

Central Davis Sewer District Algal ID and Enumeration Report

Prepared: August 26, 2019

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Samples: 2 (Collected on 7/25/19)

1. FB1
2. FB4

Sample 1: FB1

Total cell numbers in the FB1 sample collected on 7/25/19 were 3,133 cells/mL. Blue-green algae (Cyanobacteria; 2,213 cells/mL) were the most abundant algal group in the sample accounting for 70.6% of total cell numbers. Other algal groups in the sample were diatoms (Bacillariophyceae; 564 cells/mL) and green algae (Chlorophyta; 356 cells/mL). The most abundant algae in the sample were the filamentous cyanophytes *Phormidium* sp. (1,170 cells/mL; Fig. 1) and *Phormidium* sp. (663 cells/mL; Fig. 2). The sample contained abundant bacteria (Fig. 3). A total of 20 species were observed in the sample.

Total cell numbers of potentially toxigenic cyanobacteria (PTOX Cyano) were 1,958 cells/mL (62.5% of total cell numbers). PTOX Cyano species observed in the sample included *Phormidium* sp. (1,170 cells/mL), *Phormidium* sp. (663 cells/mL) and *Nodularia spumigena* (125 cells/mL; Fig. 4).

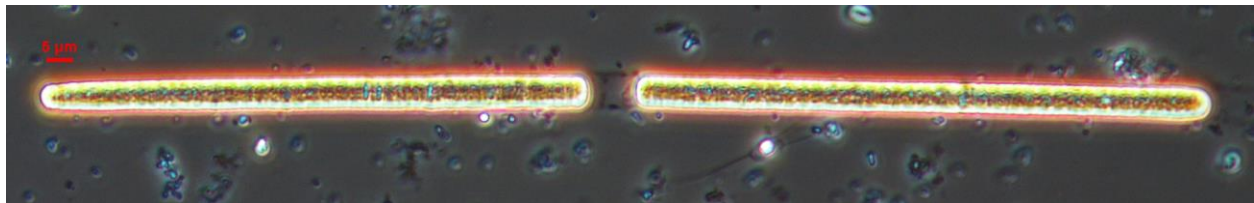


Fig. 1 *Phormidium* sp. 400X (scale bar = 5 μ m)



Fig. 2 *Phormidium* sp. 400X (scale bar = 2 μ m)

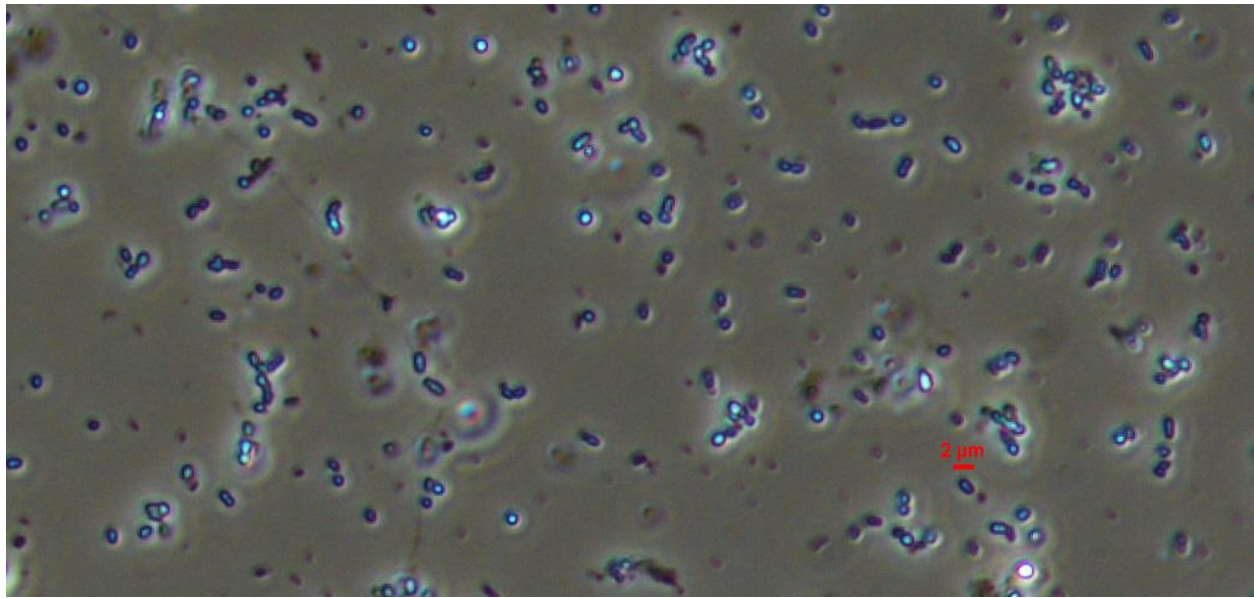


Fig. 3 bacteria 400X (scale bar = 2 μ m)



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

Sample 2: FB4

Total cell numbers in the FB4 sample collected on 7/25/19 were 14,693 cells/mL. Green algae (Chlorophyta; 12,510 cells/mL) were the dominant algal group in the sample accounting for 85.1% of total cell numbers. Other algal groups in the sample were diatoms (Bacillariophyceae; 1,092 cells/mL), blue-green algae (Cyanobacteria; 1,089 cells/mL) and dinoflagellates (Dinophyceae; 1 cell/mL). The most abundant alga in the sample was the colonial chlorophyte *Oocystis novae-semliae* (3,455 cells/mL; Fig. 5). The sample contained abundant particulate material and bacteria (Fig. 6). A total of 36 species were observed in the sample.

