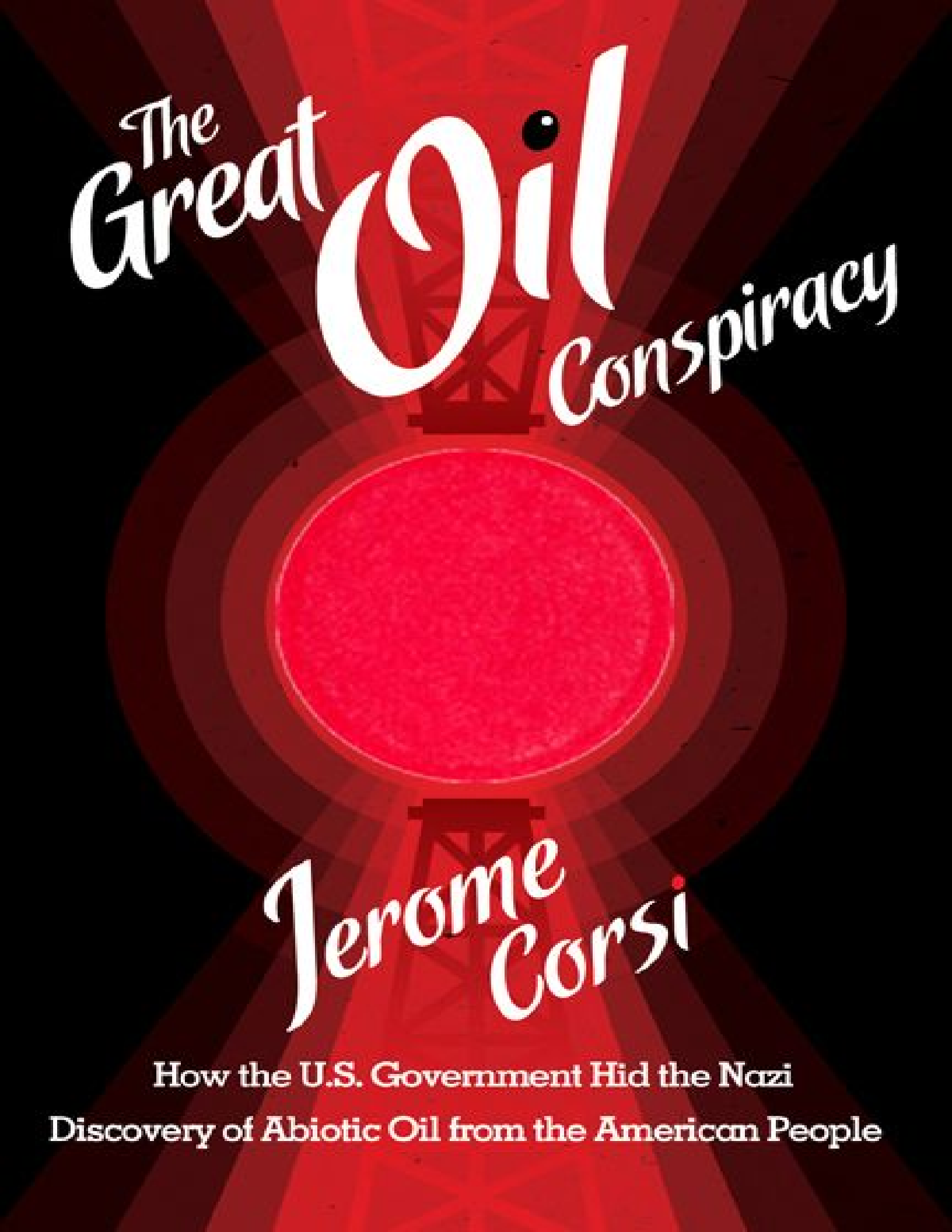
The Great Oil Conspiracy



Jerome Corsi

How the U.S. Government Hid the Nazi Discovery of Abiotic Oil from the American People

THE GREAT OIL CONSPIRACY:

How the U.S. Government Hid the Nazi Discovery of Abiotic Oil from the American People

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New York, New York

Paperless Publishing, LLC.

609 Greenwich Street, 6th Floor

New York, NY 10014

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First Paperless Publishing eBook edition April 2012

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10 9 8 7 6 5 4 3 2 1

ISBN 978-1-62087-162-1

TABLE OF CONTENTS

Introduction

When I grew up in the 1950s during Dwight Eisenhower's presidency, my father bought a two-door Plymouth coup for the family car.

I remember even then being told as a child that the United States was running out of oil, having supplied the Allies in World War II with the oil needed to fight a war on two fronts and defeat simultaneously the Nazis in Germany and Imperial Japan.

What did not make any sense to me at the time was why President Eisenhower wanted to build an interstate highway system of freeways if we were running out of oil?

Clearly, President Eisenhower and the major oil companies had to know something I was not being told.

Then I remember reading in a science magazine at the public library that the Russians had found oil thousands of meters below surface of the earth.

How did all the dinosaurs get that deep within the earth? Besides, how many dinosaurs exactly did it take to make a barrel of oil? For these questions, I found no satisfactory answers.

The purpose of this book is to expose to readers in the United States the Nazi secret of synthetic oil and the suppressed truth that oil is abiotic, not organic in nature.

The goal here is to attack the myth that hydrocarbon fuels are scarce, when the truth is that proven reserves of oil and natural gas worldwide are greater today than ever in human history, despite increased demand from emerging economies in countries such as Brazil, Russia, India, and China – known together under the acronym of "BRIC" countries.

Moreover, non-traditional oil production is making great strides as the United States learns to make oil from the nation's abundant shale supply and offshore oil exploration and production has never been more robust. Off every major continent today, oil and natural gas are being discovered at deep-water and deep-earth levels.

Though most Americans have been indoctrinated by the politically correct media to believe we have nearly depleted our continental resources of oil and natural gas, the truth is that the United States on its way to energy independence could take major strides in the next few years to surpassing Saudia Arabia and Russia as the world's leading oil and natural gas producer.

This scope of this book will not permit a thorough debunking of two other politically correct myths advanced by the enemies of hydrocarbon fuels.

Yet, with co-author Craig Smith, we tackled these subjects when collaborating in 2006 in writing *Black Gold Stranglehold: The Myth of Scarcity and the Politics of Oil*, showing there:

- There is no definitive proof global warming is occurring, or that human activity in consuming hydrocarbon fuels contributes to any statistically significant "greenhouse gas" effect; and
- There is no definitive proof that consuming hydrocarbon fuels is inherently detrimental to the environment, not if adequate precautions are taken in developing and producing energy resources and a determination is made by industry to develop and exploit "clean energy," including clean coal.

Evidence in these pages will prove Nazi scientists understood the fundamental chemical equations that explain how hydrocarbon fuels are produced without the assistance of any dead and decomposing living organism.

Evidence in these pages will also prove the United States still today has available hydrocarbon fuel resources today, in both traditional and non-conventional reserves now being accessed through technological advances,

not only to be energy independent, but also to be once again the world's leading producer of oil and natural gas once again.

Breaking the regulatory grasp government has created over decades and encouraging independent energy industry innovation and entrepreneurship are critical if energy prices in the future are going to remain affordable such that the U.S. economy can resume robust growth.

The United States government and major oil companies have perpetuated the fraud, encouraging the American people to incorrectly understand that oil and natural gas are "fossil fuels" that will soon be depleted worldwide.

The point here is that hydrocarbon fuels properly understood are renewable fuels naturally produced by the earth on a continuing and abundant basis.

Chapter 1

The Nazi Secret Science of Synthetic Oil

As the Allied armies raced to Berlin and World War II drew to a close, the U.S. Army had more than 3,000 separate teams involving 10,000 investigators, including industrialists, engineers, scientists, and technicians, visiting thousands of enemy factories, scientific institutions, business premises, and factories to conduct top secret interviews and cart away trunk loads of captured documents.

“By the last month of the fighting in Germany, as the Allied armies rolled across the Rhine, combat-weary GIs were used to seeing groups of intelligence officers moving about the war zone,” wrote professor of history Arnold Krammer,[1] “They were no longer startled to see small groups of scholarly looking American officers drive up to bombed-out and newly captured factories and, apparently unmindful of the smoke and sometimes nearby gunfire, systematically investigate the plant.”

The war-weary GIs watched, Krammer noted, as tons of records were “hauled out into the open for eventual crating and shipment” as German scientists were questioned by “soldiers” who wore neither rank nor unit designations on their American uniforms. The investigators were intelligence operatives – industrial scientists and government experts – and the German scientists they sought out had one thing in common – they had produced strategic materials for the Third Reich.

Germany had spent billions in today’s dollars to fund fundamental and applied scientific research that would give the Nazi war machine a strategic advantage developing secret advanced weapons including jet airplanes and rockets capable of delivering bombs. The V-2 rockets hitting London made international headlines. Much less appreciated were the German scientists who cracked the chemical code, unlocking the secrets of how petroleum products are formed. Starting in the early part of the twentieth century, German chemists developed the formulas necessary to produce synthetic oil. While the goal was to make gasoline, diesel fuel, and aviation fuel from

Germany’s abundant coal supply, the equations in what came to be known as the “Fisher-Tropsch” process explained the origin of oil is a naturally occurring phenomenon in which hydrogen and carbon bond, with ramifications far beyond turning coal into liquefied synthetic fuel.

The Fisher-Tropsch Process

“Germany has virtually no petroleum deposits,” observed Anthony N. Stranges of the Department of History at the Texas AM University, noting a resource reality even today. “Prior to the twentieth century this was not a serious problem because Germany possessed abundant coal resources. Coal provided for commercial and home heating; it also fulfilled the needs of industry and the military, particularly the navy.”[2]

However, in the opening decade of the twentieth century Germany’s fuel requirements began to change. Germany became increasingly dependent upon gasoline and diesel oil engines, as automobiles, trucks, and then airplanes made a plentiful supply of gasoline necessary. Then Germany’s ocean-going ships, including Germany’s navy, converted from coal-burning to diesel oil as their energy source. “Petroleum was clearly the fuel of the future,” Stranges noted, and Germany had a problem. Without ample petroleum resources, how was twentieth century Germany going to develop the abundant gasoline and diesel fuel supplies needed to propel a competitive national industrial economy and mount a world-class military operation second to none in Europe?

The solution came in the 1920s when two German chemists, Franz Fischer (1877-1947) and Hans Tropsch (1889-1935) developed a series of equations at the Kaiser Wilhelm Institute for Chemistry that became known as the “Fischer-Tropsch Process,” defining a methodology for producing synthetic gasoline and diesel fuel from coal. During the early 1930s, German industrial giant I.G. Farben received support from the Luftwaffe under Chancellor Adolph Hitler by proving the company could produce a high quality aviation fuel. The army, the Wermacht, followed suit by lobbying to develop a domestic synthetic fuels industry. By 1936, I.G. Farben was no longer an independent company, but a government-private enterprise partnership run by the Nazi government.

Without the Fischer-Tropsch process, Hitler and Nazi Germany would have lacked the fuel resources needed to launch World War II. When Hitler attacked Poland on September 1, 1939, Nazi Germany had 14 synthetic fuel plants in full operation and 6 more under construction, producing approximately 95 percent of the aviation fuel used by the Luftwaffe. By 1943, using synthetic oil production defined by the Fisher-Tropsch process, Germany produced almost three million metric tons of gasoline by hydrogenation of coal. Adding to this diesel fuel, aviation fuel, and various lubricants produced synthetically from coal, Nazi Germany was able to satisfy up to 75 percent of its fuel demand though coal conversion processes made possible by the equations developed in the Fisher-Tropsch process.[3]

Imperial Japan, also constrained by lacking extensive national petroleum reserves, followed Nazi Germany into synthetic fuel production. In 1936, Japan calculated that the nation had a 400 to 500 year fuel reserve, if coal could be converted to liquid fuel. Japan's Seven Year Plan of 1937 called for the construction of 87 synthetic fuel plants using the Fischer-Tropsch process by 1944, with the goal of producing 6.3 million barrels annually of each synthetic gasoline and synthetic diesel fuel. While the economic demands of waging war in China and across the Pacific ultimately thwarted Japan's ambitions to produce synthetic oil, Japan constructed 15 synthetic fuel plants that reached peak production of 717,000 barrels of synthetic fuel in 1944.[4]

Operation Paperclip: U.S. Military Intelligence Grabs Nazi Oil Secrets

While U.S. Army intelligence officers had the first jump at confiscating Nazi scientific documents and interviewing Nazi scientists, by 1948, British Intelligence, Canadian Intelligence and Russian intelligence all joined in, focusing their intelligence efforts to understand how the Nazis had produced synthetic petroleum products so successfully.

Ultimately, under the auspices of "Operation Paperclip," the Office of Strategic Services, or OSS, the predecessor agency to the CIA, hundreds of Nazi scientists and engineers were secretly brought to the United States. Many Nazi scientists were allowed to enter the United States despite their complicity in some of the Nazi's most horrific war crimes, including using political prisoners from the Holocaust as their guinea pigs in terrifying "scientific experiments" involving human beings and in employing Jews and other political prisoners as slave labor in Nazi war-machine factories.[5] Almost all the Nazi scientists brought to the United States, including those who were expert in the chemistry and manufacturing of synthetic fuel, had joined the Nazi party if not because they were true believers, at least to advance their careers.

An examination of the now declassified Operation Paperclip files at the National Archives and Records Administration in Washington, D.C., documents Occupation Paperclip brought to the U.S. a total of seven German synthetic fuels scientists, including the two most prominent then alive, Helmut Pichler and Leonard Alberts.

Helmut Pichler

Pichler, born on July 13, 1904 in Vienna, Austria, was 41 years old when World War II ended in Europe. He worked as Franz Fischer's research assistant at the Kaiser Wilhelm Institute, perhaps Germany's most

prestigious pre-war scientific institution. When interviewed by the Office of the U.S. Military Government at the end of the war in Germany, Pichler had to his credit 50 published scientific articles and 19 patents on a wide range of topics related to the chemistry and manufacturing of synthetic fuels. In his biographical and professional data debriefing with U.S. military intelligence, Pichler boasted he was “co-inventor” of the benzene-synthesis process from which synthetic gasoline was produced. At the end of the war, Fischer was approaching 70 years old and Pichler was undoubtedly the most knowledgeable and accomplished synthetic fuels scientist in the world, who was still young enough to travel and continue advancing his professional career.

Pichler’s file contains a letter from none less than Franz Fischer himself, dated June 23, 1947, and written in his capacity as the Director of the Kaiser Wilhelm Institute of Coal Research from 1913 until 1943. Dr. Helmut Pichler joined the ‘Kaiser Wilhelm Institute for Coal Research,’ Mulheim-Ruhr, in March 1927,” Fischer wrote. Fischer wrote, “He was first concerned about his thesis.” In March 1929, Pichler completed his doctoral thesis on the subject, “About the Synthesis of Hydrocarbons.” After his graduation, Pichler was Fischer’s assistant until April, 1936, when he was appointed the head of the division for synthetic fuels. Subsequently, Pichler was nominated to become a permanent scientific member of the Kaiser Wilhelm Institute of Coal Research.

In the letter, Fischer credits Pichler with a long list of scientific accompishments, including developments in the field of the synthesis of gasoline, research in using both iron and cobalt as catalysts in the Fischer-Tropsch synthetic fuel production pricess, and the conversation of methane to more complex hydrocarbon chains, including benzene and acetylene. “The work of Dr. Pichler has contributed substantially to the technical scale development of the normal-pressure-synthesis of Franz Fischer and Hans Tropsch after Dr. Tropsch left the Institute (in 1926),” Fischer’s letter continued, “Fundamentally separate, Dr. Pichler developed the mentioned medium-pressure-synthesis, the high-pressure synthesis of paraffins and the other topics mentioned above.” Fischer concluded his letter with an unqualified endorsement: “Dr. Pichler was one of the best co-workers I ever had. His personal qualities are the factors for which not only the scientific,

but also the social intercourse with him were very pleasing in the 16 years of our cooperation."

Pichler's signed "Statement Concerning Past Political Affiliations" indicates in 1932, Fischer urged him to become a citizen of Germany. In 1933, he became a member of the Nazi Party. In 1934, at the request of the SA, he gave ten lectures concerning air defense, including how to fight incendiary bombs, although he professed to do so out of fear of reprisals, not for any enthusiasm to be involved for political reasons. "All my thoughts and my sympathies were ever concerned with my scientific work only," he wrote in his signed statement, "I performed this work in the same way before 1933, after 1933 and after 1945." He claimed he wanted to come to the United States to continue his scientific research and to become a U.S. citizen.

The Truman administration was sufficiently enthusiastic to get a synthetic fuel scientist with Pichler's credentials to come to the United States that he was given the benefit of the doubt that his Nazi affiliations were more a matter of necessity that political preference or enthusiasm, despite the major contribution the production of synthetic fuels made to the German war effort. The U.S. government gave Pichler permission to enter the country along with his wife Louise Maria, then 44 years old, and his two daughters, Christa, age 11, and Irmstraud, age 5, as well as his son, Rolf-Helmut, age 10.

Once in the United States, Pichler joined Hydrocarbon Research Inc., where he helped construct a commercial Fischer-Tropsch plant in Brownsville, Texas. In his later years, Pilcher was quoted as saying the German scientists and engineers interviewed by U.S. intelligence operatives at the end of World War II did not divulge all they knew. The truth is that up until 1940, German scientists and engineers, with the consent of the Nazi government, had been transferring a considerable amount of accurate Fischer-Tropsch technical information to a consortium of six companies that had been members of the old Standard Oil Company. Beginning in 1938 and 1939, Standard Oil also began purchasing common stock of Hydrocarbon Research, Inc.[6] The historical record shows Standard Oil in the United

States and industrial giant I.G. Farben in Germany had been interested in and cooperating regarding synthetic fuels since the 1920s and 1030s.

Leonhardt Alberts

In contrast to Pichler, Leonhardt Alberts was so enthusiastically a Nazi that it required a U.S. government cover-up to get him clearance to enter the United States after World War II.

Alberts was five years older than Pichler. He was 46 years old at the end of the war with Germany, having been born on April 21, 1899, in Oanabrueck, Germany. He was the plant manager and technical director of Ruhchemie, A.G., the Ruhr Chemical Corporation in Oberhausen, Rhineland, from 1929-1943. Then, from 1943 through 1946, he was a member of the Board of Directors of synthetic nitrogen and hydrocarbon plants for Victor Works, in Castrop-Rauxel, Germany. At the end of the war, there was no one in Germany more expert at operating and managing synthetic fuel plants than Leonhardt Alberts.

The problem was that Alberts was a candidate for the Nazi party as early as 1933, and he joined formally in 1938; subsequently, he belonged to both the SS and the SA. The Operation Paperclip file even preserved two yellow-page legal pads with the handwritten notes taken by the FBI agent conducting a background search on Alberts. The handwritten notes and the subsequent FBI case file leave no doubt that Alberts was an ardent Nazi, even after the war had concluded and he had received permission from the U.S. government to immigrate to the United States along with his family.

“Mr. H.T. McBride, Projects Supervisor, Bechtel Corporation where Alberts was ultimately hired, related that his associations with Alberts have been entirely disagreeable,” the FBI case file for Alberts noted. “During his stay here, Alberts exhibited an arrogant and domineering attitude in regard to company administrative matters. He was non-cooperative in obeying regulations pertaining to expenses of travel, leave arrangements, and the certification of time off, to name a few. In the opinion of Mr. McBride, Alberts is exceedingly ambitious, and will try every trick and scheme he

knows which might work to his sole benefit." McBride told the FBI he believed Alberts was "a true Nazi." McBride told the FBI that Alberts was "wholly undesirable for citizenship," and that he felt admitting Alberts to the United States "would be a definite threat to the security of this country."

C. W. Frye, personal manager at the Bechtel Corporation, gave the FBI a similar report. Frye said he had "no sympathy" with Alberts' desire to become citizen of the United States. He characterized Alberts as "non-cooperative and disagreeable almost without exception in business contacts. He charged that Alberts "has an overbearing demeanor which appears to be self-trained." Frye advised the FBI that Alberts "has few of the qualities necessary to becoming a good citizen, and he would not recommend him to be a good security risk."

Major Robert E. Humphries, Quartermaster Corps, U.S. Army, agreed. Humphries told the FBI that Alberts is "poorly regarded" because of "his insufferable and pompous attitude." Humphries commented that Alberts "certainly never exhibited any remorse or sense of guilt arising out of his past connections in Germany," and he charged Alberts "was and is a Nazi." Humphries further advised that while Alberts "would be a dangerous man" to admit into the United States as a permanent resident because Alberts would be given an ample opportunity to learn all details of the synthetic fuels program in this country. At the same time, he was distrustful to allow Alberts to return to Germany as a free man because he believed Alberts would be capable of "dealing with Russia or with any other group which would pay for his technical knowledge."

Alberts argued in a signed "Political Bibliography" included in his Operation Paperclip file that he had joined the Nazi party for political expediency only:

As Director of the Ruhrchemie A.G. in 1933, I was naturally pressed to affiliate myself with the N.S.D.A.P. [the Nazi Party]. It was possible for me in contrast to the other Directors of my firm to keep aloof from this membership.

> In 1935 I was offered the position on the Board of Directors of the Briunkohle-Benzin A.G. However, after it had been

> determined that I was not a member of the N.S.D.A.P., this offer was withdrawn. In 1938 I got a similar offer from Krupp. This offer was also withdrawn for the same reason.
>
> After two examples convinced me that without party membership I would not be able to accept offers which would improve my professional position. Therefore, I applied for a membership in 1938.

On Nov. 9, 1949, Peyton Ford, the Assistant to the U.S. Attorney General, Department of Justice, wrote to Colonel Daniel E. Ellis, U.S. Air Force, and Director of the Joint Intelligence Objectives Ageny in the Pentagon, to urge that Alberts' continued presence in the United States represents a risk to internal security. Ford wrote:

> Upon consideration of all the information received concerning Alberts this Department is of the opinion that it cannot recommend him to the Immigration and Naturalization Service for permanent admission into the United States. You still note that Alberts served for a time during World War II as a functionary of the Abwehr, the German Intelligence. The statements of several persons who have known Alberts, including Major Robert E. Humphries, who has been directly concerned with security matters pertaining to the presence of German scientists at Bureau of Mine plants, have grave misgivings of Alberts as a security risk. It would appear that he is a pro-Nazi in his outlook and unscrupulous in his activities and, as Major Humphries has stated, he is capable of dealing with Russia or any other group which would pay for his technical knowledge.

What ensued was a bureaucratic fight between the commercial intersts within the government that coveted Alberts' technical skill operating synthetic fuel plants with those in the government charged with policing security risks. Acting Secretary of Commerce Thomas C. Blaisdell weighed in strongly favoring Alberts, to the point of dismissing the security concerns as unimportant.

In a letter to the Attorney General J. Howard McGrath, dated July 14, 1950, in which he stated, “The Fischer-Tropsch process for the production of synthetic fuels, in which Albert is expert, may be a significant item in our national defense,” McGrath referenced an endorsement letter written on Feb. 24, 1949, by H.H. Storch, Chief of the Research and Development Branch, Office of Synthetic Liquid Fuels, in the U.S. Department of Interior, Bureau of Mines, to the Department of Commerce, in which Storch referenced the work Alberts had done consulting on Fischer-Tropsch pilot plant work in the Bureau of Mines:

> During Mr. Alberts’ stay under the direction of the Bureau of Mines, he contributed to the development of a process which originated in Germany at the I.G. Farbenindustrie, and which was being completed by the Bureau of Mines. We found him to be a good, practical engineer. His character and general behavior were excellent and, so far as we can tell from our observation of him at work, he would make a good citizen of the United States.

The Operation Paperclip files show the commercial interests within the government won out and Alberts was given permission to enter the United States along with his wife, Agnes, his sister and his sister-in-law.

Post War Synthetic Fuel Plants in the United States

In 1949, the U.S. Bureau of Mines opened a synthetic fuels demonstration plant in Louisiana, Missouri, on 390 acres of a former War Department ammonia plant that was located 75 miles north of St. Louis. Bechtel operated this $10 million coal hydration plant, with some 400 employees that included the 7 Nazi synthetic fuel scientists Operation Paperclip brought to the United States. From 1950 – 1952, Hydrocarbon Research Inc. built and operated a synthetics fuel in Brownsville, Texas. The Bureau of Mines conducted numerous synthetic fuel pilot projects, none of which reached commercial viability.

While the post-war efforts of the U.S. government to develop synthetic fuel plants were successful, the project never took root in a global economy where the production of petroleum “fossil fuels” was both abundant and commercially profitable. Put simply, U.S. oil companies had no reason to develop relative expensive synthetic oil when billions of dollars in profits could be made annually bring to market naturally produced and reasonably priced hydrocarbon fuels, including oil and natural gas products. Put simply, the production of synthetic fuels, while interesting to U.S. oil companies and government officials, was considered too costly to pursue when oil reserves in the United States were still relatively abundant and reasonably cheap to discover, develop, and bring to market.

