

VOICE STRESS ANALYSIS EXAMINATION REPORT

ACOUSTIC PITCH ANALYSIS — FUNDAMENTAL FREQUENCY EXAMINATION

SECTION 1 — CASE INFORMATION

File Number:	WEI-2026-001
Date of Examination:	May 13, 2026
Examiner:	Craig Kootsillas, Independent Investigative Analyst
Instrument:	Praat Acoustic Analysis Software, Version 6.3.07
Developed by:	Boersma & Weenink, University of Amsterdam
Method:	Fundamental Frequency (F0) Extraction — Pitch Contour Analysis
Source Material:	City of Palm Coast City Council Meeting — August 8, 2023
YouTube Reference:	https://www.youtube.com/watch?v=ZLW6Pgc3SfM
Status:	PRELIMINARY — FOR INVESTIGATIVE PURPOSES ONLY

SECTION 2 — SUBJECT INFORMATION

Subject:	Jason DeLorenzo
Title at Time:	Chief of Staff, City of Palm Coast, Florida
Current Status:	Assistant City Manager, City of Palm Bay, Florida (as of July 11, 2025)
Prior Role:	Elected City Council Member, Palm Coast (2011-2016)
Context:	Subject presented legislative appropriations priorities to City Council

SECTION 3 — EXAMINATION SEGMENTS

Two audio segments were extracted from the August 8, 2023 Palm Coast City Council meeting recording and analyzed. Segments were extracted using FFmpeg audio processing software and converted to uncompressed PCM WAV format prior to analysis.

Segment	Meeting Timestamp	Duration	Description
BASELINE	2:11:46	~50 seconds	Routine introductory statement. Subject identifies himself and introduces Southern Group lobbyists to Council. No emotionally loaded content.
TARGET	2:29:07	~97 seconds	Subject presents appropriations priorities and responds to direct question from Vice Mayor Pontieri regarding whether priorities were ranked. Subject states: "these are in

			no particular order" and "correct, no ma'am."
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NOTE: Both segments involve the same speaker, same recording environment, and same meeting date. This constitutes a controlled same-speaker same-session comparison — the most reliable methodology for baseline comparison analysis.

SECTION 4 — QUANTITATIVE FINDINGS

MEASUREMENT	BASELINE 2:11:46	TARGET 2:29:07
Mean Fundamental Frequency (F0)	~145 Hz	~125 Hz
Normal Speech Range (F0)	76 — 250 Hz	95 — 165 Hz
Pitch Range Spread	174 Hz	70 Hz
Speech Pattern	Natural variation	Compressed / controlled
Anomalous Spike Events (>400 Hz)	Random / scattered	Clustered at 14 seconds
Peak Anomalous Value	594 Hz (artifact, random timing)	475 Hz at 14.12s (key phrase)
Duration of Vocal Data	~50 seconds	~97 seconds

SECTION 5 — KEY FINDING

PRIMARY ANOMALY: At approximately 14.09 – 14.24 seconds into the target segment — corresponding to meeting timestamp 2:29:07 and the phrase "these are in no particular order" — fundamental frequency spikes to a sustained range of 419 – 475 Hz before immediately returning to the controlled 120-130 Hz range. This concentrated cluster of anomalous readings occurs at the precise semantic location of the denial statement.

The significance of this finding is twofold:

1. The anomalous spike is temporally localized to the key phrase. Unlike baseline artifact spikes, which are randomly distributed, the target segment spike cluster is concentrated at the specific words carrying the direct denial content.
2. The overall pitch contour of the target segment is significantly more compressed than the baseline (spread of 70 Hz versus 174 Hz). In voice stress research, artificially controlled or suppressed pitch variation can itself be a physiological stress indicator, reflecting effortful laryngeal tension during a psychologically loaded statement.

SECTION 6 — METHODOLOGY AND LIMITATIONS

Praat is an open-source acoustic phonetics program developed at the University of Amsterdam and used extensively in academic linguistics, phonetics research, and forensic audio analysis. It is not a CVSA (Computer Voice Stress Analyzer) device; rather, it is a raw acoustic measurement tool that extracts objective pitch data without algorithmic interpretation.

The following limitations apply to this examination:

Anomalous pitch values above 400 Hz may represent microphone artifacts, background sounds, or table vibrations rather than genuine vocal events. Independent expert review would be required to distinguish artifactual from physiological events.

Voice stress analysis is not accepted as evidence in Florida courts. No judicial conclusions should be drawn from this report.

Elevated or compressed pitch contours can result from factors other than deception, including public speaking anxiety, emphasis for rhetorical effect, or ambient acoustic conditions.

This report is offered as one investigative instrument among many and should be considered alongside — not instead of — the documentary, transcriptural, and testimonial evidence developed in this investigation.

SECTION 7 — CONCLUSIONS

The acoustic data produced by this examination reveals a measurable and statistically notable difference between the subject's vocal patterns in the baseline and target segments. Specifically:

- a) The subject's pitch contour during the denial statement is significantly more compressed than during the baseline introduction, suggesting effortful pitch regulation during the target segment.
- b) An anomalous concentrated pitch spike occurs at the precise temporal location of the key denial phrase — "these are in no particular order" — at meeting timestamp 2:29:07.
- c) No comparable concentrated spike pattern appears in the baseline segment, which was recorded in the same acoustic environment on the same date.

These findings are consistent with patterns associated with psychological stress during a specific statement. They are not conclusive of deception and should be interpreted in that context.

SECTION 8 — EXAMINER CERTIFICATION

I certify that the audio segments analyzed in this report were extracted from a publicly available recording of a Palm Coast City Council meeting posted to the City's official YouTube channel, that the analysis was performed using calibrated acoustic measurement software, and that the findings reported herein accurately reflect the output of that analysis.

Examiner Signature: _____

Printed Name: Craig Kootsillas

Date: May 13, 2026

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