

Prof. Wayne B. Hales  
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As per your request, there follows an approximately 200 word popular statement concerning my research and also my biography for use in the Centennial History of BYU.

#### RESEARCH

The more spectacular aspect of Dr. H. Tracy Hall's professional career was his transformation of ordinary graphite into genuine diamond. This occurred on December 16, 1954, while employed at the General Electric Research Laboratory in Schenectady, N.Y. Scientists had been attempting to achieve this feat for over 150 years. An exceptional device called "The Belt," which Dr. Hall invented and which could generate pressures of 2,000,000 pounds per square inch simultaneously with temperatures of 3500 degrees Fahrenheit made it all possible.

The Belt device was clothed in company secrecy at the time Dr. Hall became BYU's Director of Research in the fall of 1955 and could not be used at BYU. Consequently, Dr. Hall invented and patented another device, the Tetrahedral Anvil Press which was also capable of making diamonds. Hundreds of scientists from all over the world came to BYU to see this device. As a result, the new science of Very High Pressures at High Temperatures spread to the world from BYU rather than from General Electric where secrecy on the Belt was maintained

Over 500 laboratories, worldwide now work in this field and approximately 1500 research papers appear each year, BYU continuing to be a leader in the field. Dr. Hall has used his high pressure devices for research pertaining to chemistry, physics, and geology, has published extensively and received many awards for pioneering work.

#### BIOGRAPHY

Son of Florence Tracy and Howard Hall, born in Ogden, Utah, October 20, 1919, married Ida-Rose Langford September 24, 1941, Salt Lake Temple, parents of seven children. Educated in Ogden City and Weber County schools including Weber College. The B.S. (1942), M.S.(1943), and Ph.D.(1948) degrees were all obtained from the University of Utah in Chemistry (physics minor). Officer in U.S. Navy World War II. Professional employment includes U.S. Bureau of Mines, Salt Lake City, 1942-1944 and 1946 and General Electric Research Lab, Schenectady 1948-1955 before becoming University Director of Research and Professor of Chemistry at BYU 1955-1967 and Distinguished Professor at BYU 1967-present. Belongs to several scientific professional societies where he has served as an officer and editor of professional journals and has published widely and received much international recognition. He has also served as consultant to many industrial and governmental organizations.