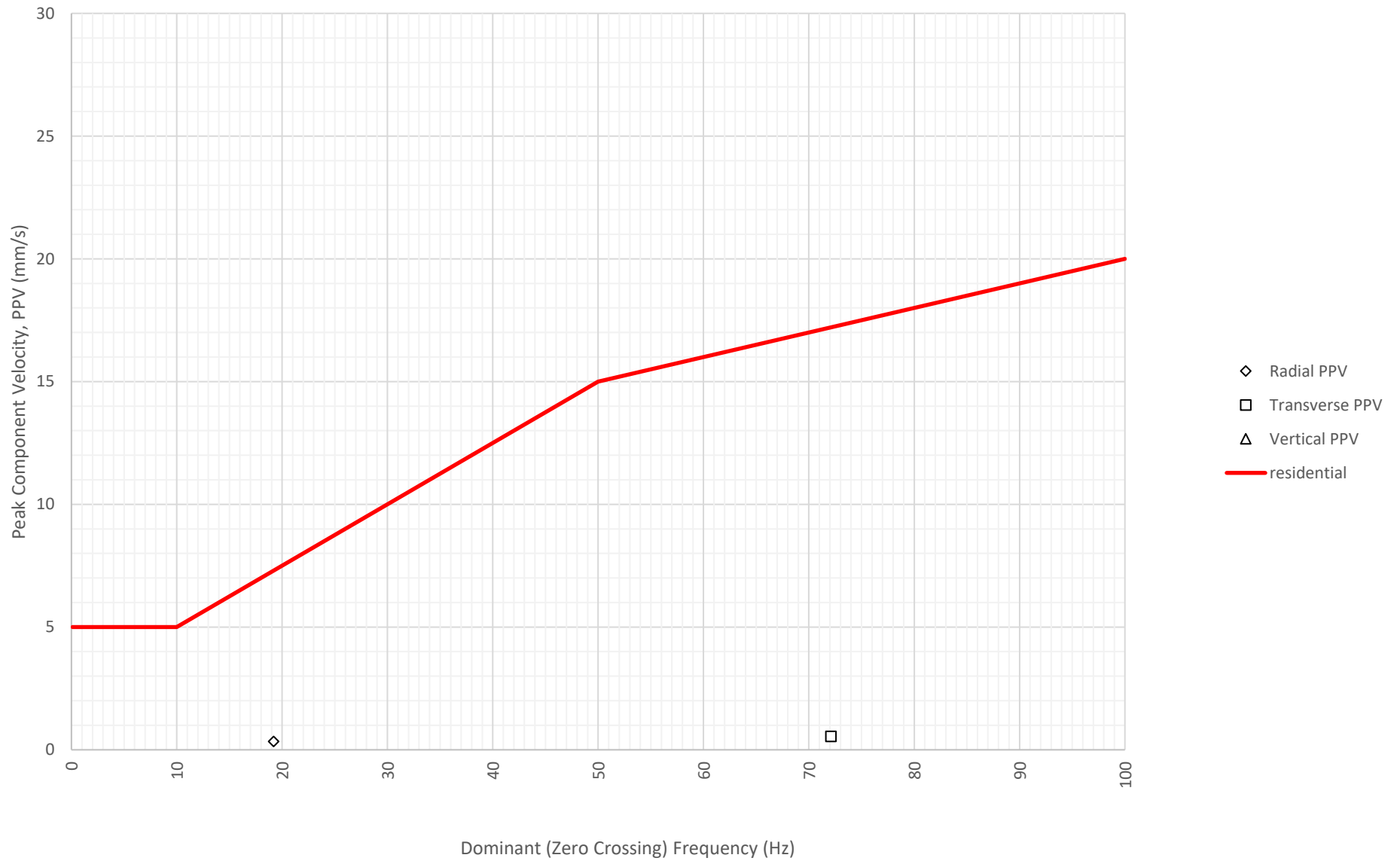
Frequency Content of Vibration Levels at M7715 Residential Boundary on 1-05-2023



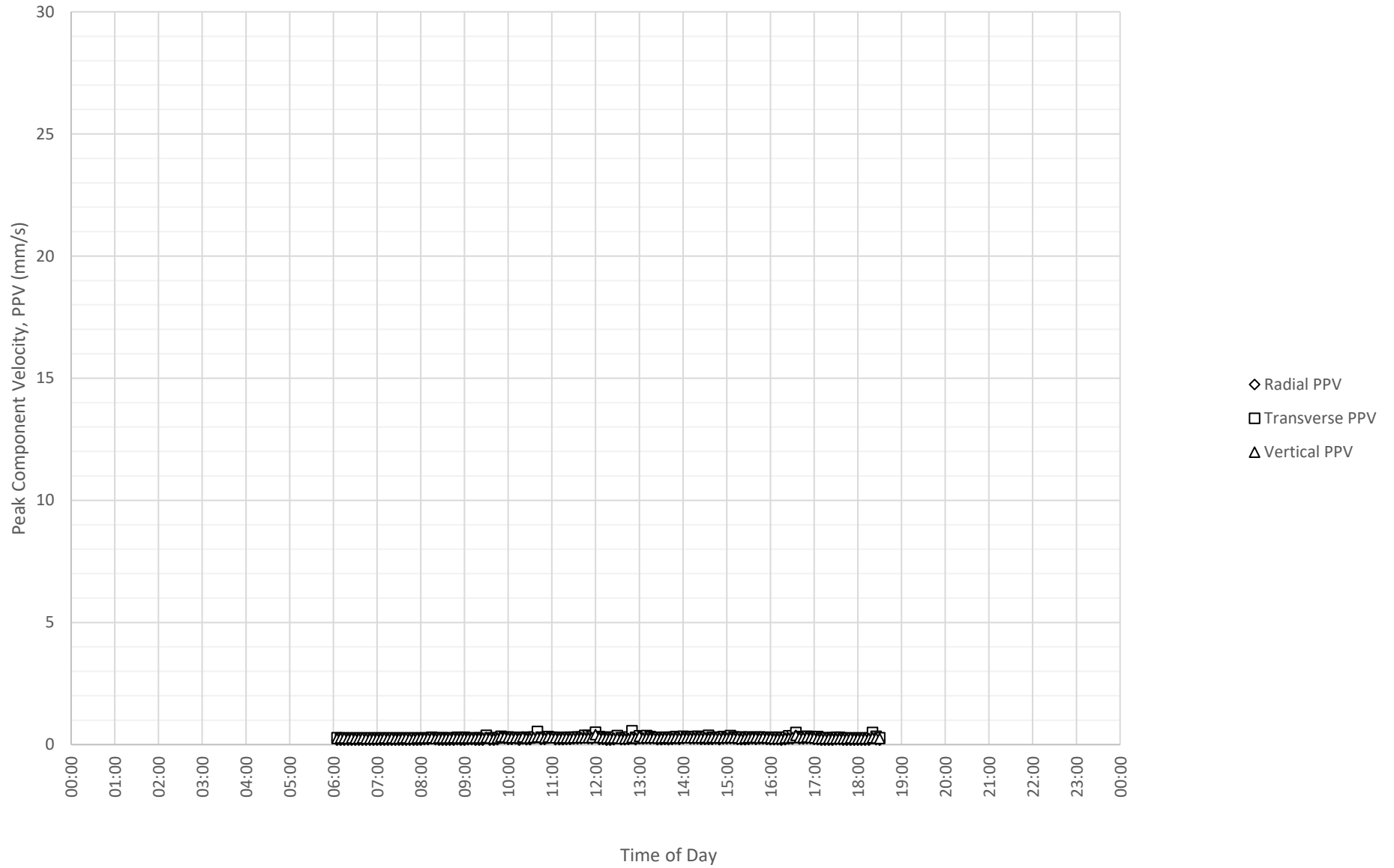
Daily Monitored Vibration Levels at M7715 Residential Boundary on 2-05-2023



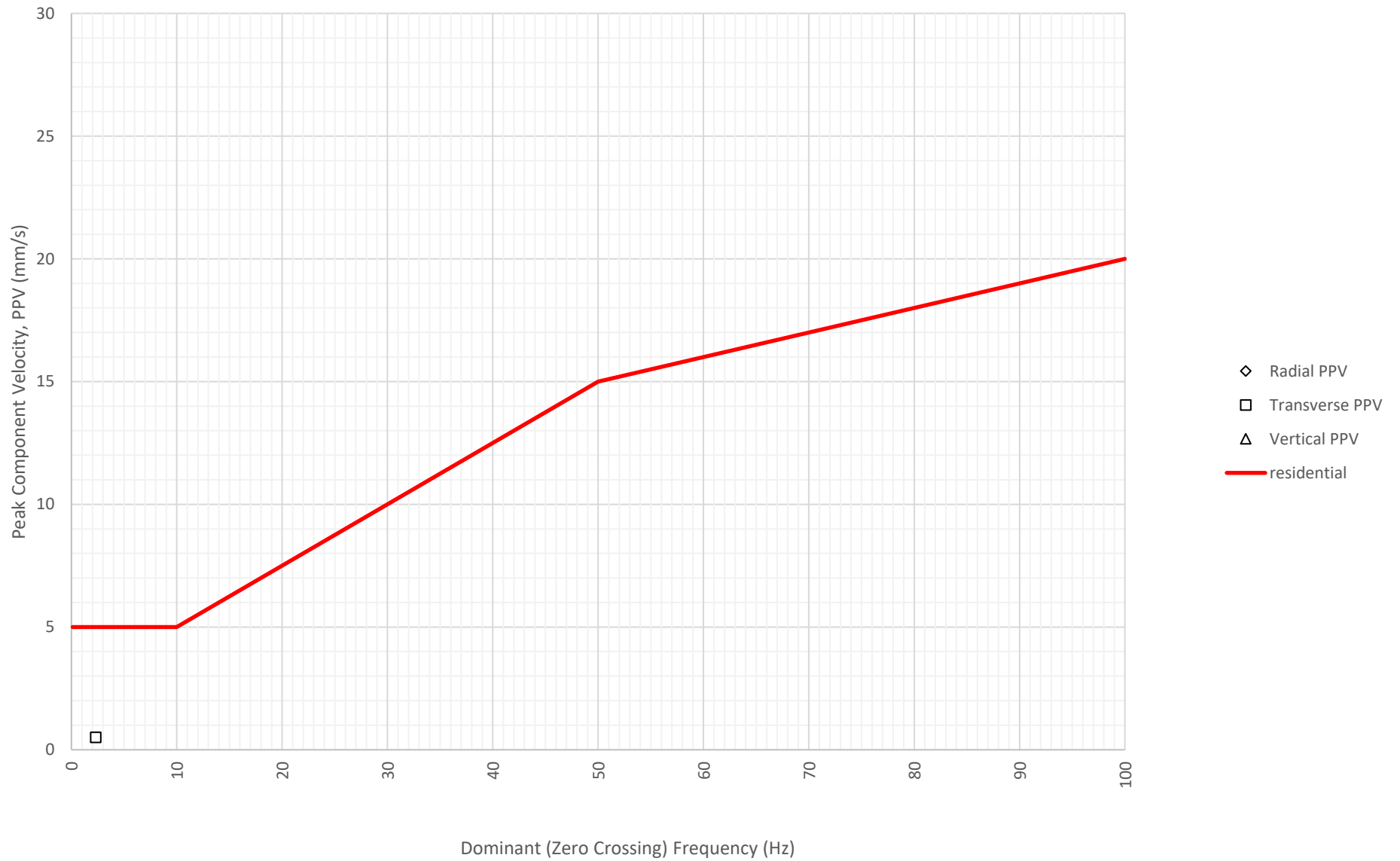
Frequency Content of Vibration Levels at M7715 Residential Boundary on 2-05-2023



