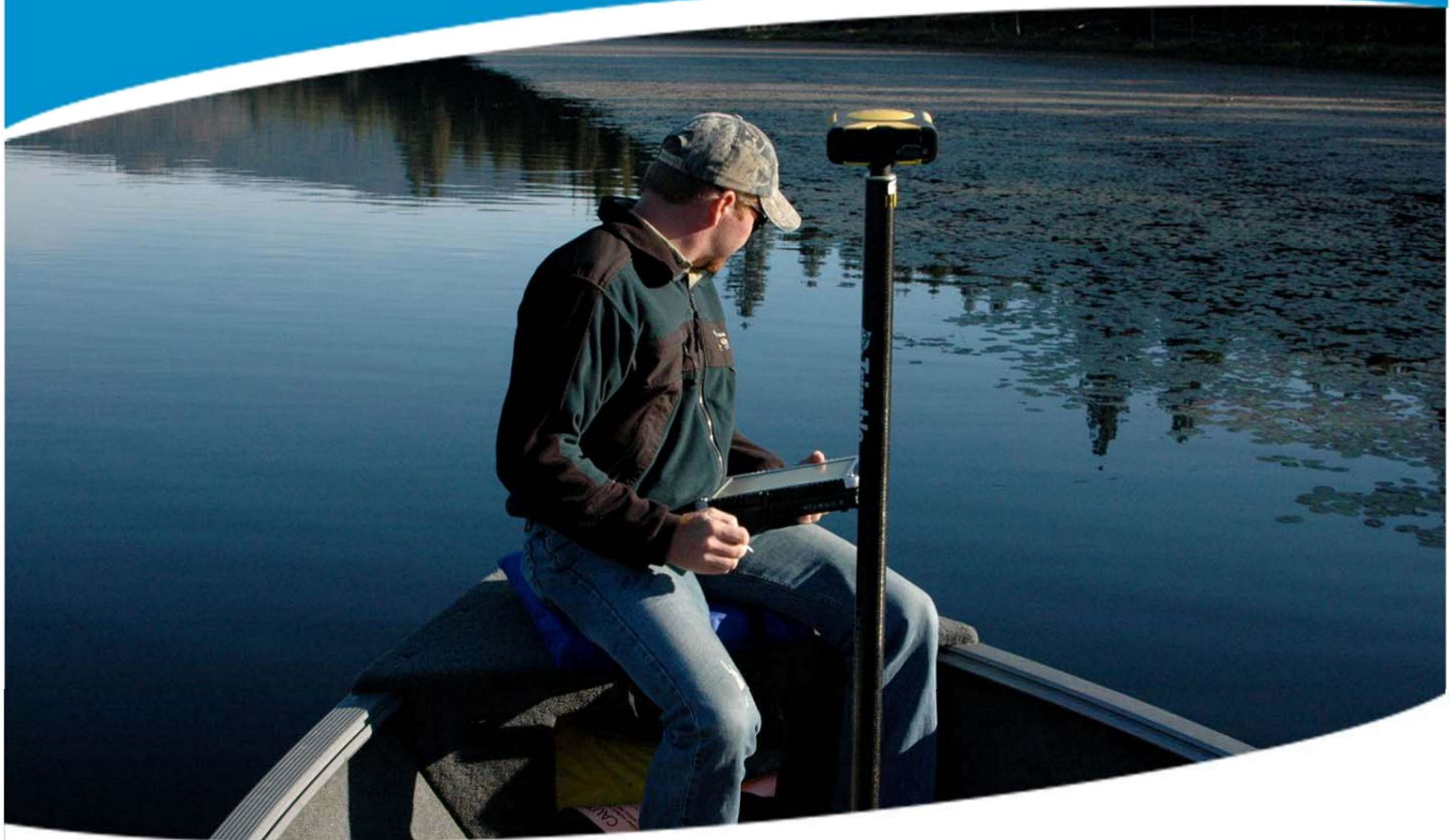


# Spring Valley Lake Spring 2018 Baseline Data Collection



Prepared for  
Spring Valley Lake Association

**AquaTechnex,**  
LLC

[www.aquatechnex.com](http://www.aquatechnex.com)