By the 1960s, the U.S. government interest in synthetic fuels was largely academic. The taxpayer funding for Fischer-Tropsch funding dried up, work the U.S. Bureau of Mines undertook in the postwar period was transferred in the 1960s to the Office of Coal Research in the Interior Department, and then in the 1970s to the Energy Research and Development Administration. In 1977, Congress created the surviving government administrative agency, the U.S. Energy Department, and the public policy emphasis shifted to the

“fossil fuel” program. On June 30, 1980, the Energy Security Act was signed into law, creating the United States Synthetic Fuels Corporation to provide financial assistance to the private sector to stimulate production of synthetic fuels, but only one plant was actually ever built.[7]

As a result of the public policy emphasis on utilizing abundant “fossil fuel” resources, the secret Nazi petroleum secrets languished. Hundreds of thousands of pages of confiscated German scientific papers on the Fisher-Tropsch remained classified until the late 1970s. In October 1975, the Texas AM University’s Center for Energy and Mineral Resources initiated a project to locate, retrieve, abstract and index the German World War Ii industrial records with the objective to make available the information about the Fischer-Tropsch processes Nazi Germany had used to produce synthetic fuel. By 1977, the 12 full- and part-time members of the project staff brought Texas AM 310,000 pages of documents, consisting primarily of the 305 Technical Oil Mission microfilm reels and 25 microfilm reels collected by Air Force Intelligence at the end of World War II.

But, even today, countless thousands of pages of Fischer-Tropsch scientific studies confiscated from Germany at the end of World War II lie deteriorating, never translated, in aging and neglected paper and microfilm archives. Remarkably, despite the efforts of Texas AM and the National Archives, the process of locating confiscated Nazi synthetic petroleum documents for scientific study remains difficult, if not virtually impossible. When found, most of the documents remain as they were when first confiscated in 1945 – never as much as summarized or abstracted in English, let alone translated in full. On Sept. 20, 1977, the German Document Retrival Project concluded the following: “Knowledge in these [German] documents [on synthetic fuels] has for all practical purposes not been available to industry, government, educational institutions or the public at large.”[8]

Over time, the synthetic liquid fuels and the Fischer-Tropsch process got relegated to the point where the concept became equivalent with liquefying coal. Why bother liquefying coal when the U.S. still had abundant oil and natural gas reserves available domestically or on international markets at a relatively reasonable price? Even in oil crises, such as the 1975 OPEC oil

embargo under President Jimmy Carter, few serious politicians or scientists thought seriously about reviving interest in the Fischer-Tropsch process to supplement politically restricted supplies of oil and natural gas with synthetic liquid fuel.

Today, few Americans know anything about the World War II achievements of the Nazis in developing synthetic fuel. How different this is from the enthusiasm of the U.S. military's Technical Oil Mission that at the end of World War II had defined as targets of opportunity all Nazi synthetic fuel plants, including refineries, synthetic fuel plants and chemical plants, all research laboratories, including the Kaiser Wilhelm Institute, and corporate headquarters, including I.G. Farben.

Decades after the end of World War II, U.S. petro-scientists and petro-geologists remain locked in the vision that the only productive petroleum science and geology derive from an understanding that oil and natural gas are biologically produced "fossil fuels." Rather than study the Fisher-Tropsch equations to unravel the code of how hydrocarbons are produced, U.S. petro-scientists and petro-geologists remain happy today to designate the Nazi documents to obscurity because they consider synthetic oil production basically a waste of time.

Today Nazi synthetic oil secrets remain hidden from the public view because that's exactly the way U.S. oil companies and the U.S. government want it. The true secret of Nazi synthetic oil had nothing to do with liquefying coal. Perhaps this was central to the undisclosed knowledge Helmut Pichler had in mind when he said the former Nazi scientists never completely revealed to their U.S. scientific counterparts every secret their explorations of synthetic fuels unveiled. Committed Nazis such as Leonhard Albert might have been quietly pleased when American scientists saw nothing more in the Fischer-Tropsch process than how to make gasoline and diesel fuel out of coal.

What truly the German synthetic fuel scientists cracked was the code God built into the heart of chemistry to form hydrocarbons in the first place. Beyond the formulas to make gasoline and diesel fuel out of coal, what the equations of the Fischer-Tropsch process postulated was that hydrocarbons form naturally in the mantle of the earth on an on-going basis that continues

even today. Studied beyond their narrow applications, the Fischer-Tropsch equations reveal the formulas through which compounds including hydrogen and compounds including carbon. in the presence of a catalyst such as iron ore or cobalt, could be made to form various hydrocarbon chains under conditions of extreme heat and pressure. Applying this knowledge to making gasoline and diesel fuel from coal served the Nazi war machine purposes in a country largely lacking readily available hydrocarbon resources close to the surface of the earth. Revisiting the Fischer-Tropsch equations in trying to unravel the secrets of how oil and natural gas are formed in the first place, presents a direct challenge to the fossil fuel theory of the origin of oil, once the Fischer-Tropsch equations are understood in the context of fundamental scientific research, not just applied scientific research.

Russia and deep-earth oil

The truth is that only Soviet Russia under the insistence of dictator Joseph Stalin truly benefited from the confiscated intelligence of Nazi World War II petroleum secrets.

On November 3, 1944, well before the end of the war, President Roosevelt issued a directive calling for a government study to determine whether or not all the bombing we had done in the war had served any purpose.[9] What precisely did dropping over 2.7 million tons of bombs on Europe accomplish?

The resulting *United States Strategic Bombing Study* produced some surprising results. The bombing attack on the German airplane industry culminated in the last week of February 1944, when 3,636 tons of bombs were dropped on airframe plants. In that week and the days following, every known aircraft factory in Germany was hit. But, surprisingly, in 1944 the Nazis accepted a total of 39,807 aircraft of all kinds, when the number accepted in 1942 before the bombing attacks began had only been 15,596. The German aircraft production had actually increased despite the massive bombing of Nazi aircraft plants.

Why? The bombing destroyed the buildings, but the machines “showed remarkable durability.” The Germans reorganized the management of the aircraft plants and subdivided production into many small units that were immune to massive bombing raids. As the aircraft manufacturing plants were being destroyed, the Germans adapted, learning how to recover the machinery and disperse the manufacturing. The result was clear – bombing the plants had not slowed down the Nazis ability to make new airplanes.

The allied bombing of German oil and chemical production plants told a different story. By the end of the war, the Germans could produce Messerchmitts, but they had no airplane fuel with which to fly them. The

output of aviation gasoline from synthetic plants fell from 316,000 tons per month when the air attacks began in 1943 to 5,000 tons in September 1944 when every major plant had been hit. Without fuel, the Nazi war machine came to a grinding halt.

Once the war was over, Stalin determined that the Soviet Union would never vulnerable because of a dependence on foreign oil. He resolved that Russia would become oil self-sufficient, as part of his plans for expanding communism and Soviet domination worldwide. U.S. petro-scientists looking for oil as “fossil fuel” formed in sedimentary rock structures found relatively close to the surface of the earth concluded that Russia, like Germany, lacked petroleum reserves. Stalin willed a different result, ordering his petro-scientists to study the Fisher-Tropsch process, anxious to learn what the Germans understood about the origin of oil that U.S. scientists failed to understand.

Beginning in 1940, Stalin commissioned a scientific examination into every aspect of petroleum, including how it is created, why reserves are formed, how the oil can best be discovered and extracted. Between 1940 and 1995, Russian scientists published some 347 scientific publications on the Fisher-Tropsch process, on the way to obtaining some 170 Fisher-Tropsch patents.[10] By 1951, Professor Nikolai Kudryavtsev articulated what today has become known as the *Russian-Ukranian Theory of Deep, Abiotic Petroleum Origins*. Essentially, the theory rejected the contention that oil was formed from the remains of ancient plant and animal life that died millions of years ago.

According to Professor Kudryavtsev, oil had nothing to do with living organisms rotting into petroleum. The Soviet scientist ridiculed the idea that an ancient primeval morass of plant and animal remains was covered by subsequent millions of years of sedimentary deposits, only to be compressed by the millions of more years of heat and pressure. The Soviet theory as advanced by Kudryavtsev and dozens of Russian scientists who followed him was that the origin of oil was “a-biotic.” In other words, oil did not come from the once-alive “biotic” material of ancient plants and animals. Instead, the Soviet scientists concluded the Fisher-Tropsch equations explained the chemical processes by which hydrocarbons were

produced as a natural product of the earth itself, manufactured at deep levels where there were no plants or animals. Abundant oil could be found, the Soviet Russians concluded, if only oil wells were drilled deep enough.

Today, contrary to the predictions of U.S. petro-scientists at the end of World War II, Russia rivals Saudi Arabia as the world's leading producer of crude oil.

Just to be clear, please understand that the argument here is that all oil produced by the earth is abiotic. Please do not misunderstand to think the argument is that oil traditionally found in sedimentary rock is organic in origin, while only oil found at deep levels within the earth or under water is abiotic. Granted, synthetic fuels can be formed from a wide variety of organic substances, ranging from corn and sugar cane, to animal parts, and even sewage. Generally, the synthetic processes used to transform organic material into synthetic fuel involve well-understood chemical transformations very similar to the fermentation and bacteriological processes that transform organic materials into various alcoholic beverages. The argument here is that oil found near the surface of the earth in sedimentary rock structures was formed at deep-earth levels and pooled through cracks in the earth's bedrock sub-structure into more porous sedimentary rock levels where the oil pooled.

The point is that fuels produced from organic material typically are synthetic in nature, demanding human action to be formed. Hydrocarbon fuels produced naturally by the earth are never "fossil fuels" produced through biologic materials or organic methodologies; hydrocarbon fluids produced naturally by the earth are always abiotic in nature. Just as fossils are never the ancient flora or fauna themselves, truthfully there are no "fossil fuels" created by nature, regardless what petro-geologists tell college students in university classrooms.

In nature, hydrogen and carbon do not require the intervention of any dead and ancient decomposed flora or fauna, no plankton or algae, and no micro-biotic material to get together. Instead, all nature needs is the action German chemists defined, beginning with Franz Fischer in the 1920s and ending in the Fischer-Tropsch synthetic fuel plants operated by the Nazis during World War II.

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Chapter 2

The Suppressed Science of Abiotic Oil

In the United States, the abiotic theory of the origin of oil is still ridiculed as “a conspiracy theory” by a scientific community wedded to the concept that oil is produced by organic material. Most geo-scientists have at least advanced to the point where the idea dinosaurs and ancient forests produce oil is considered ridiculous. Yet the idea that oil derives from ancient biological debris persists, as hydrocarbon energy is still considered “fossil fuel,” even though a fossil is not the animal or plant itself, but the structure of the animal or plant typically filled in by various minerals that harden into stone over the ages. Despite this, the vast majority of U.S. geo-scientists find it impossible to imagine that oil can have anything but a biological origin, such that the politically correct scientific consensus remains even today that organic materials such as plankton and algae are responsible for creating oil.

How Exactly Do “Fossils” Make “Fuel”?

What then is the supposed chemical processes by which decaying plants and dinosaurs, or plankton and algae, are supposed to decay into “fossil fuel”

Richard Heinberg, a senior fellow-in-residence at the Post Carbon Institute in Santa Rosa, California, has argued that “the assertion that all oil is abiotic requires extraordinary support, because it must overcome abundant evidence” that ties “specific oil accumulations to specific biological origins through a chain of well-understood processes that have been demonstrated, in principle, under laboratory conditions.”[11] So, if what Heinberg asserts is true, we should have no problem discovering the precise laboratory-proven formula under which biological material decays into hydrocarbon fuel.

Seppo Korpela of the Ohio State University Department of Mechanical Engineering gives us a precise description of the chemical process involved.[12] He argues that fossil fuels form when “the early sedimentary layers” at the bottom of a basin are deprived of oxygen such that the organic matter in them did not decay, “as it does in the common setting of kitchen compost.” Then, “anaerobic bacteria” can “go to work and turn the organic material into the substance *kerogen*. Kerogen can be thought of as immature oil.” The term “anaerobic” refers to a process occurring in the absence of free oxygen, When kerogen is found at depths of between 6,000 and 13,000 feet and when the temperature and pressure are “right,” the kerogen, “In the *source rock* will be cracked into oil. This zone is called the *oil window*. At depths greater than 13,000 ft. temperatures are so high that oil is cracked into gas.”

“Kerogen,” it turns out, is not a chemist’s term. Kerogen is a loose, geological term (deriving from the ancient Greek word *keros*, meaning *wax*) that an industry oil glossary defines as: The naturally occurring, solid, insoluble organic material that occurs in source rocks and can yield oil upon

heating.[13] Kerogen is not a term typically found in chemistry textbooks or specifically used by professional chemists. Use of the term “kerogen” is generally a signal the person is a petroleum geologist or engineer, not a chemical scientist.

Ker Than, a staff writer for *LiveScience.com*, provides the common sense explanation for how kerogen is supposed to transform into “fossil fuel.”

> In the leading theory, dead organic material accumulates on the bottom of oceans, riverbeds or swamps, mixing with mud and sand. Over time, more sediment piles on top and the resulting heat and pressure transforms the organic layer into a dark and waxy substance known as kerogen.
>
> Left alone, the kerogen molecules eventually crack, breaking into shorter and lighter molecules composed almost solely of carbon and hydrogen atoms. Depending on how liquid or gaseous this mixture is, it will turn into either petroleum or natural gas.[14]

Chemical textbooks typically do not provide chemical formulae for kerogen. The transformation from “kerogen” to “fossil fuels” appears to be more a matter of faith, rather than an observed process that can be described in a precise chemical formula such that we can replicate in a laboratory the process by which the compound is produced.

Published scientific analyses attempting to describe “the notion of kinetic cracking of kerogen into petroleum” tend to start by pointing out that the explanation is not particularly rigorous. Consider, for example, this explanation by M. Vandenbroucke of the French Institute of Petroleum: “It is important to keep in mind that the name kerogen, in opposition with usual chemical nomenclature, does not represent a substance with a given chemical composition. Indeed kerogen is a generic name, in the same sense as lipids or proteins.”[15]

The resulting technical discussions of how kerogen produces oil from source rock generally end up describing field-oven heating devices typically designed to analyze rock samples, such as the *Rock-Eval prolysis device*, into which geologists can cook “source rock” in the field to see if the

specimen rock looks like other “source rock” where oil has already been found.[16] Again, the result is practical field geology, not rigorous laboratory science specifying chemical formulae identifying how flora and protoplasm turn into hydrocarbons.

Still lacking are the laboratory demonstrations authors such as Richard Heinberg claimed we would find. Has any scientist ever taken a flask of plankton or algae and produced a hydrocarbon fuel out of the mixture, or is the entire concept merely a process better relegated to alchemy?

Methane Synthesized in a Laboratory

In 2004, Henry Scott of Indiana University in South Bend, organized a research team including Dudley Herschbach, a Harvard University research professor of science and recipient of the 1986 Nobel Prize in chemistry, as well as scientific colleagues from Harvard University, the Carnegie Institute in Washington, and the Livermore National Lab, to see if they could synthetically produce methane in a laboratory without using organic materials of any kind.[17]

The research team decided to squeeze together iron oxide, calcium carbonate, and water at temperatures as hot as 500 degrees Celsius and under pressures as high as 11 gigapascals (one gigapascal is equivalent to the pressure of 10,000 atmospheres). Simply put, the scientists were testing a fundamental principal of the Fischer-Tropsch equations, trying to see if iron oxide, calcium carbonate, and water would produce methane if they were combined under pressures and temperatures comparable to those experienced in the earth's upper mantle.

To conduct the experiment, the scientists designed a "diamond anvil cell" mechanism consisting of two diamonds, each about three millimeters high (about one-eighth inch). The tips of the diamonds were pointed together, allowing them to compress a small metal plate designed to hold the sample of iron oxide, calcite (the primary component of marble), and water that the scientists wanted to force together. The scientists then conducted a variety of highly accurate spectroscopic analyses on the sample material that resulted. Herschbach explained the diamonds were ideal material for the experiment because, as one of the "hardest substances on earth, they can withstand the tremendous force, and because they're transparent, scientists can use beams of light and X-rays to identify what's inside the cell without pulling the diamonds apart."[18]

The basic idea was to smash the iron oxide, calcite, and water together at the types of temperatures and pressures we would expect to see deep within the earth and stand back to see what happened. The diamond mechanism provided a reliable way to take the end product and submit it to spectrographic analysis so its chemical content could be analyzed accurately. The goal was to prove that a hydrocarbon of the petroleum family could be produced via simple inorganic reactions involving no biological agents whatsoever.

Remarkably, the experiment worked. The scientists found they could easily produce methane, the principal component of natural gas, at temperatures around 500 degrees Celsius and at pressures of 7 gigapascals or greater. Inorganic chemicals (iron oxide, calcium carbonate, and water) had been combined to produce "organic" chemical, methane. Laurence Fried of Livermore Laboratory's Chemistry and Minerals Science Directorate summed up the importance of these findings as follows:

> The results demonstrate that methane readily forms by the reaction of marble with iron-rich minerals and water under conditions typical in Earth's upper mantle. This suggests there may be untapped methane reserves well below Earth's surface. Our calculations show that methane is thermodynamically stable under conditions typical of Earth's mantle, indicating that such reserves could potentially exist for millions of years.

Dr. Fried continued:

> At temperatures above 2,200 degrees Fahrenheit, we found that the carbon in calcite formed carbon dioxide rather than methane. This implies that methane in the interior of Earth might exist at depths between 100 and 200 kilometers. This has broad implications for the hydrocarbon reserves of our planet and could indicate that methane is more prevalent in the mantle than previously thought. Due to the vast size of Earth's mantle, hydrocarbon reserves in the mantle could be much larger than reserves currently found in Earth's crust.[19]

The research further showed that methane is thermodynamically stable under conditions typical in the mantle of the earth, “indicating that such reserves could potentially exist for millions of years.”[20] Moreover, the scientists concluded “the potential may exist for the high-pressure formation of heavier hydrocarbons by using mantle-generated methane as a precursor.”[21] This statement strongly suggested that the researchers were willing to conclude that their ability to generate methane synthetically in laboratory conditions simulating the heat and pressure conditions of the earth’s mantle encouraged them to contemplate that methane may be a precursor to forming heavier hydrocarbons, possibly even petroleum, from abiotic processes in the earth’s mantle.

In 1828, German chemist Friedrich Wöhler synthetically created urea by heating cynanic acid and ammonia. In other words, urea, then known only as an organic substance isolated from metabolically generated urine, had been generated by the combination of inorganic chemicals. This broke the presumption that had up to that time distinguished “organic” chemistry as devoted to a “living” class of chemicals that resulted from and possibly contained a “vital life force.” In a similar fashion, if methane can be created synthetically from inorganic chemicals, biological content is not a necessary a requirement to form hydrocarbons. Laboratory-produced abiotic methane challenges directly the theory that hydrocarbon fuels are by definition organic in origin. While this experiment generated only methane, not the more complex hydrocarbon structures required for petroleum, the scientists involved stated their conclusion that their results encouraged them to believe that the more complex hydrocarbon structures could also be created in an abiotic manner.

In discussing the experiment, Herschbach noted he derived inspiration from two previous thinkers: Dmitri Mendeleev, the nineteenth century Russian scientist who created the periodic table of elements, and Thomas Gold, the Austrian-born Cornell University astrophysicist perhaps most responsible for introducing the idea of abiotic oil to a United States audience.

Thomas Gold: The Deep, Hot Biosphere

Thomas Gold was a controversial professor of astronomy who taught at Cornell University and died in 2004, at 84 years old. In 1998, when he was 78, he published a controversial book entitled, *The Deep Hot Biosphere: The Myth of Fossil Fuels.*[22] With this book, Gold ventured into geology, taking up the controversial position that suggested the Russian-Ukranian deep, abiotic theory on the origin of oil was right, despite being ignored by Western scientists and geologists.

Gold was born in Vienna in 1920 and studied in Switzerland before going to England to study at Cambridge University shortly before World War II broke out. For a year, Gold was held in a British internment camp, because he was suspected of being an enemy spy. When he managed to talk his way out of that predicament, Gold ended up helping develop radar for the British Admiralty. He ended up in the United States, at Harvard. In 1959, he was recruited by Cornell University where he ended up chairing the astronomy department and directing a Center for Radiophysics and Space Research. He had to wait until 1969 to get his doctorate, when Cambridge University finally decided to bestow upon him an honorary degree.

As an astronomer, Gold was well aware that hydrocarbons are abundant in the universe. Since the early part of the 20th Century, spectrographs that analyze wavelengths have permitted astronomers to determine with certainty that carbon is the fourth most abundant element in the universe, right after hydrogen, helium, and oxygen. Furthermore, among planetary bodies, “carbon is found mostly in compounds with hydrogen – hydrocarbons – which, at different temperatures and pressures, may be gaseous, liquid, or solid. Astronomical techniques have thus produced clear and indisputable evidence that hydrocarbons are major constituents of bodies great and small within our solar system (and beyond).”[23]

In other words, hydrocarbons are not “organic chemicals” resulting from life processes on earth, as is commonly assumed by proponents of the fossil fuel theory. Rather, hydrogen is a fundamental element readily available in the universe, one that combines with carbon to form hydrocarbons, whether life is present or not. What astronomers have known about the abundance of hydrocarbons in the universe unfortunately has not passed over to geologists who all too often continue to think of hydrocarbons as forming only through the activity of life – either in building life through photosynthesis, or when life dies such as when dinosaurs rot into oil.

What made sense to Gold was that hydrocarbons in various forms, including crude oil and methane gas, were fundamental building block of earth as it formed and as it has continued to develop over the millions of years the earth has existed. Gold fully realized his agreement with the Russians was that petroleum is “abiogenic and ubiquitous deep in the earth.”[24] In other words, go deep enough into the mantle of the earth, and you will find abundant oil everywhere. The reason we find oil in sedimentary rock is not that sedimentary rock is the “source rock” enclosing the rotting bio-matter, but because sedimentary rock is porous enough for the oil moving toward the surface of the earth to pool into, or because fissures in the crust of the earth have permitted oil to seep up from the mantle of the earth to pool in sedimentary rock.

Gold postulated not only that hydrocarbons were formed through abiotic processes, but also that hydrocarbons would seep from deep-water vents, providing gases and fluids needed for microbes to live, with no need of light or photosynthesis to provide them nourishment. He also explained the presence of macrobiotic and bacterial life observed in petroleum reserves as having been picked from the layers of rock through which the oil passed on the way to the earth’s surface. He concluded life is not confined to the surface of the planet. Instead, he saw earth itself as a biosphere, teeming with organisms living so deeply below the surface that the living organisms attaching to deep-water and deep-earth oil have never seen the light of day.

Gold Confirmed: Abiotic Oil found on Titan

NASA scientists in conjunction with the European Space Agency and the Italian Space Agency have determined from a Cassini-Huygens probe that first landed on Titan on Jan. 14, 2005, the giant moon of Saturn, that Titan contains abundant methane.

“We have determined that Titan’s methane is not of biological origin, so it must be replenished by geological processes on Titan, perhaps venting from a supply in the interior that could have been trapped there as the moon formed,” Dr. Hasso Niemann of the Goddard Space Flight Center told reporters on Nov. 30, 2005.[25]

Measurements were taken by the Gas Chromatograph Mass Spectrometer, or GCMS, that identifies different atmospheric constituents by their mass. Analysis of the GCMS findings determined that the methane on Titan was composed of Carbon-13, the isotope of carbon associated with abiotic origins, whereas living organisms have a preference for Carbon-12. Each Carbon-13 atom has an extra neutron in its nucleus, making Carbon-13 atoms slightly heavier than Carbon-12 atoms, permitting the GCMS to distinguish between methane isotopes with Carbon-12 and methane with Carbon-13 atoms. NASA scientists examining the ration of Carbon-13 to Carbon-12 in the methane on Titan did not observe the Carbon-12 enrichment in the methane of Titan that was associated with organic carbon on Earth that typically is rich in Carbon-12.

Titan has hundreds of times more liquid hydrocarbons than all the known oil and natural gas reserves on Earth, according to a team of Johns Hopkins scientists reporting in February 2008 on their new findings from data collected from Cassini-Huygens probe radar data.[26]

“Several hundred lakes or seas have been discovered, of which dozens are estimated to contain more hydrocarbon liquid than the entire known oil and

gas reserves on Earth," wrote lead scientist Ralph Lorenz of the Johns Hopkins University Applied Physics Laboratory, Laurel, Maryland, USA, in the Jan. 29,2008 issue of the Geophysical Research Letters.[27] Lorenz also reported dark dunes running along the equator cover 20 percent of Titan's surface, comprising a volume of hydrocarbon material several hundred times larger than Earth's coal reserves. "Titan is just covered in carbon-bearing material – it's a giant factory of organic chemicals," Lorenz wrote.

The Lost City Hydrothermal Field

Gold began his book, *The Deep, Hot Biosphere*, discussion of the deep-sea-diving submarine *Alvin's* exploration of sea vents along the East Pacific Rise, northeast of the Galapagos Islands. In 2000, the Alvin found a remarkable submarine ecosystem in the mid-Atlantic Ridge at depths of 4 to 5 miles below the surface of the ocean. Termed the "Lost City," this hydrothermal field was living off deep-earth hydrocarbon that was venting out calcium carbonate chimneys that reached up almost 100 yards from the ocean floor.

The scientific exploration of Lost City turned out both to provide additional confirmation for Gold's hypothesis of sea-bottom life deriving nourishment not from photosynthesis, but from the abiotic hydrocarbons venting from deep within the Earth onto the sea floor, but also for the theory that deep-earth, deep-water hydrocarbons are abiotic in nature, formed according to the laws established in the Fischer-Tropsch equations.

