

Central Davis Sewer District Algal ID and Enumeration Report

Prepared: November 8, 2018

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Samples: 2 (Collected on 9/27/18)

1. FB1
2. FB4

Sample 1: FB1

Total cell numbers in the FB1 sample collected on 9/27/18 were 7,227,453 cells/mL. Blue-green algae (Cyanobacteria; 6,874,873 cells/mL) were the dominant algal group in the sample accounting for 95.1% of total cell numbers. Other algal groups in the sample were diatoms (Bacillariophyceae; 99,588 cells/mL), green algae (Chlorophyta; 244,621 cells/mL), cryptophytes (Cryptophyta; 1,989 cells/mL), dinoflagellates (Dinophyta; 1,671 cells/mL) and unknown unicells and flagellates (Miscellaneous; 4,712 cells/mL). The most abundant algae in the sample were picocyanophytes (5,656,488 cells/mL; Figs. 1-2). A total of 60 species were observed in the sample.

Total cell numbers of potentially toxigenic cyanobacteria (PTOX Cyano) were 228,934 cells/mL (3.2% of total cell numbers). PTOX Cyano species observed in the sample included *Pseudanabaena catenata* (70,184 cells/mL; Fig. 3), *Nodularia spumigena* (66,424 cells/mL; Fig. 4), *Pseudanabaena* sp. (56,816 cells/mL; Fig. 5) and *Pseudanabaena* sp. (35,510 cells/mL; Fig. 6).

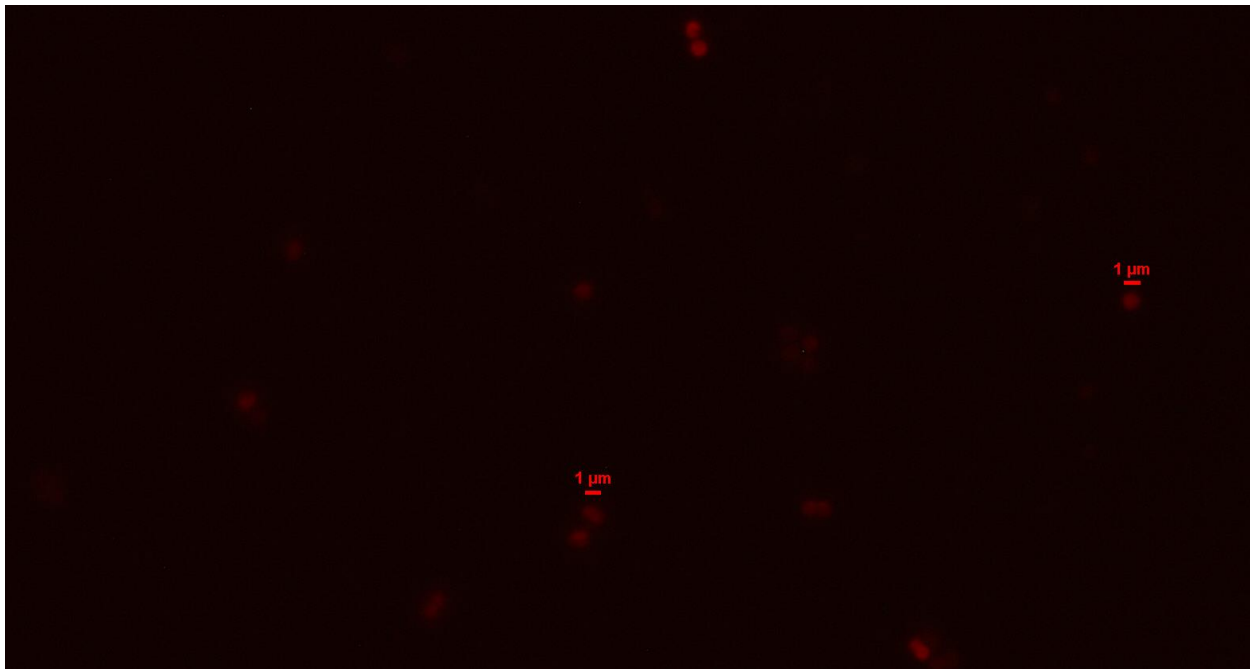


Fig. 1 picocyanophytes 1000X Green-light Epifluorescence (scale bar = 1 μ m)