Headquarters  
Bellingham, WA 98228  
360-527-1271

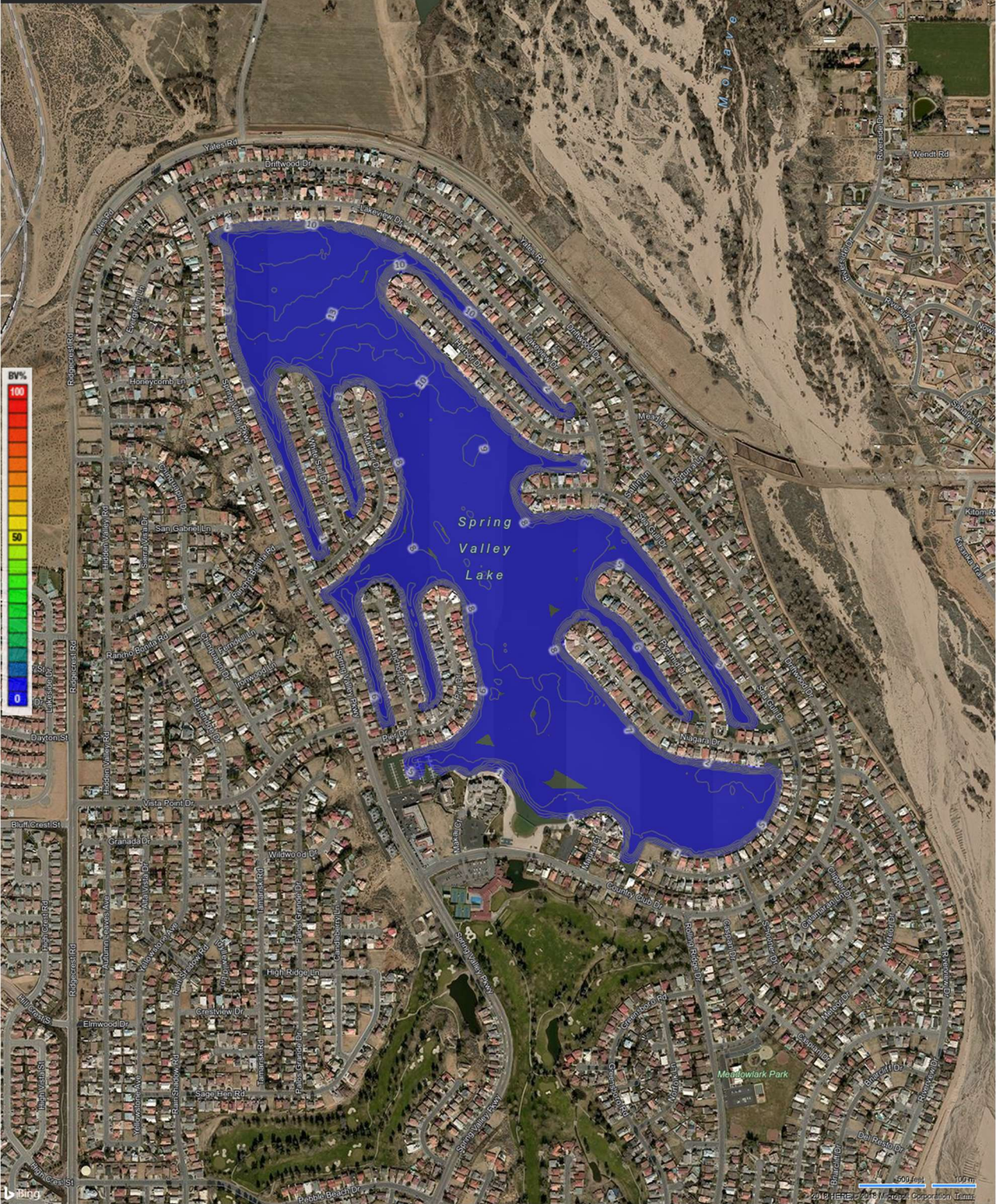
Regional Office  
Santa Ana, CA 92705  
760-636-8267