In the Feb. 1, 2008 issue of *Science Magazine* Giora Proskurowski of the School of Oceanography at the University of Washington in Seattle published an article entitled, "Abiogenic Hydrocarbon Production at Lost City Hydrothermal Field."[28] Here, Proskurowski reported on research led by the University of Washington and the Woods Hole Oceanographic Institute that sampled the hydrogen-rich fluids venting at the bottom of the Atlantic Ocean in the Lost City Hydrothermal Field. Remarkably, Proskurowski and his team found the hydrogen-rich fluids were produced by the abiotic synthesis of hydrocarbons caused by the simple interaction of seawater with the rocks under the Lost City hydrothermal vent field in the Atlantic Ocean.

"Low-molecular-weight hydrocarbons in natural hydrothermal fluids have been attributed to abiogenic production by Fischer-Tropsch type (FTT) reactions, although clear evidence for such a process has been elusive,"

Proskurowski and his team wrote in the abstract to the article. “Here we present concentration, and stable radiocarbon isotope, data from hydrocarbons dissolved in hydrogen-rich fluids venting at the ultramafic-hosted Lost City Hidrothermal Field.” Radiocarbon evidence ruled out seawater bicarbonate as the source for the FTT reactions, suggesting that a inorganic carbon source derived from the mantle of the earth was leached from the host rocks. “Our findings illustrate that the abiotic synthesis of hydrocarbons in nature may occur in the presence of ultramafic rocks, water, and moderate amounts of heat.”

Proskurowski’s findings indicated “that the abiotic synthesis of hydrocarbons in nature may occur in the presence of ultramafic rocks, water, and moderate amounts of heat.” Ultramafic rocks are igneous and meta-igneous rocks typically found in the earth’s mantle. Proskurowski’s scientific paper specifically cited the FTT equations describing how a process called “serpentinization” creates a reducing chemical environment characterized by high hydrogen concentrations suited to abiotic hydrocarbon productions. The serpentinization equations, well understood by scientists since at least 1938, show how the abiotic process works when olivine, a magnesium iron silicate found commonly in the earth’s mantle. A breakthrough in the FTT equations involved the realization that FTT reactions can occur in the deep underwater hydrothermal conditions where dissolved carbon dioxide is the carbon source used to combine with the hydrogen produced by serpentinization to form the simple C1-C4 hydrocarbon chains the Lost Sea scientists have discovered so far.

Proskurowski ruled out seawater bicarbonate as the carbon source for the observed FTT reactions, insisting that, “a mantle-derived inorganic carbon source is leached from the host rocks.”

Lost City http://www.oceanexplorer.noaa.gov/explorations/05lostcity/ is a hypothermal field some 2,100 feet below sea level that sits along the Mid-Atlantic Ridge at the center of the Atlantic Ocean, noted for strange 90- to 200-foot white towers that the sea bottom. In 2003 and again in 2005, Proskurowski and his team descended in a scientific submarine to collect liquid bubbling up from Lost City sea vents.[29] The found hydrocarbons containing carbon-13 isotopes that appeared to be formed from the mantle

of the Earth, rather than from biological material settled on the ocean floor. Once again, Carbon-13 is the carbon isotope that scientists typically associate with abiotic origin, compared to Carbon-12 that scientists typically associate with biological origin. As indicated by the scientific language quoted above, Proskurowski concluded that the hydrocarbons found in the natural hydrothermal fluids coming out of the Lost City sea vents is attributable to abiotic production by Fischer-Tropsch, or FTT, reactions – results that confirmed both Thomas Gold's theories and the German scientists who developed the Fischer-Tropsch equations.

Affirming this point, Proskurowski concluded the article by noting, "Hydrocarbon production by FTT could be a common means for producing precursors of life-essential building blocks in ocean-floor environments or wherever warm ultramafic rocks are in contact with water."

Interestingly, Thomas Gold took a jab at scientists persisting in their convictions that oil has a biological origin, writing on page 85 of his 1998 book *The Deep Hot Biosphere*, "Nobody has yet synthesized crude oil or coal in the lab from a beaker of algae or ferns."

Hydrocarbons in Deep Earth

On March 18, 2011, a seminal paper authored by scientists from the University of California at Davis, the Lawrence Livermore National Laboratory, and Shell Products Technology, entitled, “Stability of hydrocarbons at deep Earth pressures and temperatures,” was accepted for publication in the Proceedings of the National Academy of Sciences.[30]

The importance of the paper was that the scientists revealed how hydrocarbon may be formed from methane deep with the earth at extreme pressures and temperatures. Up until the publication of this paper, the evidence was growing that deep-earth methane was produced through abiotic processes. Now, with the publication of this paper, scientists were beginning to establish that higher-chain hydrocarbons were also formed deep within the earth through abiotic processes.

“Our simulation stud shows that methane molecules fuse to form larger hydrocarbon molecules when exposed to the very high temperatures and pressures of the Earth’s upper mantle,” explained UC Davis chemistry and physics professor Giulia Galli, a co-author of the study.[31]

Still, press release issued jointly by UC Davis and the Lawrence Livermore National Laboratory bowed to political correctness by announcing the findings on abiotic oil while being sure to mention that, of course, we all know the hydrocarbons that are really important are biological in origin.

“Geologists and geochemists believe that nearly all (more than 99 percent) of the hydrocarbons in commercially produced crude oil and natural gas are formed by the decomposition of the remains of living organisms, which were buried under layers of sediments in the Earth’s crust, a region approximately 5-10 miles below the Earth’s surface,” the press release noted.

The Fossil Fuel Paradigm Dies Hard

As physicist Thomas Kuhn pointed out in his 1962 book entitled, *The Structure of Scientific Revolutions*, science advances not by the gradual progress of studies that refine major propositions, but by revolutionary theories that disrupt and ultimately supersede previous, nearly universally accepted scientific hypotheses, that are shown to be inadequate in comparison. [32]

According to Kuhn, accepted scientific theories form a “paradigm,” defined as a series of propositions and theories that constitute the scientific theory. Ptolemaic astronomy, for instance, was a “paradigm” built around the idea that the sun and planets revolved around the earth. The “Copernican Revolution” replaced Ptolemaic astronomy with the understanding that the earth and other planets revolve around the sun. Paradigm shifts, according to Kuhn, involve revolutions, in which new, competing theories appear first as “heresies,” or, as todays orthodox thinkers would malign, as “conspiracy theories, that have to fight their way to acceptance, against a legion of established opponents who have invested carriers as well as their entire adult belief systems in a view of the world that the new theory demands they abandon.

Fundamentally, the concept of “fossil fuel” violates the Second Law of Thermodynamics, in which we are given to understand that energy dissipates. As an illustration, consider releasing the neck of a blown-up balloon. The air rushes out. Forcing the air back into the balloon happens only with a new expenditure of energy. Similarly, organic material at death disintegrates into constituent chemicals.

The Bible teaches, “dust unto dust,” to explain what happens to the human body at death; nowhere does the Bible admonish, “dust into oil.” We bury in part because decomposing bodies emit a foul odor. No grieving relative

ever instructs a funeral director to put a spigot onto a casket because "Auntie is going to turn into Diesel Fuel No. 2."

Within a few decades, Americans will consider it as ridiculous to contemplate that hydrocarbon fuels were called "fossil fuels" as it would be to argue that the sun and planets revolve around the earth.

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[31] Anne M. Stark, "Hydrocarbons in the Deep Earth," Press Release, Lawrence Livermore National Laboratory, April 4, 2011, at https://www.llnl.gov/news/newsreleases/2011/Apr/NR-11-04-04.html. The identical Press Release issued by UC Davis can be found here:

http://www.ls.ucdavis.edu/mps/news-and-research/hydrocarbons-deep-earth.html.

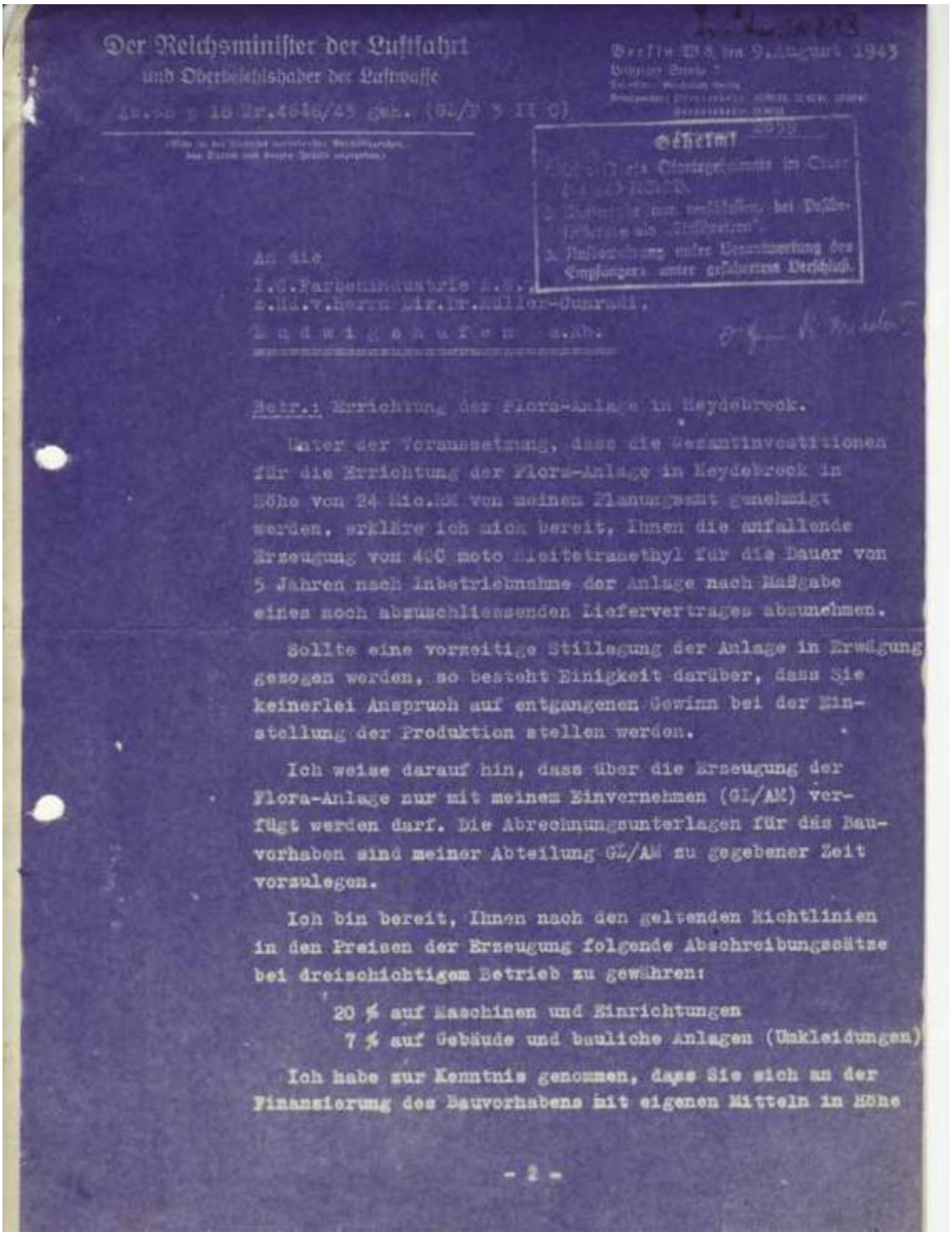
[32] Thomas S. Kuhn, *The Structure of Scientific Revolutions*. (Chicago: University of Chicago Press, 1962). The page numbers cited here come from the University of Chicago Third Edition of the book published as a paperback in 1996.

EXHIBIT INSERT

These exhibits all come from the National Archives and Records Administration in Washington, D.C.
Three separate record collections from the World War II era were examined to produce these exhibits:

1. **The Combined Intelligence Objectives Subcommittee;**
2. **Operation Paperclip Declassified Files; and**
3. **U.S. Strategic Bombing Survey.**

Most of these exhibits are published here for the first time.



Der Reichsminister der Luftfahrt
und Oberbefehlshaber der Luftwaffe

Berlin W 8, den 9. August 1943

Geheim

An die
I.G. Farbenindustrie A.G.
z.Hd.v.Herrn Dir.Dr.Müller-Cunradi.
Ludwigshafen a.Rh.

Betr.: Errichtung der Flora-Anlage in Heydebreck.

Unter der Voraussetzung, dass die Gesamtinvestitionen für die Errichtung der Flora-Anlage in Heydebreck in Höhe von 24 Mio.RM von meinem Planungsamt genehmigt werden, erkläre ich mich bereit, Ihnen die anfallende Erzeugung von 40C moto Bleitetraethyl für die Dauer von 5 Jahren nach Inbetriebnahme der Anlage nach Maßgabe eines noch abzuschliessenden Liefervertrages abzunehmen.

Sollte eine vorzeitige Stillegung der Anlage in Erwägung gezogen werden, so besteht Einigkeit darüber, dass Sie keinerlei Anspruch auf entgangenen Gewinn bei der Einstellung der Produktion stellen werden.

Ich weise darauf hin, dass über die Erzeugung der Flora-Anlage nur mit meinem Einvernehmen (GL/AM) verfügt werden darf. Die Abrechnungsunterlagen für das Bauvorhaben sind meiner Abteilung GL/AM zu gegebener Zeit vorzulegen.

Ich bin bereit, Ihnen nach den geltenden Richtlinien in den Preisen der Erzeugung folgende Abschreibungssätze bei dreischichtigem Betrieb zu gewähren:

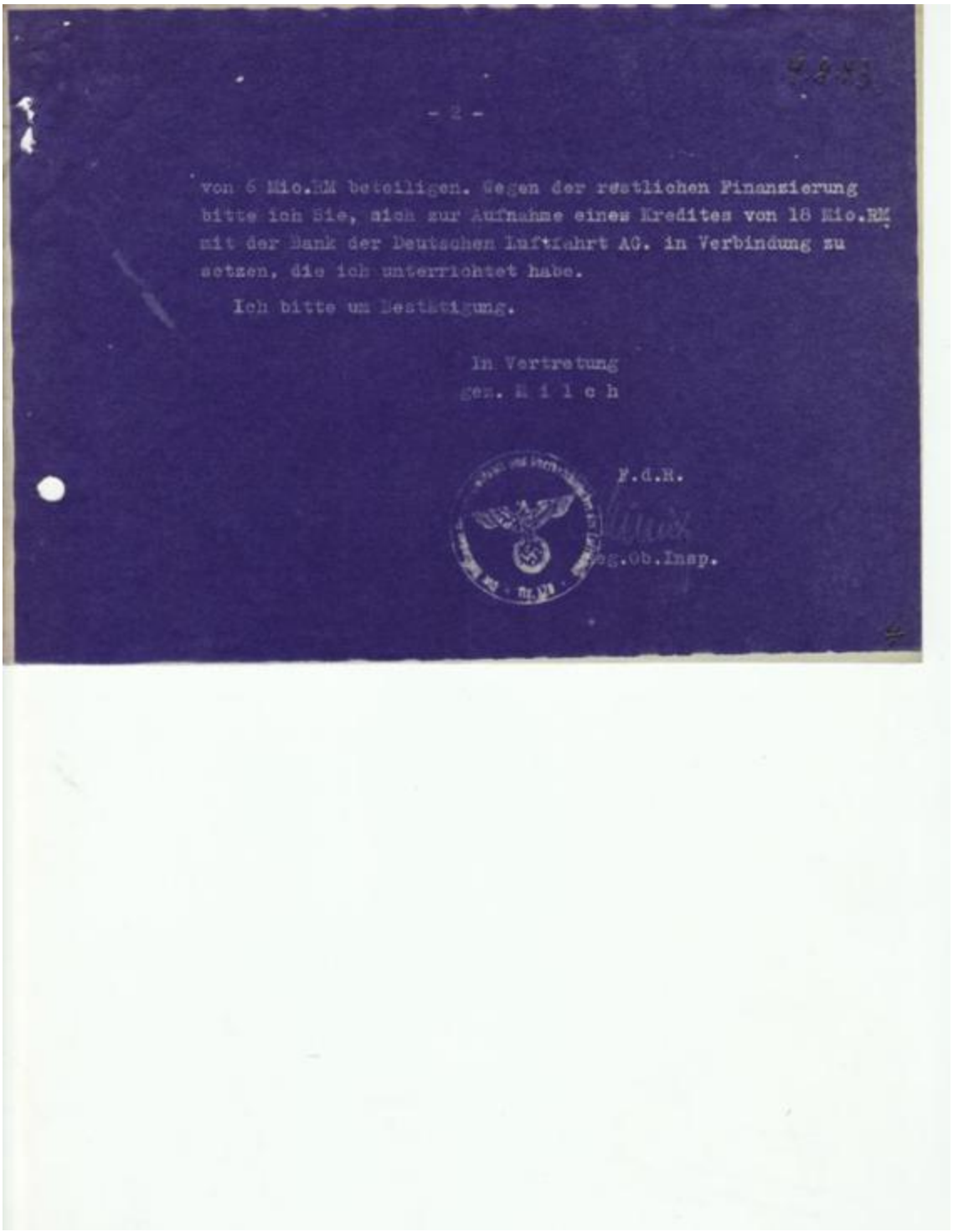
20 % auf Maschinen und Einrichtungen
7 % auf Gebäude und bauliche Anlagen (Umkleidungen)

Ich habe zur Kenntnis genommen, dass Sie sich an der Finanzierung des Bauvorhabens mit eigenen Mitteln in Höhe

- 1 -

Nazi Air Force Ministry Letter regarding I. G. Farben Synthetic Fuels War Efforts, dated August 9, 1943, page 1

Source: National Archives Records Administration, Washington, D.C.



- 2 -

von 6 Mio.RM beteiligen. Wegen der restlichen Finanzierung bitte ich Sie, sich zur Aufnahme eines Kredites von 18 Mio.RM mit der Bank der Deutschen Luftfahrt AG. in Verbindung zu setzen, die ich unterrichtet habe.

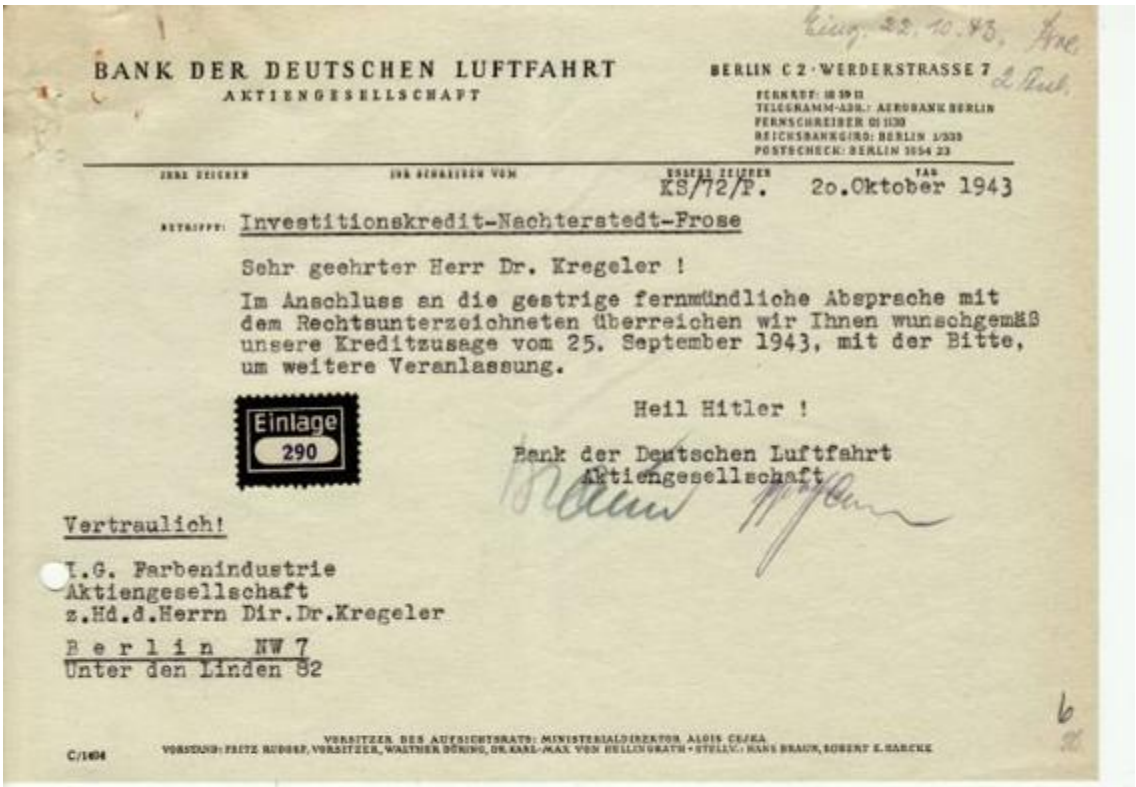
Ich bitte um Bestätigung.

In Vertretung
gez. M i l c h

F.d.R.

Reg.Ob.Insp.

Nazi Air Force Ministry Letter regarding I. G. Farben Synthetic Fuels War Efforts, page 2



BANK DER DEUTSCHEN LUFTFAHRT
AKTIENGESELLSCHAFT

BERLIN C 2 · WERDERSTRASSE 7

FERNRUF: ...
TELEGRAMM-ADR.: AERUBANK BERLIN
FERNSCHREIBER ...
REICHSBANKGIRO: BERLIN ...
POSTSCHECK: BERLIN ...

KS/72/P. 20.Oktober 1943

BETREFF: Investitionskredit-Nachterstedt-Frose

Sehr geehrter Herr Dr. Kregeler !

Im Anschluss an die gestrige fernmündliche Absprache mit dem Rechtsunterzeichneten überreichen wir Ihnen wunschgemäß unsere Kreditzusage vom 25. September 1943, mit der Bitte, um weitere Veranlassung.

Einlage 290

Heil Hitler !

Bank der Deutschen Luftfahrt
Aktiengesellschaft

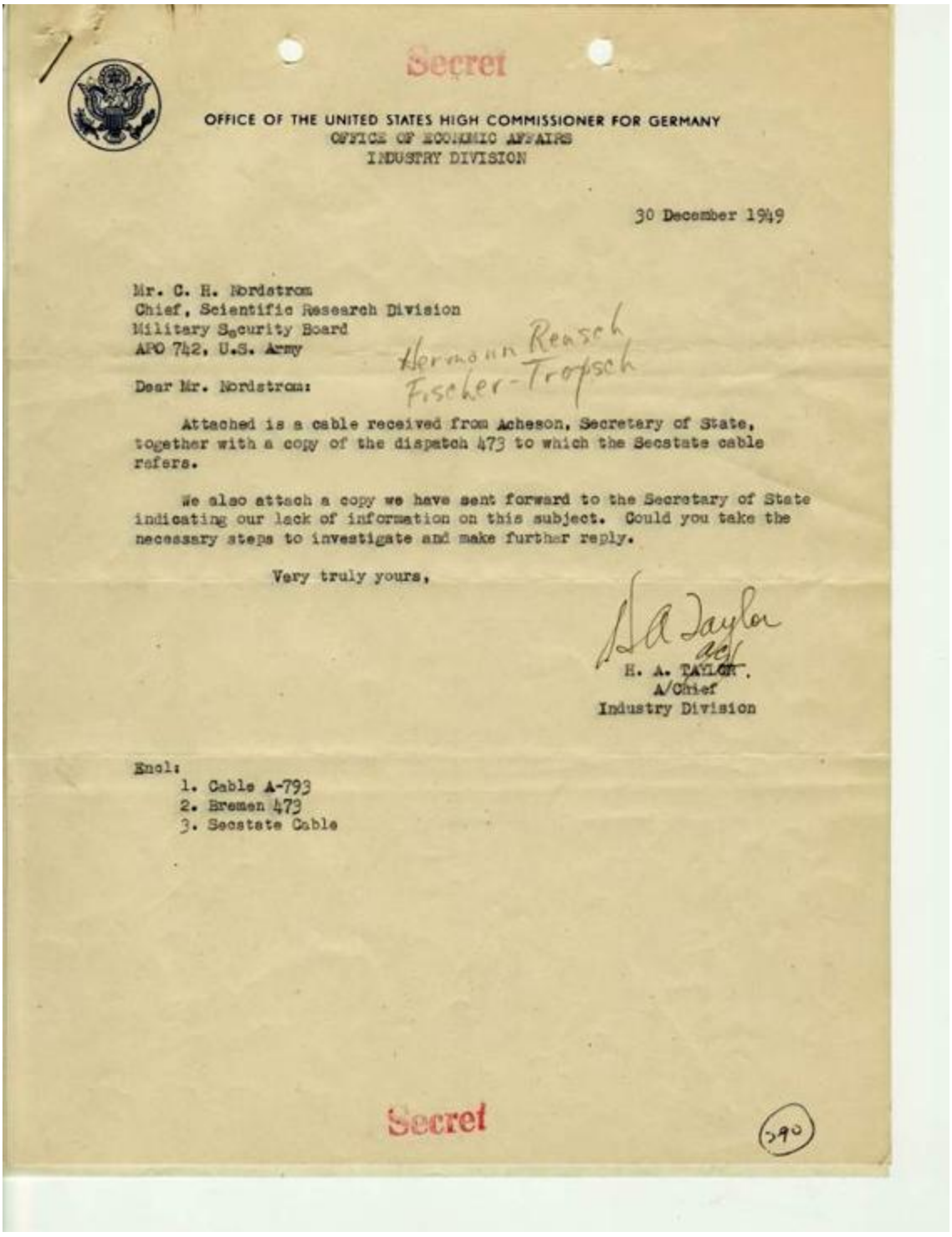
Vertraulich!

