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06 April 2024

Ms. Fran Pawlak, Executive Director
Dobson Ranch HOA
2719 South Reyes
Mesa, Arizona 85202

March 2024 Lake Report

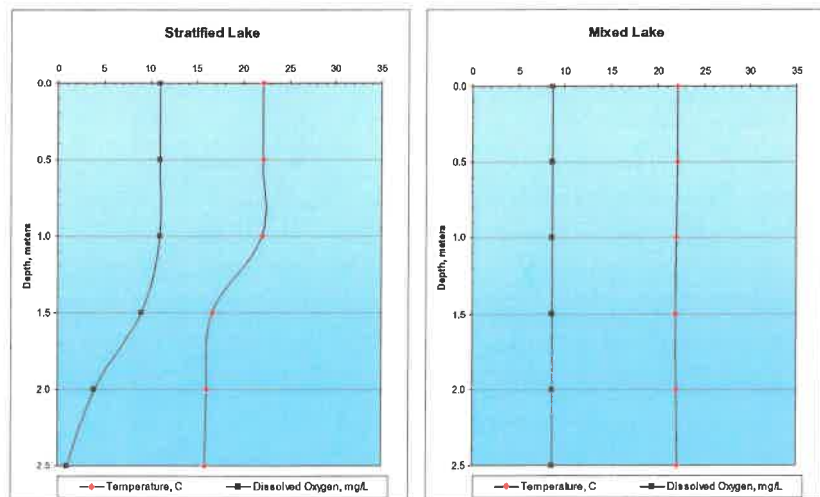
The following report presents the results of field inspections on the Dobson Ranch lakes for the month of March 2024. This report summarizes data collected under the updated program started in 2019 and expanded in 2020 that includes comprehensive testing of one-half of the lakes on a monthly basis from March through October and bi-weekly field inspections twice per month throughout the year. Comprehensive testing on Lakes 1-4 was completed during the month and laboratory reports are provided. Comparison to the last comprehensive test (September 2023) are provided for those lakes. Field sheets for the inspection weeks are also included. Additional data requested for Lake 8 are provided at the end of the narrative report.

A number of tools have been used to evaluate and quantify the water quality of each lake. These include: Arizona Department of Environmental Quality Numeric Targets for Urban Lakes, the Carlson Trophic Status Index (TSI), and a Lake Report Card based on that used by Arizona Game and Fish Department that was developed by Aquatic Consulting & Testing, Inc.

The following provides brief descriptions of some of the more important parameters.

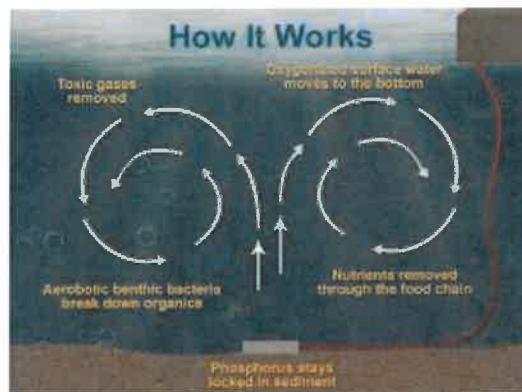
Temperature and Oxygen

Density differences in water caused by temperature produce a physical barrier to the exchange of gases and nutrients between water layers. Typically warmer (less dense) water rests above deeper, cooler (more dense) water. Deep waters can become anoxic (oxygen poor) and cause the formation and release of



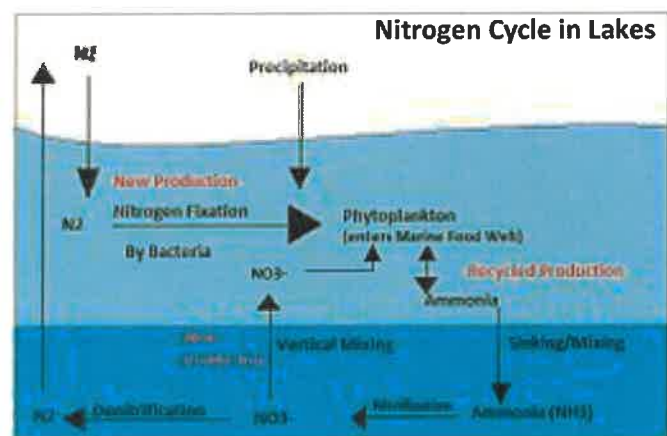
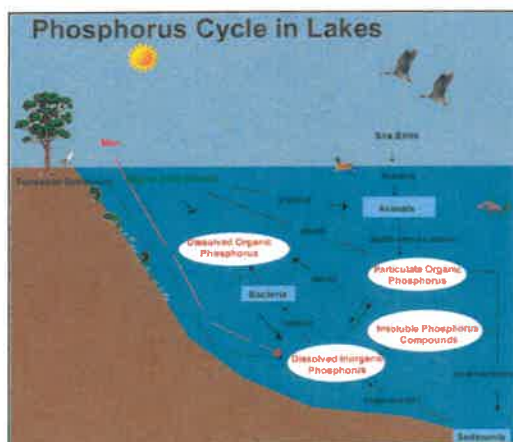
toxic gases as hydrogen sulfide and ammonia, and the release of plant nutrients as phosphates. A vertically mixed lake rarely suffers from such issues.

Aeration systems are designed to circulate and distribute oxygen vertically in the water column. Circulation is necessary for two primary purposes: (1) to deliver oxygen to the deeper waters for fish survival and (2) to maintain an aerobic environment throughout the lake to prevent the release and distribution of phosphates, ammonia, and sulfide from the anaerobic sediment.



Nutrients

Algae are plants and require nitrogen and phosphorus for growth. In the desert southwest, large growths of planktonic algae typically form in the summer when total phosphorus concentrations are above 0.030 mg/L. Nitrogen values usually need to be at least 10 times that of phosphorus and in a soluble, usable (nitrate or ammonia) form to stimulate algae growth. Phosphorus and nitrogen cycles in the aquatic environment are illustrated below.



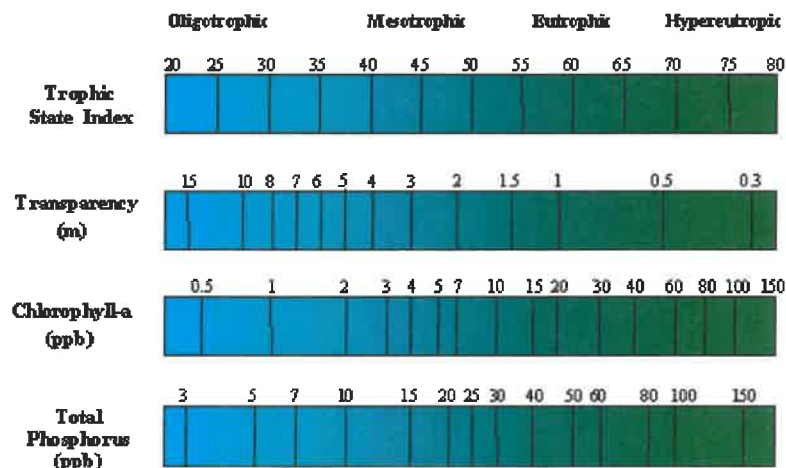
Algae and Aquatic Weeds

Algae are beneficial to a lake as they provide food for aquatic organisms and produce oxygen. However, some algae are undesirable and an overabundance of algae reduces aesthetic appeal and interferes with the ecological balance of the environment. Large die offs of algae can deplete dissolved oxygen in the water via bacterial utilization of the gas during decomposition of the plant biomass. Blue-green (Cyanophyta) algae are least desirable because some forms can form stringers (long filaments) and large colonies (masses) and are difficult to chemically manage because of their mucilaginous coatings.

Submerged weeds can be beneficial because they also produce oxygen and provide habitat and shelter for aquatic animals. However, an overabundance of weeds reduces aesthetic appeal, interferes with fishing and boating activities, interferes with the ecological balance of the environment, and can also deplete dissolved oxygen if a rapid die-off occurs.

Trophic Status Index

The Carlson Trophic Status Index (TSI) is a series of calculations that attempt to put a numerical value on water quality. The more algae and greener a lake is, the more nutrients a lake has, and the less transparent the water becomes, the higher the trophic status and the greater the TSI value. Three values are calculated using the Secchi disk depth, total phosphorus concentration, and chlorophyll measurement to obtain an average TSI. Those lakes with relatively low TSI values are unproductive and termed oligotrophic. Those lakes with very high TSI values are classified as productive (eutrophic). Those lakes with TSI values falling in between are considered mesotrophic.



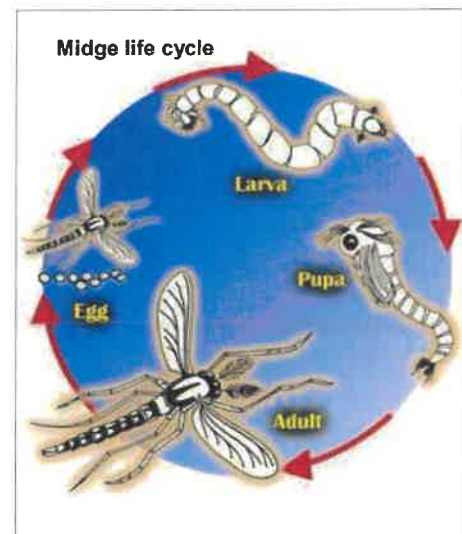
The Trophic Status report addendum provides each of these values for the sampling sites. For southern Arizona, a TSI of less than 60 is the target for reasonable aesthetic quality. Fisheries often flourish when TSI values are in the 55 to 65 range. Severe aesthetic and recreational problems occur when conditions result in TSI values of 80 or higher.

General Characteristics of Oligotrophic and Eutrophic Lakes

Condition	Oligotrophic	Eutrophic
Productivity	Low	High
Algae density	Low	High
Nutrient concentrations	Low	High
Hypolimnion oxygen content	High	Low
Sediment nutrient release	Low to none	High
Organic matter	Low	High
Light transparency	Deep	Shallow
Macrophyte (weed) density	Low	High

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 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 and application of bacterial or chemical larvicides. The primary control of midge flies has been stocking of fish that eat the larvae living in the lake sediment.



Waterfowl

The adverse impacts of excessive waterfowl include fecal matter deposition and public health issues, turf destruction, aesthetic detracting, and fish consumption. The Arizona Game and Fish Department has recently adopted the following classification for ducks counts (per acre) in urban fishing lakes: <3 (excellent), 3-4 (good), 5-6 (fair), and >6 (poor; relocate non-migratory).

