

# Fingerprints

Every one of us have our own fingerprints and DNA. If we look at the data that I have brought, you will see Northwestern Energy's fingerprints.

Please recall the Northwestern Energy Handout that I gave to each of you at the May 19th county commissioner meeting. The handout shows the words that NWE used to detail their impacts to the area surrounding the Yellowstone Generating Station. My home is 2300 feet away and according to NWE's handout their sound goes 600' off their land and into the river and DROPS. This is not so. Also, the handout said that their sound doesn't leave their property. This is not so.





Class 1 noise monitor to IEC 61672-1 (IEC 61672-1 is the international standard that defines the electroacoustical performance specifications for sound level meters)

This noise monitor is considered a defensible monitor. We have this monitor installed on our property.

Most sound level meters and dosimeters use built-in frequency filters or "weighting networks " in the measurement process. By far the most frequently used filter is the A weighting network, which discriminates against low-frequency and very high-frequency sounds. A weighting approximates the equal-loudness response of the ear at moderate sound levels, and correlates well with both hearing damage and annoyance from noise.

A small increase in decibels can represent a large increase in sound energy. Technically, an increase of 3 dB represents a doubling of sound energy, and an increase of 10 dB represents a tenfold increase. The ear, however, perceives a 10-dB increase as doubling of loudness.

# WHAT ARE WE LOOKING AT?

From what we can hear, feel and then see (using the sound monitor) NWE runs 40-50 Hz and even into kHz as well. Their noise range is 16, 20, 25 and 31.5 Hz and even lower. What does this look like?

First, what is Beta and what are the Hz we are experiencing?

Second, let's look at the sound data.

# High Beta State of Brainwaves and Sound Elements

**High Beta brainwaves (20–30 Hz) are associated with intense focus, problem-solving, and heightened alertness, but also with stress, anxiety, and mental chatter when prolonged.**

## **What High Beta Means**

High Beta is the upper end of the Beta frequency range (13–30 Hz) and is linked to **normal waking consciousness** with **heightened attention, logic, and critical reasoning**. It's common during:

- Active problem-solving or decision-making
- Concentrated work or learning
- Situations requiring quick responses

However, **elevated Beta** (often 20–30 Hz) can signal **stress, anxiety, restlessness, and an overactive “inner voice”**. Prolonged high Beta without relaxation can lead to mental fatigue and reduced creativity.

**This would be like going to a heavy metal concert for hours.**

# Feeling 16 Hz- What it means and experience it

Feeling a sensation at **16 Hz** is likely due to **brainwave entrainment** – when external sound or vibration influences your brain’s electrical activity to match a specific frequency. At 16 Hz, your brain is in the **upper-mid beta range** (12–30 Hz), which is associated with **high alertness, rapid thinking, and intense focus**.

## Why 16 Hz Feels “High” or “Wired”

- **Beta wave state:** 16 Hz sits in the mid-high beta band, which is active during **intense concentration, problem-solving, and competitive performance**. This is often described as a “sprint mode” of the brain – quick, sharp, and mentally powerful.
- **Cognitive activation:** At this frequency, your brain processes information faster, decision-making sharpens, and mental energy is high. This can feel like being “on top of your game” or mentally charged.
- **Entrainment effect:** If you’re exposed to 16 Hz tones (via binaural beats, isochronic tones, or infrasound), your brain may synchronize to this frequency, producing the sensation of heightened mental activity
- **Possible downsides:** Prolonged exposure can **cause mental fatigue or anxiety** if the brain stays in this high-beta state too long. **It’s also not suitable for sleep, as it’s too activating.**

# Feeling 20 Hz- What it means

Feeling a **20 Hz** tone is unusual because it's at the **lower limit of human hearing** — a deep rumble you can often feel more than hear. At this frequency, sound waves have a very long wavelength (about 15,000 km) and low energy per cycle, so your ears may not register it clearly, but your body can still detect the vibration.

## Why You Might “Feel” It

- **Infrasound sensation:** Below 20 Hz, you can't hear, but at sufficient intensity you can feel pressure or vibration in your chest, abdomen, or even bones. At 20 Hz, the sensation is often described as a **low, pulsing rumble** or a deep throb.
- **Physical resonance:** Some research suggests that frequencies near 18–20 Hz can resonate with body structures, such as the eyeball or chest cavity, potentially causing mild unease or visual disturbances.
- **Environmental sources:** Large machinery, wind turbines, earthquakes, or even certain musical instruments (like a heavy bass drum) can produce 20 Hz tones that you feel as much as hear.

