

## About Ana-Lab

Ana-Lab Corporation is an environmental testing firm founded in 1965 by Dr. C. H. Whiteside, Texas Aggie Class of 1951 and dedicated to providing its clients with "superior, innovative, and cost effective service." The company consists of nine Regional Service Centers, but all testing occurs at Ana-Lab headquarters in Kilgore, Texas. Each week, hundreds of environmental samples arrive from clients, most of whom reside in Texas. Samples that the scientists and lab technicians analyze range from drinking water to waste water, soil to crude oil, and any waste products companies may need to have tested to determine if they can be safely disposed. Ana-Lab's facilities are capable of conducting a multitude of tests on these samples, including tests as simple as pH and conductivity, to finding the biological oxygen demand (BOD), verifying ignitability, and determining if a sample may become harmful as it degrades even if it is safe now. Ana-Lab also provides tests done on site, as well as having their own sampling department, and providing expert witness services.



Ana-Lab Headquarters

## Internship Objectives

### •Learn about career paths in environmental science

•Ana-lab employs over 100 people in a variety of capacities, including lab technicians, scientists who collect and test samples in the field, sales representatives, and scientists who serve as expert witnesses in civil and criminal court proceedings.

### •Acquire knowledge of the requirements associated with collecting samples

•When a client brings in a sample, it is immediately logged in to the computer and given a sample number and client code. A few important pieces of information are collected from the client, including the date and location the sample was collected, and whether it is water, soil, or organic.

### •Increase my understanding of EPA regulations concerning sample analysis

•When the date the sample is collected is entered in to the computer at log in, the system begins to count down the number of days until the sample will go "out of holding time," or expire. The EPA established these holding times to ensure that test results will be accurate. Holding times vary a great deal depending on the sensitivity of the test and the nature of the sample. For example, the EPA-recommended holding time for measuring the pH of waste water samples is fifteen minutes from collection time. Biological oxygen demand must be tested within 48 hours of collection. Others can be stored in a cooler for days and the test results will be accurate and unchanging.

### •Familiarize myself with the tests carried out at Ana-Lab

•Lab testing is divided up into multiple departments, and each department is responsible for numerous tests. Technicians run tests for suspended solids in liquid samples; whether or not a sample will combust under pressure; the point at which a sample will ignite; and tests for myriad metals or the amount of sulfur in crude oil samples. Tests are conducted that seek results as varied as the specific gravity of organics, whether or not a sample will turn to ash, the density of barite, the presence of microbes, and so many more that I could not begin to comprehend them all in my short time there.



## My Experience



The tests I learned the most about and conducted on my own included measuring and cataloguing the pH of liquids and solids, the conductivity of liquids and solids, and the sulfur content of crude oil. I interned with Ana-Lab for only a short period of time, and these few tests were the least complicated and the easiest to learn quickly.

Ph and conductivity tests are requested for a large percentage of the samples clients send in because they give a fair overview of whether or not a sample falls within specified ranges or requirements. For example, if a client suspected high levels of dissolved minerals in the public-use water at a potential new business location, conductivity tests would make that problem apparent, even though it would not tell us what the minerals are or whether they are harmful. Likewise, high levels of various chemicals would cause pH readings to be too high or too low, and further testing could uncover the causes. While I didn't learn enough about many of the other tests to carry them out myself, I did learn a great deal about the importance of facilities like Ana-Lab. Results from a number of the tests they conduct directly effect individuals, businesses, and government entities at the local, state, and even national level. Finally, it was both illuminating and rewarding to see the concepts I learned at Texas A&M put in to practice in the real world.



## Ana-Lab and My Career Goals

My career goals include working for an environmental consulting firm. While working in a lab is not at all what I hope to be doing after graduation, I learned much during my internship that I believe will be beneficial in the future. One thing I learned is that the EPA recommends that certain tests be done in the field. Knowing which tests are best sent to a lab for analysis, and which I can run on a job site will give more accurate testing results. I also acquired helpful information regarding how to collect samples so that they are most useful to the technicians dealing with the samples. For example, when sending in soil samples, it is best to find a representative sample and to mix the sample so it is as homogenous as possible. Since each technician may only be using a small quantity of sample for his/her specific test, if the sample is heterogenous, the portion they use may not be accurately representative. It is also useful to send in a number of samples if the area of concern holds multiple representative samples.

Ultimately, one of the most important things I learned during this internship in terms of my long-term career goals is that I do not want to work in a lab. The diverse and highly specialized services that Ana-Lab technicians and facilities provide are very important, but I much prefer working in the field. Environmental consulting appeals more to me because working in a lab typically isolated me from engaging regularly with the people, businesses, and agencies with whom I so look forward to interacting on a personal and professional basis.

Wherever I end up pursuing my professional aspirations, my highest hope for my career is to improve the quality of life for people in my community, region, nation, and around the world by bettering both our natural and engineered environments. Interning at Ana-Lab gave me valuable knowledge and experience to help make such goals a reality.



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