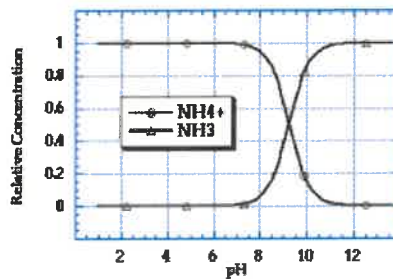
March 2024 Report Narrative Summary

The following pages provide a summary of the monthly survey results. Comprehensive analyses were conducted on Lakes 1-4 on 07 March 2024. A brief narrative description is provided for each lake. Data are additionally qualified in the Lake Report Card (See Supporting Documentation). Lakes 1-8 received visual examination and basic water quality testing on 07 and 20 March 2024.

Lakes 1-4

Lake 1

Lake 1 exhibited no thermal stratification and no significant loss of oxygen in the deep waters (see attached profiles). The measured surface dissolved oxygen concentrations (9.1 and 9.4 mg/L) were above the target 6.0 mg/L concentration desired to protect the fishery and no fish stress was observed. Water pH was moderate at 8.1-8.2 SU and indicated a low to moderate suspended algae density. Low pH is advantageous because it prevents conversion of ammonium ions (NH_4^+) to toxic (to aquatic animals) ammonia (NH_3) gas (see figure below). Transparency (Secchi disk depth) increased to 2.44 m (7.79 ft) and turbidity correspondingly decreased to 4.0-4.1 NTU.



Alkalinity (162 mg/L as CaCO_3) and hardness (232 mg/L as CaCO_3) changed modestly. Values are typical and expected from most waters in central Arizona. The total dissolved solids (mineral) concentration of the lake decreased to 468 mg/L. The result is likely from dilution by winter precipitation.

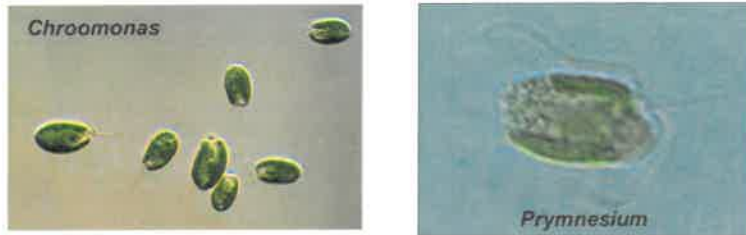
Waterfowl density was about two (2) per acre which is considered excellent (Arizona Game & Fish Department rating system). No cormorants were observed.

Midge fly density remained low ($40/\text{m}^2$) and should produce no issues to lakeside residents or visitors.



Bio-available nitrogen and total nitrogen were fairly stable at 0.14 mg/L and 1.29 mg/L, respectively. Phosphorus concentration decreased significantly to 0.021 mg/L. Ammonia was minimal at 0.05 mg/L. At ambient temperature and pH, no toxicity issues would result. Chlorophyll concentration, indicative of algal biomass, decreased and was quite low at 0.42 $\mu\text{g/L}$. Algae density was correspondingly low at 1.47×10^2 cells/mL.

The dominant alga was *Chroomonas* (Cryptophyte unicell). It is rarely problematic. The golden alga, *Prymnesium parvum*, was not observed. *P. parvum* can produce a toxin that destroys exposed cells in the gill tissue of fish, causing asphyxiation and death. No submerged weeds were observed.



The mean TSI value decreased to 42 (range 22-48), with the lake moving into the mesotrophic category. Decreased phosphorus, improved transparency, and decreased chlorophyll were all responsible factors for the reduced TSI value. The lake became more aesthetically pleasing, but could develop anoxia in the deep waters during the summer. It should be, otherwise, supportive of the fishery.

The *E. coli* concentration was 2 MPN/100 mL. The maximum bacteria level for full body contact (FBC=swimming) and partial body contact (PBC=fishing and boating) recreation, is 126/100 mL (30-day geometric mean). The single sample maxima are 410 and 575 for FBC and PBC recreation (ARS, Dec 2022).

The Lake Report Card value for March 2024 was 53; up three units from September 2023, and moving the lake into the “excellent” category.

Lake 2

Lake 2 was vertically mixed. No substantial loss of oxygen in the deep waters occurred (see attached profiles). The surface dissolved oxygen concentrations (8.5-9.0 mg/L) were above the target 6.0 mg/L concentration desired to protect the fishery and no fish stress was observed. Water pH was 8.1-8.3 SU and indicated low suspended (planktonic) algae density. Low pH is advantageous because it prevents conversion of ammonium ions (NH_4^+) to toxic (to aquatic animals) ammonia (NH_3) gas. Transparency (Secchi disk depth) improved to 1.42 m (4.6 ft) and turbidity ranged from 5.0 to 5.1 NTU.

Alkalinity (154 mg/L as CaCO_3) and hardness (201 mg/L as CaCO_3) were typical and remained elevated, as would be expected from most waters in central Arizona. The total dissolved solids (mineral) concentration decreased slightly to 372 mg/L.

Midge fly density decreased and remained relatively low ($40/\text{m}^2$) and should produce no issues to lakeside residents or visitors. Waterfowl density was 2-3 birds per acre which is considered in the “good” range (Arizona Game & Fish Department rating system). No cormorants were noted.

Bio-available nitrogen concentration was low at 0.13 mg/L. Total nitrogen was fairly stable at 1.27 mg/L. Phosphorus concentration increased to 0.020 mg/L; still a very

desirable and low concentration. Ammonia concentration was 0.06 mg/L. At ambient temperature and pH, no toxicity issues would result. The total cell density for the lake was 1.62×10^3 cell/mL; a relatively low number. The chlorophyll concentration (biomass indicator) was correspondingly low, measured at 0.21 ug/L. The dominant alga was *Chroomonas* (Cryptophyte unicell). It is rarely problematic. The golden alga, *Prymnesium parvum*, was not observed.

The mean TSI value decreased substantially to 39 and placed the lake in the oligotrophic category. Such lakes are more desirable for an urban lake in terms of aesthetics, but are not highly supportive of a fishery. They sometimes experience low oxygen concentrations in the deep waters during the summer.

The *E. coli* concentration was <1 MPN/100 mL and met the single-sample full body contact (swimming) and partial body contact (fishing and boating) recreation standards.

The Lake Report Card value for March 2024 was 50, up one unit compared to September 2023 data. The lake moved into the "excellent" category.

Lake 3

Lake 3 exhibited no thermal stratification (vertically mixed) and had minimal loss of oxygen in the deep waters (see attached profiles). The surface dissolved oxygen concentrations (8.1-9.1 mg/L) met the minimum target of 6.0 mg/L desired to protect the fishery. No fish stress was observed. Water pH ranged from 8.1 to 8.2 SU and reflected stable conditions. Low pH is more advantageous because it prevents conversion of ammonium ions (NH_4^+) to toxic (to aquatic animals) ammonia (NH_3) gas. Transparency (Secchi disk depth) increased to 1.71 m (5.5 ft). Turbidity was moderate (3.6-4.4 NTU) during the month.

Waterfowl density was approximately five to seven (5-7) birds per acre which is considered poor (Arizona Game & Fish Department rating system). No cormorants were observed.

Midge fly density was low ($40/\text{m}^2$) and should produce no issues to lakeside residents or visitors.

Alkalinity (166 mg/L as CaCO_3) and hardness (201 mg/L as CaCO_3) were fairly stable and remained slightly elevated as typical and expected from most waters in central Arizona. The total dissolved solids (mineral) concentration of the lake decreased to 412 mg/L.

Bio-available nitrogen concentration was slightly reduced at 0.13 mg/L, and total nitrogen decreased to 1.18 mg/L. Phosphorus concentration remained quite low at 0.020 mg/L. The ammonia concentration was 0.05 mg/L and would not create any toxicity issues at ambient temperature and pH.

Chlorophyll concentration, indicative of algal biomass, was low and very stable at 1.07 ug/L. Algae density correspondingly was low at 6.07×10^2 cells/mL. The dominant alga was *Chroomonas*. No significant issues with algae occurred. Golden algae were absent.

The mean TSI value (44, with a range of 31-52) maintained the lake in the mesotrophic category.

The *E. coli* concentration was 12 MPN/100 mL and met partial body contact recreation limits.

The Lake Report Card value for March 2024 remained at 50 and the lake remained in the "excellent" category.

Lake 4

Lake 4 was thermally mixed and there was minimal loss of oxygen in the deep water (see attached profiles). The dissolved oxygen concentrations were improved at 8.0-8.1 mg/L. Concentrations were above the target of 6.0 mg/L and fish activity appeared normal. Water pH ranged from 8.1-8.2 SU and indicated a low to moderate algae density and minimal change in water quality. Water transparency decreased to 0.90 m (2.9 ft). Turbidity ranged from 5.4 to 11.2 NTU.

Waterfowl density was about three to four (3-4) per acre which is considered good by the Arizona Game & Fish Department rating system. No cormorants were noted. Midge fly density was quite low ($<40/m^2$) and should produce no issues to lakeside residents or visitors.

Bio-available and total nitrogen concentrations increased slightly to 0.16 and 1.40 mg/L, respectively. Phosphorus concentration increased to 0.031 mg/L; all reasonable values. The ammonia concentration remained low (0.08 mg/L). At ambient pH and temperature, acute or chronic ammonia toxicity to fish would not occur.

As with the other lakes, the dominant alga was *Chroomonas*. The chlorophyll-a concentration (biomass indicator) remained very low at 0.80 ug/L. The potentially toxic golden alga (*Prymnesium parvum*) was not present during the month.

The mean TSI value (48) increased on unit (range 28-62), maintaining the lake in the mesotrophic category. The value indicates the lake should be desirable in terms of aesthetics, but possibly less supportive of a robust fishery.

The *E. coli* concentration was 1 MPN/100 mL. The measurements met the bacteria maximum for partial body contact recreation (fishing and boating).

The Lake Report Card value for March 2024 remained at 50 and the lake remained in the "excellent" category.

Lakes 5-8

Lake 5

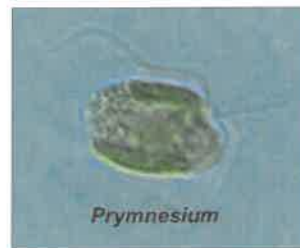
The Lake 5 temperature ranged from 17.1 to 17.7 C (63-64 F). Water pH was 8.1 SU indicating low to moderate algae density. Dissolved oxygen (7.1-8.3 mg/L) was above the target concentration for the fishery, Fish activity appeared normal. Transparency was about one meter and turbidity ranged from 6.6 to 7.3 NTU.

Waterfowl mean density was about five (5) per acre which is considered good to fair (Arizona Game & Fish Department rating system shown below). No cormorants were noted. Adult midge flies did not appear to produce any nuisance issues to lakeside residents or visitors.