# 20Hz

## Brain and Neurological Context

20 Hz sits at the **upper edge of beta brainwave activity** (12–30 Hz). Beta waves are linked to alertness, focus, and problem-solving, but at the high end (around 20 Hz) they can cross into the **anxiety threshold**. This is why 20 Hz is sometimes called the “red line” for brain activation – below it, you’re still alert but not stressed; above it, stress and over-arousal can begin.

## Safety and Comfort

- **Low risk:** 20 Hz is not inherently dangerous, but prolonged exposure to loud infrasound can cause discomfort, fatigue, or anxiety.
- **Caution:** If you notice persistent unease, dizziness, or visual disturbances when exposed to 20 Hz, it may be worth reducing exposure or identifying the source.

# Understanding 31.5 Hz Frequency and Its Effects

31.5 Hz is a low-frequency tone that can be felt as vibration and is sometimes used in sound therapy, but it also falls into the category of low-frequency noise with potential health effects if exposure is intense or prolonged.

## Potential Health Considerations

While 31.5 Hz is generally safe at comfortable listening levels, **low-frequency noise** (including infrasound) can have non-auditory effects if exposure is high-intensity or chronic.

- **Sleep disruption:** May cause restlessness or difficulty falling asleep in some people.
- **Discomfort:** Can induce unease, fatigue, or irritability in sensitive individuals.
- **Cardiovascular effects:** Some studies link chronic low-frequency noise to increased heart rate variability or stress responses.
- **Hearing safety:** Loud low-frequency tones can damage hearing if played at high volumes.
- **Bottom line:** 31.5 Hz is a low-frequency tone with both therapeutic potential and possible health effects depending on intensity and duration. At low volumes and short durations, it's generally safe; at high intensities or prolonged exposure, it can contribute to discomfort or other low-frequency noise-related effects.