## **Introduction**

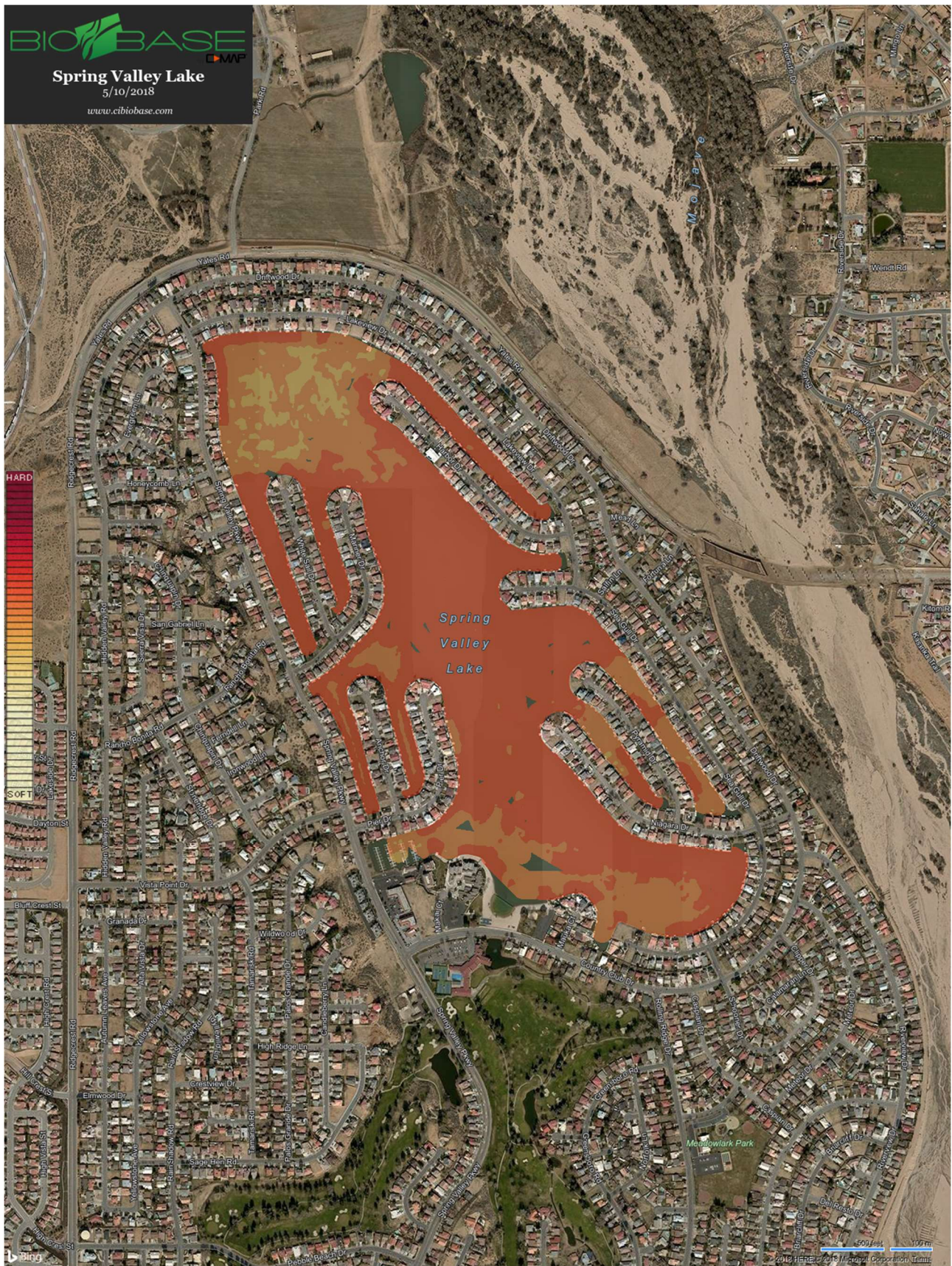
Spring Valley Lake Association is in the seventh year of working under a water clarity improvement program and has requested Aquatechnex to perform a number of monitoring tasks to support this work. In continuation of previous mapping projects performed at Spring Valley Lake, a hydroacoustic mapping event was performed on May 10th, 2018. In addition, two water samples were analyzed for a number of water quality parameters and algae species identification. This report will summarize these findings.