Waterfowl Density Ranking System (AZG&FD)

No. waterfowl per acre	Ranking
<3	Excellent
3-4	Good
5-6	Fair
>6	Poor

No abnormal algae growths or submerged weeds were observed. Diatoms (Bacillariophyta) dominated the phytoplankton. Cell density was relatively low. No golden algae (*Prymnesium parvum* or related species) were detected.

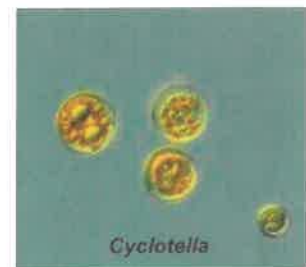


Lake 6

The water temperature of Lake 6 ranged from was 17.2 to 17.5 C (63-64 F). Water pH was 8.2-8.4 SU, indicating low to moderate algae density. Dissolved oxygen (9.6 mg/L) was satisfactory for the fishery and fish activity appeared normal. Transparency was just under one meter and turbidity ranged from 10.3 to 15.1 NTU.

About seven to ten (7-10) waterfowl per acre were observed and the density is considered fair to poor for an urban lake. Adult midge flies did not appear to produce any nuisance issues to lakeside residents or visitors.

No abnormal algae growth or submerged weeds were observed. The dominant alga remained *Cyclotella*, a centric diatom. The alga is rarely problematic. No golden algae (*Prymnesium parvum* or related species) were detected.



Lake 7

Lake temperature range was 17.9 to 18.4 C (64-65 F). Water pH was 8.4-8.5 SU. Dissolved oxygen concentration ranged from 8.7 to 10.2 mg/L and remained satisfactory for the fishery. Fish activity appeared normal. Transparency was stable at just over one meter. Turbidity ranged from 1.5-1.8 NTU. The fountain was operating during the reporting period.

Waterfowl density was about one (1) duck per acre; an “excellent” rating. Minimal cormorants were observed. Adult midge flies did not appear to produce any nuisance issues to lakeside residents or visitors.

No abnormal algae growth or submerged weeds were observed. Green flagellates as *Chlamydomonas*, were the dominant algae. The total cell density for the algae community was moderate. No golden algae (*Prymnesium parvum* or related species) were detected.



Lake 8

The temperature of Lake 8 ranged from 17.5-17.6 C (63-64 F). Water pH was moderate at 8.2 to 8.5 SU and indicated a low to moderate algae density. Dissolved oxygen (6.8-8.2 mg/L) was satisfactory for the fishery and fish activity appeared normal. Transparency was slightly reduced, as turbidity increased to 3.8 to 5.0 NTU.

Waterfowl density was about five to seven (5-7) per acre which is considered poor. No cormorant issues were reported. Adult midge flies did not appear to produce any nuisance issues to lakeside residents or visitors.

No abnormal algae growth or submerged weeds were observed. *Microcystis* was dominant, but not excessive. *Microcystis* can create down-wind surface scum. However, the total phytoplankton density was low to moderate. No golden algae (*Prymnesium parvum* or related species) were detected.



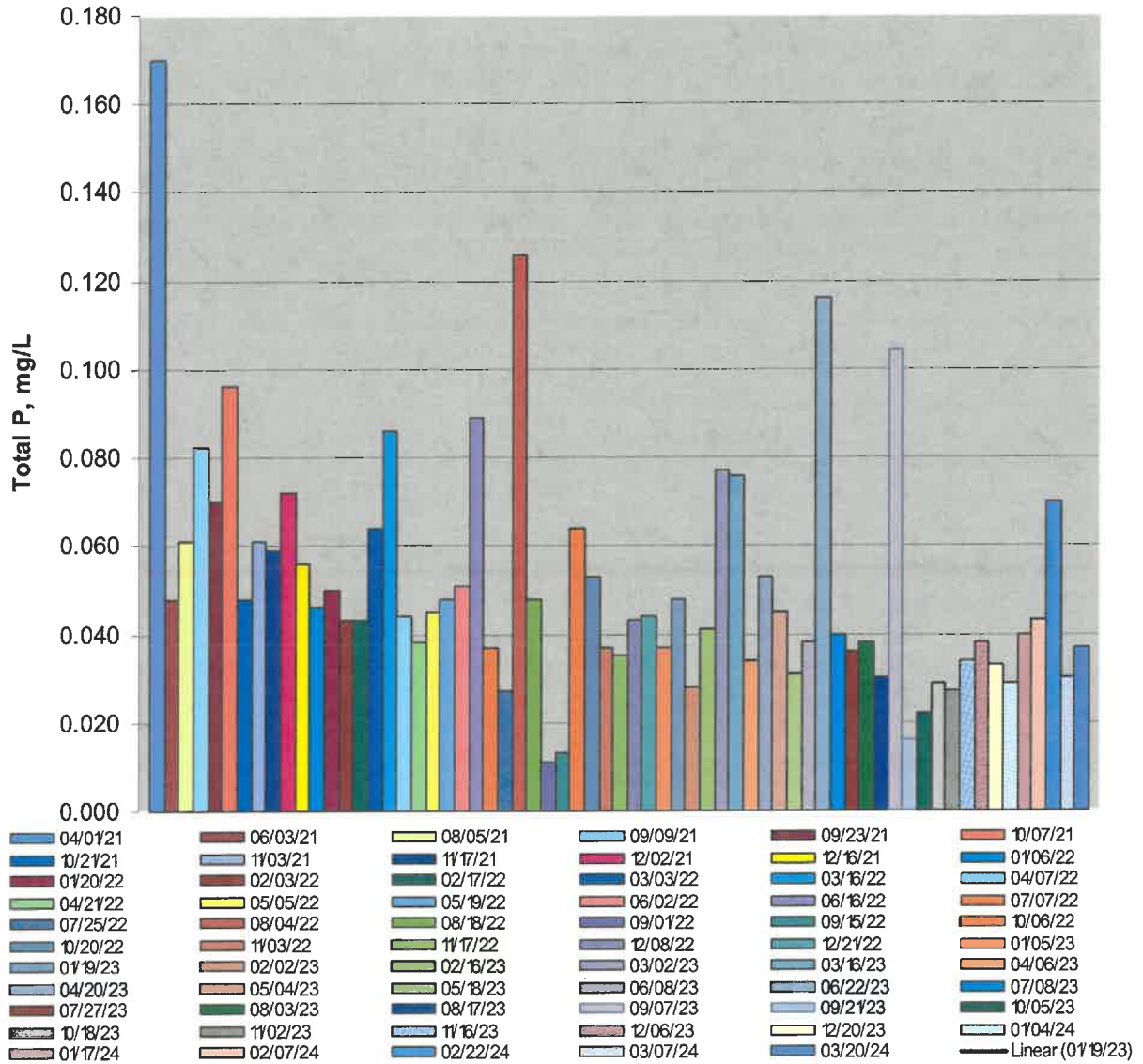
Special Testing

E. coli bacteria and total phosphorus were measured in Lake 8 on two dates during the month. Data are presented below.

Date	<i>E. coli</i> , MPN/100 mL)	Phosphorus, mg/L
03-07-24	980	0.030
03-20-24	68	0.037

The phosphorus concentrations in Lake 8 during the recent study period were moderate and fairly stable.

TOTAL PHOSPHORUS LAKE 8



Next Month:

Lakes 5-8 are scheduled for comprehensive monitoring next month. All lakes will be visually inspected and field data collected two times during the month. Additional monitoring of Lake 8 phosphorus and *E. coli* will continue.

Respectfully:

Aquatic Consulting & Testing, Inc.



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



DOBSON RANCH REPORT CARD

DATE OF EVALUATION: Mar-24 CONDITION GOOD SCORE 53 50 50 50 48

PREVIOUS EVALUATION: Last complete Sep-23 CONDITION GOOD SCORE 47 49 50 50 50

CONDITION	RATIONALE	4 pts		3 pts		2 pts		1 pt		SCORE Lake 1	SCORE Lake 2	SCORE Lake 3	SCORE Lake 4
		EXCELLENT	GOOD	GOOD	FAIR	FAIR	POOR	SCORE Lake 1	SCORE Lake 2				
Transparency - SDz (m) avg.	aesthetics	1.5-2.0	1.0-1.4	0.5-0.9	<0.5	4	4	4	4	4	4	4	2
Dissolved oxygen (mg/L) @1m	aquatic life, sediment nutrient release, odors	>7.0	5.6-6.9	4.0-5.5	<4.0	4	4	4	4	4	4	4	4
Nitrogen, total (mg/L)	algae and macrophyte growth	<0.5	0.5-1.0	1.0-2.0	>2.0	2	2	2	2	2	2	2	2
Phosphorus, total (mg/L)	algae and macrophyte growth	<0.03	0.03-0.05	0.06-0.10	>0.10	4	4	4	4	4	4	4	3
Turbidity (NTU) avg.	aesthetics, State std	<5	5-10	11-20	>20	4	4	3	3	4	4	4	3
Chlorophyll-a (ug/L) avg.	aesthetics, oxygen balance	<10	11-20	21-30	>30	4	4	4	4	4	4	4	4
Algae density (no./mL)	aesthetics	<5 x 10 ⁴	5x10 ⁴ - 9x10 ⁴	1 x 10 ⁵ - 5x 10 ⁵	>5 x 10 ⁵	4	4	4	4	4	4	4	4
Midge larvae (# per sq m)	aesthetics	<200	200-400	500-800	>800	4	4	4	4	4	4	4	4
Algae form (dominant)	aesthetics, treatability	greens; no floating mats	diatoms; no floating mats	blue-greens; no floating mats	blue-greens; floating mats common	4	4	4	4	4	4	4	4
pH (SU) avg.	swimming, fishery, ammonia toxicity	6.5-8.0	8.1-8.5	8.6-9.0	>9.0	3	3	3	3	3	3	3	3
Carlson Trophic Status	eutrophication	<50	50-60	61-70	>70	4	4	4	4	4	4	4	4
Fishery	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	4	4	4	4	4	4	4
Waterfowl (per acre mean)	Aesthetics, public health	<3	3-4	5-6	>6	4	4	3	3	1	1	3	3
Shoreline/banks	Minimal Filamentous Algae	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	4	4	4	4	4	4	4

SCORING KEY: Excellent Good Fair Poor
 50-56 41-49 30-40 <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

Benthos: Bottom dwelling organisms

Carlson Trophic Index: A series of calculations incorporating transparency, chlorophyll and phosphorus data used to provide a quantitative estimate of the degree of eutrophication in a lake.

Chlorophyll: Pigment in green plants involved in photosynthesis used to estimate the density of algae in the water column.

Coliform bacteria: Enteric bacteria used as an indicator of the sanitary condition of the water.

Eutrophication: Process by which lakes age by increasing in nutrient (nitrogen and phosphorus) content and plant life.

Fecal bacteria: Any of the bacteria types provided by the fecal matter of warm-blooded organisms.

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.

Sedimentation: Rate at which solids accumulate on the lake bottom.