QT800027

Outdoor

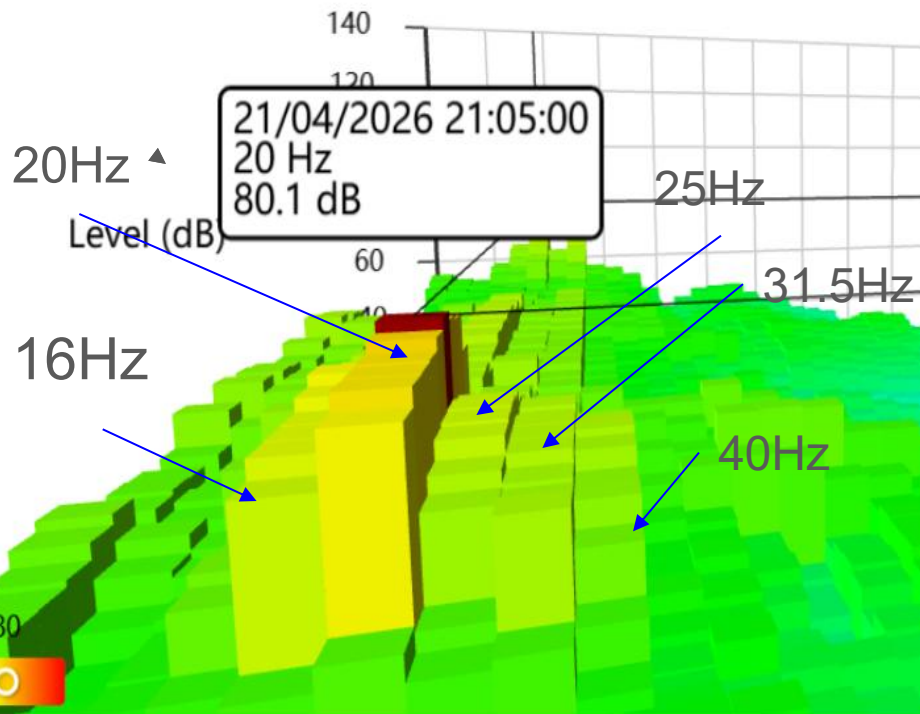


21/04/2026 - 21/04/2026

Week

Day

1:1 Octa

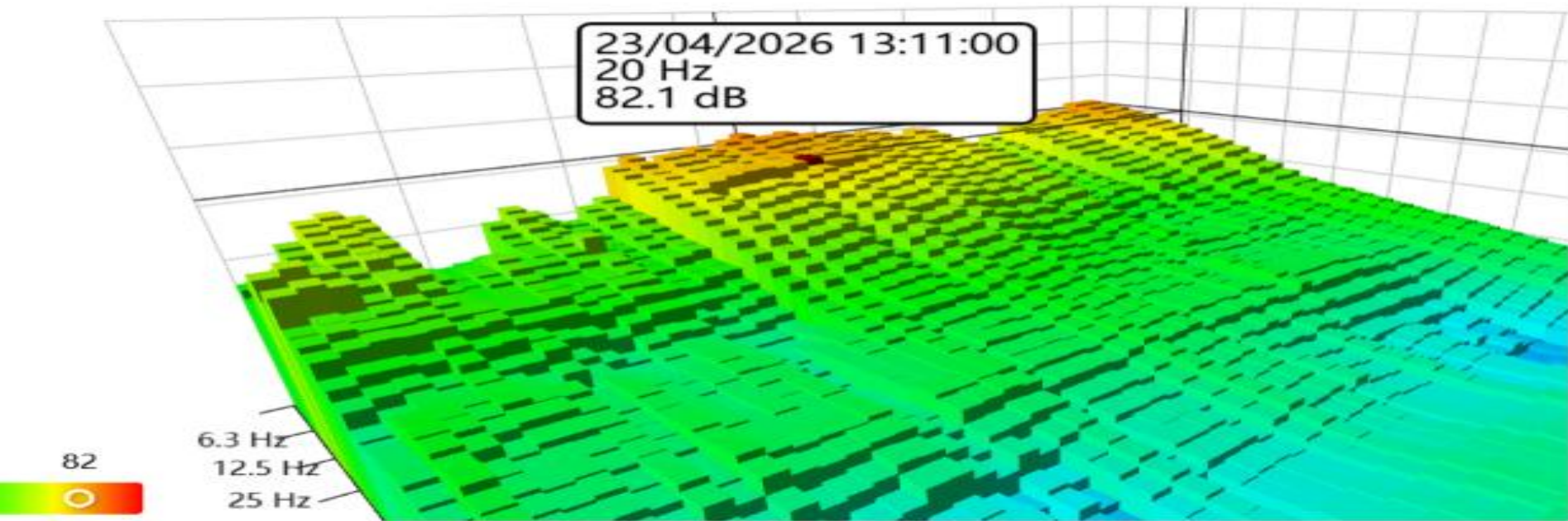


# Testing done by NWE April the 23rd to morning of the 25th 2026

027

23/04/2026 - 23/04/2026

W



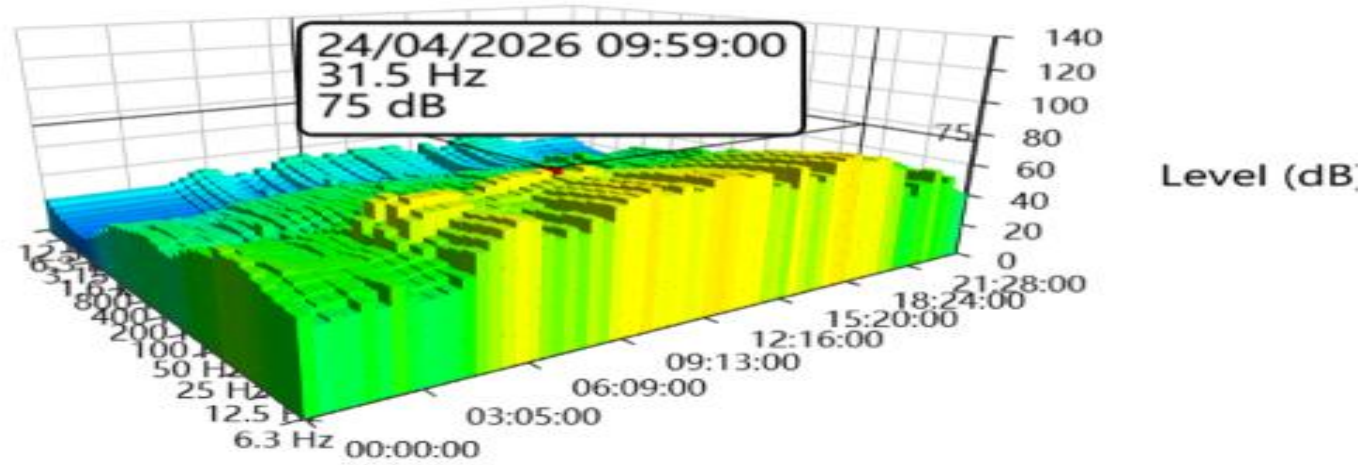
This day is a windy day but not as much as the day before (23rd).



