



AQUATIC CONSULTING & TESTING, INC.

1525 W. University Drive, Suite 106
P.O. Box 1510
Tempe, Arizona 85281
Phone: (480) 921-8044 • Fax: (480) 921-0049

Lic. No. AZ0003

18 May 2020

Ms. Debbie Tribioli
The Oasis at Anozira
c/o Kinney Management Services
6303 South Rural Road
Tempe, Arizona 85283

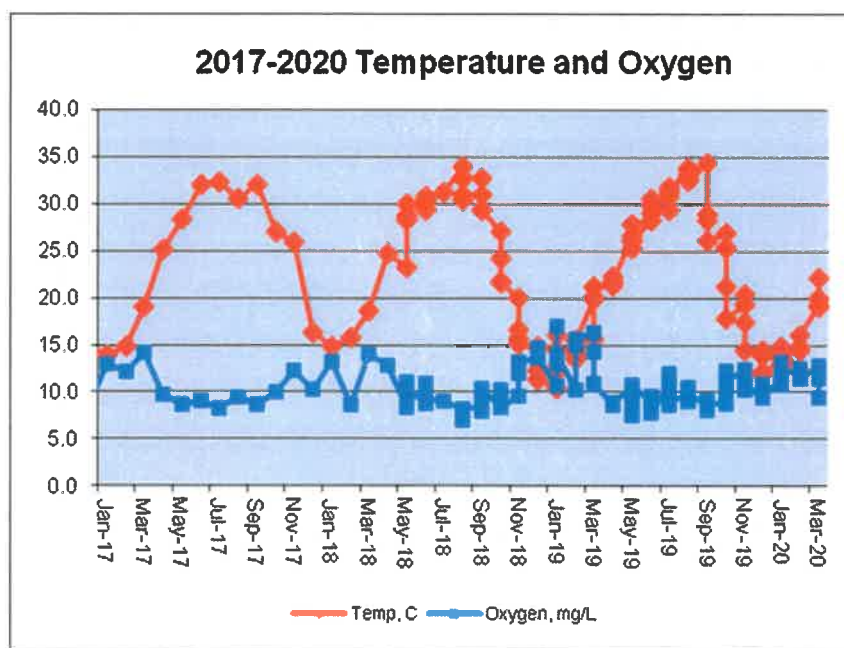
Ref: **Oasis Lake, March 2020**

Dear Ms. Tribioli:

The following report summarizes water quality data collected for Oasis Lake on 04 March 2020. Similar data have been reported each month and are used in this report to generate the graphs that are used for tracking changes in water quality. The report includes field data sheets summarizing weekly lake and mechanical system conditions during the month.

Chemical and Physical Composition

Temperature, Oxygen, and pH: Water temperature increased to 19.3 C (67 F) and the dissolved oxygen concentration was greater than 100 percent saturation (12.8 mg/L). Operation of the floating fountains, as well as the trial nanobubble oxygenation system, helped maintain dissolved oxygen at a level that was more than satisfactory for the fishery.

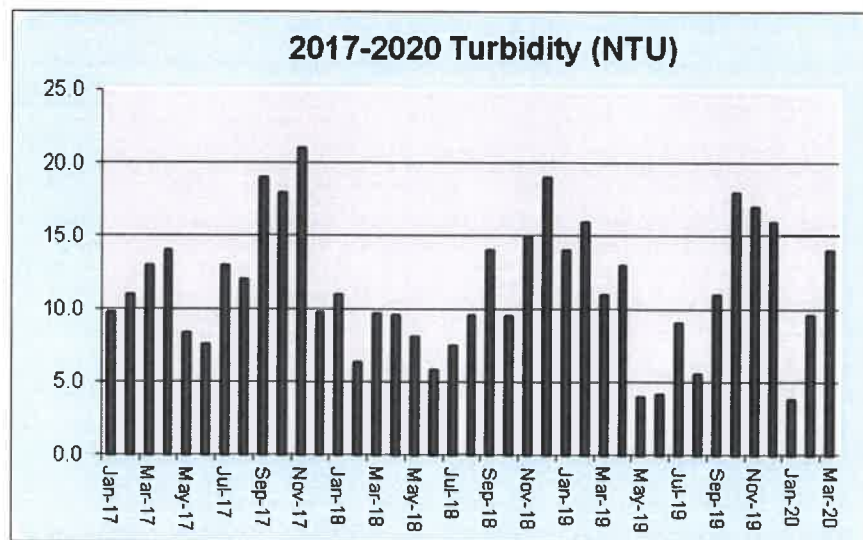


The table below shows the USEPA criteria for dissolved oxygen in warm water fisheries.

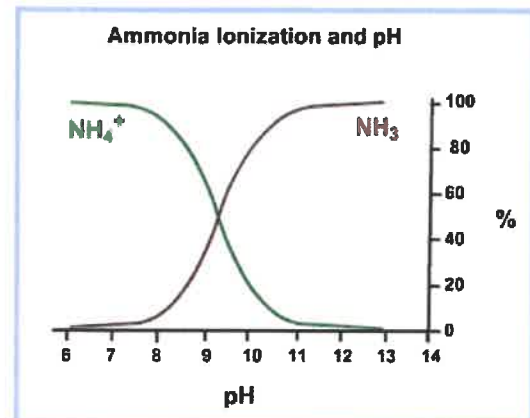
| Criterion | Early life stages | Other life stages |
|---------------|-------------------|-------------------|
| Daily mean | >6.0 | >4.0 |
| Daily minimum | >5.0 | >3.0 |

Water temperature tolerance varies among fish species. However, the maximum weekly temperature tolerance of most common urban lake fish species is 32 to 35 C.