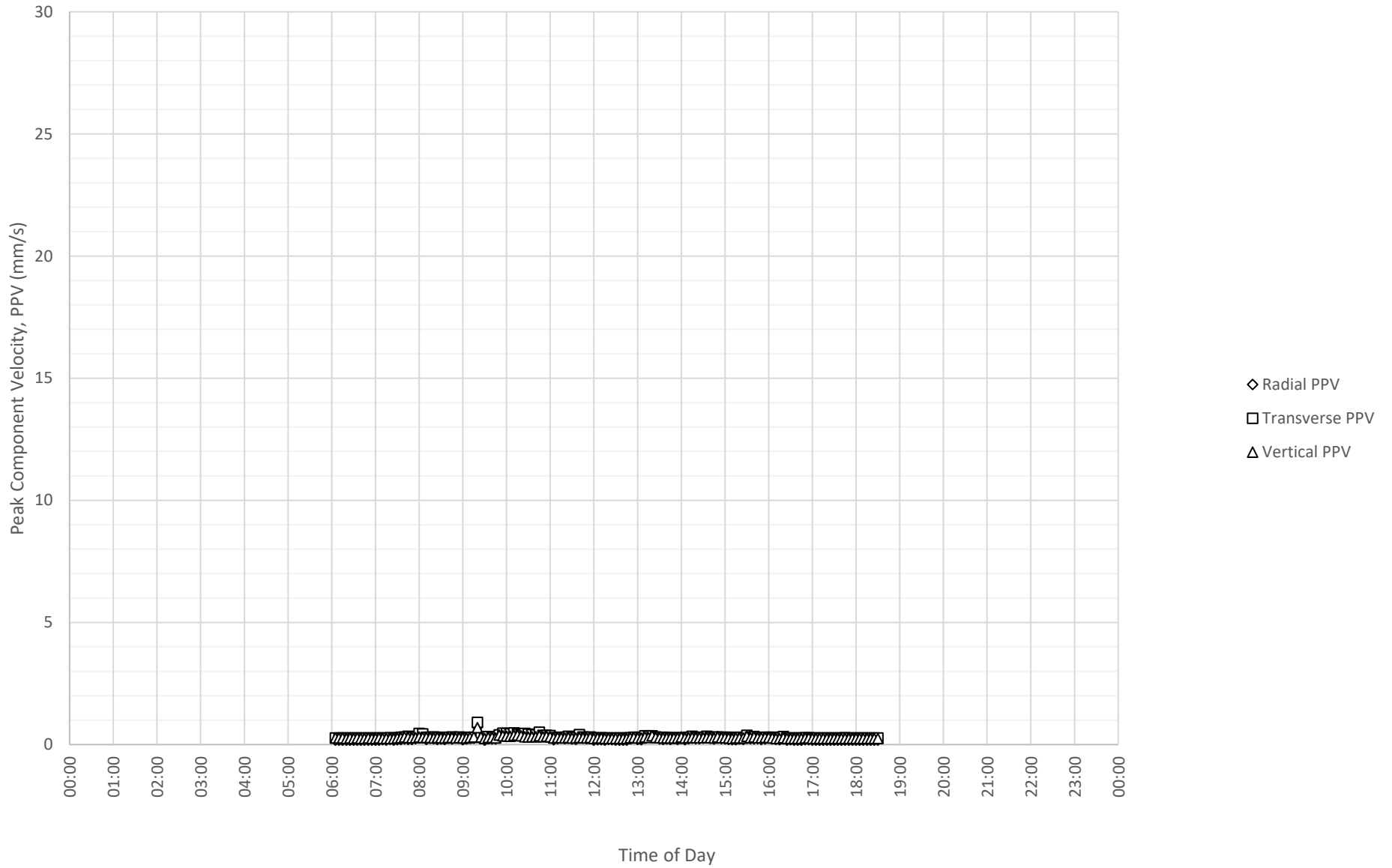
Daily Monitored Vibration Levels at M7715 Residential Boundary on 3-05-2023



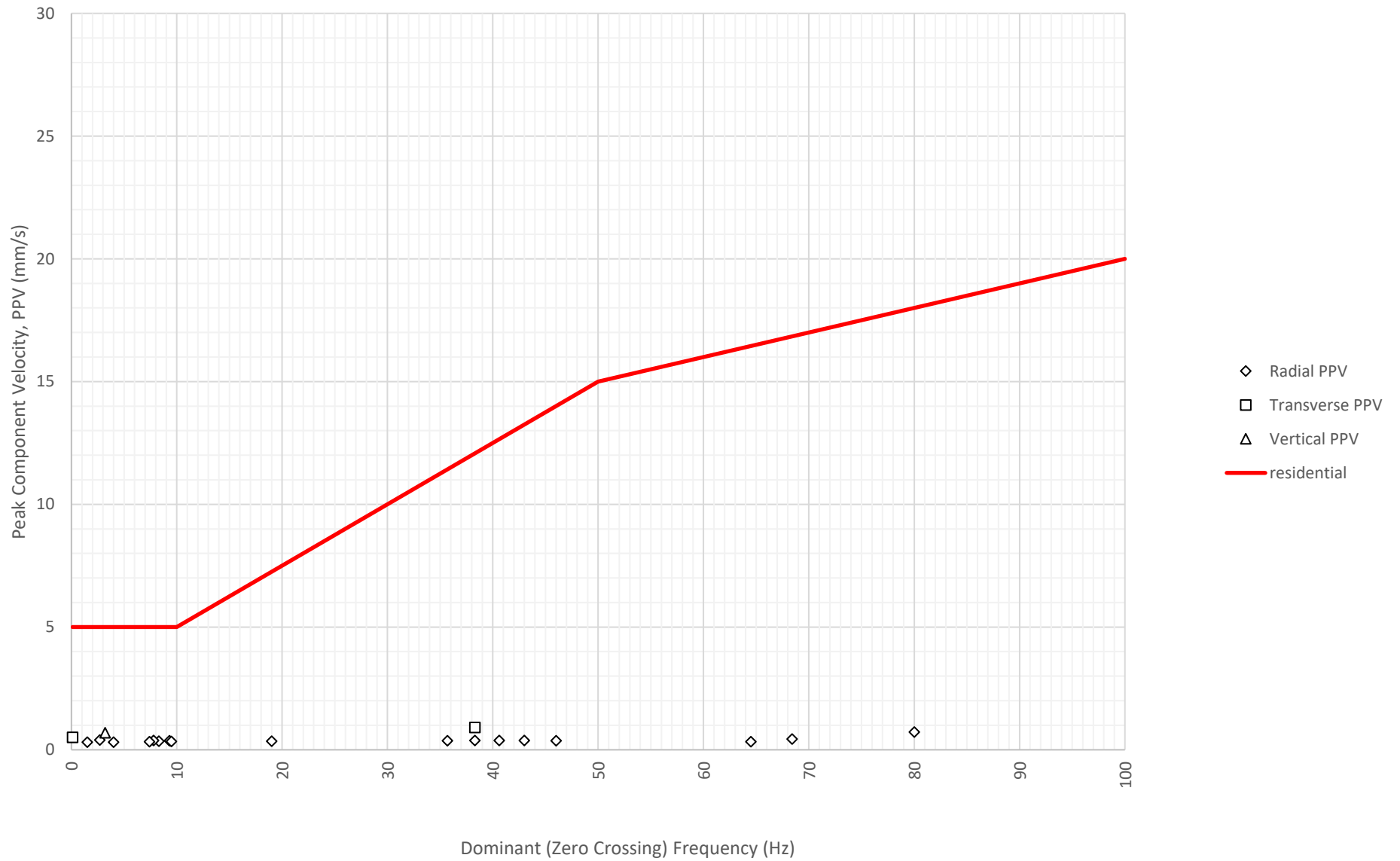
Frequency Content of Vibration Levels at M7715 Residential Boundary on 3-05-2023



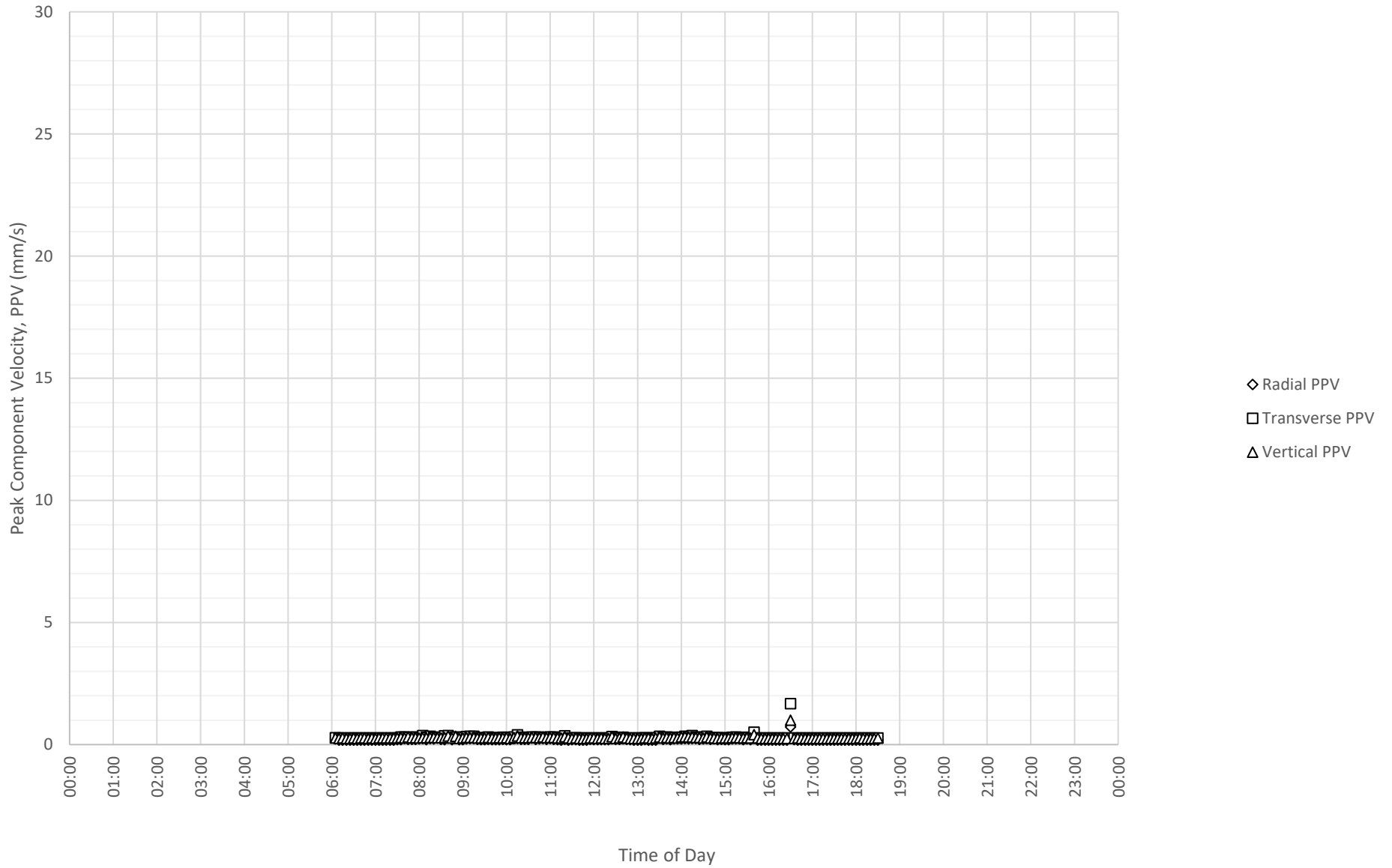
Daily Monitored Vibration Levels at M7715 Residential Boundary on 4-05-2023



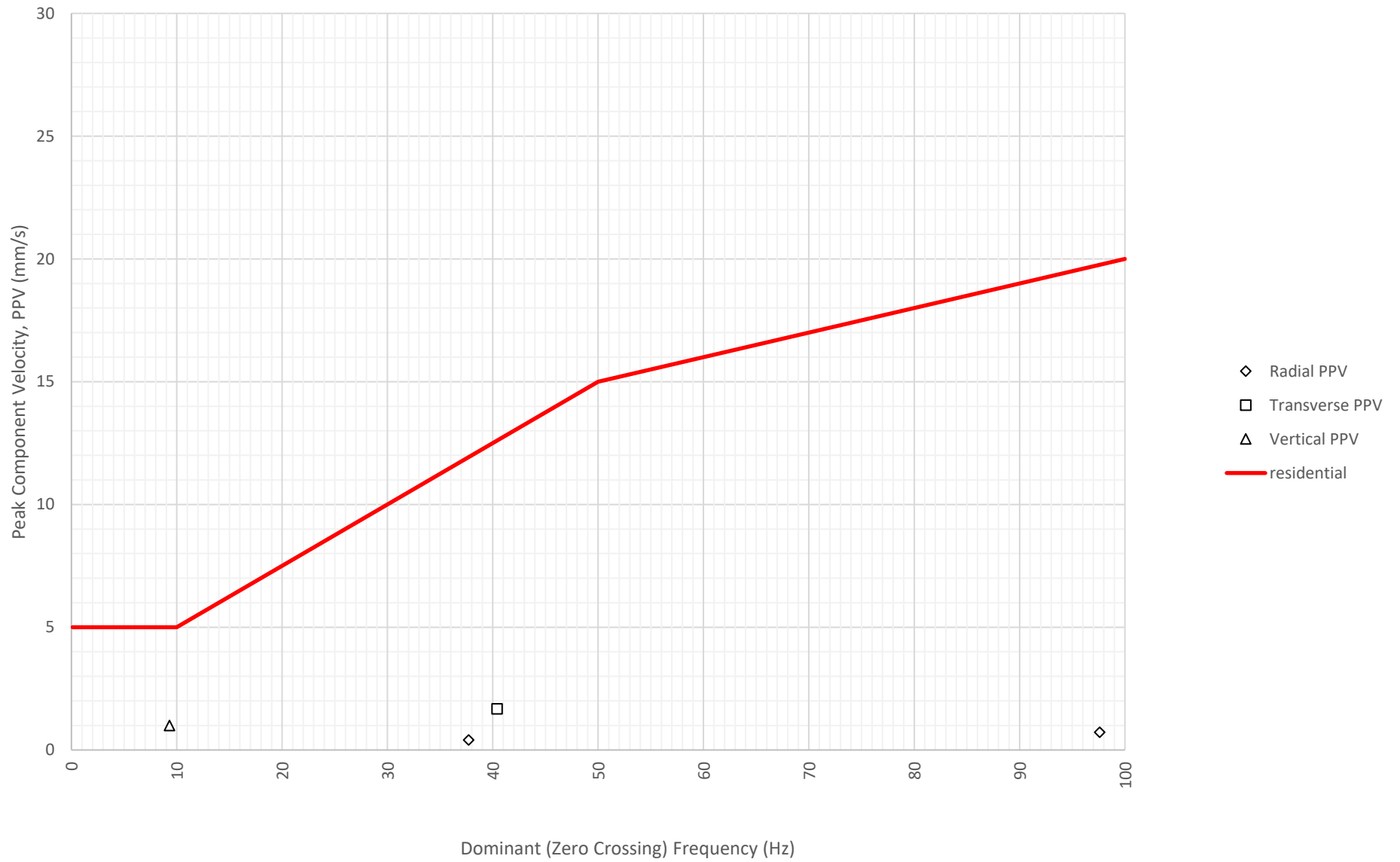
Frequency Content of Vibration Levels at M7715 Residential Boundary on 4-05-2023