24/04/2026 - 24/04/2026

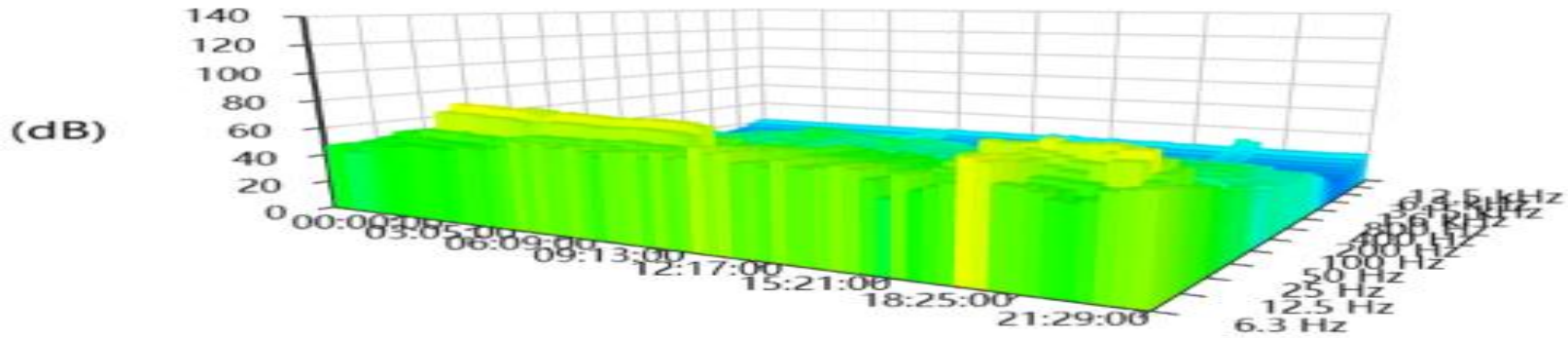
Week

Day



# Last day of testing monitor was pulled that morning.

25/04/2026 - 25/04/2026 Week Day



← Details

They asked me if I heard it last night and I was woken up at 2:20 AM and that's what I told him, but I was able to go back to sleep. The equipment is gone.

