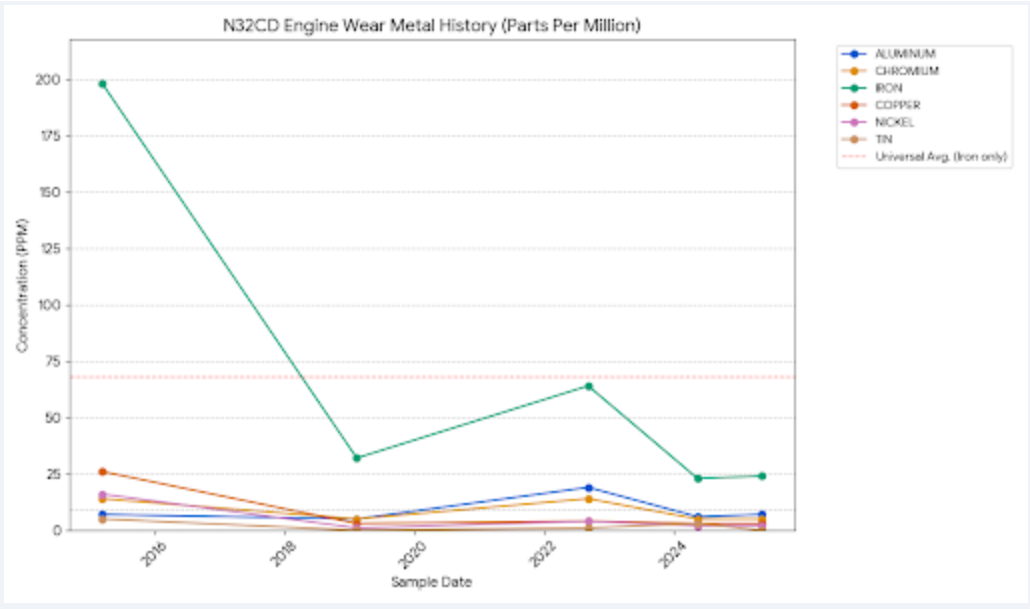
Oil Report Analysis for N32CD (Continental IO-360-ES)



This is an excellent question and a natural concern for any buyer. Fortunately, the oil analysis report provides **extremely strong evidence** of this engine's health right up to the point the aircraft was parked, which directly addresses the owner's circumstances.

The reason the plane has not flown since March 2025 is due to the owner's medical event, not a mechanical issue. The oil sample report below confirms the engine was in **excellent operating condition** just before the medical grounding.

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Metric	N32CD Current Reading (PPM) [1]	Universal Average (PPM) [2]	Analysis
Iron (Fe)	**24**	**68**	**Excellent.** Iron is the most critical wear metal. This reading is

			dramatically lower than average, indicating very little internal wear. [3]	
Aluminum (Al)	**7**	**9**		**Great.** Below the universal average. [4]
Chromium (Cr)	**5**	**9**		**Great.** Below the universal average. [5]
Copper (Cu)	**3**	**8**		**Great.** Very low and stable reading. [6]
Lead (Pb)	1,883	2,255	**Expected.** Lead is a byproduct of 100LL fuel. The reading is below average. [777]	
Contaminants	Fuel: , Water: [8]	N/A		**Clean.** No signs of fuel, water, or coolant contamination. [9]

Key Takeaways from Blackstone Laboratories

The report's summary, written by the lab after analyzing the sample taken on **May 12, 2025** [10] (just two months after the reported last flight in March), is unequivocally positive:

- Blackstone comments that the metal counts look **"great"** and they have **"no concerns to pass on for this IO-360."** [11]
- They note that the amount of metal generated per hour of use in this 25-hour oil interval was actually **lower** than the previous interval[12121212].
- The oil's physical properties tested well, and the engine was free of contamination[13].

In short, the engine was performing flawlessly with low wear rates right up until the owner's medical grounding. The report provides a clean bill of health immediately preceding the layup.

Engine Wear Metal History Plot

The graph below visualizes the primary engine wear metals (Aluminum, Chromium, Iron, Copper, Nickel, and Tin) across the five available samples. This shows that all critical wear metals are currently low and stable, especially compared to earlier maintenance history (likely a post-overhaul break-in period shown in the 2015 sample).

The current low readings for Iron, Copper, and Nickel (on the far right of the chart) confirm the excellent mechanical state of the engine just before it was parked.

N32CD Engine Wear Metal History (Parts Per Million)

The gray dashed lines represent the Universal Averages for the respective metals (only the red dashed line for Iron is explicitly labeled due to scale).

N32CD_wear_metal_history.png

(The image of the wear metal history plot is displayed above the text.)