Total cell numbers of potentially toxigenic cyanobacteria (PTOX Cyano) were 2 cells/mL (0.01% of total cell numbers). PTOX Cyano species observed in the sample included *Nodularia spumigena* (2 cells/mL).

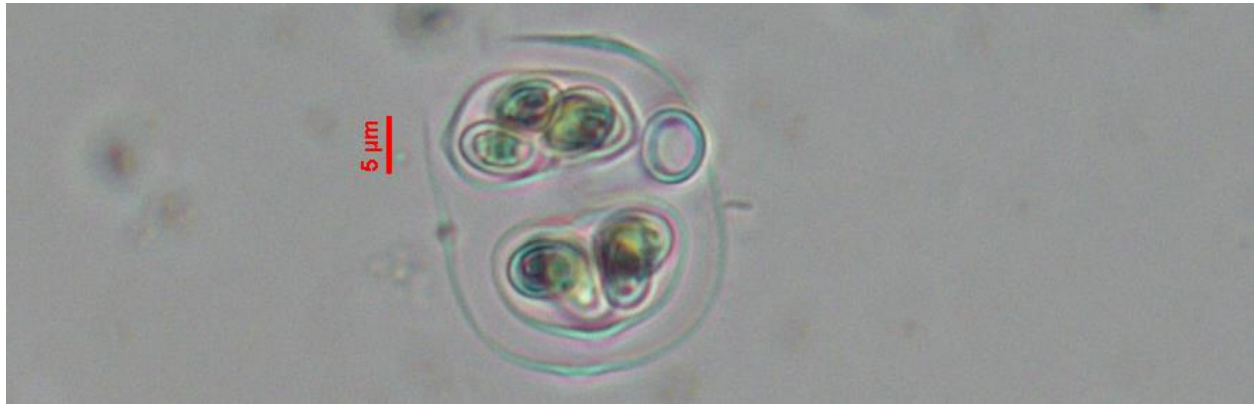


Fig. 5 *Oocystis novae-semliae* 400X (scale bar = 5μm)

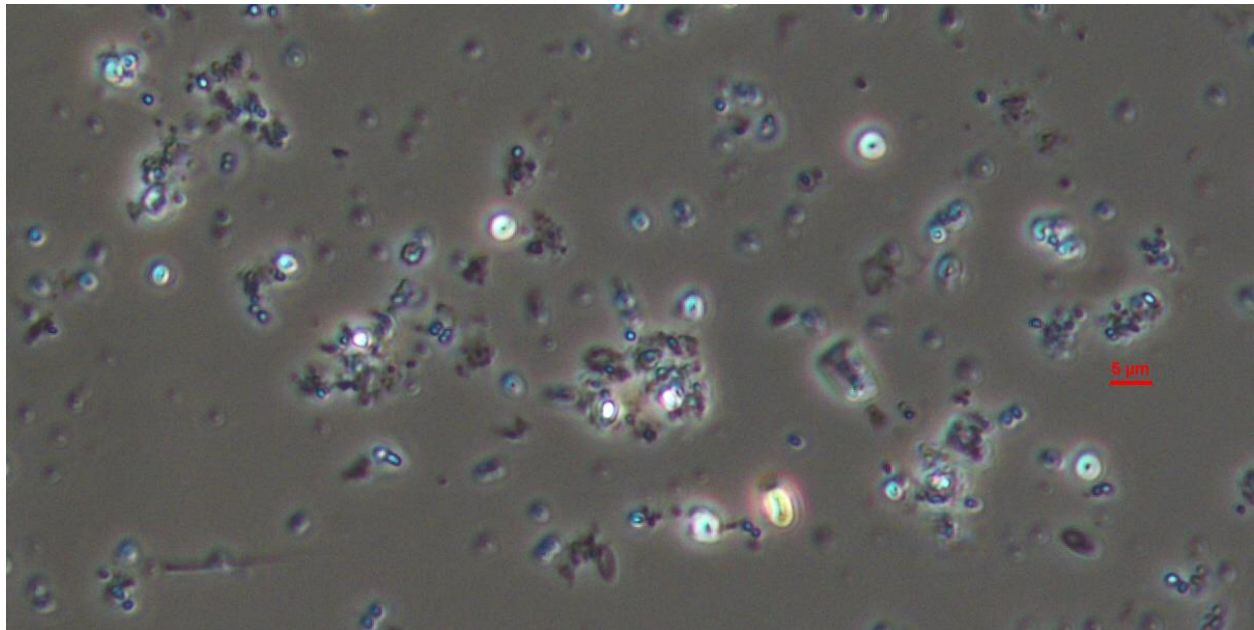


Fig. 6 particulate material and bacteria 400X (scale bar = 5μm)