



## Silicon Valley Clean Water cites ATL's experience and feature-set as reasons for choosing TITAN®.

TITAN allowed SVCW to eliminate printed worksheets and implement a LIMS that meets California's new NELAC requirements.

### Company Profile

Silicon Valley Clean Water (SVCW) is a Joint Powers Authority (JPA) that provides wastewater treatment services to more than 200,000 people in the San Francisco Bay Area that includes Belmont, Redwood City, San Carlos, and West Bay Sanitary District, CA. The wastewater plant treats 15 million gallons of water daily (MGD), has a design flow of 29 MGD, and a peak wet weather design flow of 71 MGD. During the six drier months of the year, 1 - 2 MGD of treated and disinfected water is directed back to the community as recycled water for landscape irrigation, commercial, and industrial applications.



Laboratory Services is a Division of SVCW occupying a 6,500 sq. ft. state-of-the-art laboratory that was built in 1991 and is located at the wastewater treatment plant. The laboratory is staffed by a Laboratory Director and six laboratory analysts. The lab's primary mission is to provide vital chemical and microbiological analyses to the wastewater treatment plant 365 days a year. Samples are collected and analyzed throughout the various stages of the treatment process to give plant operators prompt feedback on wastewater parameters. The laboratory performs a variety of chemical and microbiological tests with >30,000 reportable results annually.

The laboratory also analyzes wastewater discharge from permitted industries in the SVCW territory. Sampling and inspections of industrial sites are performed by another SVCW division and the laboratory analyzes and reports both internally and externally generated data. The laboratory is certified by California's Environmental Laboratory Accreditation Program (ELAP) under the State Water Resources Control Board.

### Their Challenge

For many years the laboratory staff used printed worksheets and Microsoft Excel to produce data summaries. Using paper data sheets meant that data was all handwritten. Bench sheets were also completed manually and then hand-keyed into SVCW's plant operations database, which served as a data warehouse for the lab. The reliance on manual documentation methods opened up the door to data transcription errors and duplication of effort that resulted in data quality issues and longer turnaround times. The SVCW laboratory has invested in a number of scientific instruments to conduct their testing including an ICP spectrometer, TOC analyzer, UV-Visible Spectrophotometer, and an Ion Chromatograph (IC). However, the laboratory did not have the instruments integrated into any automation solution. This meant that the testing data generated by the instrument needed to be manually transcribed onto pre-printed worksheets, which was time consuming and error prone. Being able to generate timely and accurate reporting for internal analysis as well as to satisfy external compliance requirements was also a challenge.



**Silicon Valley Clean Water**  
Redwood City, California  
[www.svcw.org](http://www.svcw.org)

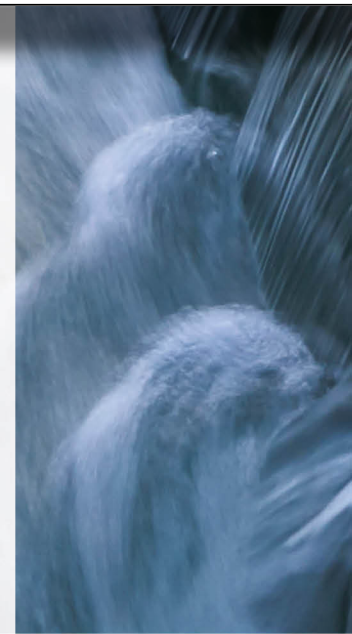
SVCW is a water resource recovery facility meeting the highest technical, environmental, and safety standards in California. Built in 1980, the SVCW facility enables wastewater to be recycled using state-of-the-art biological treatment. Clean water is available for reuse and the fragile ecosystem of the San Francisco Bay is protected for current and future generations to enjoy.



*ATL's TITAN® LIMS is our stepping stone to NELAC accreditation with audit control and built-in Root Cause Analysis. TITAN Report Designer gives me unlimited access and review of data, QC, schedules, maintenance, and more.*



• Bob Wandro, Ph.D., Laboratory Director



There were no standard internal reports such as production, worklist and turnaround time. Backlog was determined by looking in the refrigerators for sample containers. Reports to customers were generated by entering the data with a pen on a printed template and then scanning and emailing it to the client. And regulatory reporting was accomplished by compiling results in a worksheet and then retyping it onto a form or entering into a website. Finally, because the majority of data was kept on paper, this meant that historical records were stored in file cabinets. Although the records were organized in some level of chronological order, it still resulted in a very time-consuming effort when trying to find data for an audit and not the best utilization of the talented laboratory resources.