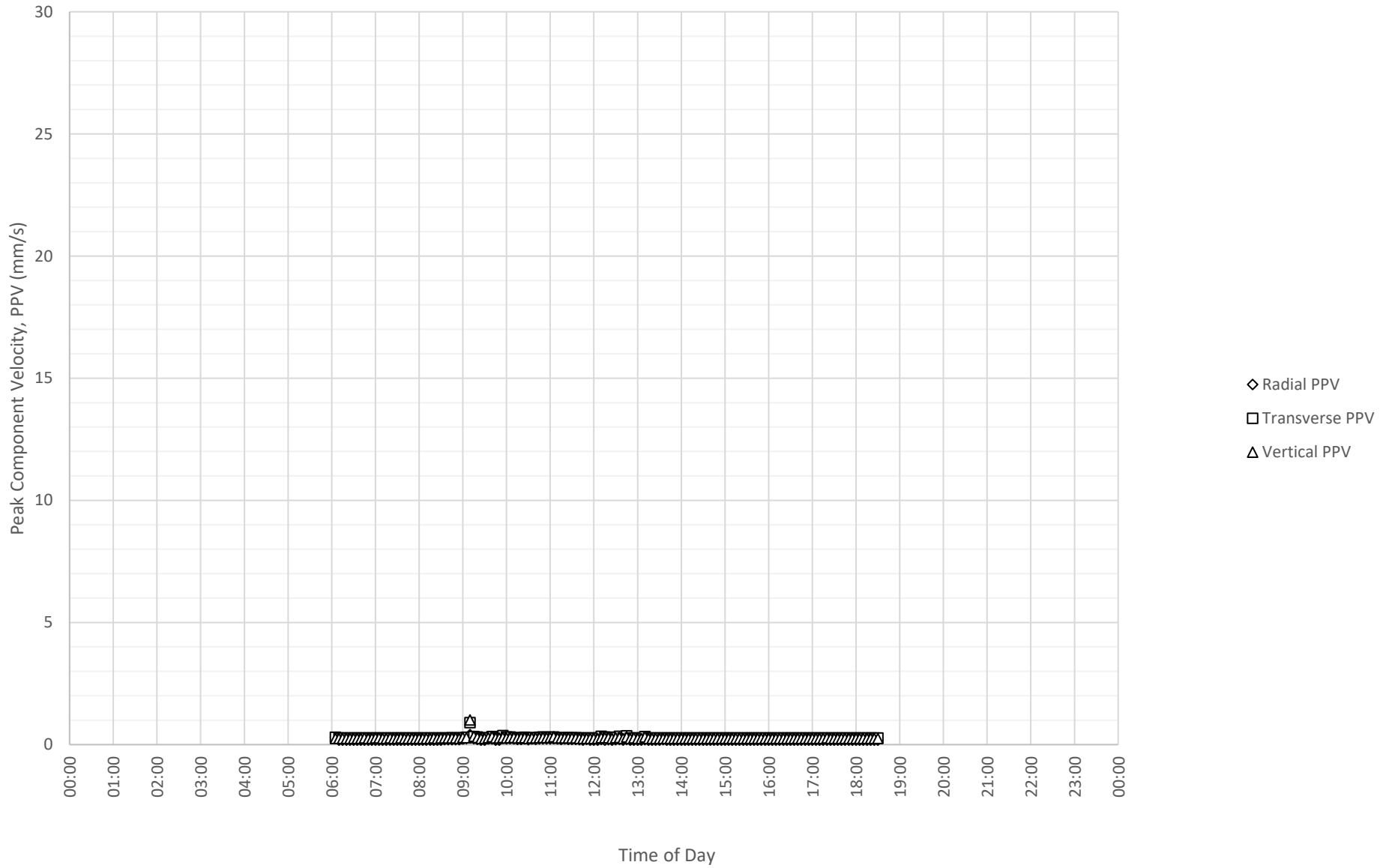
Daily Monitored Vibration Levels at M7715 Residential Boundary on 5-05-2023



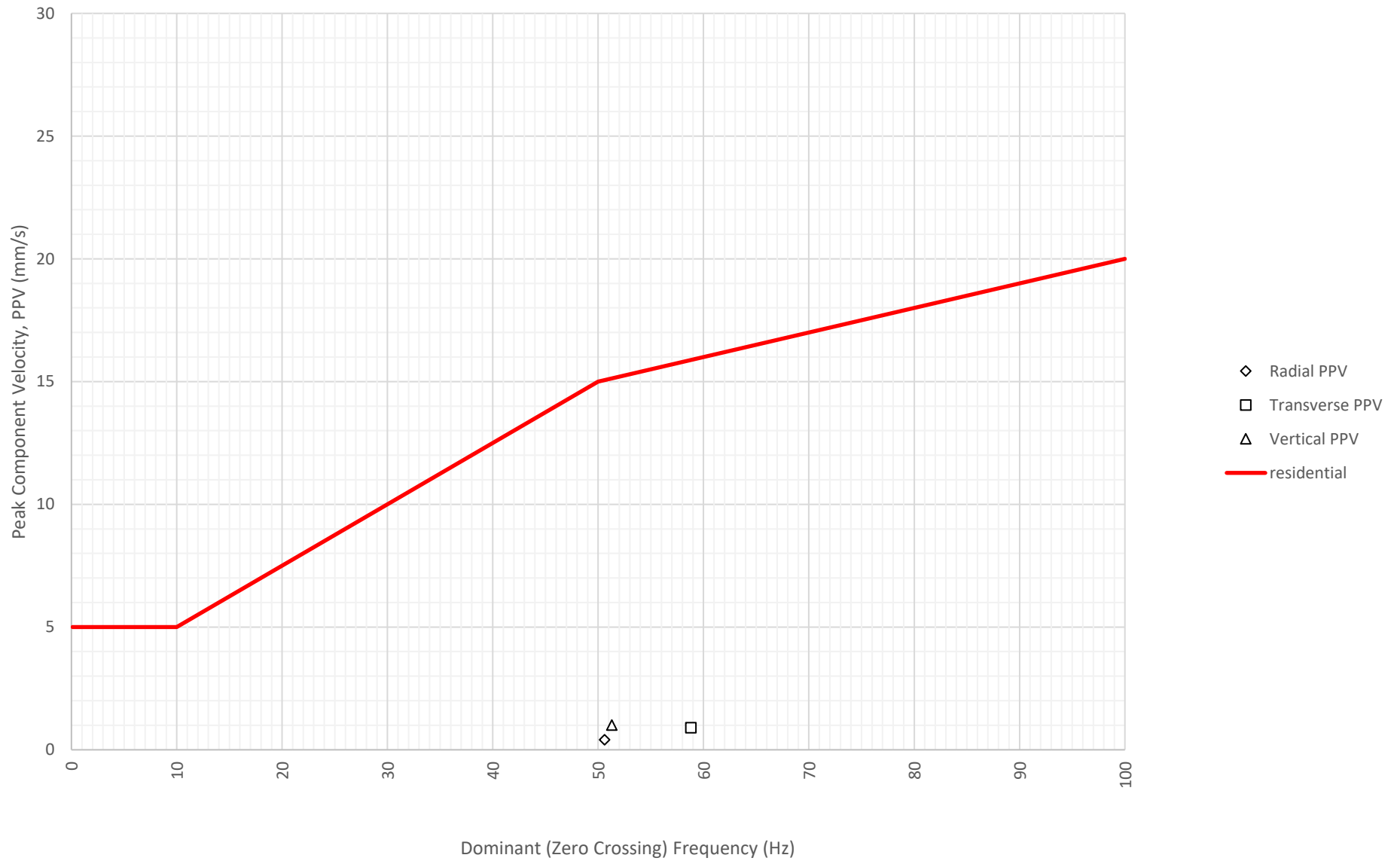
Frequency Content of Vibration Levels at M7715 Residential Boundary on 5-05-2023



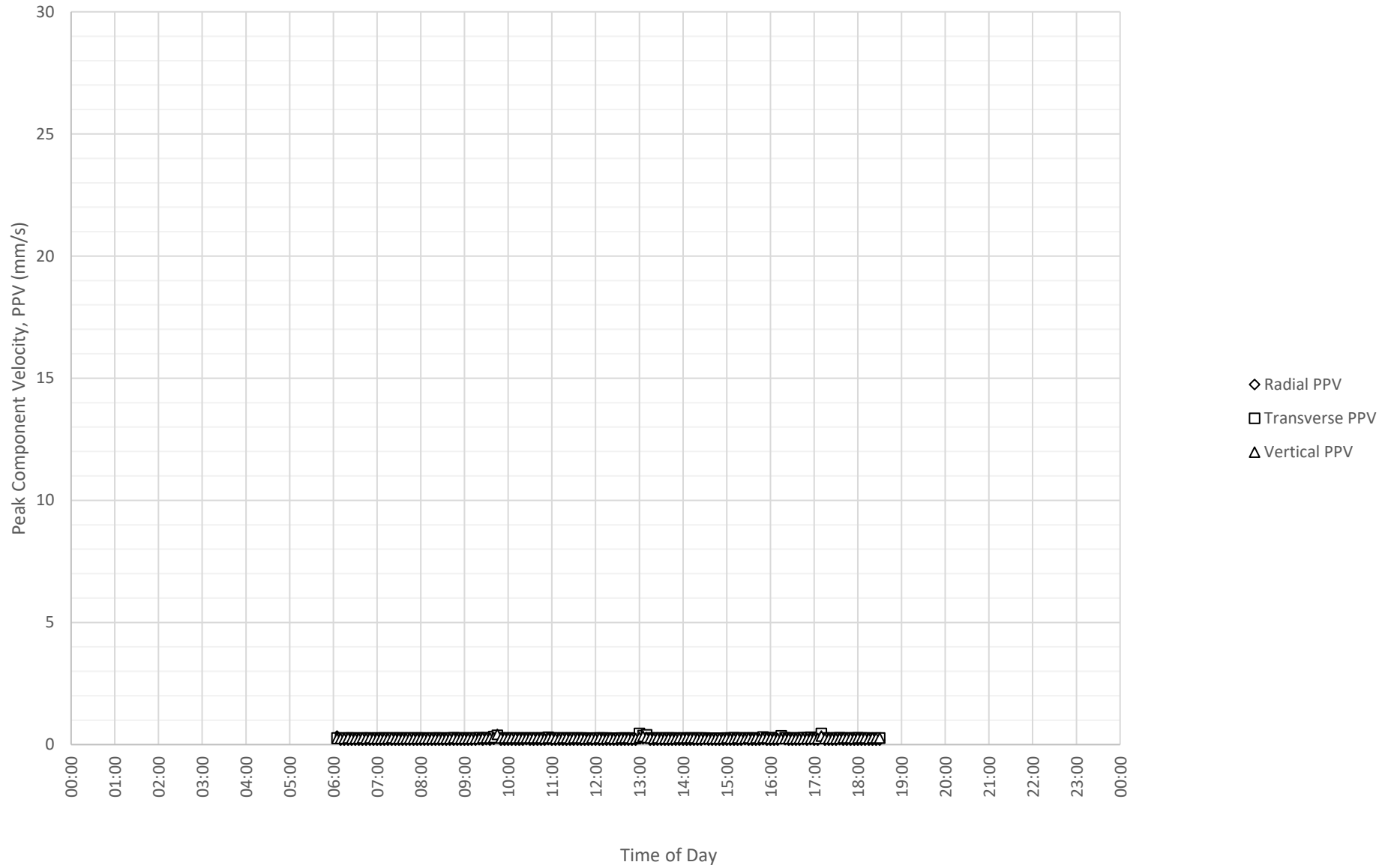
Daily Monitored Vibration Levels at M7715 Residential Boundary on 6-05-2023