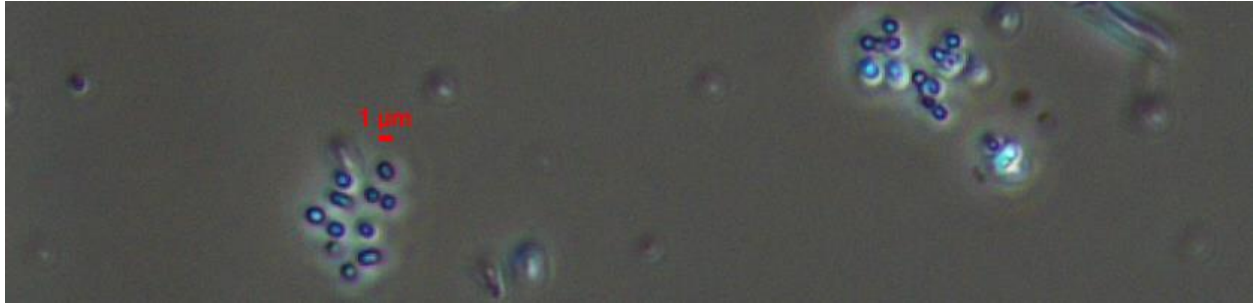


Fig. 2 picocyanophyte colonies 400X (scale bar = 1 μm)

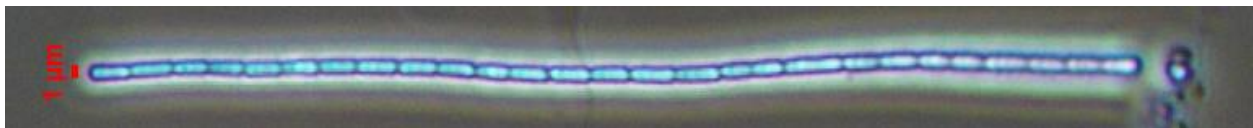


Fig. 3 *Pseudanabaena catenata* 400X (scale bar = 1 μm)

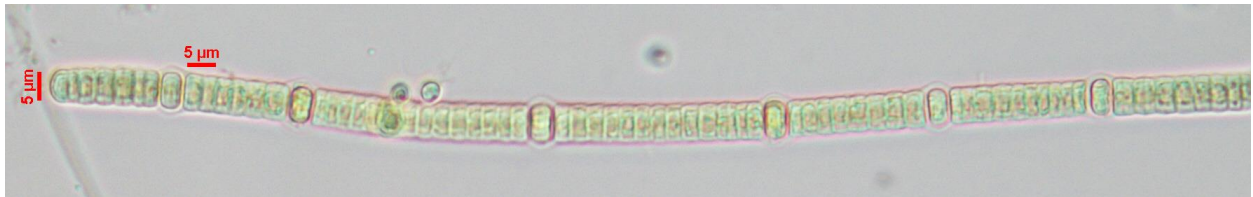


Fig. 4 *Nodularia spumigena* 400X (scale bar = 5 μm)



Fig. 5 *Pseudanabaena* sp. 400X (scale bar = 5 μm)

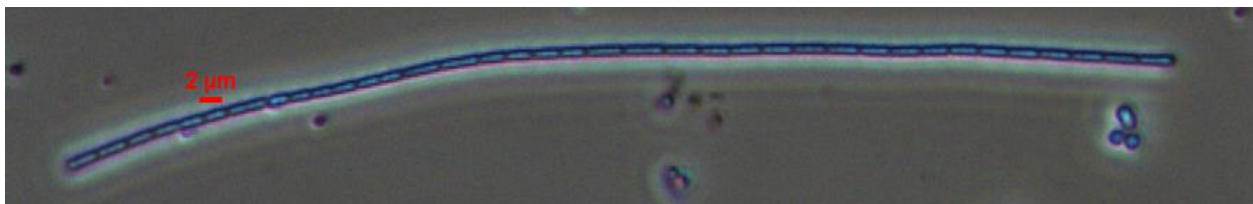


Fig. 6 *Pseudanabaena* sp. 400X (scale bar = 2 μm)