I.G. Farbenindustrie
Aktiengesellschaft
z.Hd.d.Herrn Dir.Dr.Kregeler
B e r l i n NW 7
Unter den Linden 82

C/1404

VORSITZER DES AUFSICHTSRATS: MINISTERIALDIREKTOR ALOIS CZIKA
VORSTAND: FRITZ RUDOLF, VORSITZER, WALTHER DÜRING, DR. KARL-MAX VON HELLDORF-BEDRA · STELLV.: HANS BRAUN, ROBERT E. HARCKE

Nazi Financing Commitment for Fischer-Tropsch Synthetic Fuel
Source: National Archives Records Administration, Washington, D.C.



Secret

OFFICE OF THE UNITED STATES HIGH COMMISSIONER FOR GERMANY
OFFICE OF ECONOMIC AFFAIRS
INDUSTRY DIVISION

30 December 1949

Mr. C. H. Nordstrom
Chief, Scientific Research Division
Military Security Board
APO 742, U.S. Army

Hermann Reasch
Fischer-Tropsch

Dear Mr. Nordstrom:

Attached is a cable received from Acheson, Secretary of State, together with a copy of the dispatch 473 to which the Secstate cable refers.

We also attach a copy we have sent forward to the Secretary of State indicating our lack of information on this subject. Could you take the necessary steps to investigate and make further reply.

Very truly yours,

H. A. Taylor acf
H. A. TAYLOR,
A/Chief
Industry Division

Encl:
1. Cable A-793
2. Bremen 473
3. Secstate Cable

Secret

590

Correspondence from the Office of the U.S. High Commission for Germany, dated December 30, 1949, Documenting Secretary of State Dean Acheson's Interest in Nazi FT Plants

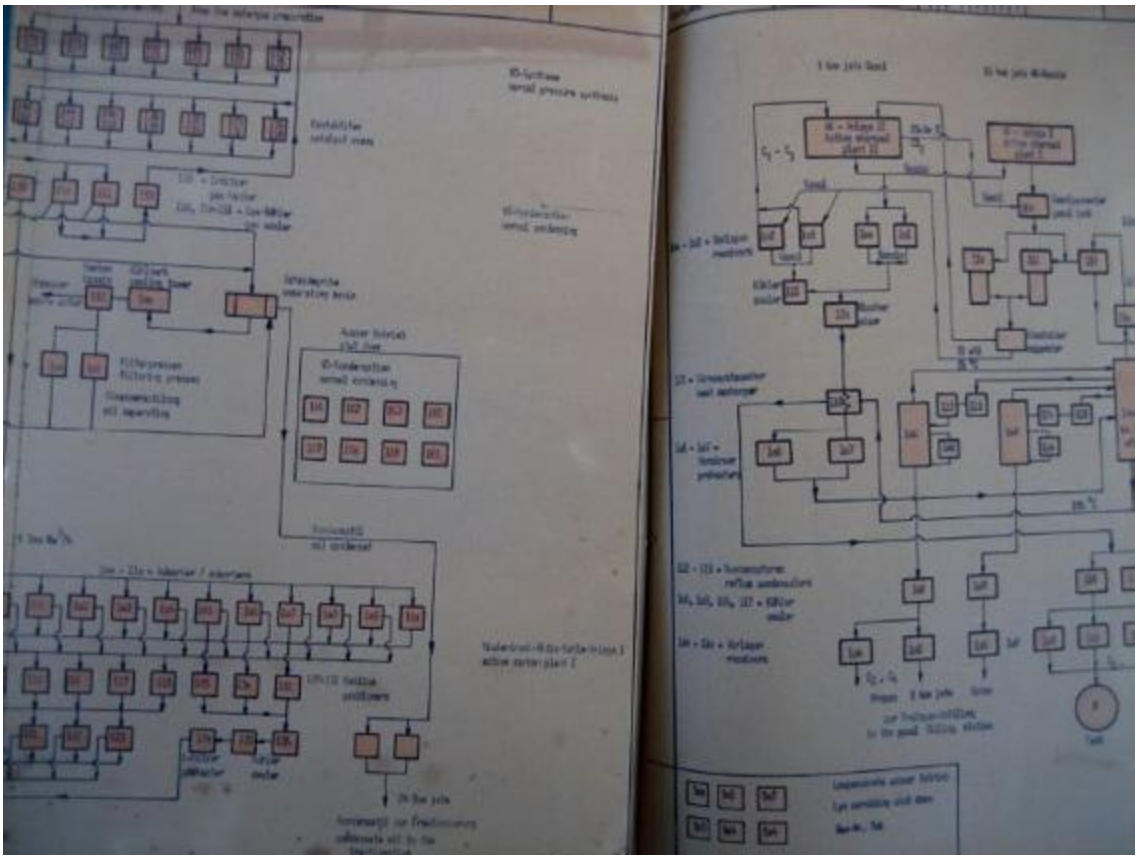
Source: National Archives Records Administration, Washington, D.C.

Nazi FT Plants: Diagrams, Operational Procedures, Official Documents

Source: National Archives Records Administration, Washington, D.C.

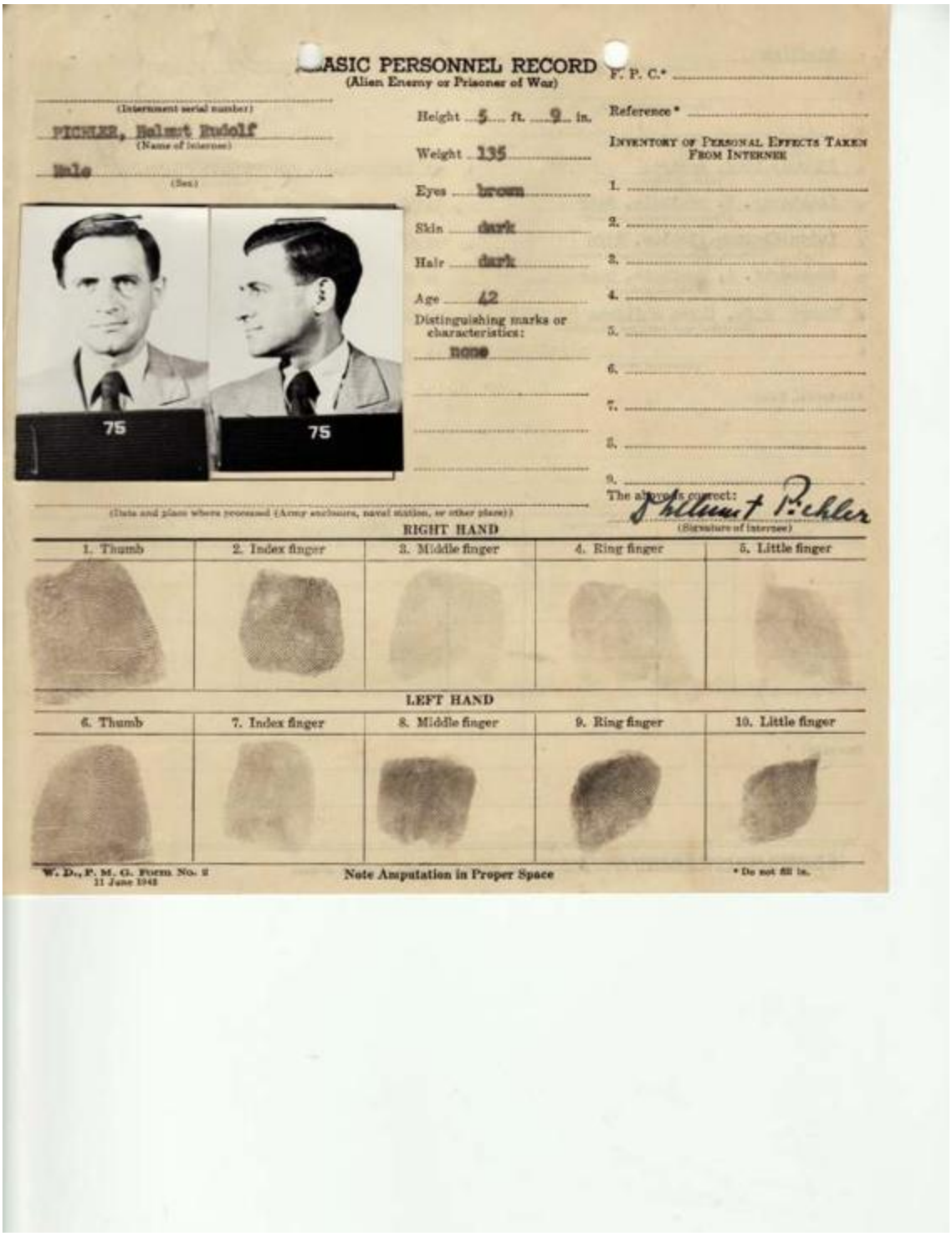
Declassified Documents, WWII Combined Intelligence Assessments, Nazi FT Plants

Source: National Archives Records Administration, Washington, D.C.



Declassified Documents: Schematic Diagrams, Nazi FT Plant Construction, WWII WWII Combined Intelligence Assessments, Nazi FT Plants

Source: National Archives Records Administration, Washington, D.C.



BASIC PERSONNEL RECORD
(Alien Enemy or Prisoner of War)

F. P. C.* .....

(Internment serial number)

PICHLER, Helmut Rudolf
(Name of internee)

Male
(Sex)

Height 5 ft. 9 in.
Weight 135
Eyes brown
Skin dark
Hair dark
Age 42
Distinguishing marks or characteristics:
none

Reference* .....

INVENTORY OF PERSONAL EFFECTS TAKEN FROM INTERNEE

1. .....
2. .....
3. .....
4. .....
5. .....
6. .....
7. .....
8. .....
9. .....

The above is correct:
Helmut Pichler
(Signature of internee)

75 75

(Date and place where processed (Army enclosure, naval station, or other place))

RIGHT HAND

1. Thumb	2. Index finger	3. Middle finger	4. Ring finger	5. Little finger

LEFT HAND

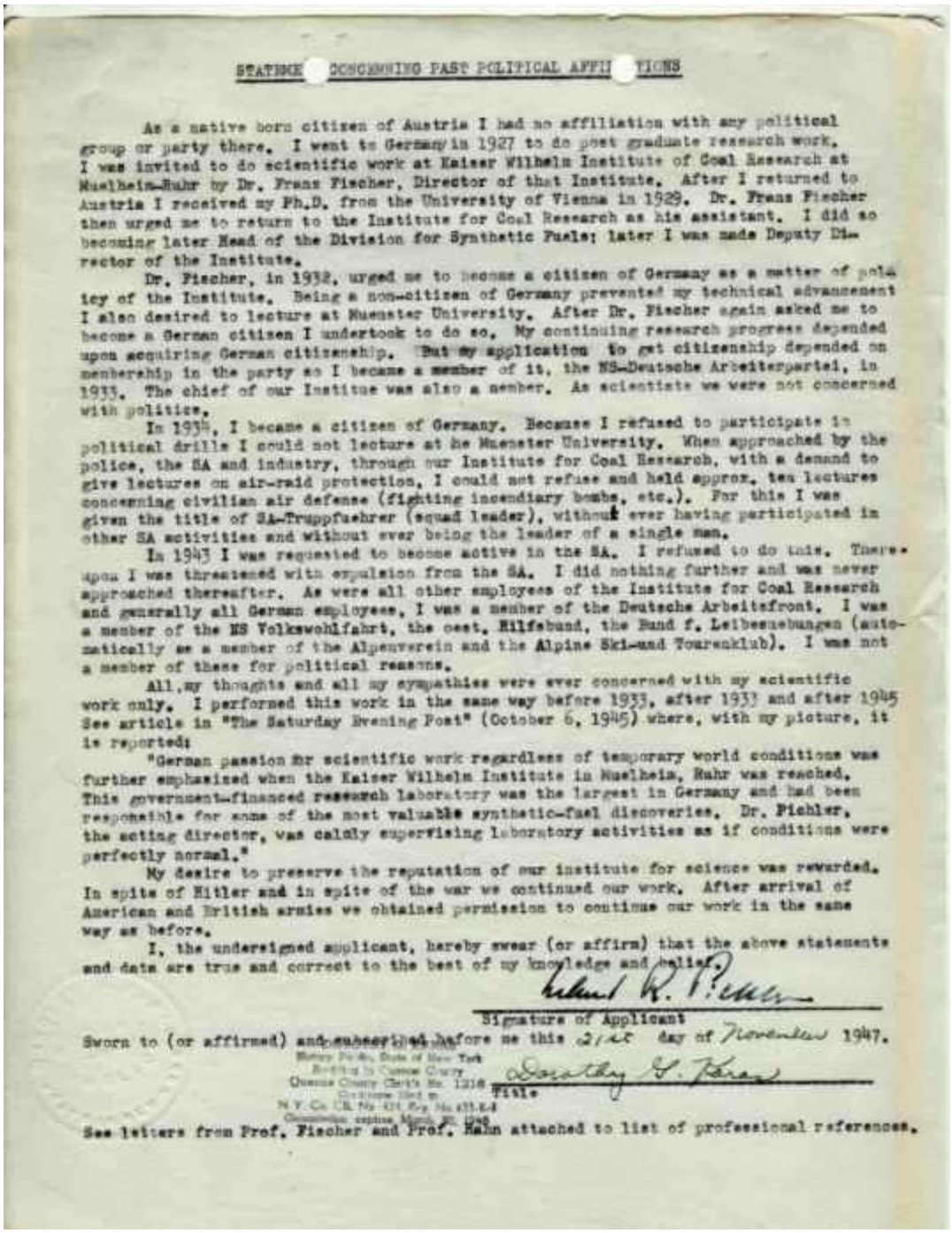
6. Thumb	7. Index finger	8. Middle finger	9. Ring finger	10. Little finger

W. D., P. M. G. FORM No. 2
11 June 1942

Note Amputation in Proper Space

* Do not fill in.

Nazi FT Scientist Helmut Pichler, Fingerprint ID Card
Operation "Paperclip" Declassified Document
Source: National Archives Records Administration, Washington, D.C.



STATEMENT CONCERNING PAST POLITICAL AFFILIATIONS

As a native born citizen of Austria I had no affiliation with any political group or party there. I went to Germany in 1927 to do post graduate research work. I was invited to do scientific work at Kaiser Wilhelm Institute of Coal Research at Muelheim-Ruhr by Dr. Franz Fischer, Director of that Institute. After I returned to Austria I received my Ph.D. from the University of Vienna in 1929. Dr. Franz Fischer then urged me to return to the Institute for Coal Research as his assistant. I did so becoming later Head of the Division for Synthetic Fuels; later I was made Deputy Director of the Institute.

Dr. Fischer, in 1932, urged me to become a citizen of Germany as a matter of policy of the Institute. Being a non-citizen of Germany prevented my technical advancement I also desired to lecture at Muenster University. After Dr. Fischer again asked me to become a German citizen I undertook to do so. My continuing research progress depended upon acquiring German citizenship. But my application to get citizenship depended on membership in the party so I became a member of it, the NS-Deutsche Arbeiterpartei, in 1933. The chief of our Institue was also a member. As scientists we were not concerned with politics.

In 1934, I became a citizen of Germany. Because I refused to participate in political drills I could not lecture at the Muenster University. When approached by the police, the SA and industry, through our Institute for Coal Research, with a demand to give lectures on air-raid protection, I could not refuse and held approx. ten lectures concerning civilian air defense (fighting incendiary bombs, etc.). For this I was given the title of SA-Truppfuehrer (squad leader), without ever having participated in other SA activities and without ever being the leader of a single man.

In 1943 I was requested to become active in the SA. I refused to do this. Thereupon I was threatened with expulsion from the SA. I did nothing further and was never approached thereafter. As were all other employees of the Institute for Coal Research and generally all German employees, I was a member of the Deutsche Arbeitsfront. I was a member of the NS Volkswohlfahrt, the oest. Hilfsbund, the Bund f. Leibesuebungen (automatically as a member of the Alpenverein and the Alpine Ski- und Tourenklub). I was not a member of these for political reasons.

All my thoughts and all my sympathies were ever concerned with my scientific work only. I performed this work in the same way before 1933, after 1933 and after 1945 See article in "The Saturday Evening Post" (October 6, 1945) where, with my picture, it is reported:

"German passion for scientific work regardless of temporary world conditions was further emphasized when the Kaiser Wilhelm Institute in Muelheim, Ruhr was reached. This government-financed research laboratory was the largest in Germany and had been responsible for some of the most valuable synthetic-fuel discoveries. Dr. Pichler, the acting director, was calmly supervising laboratory activities as if conditions were perfectly normal."

My desire to preserve the reputation of our institute for science was rewarded. In spite of Hitler and in spite of the war we continued our work. After arrival of American and British armies we obtained permission to continue our work in the same way as before.

I, the undersigned applicant, hereby swear (or affirm) that the above statements and data are true and correct to the best of my knowledge and belief.

Helmut K. Pichler

Signature of Applicant

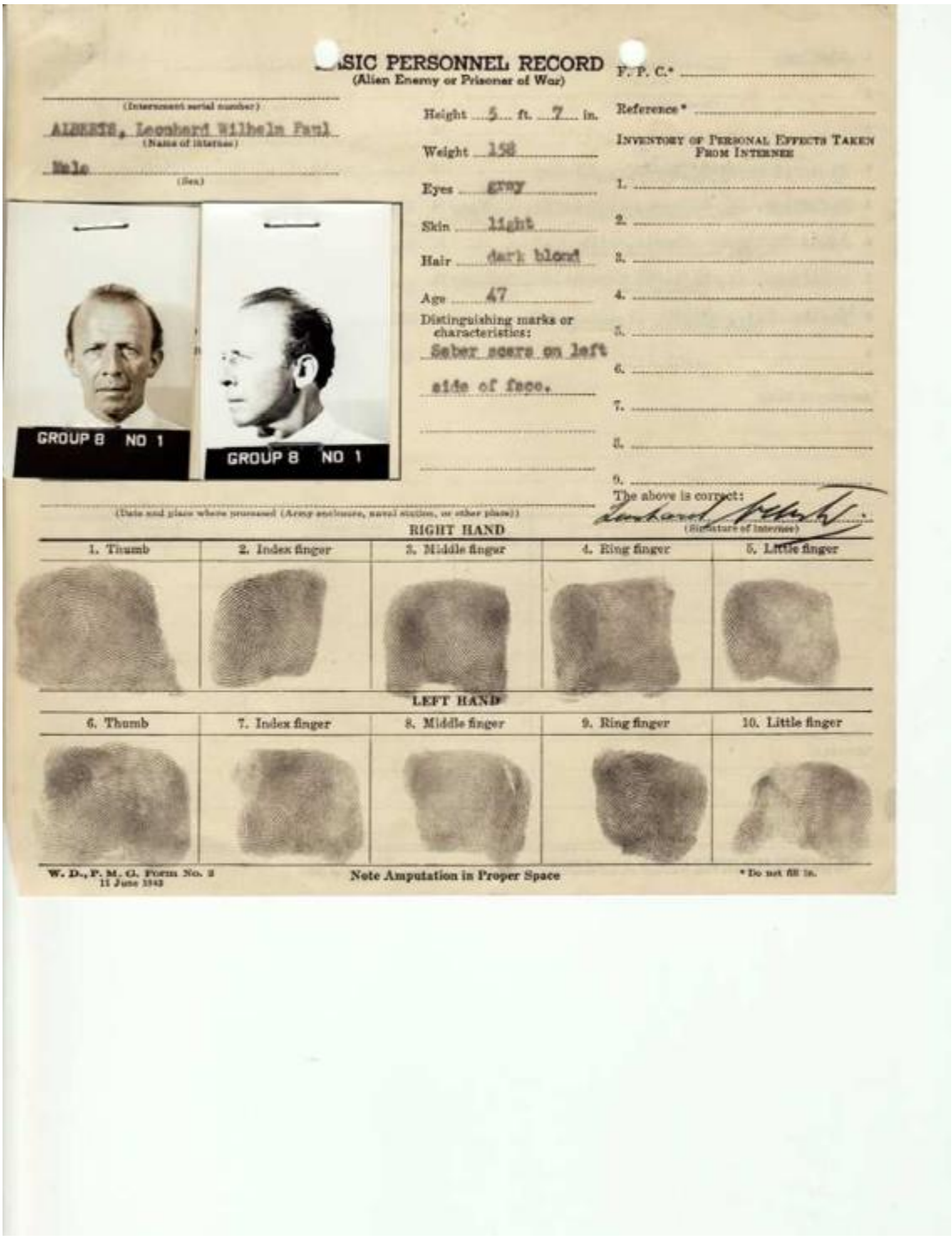
Sworn to (or affirmed) and subscribed before me this 21st day of November 1947.

Dorothy G. Braun

Title

See letters from Prof. Fischer and Prof. Hahn attached to list of professional references.

Nazi FT Scientist Helmut Pichler, Political Affiliations Statement
Operation "Paperclip" Declassified Document
Source: National Archives Records Administration, Washington, D.C.



SIC PERSONNEL RECORD
(Alien Enemy or Prisoner of War)

P. P. C.* _____

(Internment serial number)

ALBERTS, Leonhard Wilhelm Paul
(Name of internee)

Male
(Sex)

Height 5 ft. 7 in.
Weight 158
Eyes gray
Skin light
Hair dark blond
Age 47
Distinguishing marks or characteristics:
Saber scars on left side of face.

Reference* _____

INVENTORY OF PERSONAL EFFECTS TAKEN FROM INTERNEE

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____

The above is correct:
Leonhard Alberts
(Signature of internee)

GROUP B NO 1

GROUP B NO 1

(Date and place where processed (Army enclosure, naval station, or other place))

RIGHT HAND

1. Thumb	2. Index finger	3. Middle finger	4. Ring finger	5. Little finger

LEFT HAND

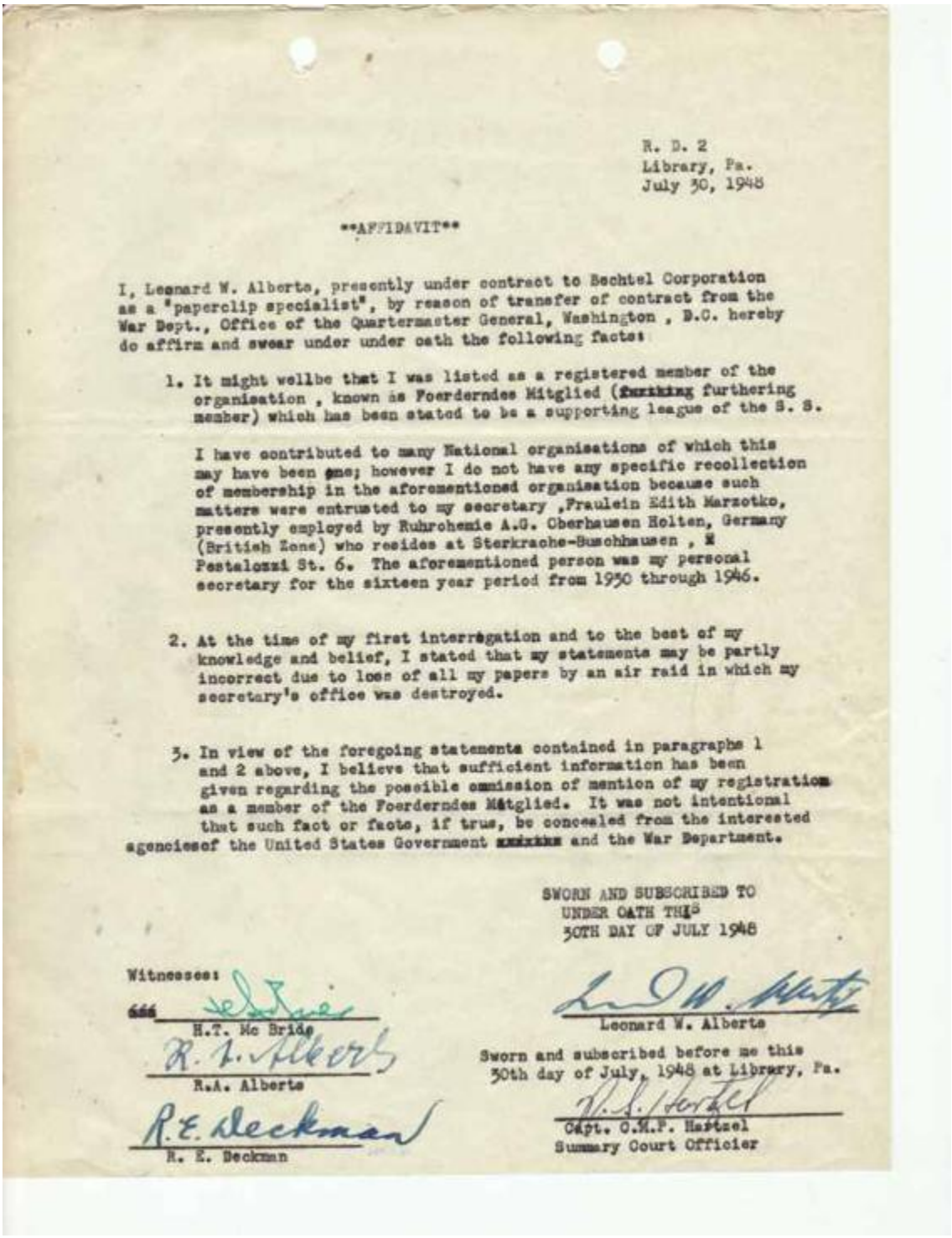
6. Thumb	7. Index finger	8. Middle finger	9. Ring finger	10. Little finger

W. D., F. M. G. Form No. 2
11 June 1943

Note Amputation in Proper Space

* Do not fill in.