Turbidity: The turbidity of the lake water increased to 14 NTU. Water turbidity is impacted by algae density and dissolved and particulate matter in the water, including storm water runoff and dye that is periodically added for algae and weed management. As turbidity increases, clarity decreases. Rain storms have occurred intermittently throughout the winter.



pH: The lake water pH varied from 8.2 to 8.9 SU during the month. Water pH is influenced by the chemical makeup of the water and the amount of algae in the lake. In a very simplified explanation for the role of algae, carbonic acid in the water is formed from dissolution of carbon dioxide. Carbonic acid tends to make the water more acidic and pH decreases. However, algae utilize carbon dioxide during photosynthesis during daylight, making less carbon dioxide available to form carbonic acid, and pH increases. The more algae present, the greater the increase in pH that usually occurs. Data indicate that pH was similar to measurements last month. pH changes may also result from differences in SRP canal feed water composition.

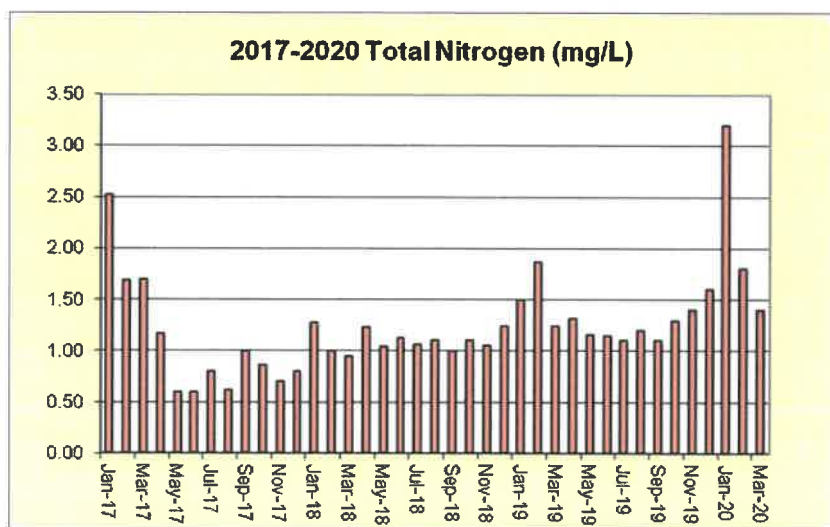
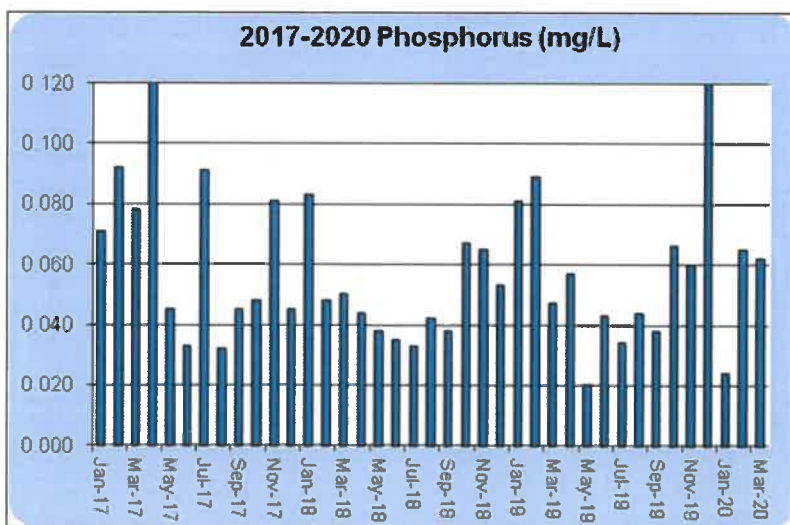


High pH can be problematic in terms of toxicity if high concentrations of ammonia are present in the water. Ammonia is in equilibrium between two forms; ammonium ion and ammonia gas. At pH concentrations above 9.0 SU and a water

temperature increases, ammonia converts to the gas which is toxic to many aquatic organisms. At the measured water temperatures, measured pH values would not result in toxicity. No signs of fish stress were observed.

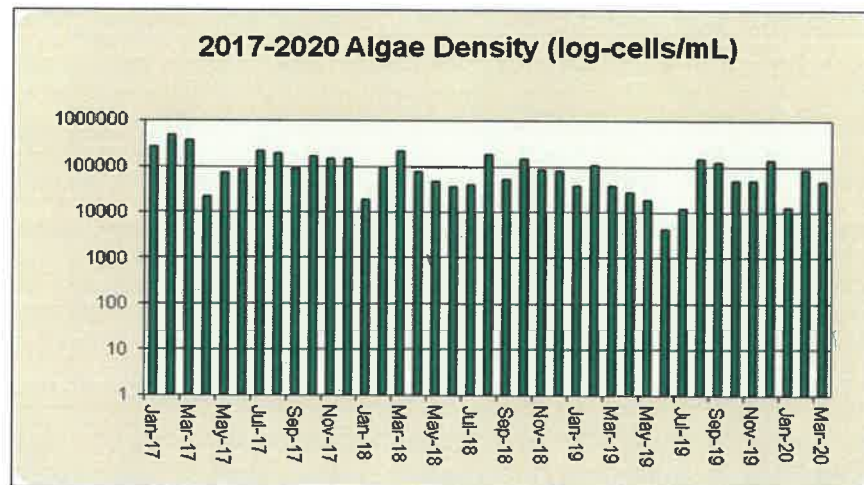
Nutrients: Nitrogen and phosphorus are the primary nutrients that stimulate algae and submerged plant growth. Phosphorus is typically the nutrient that dictates how much plant growth can be sustained in a lake. Usually if the total phosphorus concentration is below 0.030 mg/L, low levels of suspended algae occur. A nitrogen concentration of about 10 times the phosphorus (0.30 mg/L) is typically needed to support algal growth.

The phosphorus concentration was stable at 0.062 mg/L as P. The total nitrogen concentration decreased to 1.40 mg/L as N. Nitrate, immediately available to algal cells, was at a concentration of <0.05 mg/L. Because there was no increase in nutrient concentrations, no increase in algae growth would be expected or occurred.



