
BOOK REVIEW

Successful Management of the Analytical Laboratory

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REFERENCE: Milner, O. I., *Successful Management of the Analytical Laboratory*, Lewis Publishers, Chelsea, MI 48118, CRC Press, Boca Raton, FL 33431, 1992, ISBN: 0-87371-438-5, 162 pp.

This book successfully reviews the operation of an analytical laboratory based on the lab manager's responsibilities. Laboratory performance, cost-effectiveness, and professional status of lab personnel are a focus for the author. The experienced analytical manager will benefit from the twelve chapters and 17 case studies. The potential or new lab manager will also gain insight into pertinent areas discussed by the author, including "Functions of the Industrial Analytical Laboratory, Organization of the Laboratory," "Staffing the Laboratory," "Managing Lab Personnel," "Oral and Written Presentations," "Workload Management," "Quality Performance," "Budgeting the Cost Control," and "Information Management."

Case histories provide object lessons in dealing with protocols, failure analysis, accelerated aging, as well as "the old timer" and the super performer. "Implementing a New Test Request Form," a case history, highlights the need for the presenter to inform customers, internal or external to the organization, how a new protocol would be handled. Installing a procedure that increased data handling and reporting was beneficial and a procedure which ultimately gave more immediate access to results was well received

by the customer. The new system ensured greater accuracy in the transmittal of analytical data. The customers, through informative communications, also learned of the additional information they were required to supply with their test requests.

A second case history on a "Blocked Turbine Oil Filter" points out that the obvious may not be the true cause of field failure. A detailed investigation uncovered the real cause of a blocked filter after the lab manager of the oil company assured it would be investigated. The customer found a high content of zinc in the filter presumably from a zinc compound in the oil. This compound, an antioxidant, appeared to be the culprit responsible for the blocked filter causing oil starvation and subsequent breakdown. However, the source of the zinc and ultimate cause of the blockage was not the compound in the oil, but the filter itself. The filter was inadvertently constructed of a zinc casting supporting a copper screen that acted as the actual filter. Waste water in the oil plus the zinc casting caused zinc dissolution and deposition on the screen, blocking it and causing filter failure.

"The most important responsibility of the manager is to ensure the overall quality of the laboratory's performance." These comments initiate Chapter 9 on "Quality Performance." Areas covered in this illuminating chapter are: choosing test methods, in-house methods, basic statistical concepts, variance and standard deviation, standard deviation of an average, comparison of averages and precision, quality control charts, inter-laboratory test programs, and frequency testing. The author's emphasis on control charts to define acceptable limits and to indicate type of variation so that, if required, corrective action can be taken, is key to a concise presentation of successful laboratory management.

The author attained his goals of clearly and concisely explaining laboratory functions and organization as well as managerial problems. All references are up-to-date and helpful.