Transparency (SDz): Depth to which a standard disk can be observed in the water column.

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

Zooplankton: Animal fraction of the plankton community

CLIENT: DOBSON RANCH

DATE: 07-Mar-24

	LAKE	LAKE	LAKE	LAKE			
PARAMETER	1	2	3	4			
Secchi Disk Depth (m)	2.44	1.42	1.70	0.89			
Phosphorus, total (ug/L)	21	20	20	31			
Chlorophyll-a (ug/L)	0.4	0.2	1.1	0.8			
	LAKE	LAKE	LAKE	LAKE			
TSI VALUES	1	2	3	4			
Secchi Disk Depth	47	55	52	62			
Phosphorus, total	48	47	47	54			
Chlorophyll-a	22	15	31	28			
					average		
AVERAGE	39	39	44	48	42		

SYNOPSIS OF TROPHIC STATUS RESULTS:

Carlson Trophic Status Index (TSI): The classical interpretation of various Index value ranges is provided below:

- TSI<30 **Classic Oligotrophic**; clear water, oxygenated hypolimnion throughout the year; suitable for cold water fishery in deep lakes.
- TSI 30-40 **Oligotrophic**; shallow lakes may exhibit anoxic hypolimnion in summer.
- TSI 41-50 **Mesotrophic**; moderately clear water, increasing chance of anoxia in hypolimnion during the summer.
- TSI 51-60 **Slightly Eutrophic**; decreased transparency, anoxia in hypolimnion during the summer expected, macrophyte problems possible, warm water fishery only.
- TSI 61-70 **Eutrophic**; dominance of blue-green algae and algal scums probable, can have extensive macrophyte problems.
- TSI 70-80 **Highly Eutrophic**; heavy algal blooms, dense macrophyte beds possible, limited light penetration.
- TSI>80 **Hypereutrophic**; algal scums, summertime fish kills, limited light penetration, few macrophytes.

Aquatic Consulting & Testing, Inc.

SUPPORTING DOCUMENTATION

- Laboratory reports
- Field Inspection Sheets
- Pesticide application documents



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Lic. No. AZ0003

LABORATORY REPORT

Client: Dobson Ranch Association
2719 South Reyes Road
Mesa, AZ 85202

Date Submitted: 03/07/24
Date Reported: 04/03/24

Attn: Fran Pawlak, Executive Director

Project: Monthly Lake 1-4 Monitoring

RESULTS

Client ID: Lake 1
ACT Lab No.: CG01604

Sample Type: Surface Water
Sample Time: 03/07/24 08:05

Parameter	Analysis Date		Method No.	Result	Unit
	Start	End			
Algae Count	03/22/24	03/22/24	SM 10200 F	See Attached	cells/mL
Algae Identification	03/22/24	03/22/24		See Attached	
Chl/Pheo Ratio	04/01/24	04/01/24	SM10200 H	1.40	
Chlorophyll a	04/01/24	04/01/24	SM10200 H	0.42	ug/L
Golden Algae	03/07/24	03/07/24	P/C Microscopy	Absent	Pres/Abs
Midge count	03/07/24	03/07/24	SM10500 C	<40	#/sq. meter
Pheophytin a	04/01/24	04/01/24	SM10200 H	0.31	ug/L
Oxygen, Dissolved Field	03/07/24	03/07/24	SM4500 O G	9.1	mg/L as O ₂
pH, Field	03/07/24	03/07/24	SM4500H+ B	8.2	SU
Secchi Disk Depth	03/07/24	03/07/24	NALMS	2.44	meters
Temperature, Field	03/07/24	03/07/24	SM2550 B	18.0	C
Alkalinity, Total	03/13/24	03/13/24	SM 2320 B	162.	mg/L as CaCO ₃
Ammonia - N	03/21/24	03/21/24	SM4500NH ₃ D	0.05	mg/L as N
Nitrate + Nitrite - N	03/17/24	03/17/24	SM4500NO ₃ E	0.09	mg/L as N
Phosphorus, Total	03/25/24	03/27/24	365.3	0.021	mg/L as P
Total Hardness	03/13/24	03/13/24	SM2340C	232.	mg/L as CaCO ₃
Total Kjeldahl Nitrogen	03/21/24	03/21/24	SMNorg C,NH ₃ C/D	1.2	mg/L as N
E. coli, Colilert	03/07/24	03/08/24	SM 9223 B	2	MPN/100 mL
Total Dissolved Solids	03/12/24	03/14/24	SM2540 C	468	mg/L
Turbidity	03/07/24	03/07/24	180.1	4.1	NTU

RESULTS

Client ID: Lake 2
ACT Lab No.: CG01605

Sample Type: Surface Water
Sample Time: 03/07/24 08:25

<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	03/22/24	03/22/24	SM 10200 F	See Attached	cells/mL
Algae Identification	03/22/24	03/22/24		See Attached	
Chl/Pheo Ratio	04/01/24	04/01/24	SM10200 H	1.14	
Chlorophyll a	04/01/24	04/01/24	SM10200 H	0.21	ug/L
Golden Algae	03/07/24	03/07/24	P/C Microscopy	Absent	Pres/Abs
Midge count	03/07/24	03/07/24	SM10500 C	40	#/sq. meter
Pheophytin a	04/01/24	04/01/24	SM10200 H	0.81	ug/L
Oxygen, Dissolved Field	03/07/24	03/07/24	SM4500 O G	8.5	mg/L as O2
pH, Field	03/07/24	03/07/24	SM4500H+ B	8.3	SU
Secchi Disk Depth	03/07/24	03/07/24	NALMS	1.42	meters
Temperature, Field	03/07/24	03/07/24	SM2550 B	17.9	C
Alkalinity, Total	03/13/24	03/13/24	SM 2320 B	154.	mg/L as CaCO3
Ammonia - N	03/21/24	03/21/24	SM4500NH3 D	0.06	mg/L as N
Nitrate + Nitrite - N	03/17/24	03/17/24	SM4500NO3 E	0.07	mg/L as N
Phosphorus, Total	03/25/24	03/27/24	365.3	0.020	mg/L as P
Total Hardness	03/13/24	03/13/24	SM2340C	201.	mg/L as CaCO3
Total Kjeldahl Nitrogen	03/21/24	03/21/24	SMNorg C,NH3 C/D	1.2	mg/L as N
E. coli, Colilert	03/07/24	03/08/24	SM 9223 B	<1	MPN/100 mL
Total Dissolved Solids	03/12/24	03/19/24	SM2540 C	372	mg/L
Turbidity	03/07/24	03/07/24	180.1	5.1	NTU

RESULTS

Client ID: Lake 3
ACT Lab No.: CG01606

Sample Type: Surface Water
Sample Time: 03/07/24 08:50

<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	03/22/24	03/22/24	SM 10200 F	See Attached	cells/mL
Algae Identification	03/22/24	03/22/24		See Attached	
Chl/Pheo Ratio	04/01/24	04/01/24	SM10200 H	1.33	
Chlorophyll a	04/01/24	04/01/24	SM10200 H	1.07	ug/L
Golden Algae	03/07/24	03/07/24	P/C Microscopy	Absent	Pres/Abs
Midge count	03/07/24	03/07/24	SM10500 C	40	#/sq. meter
Pheophytin a	04/01/24	04/01/24	SM10200 H	1.17	ug/L
Oxygen, Dissolved Field	03/07/24	03/07/24	SM4500 O G	8.1	mg/L as O2
pH, Field	03/07/24	03/07/24	SM4500H+ B	8.2	SU
Secchi Disk Depth	03/07/24	03/07/24	NALMS	1.70	meters
Temperature, Field	03/07/24	03/07/24	SM2550 B	18.0	C
Alkalinity, Total	03/13/24	03/13/24	SM 2320 B	166.	mg/L as CaCO3
Ammonia - N	03/21/24	03/21/24	SM4500NH3 D	0.05	mg/L as N
Nitrate + Nitrite - N	03/17/24	03/17/24	SM4500NO3 E	0.08	mg/L as N
Phosphorus, Total	03/25/24	03/27/24	365.3	0.020	mg/L as P
Total Hardness	03/13/24	03/13/24	SM2340C	201.	mg/L as CaCO3
Total Kjeldahl Nitrogen	03/21/24	03/21/24	SMNorg C,NH3 C/D	1.1	mg/L as N
E. coli, Colilert	03/07/24	03/08/24	SM 9223 B	12	MPN/100 mL
Total Dissolved Solids	03/12/24	03/14/24	SM2540 C	412	mg/L
Turbidity	03/07/24	03/07/24	180.1	3.6	NTU

RESULTS

Client ID: Lake 4
ACT Lab No.: CG01607

Sample Type: Surface Water
Sample Time: 03/07/24 09:30

<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	03/22/24	03/22/24	SM 10200 F	See Attached	cells/mL
Algae Identification	03/22/24	03/22/24		See Attached	
Chl/Pheo Ratio	04/01/24	04/01/24	SM10200 H	1.40	
Chlorophyll a	04/01/24	04/01/24	SM10200 H	0.80	ug/L
Golden Algae	03/07/24	03/07/24	P/C Microscopy	Absent	Pres/Abs
Midge count	03/07/24	03/07/24	SM10500 C	<40	#/sq. meter
Pheophytin a	04/01/24	04/01/24	SM10200 H	0.60	ug/L
Oxygen, Dissolved Field	03/07/24	03/07/24	SM4500 O G	8.1	mg/L as O2
pH, Field	03/07/24	03/07/24	SM4500H+ B	8.2	SU
Secchi Disk Depth	03/07/24	03/07/24	NALMS	0.89	meters
Temperature, Field	03/07/24	03/07/24	SM2550 B	17.8	C
Alkalinity, Total	03/13/24	03/13/24	SM 2320 B	150.	mg/L as CaCO3
Ammonia - N	03/21/24	03/21/24	SM4500NH3 D	0.06	mg/L as N
Nitrate + Nitrite - N	03/17/24	03/17/24	SM4500NO3 E	0.10	mg/L as N
Phosphorus, Total	03/25/24	03/27/24	365.3	0.031	mg/L as P
Total Hardness	03/13/24	03/13/24	SM2340C	189.	mg/L as CaCO3
Total Kjeldahl Nitrogen	03/21/24	03/21/24	SMNorg C,NH3 C/D	1.3	mg/L as N
E. coli, Colilert	03/07/24	03/08/24	SM 9223 B	1	MPN/100 mL
Total Dissolved Solids	03/12/24	03/14/24	SM2540 C	476	mg/L
Turbidity	03/07/24	03/07/24	180.1	5.4	NTU