Status

Received 4/25/26, 8:39 AM

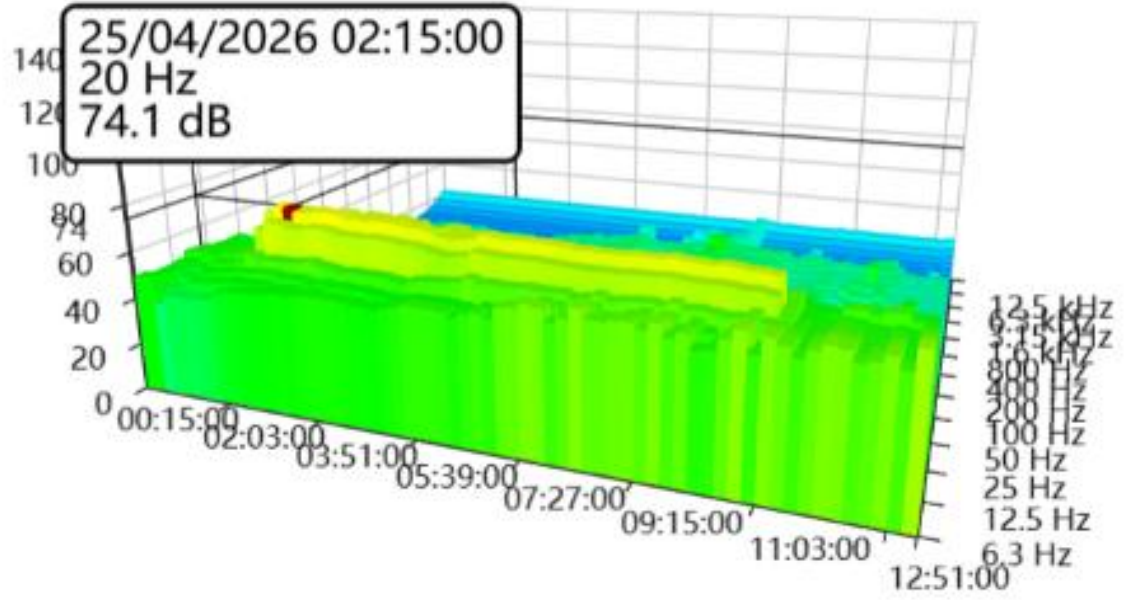
Sent 4/25/26, 8:39 AM

Type

Rich Communication Service Message

25/04/2026 - 25/04/2026

Week



# Ripples

Nov 16th 2025



Highlights

Long exposure

Sunday, November 16, 2025 · 6:00 PM

20251116\_180002.mp4

/Internal storage/DCIM/Camera

Edit

Galaxy S23+

48.63 MB | 1920x1080 | FHD

0:26 | HEVC | AAC | 30fps



## Frequency Analysis



QT800027  
Outdoor

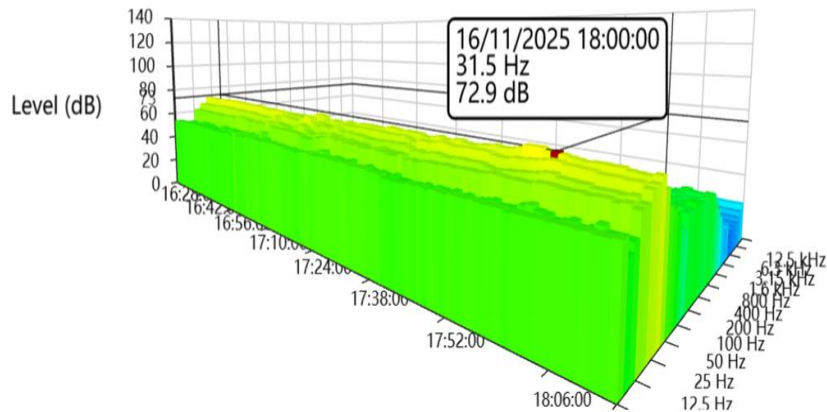
16/11/2025 - 16/11/2025

Week

Day

1:1 Octave

1:3 Octave





# NWE drowns out all the good sound

## Frequency Analysis



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Outdoor

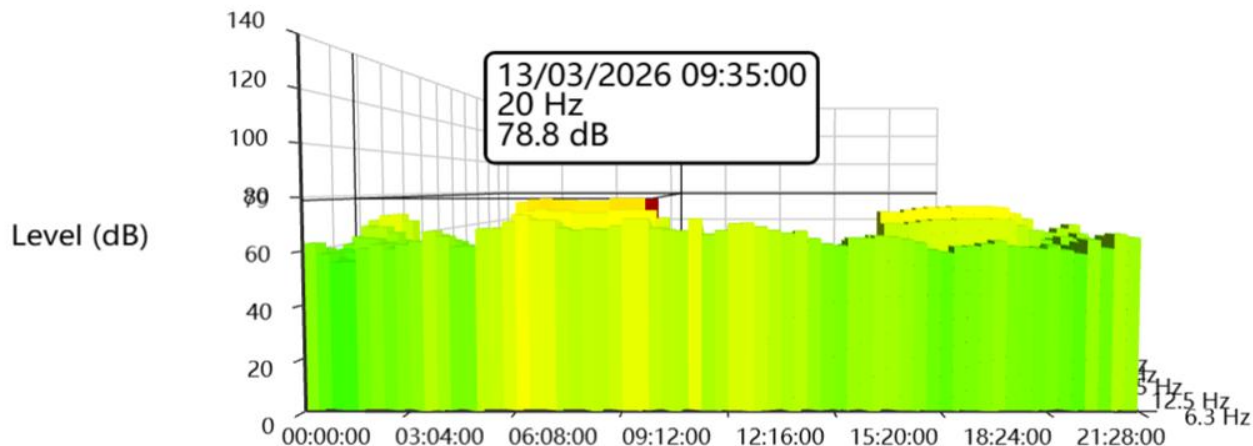
13/03/2026 - 13/03/2026

Week

Day

1:1 Octave

1:3 Octave



79





Aaron Felder

From: ajfelder@yahoo.com

To: advocate@northwestern.com



Mon, Jun 24, 2024 at 10:52 PM ☆

OFF!