## Our Solution

SVCW's Laboratory Director, Bob Wandro, Ph.D., had previously worked in a much larger environmental laboratory which had invested in a Laboratory Information Management System (LIMS). He found LIMS was a powerful example of laboratory technology, which played a critical role in automating many tasks and improving the lab's productivity. Bob felt that a LIMS at SVCW would solve many of the issues that the team had experienced. His primary goal was to implement a LIMS that would interface with their existing data warehouse, replace an application used for creating control charts, and provide a wealth of new capabilities including bench automation, instrument integration, result validation, statistical analysis of data, report creation/management, and the elimination of paper files wherever possible. In addition, the data was all securely held in a SQL Database with a complete audit trail, date and time stamps, the name of the person that made the change, the original result, and date and time stamps of the new result along with a reason for the change to the approved result.

### Example of SVCW Report Prior to ATL TITAN® LIMS

Report of Analytical Results: 43-012  
Page 1 of 3

SBSA (ELAP Certificate # 1688)  
1400 Radio Road  
Redwood City, CA 94065  
Report Date: AUG 23 2011

Sample			BOD				TSS			
			Standard Methods, 20th Edition 5210 B				Standard Methods, 20th Edition 2540 D			
Location	Date	Type	Result in mg/L	Initials	Analysis date	Analysis time	Result in mg/L	Initials	Analysis date	Analysis time
Influent	AUG 23 2011	Composite	310 <sup>RP</sup>	HC	AUG 23 2011	1400	300 <sup>RP</sup>	EP	AUG 23 2011	0959
Primary	AUG 23 2011	Composite	160 <sup>RP</sup>	HC	AUG 23 2011	1400				
Effluent	AUG 23 2011	Composite	25 <sup>RP</sup>	HC	AUG 23 2011	1400	13 <sup>RP</sup>	EP	AUG 23 2011	0959
Influent	AUG 23 2011	Composite	330 <sup>RP</sup>	HC	AUG 24 2011	1400	200 <sup>RP</sup>	EP	AUG 23 2011	0959
Primary	AUG 23 2011	Composite	170 <sup>RP</sup>	HC	AUG 24 2011	1400				
Effluent	AUG 23 2011	Composite	25 <sup>RP</sup>	HC	AUG 24 2011	1400	12 <sup>RP</sup>	EP	AUG 23 2011	0959

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**E-MAILED** 8/23/11

*Bob Wandro* 8-23-2011  
Bob Wandro, Laboratory Director  
*Bob Wandro* 8-23-2011

\\atlab\server\server\BSP\Lab\MSD\Hwy67\2011\Report\43-012.rpt - 10/23/2011 10:58:30 AM

In 2011, SVCW went through a comprehensive RFP selection process and selected ATL TITAN LIMS. In making their decision, SVCW chose TITAN for the following reasons:

- TITAN's intuitive user interface promotes ease of use with its ribbon- based menu and flexible configurability.
- User-definable dashboards provide real-time visual alerts to potential issues.
- TITAN provides a great deal of granularity in terms of what a user can see and do in the LIMS based on roles and privileges in the system.
- TITAN provides the ability to create comprehensive reports on virtually any aspect of the lab's operation.
- TITAN's ability to track QC, especially the ability to view data trends for a variety of factors over time, is very valuable to the lab.
- TITAN's built-in 'Graphic' Calendars. Separate visual calendars for Sample Scheduling, Corrective Action/Preventative Action, Instrument Maintenance, and other tasks.
- TITAN allows for integration with SVCW's instruments, eliminating the manual data entry and related data quality issues, elimination of transcription errors, high data quality, improved resource utilization and accelerated turnaround times.
- TITAN provides the lab with a powerful data management solution that allows SVCW to respond promptly to internal/external data requests, regulatory audit queries, and to generate whatever reporting is needed.
- TITAN has a number of features and functionality that SVCW hopes to use in the future. This includes bulk sample login imports, method permission tied to method training, and the use of tablets at the bench and at sampling sites. SVCW is also looking to leverage TITAN for workflows to confirm logic-checking of sample collection-receiving-analysis date/times and to generate instrument maintenance status reports.