Client ID: Lake 5
ACT Lab No.: CG01608

Sample Type: Surface Water
Sample Time: 03/07/24 10:45

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>Result</u>	<u>Unit</u>
	<u>Start</u>	<u>End</u>			
Golden Algae	03/07/24	03/07/24	P/C Microscopy	Absent	Pres/Abs
Oxygen, Dissolved Field	03/07/24	03/07/24	SM4500 O G	7.1	mg/L as O2
pH, Field	03/07/24	03/07/24	SM4500H+ B	8.1	SU
Temperature, Field	03/07/24	03/07/24	SM2550 B	17.1	C
Turbidity	03/07/24	03/07/24	180.1	6.6	NTU

RESULTS

Client ID: Lake 6
ACT Lab No.: CG01609

Sample Type: Surface Water
Sample Time: 03/07/24 11:00

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>Result</u>	<u>Unit</u>
	<u>Start</u>	<u>End</u>			
Golden Algae	03/07/24	03/07/24	P/C Microscopy	Absent	Pres/Abs
Oxygen, Dissolved Field	03/07/24	03/07/24	SM4500 O G	9.6	mg/L as O2
pH, Field	03/07/24	03/07/24	SM4500H+ B	8.4	SU
Temperature, Field	03/07/24	03/07/24	SM2550 B	17.2	C
Turbidity	03/07/24	03/07/24	180.1	15.	NTU

Client ID: Lake 7
ACT Lab No.: CG01610

Sample Type: Surface Water
Sample Time: 03/07/24 11:10

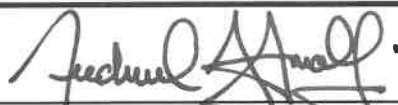
<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>Result</u>	<u>Unit</u>
	<u>Start</u>	<u>End</u>			
Golden Algae	03/07/24	03/07/24	P/C Microscopy	Absent	Pres/Abs
Oxygen, Dissolved Field	03/07/24	03/07/24	SM4500 O G	8.7	mg/L as O2
pH, Field	03/07/24	03/07/24	SM4500H+ B	8.4	SU
Temperature, Field	03/07/24	03/07/24	SM2550 B	18.4	C
Turbidity	03/07/24	03/07/24	180.1	1.5	NTU

Client ID: Lake 8
ACT Lab No.: CG01611

Sample Type: Surface Water
Sample Time: 03/07/24 11:20

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>Result</u>	<u>Unit</u>
	<u>Start</u>	<u>End</u>			
Golden Algae	03/07/24	03/07/24	P/C Microscopy	Absent	Pres/Abs
Oxygen, Dissolved Field	03/07/24	03/07/24	SM4500 O G	8.2	mg/L as O2
pH, Field	03/07/24	03/07/24	SM4500H+ B	8.5	SU
Temperature, Field	03/07/24	03/07/24	SM2550 B	17.6	C
Phosphorus, Total	03/25/24	03/27/24	365.3	0.030	mg/L as P
E. coli, Colilert	03/07/24	03/08/24	SM 9223 B	980	MPN/100 mL
Turbidity	03/07/24	03/07/24	180.1	3.8	NTU

Reviewed by:



Frederick A. Amalfi, Ph.D.
Laboratory Director

ALGAE IDENTIFICATION

AC&T Lab No.	CG-01604	Date Collected	03/07/24
Client I.D.	Lake 1	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				<i>Microcystis</i>	cyn-c			
<i>Anabaena</i>	cyn-f				<i>Microspora</i>	chl-f			
<i>Ankistrodesmus</i>	chl-u				<i>Nanochloris</i>	chl-u			
<i>Aphanothece</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			
<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				<i>Peridinium</i>	pyr-ug			
<i>Chlorella</i>	chl-u				<i>Phacotus</i>	chl-ug			
<i>Chlorogonium</i>	chl-ug				<i>Phacus</i>	chl-ug			
<i>Chodatella</i>	chl-u				<i>Pinnularia</i>	bac-u			
Chroomonas	crp-ug	6	110	75.00%	<i>Pithophora</i>	chl-f			
<i>Closterium</i>	chl-u				<i>Planktosphaeria</i>	chl-c			
<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			
<i>Crucigenia</i>	chl-c				<i>Schroederia</i>	chl-u			
<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			
Denticula	bac-u	1	18	12.50%	<i>Spirulina</i>	cyn-f			
<i>Dinobryon</i>	bac-c				<i>Staurastrum</i>	chl-u			
<i>Dysmorphococcus</i>	chl-ug				<i>Stephanodiscus</i>	bac-u			
<i>Eremosphaeria</i>	chl-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				Synedra	bac-u	1	18	12.50%
<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>Thoracomonas</i>	chl-u			
<i>Gonyaulax</i>	pyr-ug				<i>Trachelomonas</i>	eug-ug			
<i>Gymnodinium</i>	bac-u				<i>Vaucheria</i>	chl-f			
<i>Holopedium</i>	cyn-u				<i>Volvox</i>	chl-cg			
<i>Lyngbya</i>	cyn-f				<i>Zygnema</i>	chl-f			
<i>Mastogloia</i>	bac-u								
<i>Meridion</i>	bac-u								
<i>Merismopedia</i>	cyn-c								

check 100.00%

Aquatic Consulting & Testing, Inc.
1525 W. University Dr., Suite 106
Tempe, Arizona 85281

Count (cells/mL) 1.47E+02

ALGAE IDENTIFICATION

AC&T Lab No.	CG-01605	Date Collected	03/07/24
Client I.D.	Lake 2	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
Achnanthes	bac-u	1	18	1.14%	<i>Microcystis</i>	cyn-c			
<i>Anabaena</i>	cyn-f				<i>Microspora</i>	chl-f			
<i>Ankistrodesmus</i>	chl-u				<i>Nanochloris</i>	chl-u			
<i>Aphanothece</i>	cyn-c				Navicula	bac-u	1	18	1.14%
<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			
<i>Cephalomonas</i>	chl-ug				<i>Pandorina</i>	chl-cg			
<i>Ceratium</i>	pyr-ug				<i>Pediastrum</i>	chl-c			
Chlamydomonas	chl-ug	2	37	2.27%	<i>Peridinium</i>	pyr-ug			
Chlorella	chl-u	3	55	3.41%	<i>Phacotus</i>	chl-ug			
<i>Chlorogonium</i>	chl-ug				<i>Phacus</i>	chl-ug			
Chroococcus	cyn-c	2	37	2.27%	<i>Pinnularia</i>	bac-u			
Chroomonas	crp-ug	51	939	57.95%	<i>Pithophora</i>	chl-f			
<i>Closterium</i>	chl-u				<i>Planktosphaeria</i>	chl-c			
<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				Scenedesmus	chl-c	2	37	2.27%
<i>Crucigenia</i>	chl-c				<i>Schroederia</i>	chl-u			
<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			
Denticula	bac-u	1	18	1.14%	<i>Spirulina</i>	cyn-f			
<i>Dinobryon</i>	bac-c				<i>Staurastrum</i>	chl-u			
<i>Dysmorphococcus</i>	chl-ug				<i>Stephanodiscus</i>	bac-u			
<i>Eremosphaeria</i>	chl-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				Synedra	bac-u	1	18	1.14%
<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>Thoracomonas</i>	chl-u			
<i>Gonyaulax</i>	pyr-ug				<i>Trachelomonas</i>	eug-ug			
<i>Gymnodinium</i>	bac-u				<i>Vaucheria</i>	chl-f			
<i>Holopedium</i>	cyn-u				<i>Volvox</i>	chl-cg			
<i>Lyngbya</i>	cyn-f				<i>Zygnema</i>	chl-f			
<i>Mastogloia</i>	bac-u								
<i>Meridion</i>	bac-u								
Merismopedia	cyn-c	24	442	27.27%					

check 100.00%

Aquatic Consulting & Testing, Inc.
1525 W. University Dr., Suite 106
Tempe, Arizona 85281

Count (cells/mL) 1.62E+03

ALGAE IDENTIFICATION

AC&T Lab No.	CG-01606	Date Collected	03/07/24
Client I.D.	Lake 3	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				<i>Microcystis</i>	cyn-c			
<i>Anabaena</i>	cyn-f				<i>Microspora</i>	chl-f			
<i>Ankistrodesmus</i>	chl-u				<i>Nanochloris</i>	chl-u			
<i>Aphanothece</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			
<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	2	37	6.06%	<i>Peridinium</i>	pyr-ug			
<i>Chlorella</i>	chl-u	11	202	33.33%	<i>Phacotus</i>	chl-ug			
<i>Chlorogonium</i>	chl-ug				<i>Phacus</i>	chl-ug			
<i>Chodatella</i>	chl-u				<i>Pinnularia</i>	bac-u			
<i>Chroomonas</i>	crp-ug	17	313	51.52%	<i>Pithophora</i>	chl-f			
<i>Closterium</i>	chl-u				<i>Planktosphaeria</i>	chl-c			
<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			
<i>Crucigenia</i>	chl-c				<i>Schroederia</i>	chl-u	1	18	3.03%
<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>Denticula</i>	bac-u				<i>Spirulina</i>	cyn-f			
<i>Dinobryon</i>	bac-c				<i>Staurastrum</i>	chl-u			
<i>Dysmorphococcus</i>	chl-ug				<i>Stephanodiscus</i>	bac-u			
<i>Eremosphaeria</i>	chl-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	18	3.03%
<i>Golenkinia</i>	chl-c	1	18	3.03%	<i>Synura</i>	cry-cg			
<i>Gomphonema</i>	bac-u				<i>Tetraedron</i>	chl-u			
<i>Gonium</i>	chl-cg				<i>Thoracomonas</i>	chl-u			
<i>Gonyaulax</i>	pyr-ug				<i>Trachelomonas</i>	eug-ug			
<i>Gymnodinium</i>	bac-u				<i>Vaucheria</i>	chl-f			
<i>Holopedium</i>	cyn-u				<i>Volvox</i>	chl-cg			
<i>Lyngbya</i>	cyn-f				<i>Zygnema</i>	chl-f			
<i>Mastogloia</i>	bac-u								
<i>Meridion</i>	bac-u								
<i>Merismopedia</i>	cyn-c								

check 100.00%

Aquatic Consulting & Testing, Inc.
1525 W. University Dr., Suite 106
Tempe, Arizona 85281

