

## Central Davis Sewer District Algal ID and Enumeration Report

Prepared: October 24, 2019

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Samples: 2 (Collected on 9/18/19)

1. FB1
2. FB4

### Sample 1: FB1

Total cell numbers in the FB1 sample collected on 9/18/19 were 646,461 cells/mL. Blue-green algae (Cyanobacteria; 545,575 cells/mL) were the most abundant algal group in the sample accounting for 84.4% of total cell numbers. Other algal groups in the sample were diatoms (Bacillariophyceae; 42,675 cells/mL), green algae (Chlorophyta; 57,793 cells/mL) and dinoflagellates (Dinophyceae; 418 cells/mL). The most abundant algae in the sample were the filamentous cyanophytes *Nodularia spumigena* (331,500 cells/mL; Fig. 1) and *Pseudanabaena catenata* (160,220 cells/mL; Fig. 2). A total of 36 species were observed in the sample.

Total cell numbers of potentially toxigenic cyanobacteria (PTOX Cyano) were 498,978 cells/mL (77.2% of total cell numbers). PTOX Cyano species observed in the sample included *Nodularia spumigena* (331,500 cells/mL), *Pseudanabaena catenata* (160,220 cells/mL), *Oscillatoria/Phormidium* sp. (4,178 cells/mL; Fig. 3), *Arthrospira* sp. (1,560 cells/mL; Fig. 4), *Phormidium* sp. (910 cells/mL; Fig. 5), *Planktothrix* sp. (310 cells/mL; Fig. 6) and *Anabaena* sp. (300 cells/mL; Fig. 7).



Fig. 1 *Nodularia spumigena* 400X (scale bar = 5 $\mu$ m)

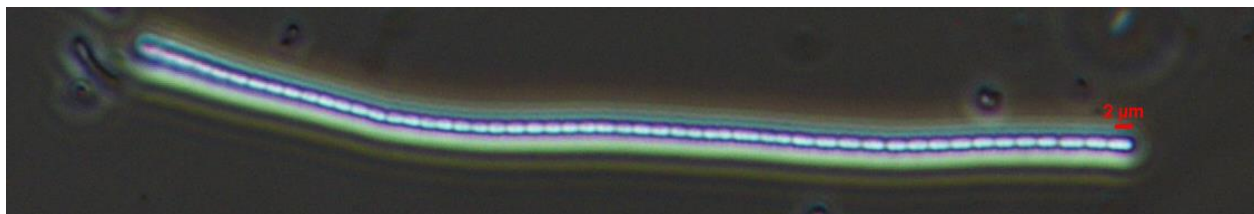


Fig. 2 *Pseudanabaena catenata* 400X (scale bar = 2 $\mu$ m)

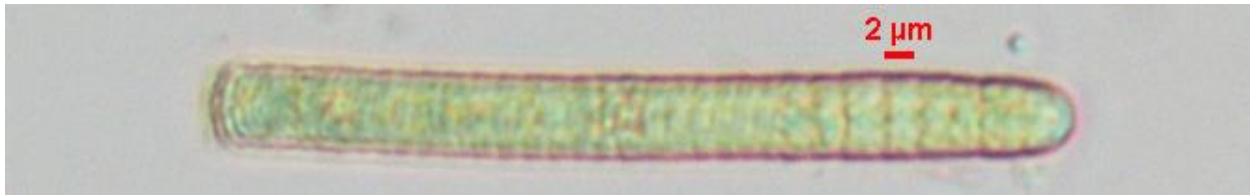


Fig. 3 *Oscillatoria/Phormidium* sp. 400X (scale bar = 2μm)

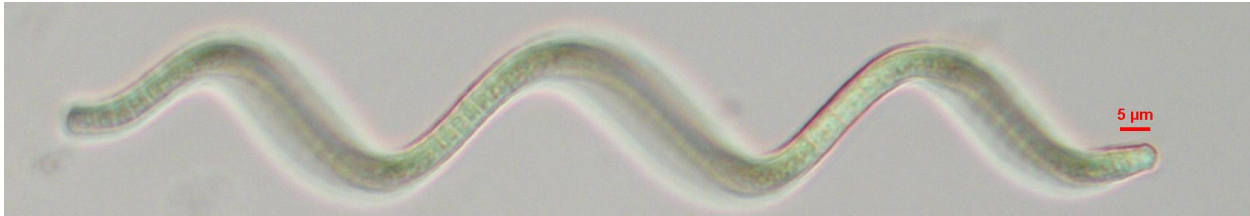


Fig. 4 *Arthrospira* sp. 400X (scale bar = 5μm)