Biological Composition

Phytoplankton (algae): The amount and types of algae in a lake dictate the aesthetic and operational quality of the water. Algae density affects the clarity and color of the water, two very important aesthetic criteria. The species composition dictates the form of growth observed; floating mats, suspended cells, stringy attached filaments, etc. It also impacts the choice, frequency, and dosage of herbicides used for water quality management.



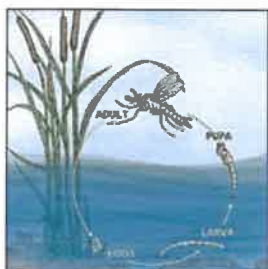
As predicted, the total algae density in the lake decreased slightly to 4.72×10^4 cells per mL, a density still considered moderate for an urban reservoir in metro-Phoenix. The blue-green (Cyanophyta) filamentous alga, *Oscillatoria*, remained the dominant form. This alga can form stringers along the lake edge, bottom growths, or floating mats. However, no appreciable amount of these growths was observed.



Tests conducted through the month indicated absence of golden algae through March 18. On and following that date, low levels of golden algae were detected, but fish activity appeared normal. Golden algae have been identified in over 20 lake systems in metro-Phoenix so far this season. The golden alga (*P. parvum*), produces toxins that rupture unprotected cells. The toxin release is believed to benefit golden algae by killing other species of algae, thereby making resources (nutrients) more available to the golden algae population. Unfortunately, the cells of fish gills are also unprotected because that is where oxygen absorption occurs. Thus, the toxin also results in asphyxiation of fish. Susceptibility to the toxin varies amongst fish species.



Midge flies: Midge flies are common inhabitants of most lakes. Adult females lay hundreds of eggs on the water surface. The eggs settle to the lake bottom and hatch in a few days. Larvae develop and grow in the superficial sediments over a three to four week period. In about 30 days the insect larvae become pupae, rise in the water column, and emerge as adult flies. The life cycle is shown diagrammatically below. Adults tend to swarm at dusk and dawn and become a nuisance. They fly into residents' eyes and mouths, congregate under eaves of houses, and leave a sticky messy residue when they die. Management techniques may include stocking of bottom-feeding fishes to consume the larvae and/or application of bacterial or chemical larvicides. Because fish have not been stocked for three years or more, a maintenance stocking proposal will be delivered to the Board this month.



Few adult midge flies were detected during the month.

Fishery: No significant loss of fish occurred during the month.

Waterfowl: Ducks and geese can be a beautiful sight on a small urban pond or lake. They seem to make the lake look more like a natural lake than an artificial reservoir. They are fascinating creatures. However, when ducks and geese become too numerous, several lake management and aesthetic problems can develop. These problems are listed below.

- Bird wastes are unattractive and cause slippery conditions.
- Cleaning waste from sidewalks and turf is an additional maintenance item.
- Geese and other waterfowl can become aggressive toward humans.
- Waterfowl can damage turf areas.
- Waterfowl add nitrogen and phosphorus to the water.
- Bird wastes contain bacteria that are a health risk to humans and pets.
- Diving birds consume fish that are stocked in the lack for management purposes.



Arizona Game and Fish Department has developed criteria for waterfowl on small urban lakes (see table). Based on the Arizona Game & Fish Department scale, the lake condition in terms of waterfowl has been in the “good to excellent” category. With the end of the migratory seasons, fewer waterfowl should be visiting the lake

Problematic cormorants were infrequently observed during the month. Cormorants are diving birds that feed on small fish. Canada geese were again observed. They can destroy turf and, along with other birds, contribute fecal matter to the common areas and water. See photos above.

| Ranking | Waterfowl Density |
|-----------|-------------------|
| Excellent | <3/acre |
| Good | 3-4/acre |
| Fair | 5-6/acre |
| Poor | >6/acre |

Bacteria

In terms of public health protection, the *E. coli* bacteria concentration was relatively low (22 per 100 mL) and met incidental or partial body contact (PBC) and full body contact (FBC) recreational standards. The table below displays the numeric standards from the State Water Quality Standards (R18-11-109 A; 2016).

| Designated use | <i>E. coli</i> single sample max. no/100 mL |
|-----------------------------------------|---------------------------------------------|
| Full body contact (swimming) | 235 |
| Partial body contact (boating, fishing) | 575 |

Mechanical Systems and Field Observations

Weekly field inspection forms are attached to this report. In-lake and entry fountains and nanobubble aeration system operated during the month.

Endothall and peroxide-based algaecide applications were made, as needed, to the three entry fountains to reduce algae growth on the wetted rock surfaces.

Lake Report Card

The water quality data are summarized on the attached Oasis Lake Report Card. Each salient parameter has been qualitatively evaluated and then assigned a numeric value for quantitative comparison and tracking purposes. The March score decreased to 41, and fell from the “excellent” category range to the “good” range. The reduced score occurred primarily as a result of the small increases in turbidity and bacteria concentration.

Report card scores for the past three years have been graphically summarized below. Polynomial regression analysis (black line) still indicates a somewhat cyclic pattern. Linear regression analysis (red line) indicates an overall increasing trend in score.



Respectfully,

AQUATIC CONSULTING & TESTING, INC.