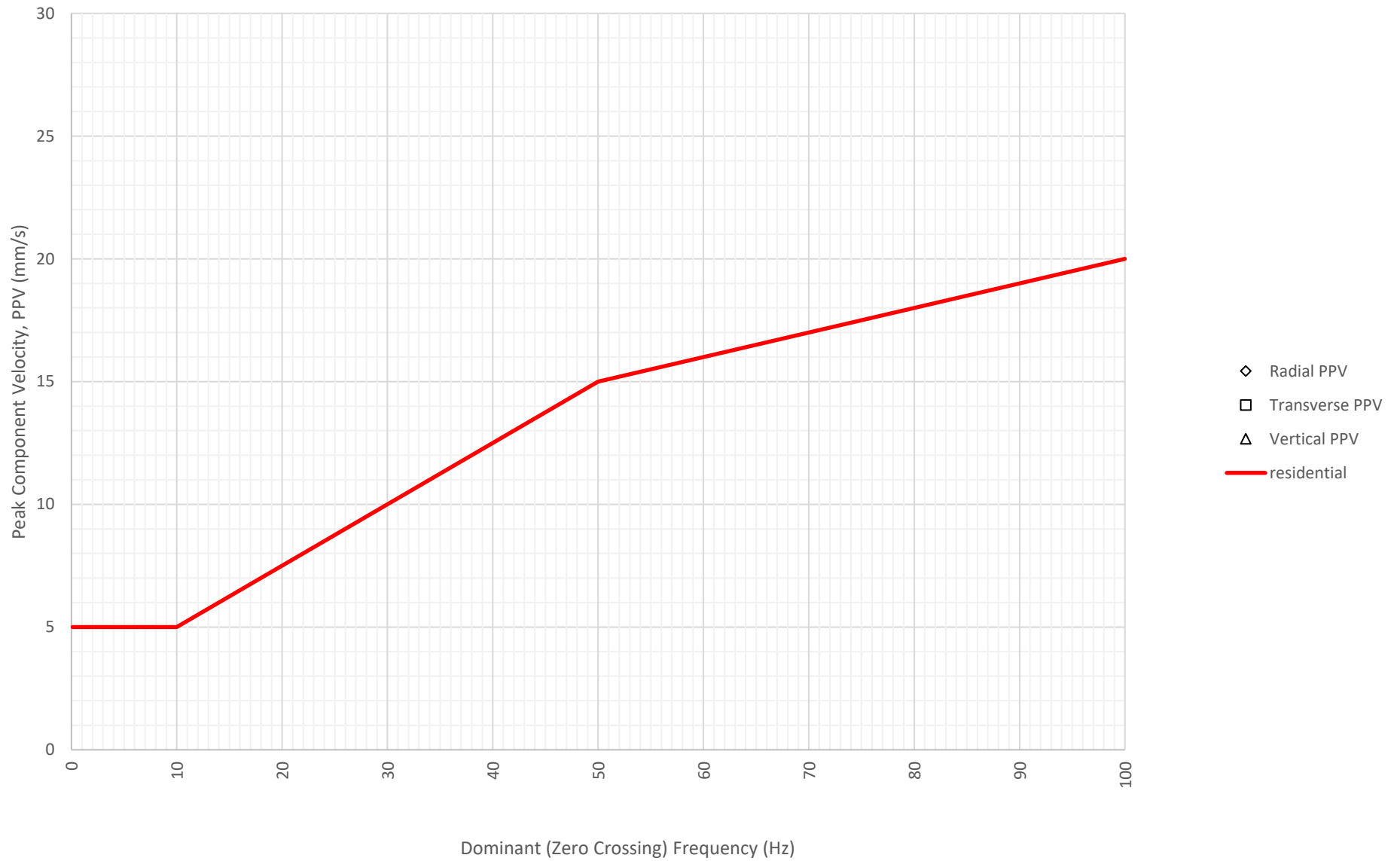
Frequency Content of Vibration Levels at M7715 Residential Boundary on 6-05-2023



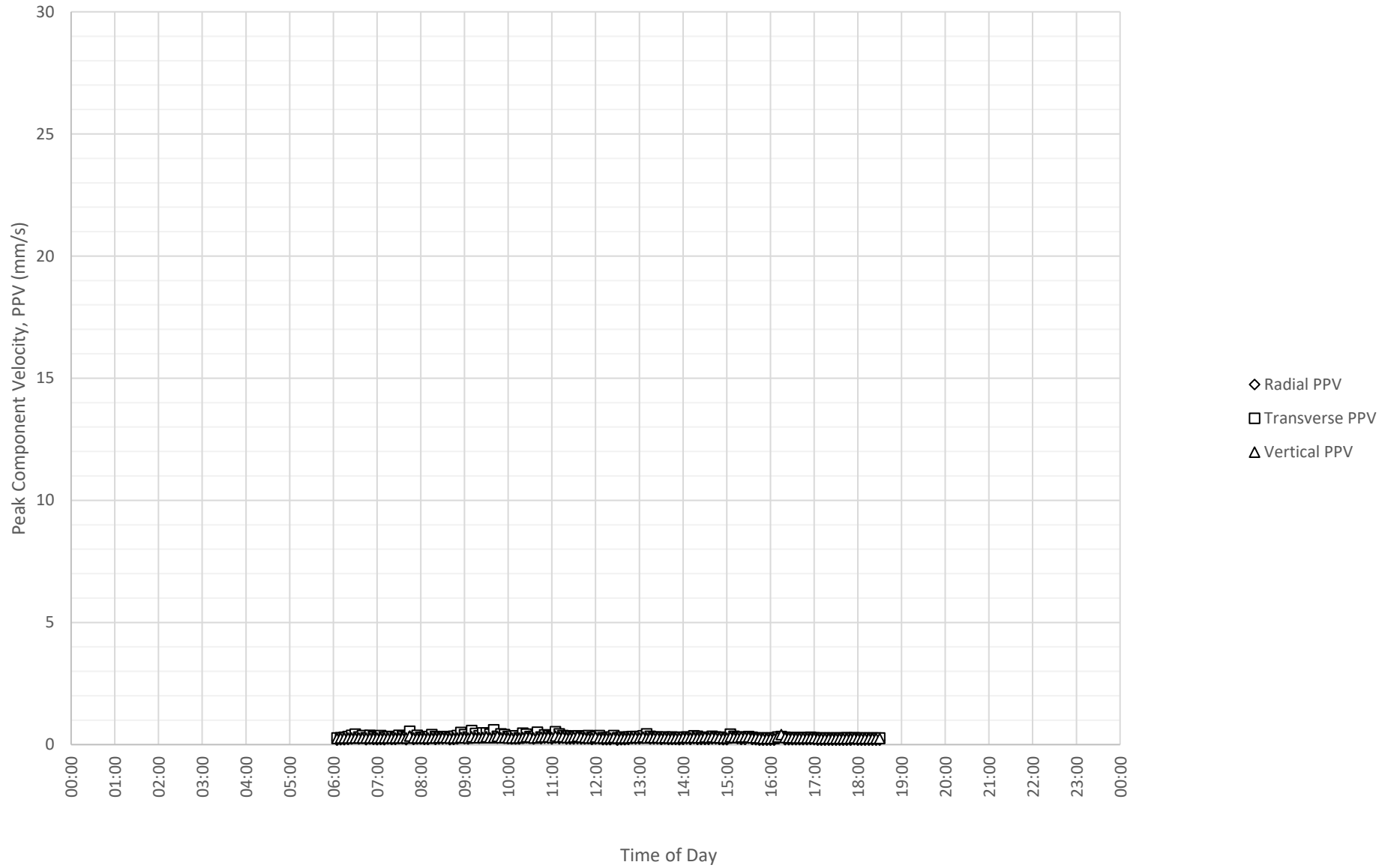
Daily Monitored Vibration Levels at M7715 Residential Boundary on 7-05-2023



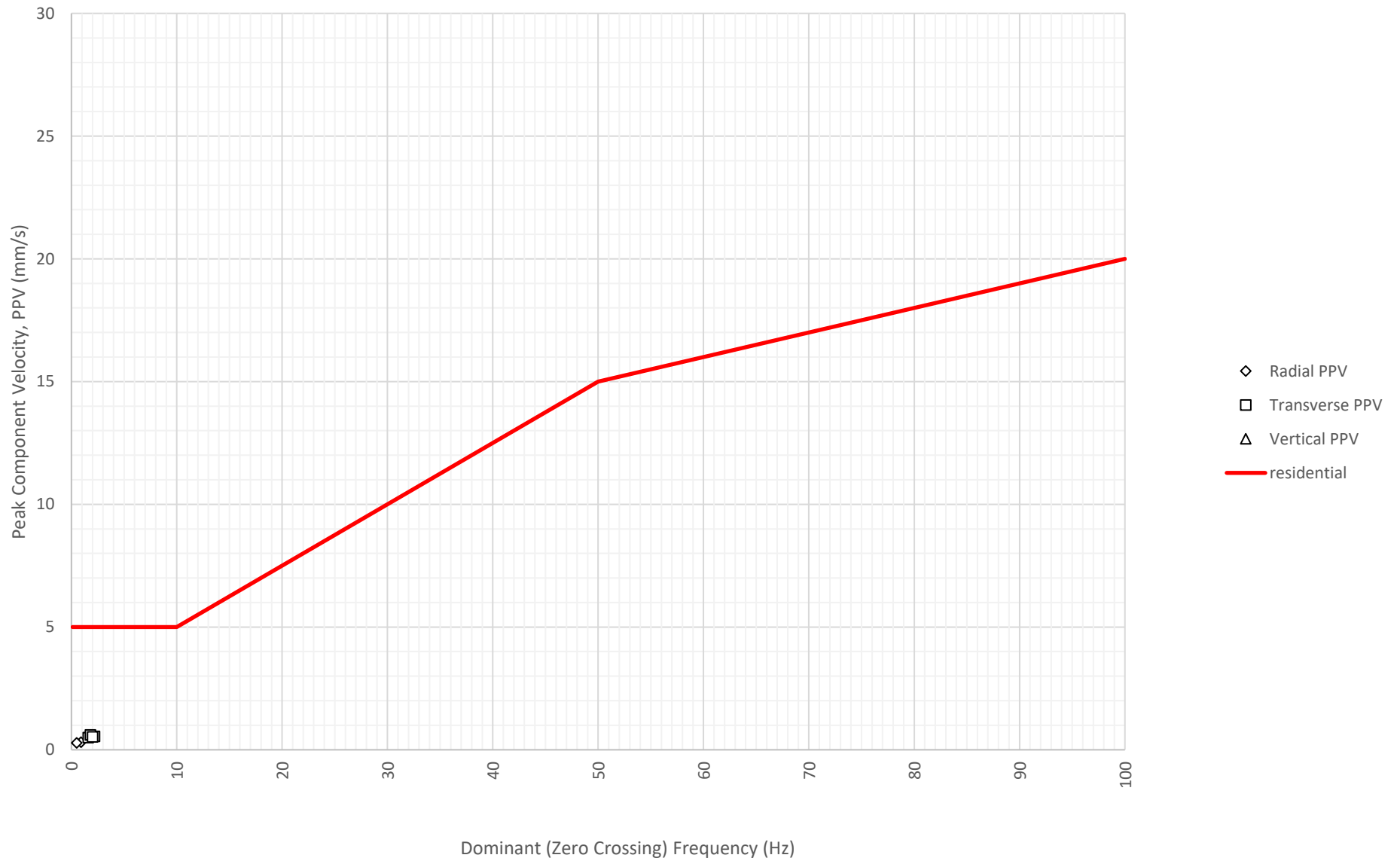
Frequency Content of Vibration Levels at M7715 Residential Boundary on 7-05-2023