## **Hydro-acoustic Mapping**

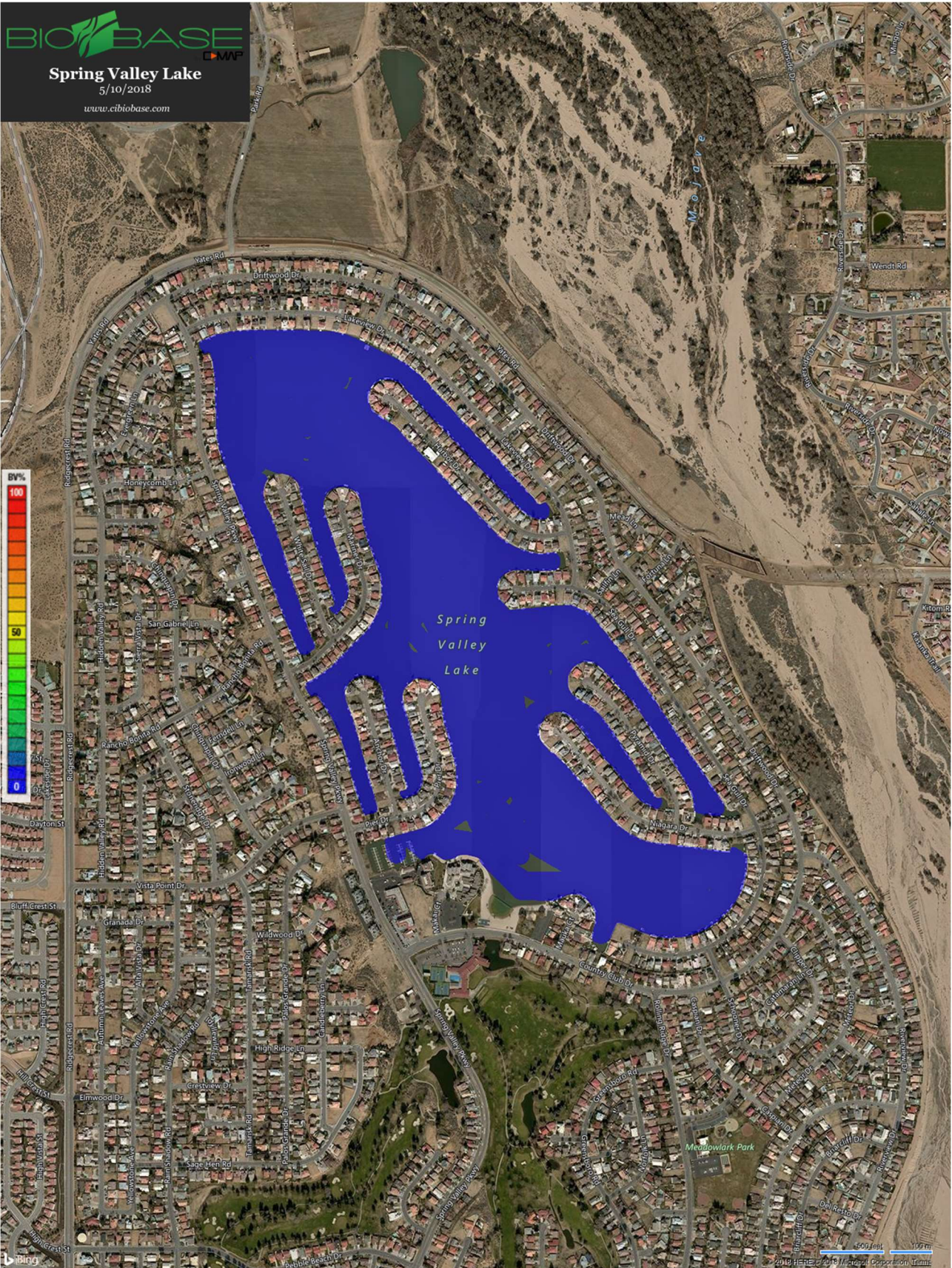
AquaTechnex mobilized a hydro-acoustic mapping vessel to the lake on May 10th, 2018 to collect data on the potential presence and distribution of aquatic plant growth in the lake. In the previous fall mapping event, very minimal amounts of aquatic weeds were detected. The mapping vessel traveled across the lake at regular intervals providing complete coverage of the water body. The sensing equipment collects a GPS point linked to hydro-acoustic soundings and this data is processed using algorithms to map bathymetry, aquatic plant bio-volume and sediment hardness. The resulting maps are presented in the following pages.



This image shows the current bathymetry of Spring Valley Lake. Almost no change was detected since the previous mapping last year.



This map shows the current bottom hardness present in the lake. The legend bar on the right shows the graduated scale.