Frederick A. Amalfi, Ph.D., C.L.M.
Laboratory Director





LABORATORY REPORTS



FIELD INSPECTION FORMS



PESTICIDE APPLICATION DOCUMENTS

OASIS LAKE REPORT CARD

DATE OF EVALUATION:

| | | | | |
|--------|-----------|-----------|-------|----|
| Mar-20 | CONDITION | EXCELLENT | SCORE | 41 |
|--------|-----------|-----------|-------|----|

PREVIOUS EVALUATION:

| | | | | |
|--------|-----------|-----------|-------|----|
| Feb-20 | CONDITION | EXCELLENT | SCORE | 42 |
|--------|-----------|-----------|-------|----|

| CONDITION | RESULT | RATIONALE | 4 pts EXCELLENT | 3 pts GOOD | 2 pts FAIR | 1 pt POOR | SCORE |
|----------------------------------|------------------------|------------------------------------------------|-------------------------------------------|------------------------------------------|---------------------------------------------------|-------------------------------------------------|-------|
| Turbidity (NTU) | 14.0 | aesthetics | <5 | 5-10 | 11-20 | >20 | 2 |
| Dissolved oxygen (mg/L) | >7 | aquatic life, sediment nutrient release, odors | >7.0 | 5.6-6.9 | 4.0-5.5 | <4.0 | 4 |
| Nitrogen, total (mg/L) | 1.40 | algae and macrophyte growth | <0.5 | 0.5-1.0 | 1.1-2.0 | >2.0 | 2 |
| Phosphorus, total (mg/L) | 0.062 | algae and macrophyte growth | <0.03 | 0.03-0.05 | 0.06-0.10 | >0.10 | 2 |
| Algae density (no./mL) | 4.72 x 10 ⁴ | aesthetics | <5 x 10 ⁴ | 5x10 ⁴ - 9x10 ⁴ | 1 x 10 ⁵ -5x 10 ⁶ | >5 x 10 ⁵ | 4 |
| Algae form (dominant) | bluegreen filaments | aesthetics, treatability | greens; no floating mats | diatoms; no floating mats | blue-greens; no floating mats | blue-greens; floating mats common | 2 |
| Macrophytes (% cover) | <1 | aesthetics, boating | none | <10% | 11-20% | >20% | 4 |
| pH (SU) avg. | 8.8 | swimming, fishery, ammonia toxicity | 6.5-8.0 | 8.0-8.5 | 8.6-9.0 | >9.0 | 2 |
| E. coli bacteria (#/100 mL) avg. | 22 | public health protection | <20 | 21-80 | 81-125 | >125 | 3 |
| Midge flies | no nuisances | quality of life | no nuisances | minor nuisances | moderate nuisances | significant nuisances | 4 |
| Waterfowl (no. per acre) | 1 | nutrient and bacteria loading | <2 | 2-5 | 6-10 | >10 | 4 |
| Fishery | normal | recreation, aesthetics | no fish piping; no fish kills | some fish piping, gulping; no fish kills | fish piping before dawn; occasional fish kills | fish piping common; fish kills common | 4 |
| Shoreline/banks | limited edge growths | aesthetics | no evidence of salt crusts or algal scums | some white deposits and scums | numerous patches of salt deposits and algae scums | most of lake shore covered with crusts or scums | 4 |

SCORING KEY:

| | | | |
|-----------|-------|-------|------|
| Excellent | Good | Fair | Poor |
| 42-48 | 36-41 | 30-35 | <30 |

Definitions: Ratings

Excellent: Lake aesthetic and operational conditions above level of expectation.

Good: Lake aesthetic and operational conditions at level of expectation.

Fair: Lake aesthetic and operational conditions slightly below level of expectation.

Poor: Lake aesthetic and operational conditions considerably below level of expectation.

Definitions: Terms

Macrophyte: Large plant, observable without the aid of a microscope, that may be floating, submerged or emergent.

Midge: Small, flying, non-biting "gnat-like" insect whose larval stage exists in the lake sediments (bloodworm).

N/A: not applicable; insufficient data or too early in development of lake (an arbitrary 3 rating is provided for these items).

pH: -log hydrogen ion conc.; amount of acid in the water identified on scale 1-14; 1 being most acid, 7 neutral, and 14 being most caustic.

Phytoplankton (algae): Microscopic plant fraction of the plankton community.

Piping: Act of fish coming to surface of water and capturing a bubble of air in their mouth; a sign of low oxygen concentrations.

Plankton: Organisms of relatively small size that have relatively small powers of locomotion or that drift in the water.

Turbidity: Degree to which particles and color in the water scatter light; the "cloudiness" of the water.



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Lic. No. AZ0003

GOLDEN ALGAE REPORT

Client: Oasis at Anozira
c/o Kinney Management Services
6303 S. Rural Road
Tempe, Arizona 85283
Attn: Debbie Triboli

Date Submitted: 02/12/20
Date Reported: 02/14/20

Project: Monthly Lake Monitoring

RESULTS

Client ID: Lake
ACT Lab No.: CC01272

Sample Type: Surface Water
Sample Time: 02/12/20 12:45

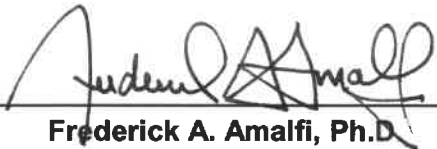
| <u>Parameter</u> | <u>Analysis Date</u> | | <u>Method No.</u> | <u>MDL</u> | <u>Result</u> | <u>Unit</u> | <u>Analyst</u> |
|------------------|----------------------|------------|-------------------|------------|---------------|-------------|----------------|
| | <u>Start</u> | <u>End</u> | | | | | |
| Golden Algae | 02/12/20 | 02/12/20 | P/C Microscopy | 1 | Absent | Pres/Abs | MEW |

Explanation of Terms:

- Absent = No golden algae* were detected in the submitted sample.
Present 1 = Golden algae* were detected, but rarely observed in the submitted sample.
Present 2 = Golden algae* were detected and commonly observed in the submitted sample.
Present 3 = Golden algae* were detected and were the dominant algae in the submitted sample.

**Prymnesium parvum or toxin producing related species.*

Reviewed by:


Frederick A. Amalfi, Ph.D.
Laboratory Director

Aquatic Consulting & Testing, Inc.