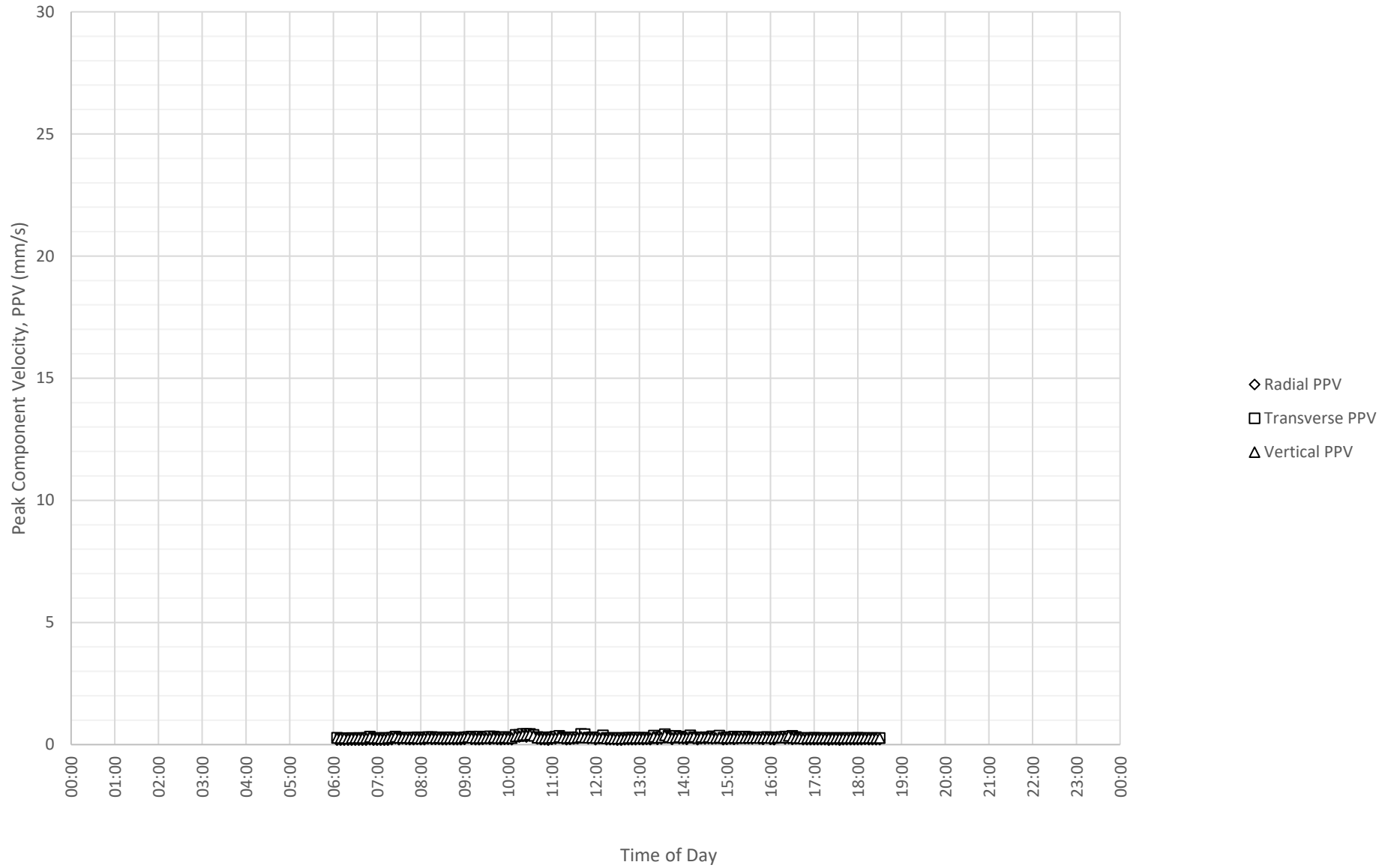
Daily Monitored Vibration Levels at M7715 Residential Boundary on 8-05-2023



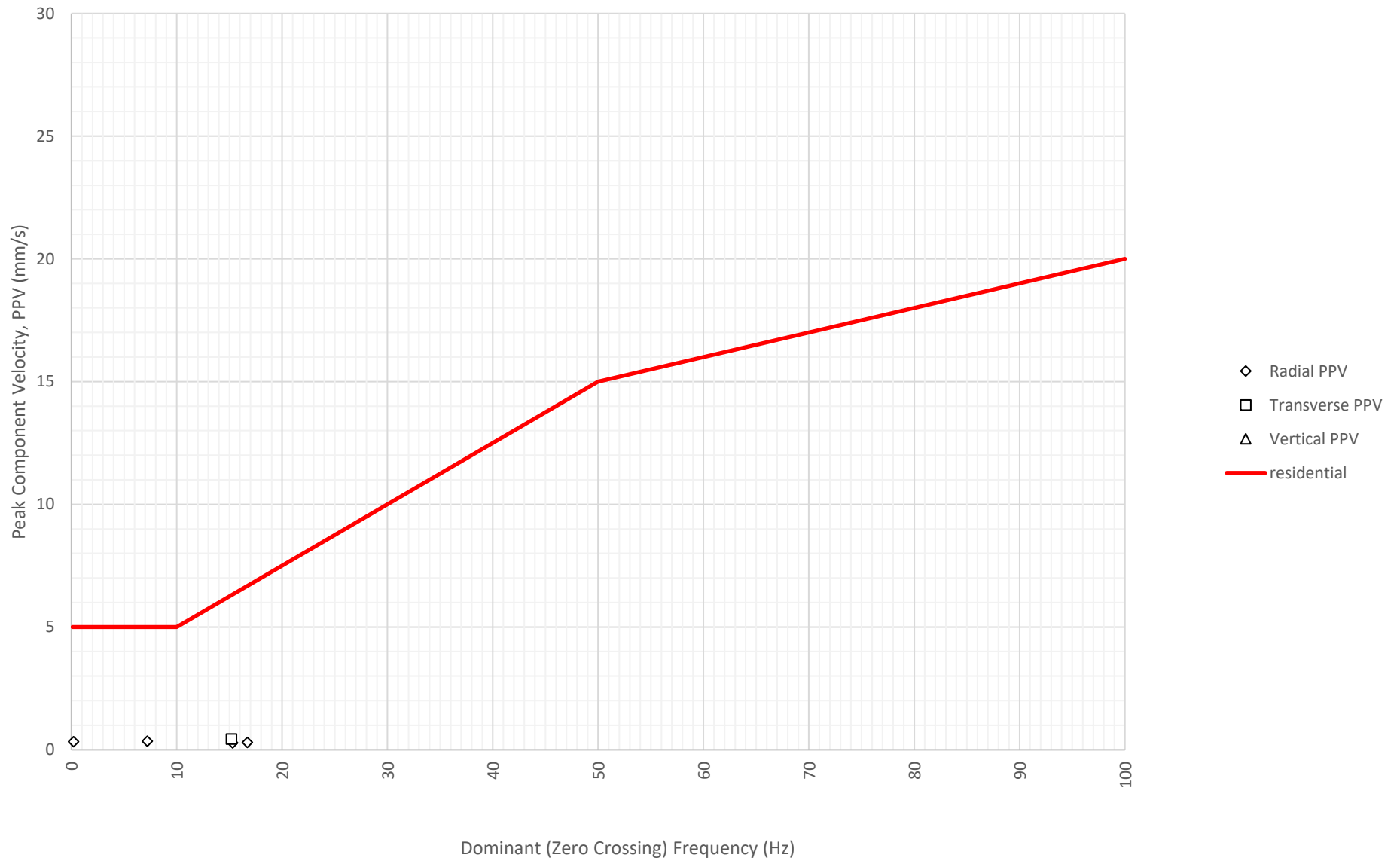
Frequency Content of Vibration Levels at M7715 Residential Boundary on 8-05-2023



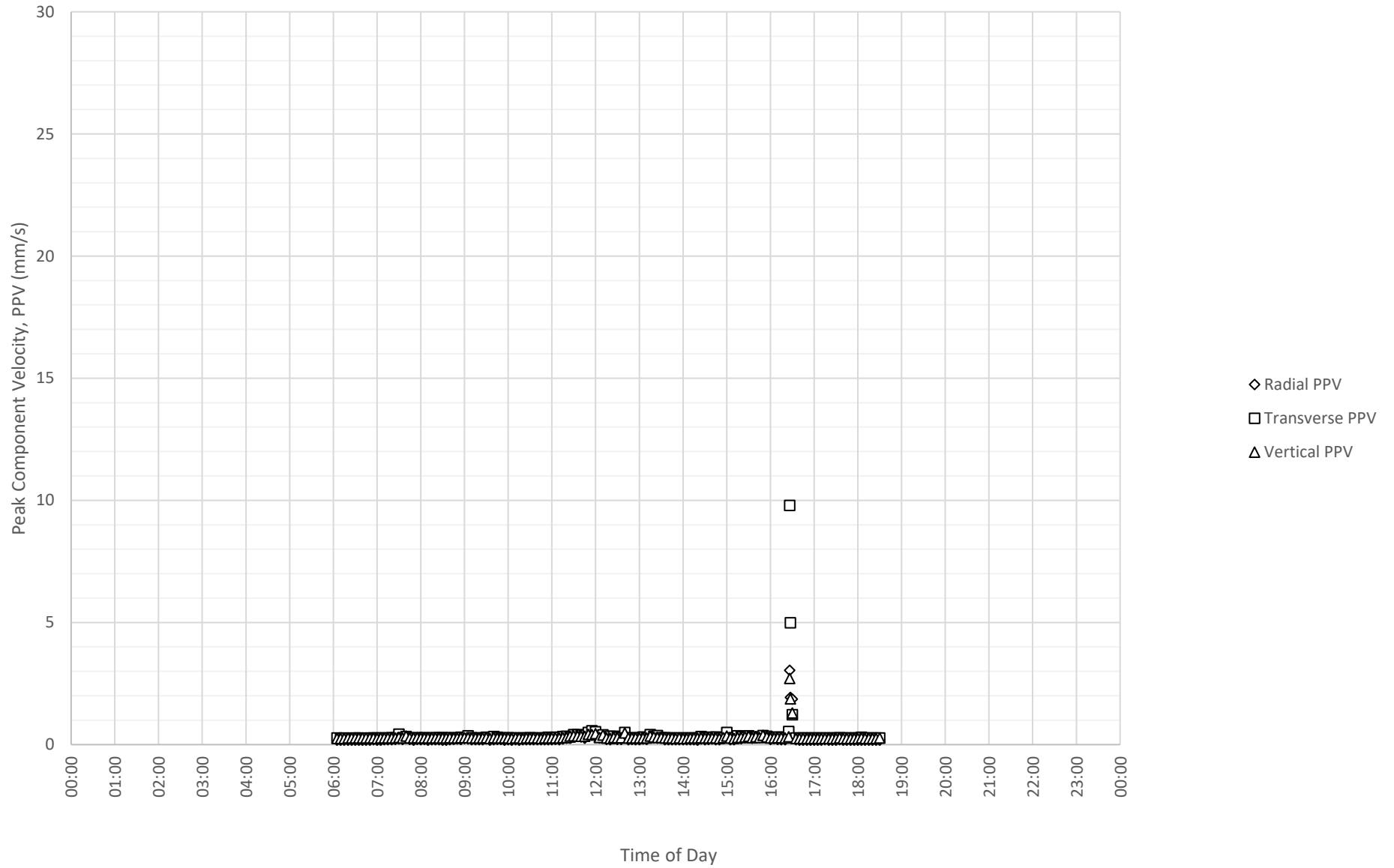
Daily Monitored Vibration Levels at M7715 Residential Boundary on 9-05-2023