Nazi FT Scientist Leonhardt Alberts, Fingerprint ID Card
Operation "Paperclip" Declassified Document
Source: National Archives Records Administration, Washington, D.C.



R. D. 2
Library, Pa.
July 30, 1948

AFFIDAVIT

I, Leonard W. Alberts, presently under contract to Bechtel Corporation as a "paperclip specialist", by reason of transfer of contract from the War Dept., Office of the Quartermaster General, Washington , D.C. hereby do affirm and swear under under oath the following facts:

1. It might wellbe that I was listed as a registered member of the organisation , known as Foerderndes Mitglied (furthering furthering member) which has been stated to be a supporting league of the S. S.

   I have contributed to many National organisations of which this may have been one; however I do not have any specific recollection of membership in the aforementioned organisation because such matters were entrusted to my secretary ,Fraulein Edith Marzotko, presently employed by Ruhrchemie A.G. Oberhausen Holten, Germany (British Zone) who resides at Sterkrache-Buschhausen , Pestalozzi St. 6. The aforementioned person was my personal secretary for the sixteen year period from 1930 through 1946.

2. At the time of my first interrogation and to the best of my knowledge and belief, I stated that my statements may be partly incorrect due to loss of all my papers by an air raid in which my secretary's office was destroyed.

3. In view of the foregoing statements contained in paragraphs 1 and 2 above, I believe that sufficient information has been given regarding the possible omission of mention of my registration as a member of the Foerderndes Mitglied. It was not intentional that such fact or facts, if true, be concealed from the interested agencies of the United States Government and the War Department.

SWORN AND SUBSCRIBED TO
UNDER OATH THIS
30TH DAY OF JULY 1948

Witnesses:

H.T. Mc Bride

R.A. Alberts

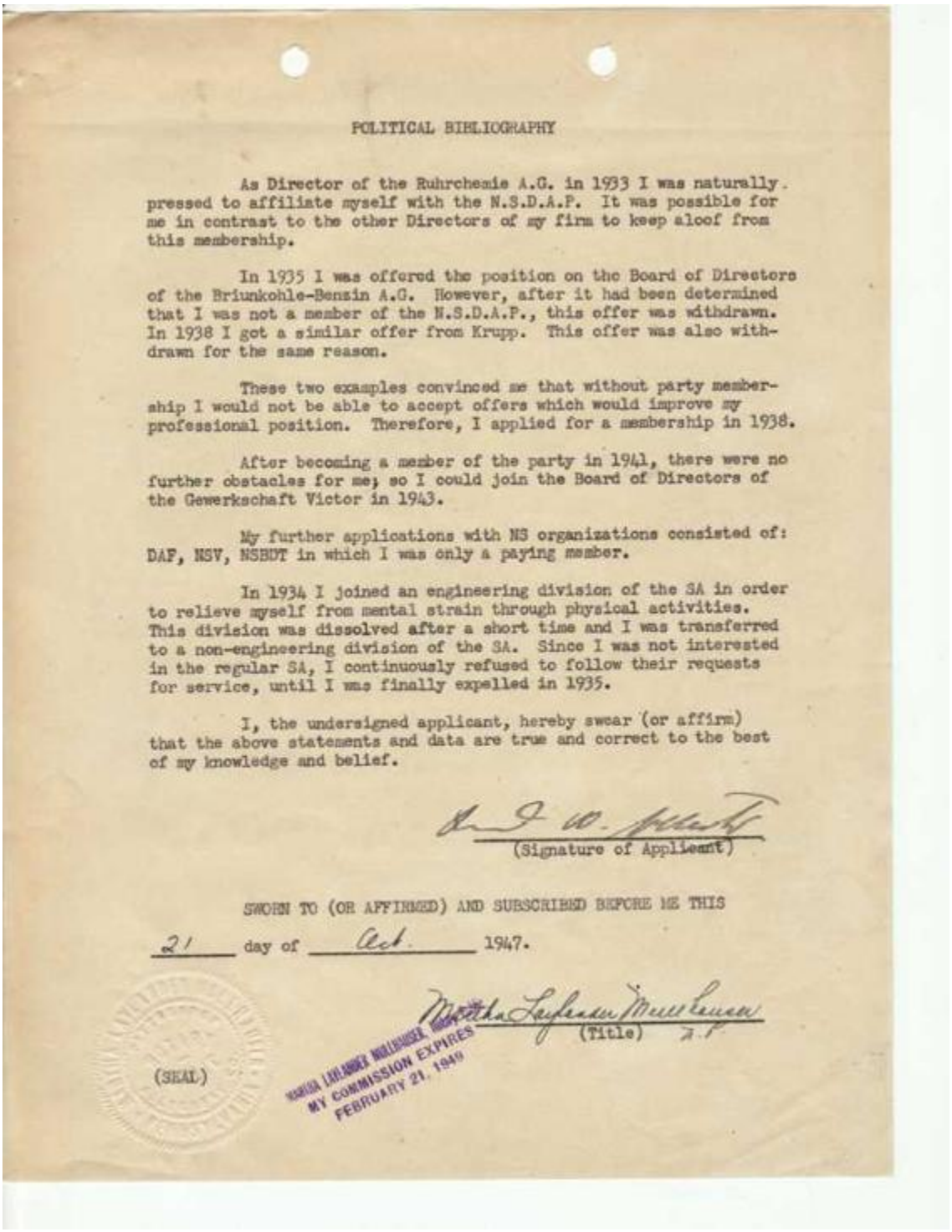
R. E. Deckman

Leonard W. Alberts

Sworn and subscribed before me this
30th day of July, 1948 at Library, Pa.

Capt. O.M.P. Hartzel
Summary Court Officier

Nazi FT Scientist Leonhardt Alberts, Political Affiliations Afffidavit
Operation "Paperclip" Declassified Document
Source: National Archives Records Administration, Washington, D.C.



POLITICAL BIBLIOGRAPHY

As Director of the Ruhrchemie A.G. in 1933 I was naturally pressed to affiliate myself with the N.S.D.A.P. It was possible for me in contrast to the other Directors of my firm to keep aloof from this membership.

In 1935 I was offered the position on the Board of Directors of the Briunkohle-Benzin A.G. However, after it had been determined that I was not a member of the N.S.D.A.P., this offer was withdrawn. In 1938 I got a similar offer from Krupp. This offer was also withdrawn for the same reason.

These two examples convinced me that without party membership I would not be able to accept offers which would improve my professional position. Therefore, I applied for a membership in 1938.

After becoming a member of the party in 1941, there were no further obstacles for me; so I could join the Board of Directors of the Gewerkschaft Victor in 1943.

My further applications with NS organizations consisted of: DAF, NSV, NSBDT in which I was only a paying member.

In 1934 I joined an engineering division of the SA in order to relieve myself from mental strain through physical activities. This division was dissolved after a short time and I was transferred to a non-engineering division of the SA. Since I was not interested in the regular SA, I continuously refused to follow their requests for service, until I was finally expelled in 1935.

I, the undersigned applicant, hereby swear (or affirm) that the above statements and data are true and correct to the best of my knowledge and belief.

(Signature of Applicant)

SWORN TO (OR AFFIRMED) AND SUBSCRIBED BEFORE ME THIS

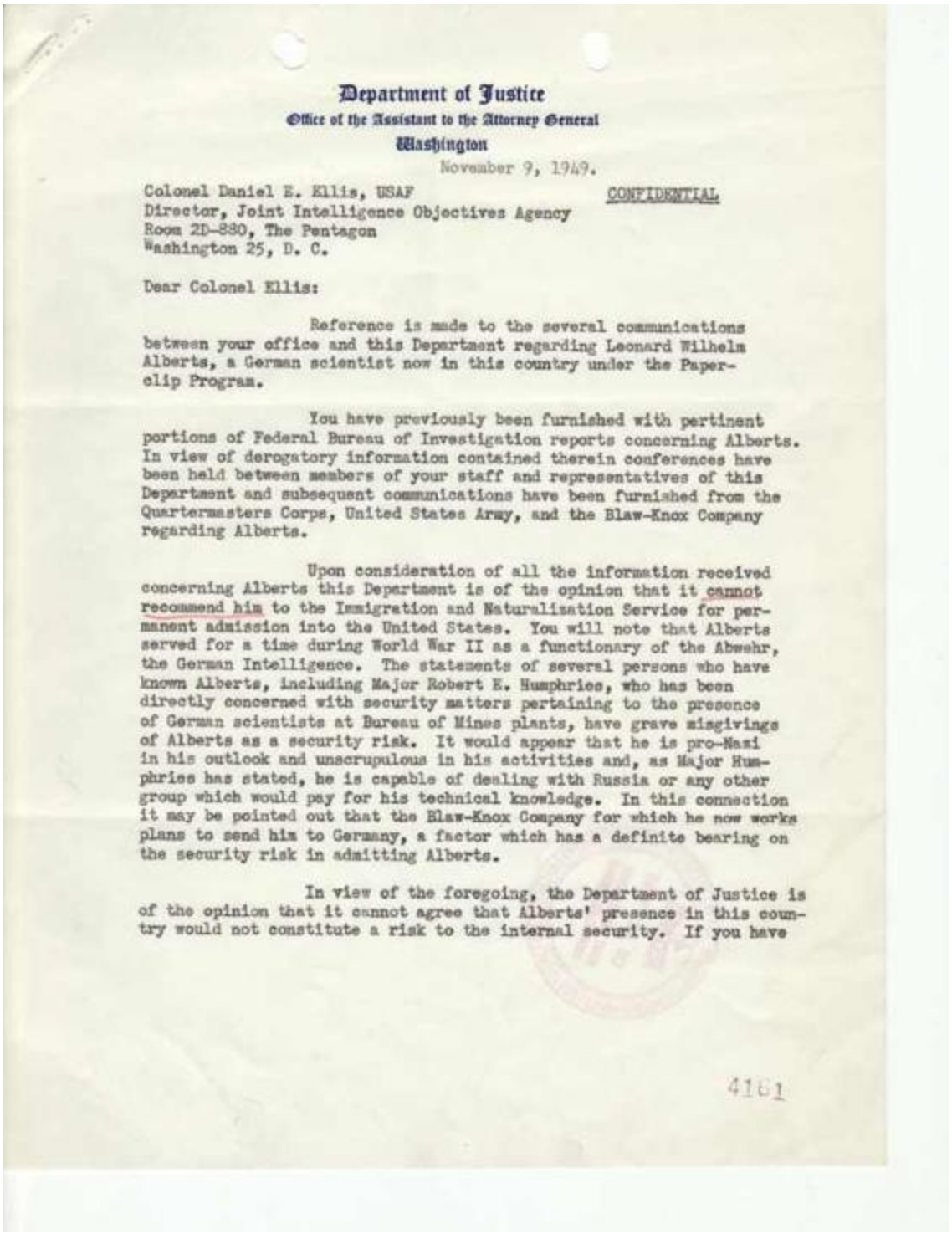
21 day of Oct. 1947.

(Title)

(SEAL)

MY COMMISSION EXPIRES FEBRUARY 21, 1949

Nazi FT Scientist Leonhardt Alberts, Political Statement
Operation "Paperclip" Declassified Document
Source: National Archives Records Administration, Washington, D.C.



Department of Justice
Office of the Assistant to the Attorney General
Washington

November 9, 1949.

Colonel Daniel E. Ellis, USAF
Director, Joint Intelligence Objectives Agency
Room 2D-880, The Pentagon
Washington 25, D. C.

CONFIDENTIAL

Dear Colonel Ellis:

Reference is made to the several communications between your office and this Department regarding Leonard Wilhelm Alberts, a German scientist now in this country under the Paperclip Program.

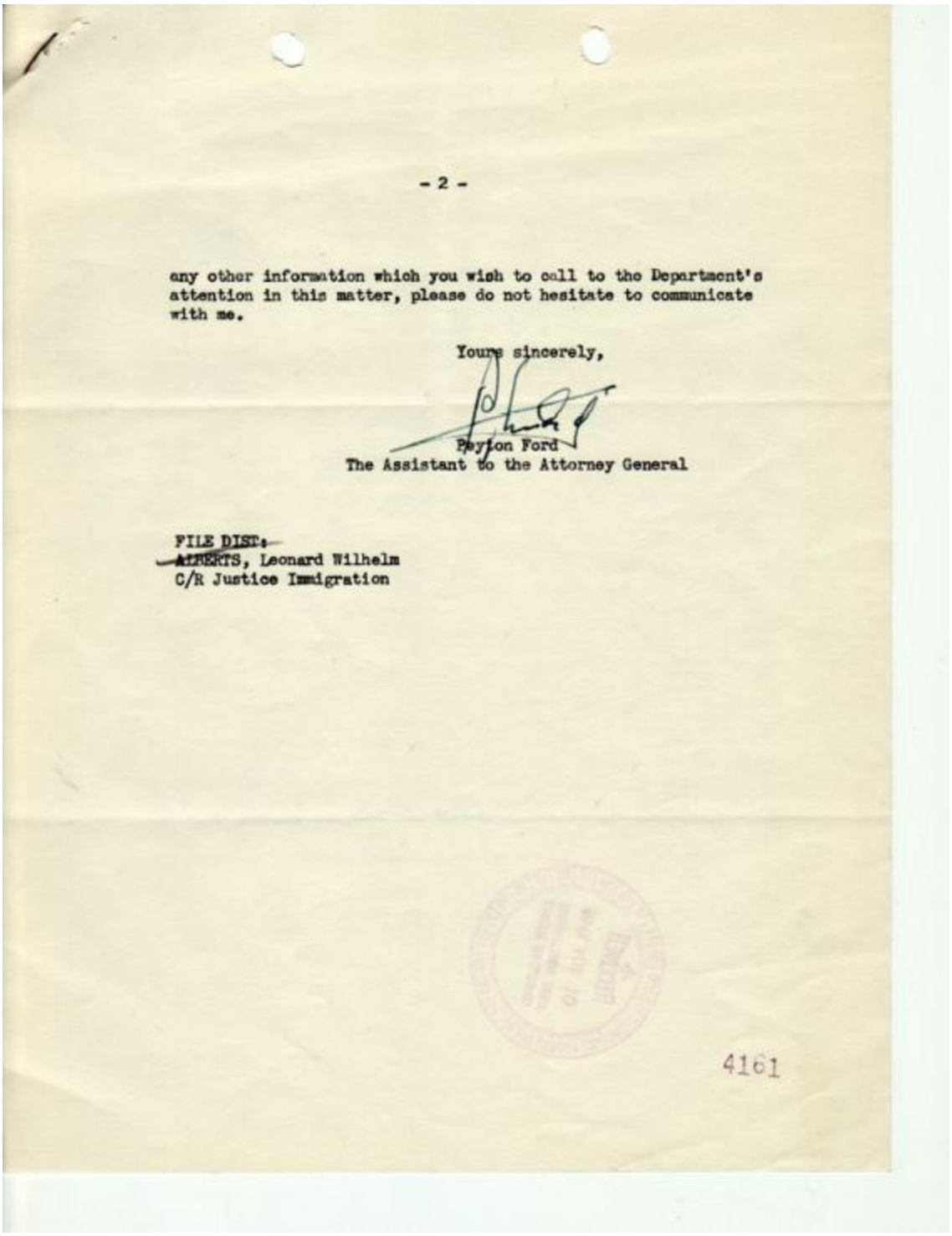
You have previously been furnished with pertinent portions of Federal Bureau of Investigation reports concerning Alberts. In view of derogatory information contained therein conferences have been held between members of your staff and representatives of this Department and subsequent communications have been furnished from the Quartermasters Corps, United States Army, and the Blaw-Knox Company regarding Alberts.

Upon consideration of all the information received concerning Alberts this Department is of the opinion that it cannot recommend him to the Immigration and Naturalization Service for permanent admission into the United States. You will note that Alberts served for a time during World War II as a functionary of the Abwehr, the German Intelligence. The statements of several persons who have known Alberts, including Major Robert E. Humphries, who has been directly concerned with security matters pertaining to the presence of German scientists at Bureau of Mines plants, have grave misgivings of Alberts as a security risk. It would appear that he is pro-Nazi in his outlook and unscrupulous in his activities and, as Major Humphries has stated, he is capable of dealing with Russia or any other group which would pay for his technical knowledge. In this connection it may be pointed out that the Blaw-Knox Company for which he now works plans to send him to Germany, a factor which has a definite bearing on the security risk in admitting Alberts.

In view of the foregoing, the Department of Justice is of the opinion that it cannot agree that Alberts' presence in this country would not constitute a risk to the internal security. If you have

4161

Nazi FT Scientist Leonhardt Alberts, U.S. Attorney General Declines Support, Letter dated November 9, 1949, page 1
Operation "Paperclip" Declassified Document
Source: National Archives Records Administration, Washington, D.C.



- 2 -

any other information which you wish to call to the Department's attention in this matter, please do not hesitate to communicate with me.

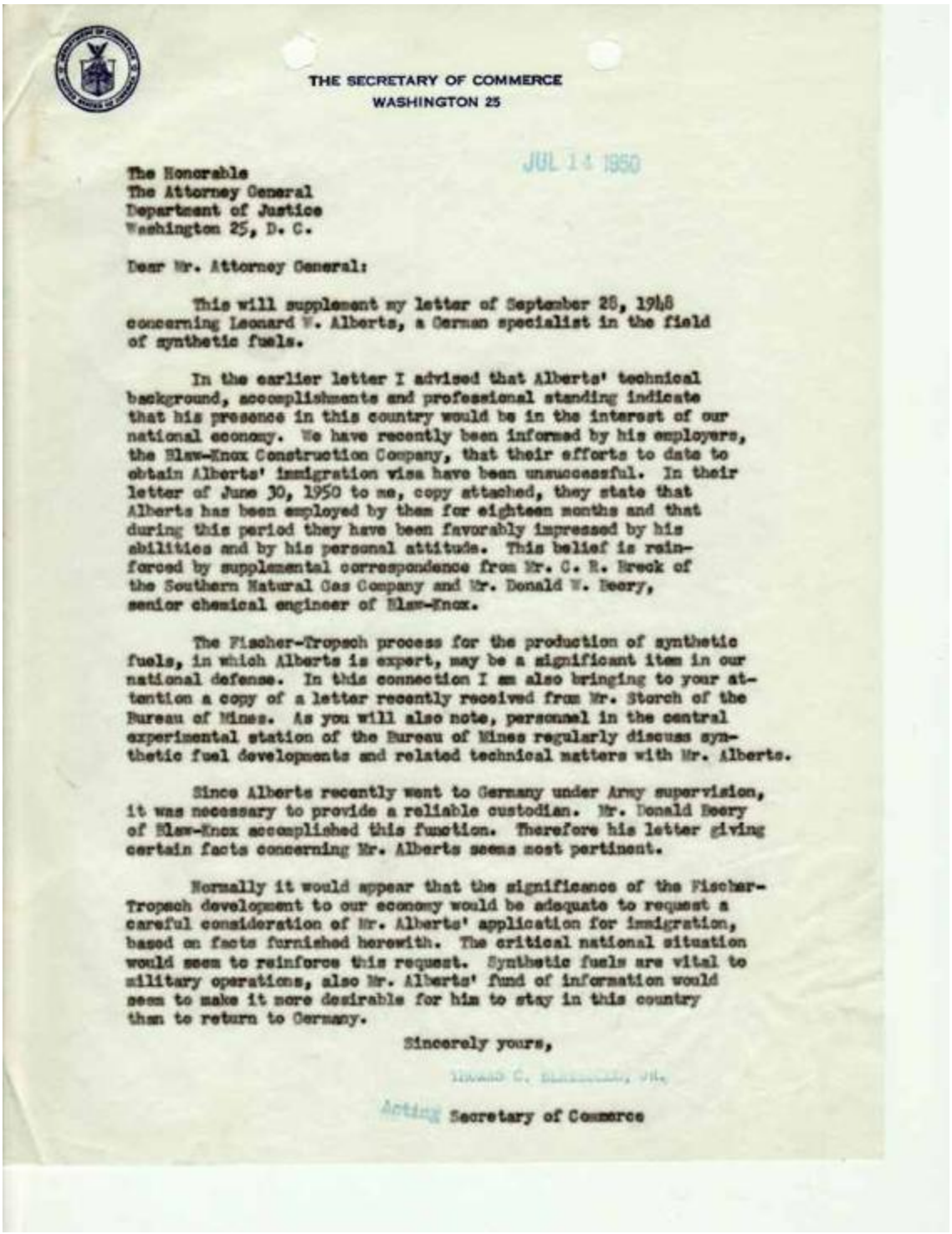
Yours sincerely,

Peyton Ford
The Assistant to the Attorney General

FILE DIST:
ALBERTS, Leonard Wilhelm
C/R Justice Immigration

4161

Nazi FT Scientist Leonhardt Alberts, U.S. Attorney General Declines Support, Letter dated November 9, 1949, page 2
Operation "Paperclip" Declassified Document
Source: National Archives Records Administration, Washington, D.C.



THE SECRETARY OF COMMERCE
WASHINGTON 25

JUL 14 1950

The Honorable
The Attorney General
Department of Justice
Washington 25, D. C.

Dear Mr. Attorney General:

This will supplement my letter of September 28, 1948 concerning Leonard W. Alberts, a German specialist in the field of synthetic fuels.

In the earlier letter I advised that Alberts' technical background, accomplishments and professional standing indicate that his presence in this country would be in the interest of our national economy. We have recently been informed by his employers, the Blaw-Knox Construction Company, that their efforts to date to obtain Alberts' immigration visa have been unsuccessful. In their letter of June 30, 1950 to me, copy attached, they state that Alberts has been employed by them for eighteen months and that during this period they have been favorably impressed by his abilities and by his personal attitude. This belief is reinforced by supplemental correspondence from Mr. C. R. Breck of the Southern Natural Gas Company and Mr. Donald W. Beery, senior chemical engineer of Blaw-Knox.

The Fischer-Tropsch process for the production of synthetic fuels, in which Alberts is expert, may be a significant item in our national defense. In this connection I am also bringing to your attention a copy of a letter recently received from Mr. Storch of the Bureau of Mines. As you will also note, personnel in the central experimental station of the Bureau of Mines regularly discuss synthetic fuel developments and related technical matters with Mr. Alberts.

Since Alberts recently went to Germany under Army supervision, it was necessary to provide a reliable custodian. Mr. Donald Beery of Blaw-Knox accomplished this function. Therefore his letter giving certain facts concerning Mr. Alberts seems most pertinent.

Normally it would appear that the significance of the Fischer-Tropsch development to our economy would be adequate to request a careful consideration of Mr. Alberts' application for immigration, based on facts furnished herewith. The critical national situation would seem to reinforce this request. Synthetic fuels are vital to military operations, also Mr. Alberts' fund of information would seem to make it more desirable for him to stay in this country than to return to Germany.

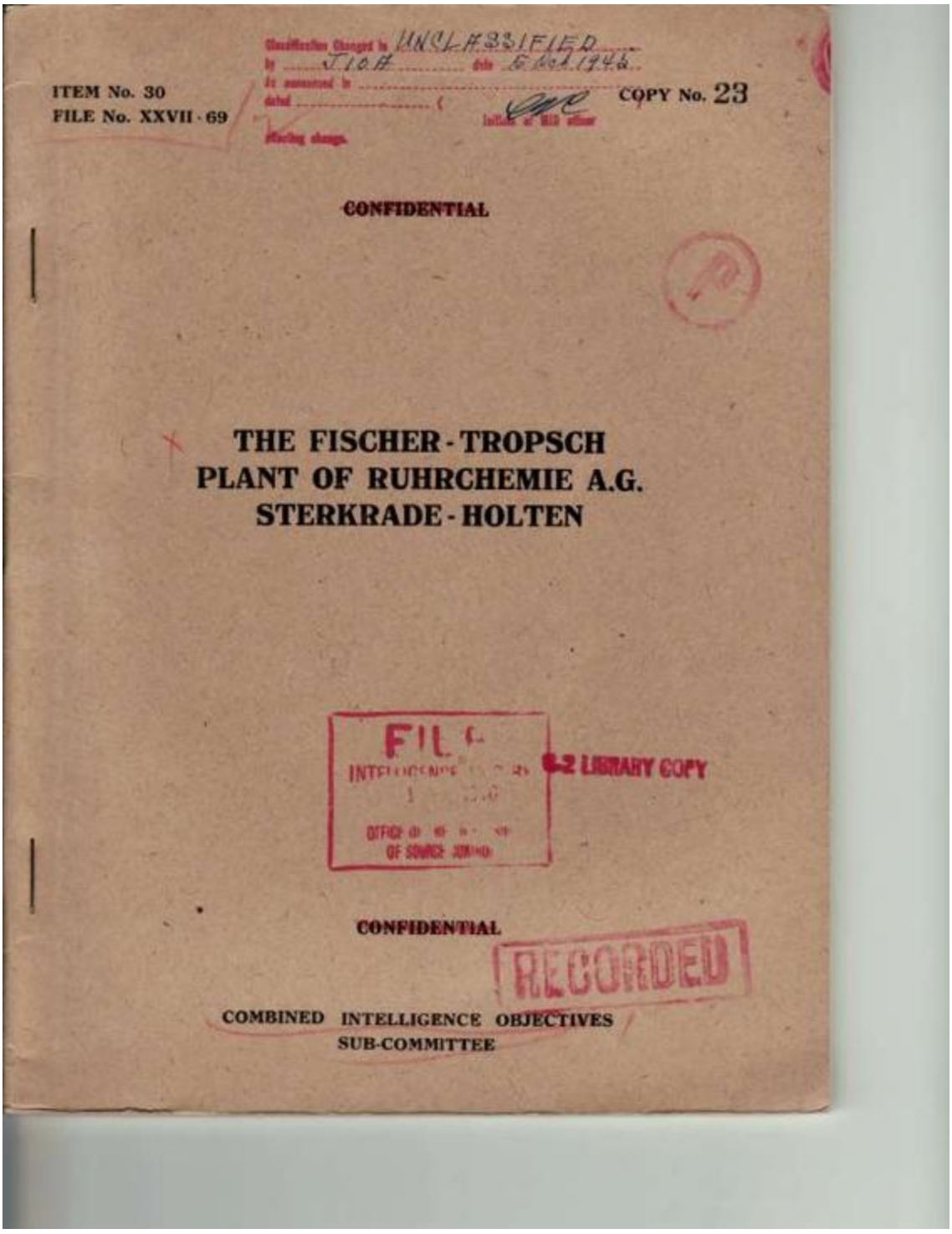
Sincerely yours,

Edward C. Elliott, Jr.