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Chain of Custody

Client Project Info:

Golden Algae Screen
Oasis at Anozira

AC&T Client Reporting Information:

Oasis at Anozira
c/o Kinney Management Services
Attn: Debbie Tribioli
6303 South Rural Road
Tempe, AZ 85283
P: 480-820-3451
E: debbie@kinneymanagement.com

AC&T Sampler: *Andrew Murrett*

Sample Location ID: _____ Date: _____ Time: _____ Matrix: _____

Lake

2-12-20 1245 SW

Sample Containers
/ Preservation: _____ Page 1 of 1

Non Preserved _____
Na2S2O3 (Sterile) _____
HNO3 (Nitric) _____
H2SO4 (Sulfuric) _____
Lugols _____
Other: _____

**AC&T
Laboratory Sample
Identification**

Field Measurements:
pH, Temp, O2

Algae Count & ID

Golden Algae

Turbidity

Total E.Coli - MPN

Total Kjeldahl Nitrogen (TKN)

Total Phosphorous (P-T)

NO3+NO2

CC-01272

Project Location:

Oasis at Anozira

Total # Containers: _____

Custody Seals: _____

Samples Intact: _____

Samples On Ice: _____

Ice Type: _____

Sample Receipt
Temperature: _____

1. RELINQUISHED BY:

Signature: _____

Print Name: _____

Date: _____

3. RELINQUISHED BY:

Signature: _____

Print Name: _____

Date: _____

2. RECEIVED BY:

Signature: _____

Print Name: _____

Date: _____

4. RECEIVED BY:

Signature: _____

Print Name: _____

Date: _____

Golden Algae
Seasonal Monitoring
(Oct - May)

Signature: _____

Print Name: _____

Date: _____

2-12-20 1400



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GOLDEN ALGAE REPORT

Client: Oasis at Anozira
c/o Kinney Management Services
6303 S. Rural Road
Tempe, Arizona 85283
Attn: Debbie Triboli

Date Submitted: 02/19/20
Date Reported: 02/25/20

Project: Monthly Lake Monitoring

RESULTS

Client ID: Lake
ACT Lab No.: CC01465

Sample Type: Surface Water
Sample Time: 02/19/20 13:30

| <u>Parameter</u> | <u>Analysis Date</u> | | <u>Method No.</u> | <u>MDL</u> | <u>Result</u> | <u>Unit</u> | <u>Analyst</u> |
|------------------|----------------------|------------|-------------------|------------|---------------|-------------|----------------|
| | <u>Start</u> | <u>End</u> | | | | | |
| Golden Algae | 02/19/20 | 02/19/20 | P/C Microscopy | 1 | Absent | Pres/Abs | MEW |

Explanation of Terms:

- Absent = No golden algae* were detected in the submitted sample.
Present 1 = Golden algae* were detected, but rarely observed in the submitted sample.
Present 2 = Golden algae* were detected and commonly observed in the submitted sample.
Present 3 = Golden algae* were detected and were the dominant algae in the submitted sample.

**Prymnesium parvum* or toxin producing related species.

Reviewed by:


Frederick A. Amalfi, Ph.D.
Laboratory Director



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Lic. No. AZ0003

LABORATORY REPORT

Client: Oasis at Anozira
c/o Kinney Management Services
6303 S. Rural Road
Tempe, Arizona 85283

Date Submitted: 03/04/20
Date Reported: 04/10/20

Attn: Debbie Tribioli

Project: Monthly Lake Monitoring

RESULTS

Client ID: Lake
ACT Lab No.: CC01940

Sample Type: Surface Water
Sample Time: 03/04/20 13:10

| <u>Parameter</u> | <u>Analysis Date</u> | | <u>Method No.</u> | <u>Result</u> | <u>Unit</u> |
|-------------------------|----------------------|------------|------------------------------|---------------|------------------------|
| | <u>Start</u> | <u>End</u> | | | |
| Algae Count | 03/09/20 | 03/09/20 | SM 10200 F | See Attached | cells/mL |
| Algae Identification | 03/09/20 | 03/09/20 | | See Attached | |
| Golden Algae | 03/04/20 | 03/04/20 | P/C Microscopy | Absent | Pres/Abs |
| Oxygen, Dissolved Field | 03/04/20 | 03/04/20 | SM4500 O G | 12.8 | mg/L as O ₂ |
| pH, Field | 03/04/20 | 03/04/20 | SM4500H+ B | 8.8 | SU |
| Temperature, Field | 03/04/20 | 03/04/20 | SM2550 B | 19.3 | C |
| Nitrate + Nitrite - N | 03/29/20 | 03/29/20 | SM4500NO ₃ E | <0.05 | mg/L as N |
| Phosphorus, Total | 03/31/20 | 04/01/20 | 365.3 | 0.062 | mg/L as P |
| Total Kjeldahl Nitrogen | 03/12/20 | 03/12/20 | SMNorg C,NH ₃ C/D | 1.4 | mg/L as N |
| E. coli, Colilert | 03/04/20 | 03/05/20 | SM 9223 B | 22 | MPN/100 mL |
| Turbidity | 03/04/20 | 03/04/20 | 180.1 | 14. | NTU |

Reviewed by:

Frederick A. Amalfi, Ph.D.
Laboratory Director

ALGAE IDENTIFICATION

| | | | |
|--------------|---------|----------------|----------|
| AC&T Lab No. | CC01940 | Date Collected | 03/04/20 |
| Client I.D. | Oasis | Collected By | AC&T |