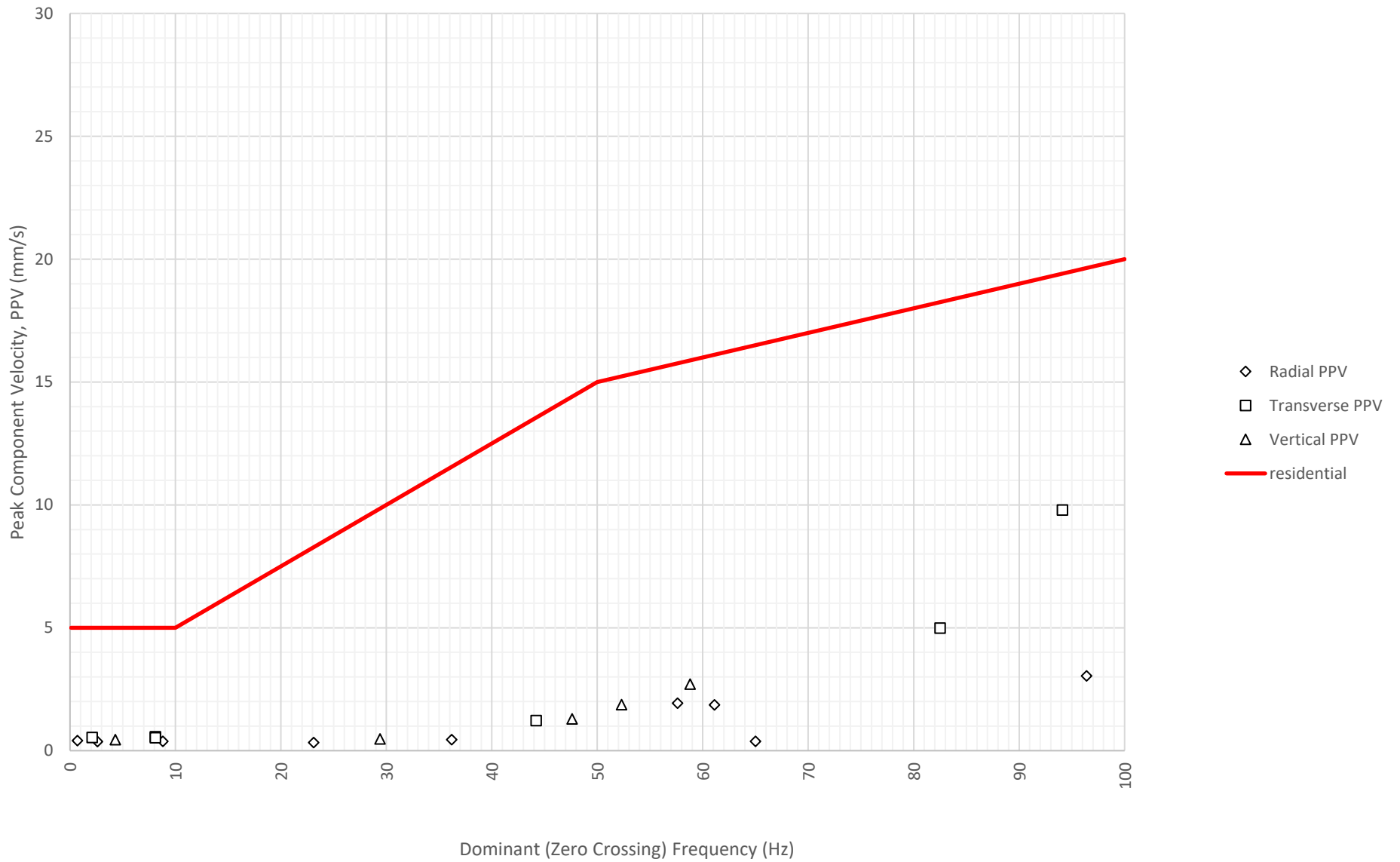
Frequency Content of Vibration Levels at M7715 Residential Boundary on 9-05-2023



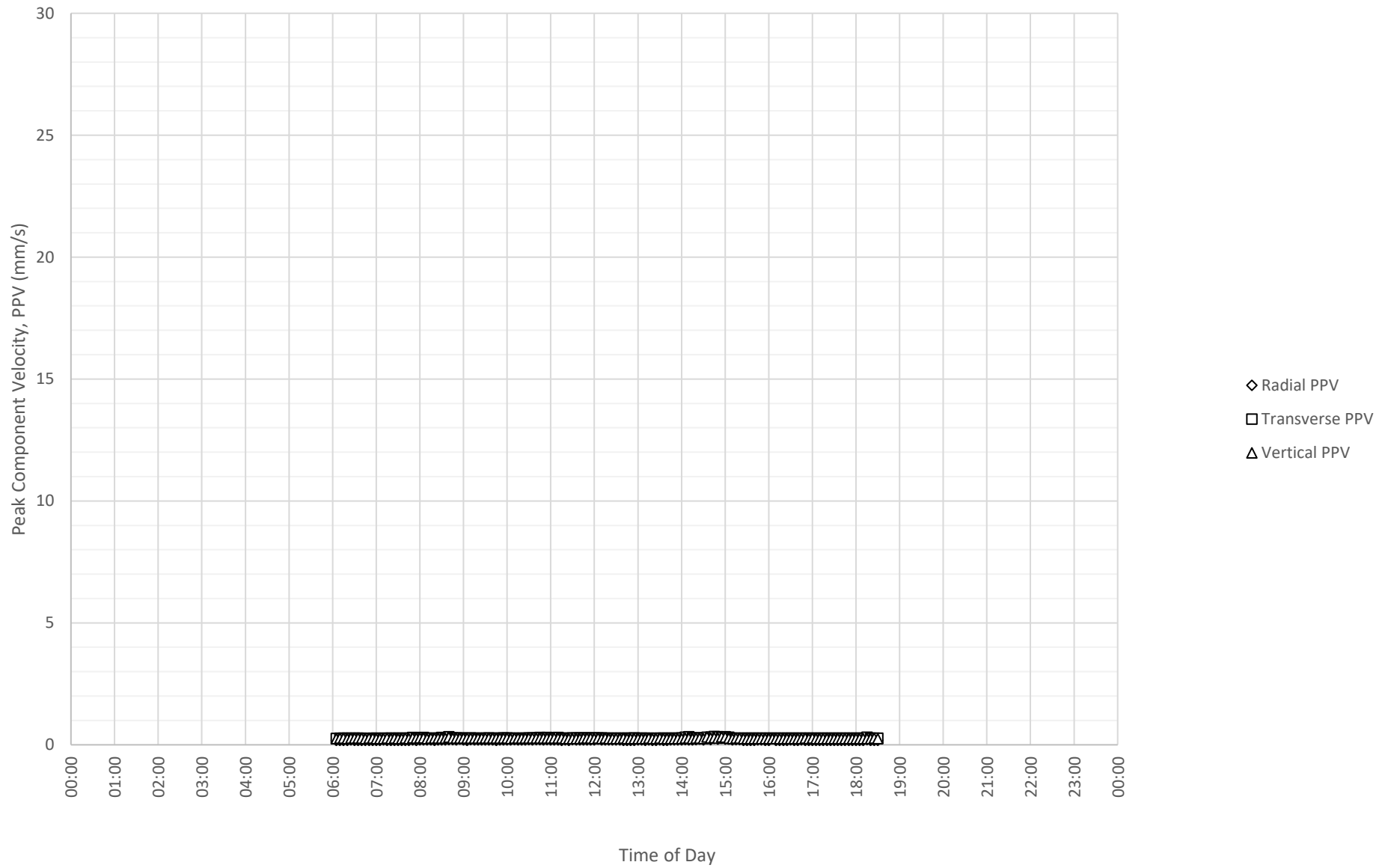
Daily Monitored Vibration Levels at M7715 Residential Boundary on 10-05-2023



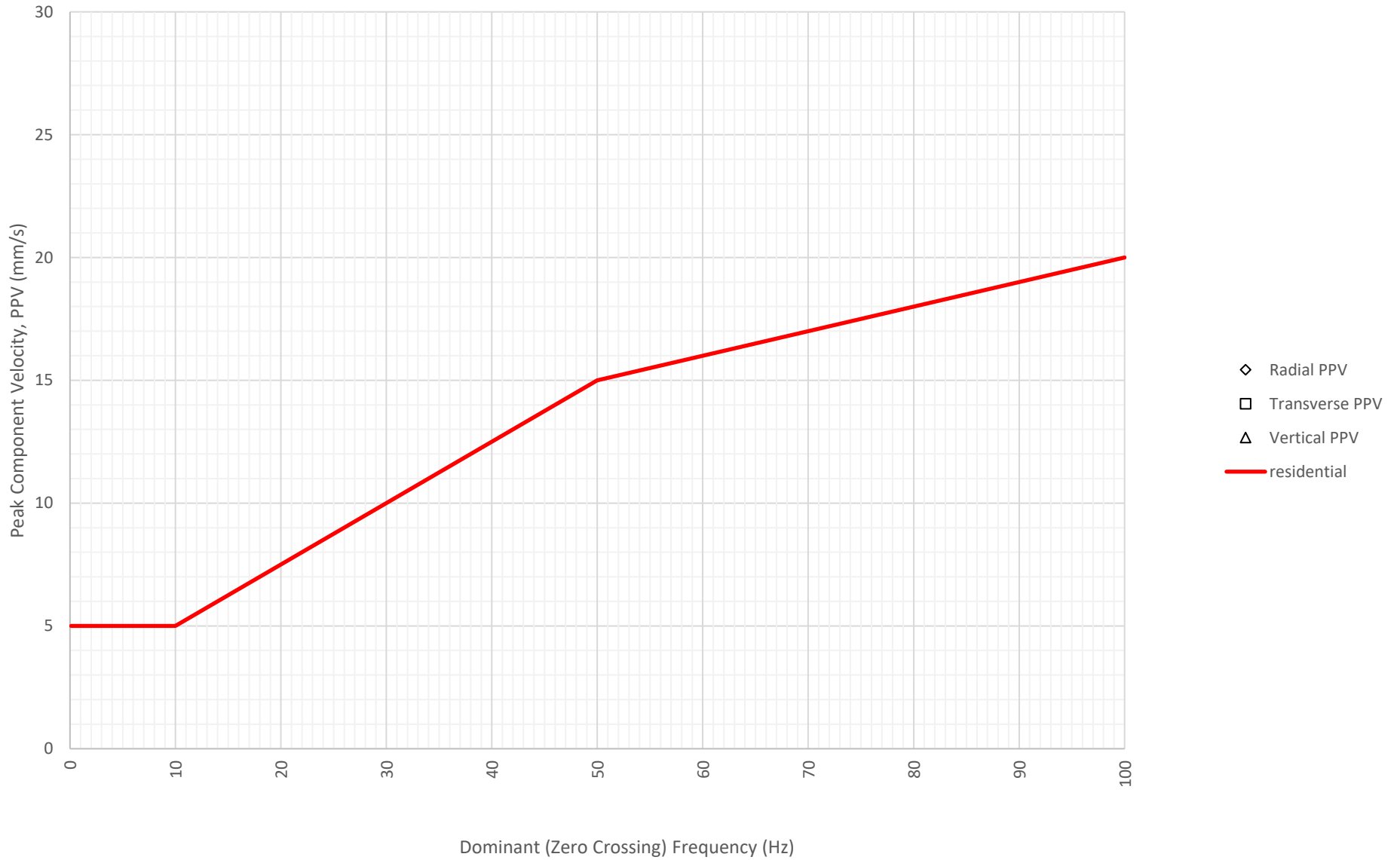
Frequency Content of Vibration Levels at M7715 Residential Boundary on 10-05-2023



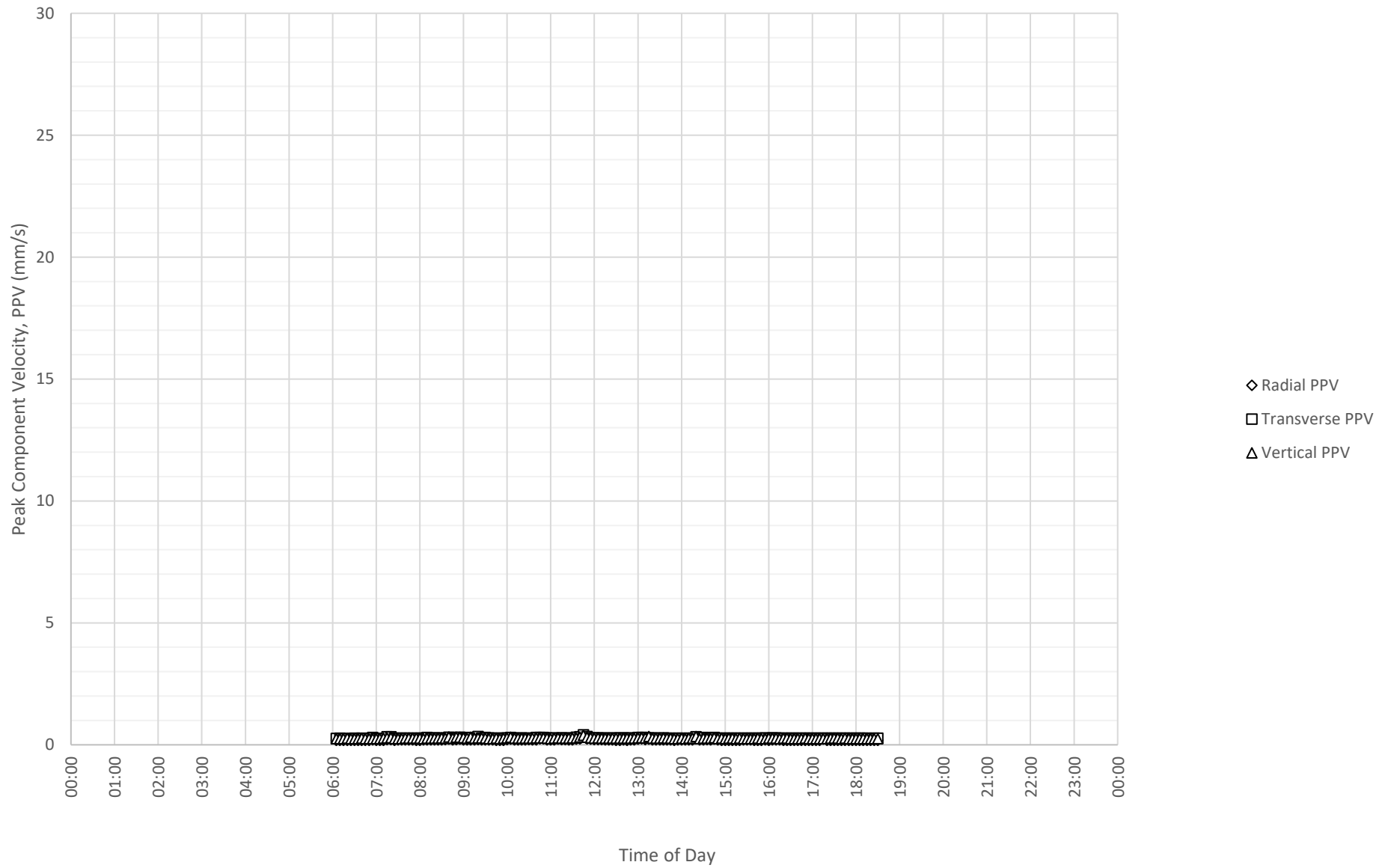
Daily Monitored Vibration Levels at M7715 Residential Boundary on 11-05-2023



