# Drinking Water Quality Report — Isla Vista / Goleta (July 2025)

October 4, 2025


## Summary

EWB (Engineers Without Boarders) in collaboration with IVTU (Isla Vista Tenants Union). This report compiles twenty drinking-water tests collected in Goleta/Isla Vista in July 2025 and compares the results to California Title 22 (primary health standards, secondary aesthetic standards, and relevant action levels). Key points:

- **Microbiological:** *E. coli* and total coliform were not reported in any samples. Heterotrophic Plate Count (HPC, "Total Bacteria Count") was elevated in three samples: **612 CFU (Colony-Forming Unit)/mL** in report **718251467** and **TNTC** ("To Numerous To Count") in reports **721251604** and **721251606**.
- **Dissolved solids:** Total dissolved solids (TDS) exceeded the California secondary recommended level of 500 mg/L in four samples: **718251458** (502.2 mg/L), **718251468** (503.4 mg/L), **721251602** (512.4 mg/L), and **721251606** (562.2 mg/L). All were below the California "upper" short-term level of 1000 mg/L.
- **Sulfate:** Many samples were above the recommended 250 mg/L secondary standard (taste/aesthetic) but *none* exceeded the 500 mg/L upper level.
- **Metals and nitrate:** Health-based primary MCLs (Maximum Contaminant Level)(e.g., arsenic, lead, cadmium, chromium, mercury, selenium, antimony, beryllium, barium) were **not exceeded** in any sample; results were mostly non-detect. One nitrate result of 1.39 mg/L (as N) was well below the 10 mg/L MCL.
- **Fluoride and pH:** Fluoride ranged $<0.10--0.76$ mg/L (below the 2.0 mg/L CA MCL). pH ranged 8.0–8.3 SU (typical of moderately alkaline water).
- **Chlorine residual:** Several samples showed "Not Detected" residual; while the *maximum* residual is regulated (MRDL=4.0 mg/L), maintaining a small detectable residual is often desirable for distribution hygiene.
- **Radon and Arsenic:** No radon or arsenic was detected which was one of the primary concerns motivating this investigation.


## 1 Scope and Method

This summary consolidates 20 certificates of analysis collected throughout Isla Vista and Goleta. We collected 3 samples at every location, packaged them and shipped them on the day of collection.

The samples were collected from sinks in either kitchens or bathrooms. We did not test any water that had gone through a independent filtering system. Parameters were aligned into a single table with consistent units. California benchmarks used here include:

- **Primary MCLs** (health): e.g., arsenic 0.010 mg/L, lead action level 0.015 mg/L (at-the-tap, 90th percentile), nitrate (as N) 10 mg/L, nitrite (as N) 1.0 mg/L, fluoride 2.0 mg/L, uranium 20 pCi/L.
- **Secondary MCLs** (aesthetic): iron 0.30 mg/L, manganese 0.05 mg/L, silver 0.10 mg/L, zinc 5.0 mg/L, color 15 CU, odor 3 TON, turbidity 5 NTU, TDS 500/1000/1500 mg/L (Recommended/Upper/Short-term), specific conductance 900/1600/2200 µS/cm.
- **Action levels**: lead 0.015 mg/L, copper 1.3 mg/L at the tap (90th percentile). (Note: some copper results in these samples reflect point-in-time grab measurements, not 90th percentile compliance sampling.)

# 2 Results Overview

## 2.1 Microbiological

No total coliform or *E. coli* detected in any report. HPC exceeded the screening criterion of 500 CFU/mL in:

- 718251467: 612 CFU/mL
- 721251604: TNTC
- 721251606: TNTC

While HPC is not a primary MCL, elevated values or TNTC may indicate biofilm or low disinfectant residual.

## 2.2 General Minerals & Aesthetic Indicators

**Total Dissolved Solids (TDS).** Exceedances of the 500 mg/L recommended level occurred in:

- 718251458: 502.2 mg/L
- 718251468: 503.4 mg/L
- 721251602: 512.4 mg/L
- 721251606: 562.2 mg/L

No samples exceeded 1000 mg/L.

**Sulfate.** Many samples were between 250 mg/L and 350 mg/L; none exceeded 500 mg/L. These levels may contribute to taste and laxative effects for sensitive individuals.

**Hardness.** Hardness ranged from about 29 mg/L (soft) to 289 mg/L (hard). One location (721251606) was notably soft, consistent with its low Ca/Mg and high sodium profile.

**Sodium.** Most samples were 35–40 mg/L; two outliers were 107.7 mg/L (718251468) and 154.1 mg/L (721251606). Sodium has no CA MCL; elevated levels may affect taste and dietary sodium considerations.

