

Alpha Analytical Laboratories improves productivity and quality management with Promium Element LIMS.

The Challenge

Steady growth and an increase in regulations were taking their toll on Alpha Analytical Laboratories and the lab's information infrastructure no longer met their needs. It became difficult to effectively track samples and instrument data was manually entered—taking resources away from other activities.

The Solution

Alpha Analytical selected Element LIMS from Promium as the backbone of the lab's information infrastructure. The implementation of Element LIMS streamlined and automated the sample management process as well as strengthened procedures for quality control and reporting.

The Need for a New LIMS

Alpha Analytical Laboratories, Inc. located in Ukiah, California, is an ELAP-compliant analytical laboratory specializing in environmental and water testing since 1975. Clients include water companies, municipalities, the Environmental Protection Agency (EPA), other government agencies, and engineering firms. Specializing in analyzing drinking water, wastewater and characterizing matrices for hazardous waste, the lab's library of certified methodology is offered through Wet Chemistry, Inorganic, Organic, Metals and Fish Bioassay divisions. Alpha Analytical employs over fifty analysts, scientists, and other laboratory staff and has two locations encompassing over 13,000 square feet of processing space.

For well over three decades, lab owner and director Bruce Gove and his partner, Rob Phillips were successful in staying current with regulatory requirements and incorporating industry standards in the operations of Alpha Analytical. But eventually the growth in the number of customers and the volume of analyses from those customers began to put a strain on the lab. Compounding the issue was an increase in the number and complexity of regulations from Federal, State and Municipal agencies.

The lab employed a rudimentary laboratory information management system (LIMS) but it was exceedingly difficult to perform basic management functions. As Gove noted, "We could no longer efficiently track samples all the way through the lab and it was very difficult to really know what we physically had in-house." Manual activities also put pressure on scientists and the QC group as additional hours were spent checking and correcting data entry. Gove had decided it was time to implement a new LIMS.

Finding Just the Right Solution

Having seen several other LIMS over the years, Gove knew what he wanted. "We wanted something that would be simple to use and could help manage our samples from the beginning of the process to the final report." Alpha Analytical also considered developing a system internally but the team quickly concluded that the effort would be expensive, time consuming and would not produce a product they could support.

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— Eric Wendt, Chief Science Officer

Element LIMS from Promium was selected as the LIMS for Alpha and was implemented over the course of several weeks. The management team identified four key criteria to determine success and has been very satisfied with the results. Their goal was to implement a system that was: 1) easy to use, 2) affordable, 3) would strengthen quality management, and most importantly 4) delivered improvements in productivity.

- Element LIMS was seen as intuitive to use, and organized with functionality that closely matched the specific needs of the lab. "You can tell that Element LIMS was developed by people who understand the laboratory," Gove noted. "Sample management, quality control, batching, and reporting all matched our needs."
- The system was also considered very affordable. Like many labs, Alpha is a medium sized lab with a medium sized budget. The management team wanted the most value for their money and with Promium, did not incur an overwhelming expense—or create an expensive multi-year customization project. The total-cost-of-ownership has proven positive. The need for training of new employees has been minimal and there has been no requirement to significantly modify the product beyond the upgrades provided through the annual maintenance agreement.
- Element LIMS offered increased quality control discipline by eliminating manual entry of instrument data, and physically requiring lab supervisors to review work before advancing it to the next step. In addition, the internal audit trail added oversight and troubleshooting capability by tracking changes to analytical data and non-analytical records. Cheryl Watson, QA/QC Officer for Alpha, agrees. "The audit trail is very helpful in figuring out where problems are and fixing them—great for QC and troubleshooting."
- There were several features that created opportunities for increased productivity with Element LIMS. As the company has grown, this has been critical to meeting customer needs and maintaining regulatory compliance. "We've grown a lot and the LIMS has been a big help," says Watson. Since Element LIMS was implemented, the lab has a few more analysts and a lot more instruments. "We never would have been able to keep up if not for Element LIMS," adds Watson. The streamlined and automated sample management process has reduced manual efforts and the batching process is used to automatically set up the QC requirements based on the lab's specific criteria. Sample duplicates, sample spikes and method blanks are identified by the system. "It is very well integrated—from sample receipt to final report generation."

Element LIMS has become indispensable to laboratory operations. Lab owner Gove concludes, "I can't imagine where we'd be without Element LIMS." He and Watson noted several features and functions that have made the difference to the laboratory.

- **Sample Management:** Sample management and tracking represent one of the core functionalities of Element LIMS. Streamlined workflow and automated processes such as auto-conversion from Bid to Project and integrated work order launch, reduce overhead activities. Built-in hold time and scheduling alerts keep the lab running smoothly and help highlight bottlenecks. "We generate a convenient report that identifies unanalyzed samples in each area of the lab. This is also useful when we get a new set of samples in the lab that may have a shorter processing time or higher priority," noted Watson.
- **Flexible Reporting:** Standard and customized reporting enables the management team and lab staff to more effectively manage the workload and identify issues quickly. The reporting engine is easy to use and enables custom reports to manage operations as well as deliver analytical reports to customers that meet their unique requirements. "Element LIMS is almost unlimited in terms of the information you can get," says Watson. The team even uses reports to monitor work that is outsourced to help make decisions on workload balancing.
- **Custom and pre-loaded EDDs:** Element LIMS provides a large library of standard EDDs, and there is a powerful tool to help create custom EDDs. As Watson points out, "With new demands from clients and increasing complexity of regulations for government agencies, there is more and more data that needs to be managed and reported. Element LIMS helps us comply with the government regulations and meet customer needs for reporting."
- **Instrument Integration:** The DataTool feature of Element enables labs to easily integrate raw instrument data into analysis and reports. As Alpha Analytical has grown in size and output, the number of instruments increased as well. "The interface between instruments and Element DataTool is great and it has been really easy to get our instruments to talk to the LIMS," noted QA/QC Officer Watson. "We used to have to hand enter all the data and it was getting very cumbersome as the lab grew. There was constantly an opportunity for data entry errors and consequently we had to have more reviews to catch those errors."

Alpha Analytical has come to see Promium as a true business partner. "Promium has been excellent to work with—we could not have grown the laboratory without them," concludes lab owner Gove.