Count (cells/mL) 6.07E+02

ALGAE IDENTIFICATION

AC&T Lab No.	CG-01607	Date Collected	03/07/24
Client I.D.	Lake 4	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				<i>Microcystis</i>	cyn-c			
<i>Anabaena</i>	cyn-f				<i>Microspora</i>	chl-f			
<i>Ankistrodesmus</i>	chl-u				<i>Nanochloris</i>	chl-u			
<i>Aphanothece</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			
<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	1	18	10.00%	<i>Peridinium</i>	pyr-ug			
<i>Chlorella</i>	chl-u	2	37	20.00%	<i>Phacotus</i>	chl-ug			
<i>Chlorogonium</i>	chl-ug				<i>Phacus</i>	chl-ug			
<i>Chodatella</i>	chl-u	1	18	10.00%	<i>Pinnularia</i>	bac-u			
<i>Chroomonas</i>	crp-ug	5	92	50.00%	<i>Pithophora</i>	chl-f			
<i>Closterium</i>	chl-u				<i>Planktosphaeria</i>	chl-c			
<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			
<i>Crucigenia</i>	chl-c				<i>Schroederia</i>	chl-u			
<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>Denticula</i>	bac-u				<i>Spirulina</i>	cyn-f			
<i>Dinobryon</i>	bac-c				<i>Staurastrum</i>	chl-u			
<i>Dysmorphococcus</i>	chl-ug				<i>Stephanodiscus</i>	bac-u			
<i>Eremosphaeria</i>	chl-u				<i>Stigeoclonium</i>	chl-f			
<i>Euglena</i>	eug-ug				<i>Surirella</i>	bac-u	1	18	10.00%
<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			
<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>Thoracomonas</i>	chl-u			
<i>Gonyaulax</i>	pyr-ug				<i>Trachelomonas</i>	eug-ug			
<i>Gymnodinium</i>	bac-u				<i>Vaucheria</i>	chl-f			
<i>Holopedium</i>	cyn-u				<i>Volvox</i>	chl-cg			
<i>Lyngbya</i>	cyn-f				<i>Zygnema</i>	chl-f			
<i>Mastogloia</i>	bac-u								
<i>Meridion</i>	bac-u								
<i>Merismopedia</i>	cyn-c								

check 100.00%

Aquatic Consulting & Testing, Inc.
1525 W. University Dr., Suite 106
Tempe, Arizona 85281

Count (cells/mL) 1.84E+02

Aquatic Consulting & Testing, Inc.
 1525 W. University Drive, Suite 106
 Tempe, AZ 85281
 480-921-8044 fax: 480-921-0049
 lab@aquaticconsulting.com

Chain of Custody

Client Project Info:
 Lake 1-4 Monthly Monitoring
 Dobson Ranch Association

AC&T Client Reporting Information:

Dobson Ranch Association
 2719 South Reyes
 Mesa, AZ 85202
 Attn: Fran Pawlak, Community Manager
 P: 480-831-8314

E:

AC&T Sampler:

Sample Location ID:	Date:	Time:	Matrix:
Lake 1	3-7-24	8:05	SW
Lake 2		8:25	SW
Lake 3		8:50	SW
Lake 4		9:30	SW
Lake 5		10:45	SW
Lake 6		11:00	SW
Lake 7		11:10	SW
Lake 8		11:20	SW

Sample Containers # / Preservation:	Field Measurements:																		
	None Preserved	Na2S2O3 (Sterile)	HNO3 (Nitric)	H2SO4 (Sulfuric)	Lugols	Other:	Pt	NO3+NO2	TKN-Elec	Ammonia (NH3)	Hardness	Alkalinity	TDS	E. Coli	#Chl/Pheo	Algae - ID + #	Golden algae	Turb	
1	1	1	1	1	1		X	X	X	X	X	X	X	X	X	X	X	X	X
1	1	1	1	1	1		X	X	X	X	X	X	X	X	X	X	X	X	X
1	1	1	1	1	1		X	X	X	X	X	X	X	X	X	X	X	X	X
1	1	1	1	1	1		X	X	X	X	X	X	X	X	X	X	X	X	X
2	2	2	2	2	2		X	X	X	X	X	X	X	X	X	X	X	X	X
2	2	2	2	2	2		X	X	X	X	X	X	X	X	X	X	X	X	X
2	2	2	2	2	2		X	X	X	X	X	X	X	X	X	X	X	X	X
2	2	2	2	2	2		X	X	X	X	X	X	X	X	X	X	X	X	X

1. RELINQUISHED BY:		2. RECEIVED BY:		3. RELINQUISHED BY:		4. RECEIVED BY:	
Signature:	<i>Andrew M. Pawlak</i>	Signature:	<i>Andrew M. Pawlak</i>	Signature:		Signature:	
Print Name:	Andrew M. Pawlak	Print Name:	Andrew M. Pawlak	Print Name:		Print Name:	
Date:	3/7/24	Date:	3/7/24	Date:		Date:	
Time:	1330	Time:	1330	Time:		Time:	

A C & T Sample Receipt:	
Total # Containers:	38
Received Intact:	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
# Bottles Preserved:	14
Samples On Ice:	YES <input checked="" type="checkbox"/> WET <input type="checkbox"/> BLUE <input type="checkbox"/>
Ice Type:	
Sample Receipt Temperature:	15°C



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Tempe, Arizona 85281
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Lic. No. AZ0003

GOLDEN ALGAE REPORT

Client: Dobson Ranch Association
2719 South Reyes Road
Mesa, AZ 85202

Date Submitted: 03/13/24
Date Reported: 03/20/24

Attn: Fran Pawlak, Executive Director

Project: Monthly Lake 1-8 Monitorin

RESULTS

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>MRL</u>	<u>Result</u>	<u>Unit</u>	<u>Analyst</u>
	<u>Start</u>	<u>End</u>					
Client ID: Lake 1 ACT Lab No.: CG01784		Sample Type: Surface Water Sample Time: 03/13/24 06:30					
Golden Algae	03/13/24	03/13/24	P/C Microscopy	1	Absent	Pres/Abs	FAA
Client ID: Lake 2 ACT Lab No.: CG01785		Sample Type: Surface Water Sample Time: 03/13/24 06:35					
Golden Algae	03/13/24	03/13/24	P/C Microscopy	1	Absent	Pres/Abs	FAA
Client ID: Lake 3 ACT Lab No.: CG01786		Sample Type: Surface Water Sample Time: 03/13/24 06:40					
Golden Algae	03/13/24	03/13/24	P/C Microscopy	1	Absent	Pres/Abs	FAA
Client ID: Lake 4 ACT Lab No.: CG01787		Sample Type: Surface Water Sample Time: 03/13/24 06:45					
Golden Algae	03/13/24	03/13/24	P/C Microscopy	1	Absent	Pres/Abs	FAA

RESULTS

Client ID: Lake 5
ACT Lab No.: CG01788

Sample Type: Surface Water
Sample Time: 03/13/24 06:50

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>MRL</u>	<u>Result</u>	<u>Unit</u>	<u>Analyst</u>
	<u>Start</u>	<u>End</u>					
Golden Algae	03/13/24	03/13/24	P/C Microscopy	1	Absent	Pres/Abs	FAA

Client ID: Lake 6
ACT Lab No.: CG01789

Sample Type: Surface Water
Sample Time: 03/13/24 06:55

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>MRL</u>	<u>Result</u>	<u>Unit</u>	<u>Analyst</u>
	<u>Start</u>	<u>End</u>					
Golden Algae	03/13/24	03/13/24	P/C Microscopy	1	Absent	Pres/Abs	FAA

Client ID: Lake 7
ACT Lab No.: CG01790

Sample Type: Surface Water
Sample Time: 03/13/24 07:00

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>MRL</u>	<u>Result</u>	<u>Unit</u>	<u>Analyst</u>
	<u>Start</u>	<u>End</u>					
Golden Algae	03/13/24	03/13/24	P/C Microscopy	1	Absent	Pres/Abs	FAA

Client ID: Lake 8
ACT Lab No.: CG01791

Sample Type: Surface Water
Sample Time: 03/13/24 07:05

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>MRL</u>	<u>Result</u>	<u>Unit</u>	<u>Analyst</u>
	<u>Start</u>	<u>End</u>					
Golden Algae	03/13/24	03/13/24	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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 480-921-8044 fax: 480-921-0049
 lab@aquaticconsulting.com

Chain of Custody

Client Project Info:
 Lake 1-8 Monthly Monitoring,
 Dobson Ranch Association

AC&T Client Reporting Information:		Sample Containers # / Preservation:		AC&T Laboratory Sample Identification
Dobson Ranch Association 2719 South Reyes Mesa, AZ 85202		Page 1 of 1		
Attn: Fran Paqwlak, Community Manager P: 480-831-8314		None Preserved		CG01784
E:		N2S2O3 (Sulfite)		
AC&T Sampler: <i>AM</i>		HNO3 (Nitric)		1785
Sample Location ID:		H2SO4 (Sulfuric)		
Date:	Time:	Lugols		1786
Lake 1	3/13/24	Others:		1787
Lake 2	630			1788
Lake 3	635			1789
Lake 4	640			1790
Lake 5	645			1791
Lake 6	650			
Lake 7	655			
Lake 8	700			
	705			

AC&T Sample Receipt:		1. RELINQUISHED BY:		3. RELINQUISHED BY:	
Project Location:	Dobson Ranch	Signature:	<i>Fran Paqwlak</i>	Signature:	
Total # Containers:	8	Print Name:		Print Name:	
Received Intact:	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Date:	3/13/24	Date:	
# Bottles Preserved:	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Time:	1300	Time:	
Samples On Ice:	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	2. RECEIVED BY:		4. RECEIVED BY:	
Ice Type:	WET BLUE	Signature:	<i>MJ</i>	Signature:	
Sample Receipt Temperature:	21°C	Print Name:		Print Name:	
		Date:	03/13/24	Date:	
		Time:	1300	Time:	



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Lic. No. AZ0003

GOLDEN ALGAE REPORT

Client: Dobson Ranch Association
2719 South Reyes Road
Mesa, AZ 85202

Date Submitted: 03/20/24
Date Reported: 04/03/24

Attn: Fran Pawlak, Executive Director

Project: Monthly Lake 1-8 Monitorin

RESULTS

Client ID: Lake 1
ACT Lab No.: CG01951

Sample Type: Surface Water
Sample Time: 03/20/24 06:30

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>MRL</u>	<u>Result</u>	<u>Unit</u>	<u>Analyst</u>
	<u>Start</u>	<u>End</u>					
Golden Algae	03/20/24	03/20/24	P/C Microscopy	1	Absent	Pres/Abs	FAA
Oxygen, Dissolved Field	03/20/24	03/20/24	SM4500 O G	0.1	9.4	mg/L as O2	AM
pH, Field	03/20/24	03/20/24	SM4500H+ B		8.1	SU	AM
Temperature, Field	03/20/24	03/20/24	SM2550 B		17.8	C	AM
Turbidity	03/20/24	03/20/24	180.1	0.1	4.0	NTU	MJ