Sample 2: FB4

Total cell numbers in the FB4 sample collected on 9/27/18 were 188,084 cells/mL. Blue-green algae (Cyanobacteria; 131,404 cells/mL) were the dominant algal group in the sample accounting for 69.9% of total cell numbers. Other algal groups in the sample were diatoms (Bacillariophyceae; 11,050 cells/mL), green algae (Chlorophyta; 34,121 cells/mL), cryptophytes (Cryptophyta; 418 cells/mL), euglenophytes (Euglenophyta; 80 cells/mL), unknown flagellates and unicells (Miscellaneous; 11,010 cells/mL). The most abundant alga in the sample was the colonial cyanophyte *Merismopedia tenuissima* (35,343 cells/mL; Fig. 7). A total of 58 species were observed in the sample.

Total cell numbers of potentially toxigenic cyanobacteria (PTOX Cyano) were 1,215 cells/mL (0.6% of total cell numbers). PTOX Cyano species observed in the sample included *Nodularia spumigena* (735 cells/mL; Fig. 8), *Pseudanabaena* sp. (450 cells/mL; Fig. 9) and *Anabaena* sp. (30 cells/mL).

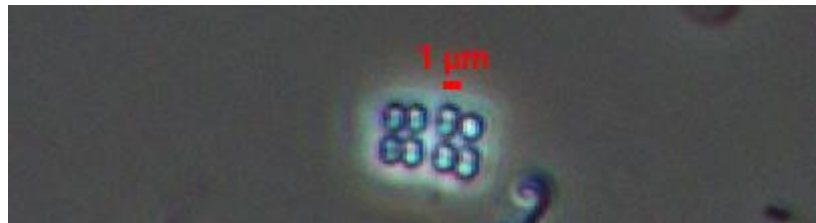


Fig. 7 *Merismopedia tenuissima* 400X (scale bar = 1µm)

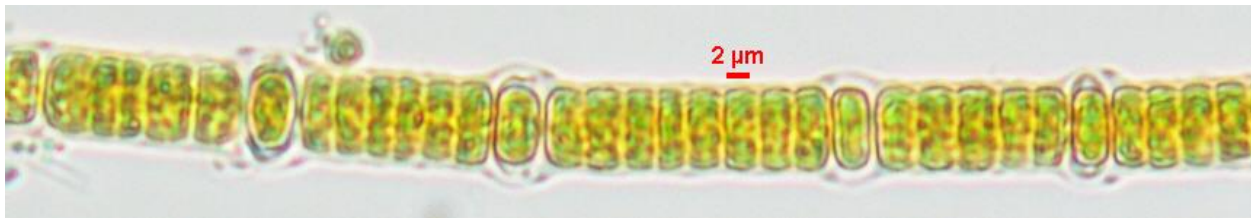


Fig. 8 *Nodularia spumigena* 400X (scale bar = 2µm)

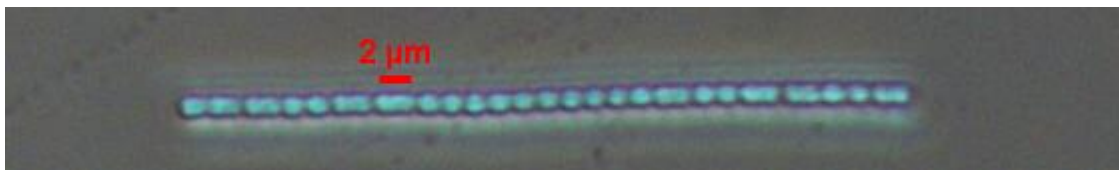


Fig. 9 *Pseudanabaena* sp. 400X (scale bar = 2µm)