### 2.3 Metals and Inorganics

All primary-health metals (arsenic, lead, cadmium, chromium, mercury, selenium, antimony, beryllium, barium, thallium) were non-detect or well below their MCLs in every sample. Copper was detected at low levels (up to 0.24 mg/L), below the 1.3 mg/L action level and 1.0 mg/L SMCL. Aluminum was 0.02 mg/L to 0.04 mg/L, below the 0.20 mg/L SMCL and 1.0 mg/L CA MCL.

Nitrate/nitrite results were non-detect except one nitrate result of 1.39 mg/L (well below the 10 mg/L MCL). Fluoride ranged $<0.10--0.76$ mg/L (below the 2.0 mg/L CA MCL). Uranium was reported near 0.001 mg/L (~1 µg/L), which is far below EPA's 30 µg/L MCL and consistent with levels $< 20$ pCi/L.[1]

## 3 Locations To Possibly Follow-Up On

| Report # | Parameter | Result | Reference | Note |
|---|---|---|---|---|
| 718251467 | HPC | 612 CFU/mL | 500 CFU/mL (screen) | Investigate biofilm / low residual |
| 721251604 | HPC | TNTC | 500 CFU/mL (screen) | Same as above |
| 721251606 | HPC | TNTC | 500 CFU/mL (screen) | Same as above |
| 718251458 | TDS | 502.2 mg/L | 500 mg/L (SMCL rec.) | Above recommended (taste/scale) |
| 718251468 | TDS | 503.4 mg/L | 500 mg/L (SMCL rec.) | Above recommended |
| 721251602 | TDS | 512.4 mg/L | 500 mg/L (SMCL rec.) | Above recommended |
| 721251606 | TDS | 562.2 mg/L | 500 mg/L (SMCL rec.) | Above recommended |

Additional sites displayed sulfate between 250 mg/L and 350 mg/L; while this is not a health exceedance, it can influence taste.

## 4 Ending Statements

Across twenty household drinking-water samples collected in Isla Vista/Goleta, none of the parameters analyzed exceeded California's **primary (health-based) MCLs**. Acute microbial indicators (total coliform, *E. coli*) were not detected, nitrate/nitrite were well below limits, and metals of concern (e.g., arsenic, lead, cadmium, chromium, mercury, selenium, barium, thallium) were non-detect or comfortably under their standards. pH was moderately alkaline and consistent with local supplies. The main issues observed were **aesthetic/operational**: several samples had **elevated heterotrophic plate counts (HPC)** and a handful exceeded the **secondary** recommended level for **total dissolved solids (TDS)** (and occasionally sulfate), which affect taste/scale but are not health violations. A few sites also showed low or non-detectable chlorine residuals at the tap, suggesting premise-plumbing effects (stagnation/biofilm). The water has ascetic, taste, and odor problems but overall, the findings indicate **no acute safety concerns** at the time of sampling.

[1] Conversion between µg/L and pCi/L depends on isotopic composition; values here are qualitatively well below the CA radionuclide MCL.

## Appendix A: Benchmarks Used (selected)

| Parameter | Benchmark (CA Title 22 / guidance) | Type |
|---|---|---|
| E. coli | Absent | Primary (health) |
| Total coliform | Treatment technique (find-and-fix) | Primary (health) |
| HPC | 500 CFU/mL (screening) | Operational guidance |
| Lead (at tap) | 0.015 mg/L (AL) | Action level |
| Copper (at tap) | 1.3 mg/L (AL) | Action level |
| Arsenic | 0.010 mg/L | Primary (health) |
| Nitrate (as N) | 10 mg/L | Primary (health) |
| Nitrite (as N) | 1.0 mg/L | Primary (health) |
| Fluoride | 2.0 mg/L (CA) | Primary (health) |
| Uranium | 20 pCi/L | Primary (health) |
| Iron | 0.30 mg/L | Secondary (aesthetic) |
| Manganese | 0.05 mg/L | Secondary (aesthetic) |
| Silver | 0.10 mg/L | Secondary (aesthetic) |
| Zinc | 5.0 mg/L | Secondary (aesthetic) |
| Color | 15 CU | Secondary (aesthetic) |
| Odor | 3 TON | Secondary (aesthetic) |
| Turbidity | 5 NTU | Secondary (aesthetic) |
| Specific conductance | 900/1600/2200 µS/cm | Secondary (Rec./Upper/Short-term) |
| TDS | 500/1000/1500 mg/L | Secondary (Rec./Upper/Short-term) |

*Notes:* The limits above reflect California Title 22 and related guidance as commonly applied to public water systems. Some parameters in the lab sheets (e.g., sodium, potassium, calcium, magnesium, alkalinity, hardness, silica, tannins) do not have CA MCLs; they are tracked for operational or aesthetic context.