Collection #
P 0922

COMMERCIAL SOLVENTS PENICILLIN PLANT CONSTRUCTION PHOTOGRAPHS, 1943-1947

Processed by

Barbara Quigley
18 February 2026

Manuscript and Visual Collections Department
William Henry Smith Memorial Library
Indiana Historical Society
450 West Ohio Street
Indianapolis, IN 46202-3269

www.indianahistory.org

*

COLLECTION INFORMATION

VOLUME OF COLLECTION:	2 folders of photographs
COLLECTION DATES:	1943–1947
PROVENANCE:	Gift from Frank Verhoff of Cincinnati, Ohio, December 2025
RESTRICTIONS:	None
COPYRIGHT:	
REPRODUCTION RIGHTS:	Permission to reproduce or publish material in this collection must be obtained from the Indiana Historical Society.
ALTERNATE FORMATS:	
RELATED HOLDINGS:	
ACCESSION NUMBER:	2025.0156
NOTES:	Dates of some of the photographs in this collection were determined from records in the Matin's Photo Shop Collection (P 0129), on microfilm roll F1707.

HISTORICAL SKETCH

During World War II, the Commercial Solvents Corporation plant in Terre Haute, Indiana, was among the first to mass produce penicillin. In August 1943, it was reported that the War Production Board had approved $3 million for the expansion of facilities of nine companies to produce penicillin. Three of those companies were in Indiana, including Eli Lilly & Company in Indianapolis, the Schenley Research Institute in Lawrenceburg, and Commercial Solvents Corporation in Terre Haute. Because of the antibiotic's ability to prevent fatal infections from battle wounds, half of the penicillin was to go to the army, while most of the rest of it would go to other branches of the armed forces and for tests and research. Only a small quantity would be available for civilian use.

At the beginning of August 1943, there was not even a blueprint for the proposed penicillin plant in Terre Haute. Yet in 160 working days, the $1,750,000 facility was built and placed into operation. Martin's Photo Shop documented the progress of the construction of the plant, going to the site to take photographs approximately weekly for several months.

The plant's facilities accommodated fermenting tanks that were three stories high, a sterile area, a packaging room, and housing for animals. The animal house was air-conditioned to a constant temperature and humidity level and held 750 New Zealand white rabbits and 2,000 Swiss white mice for testing purposes.

The plant was one of the largest in the country and was expected to produce more than forty billion Oxford units (the international unit of penicillin equivalent to 0.606 micrograms of the crystalline compound) each month. By April 1944, more than one hundred skilled workers – bacteriologists, chemists, engineers, and laboratory and medical technicians – were working 24 hours a day, seven days a week at the Terre Haute plant. At peak production, 15,000 vials of penicillin were being prepared for daily shipment. The vials were packaged containing penicillin in powder form, which made possible its shipment in bulk without refrigeration.

Production of penicillin in the United States jumped from 21 billion units in 1943, to 1,663 billion units in 1944, to more than 6.8 trillion units in 1945. Early in 1944, a 20-gallon container could hold the entire amount of penicillin produced in a 12,000-gallon fermentation tank. Manufacturing techniques increased in scale and sophistication from one-liter flasks with less than 1% yield to 10,000-gallon tanks at 80–90% yield. The American government was eventually able to remove all restrictions on its availability, and by 15 March 1945, penicillin was available to the general public in their local pharmacies. The price of the antibiotic had dropped from twenty dollars per 100,000 units in 1943 to less than ten cents by 1949.

Altogether, the War Production Board worked with 21 companies, five academic groups, and several government agencies, including the U.S. Department of Agriculture, to establish large-scale production of penicillin by fermentation. These efforts created a unified scientific workforce of mycologists, geneticists, clinicians, chemical engineers, pharmacologists, and chemists working across many sectors.