Divisions: bac=Bacillariophyta; chl=Chlorophyta; cry=Chrysophyta; cyn=Cyanophyta; eug=Euglenophyta; hap=Haptophyta; pyr=Pyrrhophyta Forms: u=unicell; c=colony; f=filament; g= flagellate

| Genus | Div.-Form | Rel. Count | Total per mL | Comp. | Genus | Div.-Form | Rel. Count | Total per mL | Comp |
|-----------------------|-----------|------------|--------------|--------|-----------------------|-----------|------------|--------------|--------|
| <i>Achnanthes</i> | bac-u | 61 | 11479 | 24.30% | <i>Microcystis</i> | cyn-c | 25 | 4704 | 9.96% |
| <i>Anabaena</i> | cyn-f | | | | <i>Microspora</i> | chl-f | | | |
| <i>Ankistrodesmus</i> | chl-u | 8 | 1505 | 3.19% | <i>Mougeotia</i> | chl-f | | | |
| <i>Aphanocapsa</i> | cyn-c | | | | <i>Navicula</i> | bac-u | | | |
| <i>Asterionella</i> | bac-c | | | | <i>Nitzschia</i> | bac-u | | | |
| <i>Botryococcus</i> | chl-c | | | | <i>Oocystis</i> | chl-c | | | |
| <i>Carteria</i> | chl-ug | | | | <i>Oscillatoria</i> | cyn-f | 135 | 25404 | 53.78% |
| <i>Cephalomonas</i> | chl-ug | | | | <i>Pandorina</i> | chl-cg | | | |
| <i>Ceratium</i> | pyr-ug | | | | <i>Pediastrum</i> | chl-c | | | |
| <i>Chlamydomonas</i> | chl-ug | 9 | 1694 | 3.59% | <i>Peridinium</i> | pyr-ug | 1 | 188 | 0.40% |
| <i>Chlorella</i> | chl-u | | | | <i>Phacotus</i> | chl-ug | | | |
| <i>Chlorococcum</i> | chl-c | | | | <i>Phacus</i> | chl-ug | | | |
| <i>Chroococcus</i> | cyn-c | | | | <i>Pinnularia</i> | bac-u | | | |
| <i>Chroomonas</i> | crp-ug | | | | <i>Pithophora</i> | chl-f | | | |
| <i>Closterium</i> | chl-u | | | | <i>Prymnesium</i> | hap-ug | | | |
| <i>Cocconeis</i> | bac-u | | | | <i>Rhizoclonium</i> | chl-f | | | |
| <i>Coelastrum</i> | chl-c | | | | <i>Rhoicosphenia</i> | bac-u | | | |
| <i>Cosmarium</i> | chl-u | | | | <i>Rhopalodia</i> | bac-u | | | |
| <i>Cosmocladium</i> | chl-c | | | | <i>Scenedesmus</i> | chl-c | 6 | 1129 | 2.39% |
| <i>Crucigenia</i> | chl-c | | | | <i>Scytonema</i> | chl-f | | | |
| <i>Cryptomonas</i> | crp-ug | | | | <i>Selanastrum</i> | chl-u | | | |
| <i>Cyclotella</i> | bac-u | | | | <i>Sphaerocystis</i> | chl-c | | | |
| <i>Cymbella</i> | bac-u | | | | <i>Spondylumorum</i> | chl-c | | | |
| <i>Diatoma</i> | bac-u | | | | <i>Spirulina</i> | cyn-f | 5 | 941 | 1.99% |
| <i>Dinobryon</i> | bac-c | | | | <i>Stauroneis</i> | bac-u | | | |
| <i>Dunaliella</i> | chl-u | | | | <i>Stephanodiscus</i> | bac-u | | | |
| <i>Epithemia</i> | bac-u | | | | <i>Stigeoclonium</i> | chl-f | | | |
| <i>Euglena</i> | eug-ug | | | | <i>Surirella</i> | bac-u | | | |
| <i>Fragilaria</i> | bac-u | | | | <i>Synechococcus</i> | cyn-u | | | |
| <i>Frustulia</i> | bac-u | | | | <i>Synechocystis</i> | cyn-c | | | |
| <i>Glenodinium</i> | pyr-ug | | | | <i>Synedra</i> | bac-u | 1 | 188 | 0.40% |
| <i>Golenkinia</i> | chl-c | | | | <i>Synura</i> | cry-cg | | | |
| <i>Gomphonema</i> | bac-u | | | | <i>Tetraedron</i> | chl-u | | | |
| <i>Gonium</i> | chl-cg | | | | <i>Tetrastrum</i> | chl-c | | | |
| <i>Gonyaulax</i> | pyr-ug | | | | <i>Trachelomonas</i> | eug-ug | | | |
| <i>Gyrosigma</i> | bac-u | | | | <i>Vaucheria</i> | chl-f | | | |
| <i>Hydrodictyon</i> | chl-c | | | | <i>Volvox</i> | chl-cg | | | |
| <i>Lyngbya</i> | cyn-f | | | | <i>Zygnema</i> | chl-f | | | |
| <i>Melosira</i> | bac-f | | | | | | | | |
| <i>Meridion</i> | bac-u | | | | | | | | |
| <i>Merismopedia</i> | cyn-c | | | | | | | | |

Aquatic Consulting & Testing, Inc.
1525 W. University Dr., Suite 106
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check 100.00%

Count (cells/mL) 4.72E+04

1120-



AQUATIC CONSULTING & TESTING, INC.

1525 W. University Drive, Suite 106
P.O. Box 1510
Tempe, Arizona 85281
Phone: (480) 921-8044 • Fax: (480) 921-0049

Lic. No. AZ0003

GOLDEN ALGAE REPORT

Client: Oasis at Anozira
c/o Kinney Management Services
6303 S. Rural Road
Tempe, Arizona 85283
Attn: Debbie Tribioli

Date Submitted: 03/11/20
Date Reported: 03/13/20

Project: Golden Algae Monitoring

RESULTS

Client ID: Lake
ACT Lab No.: CC02156

Sample Type: Surface Water
Sample Time: 03/11/20 10:00

| <u>Parameter</u> | <u>Analysis Date</u> | | <u>Method No.</u> | <u>MDL</u> | <u>Result</u> | <u>Unit</u> | <u>Analyst</u> |
|------------------|----------------------|------------|-------------------|------------|---------------|-------------|----------------|
| | <u>Start</u> | <u>End</u> | | | | | |
| Golden Algae | 03/11/20 | 03/11/20 | P/C Microscopy | 1 | Absent | Pres/Abs | MEW |

Explanation of Terms:

- Absent = No golden algae* were detected in the submitted sample.
Present 1 = Golden algae* were detected, but rarely observed in the submitted sample.
Present 2 = Golden algae* were detected and commonly observed in the submitted sample.
Present 3 = Golden algae* were detected and were the dominant algae in the submitted sample.