Acting Secretary of Commerce

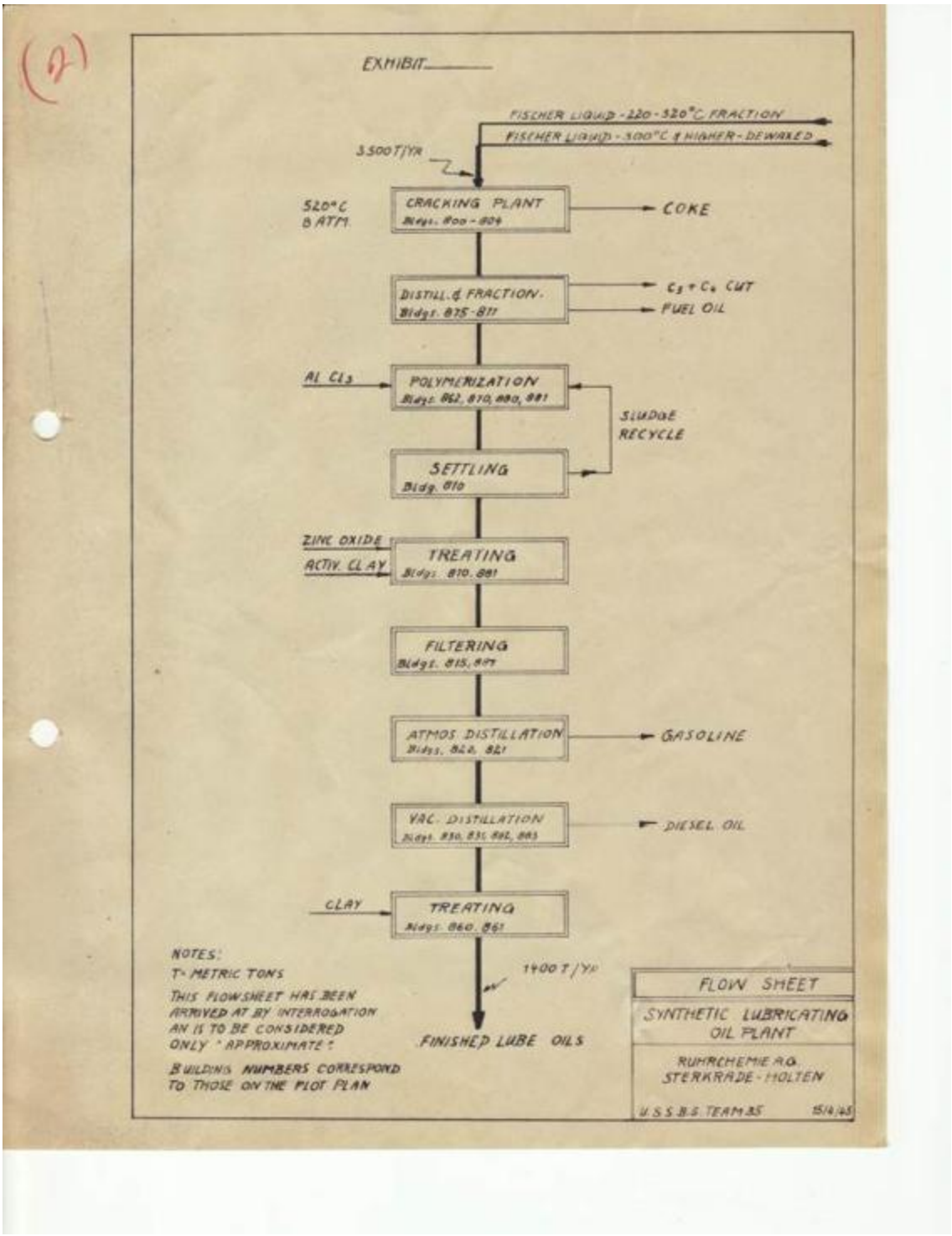
Nazi FT Scientist Leonhardt Alberts, U.S. Commerce Secretary Endorses as Critical to "National Defense," Letter dated July 14, 1950 Operation "Paperclip" Declassified Document

Source: National Archives Records Administration, Washington, D.C.



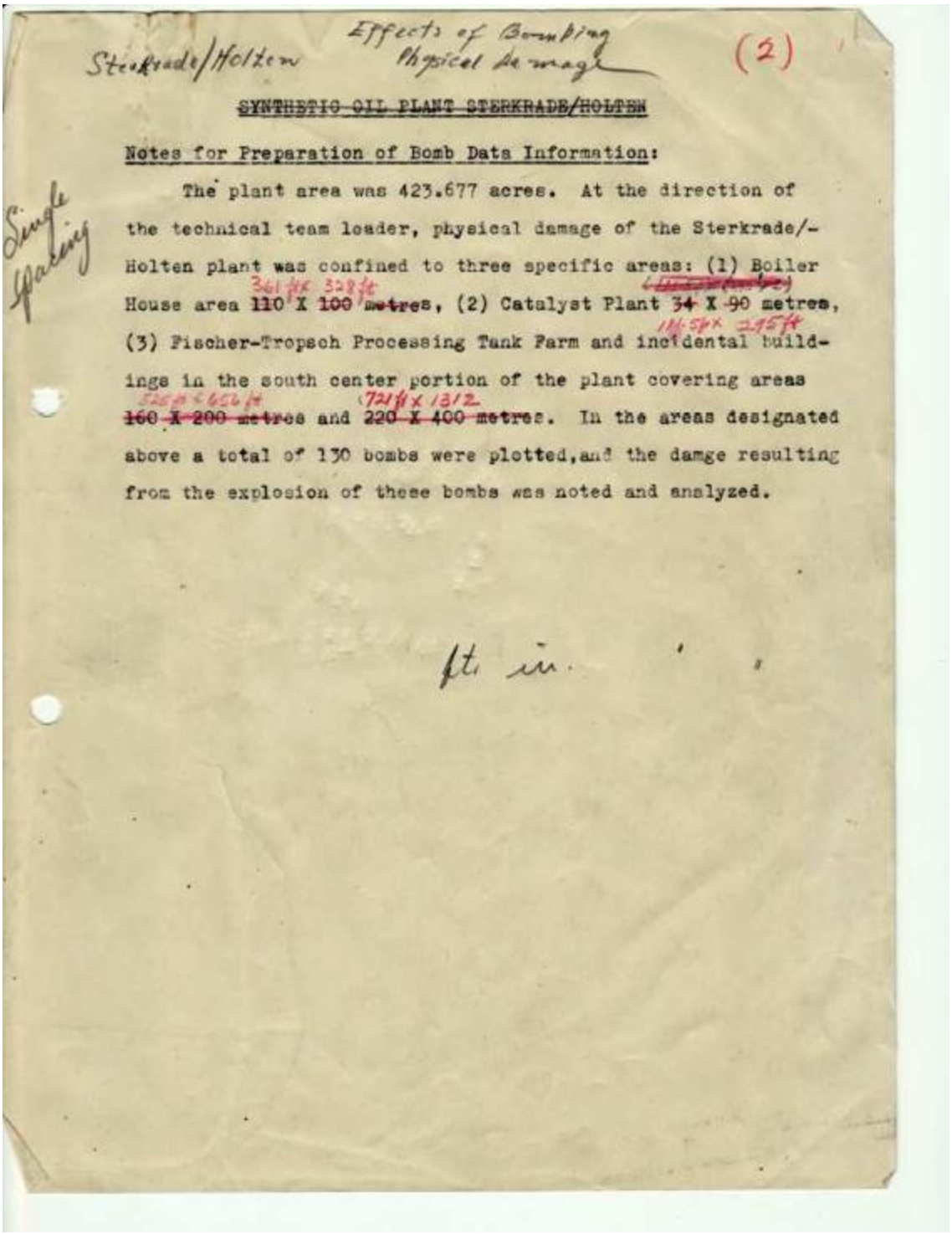
Declassified Combined Intelligence Objectives Subcommittee (CIOS) Report on Fisher-Tropsche Plant of Ruhrchemie, A.G. at Sterkrade-Holten

Source: National Archives Records Administration, Washington, D.C.



Declassified Combined Intelligence Objectives Subcommittee (CIOS) Report on Fisher-Tropsche Plant of Ruhrchemie, A.G. at Sterkrade-Holten, Flow Chart of Operations

Source: National Archives Records Administration, Washington, D.C.



Sterkrade/Holten Effects of Bombing Physical damage (2)

~~SYNTHETIC OIL PLANT STERKRADE/HOLTEN~~

Notes for Preparation of Bomb Data Information:

Single Spacing

The plant area was 423.677 acres. At the direction of the technical team leader, physical damage of the Sterkrade/-Holten plant was confined to three specific areas: (1) Boiler House area ~~110 X 100 metres~~ 361 ft x 328 ft, (2) Catalyst Plant ~~34 X 90 metres~~ 111.5 ft x 295 ft, (3) Fischer-Tropsch Processing Tank Farm and incidental buildings in the south center portion of the plant covering areas ~~160 X 200 metres~~ 525 ft x 656 ft and ~~220 X 400 metres~~ 721 ft x 1312. In the areas designated above a total of 130 bombs were plotted, and the damge resulting from the explosion of these bombs was noted and analyzed.

ft in.

Declassified Combined Intelligence Objectives Subcommittee (CIOS) Report on Fisher-Tropsche Plant of Ruhrchemie, A.G. at Sterkrade-Holten, Bomb Damage Assessment

Source: National Archives Records Administration, Washington, D.C.

Photo No. 67. F-T CONTACT OVEN HOUSE. (Plot Plan No. 641) (Middle pressure) Blasted footing out of plumb several feet.

Photo No. 68. F-T CONTACT OVEN HOUSE. (Plot Plan No. 641). (Middle pressure) General view of damage down the control aisle.

Declassified Combined Intelligence Objectives Subcommittee (CIOS) Report on Fisher-Tropsche Plant of Ruhrchemie, A.G. at Sterkrade-Holten, Bomb Damage Assessment

Source: National Archives Records Administration, Washington, D.C.

Photo No. 3. CATALYST PLANT. (Plot Plan No. 301) Bomb detonated in Bay 6. This bomb penetrated the roof in the center of the building detonating in the floor making a crater 20'x25' and 10' deep. Note fracture in the reinforced concrete girder in the first deck.

Photo No. 4. CATALYST PLANT. (Plot Plan No. 301) Bomb detonated in the ground between the equipment structure and the outside north wall. Note damage to deck plate on first operating deck and spalling of the concrete on reinforced concrete column. The damage may be considered superficial in that the structure and equipment was not seriously damaged.

Declassified Combined Intelligence Objectives Subcommittee (CIOS) Report on Fisher-Tropsche Plant of Ruhrchemie, A.G. at Sterkrade-Holten, Bomb Damage Assessment

Source: National Archives Records Administration, Washington, D.C.

Photo 62. Building 13A. This photo was taken from the ground floor and shows the converters that have been overturned by the blast effect from the 4,000-lb. bomb described in the preceding caption.

Photo 63. Building 13B. Another 4,000-lb. HE bomb detonated in the roof section of the Fischer-Tropsch reactor house shown above. Blast damage structurally destroyed the center of the building and the main piping loop as shown in the foreground.

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Declassified Combined Intelligence Objectives Subcommittee (CIOS) Report on Allied Bomb Damage to Nazi Fisher-Tropsche Plants
Source: National Archives Records Administration, Washington, D.C.

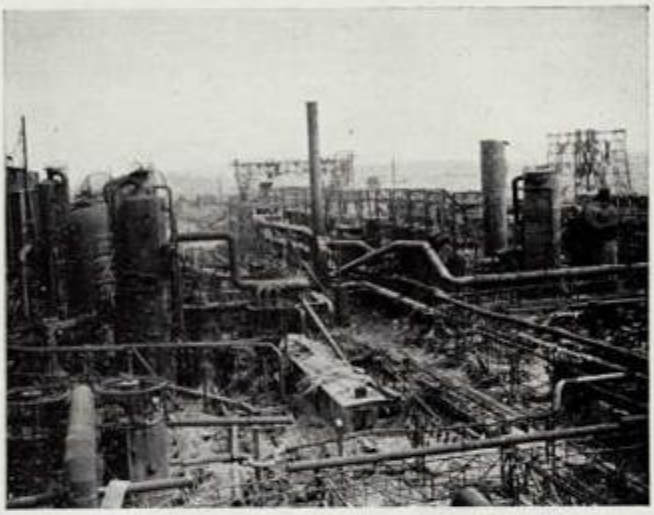
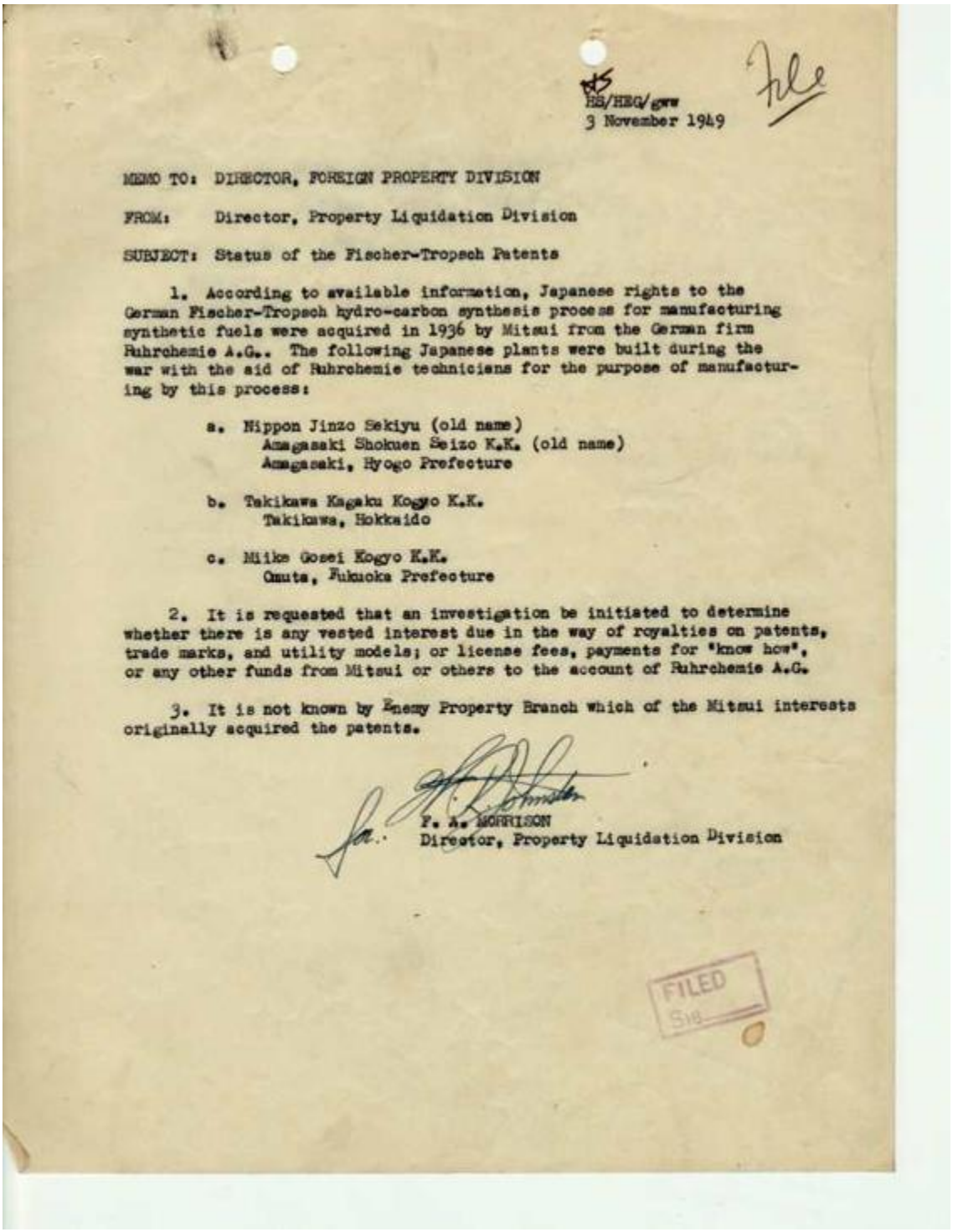


Photo 56. A general view of the southern section of Lutzkendorf plant taken from the roof of boiler house 19. The gas purification units are shown at the left.

Photo 57. The Fischer-Tropsch catalyst manufacturing plant. This is a general view looking east at the catalyst plant known as Kartor-Fabrik-Lutzkendorf.

Declassified Combined Intelligence Objectives Subcommittee (CIOS) Report on Allied Bomb Damage to Nazi Fisher-Tropsche Plants

Source: National Archives Records Administration, Washington, D.C.



HB/HEG/gww
3 November 1949

File

MEMO TO: DIRECTOR, FOREIGN PROPERTY DIVISION

FROM: Director, Property Liquidation Division

SUBJECT: Status of the Fischer-Tropsch Patents

1. According to available information, Japanese rights to the German Fischer-Tropsch hydro-carbon synthesis process for manufacturing synthetic fuels were acquired in 1936 by Mitsui from the German firm Ruhrchemie A.G.. The following Japanese plants were built during the war with the aid of Ruhrchemie technicians for the purpose of manufacturing by this process:

a. Nippon Jinzo Sekiyu (old name)
Amagasaki Shokuen Seizo K.K. (old name)
Amagasaki, Hyogo Prefecture

b. Takikawa Kagaku Kogyo K.K.
Takikawa, Hokkaido

c. Miike Gosei Kogyo K.K.
Omuta, Fukuoka Prefecture

2. It is requested that an investigation be initiated to determine whether there is any vested interest due in the way of royalties on patents, trade marks, and utility models; or license fees, payments for "know how", or any other funds from Mitsui or others to the account of Ruhrchemie A.G.

3. It is not known by Enemy Property Branch which of the Mitsui interests originally acquired the patents.

F. A. MORRISON
Director, Property Liquidation Division

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Declassified Combined Intelligence Objectives Subcommittee (CIOS) Report on Nazi Fisher-Tropsche Plants Built in Japan

Source: National Archives Records Administration, Washington, D.C.

Chapter 3

Hubbert's Peak
and
The Running-Out-of-Oil Scare

The running-out-of-oil scare is built into the myth that oil is fossil fuel. Almost unconsciously, Americans parrot the conviction oil is fossil fuel, without realizing that by doing so, we are affirming an oil log defined by Malthusians for the care and feeding of big oil profits.

The Logic of Oil

If there were only so many ancient forests and dinosaurs available to rot into oil, then there is only so much oil available in the earth. Only a finite number of dinosaurs ever lived, so there's a finite amount of oil. So when we run through all the oil these decaying ancient residues produced, we're done. Built into the logic of the scientific paradigm that has become the "fossil-fuel theory" is the concept that sooner or later we have to run out. In other words, the peak oil theory and the fossil fuel theory are tautologies, two self-reinforcing concepts, neither one of which can be disproven because each implies the other. If oil is fossil fuel, then we are necessarily running out. If we are running out, then oil has to derive from a limited and non-renewable natural resource, such as dinosaurs and ancient forests, or plankton and algae left over from similarly distant geological eons past.

Fundamentally, fossil fuel theorists gain nothing by shifting ground away from dead dinosaurs and ancient forests to plankton and algae as the presumed origin of hydrocarbon fuels. Again, since the geological presumption is that it takes eons for decaying biological matter to produce oil, what difference does it make whether the source were dinosaurs and ancient forests or ancient plankton and algae, unless perhaps we presume ancient plankton and algae were plentiful that dinosaurs and ancient forests. Either way, the decaying biological debris is a finite resource that is limited by the amount of biological material alive then alive in geological eons long past.

The point is the assumption we will run out of oil is a necessary conclusion built into implicit logic of the fossil-fuel theory itself. The peak oil theory results stands in relation to the biological theory of the origin of oil as a self-evident and equivalent assumption, for which empirical proof is irrelevant. If peak oil fails to occur at predicted future times, the time prediction for oil depletion can simply be moved to an even more future date. Those who conclude oil is biologic in origin are required to believe, as

a mater of logic if not faith, that peak oil followed by oil depletion will happen if not now, then sooner or later.

The abiotic theory of the origin of oil does not have as a necessary conclusion that the world is running out of oil. If the earth produces oil as a natural substance in an on-going manner that continues even today, then very possibly the earth will never stop producing oil. In other words, we may never run out of oil.

With the abiotic theory of the origin of oil, we can engage in a scientific calculation to figure out if and when oil depletion will occur. The abiotic oil calculation for oil depletion will depend on estimating current worldwide oil consumption rates, accurately estimating oil reserves, and accurately calculate oil replacement times. Here the assumption oil is abiotic in origin has two advantages over the fossil fuel theory: (1) deep-earth and deep-water abiotic oil reserves may be plentiful across the globe, including at great depths below the oceans, not limited by the presence of once alive creatures, regardless how big or small, and other ancient organic material needed to rot into oil; and (2) there is an assumption in the abiotic theory that oil is a renewable resource, not unlike wind and solar power, in that oil production does not depend on ancient decaying organic debris.

The consequences of this debate are both economic and political. If worldwide oil depletion is inevitable, then industrial society based on the expenditure of hydrocarbon fuel is necessarily threatened unless we develop alternative fuels or conserve oil. If geo-scientists have dramatically underestimated the quantity of existing oil reserves by a fossil-fuel bias that never anticipated how abundant deep-earth and deep-water oil actually is, then oil depletion may not be an imminent reality, regardless how rapidly the rate of worldwide oil consumption increases. In a world of abundant abiotic oil, alternative energy technologies including both wind and solar power could be largely ignored unless such alternative energy sources proven to be equally robust to hydrocarbon fuels, and equally or more reasonably priced.

Our so-called “addiction to oil” is only a detriment to global economic advancement if the fossil fuel theory is correct and oil depletion is inevitable. In other words, if peak oil concerns turn out to be nothing more

than a hoax and oil remains in abundant supply at reasonably prices, the global economy can continue its “addiction to oil” without worry that we are running out.

Hubbert’s Peak

Probably the most famous formulation of the running-out-of-oil scare is known as “Hubbert’s Peak.”

In 1956, a geophysicist working in the Shell Oil research lab in Houston, Texas, published a graph that predicted that U.S. oil production would peak in the 1970s. Hubbert’s graph looked like a normal “bell-shaped” distribution curve – in other words, the graph showed almost no production of oil in the early 1900s, then the curve rises to a top point in the early 1970s, from where it drops off gradually until there is no more US oil production at all by the year 2050. In the various accounts of how Hubbert derived his peak graph, there is no indication the diagram resulted from empirical evidence. Instead, anecdotal accounts of how the spark of insipraton hit Hubbert give the impression Hubbert came up with the idea as a thought experiment, almost as if he first formulated the concept by drawing on napkins at lunch.

Because the graph rises on the page like a mountain, the analysis has become known as “Hubbert’s Peak.” The name also stuck because “peak” suggests we will reach a high-point of oil production from which we will inevitably fall back to zero, the same place were we began prior to 1875 and the historic Drake well in Pennsylvania. Hubbard predicted that the United States would hit peak oil production in the 1970s. In the 1990s, analysts applying Hubbard’s methodology predicted the world would hit peak oil production somewhere between 2004 and 2008. Hubbert’s model was designed to argue that the US and the world would inevitably run out of oil.