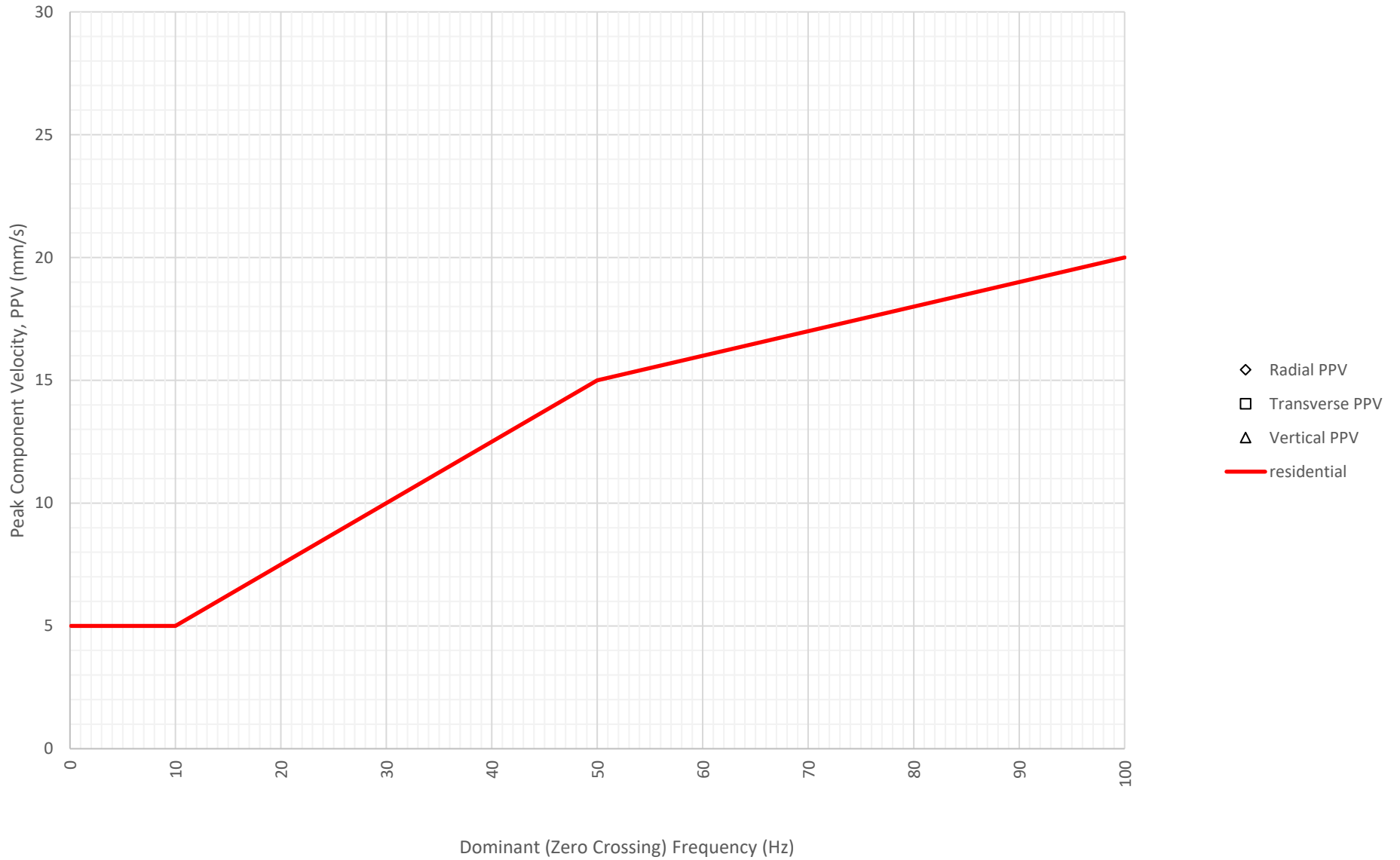
Frequency Content of Vibration Levels at M7715 Residential Boundary on 11-05-2023



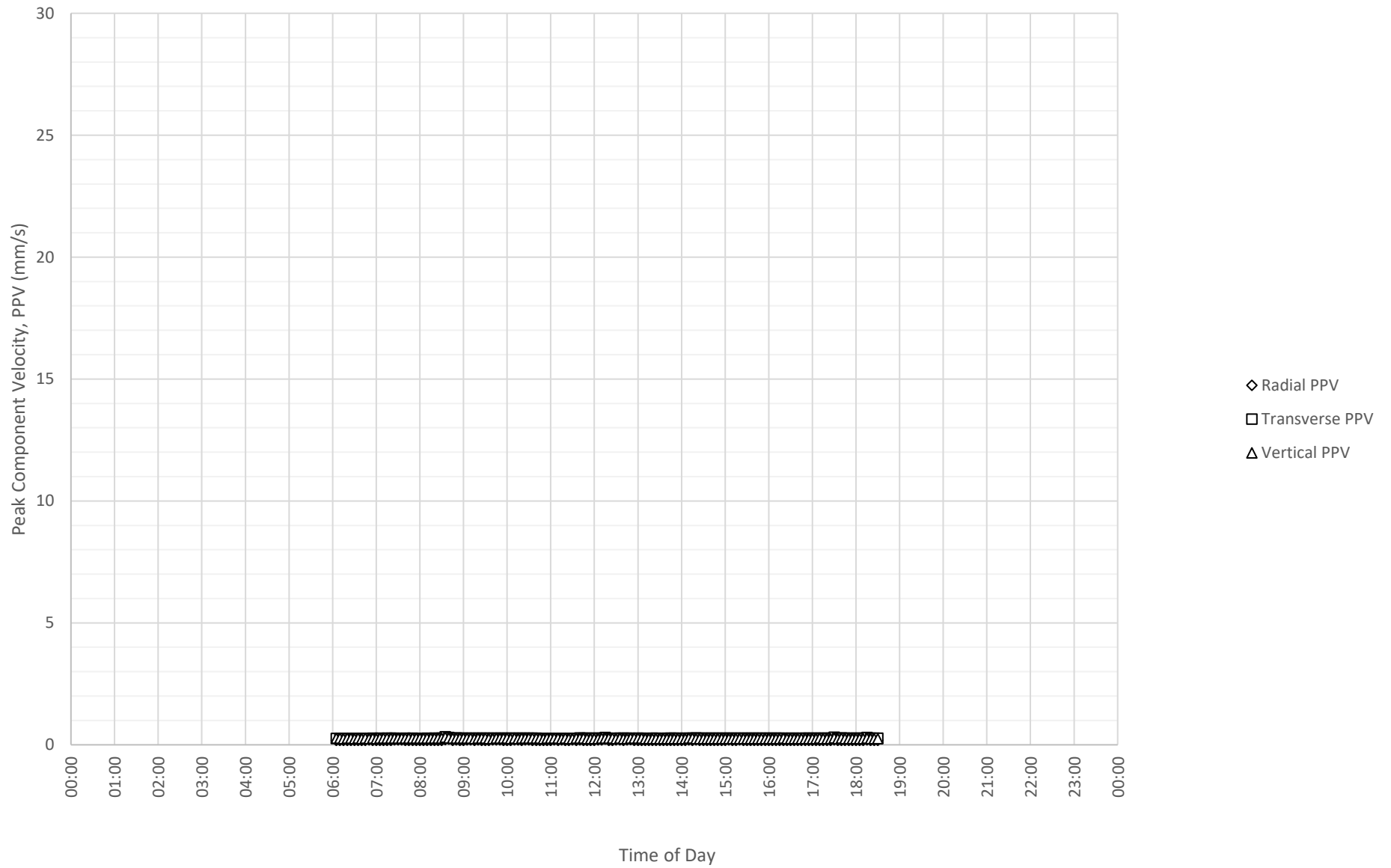
Daily Monitored Vibration Levels at M7715 Residential Boundary on 12-05-2023



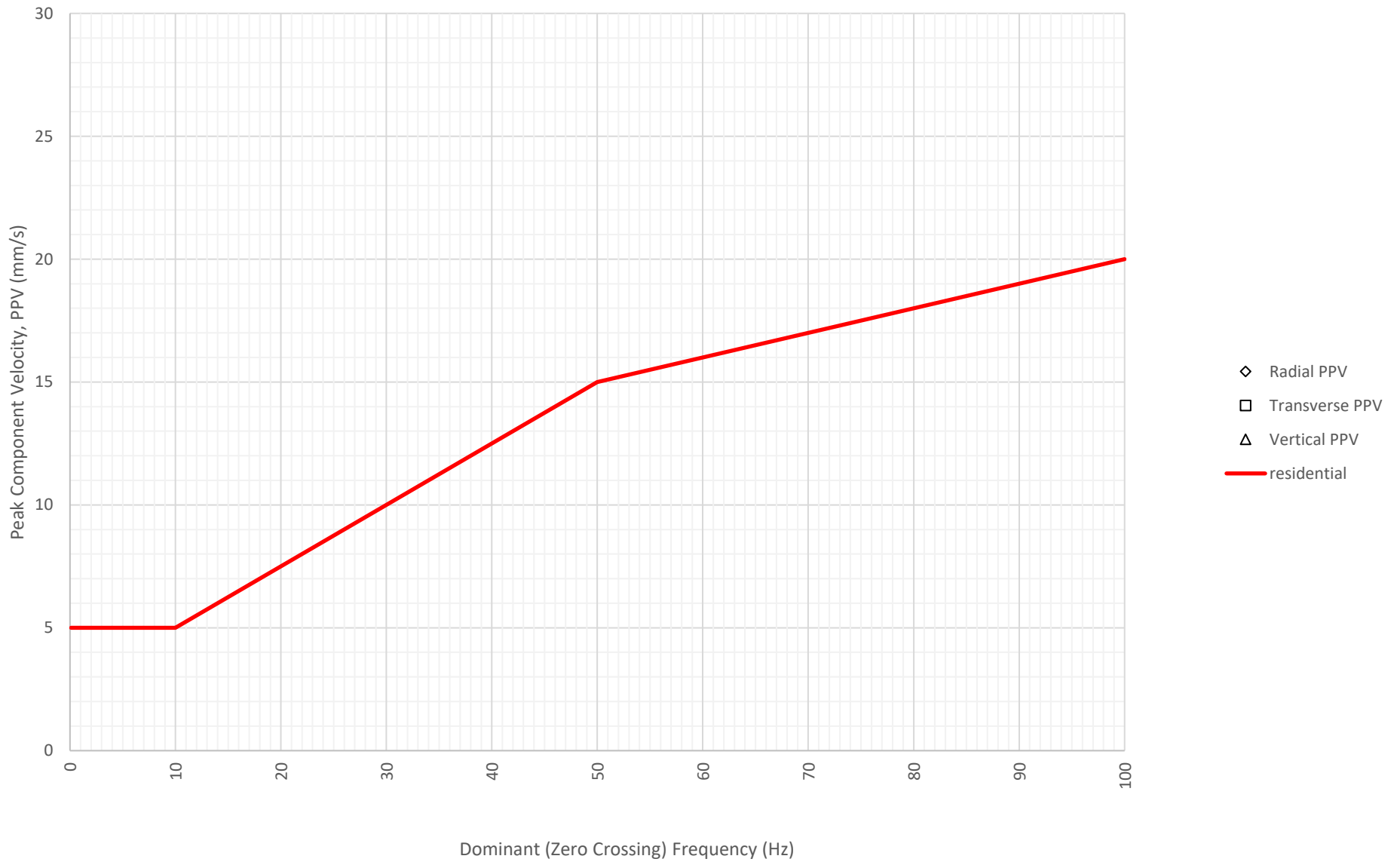
Frequency Content of Vibration Levels at M7715 Residential Boundary on 12-05-2023