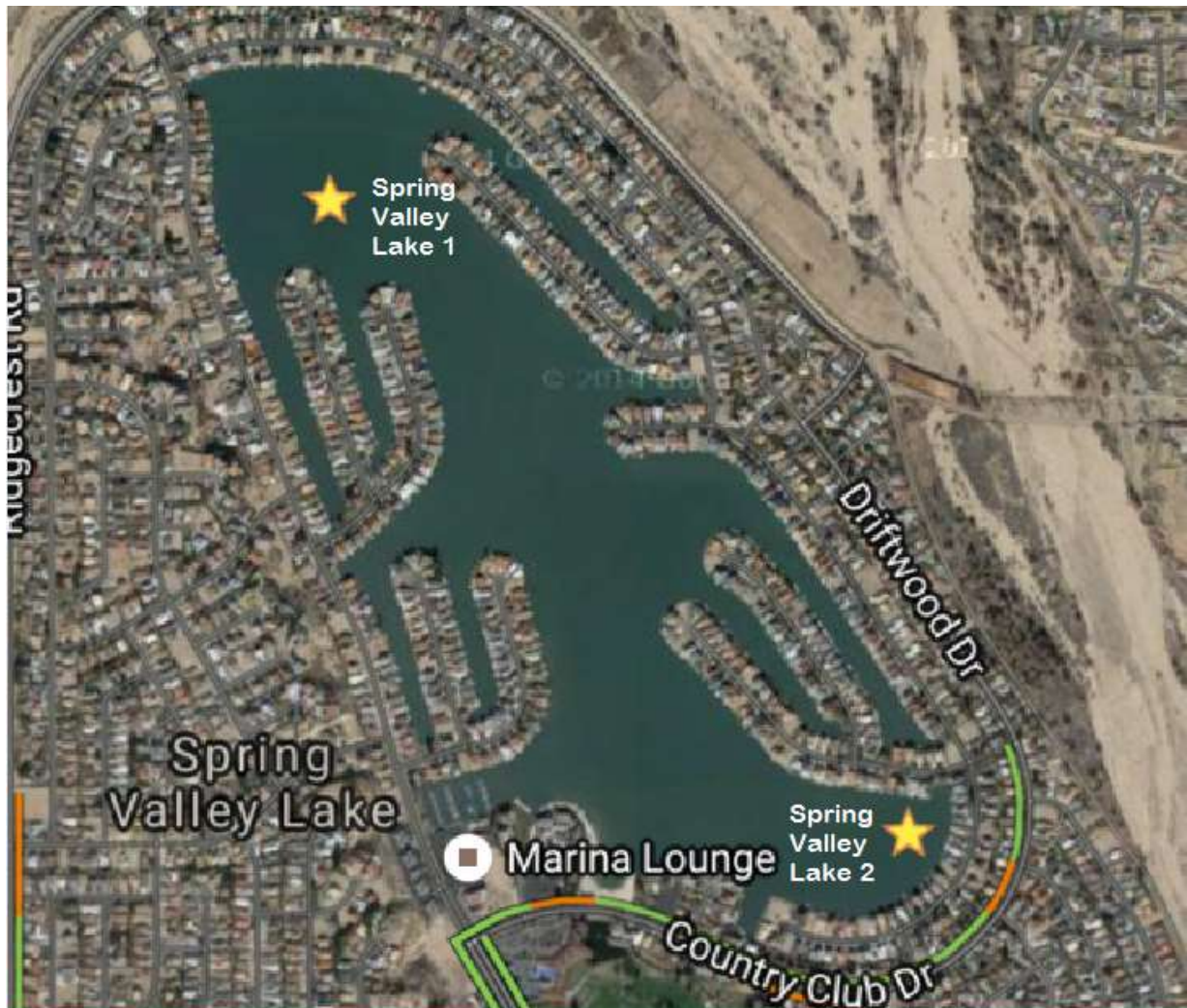
At this point in the spring of 2018, the aquatic plant coverage in Spring Valley Lake is almost none detected. Any plant growth that was detected was in the back of fingers in very shallow water. The past few years have shown this type of sparse growth pattern. This pattern is not unusual with Spring Valley Lake. Water clarity can limit light penetration into the lake bottom and plants have a hard time establishing.

## Water Quality Data

Two water samples were collected around 1PM on 5/10/18. Samples were collected in the North and South portions of the lake indicated on the map below. The samples were analyzed for a variety of water quality data and algae identification. Below is a summarization of the data.

The water samples taken show large amounts of planktonic Diatoms. The cell counts were 122,500 and 230,00 cells/mL. In both samples, the total and free reactive phosphorus numbers were in the low to moderate range, around 15 ug/L. Nitrogen levels are low. Chlorophyll levels went from less than 10 ug/L last year to 68 ug/L this year. Spring valley lake exhibits a satisfactory level of clarity, which is measured by turbidity.

An Algae treatment has been recommended to knock down the diatom bloom. Aquatechnex has submitted a quote to spray the lake with either Captain XTR or Nautique. Both are copper based, Nautique is less toxic to the trout in the lake.



Above: map showing sample locations and sample name