**Example of SVCW Report Created in ATL TITAN LIMS**

Sample No.	Method	Units	Min	Max	Result	Unit Analyzed	Comments	Approval	Status	Analyzed/Revised
<b>Results</b>										
<b>Site: Effluent</b>										
Sample No: WC-000004-01 Collection Date: 09/24/09 07:30 AM										
Retention: 09/24/09 09:00 AM Collection Date: 09/24/09 07:30 AM										
Analyte	Method	Units	Min	Max	Result	Unit Analyzed	Comments	Approval	Status	Analyzed/Revised
Ammonia	NH3	mg/L	0	100	0.0	ML		09/24/09	Approved	09/24/09 09:00
Bio Tox	BIO	mg/L	0	100	0	ML		09/24/09	Approved	09/24/09 09:00
Ammonia-Nitrate	NH4	mg/L	0	10	0.0	ML		09/24/09	Approved	09/24/09 09:00
Ammonia-Nitrite	NH2	mg/L	0	10	0.0	ML		09/24/09	Approved	09/24/09 09:00
NO3-N	NH3	mg/L	0	10	0.0	ML		09/24/09	Approved	09/24/09 09:00
<b>Site: Primary</b>										
Sample No: WC-000004-02 Collection Date: 09/24/09 07:30 AM										
Retention: 09/24/09 09:00 AM Collection Date: 09/24/09 07:30 AM										
Analyte	Method	Units	Min	Max	Result	Unit Analyzed	Comments	Approval	Status	Analyzed/Revised
NO3-N	NH3	mg/L	0	10	0.0	ML		09/24/09	Approved	09/24/09 09:00
<b>Site: Effluent</b>										
Sample No: WC-000004-03 Collection Date: 09/24/09 07:30 AM										
Retention: 09/24/09 09:00 AM Collection Date: 09/24/09 07:30 AM										
Analyte	Method	Units	Min	Max	Result	Unit Analyzed	Comments	Approval	Status	Analyzed/Revised
Ammonia	NH3	mg/L	0	100	0.0	ML		09/24/09	Approved	09/24/09 09:00
NO3-N	NH3	mg/L	0	10	0.0	ML		09/24/09	Approved	09/24/09 09:00
<b>Site: Effluent</b>										
Sample No: WC-000004-04 Collection Date: 09/24/09 07:30 AM										
Retention: 09/24/09 09:00 AM Collection Date: 09/24/09 07:30 AM										
Analyte	Method	Units	Min	Max	Result	Unit Analyzed	Comments	Approval	Status	Analyzed/Revised
Ammonia	NH3	mg/L	0	100	0.0	ML		09/24/09	Approved	09/24/09 09:00
NO3-N	NH3	mg/L	0	10	0.0	ML		09/24/09	Approved	09/24/09 09:00
<b>Site: Digester</b>										
Sample No: WC-000004-05 Collection Date: 09/24/09 07:30 AM										
Retention: 09/24/09 09:00 AM Collection Date: 09/24/09 07:30 AM										
Analyte	Method	Units	Min	Max	Result	Unit Analyzed	Comments	Approval	Status	Analyzed/Revised
Ammonia	NH3	mg/L	0	100	0.0	ML		09/24/09	Approved	09/24/09 09:00
NO3-N	NH3	mg/L	0	10	0.0	ML		09/24/09	Approved	09/24/09 09:00

In selecting TITAN, SVCW also evaluated ATL and their capabilities as a LIMS provider. ATL has an established reputation in the LIMS industry, especially in the water/wastewater sector. ATL also has a proven LIMS implementation process that is based on project management fundamentals encompassing the installation, configuration, training and support of TITAN. SVCW was convinced that ATL's focus on quality control, being the first independent LIMS firm to become ISO 9001 certified, would ensure a successful LIMS deployment. SVCW has been using TITAN for several years now, is very happy with it, and looks forward to taking even greater advantage of its powerful capabilities as the laboratory continues to become further automated.



This is a critical time for water and wastewater laboratories in California due to the State's transition from a less stringent certification process (ELAP) to widely accepted and rigorous TNI (The NELAC Institute) Program. SVCW's compliance requirements include providing discharge monitoring results to the California Integrated Water Quality System (CIWQS) and by leveraging the CIWQS Export feature in TITAN the electronic reporting is significantly simplified. TITAN is ready with built-in features such as Corrective Action/Preventative Action (including built-in email reminders) and displays that lead staff quickly through the root cause analysis. Audit tracking is extensive and configurable with 360 items. A single item such as 'Samples' has 70 properties and each property has an 'on/off' and 'Requires Reason if changed' checkbox. SVCW sees TITAN as playing a critical role in helping manage the complexities of wastewater management and regulatory compliance in California today as well as into the future as the regulatory landscape continues to evolve.

### Silicon Valley Clean Water - Lab Services Team



Accelerated Technology Laboratories (ATL), headquartered in West End, NC, provides laboratory automation solutions to a variety of industries from analytical, environmental, food & beverage, water and wastewater, chemical, government, public health, clinical testing and manufacturing. ATL's LIMS products are installed in over 575 laboratories around the world, and supported by a steadfast commitment to excellence in product quality, support, and training. ATL is one of the few LIMS providers that is ISO 9001:2015 certified. For additional information, visit: [www.atlab.com](http://www.atlab.com).