Princeton Professor Emeritus Kenneth S. Deffeyes, a geologist who worked with M. King Hubbard at Shell Oil in the 1950s, noted that Hubbert made his 1956 prediction at a meeting of the American Petroleum Institute in San Antonio. Deffeyes relates the Shell Oil head office was on the phone with Hubbert right down to the last five minutes before his talk, asking Hubbert to withdraw his prediction. Deffeyes commented that Hubbert had “an

exceedingly combative personality," and he went ahead with the announcement, despite Shell Oil reservations. "I went to work in 1958 at the Shell research lab in Houston, where Hubbert was the star of the show," Deffeyes wrote. "He had extensive scientific accomplishments in addition to his oil prediction. His belligerence during technical arguments gave rise to a saying around the lab that, 'That Hubbert is a bastard, but at least he's our bastard."[33] That Deffeyes felt it necessary to make a point of crediting Hubbert with scientific accomplishments almost sounds like an excuse, as if Dreffeyes was stretching to explain the peak graph was rigorously derived, not simply a speculation every college student learns in Statistics 101 to apply to real life situations.

Gloom, Doom, and the Psychology of High Priced Oil

Truthfully, major U.S. oil companies embraced Hubbert's Peak almost immediately. If oil was running out, it would eventually become scarce, and scarce resources can justifiably command premium prices. U.S. oil companies had no economic reason to alert the American population to the reality that oil is not fossil fuel, even when abundant deep-earth and deep-water oil was being found and brought to production abundantly and at affordable prices, at depths where no dinosaur, forest, plankton, or algae ever lived, now or in ancient times. Not unexpectedly, Deffeyes opened up his 2001 book, entitled *Hubbert's Peak: The Impending World Oil Shortage*, with the following paragraph on the opening page of his "Overview":

> Global oil production will probably reach a peak sometime this decade. After the peak, the world's production of crude oil will fall, never to rise again. The world will not run out of energy, but developing alternative energy sources on a large scale will take at least 10 years. The slowdown in oil production may already be beginning; the current price fluctuations for crude oil and natural gas may be the preamble to a major crisis.[34]

In 2003, Princeton University Press published the sixth printing of Deffeyes' book, issued in paperback with substantial . In this "revised and updated" paperback, the chart presented on page 3 as "Hubbert's original 1956 graph," had to make revisions for Hubbert's original prediction that U.S. oil production would peak in the early 1970s. Quite simply, Hubbert was wrong. Yet, Deffeyes was not deterred from supporting the failed theory. To correct Hubbert, Deffeyes raised the peak to new levels of production and added additional curves to move to later dates the part of the graph that predicted oil production declining to depletion. The corrected chart shows actual U.S. oil production for 1956 through 2000 at much higher levels than Hubbert originally predicted. "Since 1985, the United

States has produced slightly more oil that Hubbert's prediction," Deffeyes conceded, "Largely because of successes in Alaska and in the far off-shore Gulf Coast. The point is that instead of conceding that empirical data proven Hubbert's hypothesis faulty, Deffeyes altered the predictions to preserve the theory, despite empirical data to the contrary. In doing so, Deffeyes and his fellow peak oil adherents refuse to acknowledge that a hypothesis that cannot be proven false by conflicting empirical data should lose its classification as science, to be relegated to the realm of near-religious belief.

In the fossil fuel theory, peak oil is its first and necessary corollary. Now deceased Houston investment banker Matthew R. Simmons, a life-long proponent of peak oil, rushed forward with what he felt was proof the oil boom was coming to an end. Simmons argued that after a remarkable string of exploration successes from 1940 through 1968, relying on technology that seems primitive by today's standards, oil producing giant Saudi Arabia has hit a brick wall. "For the next three decades, Saudi Aramco employed the best exploration technologies anywhere available to bulk up its portfolio of world-class oilfields," Simmons wrote in his seminal book, entitled *Twilight in the Desert: The Coming Saudi Oil Shock and the World Economy*, "As with exploration elsewhere around the world, the effort became a high-stakes game requiring substantial risk for elusive rewards." For Saudi Arabia, Simmons concluded, exploration for new oil reserves since 1968 produced "very meager payoffs."[35] A believer in the fossil fuel theory, Simmons concluded Saudi Arabia faced an inevitable dimming future of its oil industry, playing out a script that "was written in the geology eons ago."[36] Hubbert came to see Saudi Arabia as living off production in aging super-fields, unable to find additional giants or super-giants. Simmons concluded twilight was descending, not only over the oil fields of Saudi Arabia, but also over oil fields worldwide.

A Malthusian Future?

Today, Hubbert's Peak is almost universally accepted among petroleum geologists as being a true and established law. Usually, after stating as a truism that the US has no choice but to increase our dependency on foreign oil, authors turn to lament that in a short period of time, maybe 200 years, we are going to use up what took nature millions of years to create. Consider this statement in the 30th year update of the famous 1972 MIT study entitled *Limits to Growth*, a typically pessimistic evaluation that world economies are outgrowing available resources:

> Optimists and pessimists differ by a few decades in the timing of its [oil's] production peak. But there is substantial consensus that petroleum is the most limited of the important fossil fuels, and its global production will reach a maximum sometime during the first half of this century.[37]

Simply put, oil is typically considered a non-renewable energy source. Moreover, we are blamed for an irresponsible burning of fossil fuels. Consider this analysis from an analyst who is convinced our burning of oil contributes to global warming:

> Nature took about a million years to lay down the amount of fossil fuel that we now burn worldwide every year – and in doing so it seems that we are causing rapid change of the Earth's climate. Such a level of exploitation is clearly not in balance, not harmonious and not sustainable.[38]

Authors believing hydrocarbon fuels are fossil-produced have no choice but to issue public policy suggesting Americans must wean off oil, while scaling back the U.S. economy and our lifestyles as a consequence, and demanding new legislation that mandates the use of alternative fuels, including both solar and wind, whether or not alternative fuels are robust or affordable. Doom-and-gloom is a church hymn refrain of those who choose

to believe with near religious fervor the fossil fuel theory of the origin of oil.

Reading book after book predicting a gloom-and-doom energy future, we are left with the conclusion that the fossil fuel advocates are locked into the type of thinking best characterized by Thomas Malthus. In his famous 1789 essay, Malthus predicted that population would ultimately outstrip our ability to produce food, resulting in a series of crises such as war and famine, which in turn would cut back populations to more manageable levels. Malthus proposed this as a mathematical law that governed and restricted population growth. Since population growth proceeds at a geometric rate (i.e., 2, 4, 8, 16, etc.) and food production proceeds at an arithmetic rate (i.e., 1, 2, 3, 4, 5, etc.) there was no way the success of population growth could not result ultimately in disaster to those very populations which had managed so successfully to grow.

Malthus is famous not because his theory was right, but because human experience proven him wrong. Malthus failed to anticipate adequately the human genius for adaptation, invention, and technological advancement. Populations have grown widely beyond all the limits Malthus thought possible. Yet, even today, with a world population measured in billions that Malthus never imagined possible, Malthusians will insist Malthus was right such that experiencing worldwide famine is only a matter of time.

More Worldwide Oil Reserves Today Than Ever

Today's conventional mind-set involving oil locks into the fundamental premise that since oil is fossil fuel, we are bound to run out. There is no alternative. After all, there never was an infinite supply of rotting trees or dinosaur corpses.

The problem with this doomsday analysis is that the worldwide, we are now sitting on more proven petroleum reserves than have ever before, despite the increasing rate at which we are consuming petroleum products. Moreover, new and gigantic oil fields are being discovered at an increasing rate, at deep-earth and deep-water levels, at depths below the surface of the earth that the fossil fuel theory would never have imagined as possible. Let's examine the evidence and see if it doesn't sound a lot more like the abiotic theory is the appropriate model for comprehending how the earth produces hydrocarbon fuels naturally.

According to the Energy Information Administration of the U.S. Department of Energy, there are more proven crude oil reserves worldwide than ever in recorded history, despite the worldwide consumption of crude oil having doubled since the 1970s. The EIA reports that in 2009, worldwide oil reserves exceeded 1.34 trillion barrels, compared with 1.02 trillion barrels in 2000. This is a long-term trend upward. In 1980, the EIA estimated worldwide proven oil reserves at 645 billion barrels; 670 billion barrels; in 1990, 1 trillion barrels; in 1995, 999 billion barrels; and in 2005, 1.28 trillion barrels. The data represents virtually an unbroken progression of increasing numbers over the last quarter century – hardly the pattern we would expect to see if the world were really running out of oil.[39] The truth is the 1.34 trillion barrels of worldwide oil reserves estimated by the EIA is the largest amount ever in human history, despite oil consumption having doubled worldwide since the 1970s. These data hardly support a contention that world oil reserves are being exhausted, a necessary corollary of peak production theory.

A further indication peak oil theory is a hoax occurred in 2008, when oil prices spiked to an all-time high of $147 a barrel, only to recede to under $40 a barrel before the end of the year. When oil prices spiked, peak oil theorists claimed the dramatic price increase was proof oil production rates had slowed to create disequilibrium with increasing world oil demand.

The truth was that in both instances oil prices were largely determined by supply and demand. Oil traders, including those speculators bidding in the oil futures markets, had not realized until after the bank crisis of July 2008 that worldwide oil demand was decreasing dramatically due to the worldwide economic recession caused by the bursting of the U.S. mortgage bubble, or they underestimated the severity of the downturn. By the end of 2008, even oil speculators realized oil demand had subsided dramatically worldwide, down dramatically from the high level of bubble-like economic activity stimulated by historically low 1 percent Federal Reserve interest rates in 2003 and 2004, such that the industrial economies were entering a deep global recession and peak prices as high as $147 a barrel were no longer justified.

What was clear even in July 2008, was that at $147 a barrel, there was no shortage of oil in the United States – no rationing or gas lines at service stations was required. In other words, the all-time high price of oil in July 2008 was not proof that oil had become inherently scarce or in irreversible short supply.

Even those predisposed to view peak oil theory favorably, such as ecologist George Wuerthner, have to admit problems with the concept that the maximum worldwide oil production rate has been or will soon be reached. “By 2000, the point when Hubbert estimated that we would reach global Peak Oil we would have only around 625 billion barrels of oil left,” Wuerthner wrote in *Counterpunch*, on March 29, 2012.

“Just the 558 billion barrels of proven reserves known to exist in Saudia Arabia and Venezuela alone (and a lot more in-place resources) is nearly equal the total global oil supplies that Hubbert estimated would remain in global reserves. Obviously once Hubbert’s global estimates were way too low. The world has already burned through more than a trillion barrels of oil, clearly demonstrating how far off his predictions of oil supplies were.

The estimated ‘proven reserves’ left globally are today more than 1.3 trillion for the top 17 oil producing countries alone.”[40]

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[33] Kenneth S. Deffeyes, *Hubbert’s Peak: The Impending World Oil Shortage* (Princeton, New Jersey: Princeton University Press, 2001), pp. 1-3.

[34] Ibid., p. 1.

[35] Matthew R. Simmons, *Twilight in the Desert: The Coming Saudi Oil Shock and the World Economy* (Hoboken, N.J.: John Wiley Sons, Inc., 2005), p. 231.

[36] Ibid., p. 281.

[37] Donella Meadows, Jorgen Randers, and Dennis Meadows, *Limits to Growth: The 30-Year Update* (White River Junction, Vermont: Chelsea Green Publishing Company, 2004), p. 87.

[38] John Houghton, *Global Warming: The Complete Briefing* (Cambridge, England: Cambridge University Press, Third Edition, 2004), p. 199.

[39] The data are taken directly off spreadsheets published by the Energy Information Administration, U.S. Department of Energy. The data represent the official energy statistics from the U.S. government. See: http://www.eia.gov/emeu/international/oilreserves.html.

[40] George Wuerthner, “The Myth of Peak Oil,” Counterpunch, March 29, 2012, at http://www.counterpunch.org/2012/03/29/the-myth-of-peak-oil/print.

Chapter 4

Deep-Earth and Deep-Water Oil

Nothing has challenged the fossil fuel theory more than the advances made in deep-earth and deep-water drilling, the fastest segment of the energy industry in the last 20 years.

Only two years after an explosion on the British Petroleum Deepwater Horizon oil platform in the Gulf of Mexico, international companies are ready to expand deep-water in Mexican and Cuban waters beyond U.S. control, while new deep-water drilling is scheduled off the coast of East Africa and in the Mediterranean. Despite the moratorium the Obama administration placed on deep-water exploration and production in the Gulf after the Deepwater Horizon disaster, by early 2012, forty rigs were drilling in the Gulf, compared to only 25 a year earlier. In early 2012, British Petroleum had five rigs drilling in the Gulf, the same number as before the disaster, and the company has plans to add three more rigs in the Gulf before the end of the year. The Energy Information Administration expects oil production in the Gulf will expand from its level of 1.3 million barrels a day, one-quarter of total U.S. domestic oil production, to 2 million barrels a day by 2020.[41]

Deep-water drilling typically involves offshore rigs drilling on the continental shelves around the world in water that is 5,000 feet or more in depth. The advantage of offshore drilling is that oilrigs get the obvious advantage of 5,000 feet of water before deep-earth drilling begins. As recently as 20 years ago, oil drilling technology had not advanced to the point where drilling at these depths was feasible, either technically or economically. Within the next 20 years, technological advances will probably make drilling possible in deeper waters off the continental shelf, where abiotic oil theory would predict abundant new reserves unknown today should be found, even more feasible and economical.

Mexico: The Cantarall Oil Field

The Cantarall oil field, discovered in 1976, and supposedly named after the fisherman who reported to Mexican government authorities an oil seep in the Campeche Bay, has largely been responsible for keeping Mexico in the top ten oil producing countries in the world.

In the 1970s, geophysicist Glen Penfield established that a massive meteor hit the earth at the end of the Cretaceous Period, approximately 65 million years ago, in the Yucatàn near the ton of Chicxulub. In the 1980s, physicist Luis Alvarez and his geologist son Walter had suggested in their independent studies that an impact meteor hitting earth between the Cretaceous and Tertiary Periods, at the end of the Mesozoic Era, caused the extinction of the dinosaurs. Whether the Chicxulub meteor was the culprit the killed the dinosaurs, remains debated. What appears more likely is that the Chicxulub impact sufficiently fractured the Gulf of Mexico bedrock off the Yucatàn coast so as to create the Cantrell oil field discovered in modern times.

The impact crater resulting from the Chicxulub meteor his is enormous, estimated to be 100 to 150 miles (160 to 240 kilometers) wide. The seismic shock of the meteor deeply fractured the bedrock below the Gulf and set off a series of tsunami activity that caused a huge section of land to break off and fall back into the crater under water. The severe fracturing of the bedrock facilitated the flow of liquids and gases from the deep earth below.[42]

Until the 1960s, geologists considered collisions of extraterrestrial objects with the Earth as interesting, but not necessarily important. After Cantarell was discovered, geologists have come to realize that the intense shock waves generated in meteor impact events have significantly shaped Earth’s surface, distributed its crust, and fractured its bedrock. Over 150 individual geological structures, many masked over by subsequent sedimentary deposits, have been identified worldwide as important, ranging from

circular impact bowls measuring from only a few kilometers in diameter to as much as 200 kilometers (approximately 125 miles) in diameter. Moreover, Cantarell has stimulated interest in meteor impact structures as potential locations to explore in order to find oil-producing sites.[43]

Since 2005, Petroleos de Mexico, known as “Pemex,” Mexico’s state-own oil company, has discovered two deep-water oil fields offshore Veracruz in what is known as Coatzacoalcos Profundo in the Gulf: Noxol-1, located 63 miles northwest of Coatzacoalcos off the coast of Veracruz, situated in 935 meters (13,000 feet) of water; and, Lakach-1, located 81 miles northwest of Coatzacoalcos, situated in wathers mearsuring 988 meters depth (3,241 feet). These two discoveries have caused Pemex to estimate Coatzacoalcos Profundo contains reserves amounting to 10 billion barrels of oil.[44] Now, two years after the Deepwater Horizon catastrophe, Pemex has announced plans to deploy two state-of-the-art drilling platforms just south of the maritime boundary with the United States, with one rig drilling in 9,514 feet of water, and the other rig drilling in 8,316 feet of water.[45]

Saudi Arabia: Basement Tectonics

It is not the case that Saudi Arabia has oil but neighbor countries such as Afghanistan lack oil is because the dinosaurs in the Mesozoic Era by-passed Afghanistan to herd in Saudi Arabia and die in a big heap.

An important, but largely neglected study of the bedrock underlying the Saudi oil fields provided strong evidence that the Saudi oil fields resulted from fractures and faults in the basement rock.

The study entitled, “Basement Tectonics of Saudi Arabia as Related to Oil Field Structures, first published in 1992 by H.S. Edgell, a geologist at the King Faud University of Petroleum Minerals, in Dhahran, Saudia Arabia, argued that the Saudi oil fields, including the giant field at Ghawar, were produced by bedrock fractures that lie beneath the oil fields.[46]

“All the oil fields of Saudi Arabia are of the structural type and they all lie in the northeastern part of the country, including the Saudi offshore portion of the Persian Gulf,” Edgell wrote, “These oil field structures are mostly produced by extensional block faulting in the crystalline Precambrian basement along the predominantly N-S Arabian Trend which constitutes the ‘old grain’ of Arabia.” [47] Precambrian rock dates back geologically some 4.6 billion years, to the origin of the Earth, until some 570 million years ago. Dinosaurs did not roam the Earth until much later, during the Mesozoic Era, beginning 250 million years ago, a considerable distance in time from the Precambrian Era.

Edgwell’s study would argue that oil in Saudi Arabia is abundant because the fault patterns in the underlying bedrock permit oil from the earth’s mantle to seep upward, into the many porous sedimentary strata lying above. Edgwell is not shy about advancing this conclusion: “All the known oil fields of Saudi Arabia and its offshore are thus related to four major directions of basement faulting, namely N-S, NE-SW, NW-SE, and E-W.”[48] And again:

> Anticlinal or domal structures in the sedimentary sequence of the northeastern Arabian Platform and its offshore extension contain all the known oil and gas fields of Saudi Arabia. These currently comprise some fifty six oil fields, all of which owe their origin to deep-seated tectonic movements in the Precambrian crystalline basement.[49]

Translated into simple terms, Edgwell is telling us to forget about dinosaurs, ancient forests, plankton, and algae. Saudi Arabia has abundant oil because the fault pattern under Saudi Arabia permits oil from the Earth's mantle to flow upward.

As noted earlier, Matthew Simmons, in his book entitled *Twilight in the Dessert*, painted a grim picture of Saudi Arabian oil prospects, argued that even the giant oil field of Ghawar is depleting and is increasingly cut by water to increase production. Simmons argues that Aramco is going after the "last of the easily produced, free-flowing oil in the most prolific parts of Ghawar."[50]

Simmons' dire predictions stand in direct contrast to the Saudi's much more optimistic view.

Saudi Minister of Petroleum and Mineral Resources Al-Naimi told a conference on Saudi oil held in Washington, D.C., in April 2004, that Saudi oil reserves have been dramatically underestimated.

> Saudi Arabia now has 1.2 trillion barrels of estimated reserve. This estimate is very conservative. Our analysis gives us reason to be very optimistic. We are continuing to discover new resources, and we are using new technologies to extract even more oil from existing reserves.[51]

In 2011, the Energy Information Administration estimated Saudi oil resources at approximately 261.9 billion barrels, one-fifth of the world's proven oil reserves, but only 20 percent of Al-Naimi's 2004 estimate.[52] Even Simmons had to acknowledge how difficult it is to obtain accurate data on Ghawar, the Saudi's largest field, or on any specific details of Saudi production.

> Ghawar is well known as the world's largest oilfield within the petroleum industry and among analysts and energy journalists. But few people, even among the world's more knowledgeable energy experts, know anything more about Ghawar beyond its colossal size. Rarely has any data been published that provided details about the performance and parameters of this greatest of all oilfields.[53]

How then could Matthew Simmons be confident Saudi Arabian oil had reached peak production, such that the maximum production rate had been reached, if there was no reliable estimate of the total amount of oil reserves Saudi Arabia possesses? If the Saudis have benefited from basement tectonics that allow deep-earth oil formed in the mantle of the earth to freely flow upward, how possibly can anyone estimate the amount of oil Saudi Arabia might have at levels far below the earth's surface? If oil production is abiotic and on-going, how is it possible to estimate the rate of production, in order to determine if replenishment rates exceed production rates?

Deepwater Horizon Disaster

The explosion on April 20, 2010, of the Deepwater Horizon oil rig operated in the Tiber Field in the Gulf of Mexico 250 miles southeast of Houston by British Petroleum caused the deaths of 11 workers and largest oil spill in history. After a series of attempts to plug the leak, British Petroleum (BP) successfully capped the well, stopping the flow of oil into the Gulf for the first time, 86 days after the explosion.

In September 2009, at the time the Tiber discovery was announced, Daren Beaudo, a BP spokesman, told the *Washington Post* the discovery rivaled another giant field operated by BP in the Gulf, known as Thunder Horse, then producing as much as 300,000 barrels of oil a day.[54] Communications director for Transocean, the offshore drilling company that owned the Deepwater Horizon rig, announced that the well would be dug in 4,130 feet of water, and drilled another 30,923 feet below the sea floor, with the result that the oil would be brought up to the rig from more than six miles below the surface of the Gulf.

In the feature story on the BP discovery printed on Sept. 3, 2009, the Washington Post quoted oil historian Daniel Yergin, chairman of Cambridge Energy Research Associates, as saying the discovery "demonstrates how technology continues to expand the horizon of the Gulf of Mexico." BP said the well struck oil "in multiple reservoirs" in the Lower Tertiary geological zone, a layer of the earth's crust dating back 38 million to 68 million years. The newspaper noted more than 10 discoveries had been made at that level in the Gulf, including BP's Kaskida find that had estimated reserves of 4 to 6 billion barrels, "We view the Lower Tertiary as being one of the next big waves of development in the Gulf of Mexico," Beaudo told the *Washington Post*.

Reporting on Jan. 6, 2011, the National Oil Spill Commission attributed the disaster to a failure of BP management to appropriately evaluate risk factors and to implement the necessary technical and operating safeguards.[55] The

Guardian in the UK, however, suggested the real culprit was peak oil. “The only long-term answer is to wean ourselves off oil before the post-peak trouble really starts,” an environmental blog in the London newspaper proclaimed the day the presidential oil spill commission announced its findings. “It’s amazing stuff: energy-dense and easily transported. But alternatives exist, from electric vehicles to biofuels to fuels generated from sunlight. These need investment, but would we really rather spend billions on clean-up operations and lawyers, I hope not.”[56]

Abiotic oil observers had a different analysis. The force of the oil flow after the explosion suggests the oil reserves found more than six miles below the surface of the Gulf had to be enormous, perhaps generating more pressure than current technology could safely handle. Granted, the various studies and legal challenges following the disaster found many instances that could be attributed to negligence. Yet, the well is capped, at least for now. Most likely, BP will reopen the Tiber well at some unspecified future date, when deep-water and deep-earth technology has further advanced to take into account the pressures and temperatures that will have to be managed if oil and natural gas is to be commercially produced in a safe and economic manner at depths miles down from the surface of the earth.

Brazil: Finally Independent from Biofuels

Petrobras, Brazil's semi-public, partially government-owned oil company is moving Brazil from being nearly 100 percent dependent on foreign oil imports only some fifty years ago, toward becoming a net oil exporter in the next few years. How? Brazil has realized spectacular results by developing the technology to drill ultra-deep offshore wells in Brazil's Barracuda and Caratinga oil fields, in the Campos Basin some 50 miles into the Atlantic Ocean east of Rio de Janeiro. In the process, Brazil has rapidly weaned away from sugar-produced ethanol, once the only fuel produced in Brazil.

According to the Energy Information Administration, Brazil has gone from almost no oil production in 1980 to producing approximately 2.1 million barrels of crud oil a day in 2011. Brazil's oil production has grown at a rate of about 9 percent per year since 1980. The EIA further estimates that Brazil has 14 billion barrels of proven oil reserves in 2012, the second largest in South America after Brazil. "Increased domestic oil production has been a long-term goal of the Brazilian government, and recent discoveries of large offshore, pre-salt oil deposits could transform Brazil into one of the largest oil producers in the world." With the country consuming 2.2 million barrels per day, Brazil is about to become oil independent. The EIA has forecast that by 2013, Brazilian oil production would reach 3 million barrels a day. By the end of this decade, Brazil expects to become a net oil exporter. Brazil's offshore drilling success represents a complete turn-around; in 1953, Brazil domestic oil production filled only 3 percent of domestic demand.[57]

To develop the oil resources of the Campos Basis, Petrobras formed the Barracuda Caratinga Leasing Company B.V. (BCLC) as a special purpose corporation established in the Netherlands. In December 2004, BCLC finalized an $2.5 billion agreement with Halliburton's Kellogg Brown Root subsidiary (KBR) awarding KBR a full engineering, procurement, installation and construction (EPIC) contract for 55 offshore wells in the two oil fields (22 horizontal producers and two multilateral horizontal

producers, as well as eight horizontal injectors and eight piggyback injectors). The contract also specified the construction and installation of two floating, production-storage, off-loading vessels (FPSOs). The Barracuda and Caratinga fields are expected to add 30 percent to the current 1 million barrels per day of production from the Campos Basin region. The two fields cover a combined area of 230 square kilometers (approximately 145 square miles). The Barracuda and Caratinga proven oil reserves are estimated at 1.229 billion barrels. Together they are expected to produce 773 million barrels of oil by 2025.[58]

None of this will impress "Peak Production" or "fossil fuel" theorists, who expectedly will argue that the Brazil's offshore oil fields, regardless how large they might be, are doomed to deplete sooner or later. Petrobras has a different vision. If the Campos Field has yielded massive oil deposits, are there other fields on Brazil's intercontinental shelf that remain to be discovered?