# Frequency Analysis



QT800027

Outdoor



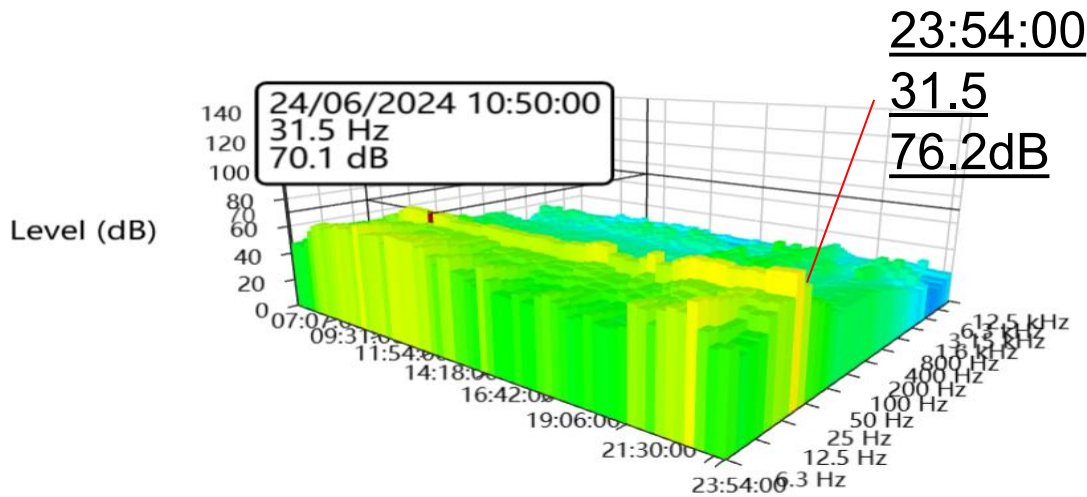
24/06/2024 - 24/06/2024

Week

Day

1:1 Octave

1:3





Aaron Felder

From: ajfelder@yahoo.com

To: Advocate



Mon, Oct 27, 2025 at 4:33 PM ☆

I can hear you in my home I can hear you outside my home you are a nuisance go away



QT800027

Outdoor



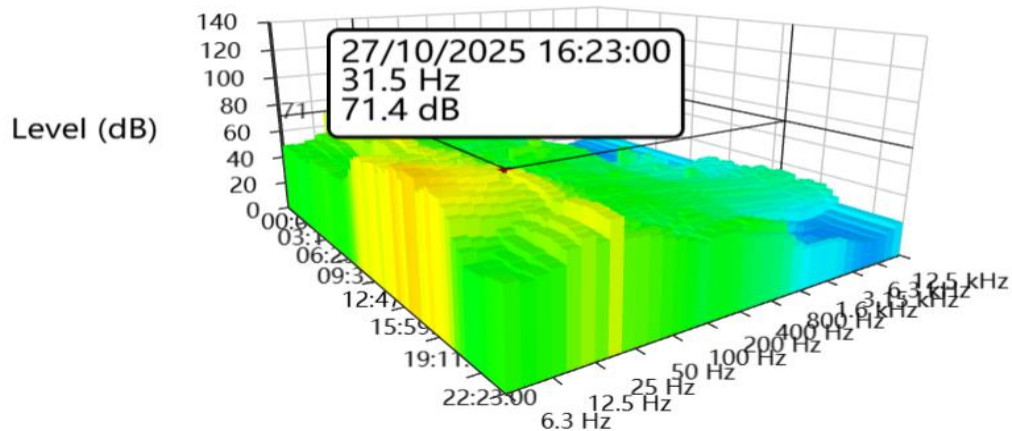
27/10/2025 - 27/10/2025

Week

Day

1:1 Octave

1:3





Aaron Felder

From: ajfelder@yahoo.com

To: Advocate, shannon.heim@northwestern.com, countyattorney@yellowstonecountymt.gov