The Commercial Solvents Corporation was an American chemical and biotechnology company. It had been established in 1919 from a joint British–American effort during the first World War. The Allies needed a better solvent to cause explosion in artillery shells. Russian-born biochemist Dr. Chaim Weizmann, who later became the first President of Israel, had developed and patented acetone and butanol fermentation processes that proved to be critical to the Allied war effort. His method made possible the production of large quantities of acetone, which was used in the manufacture of explosive propellants. The company acquired the patent rights to Weizmann's fermentation process.

The corporation's work in Terre Haute actually began as early as 1917. The British bought a whiskey-making plant in Terre Haute, and the United States government bought a distillery nearby to manufacture solvents using the Weizmann process. Shortly before the armistice, the Allied War Board incorporated ownership of both plants in the name of Commercial Solvents Corporation, headquartered in New York. The plants were sold at auction after the war.

Terre Haute was selected as the home of Commercial Solvents Corporation's research because location at this plant made possible the convenient translation of new processes from laboratory and pilot-plant to full-scale production. The company earned distinction as a pioneer producer of acetone and butanol by fermentation processes. It also developed the conversion of corn and other grains into ethanol by fermentation. Without the development of the fermentation process, mass production of penicillin during the second World War would not have been possible.

Over the years, the products of Commercial Solvents have included specialty and commodity chemicals for industry, agricultural chemicals, animal health and nutrition products, industrial explosives, and carbon blacks. The corporation remained an independent company until 1975 when it merged with the International Minerals and Chemical Corporation (IMC) and became a wholly-owned subsidiary of IMC. Eventually, IMC bought Pitman-Moore Inc., another company involved in animal products, and the Terre Haute plant changed its name to Pitman-Moore in 1987. Schering-Plough bought out Pitman-Moore in 1998, and the plant's name was changed to Schering-Plough Animal Health. The Terre Haute plant was permanently shut down on 28 January 2000.

Sources:

American Chemical Society. "Discovery and Development of Penicillin" https://www.acs.org/education/whatischemistry/landmarks/flemingpenicillin.html Accessed 16 February 2026.

Bogard, Robert J. "Mass-Producing a Wonder Drug." *St. Louis Post-Dispatch* (St. Louis, MO), 16 April 1944, p. 3H.

Grutzner, Charles. "Commercial Solvents, Formed in World War I, Soared, Then Wavered." *The New York Times,* 14 June 1962, p. 20.

"Lilly and 2 State Firms to Produce New Wonder Drug." *The Indianapolis News,* 31 August 1943, Part Two, p. 1.

"Penicillin Crop in Indiana: Terre Haute Plant Produces New Medicine for the Army." *The Courier-Journal* (Louisville, KY), 30 April 1944, pp. 18–20.

Quinn, Roswell. “Rethinking Antibiotic Research and Development: World War II and the Penicillin Collaborative.” *American Journal of Public Health,* March 2013, 103(3):426–434 https://pmc.ncbi.nlm.nih.gov/articles/PMC3673487/ Accessed 16 February 2026.

Science History Institute Museum & Library. Commercial Solvents Corporation Records https://archives.sciencehistory.org/repositories/3/resources/106 Accessed 16 February 2026.

Vigo County Public Library. Commercial Solvents Corporation collection, 20010924. VCPL Archives https://vcplarchives.lyrasistechnology.org/repositories/2/resources/340 Accessed 16 February 2026.

SCOPE AND CONTENT NOTE

This collection is composed of forty-four 8x10 black-and-white photographs of the construction of the Commercial Solvents Corporation’s penicillin production plant in Terre Haute, Indiana. The photographs were created by Martin’s Photo Shop. Thirty-nine of the photographs were taken approximately weekly from 5 November 1943 through 2 March 1944, during the initial construction phase. There is one photo from 31 October 1944, three photos from 28 January 1946 through 11 February 1946, and one taken on 6 January 1947. Some of the photos show unidentified construction workers. Some show the Wabash River in the background.

CONTENTS