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## Chemalite, Inc.

In late 2002, Bennett Alexander, a consulting chemical engineer, applied for and received a patent for one of his inventions—a Chemalite. A small, fragile glass vial of one chemical was inserted into a plastic, translucent cylinder that was then filled with a second chemical and sealed. Bending the cylinder caused the glass vial inside to break, allowing the two chemicals to mix. When combined, the two chemicals gave off a bright yellow-green glow.

Alexander anticipated a substantial market for the Chemalite. It had the appeal of being readily available in case of emergencies, but yet it did not require any form of ignition. He anticipated a considerable demand from the armed forces and manufacturers of flares and similar safety equipment.

On January 2, 2003, Alexander, together with a number of relatives and friends, established Chemalite, Inc.; 500,000 shares were issued, of which Alexander received 125,000 in exchange for his patent, and the remainder were sold to the other investors at \$1 per share. During the period January 2, 2003, through June 30, 2003, Chemalite, Inc., made the following expenditures:

- January 15—Paid \$7,500 in legal fees, charter costs, and printing expenses associated with the incorporation of the company.
- June 15—Spent \$62,500 building the machinery that would be used to produce the first commercial models of the Chemalite.
- June 24—Purchased \$75,000 worth of plastics and chemicals for use in the production of commercial Chemalites.

Toward the end of June, Alexander, who had assumed a very active role in the management of Chemalite, Inc., met with the rest of the stockholders to present a state of the corporation report and to discuss strategies for the future marketing of the Chemalites. He was hopeful that the company would be producing Chemalites by the end of August. Susan Peterson, a friend of Alexander who had invested a substantial sum in the company, indicated at the meeting that she had received inquiries from an auto parts distributor about the availability of Chemalites and their expected price. The distributor wished to purchase a substantial number of the lights as part of a highway safety promotion and was interested in pursuing the possibility of private branding.

At this point in the meeting, Mr. Larson, one of the stockholders, but a man with very little business experience and even less understanding of financial statements, interjected: “All this

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Visiting Professor David A. Wilson prepared this case and it was revised by Professor Charles Christensen. HBS cases are developed solely as the basis for class discussion. Cases are not intended to serve as endorsements, sources of primary data, or illustrations of effective or ineffective management.

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discussion of what we are going to do is well and good, but all I can see is that six months ago we had \$375,000 and now we have \$230,000. By my reckoning, we've managed to lose \$145,000 in six months and haven't much to show for it."

Some of the stockholders agreed with Larson. Indeed, between January 2 and June 30, the company's bank balance had fallen from \$375,000 to \$230,000. Ms. D'Cruz, a stockholder, suggested that since Chemalite's operations were not in full swing, these preoperating outlays should probably be considered more as investments in the business by the business rather than as losses. After considerable discussion by all the stockholders, it was agreed that they would meet again in early January 2004 to study the state of the corporation. It was generally felt that the company should be in full operation by then and that the problems created by the preoperating period spoken of would be overcome by year-end.

During the last half of 2003, Chemalite, Inc., did indeed go into full operation. To prepare for the shareholders' meeting in early January 2004, Bill Murray, the firm's recently hired bookkeeper, produced the following data:

1. In early July 2003, a consulting engineer delivered the prototypes of the Chemalite that he had been developing, and he was paid a total of \$23,750.
2. During the six months from July to December 2003, Chemalite sold \$754,500 of its product. The largest single purchaser, the auto parts distributor with whom Peterson had negotiated, still owed Chemalite, Inc., \$69,500. All other customers' accounts were paid in full by year-end.
3. Additional chemicals and plastics were purchased for a total of \$175,000. All of these purchases were paid for in cash.
4. Chemalite, Inc., spent \$22,500 on television and trade journal advertising to introduce the product.
5. During the six months ended December 31, 2003, the company expended \$350,000 on direct manufacturing labor and on manufacturing-related overhead (rent, utilities, supervisory labor). An additional \$80,000 was spent on corporate salaries and other corporate expenses.
6. In early July, a further \$150,000 was spent on machinery to be used in the production of Chemalites.
7. During the period, the company had borrowed \$50,000 for a short time and repaid the loan by year-end. The interest paid on the loan amounted to \$750.

In preparing his state-of-the-corporation report, Alexander noted with some anxiety that the company's bank balance had fallen a further \$117,000 from the \$230,000 reported in June to only \$113,000. It bothered him because he believed that the company was really doing quite well, and he failed to understand why the bank account did not appear to reflect this condition. In surveying the cash outflows incurred by Chemalite, Inc., over the entire year, he noted the following:

1. The machinery used in the production of the Chemalites was general purpose machinery, not restricted to Chemalite production, that might reasonably be expected to last for 10 years—six months of which had already passed.
2. There was still a stock at December 31 of \$55,000 worth of plastics and chemicals in the warehouse; however, there were no finished or partially finished Chemalites at yearend.

3. Although the patent that the company had acquired from Alexander had a legal life of 20 years, he expected competitors to develop equivalent products that did not use the patented technique in about five years.
4. Alexander was quite confused by the worth of the prototypes. They had directly resulted in the development of the product the company was presently selling, so perhaps their value had actually increased over the last six months of 2003.
5. The committee organizing The Olympic Games, Athens 2004, had placed a firm order with the company for 60,000 Chemalites at a price of \$1.50 each. It was their intention to give a Chemalite to each person at the opening ceremony of the 2004 Olympic Games and to have athletes and fans light their Chemalites, symbolic of the Olympic flame.

Alexander was an inventor, not a businessperson, and he was perplexed about how to report the events of the year to the stockholders. He had a feeling that things were going well, but he did not know how to convey this message to his fellow stockholders.