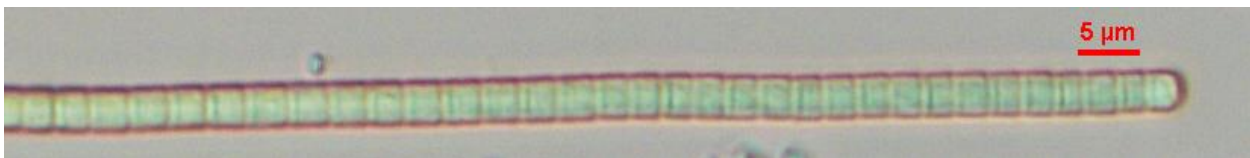


Fig. 5 *Phormidium* sp. 400X (scale bar = 5μm)

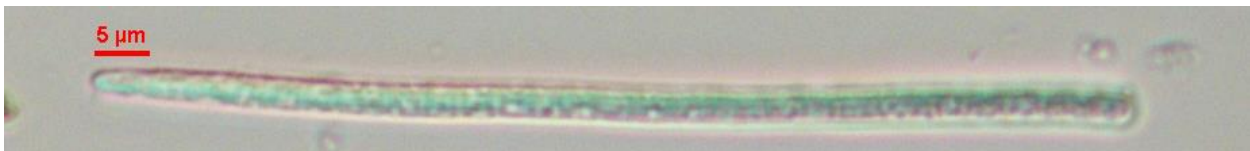


Fig. 6 *Planktothrix* sp. 400X (scale bar = 5μm)

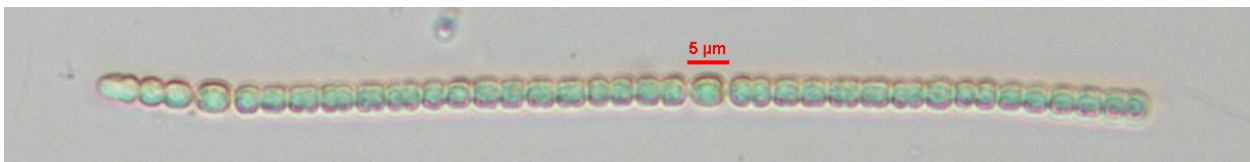


Fig. 7 *Anabaena* sp. 400X (scale bar = 5μm)

## Sample 2: FB4

Total cell numbers in the FB4 sample collected on 9/18/19 were 251,035 cells/mL. Blue-green algae (Cyanobacteria; 192,250 cells/mL) were the dominant algal group in the sample accounting for 76.6% of total cell numbers. Other algal groups in the sample were diatoms (Bacillariophyceae; 27,728 cells/mL), green algae (Chlorophyta; 30,570 cells/mL), cryptophytes (Cryptophyta; 314 cells/mL), dinoflagellates (Dinophyceae; 167 cells/mL) and euglenophytes (Euglenophyta; 6 cells/mL). The most abundant alga in the sample was the filamentous cyanophyte *Pseudanabaena catenata* (116,866 cells/mL; Fig. 8). A total of 50 species were observed in the sample.

Total cell numbers of potentially toxigenic cyanobacteria (PTOX Cyano) were 145,855 cells/mL (58.1% of total cell numbers). PTOX Cyano species observed in the sample included *Pseudanabaena catenata* (116,866 cells/mL), *Nodularia spumigena* (27,250 cells/mL; Fig. 9), *Anabaena* sp. (1,671 cells/mL) and *Planktothrix* sp. (68 cells/mL).

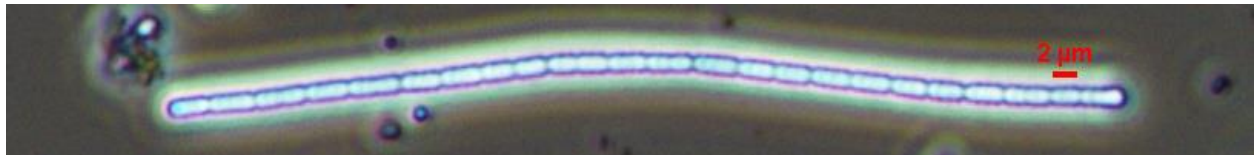


Fig. 8 *Pseudanabaena catenata* 400X (scale bar = 2μm)

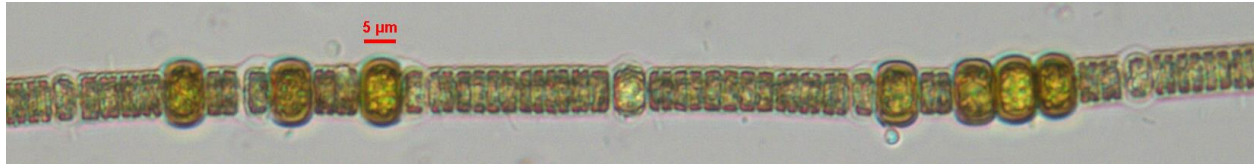


Fig. 9 *Nodularia spumigena* 400X (scale bar = 5μm)