Client ID: Lake 2
ACT Lab No.: CG01952

Sample Type: Surface Water
Sample Time: 03/20/24 06:35

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>MRL</u>	<u>Result</u>	<u>Unit</u>	<u>Analyst</u>
	<u>Start</u>	<u>End</u>					
Golden Algae	03/20/24	03/20/24	P/C Microscopy	1	Absent	Pres/Abs	FAA
Oxygen, Dissolved Field	03/20/24	03/20/24	SM4500 O G	0.1	9.0	mg/L as O2	AM
pH, Field	03/20/24	03/20/24	SM4500H+ B		8.1	SU	AM
Temperature, Field	03/20/24	03/20/24	SM2550 B		17.4	C	AM
Turbidity	03/20/24	03/20/24	180.1	0.1	5.0	NTU	MJ

RESULTS

Client ID: Lake 3
ACT Lab No.: CG01953

Sample Type: Surface Water
Sample Time: 03/20/24 06:40

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>MRL</u>	<u>Result</u>	<u>Unit</u>	<u>Analyst</u>
	<u>Start</u>	<u>End</u>					
Golden Algae	03/20/24	03/20/24	P/C Microscopy	1	Absent	Pres/Abs	FAA
Oxygen, Dissolved Field	03/20/24	03/20/24	SM4500 O G	0.1	9.1	mg/L as O2	AM
pH, Field	03/20/24	03/20/24	SM4500H+ B		8.1	SU	AM
Temperature, Field	03/20/24	03/20/24	SM2550 B		17.7	C	AM
Turbidity	03/20/24	03/20/24	180.1	0.1	4.4	NTU	MJ

Client ID: Lake 4
ACT Lab No.: CG01954

Sample Type: Surface Water
Sample Time: 03/20/24 06:50

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>MRL</u>	<u>Result</u>	<u>Unit</u>	<u>Analyst</u>
	<u>Start</u>	<u>End</u>					
Golden Algae	03/20/24	03/20/24	P/C Microscopy	1	Absent	Pres/Abs	FAA
Oxygen, Dissolved Field	03/20/24	03/20/24	SM4500 O G	0.1	8.0	mg/L as O2	AM
pH, Field	03/20/24	03/20/24	SM4500H+ B		8.1	SU	AM
Temperature, Field	03/20/24	03/20/24	SM2550 B		17.6	C	AM
Turbidity	03/20/24	03/20/24	180.1	0.1	11.	NTU	MJ

Client ID: Lake 5
ACT Lab No.: CG01955

Sample Type: Surface Water
Sample Time: 03/20/24 06:55

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>MRL</u>	<u>Result</u>	<u>Unit</u>	<u>Analyst</u>
	<u>Start</u>	<u>End</u>					
Golden Algae	03/20/24	03/20/24	P/C Microscopy	1	Absent	Pres/Abs	FAA
Oxygen, Dissolved Field	03/20/24	03/20/24	SM4500 O G	0.1	8.3	mg/L as O2	AM
pH, Field	03/20/24	03/20/24	SM4500H+ B		8.0	SU	AM
Temperature, Field	03/20/24	03/20/24	SM2550 B		17.7	C	AM
Turbidity	03/20/24	03/20/24	180.1	0.1	7.3	NTU	MJ

RESULTS

Client ID: Lake 6
ACT Lab No.: CG01956

Sample Type: Surface Water
Sample Time: 03/20/24 07:00

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>MRL</u>	<u>Result</u>	<u>Unit</u>	<u>Analyst</u>
	<u>Start</u>	<u>End</u>					
Golden Algae	03/20/24	03/20/24	P/C Microscopy	1	Absent	Pres/Abs	FAA
Oxygen, Dissolved Field	03/20/24	03/20/24	SM4500 O G	0.1	9.6	mg/L as O2	AM
pH, Field	03/20/24	03/20/24	SM4500H+ B		8.2	SU	AM
Temperature, Field	03/20/24	03/20/24	SM2550 B		17.5	C	AM
Turbidity	03/20/24	03/20/24	180.1	0.1	10.	NTU	MJ

Client ID: Lake 7
ACT Lab No.: CG01957

Sample Type: Surface Water
Sample Time: 03/20/24 07:05

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>MRL</u>	<u>Result</u>	<u>Unit</u>	<u>Analyst</u>
	<u>Start</u>	<u>End</u>					
Golden Algae	03/20/24	03/20/24	P/C Microscopy	1	Absent	Pres/Abs	FAA
Oxygen, Dissolved Field	03/20/24	03/20/24	SM4500 O G	0.1	10.2	mg/L as O2	AM
pH, Field	03/20/24	03/20/24	SM4500H+ B		8.5	SU	AM
Temperature, Field	03/20/24	03/20/24	SM2550 B		17.9	C	AM
Turbidity	03/20/24	03/20/24	180.1	0.1	1.8	NTU	MJ

Client ID: Lake 8
ACT Lab No.: CG01958

Sample Type: Surface Water
Sample Time: 03/20/24 07:10

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>MRL</u>	<u>Result</u>	<u>Unit</u>	<u>Analyst</u>
	<u>Start</u>	<u>End</u>					
Golden Algae	03/20/24	03/20/24	P/C Microscopy	1	Absent	Pres/Abs	FAA
Oxygen, Dissolved Field	03/20/24	03/20/24	SM4500 O G	0.1	6.8	mg/L as O2	AM
pH, Field	03/20/24	03/20/24	SM4500H+ B		8.2	SU	AM
Temperature, Field	03/20/24	03/20/24	SM2550 B		17.5	C	AM
Phosphorus, Total	03/25/24	03/27/24	365.3	0.010	0.037	mg/L as P	DW
E. coli, Colilert	03/20/24	03/21/24	SM 9223 B	1	68	MPN/100 mL	MEW
Turbidity	03/20/24	03/20/24	180.1	0.1	5.0	NTU	MJ

RESULTS

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.
 1525 W. University Drive, Suite 106
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Chain of Custody

Client Project Info:

Monitoring
 Dobson Ranch Association

AC&T Client Reporting Information:

Dobson Ranch Association
 2719 South Reyes
 Mesa, AZ 85202

Attn: Fran Pawlak, Community Manager
 P: 480-831-8314

E:

AC&T Sampler: *Ann*

Sample Location ID:	Date:	Time:	Matrix:
Lake 1	3/20/24	630	SW
Lake 2		635	SW
Lake 3		640	SW
Lake 4		650	SW
Lake 5		655	SW
Lake 6		700	SW
Lake 7		705	SW
Lake 8		710	SW

Sample Containers # / Preservation:	None Preserved	MAS203 (Sterile)	HNO3 (Nitric)	H2SO4 (Sulfuric)	Lugols	Other:
	23	10		10	10	
	23	10		10	10	
	23	10		10	10	
	23	10		10	10	
	2					
	2					
	2					
	2	1		1		

Field Measurements:	pH, Temp, O2	Turb	Golden algae	Algae - ID + #	#Chl/Phae	E. Coll	TDS	Alkalinity	Hardness	Ammonia (NH3)	TKN-Elec	NO3+NO2	P-1
	X	X	X										
	X	X	X										
	X	X	X										
	X	X	X										
	X	X	X										
	X	X	X										
	X	X	X										
	X	X	X			X							

AC&T Laboratory Sample Identification

CG01951
 1952
 1953
 1954
 1955
 1956
 1957
 1958

Project Location:

Dobson Ranch

PO#:

Lakes Contract

Notes:

1. RELINQUISHED BY:

Signature: *Andrew Maxwell*
 Print Name: Andrew Maxwell
 Date: 3/20/24 Time: 1445

A C & T Sample Receipt:

Total # Containers: 18
 Received Intact: YES NO
 # Bottles Preserved: 2
 Non: 16
 Samples On Ice: YES NO
 Ice Type: WET BLUE
 Sample Receipt Temperature: 23°C

2. RECEIVED BY:

Signature: M
 Print Name: M
 Date: 03/20/24 Time: 1445

3. RELINQUISHED BY:

Signature:
 Print Name:
 Date:
 Time:

4. RECEIVED BY:

Signature:
 Print Name:
 Date:
 Time:



AQUATIC CONSULTING & TESTING, INC.

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P.O. Box 1510
Tempe, Arizona 85281
Phone: (480) 921-8044 • Fax: (480) 921-0049

Lic. No. AZ0003

GOLDEN ALGAE REPORT

Client: Dobson Ranch Association
2719 South Reyes Road
Mesa, AZ 85202

Date Submitted: 03/27/24
Date Reported: 04/03/24

Attn: Fran Pawlak, Executive Director

Project: Monthly Lake 1-8 Monitorin

RESULTS

Client ID: Lake 1
ACT Lab No.: CG02100

Sample Type: Surface Water
Sample Time: 03/27/24 07:00

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>MRL</u>	<u>Result</u>	<u>Unit</u>	<u>Analyst</u>
	<u>Start</u>	<u>End</u>					
Golden Algae	03/27/24	03/27/24	P/C Microscopy	1	Absent	Pres/Abs	FAA

Client ID: Lake 2
ACT Lab No.: CG02101

Sample Type: Surface Water
Sample Time: 03/27/24 07:05

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>MRL</u>	<u>Result</u>	<u>Unit</u>	<u>Analyst</u>
	<u>Start</u>	<u>End</u>					
Golden Algae	03/27/24	03/27/24	P/C Microscopy	1	Absent	Pres/Abs	FAA

Client ID: Lake 3
ACT Lab No.: CG02102

Sample Type: Surface Water
Sample Time: 03/27/24 07:10

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>MRL</u>	<u>Result</u>	<u>Unit</u>	<u>Analyst</u>
	<u>Start</u>	<u>End</u>					
Golden Algae	03/27/24	03/27/24	P/C Microscopy	1	Absent	Pres/Abs	FAA

Client ID: Lake 4
ACT Lab No.: CG02103

Sample Type: Surface Water
Sample Time: 03/27/24 07:15

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>MRL</u>	<u>Result</u>	<u>Unit</u>	<u>Analyst</u>
	<u>Start</u>	<u>End</u>					
Golden Algae	03/27/24	03/27/24	P/C Microscopy	1	Absent	Pres/Abs	FAA

RESULTS

Client ID: Lake 5
ACT Lab No.: CG02104

Sample Type: Surface Water
Sample Time: 03/27/24 07:20

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>MRL</u>	<u>Result</u>	<u>Unit</u>	<u>Analyst</u>
	<u>Start</u>	<u>End</u>					
Golden Algae	03/27/24	03/27/24	P/C Microscopy	1	Absent	Pres/Abs	FAA

Client ID: Lake 6
ACT Lab No.: CG02105

Sample Type: Surface Water
Sample Time: 03/27/24 07:30

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>MRL</u>	<u>Result</u>	<u>Unit</u>	<u>Analyst</u>
	<u>Start</u>	<u>End</u>					
Golden Algae	03/27/24	03/27/24	P/C Microscopy	1	Absent	Pres/Abs	FAA