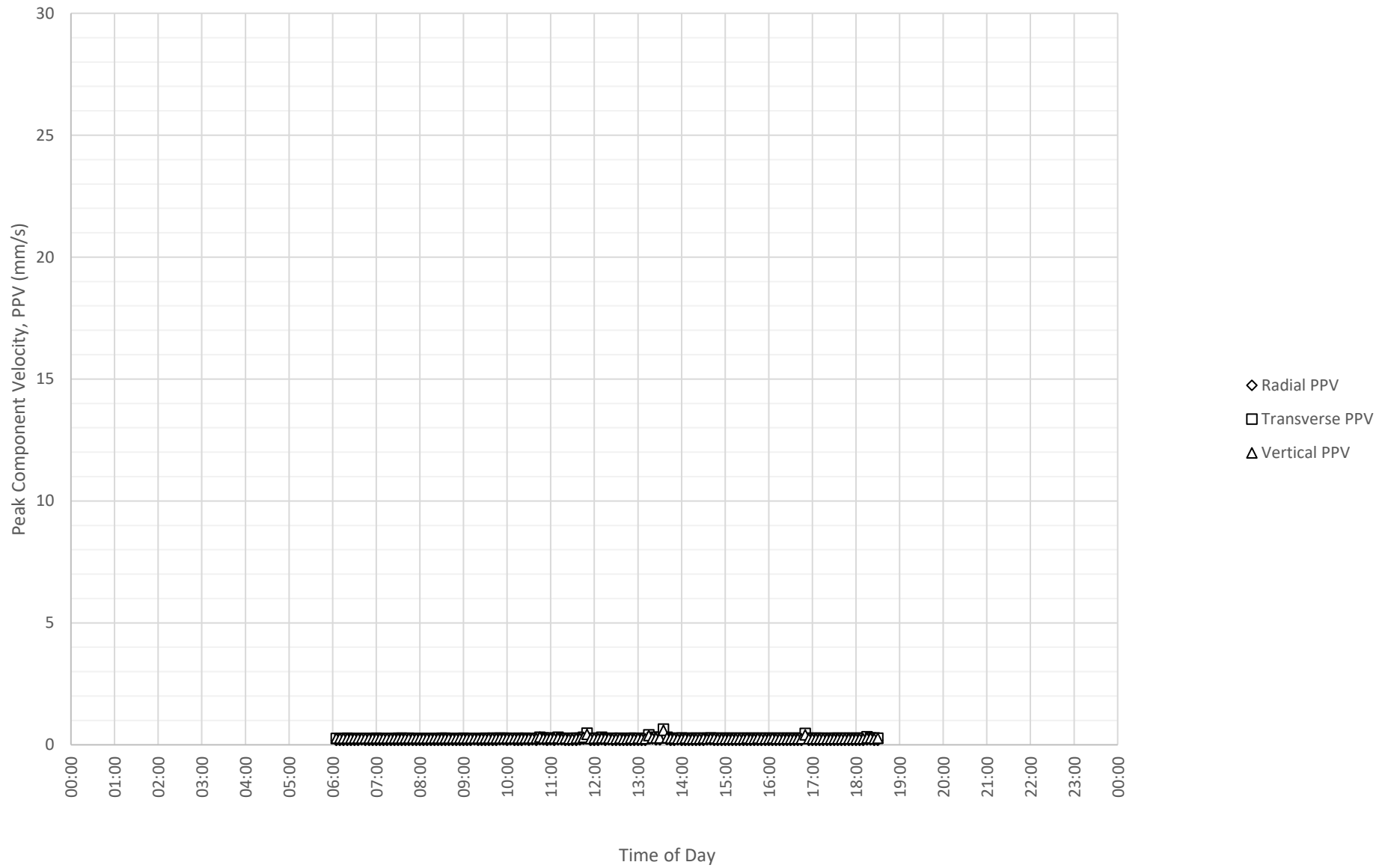
Daily Monitored Vibration Levels at M7715 Residential Boundary on 13-05-2023



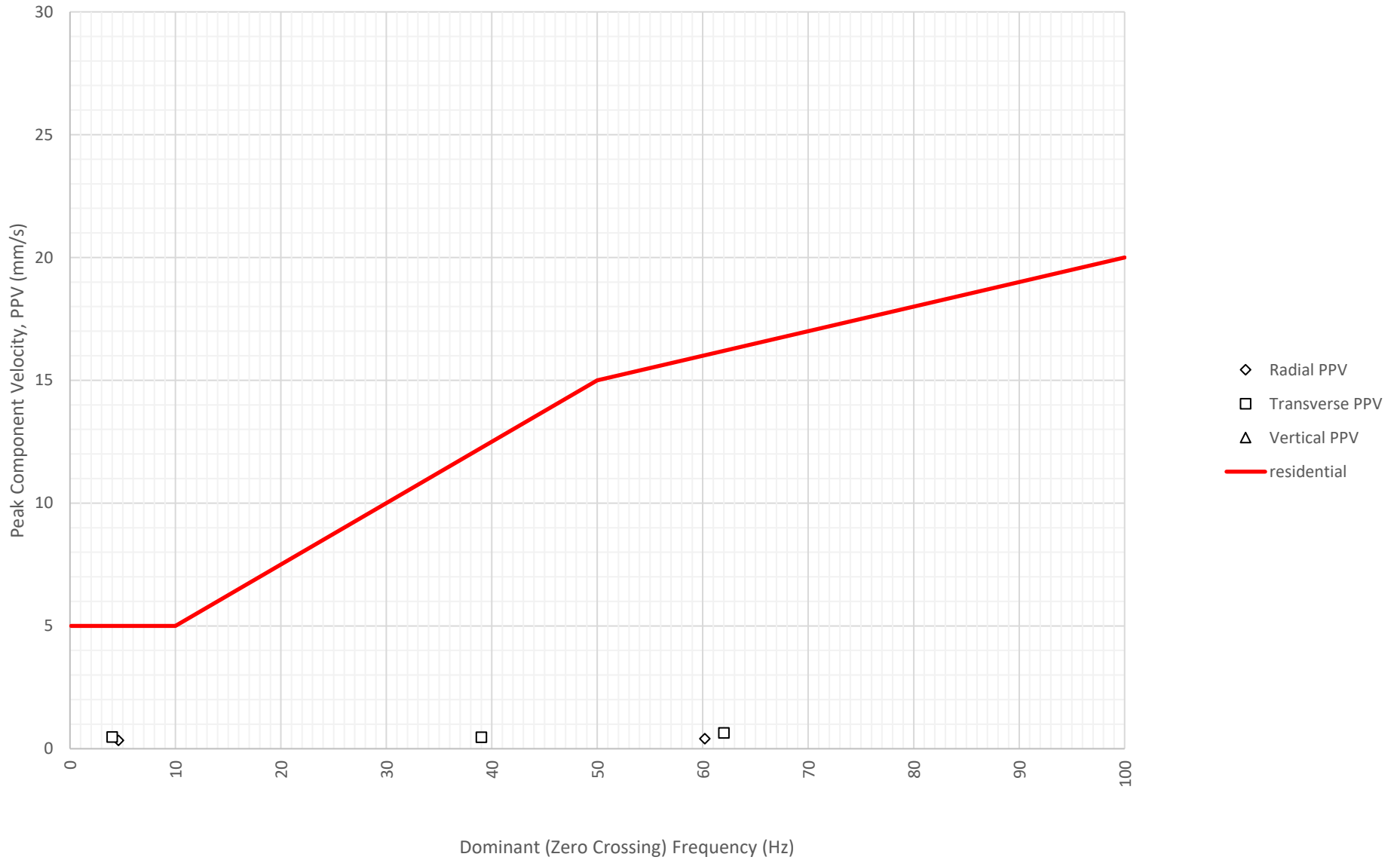
Frequency Content of Vibration Levels at M7715 Residential Boundary on 13-05-2023



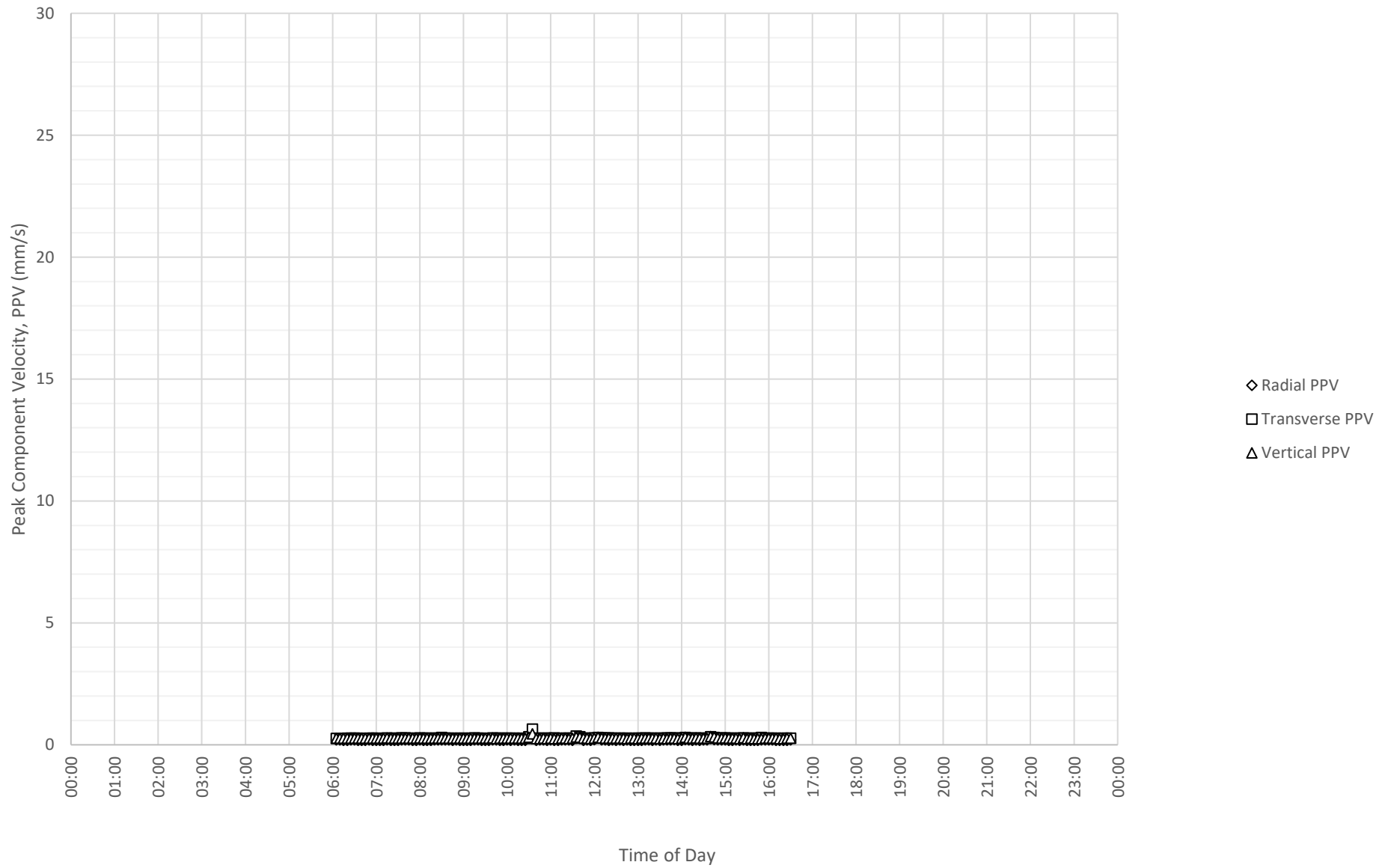
Daily Monitored Vibration Levels at M7715 Residential Boundary on 14-05-2023



Frequency Content of Vibration Levels at M7715 Residential Boundary on 14-05-2023



Daily Monitored Vibration Levels at M7715 Residential Boundary on 15-05-2023



Frequency Content of Vibration Levels at M7715 Residential Boundary on 15-05-2023

