

Example of Results Generated by Fluorescent Whitening Agents Analysis for Ten Different Water Samples

Results of FWA analysis:

| ESR Number | FWA µg/L | Interpretation |
|------------|----------|----------------------------------|
| CMB120xx1 | <0.01 | Below detection limit |
| CMB120xx2 | 0.35 | Strongly indicative human sewage |
| CMB120xx3 | 0.01 | Very low level human sewage |
| CMB120xx4 | 0.09 | Indicative human sewage |
| CMB120xx5 | 0.13 | Indicative human sewage |
| CMB120xx6 | 0.02 | Very low level human sewage |
| CMB120xx7 | 0.04 | Low level human sewage |
| CMB120xx8 | <0.01 | Below detection limit |
| CMB120xx9 | 0.22 | Strongly indicative human sewage |
| CMB120x10 | 0.03 | Low level human sewage |

Interpretation Guidance Notes:

Fluorescent Whitening Agents:

The analysis of FWAs in septic tank and community wastewater consistently identifies levels between 10 and 70 µg/L. In previous analysis of water samples levels of FWA greater than 0.1 µg/L suggest human sewage, with levels greater than 0.2 µg/L strongly indicative of human sewage. Levels greater than 0.1 µg/L correlate well with other indicators of human pollution and indicate a local or recent source of pollution. FWAs degrade under sunlight exposure and will undergo dilution. Levels lower than 0.1 µg/L may be indicative of dilute or distant sources of pollution.

Reference: Devane M., Saunders D. and Gilpin B. (2006). Faecal sterols and fluorescent whiteners as indicators of the source of faecal contamination. *Chemistry in New Zealand* **70**(3), 74-77.
http://www.nzic.org.nz/CiNZ/articles/Devane_70_3.pdf