**Prymnesium parvum or toxin producing related species.*

Reviewed by:

Frederick A. Amalfi, Ph.D.
Laboratory Director



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Lic. No. AZ0003

GOLDEN ALGAE REPORT

Client: Oasis at Anozira
c/o Kinney Management Services
6303 S. Rural Road
Tempe, Arizona 85283
Attn: Debbie Tribioli

Date Submitted: 03/18/20
Date Reported: 03/30/20

Project: Golden Algae Screen

RESULTS

Client ID: Lake
ACT Lab No.: CC02357

Sample Type: Surface Water
Sample Time: 03/18/20 12:15

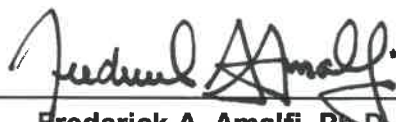
| <u>Parameter</u> | <u>Analysis Date</u> | | <u>Method No.</u> | <u>MDL</u> | <u>Result</u> | <u>Unit</u> | <u>Analyst</u> |
|------------------|----------------------|------------|-------------------|------------|---------------|-------------|----------------|
| | <u>Start</u> | <u>End</u> | | | | | |
| Golden Algae | 03/18/20 | 03/18/20 | P/C Microscopy | 1 | Present 1 | Pres/Abs | MEW |

Explanation of Terms:

- Absent = No golden algae* were detected in the submitted sample.
Present 1 = Golden algae* were detected, but rarely observed in the submitted sample.
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Present 3 = Golden algae* were detected and were the dominant algae in the submitted sample.

**Prymnesium parvum* or toxin producing related species.

Reviewed by:


Frederick A. Amalfi, Ph.D.
Laboratory Director

Aquatic Consulting & Testing, Inc.

1525 W. University Dr. Ste. #106
Tempe, Arizona 85281
(480) 921-8044 Fax (480) 921-0049

Chain of Custody**Client Project Info:**

Golden Algae Screen
Oasis at Anozira

AC&T Client Reporting Information:

Oasis at Anozira
c/o Kinney Management Services
Attn: Debbie Tribioli
6303 South Rural Road
Tempe, AZ 85283
P: 480-820-3451
E: debbie@kinneymanagement.com

AC&T Sampler: *Andrea Murrett*

Sample Location ID: _____ Date: *3/18/20* Time: *12:15* Matrix: *SW*

Lake

| NO3+NO2 | Total Phosphorous (P-T) | Total Kjeldahl Nitrogen (TKN) | Total E.Coli - MPN | Turbidity | Algae Count & ID | Golden Algae | Field Measurements: pH, Temp, O2 |
|---------|-------------------------|-------------------------------|--------------------|-----------|------------------|--------------|-------------------------------------|
| | | | | | | X | |

| Sample Containers # / Preservation: | | | | | | Page 1 of 1 | |
|----------------------------------------|-------------------|---------------|------------------|--------|--------|----------------------------------------------------------|--|
| Non Preserved | Na2S2O3 (Sterile) | HNO3 (Nitric) | H2SO4 (Sulfuric) | Lugols | Other: | AC&T Laboratory Sample Identification | |
| 1 | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

CC-02357

Project Location:

Oasis at Anozira

PO#:

Lake Contract

Notes:

1. RELINQUISHED BY:

Signature:

Print Name:

Date:

3. RELINQUISHED BY:

Signature:

Print Name:

Date:

2. RECEIVED BY:

Signature:

Print Name:

Date:

4. RECEIVED BY:

Signature:

Print Name:

Date:

Ice Type:

WET

BLUE

23°C

Sample Receipt
Temperature:

3/18/20

Time: 12:10



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Lic. No. AZ0003

GOLDEN ALGAE REPORT

Client: Oasis at Anozira
c/o Kinney Management Services
6303 S. Rural Road
Tempe, Arizona 85283
Attn: Debbie Triboli

Date Submitted: 03/24/20
Date Reported: 03/30/20

Project: Golden Algae Screen

RESULTS

Client ID: Lake
ACT Lab No.: CC02528

Sample Type: Surface Water
Sample Time: 03/24/20 12:40

| <u>Parameter</u> | <u>Analysis Date</u> | | <u>Method No.</u> | <u>MDL</u> | <u>Result</u> | <u>Unit</u> | <u>Analyst</u> |
|------------------|----------------------|------------|-------------------|------------|---------------|-------------|----------------|
| | <u>Start</u> | <u>End</u> | | | | | |
| Golden Algae | 03/24/20 | 03/24/20 | P/C Microscopy | 1 | Absent | Pres/Abs | FAA |

Explanation of Terms:

- Absent = No golden algae* were detected in the submitted sample.
Present 1 = Golden algae* were detected, but rarely observed in the submitted sample.
Present 2 = Golden algae* were detected and commonly observed in the submitted sample.
Present 3 = Golden algae* were detected and were the dominant algae in the submitted sample.