Fri, Feb 13 at 3:15 PM

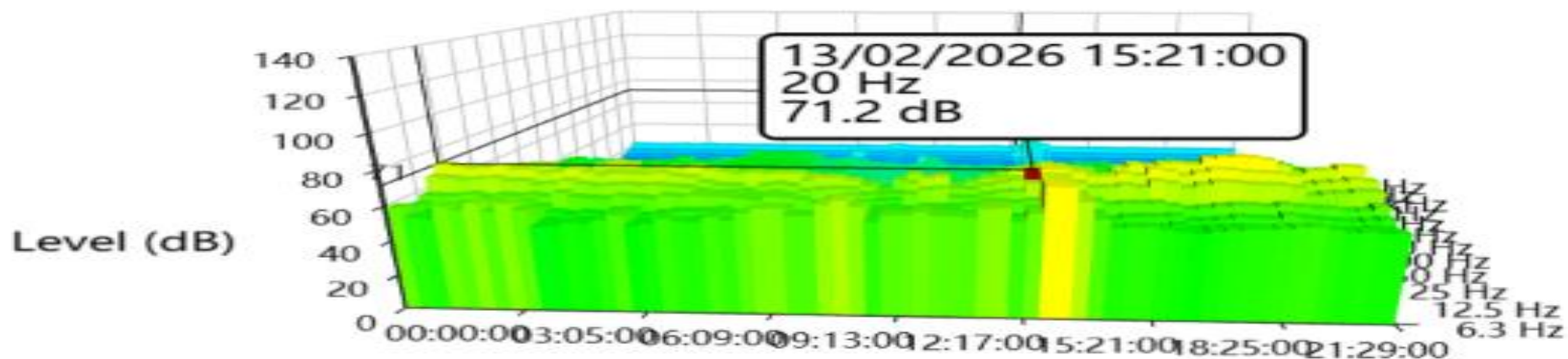
You are vibrating my home and my ears!

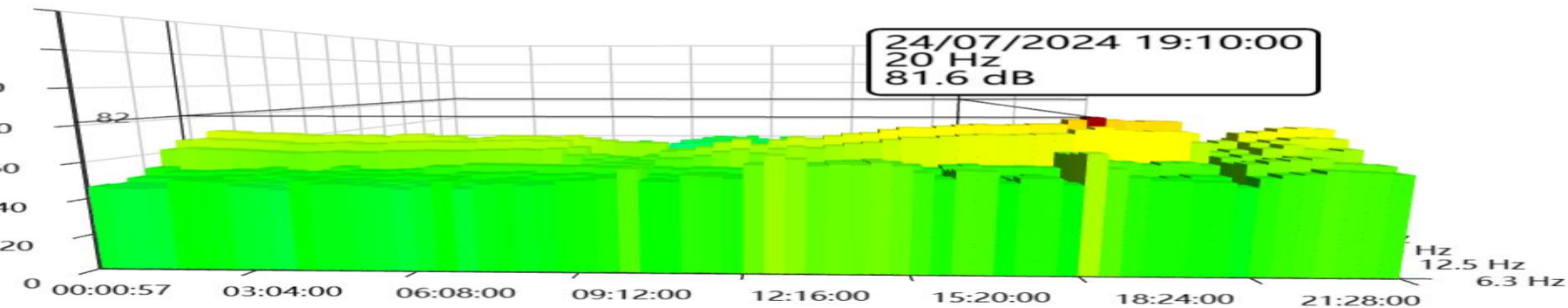
STOP!!!!!!