Client ID: Lake 7
ACT Lab No.: CG02106

Sample Type: Surface Water
Sample Time: 03/27/24 07:40

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>MRL</u>	<u>Result</u>	<u>Unit</u>	<u>Analyst</u>
	<u>Start</u>	<u>End</u>					
Golden Algae	03/27/24	03/27/24	P/C Microscopy	1	Absent	Pres/Abs	FAA

Client ID: Lake 8
ACT Lab No.: CG02107

Sample Type: Surface Water
Sample Time: 03/27/24 07:45

<u>Parameter</u>	<u>Analysis Date</u>		<u>Method No.</u>	<u>MRL</u>	<u>Result</u>	<u>Unit</u>	<u>Analyst</u>
	<u>Start</u>	<u>End</u>					
Golden Algae	03/27/24	03/27/24	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

Aquatic Consulting & Testing, Inc.
 1525 W. University Drive, Suite 106
 Tempe, AZ 85281
 480-921-8044 fax: 480-921-0049
 lab@aquaticconsulting.com

Chain of Custody

Client Project Info:
 Lake 1-8 Monthly Monitoring
 Dobson Ranch Association

AC&T Client Reporting Information:

Dobson Ranch Association
 2719 South Reyes
 Mesa, AZ 85202
 Attn: Fran Paqwlak, Community Manager
 P: 480-831-8314

AC&T Sampler:

Sample Location ID:	Date:	Time:	Matrix:
Lake 1	3/27/24	7:00	SW
Lake 2		7:05	SW
Lake 3		7:10	SW
Lake 4		7:15	SW
Lake 5		7:20	SW
Lake 6		7:30	SW
Lake 7		7:40	SW
Lake 8		7:45	SW

Sample Containers # / Preservation:	None Preserved	N2S2O3 (Sterile)	HNO3 (Nitric)	H2SO4 (Sulfuric)	Lugols	Other:
	1					CG02100
	1					2101
	1					2102
	1					2103
	1					2104
	1					2105
	1					2106
	1					2107

Field Measurements:	pH, Temp, O2	Turb	Golden algae	Algae - ID + #	#Chl/Pheo	E. Coll	Ammonia (NH3)	TKN-Elec	NO3+NO2	P-T
			X							
			X							
			X							
			X							
			X							
			X							
			X							
			X							

Project Location:	A C & T Sample Receipt:	4. RELINQUISHED BY:	3. RELINQUISHED BY:
Dobson Ranch	Total # Containers: 8 YES <input checked="" type="radio"/> NO <input type="radio"/> # Bottles Preserved: 8 Received Intact: <input checked="" type="checkbox"/> Non: 8 Samples On Ice: YES <input checked="" type="radio"/> NO <input type="radio"/> Ice Type: WET BLUE Sample Receipt Temperature: 19°C	Signature: Andrew Murvet Print Name: Andrew Murvet Date: 3/27/24 Time: 1315	Signature: Print Name: Date: Time:
		Signature: 188 Print Name: M) Date: 03/27/24 Time: 1315	Signature: Print Name: Date: Time:

DOBSON RANCH LAKES
Bi-Monthly Lake Inspection

Date: 3/7/24
By: AMG

Lake	Temp	Dis. oxygen	pH	Clarity	Algae	Submerged weeds	Fish behavior	Waterfowl density	Insect activity	Mechanical issues
1	<u>18.0</u> C	<u>9.1</u> mg/L	<u>8.2</u> SU	<u>96</u> SDZ <u>4.1</u> NTU	<input type="checkbox"/> Suspended <input type="checkbox"/> Floating <input type="checkbox"/> Bottom <input type="checkbox"/> Attached	<input type="checkbox"/> Present <input type="checkbox"/> Absent	<input type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>29</u> No/A <u>1.8</u>	<input type="checkbox"/> Normal <input type="checkbox"/> Infestation	Fountain <input type="checkbox"/> Operating <input type="checkbox"/> No service
2	<u>17.9</u> C	<u>8.5</u> mg/L	<u>8.3</u> SU	<u>56</u> SDZ <u>5.1</u> NTU	<input type="checkbox"/> Suspended <input type="checkbox"/> Floating <input type="checkbox"/> Bottom <input type="checkbox"/> Attached	<input type="checkbox"/> Present <input type="checkbox"/> Absent	<input type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>21</u> No/A <u>3.5</u>	<input type="checkbox"/> Normal <input type="checkbox"/> Infestation	Fountain <input type="checkbox"/> Operating <input type="checkbox"/> No service
3	<u>18.0</u> C	<u>8.1</u> mg/L	<u>8.2</u> SU	<u>67</u> SDZ <u>3.6</u> NTU	<input type="checkbox"/> Suspended <input type="checkbox"/> Floating <input type="checkbox"/> Bottom <input type="checkbox"/> Attached	<input type="checkbox"/> Present <input type="checkbox"/> Absent	<input type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>29</u> No/A <u>7.2</u>	<input type="checkbox"/> Normal <input type="checkbox"/> Infestation	Fountain <input type="checkbox"/> Operating <input type="checkbox"/> No service
4	<u>17.8</u> C	<u>8.1</u> mg/L	<u>8.7</u> SU	<u>35</u> SDZ <u>5.4</u> NTU	<input type="checkbox"/> Suspended <input type="checkbox"/> Floating <input type="checkbox"/> Bottom <input type="checkbox"/> Attached	<input type="checkbox"/> Present <input type="checkbox"/> Absent	<input type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>13</u> No/A <u>4.3</u>	<input type="checkbox"/> Normal <input type="checkbox"/> Infestation	Fountain <input type="checkbox"/> Operating <input type="checkbox"/> No service
5	<u>17.1</u> C	<u>7.1</u> mg/L	<u>8.1</u> SU	SDZ <u>6.6</u> NTU	<input type="checkbox"/> Suspended <input type="checkbox"/> Floating <input type="checkbox"/> Bottom <input type="checkbox"/> Attached	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Absent	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>24</u> No/A <u>5.2</u>	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	
6	<u>17.2</u> C	<u>9.6</u> mg/L	<u>8.4</u> SU	SDZ <u>15.1</u> NTU	<input type="checkbox"/> Suspended <input type="checkbox"/> Floating <input type="checkbox"/> Bottom <input type="checkbox"/> Attached	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Absent	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>57</u> No/A <u>9.5</u>	<input type="checkbox"/> Normal <input type="checkbox"/> Infestation	
7	<u>18.4</u> C	<u>8.7</u> mg/L	<u>8.4</u> SU	SDZ <u>1.5</u> NTU	<input type="checkbox"/> Suspended <input checked="" type="checkbox"/> Floating <input type="checkbox"/> Bottom <input type="checkbox"/> Attached	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Absent	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>29</u> No/A <u><1</u>	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	Fountain <input checked="" type="checkbox"/> Operating <input type="checkbox"/> No service
8	<u>17.6</u> C	<u>8.2</u> mg/L	<u>8.5</u> SU	SDZ <u>3.8</u> NTU	<input type="checkbox"/> Suspended <input type="checkbox"/> Floating <input type="checkbox"/> Bottom <input type="checkbox"/> Attached	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Absent	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>12</u> No/A <u>4.8</u>	<input type="checkbox"/> Normal <input type="checkbox"/> Infestation	Aerators <input type="checkbox"/> Operating <input checked="" type="checkbox"/> No service

Notes and recommendations for treatment/operation:

8) Aerators off 7) light microcystis

DOBSON RANCH LAKES
Bi-Monthly Lake Inspection

Date: 3/20/24
 By: AM

Lake	Temp	Dis. oxygen	pH	Clarity	Algae	Submerged weeds	Fish behavior	Waterfowl density	Insect activity	Mechanical issues
1	17.8 c	9.4 mg/L	8.1 su	SDz 4.0 NTU	<input type="checkbox"/> Suspended <input type="checkbox"/> Floating <input type="checkbox"/> Bottom <input type="checkbox"/> Attached	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Absent	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>25</u> No/A <u>1.6</u>	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	Fountain <input checked="" type="checkbox"/> Operating <input type="checkbox"/> No service
2	17.4 c	9.0 mg/L	8.1 su	SDz 5.0 NTU	<input type="checkbox"/> Suspended <input type="checkbox"/> Floating <input type="checkbox"/> Bottom <input type="checkbox"/> Attached	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Absent	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>11</u> No/A <u>1.8</u>	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	Fountain <input checked="" type="checkbox"/> Operating <input type="checkbox"/> No service
3	17.7 c	9.1 mg/L	8.1 su	SDz 4.4 NTU	<input type="checkbox"/> Suspended <input type="checkbox"/> Floating <input type="checkbox"/> Bottom <input type="checkbox"/> Attached	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Absent	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>20</u> No/A <u>5.0</u>	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	Fountain <input checked="" type="checkbox"/> Operating <input type="checkbox"/> No service
4	17.6 c	8.0 mg/L	8.1 su	SDz 11.2 NTU	<input type="checkbox"/> Suspended <input type="checkbox"/> Floating <input type="checkbox"/> Bottom <input type="checkbox"/> Attached	<input checked="" type="checkbox"/> Present <input type="checkbox"/> Absent	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>9</u> No/A <u>3.0</u>	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	Fountain <input checked="" type="checkbox"/> Operating <input type="checkbox"/> No service
5	17.7 c	8.3 mg/L	8.0 su	SDz 7.3 NTU	<input type="checkbox"/> Suspended <input type="checkbox"/> Floating <input type="checkbox"/> Bottom <input type="checkbox"/> Attached	<input checked="" type="checkbox"/> Present <input type="checkbox"/> Absent	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>19</u> No/A <u>4.7</u>	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	
6	17.5 c	9.6 mg/L	8.2 su	SDz 10.3 NTU	<input type="checkbox"/> Suspended <input type="checkbox"/> Floating <input type="checkbox"/> Bottom <input type="checkbox"/> Attached	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Absent	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>43</u> No/A <u>7.2</u>	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	
7	17.9 c	10.2 mg/L	8.5 su	SDz 1.0 NTU	<input type="checkbox"/> Suspended <input type="checkbox"/> Floating <input type="checkbox"/> Bottom <input type="checkbox"/> Attached	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Absent	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>37</u> No/A <u>1.1</u>	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	Fountain <input checked="" type="checkbox"/> Operating <input type="checkbox"/> No service
8	17.5 c	6.8 mg/L	8.2 su	SDz 5.0 NTU	<input type="checkbox"/> Suspended <input type="checkbox"/> Floating <input type="checkbox"/> Bottom <input type="checkbox"/> Attached	<input type="checkbox"/> Present <input checked="" type="checkbox"/> Absent	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Distress <input type="checkbox"/> Dead	No. <u>17</u> No/A <u>6.8</u>	<input checked="" type="checkbox"/> Normal <input type="checkbox"/> Infestation	Aerators <input type="checkbox"/> Operating <input checked="" type="checkbox"/> No service

Notes and recommendations for treatment/operation:

0) No Aerators Low DO