**Prymnesium parvum or toxin producing related species.*

Reviewed by:

Frederick A. Amalfi, Ph.D.
Laboratory Director

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Chain of Custody**Client Project Info:****Golden Algae Screen**

Oasis at Anozira

AC&T Client Reporting Information:

Oasis at Anozira

c/o Kinney Management Services

Attn: Debbie Triboli

6303 South Rural Road

Tempe, AAZ 85283

P: 480-820-3451

E: debbie@kinneymanagement.com

AC&T Sampler:

Sample Location ID:

Matrix:

Time:

Date:

Lake

3/24/20

1240

SW

| | | | | | | | | | | | |
|----------------------------------------------|--|--|--|--|--|--|--|--|--|----------------------------|--|
| Sample Containers # / Preservation: | | | | | | | | | | Page 1 of 1 | |
| Non Preserved | | | | | | | | | | 1 | |
| Na2S2O3 (Sterile) | | | | | | | | | | | |
| HNO3 (Nitric) | | | | | | | | | | | |
| H2SO4 (Sulfuric) | | | | | | | | | | | |
| Lugole | | | | | | | | | | | |
| Other: | | | | | | | | | | | |
| AC&T Laboratory Sample Identification | | | | | | | | | | CC-02528 | |
| Field Measurements: | | | | | | | | | | | |
| pH, Temp, O2 | | | | | | | | | | | |
| Golden Algae | | | | | | | | | | X | |
| Algae Count & ID | | | | | | | | | | | |
| Turbidity | | | | | | | | | | | |
| Total E.Coli-MPN | | | | | | | | | | | |
| Total Kjeldahl Nitrogen (TKN) | | | | | | | | | | | |
| Total Phosphorous (P-T) | | | | | | | | | | | |
| NO3+NO2 | | | | | | | | | | | |
| A C & T Sample Receipt: | | | | | | | | | | 1 | |
| Total # Containers: | | | | | | | | | | YES NO | |
| Custody Seals: | | | | | | | | | | YES NO | |
| Samples Intact: | | | | | | | | | | YES NO | |
| Samples On Ice: | | | | | | | | | | YES NO | |
| Ice Type: | | | | | | | | | | WET BLUE | |
| Sample Receipt Temperature: | | | | | | | | | | 24°C | |
| Project Location: | | | | | | | | | | Oasis at Anozira | |
| PO#: | | | | | | | | | | Signature: Andrew Murrett | |
| Lake Contract | | | | | | | | | | Print Name: Andrew Murrett | |
| Notes: | | | | | | | | | | Date: 3/24/20 | |
| Golden Algae Seasonal Monitoring (Oct - May) | | | | | | | | | | Time: 1420 | |
| Signature: | | | | | | | | | | Signature: mj | |
| Print Name: | | | | | | | | | | Print Name: | |
| Date: | | | | | | | | | | Date: | |
| Time: | | | | | | | | | | Time: | |
| 3. RELINQUISHED BY: | | | | | | | | | | 4. RECEIVED BY: | |

OASIS AT ANOZIRA FIELD INSPECTION FORM (

wpdoc/lists&forms)

Date: 3/4/20

By: Am

Aeration System Operation

☒ operational ☐ Problem

Details: _____

Lake Surface

☐ Lake surface cleaning

Floating Fountains ☒ West ☒ East ☒ South

☒ operational ☒ Problem Details: _____

Pump house

☒ housekeeping ☐ leaks ☐ ventilation ☐ lighting Notes _____

Compressors

☒ operational ☐ Problem Details: Not in use

Pumps

☒ operational ☐ Problem Details: _____

Entry Fountains

Elliot North: ☒ operational ☒ Screens cleared ☐ Problem Details: _____

Elliot South: ☒ operational ☒ Screens cleared ☐ Problem Details: _____

Los Feliz: ☒ operational ☒ Screens cleared ☐ Problem Details: _____

Monthly Chemistry & Biology

☒ Dissolved oxygen 12.8

☒ Temperature 19.3

☒ pH 8.0

☒ Algae ID and count

☒ Ammonia-N

☒ Organic N (TKN)

☒ Phosphorus

☒ Turbidity

☒ E. coli

☒ Golden algae (seasonal)



OASIS AT ANOZIRA FIELD INSPECTION FORM (

wpdoc/lists&forms)

Date: 3/11/20

By: [Signature]

Aeration System Operation

☒ operational ☐ Problem

Details: _____

Lake Surface

☐ Lake surface cleaning

Floating Fountains ☒ West ☒ East ☒ South

☐ operational ☐ Problem Details: _____

Pump house

☒ housekeeping ☐ leaks ☐ ventilation ☐ lighting Notes _____

Compressors

☒ operational ☐ Problem Details: not in use

Pumps

☒ operational ☐ Problem Details: _____

Entry Fountains

Elliot North: ☒ operational ☒ Screens cleared ☐ Problem Details: phycomycin

Elliot South: ☒ operational ☒ Screens cleared ☐ Problem Details: _____

Los Feliz: ☒ operational ☒ Screens cleared ☐ Problem Details: _____

Monthly Chemistry & Biology

☒ Dissolved oxygen 11.5

☐ Temperature 19.0

☒ pH 8.6

☐ Algae ID and count

☐ Ammonia-N

☐ Organic N (TKN)

☐ Phosphorus

☐ Turbidity

☐ E. coli

☒ Golden algae (seasonal)



OASIS AT ANOZIRA FIELD INSPECTION FORM (

wpdoc/lists&forms)

Date: 3/18/20

By: [Signature]

Aeration System Operation

☒ operational ☐ Problem

Details: _____

Lake Surface

☐ Lake surface cleaning

Floating Fountains ☒ West ☒ East ☒ South

☒ operational ☐ Problem Details: _____

Pump house ☒ housekeeping ☐ leaks ☐ ventilation ☐ lighting Notes _____

Compressors ☐ operational ☐ Problem Details: Not in use

Pumps ☒ operational ☐ Problem Details: _____

Entry Fountains

Elliot North: ☒ operational ☒ Screens cleared ☐ Problem Details: phyomycin

Elliot South: ☒ operational ☒ Screens cleared ☐ Problem Details: _____

Los Feliz: ☒ operational ☒ Screens cleared ☐ Problem Details: _____

Monthly Chemistry & Biology

☒ Dissolved oxygen 9.5

☒ Temperature 20.0

☒ pH 8.9

☐ Algae ID and count

☐ Ammonia-N

☐ Organic N (TKN)

☐ Phosphorus

☐ Turbidity

☐ E. coli

☒ Golden algae (seasonal)



wpdoc/lists&forms)