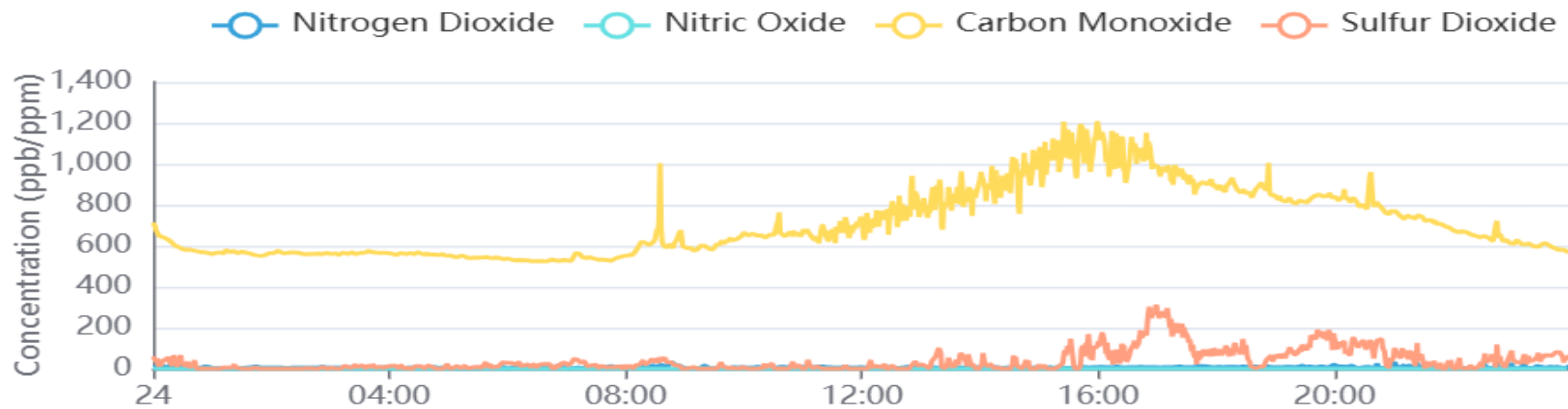
13/02/2026 - 13/02/2026

Week





## Gases - NP Thiel Road Air Monitor





Aaron Felder

From: ajfelder@yahoo.com

To: Advocate

Cc: Shane Hensleigh, shannon.heim@northwestern.com,  
countyattorney@yellowstonecountymt.gov, Molly Schwend, mmorse@yellowstonecountymt.gov



Tue, Mar 31 at 5:35 AM

2026

Rough night!

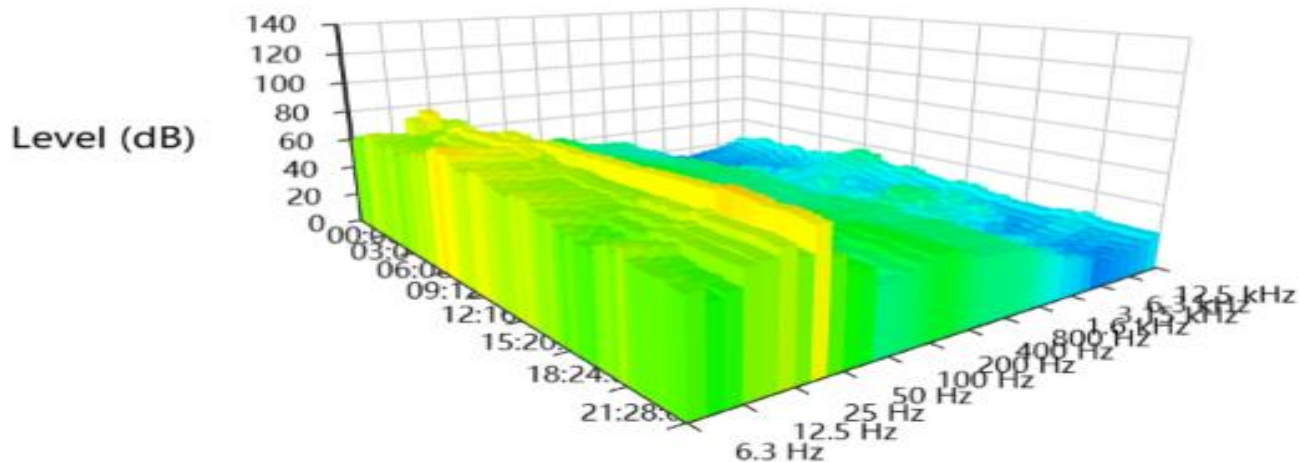


31/03/2026 - 31/03/2026

Week

Day

1:1 Octave



# HOW CAN THE COUNTY HELP

- Require rezoning and special use permitting and applications for Generator Station and Data Centers.
- Require YCGS and any future data centers or industrial complexes to properly mitigate low frequency (and high frequency) sound from leaving their property.
  - Require new developments to not compound noise in a residential area.

## WHY

- To provide detailed acoustic tests and studies to ensure accurate evaluation of potential sound impacts from the proposed development to adjacent residences and cultural resources, and to help ensure that any sound impacts are appropriately addressed.
- To ensure all sounds that leaves the property is at a low level of 40dB(A). To ensure low frequency or high frequency sounds do not impact residential areas (using C-weighting or Z-weighting).

By addressing noises created by YCGS and any future industrial complexes or data centers, the county will be properly taking care of the Yellowstone county residents.

# Sources

- [neuroathclinic.com](http://neuroathclinic.com) Brainwave Frequencies and Levels of Consciousness
- <https://cirrusresearch.com/iec-61672-a-standard-for-sound-level-meters-in-three-parts/>
- <https://www.nonoise.org/library/suter/suter.htm#industry>