In 2007, Brazil announced http://www.cnn.com/2007/WORLD/americas/11/08/brazil.oil.ap/index.html the discovery of a second huge offshore oil field in the Santos Basin off Brazil's shore south of the Campos Basin that was estimated contain between 5 – 8 billion barrels of oil, enough to expand Brazil's proven reserves 14.4 billion barrels of proven oil reserves by 40 – 50 percent. The "ultra-deep" Tupi field was found under 7,060 feet of water (1.34 miles down), under 10,000 feet of sand and rocks (another 1.89 miles down), and another 6,600 feet of salt (1.25 miles), for a total of 4.48 miles below the surface of the Atlantic Ocean. In April 2012, Petrobras announced the discovery of the Lula field in the Santos Basin, another in a series of discoveries that rivals to make the Santos Basin as productive for Petrobras as the Campos Basis has been.

Petrobras oil executives have also asked if giant oil fields can be found 50 miles offshore Brazil, how many more giant offshore oil fields remain to be discovered around the world? Today, Petrobras is one of the world's leaders in developing offshore technology capable of drilling the ocean floor anywhere in the world under some two miles of water, with its ultra-deepwater technology. Petrobras currently has an offshore presence not only

in the Atlantic Ocean off Brazil, but also in the Gulf of Mexico and off the West Coast of Africa. Petrobras is contemplating developing new offshore projects in the Caribbean, in the waters offshore Cuba.

“Deep” Gas Wells Below 15,000 Feet

The Energy Information Administration estimates that world consumption of natural gas is expected to increase from 111 trillion cubic feet in 2008 to 169 trillion cubic feet in 2035.[59] The International Energy Administration’s *World Energy Outlook 2011* posed the question: “Are we entering a golden age of gas?” [60] The EIA estimated that conventional recoverable resources of natural gas are equivalent to more than 120 years of current global consumption, while total recoverable resources could sustain today’s production for over 250 years. Contrary to the expectations of peak production theorists, natural gas resources are abundant in the United States, especially at deep-earth levels.

A “deep” gas well is typically defined as any that produces from a depth below 15,000 feet. According to the Potential Gas Committee’s 2003 Report, there were over 2,500 active natural gas wells producing at or below that level in the United States, drawing from 183 natural reservoirs located primarily in the on-shore and off-shore basins of the Texas and Louisiana Gulf Courses.[61] Today there are some 400,000 producing natural gas well in the United States, however, few are “deep” gas wells. The U.S. Department of Energy notes that more than 70 percent of the natural gas produced in the United States comes from wells at 5,000 feet or deeper, while only 7 percent comes from formations below 15,000 feet. Yet, at these depths, the Department of Energy estimates 125 trillion cubic feet of natural gas it thought to be trapped.[62]

The western world’s record for deep-well natural gas exploration and production is held by the GHK Company in Oklahoma. From 1972 through 1974, the company engineered and drilled two Oklahoma natural gas commercial wells at depths greater than 30,000 feet (approximately 5.7 miles) – the #1-27 Bertha Rogers well (total depth 31,441 feet) and the #1-28 E.R. Baden well (total depth at 30,500 feet),[63] both located in the deep and high pressure Anadarko Basin that covers some 50,000 square miles

across west-central Oklahoma, including the upper Texas Panhandle, Southwestern Kansas, and southeastern Colorado. Since the company's founding in the mid-1980s, GHK reports drilling and operating 193 wells, the majority of which are below 15,000 feet, without experiencing a blowout. GHK's success ratio for all drilling operations, including wildcat exploratory drilling, from 1995 to 2005 has been 82 percent.

A study conducted by Mark Snead, Ph.D., the Director of the Center for Applied Economic Research at the Spears School of Business at the University of Oklahoma at Stillwater, OK, documents the commercially successful deep-well drilling for natural gas in Oklahoma has been proven beyond a doubt by the experience in Oklahoma:

> Oklahoma has long played an important role in the development of deep drilling. The first hole drilled below 30,000 feet for commercial production purposes was completed in Beckham County in 1972.

And continuing:

> The Anadarko Basin has historically been one of the most prolific natural gas producing regions in the United States and is the location of most of the deep wells in Oklahoma. According to the U.S. Geological Survey, 20 percent of the holes drilled deeper than 15,000 feet prior to 1991 are located in the Anadarko Basin, exceeding the number of deep wells in all drilling regions in the U.S. other than the Gulf of Mexico in the period. Through 1998, 19 of the 52 existing ultra deep wells below 25,000 feet were drilled in the Anadarko Basin.
>
> Through 2002, the Potential Gas Committee reports that a total of 1,221 producing deep wells were completed in Oklahoma at an average depth of 17,584 feet, with 775 of these wells currently active.[64]

The success with deep drilling of natural gas resources has been experienced across the United States:

> The overall success rate of deep wells has been remarkably good. In a sample of 20,715 deep wells drilled in the U.S. through December 1998, 11,522 (56 percent) are classified as producing gas and/or oil wells, with gas wells comprising nearly 75 percent of producing wells. Of the 1,676 wells exceeding 20,000 feet, 974 (58 percent) are producing wells of which 847 are gas wells.

Dr. Snead reported that the important technological advances have facilitated the ultra-deep drilling of natural gas wells. The average time to reach a depth of 17,000 feet for two East Texas deep wells drilled in the same structure reduced from 170 days to 70 days in the 17 years between 1985 and 2002. Moreover, advances in computer technology have produced breakthroughs in reservoir modeling that "enable better estimates of the size and location of recoverable deposits."

Realizing the potential for the deep-well drilling of natural gas, the U.S. Department of Energy's Office of Fossil Energy established a "Deep Trek" program to lower the cost and improve the efficiency of drilling commercially productive deep wells.[65] "Deep Trek" maintains its "Office of Fossil Energy" bias despite describing deep-well natural gas drilling as needing to penetrate rock structures that sound more like bedrock than sedimentary layers. The common wisdom remains that natural gas, like oil, is a "fossil fuel." For those who have any doubt that the "fossil fuel" theory is the politically correct version of the origin of natural gas, we are going to link here to the Energy Information Administration's "Energy for Kids" page which explains how millions of years ago the remains of plants and animals decayed into organic material that became trapped in rocks until pressure and heat changed some of this organic material into coal, oil, and natural gas.[66]

The DOE "Deep Trek" site points out a very steep curve involved in implementing the technology needed to produce the estimated 125 trillion cubic feet of natural gas resources estimated to lie beneath the continental United States at depths of 15,000 feet or deeper:

> Tapping into this resource will be both technologically daunting and expensive. For wells deeper than 15,000 feet, as much as 50

> percent of drilling costs can be spent in penetrating the last 10 percent of a well's depth. The rock is typically hot, hard, abrasive, and under extreme pressure. Often, in deeper wells, it is not uncommon for the drill bit to slow to only two to four feet per hour at operating costs of tens of thousands of dollars a day and for a land rig and millions of dollars a day for deep offshore formations. And it is exceedingly difficult to control the precise trajectory of a well when the drill bit is nearly three miles below the surface.

The DOE "Deep Trek" project is currently financing advances in technology. Among the advances touted is the development of the polycrystalline diamond drill bit, currently the industry standard for drilling into difficult formations. Scientists at the Energy Department's Sandia National Laboratories developed a "diffusion bonding" approach that allowed drill bit manufactures to adhere industrial-grade diamonds to the bit.

Deep-earth natural gas, like deep-water oil production, strongly supports the theory that the origin of oil is abiotic, not organic in nature. Global reserve estimates for natural gas have also increased, as geo-scientists realize the abundance of deep-earth natural gas – a development that once again challenges peak production assumptions. The National Oceanic and Atmospheric Administration of the U.S. Department of Commerce estimates that oceans cover 71 percent of the earth's surface. Estimates of deep-earth natural gas global reserves should increase dramatically, as have estimates of deep-water oil reserves, as technological advances permit natural gas producers to explore economically at greater depths below the water surface. Truthfully, with 71 percent of the earth's surface largely unexplored, geo-scientists have no way to reliably estimate the quantity of deep-earth and deep-water hydrocarbon fuels the earth truly may hold.

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Chapter 5

“Julian Simon Says” –
Toward a Comprehensive Energy Policy

In 1865, Englishman William Stanley Jevons, one of the greatest social scientists of his day, wrote an exhaustive study entitled *The Coal Question: An Inquiry Concerning the Progress of the Nation, and the Probable Exhaustion of our Coal Mines*.[67] Jevons’ argument was that England was about to exhaust all available coal resources that inevitably would mean the collapse of the industrial enterprise upon which Great Britain’s mighty empire depended. He wrote:

> It will appear that there is no reasonable prospect of any relief from a future want of the main agent of industry [i.e., coal].[68]

And

> We cannot long continue our present rate of progress. The first check for our growing prosperity, however, must render our population excessive.[69]

In contemplating his form of the Malthusian nightmare, W. Stanley Jevons was the M. King Hubbard “Peak Production” theorist of his day. Like the “Peak Production” oil theorists of today, Jevons’ work is filled with detailed analyses of coal mines showing depletion rates, with mine-by-mine estimates of the amount of coal available, the annual production of that coal, and the maximum duration of the supply, anticipating with uncanny precision the “bell shaped curve” typical of M. King Hubbert “peak oil” graphs.

In his classic 1996 book, *The Ultimate Resource 2*, debunking a myriad of “doom-and-gloom” resource scares that abound in popular and scientific thinking, then University of Maryland’s professor of business administration Julian L. Simon, explained why Jevons was flat wrong:

> What happened? Because of the perceived future need for coal and because of the potential profit in meeting that need, prospectors searched out new deposits of coal, inventors discovered better ways to get coal out of the earth, and transportation engineers developed cheaper ways to move the coal.[70]

Insightfully, Julian Simon documented a series of authoritative predictions dating back to 1885, all warning that the U.S. would soon run out of oil.

> 1885, U.S. Geological Survey: “Little or no chance for oil in California.”
>
> 1991, U.S. Geological Survey: Same prophecy by USGS for Kansas and Texas as in 1895 for California.
>
> 1914, U.S. Bureau of Mines: Total future production limit of 5.7 billion barrels of oil, at most a ten-year supply remaining.
>
> 1939, Department of the Interior: Oil reserves in the U.S. to be exhausted in 13 years.
>
> 1951, Department of the Interior, Oil and Gas Division: Oil reserves in the U.S. to be exhausted in 13 years.[71]

When did Julian Simon think we would run out of oil? “Never!” was his answer. With 1.28 trillion barrels of oil in proven reserves today, more than ever in recorded human history, despite oil consumption in the world nearly doubling in the last three decades, we should seriously consider that Julian Simon might well be right.

“Peak Production” believers regard Shell Oil geologist M. King Hubbert as their theoretical deity. In 1956, Hubbert drew a bell-shaped curve that he said showed U.S. oil production would peak in the 1970s and decline from there until U.S. oil would in 2050 be nearly depleted. Subsequently, Hubbert’s adherents have expanded his analysis into a worldwide prediction that we are running out of oil. Again, “Hubbert’s Peak” theorists have serious critics, including prominent oil and gas analyst Michael C. Lynch.[72]

In a paper entitled "The New Pessimism about Petroleum Resources: Debunking the Hubbert Model (and Hubbert Modelers)," http://www.energyseer.com/NewPessimism.pdf Lynch argues that Hubbart's initial analysis was anything but rigorous or scientifically formal:

> The initial theory behind what is now known as the Hubbert curve was very simplistic. Hubbert was simply trying to estimate approximate resource levels, and for the lower-48 U.S. he though a bell-curve would be the most appropriate form. It was only later that the Hubbert curve came to be seen as explanatory in and of itself, that is, geology requires that production should follow such a curve. Indeed, for many years, Hubbert himself published no equations for deriving the curve, and it appears that he only used a rough estimation initially. In his 1956 paper, in fact, he noted that production often did not follow a bell curve. In later years, however, he seems to have accepted the curve as explanatory.[73]

Economist Julian Simon, then a professor of business administration at the University of Maryland and a senior fellow at the Cato Institute, was famous for taking a contrarian position on energy resources, arguing that our perception of scarcity was not validated by the current or historical factual record of energy abundance. What is typically ignored in the peak oil argument is that oil remains so abundant that it is unlikely the world will ever run out. Simon's answer to the question of when we were likely to run out of oil was "Never!"

Throughout his career, Simon fought against Malthusian fears that peak oil theorists were right and sooner or later the pumps would run dry, as environmental alarmist Paul Ehrlich frequently argued.[74] Obviously Jevons was wrong. Great Britain's industrial progress did not grind to a halt because British industry used up all available coal. "What happened?" Simon asked. In providing the answer, Simon wrote: "Because of the perceived future need for coal and because of the potential profit in meeting that need, prospectors searched out new deposits of coal, investors discovered better ways to get coal out of the earth, and transportation engineers developed cheaper ways to move the coal."[75]

Similarly, Simon traced similar fears in the United States back to an 1885 U.S. Geological Survey that declared there was “little or no chance” oil would ever be found in California. In 1939, the U.S. Department of the Interior argued U.S. oil resources would be exhausted in thirteen years; then, when that prediction proved a false alarm, the Department of the Interior revised their estimate and declared that it was from 1951 that U.S. oil would be exhausted in thirteen years.

Simon argued gloomy predictions about running out of oil, coal, or any other energy resource including natural gas, were typically wrong for several reasons, including these:

- Typically the all energy resources exists on earth in quantities much larger than initially estimated;
- Advances in technology make exploration and recovery of previously difficult to develop energy resources more efficient and economically affordable;
- Improvements in productivity lead to more efficient use of energy resources over time;
- Alternative sources of energy are found, even while predominately used energy resources remain abundant.
- Previously dominant energy resources, such as coal, become less dominant as more efficient energy resources, such as oil, become more understood and utilized – a process Simon believed would continue as liquefied natural gas replaces oil applications, culminating in nuclear energy replacing many current applications of oil and natural gas.

Simon’s energy resource analysis essentially maintains that we will be running automobiles with nuclear batteries long before we run out of oil. In the final analysis, Simon argued, nuclear power is the final inexhaustible energy resource. Today, the U.S. Navy runs ships around the world predominately on nuclear power, without any history of life- or environmental-threatening accidents. Simon wrote, “Of course nuclear power can replace coal and oil entirely, which constitutes an increase in efficiency so great that it is beyond my powers to portray the entire process

on a single graph based on physical units."[76] Simon believed the one energy resource that is truly renewable and sufficiently robust to produce the energy required in the 21st century is nuclear power.

The example environmentalists and radical global warming alarmists typically neglect is France, a country that since the 1980s has built a network of modern nuclear power plants needed to power France's major cities for the foreseeable future. Today, approximately 80 percent of France's electricity is generated by 59 nuclear plants across the country that are at least a generation more advanced that the nuclear power plants operating today in the United States.[77]

Simon conceded that the fact gloomy official predictions of the past that we would run out of coal, or run out of oil, have been proven false does not prove that every gloomy forecast about oil will be wrong. He granted that forecasts could be overly optimistic, as well as overly pessimistic. But, he reminded us, history shows that expert forecasts about running out of hydrocarbon fuels have typically been far to pessimistic. After over a century-and-a-half of using coal aggressively worldwide and nearly a century of using oil aggressively worldwide, we still have ample reserves and ready supplies of both globally. Simon cautioned, therefore, that we should be careful not to allow energy scarcity predictions to scare us.[78]

In answering the question "Why do we believe so much false bad news about the energy?" Simon explained that people have a tendency to see energy resources as finite. "The idea is found in Malthus, of course" he wrote, "But the idea probably has always been a staple of human thinking, because so much of our situation must sensibly be regarded as fixed in the short run – the number of bottles of beer in the refrigerator, the size of our paychecks, and the amount of energy that parents have to play basketball with their kids." In contrast, Simon felt it made more sense to see energy as a fixed resource, not a finite resource.[79] The history of hydrocarbon fuels confirms Simon's viewpoint. If Jevons had been right, we would have been out of coal long ago. If Hubbert had been right, there would be no need for gas stations because there would be virtually no gasoline left to fuel our vehicles anywhere in the world, regardless how much we might be willing to pay per gallon to fill up our gas tanks.

Obama Bans Offshore Drilling in Favor of Offshore Wind Power

The Obama administration has openly displayed an ideological preference for green energy, despite abundant evidence that green energy technologies, including wind and solar, fail to deliver the robust energy supply the United States needs to sustain strong economic growth.

On Dec. 1, 2010, Interior Secretary Ken Salazar announced a 7-year moratorium was being placed on offshore oil exploration into the eastern Gulf of Mexico along the Atlantic Coast, as a result of the Deepwater Horizon disaster. “As a result of the Deepwater Horizon oil spill, we learned a number of lessons,” the New York Times quoted Salazar as saying in press briefing at the time, “most importantly that we need to proceed with caution and focus on creating a stringent regulatory regime.”[80] After the BP spill, Salazar closed the Minerals Management Service, the regulatory agency whose laxness the Obama administration blamed for the oil rig explosion, and replaced it with a new regulatory agency charged with performing more regular and rigorous oil rig inspections and enforcement of environmental and safety rules. In a press release announcing the decision, Salazar explained the moratorium was intended to provide time to get the new regulatory structure in place.[81]

Dr. Joseph Mason, Louisiana State University endowed chair of banking and well known economist, has estimated that the offshore drilling moratorium imposed by the Obama administration immediately after the Deepwater Horizon oil spill would cost the Gulf Coast a loss of 8,000 jobs and $500 million in lost wages in the first six months. “The moratorium could be more costly than the oil spill itself,” Mason told reporters.[82]

Only a few days before placing the 7-year moratorium on offshore oil and natural gas drilling in the Gulf, President Obama directed his Interior

Department to facilitate leases for offshore wind turbines. On Nov. 23, 2010, Salazar announced his department intended to simplify and speed up the process of applying for and obtaining offshore leases for wind energy. Applying a value-loaded title to the program, Salazar announced in a press release that the "Smart from the Start" wind energy initiative for the Atlantic Outer Continental Shelf was designed "to facilitate siting, leasing and construction of new projects, spurring the rapid and responsible development of this abundant resource," according to a Department of Interior press release.[83]

The "Smart from the Start" wind power initiative was a follow-up to the Cape Wind project Salazar had announced only two months earlier. On Oct. 6, 2010, Salazar signed the nation's first lease for commercial wind energy development with Cape Wind Associates LLC, a subsidiary of Energy Management, Inc.[84] The area involved in the Cape Wind project comprised 24 square miles of the Outer Continental Shelf in the Nantucket Sound offshore Massachusetts. The 130 planned wind turbines each had a hub height of 285 feet. The footprint for the Cape Wind project site is about 5 miles from the mainland shore, 13 miles from Nantucket and 9 miles from Martha's Vineyard. At peak power, the offshore wind farm is estimated to generate a maximum electric output that could produce enough energy to power approximately 420,000 homes. The Interior Department further estimated that the Cape Wind energy project could generate enough power to meet 75 percent of the electricity demand for Cape Cod, Martha's Vineyard and Nantucket Island combined.

"One-fifth of the offshore wind energy potential is located off the New England coast, and Nantucket Sound receives strong, steady Atlantic winds year round," the Interior Department press release announcing the Cape Wind project noted. The Interior Department suggested that the Bureau of Ocean Energy Management, Regulation and Enforcement is expected to begin issuing new offshore leases for wind turbine power by the end of 2011, under the streamlined process. When announcing the Cape Wind project, the Interior Department also made public that the agency was considering offshore wind energy leases along the Outer Continental Shelf of Maryland, Delaware, New Jersey, Virginia and Rhode Island, in addition to Massachusetts.

Famously, the late Massachusetts Democratic Senator Ted Kennedy rigorously objected for years to putting wind turbines offshore on Cape Cod because he felt the damage done by the wind turbines to the scenery of Cape Cod outweighed the value of obtaining the wind-turbine green energy. Approximately a year and a half after the Interior Department announcement, Cape Wind finally selected three private contractors to build the wind power facility off Nantucket Island, after fierce community debate from residents of Cape Cod, Martha's Vineyard, and Nantucket both because of the expected impact on the scenic beauty of the offshore area and because of fears the electricity generated at the wind farm would raise prices. Cape Wind further announced construction of the offshore wind farm was not expected to begin until 2013.[85] Current estimates are that the Cape Wind project will be more expensive than generating electricity through hydrocarbon fuels, with the Cape Wind project expected to add $1.08 to the monthly bill of the average residential customer in the Bay State.[86]

Oilman T. Boone Pickens Wind Farm Plan Goes Bust

If anything should indicate that wind turbine energy is not yet a large-scale commercial energy technology, it should be the decision by renowned oilman T. Boone Pickens to abandon his plans to build his billion dollar wind farm in Pampa, Texas, a small town in the Texas panhandle. If anyone could have been expected to make wind turbine energy work in a commercially viable operation it was Pickens. When Pickens finally deciding to throw in the towel, his wind farm project in Pampa, Texas to has to be described as one of the nation's most expensive alternative energy boondoggles ever.

In May, 2008, Pickens announced that his oil company, Mesa Power LP, would order 687 wind turbines, or 1,000 megawatts of capacity, from GE, at a cost of about $2 billion, a decision that a *New York Times* editorial at the time suggested President George W. Bush should carefully heed for policy purposes.[87] When he went public with his plans, Pickens boasted that by 2012, he would be able to expand the wind farm in west Texas to a gigantic 4,000 megawatts, about four times the output of a typical nuclear power plant.

At the height of his enthusiasm for wind turbine power, Pickens created a website to promote his "Pickens Plan" solution for a U.S. energy policy that will wean U.S. dependence from foreign oil.[88] In total, he spent some $58 million to broadcast a series of television commercials promoting his agenda and he appeared all over cable television news to promote his idea that wind power was a renewable energy that could save America from energy dependence on foreign oil. The problem was Pickens could never convince a major city such as Dallas agrees to create the necessary connections to transmit the electricity generated by the Pampa wind turbine farm to Dallas.

A key Pickens television commercial began by tracking historically that the U.S. imported 24 percent of all oil consumed in the country, growing to 42 percent in 1970 and "almost 70 percent" today and "climbing every minute." Pickens somewhat inflated numbers also assert that "over $700 billion leaves this country to foreign nations every year," an amount the commercial argues is "four times the cost of the Iraqi War."

The "Pickens Plan" in its heyday was also enthusiastic about converting 18-wheeler commercial trucks to be driven on natural gas, with a goal of converting 300,000 of the nation's fleet of 6.5 million long-haul trucks to run on natural gas. He was one of the first prominent oilmen to claim electric batteries will be the ultimate solution for automobiles. Pickens openly acknowledged the difficulty that billions of dollars would have to be spent to modernize electric grids throughout the country, to modify long-haul trucks as well as to provide a natural gas infrastructure of service stations around the country, and to create a new generation of battery-powered cars.

The "pillars" of the Pickens Plan listed on his website included:

- Create millions of new jobs by building out the capacity to generate up to 22 percent of our electricity from wind. And adding to that with additional solar capacity;
- Building a 21st century backbone electrical grid;
- Providing incentives for homeowners and the owners of commercial buildings to upgrade their insulation and other energy savings options; and
- Using America's natural gas to replace imported oil as a transportation fuel.

The Pickens Plan was strangely reminiscent of many initiatives that have been discussed since the administration of Jimmy Carter in the 1970s.

Anyone who has driven California has seen hundreds of abandoned wind turbines that were built since the 1970s as a result of various tax-incentive subsidies that have attempted to promote the alternative energy or

renewable energy agendas of past decades. Despite this, Pickens pleaded, “I’ve been an oilman all my life. But this is one emergency we can’t drill our way out of.”[89]

Unfortunately, Pickens failed to convince the federal government or the state of Texas to spend the hundreds of millions and possibly billions of dollars needed to connect the Pickens-built wind farm to the electrical grid in Dallas. As a result, Pickens was left with a lot of wind turbines blowing in the wind in the dusty Texas panhandle. In July 2009, Pickens abandoned plans to build the world’s largest wind farm in Pampa, Texas.[90] In the final analysis, Pickens had no choice but to face the sad prospect of taking approximately a $2 billion loss on his wind turbine adventure.[91] Pickens tried to cut his losses by negotiating with GE to cut his massive order for wind turbines by more than half.[92]

Ultimately, Pickens was loathe to give up his wind turbine drams. In April 2012, he announced he was proceeding to build a 377-megawatt wind farm in Texas, three years after shelving plans for the Pampa project that would have been some ten times larger, had it succeeded. Pickens decided to go ahead after Wind Energy Transmission Texas LLC, a joint venture company, agreed to build a transmission line to carry the power from the Pickens wind farm to utility providers in the state.[93]

Deere Co. Abandons Wind Energy Project

In 2010, Deere Co. joined oilman T. Boone Pickens in abandoning a costly boondoggle in the wind energy business, providing more evidence that wind turbine energy is marginal at best in its commercial potential.

On Aug. 31, 2010, Deere announced its intention to sell its wind energy business to a subsidiary of Exelon for $900 million, as reported by the Associated Press.[94] Originally, in founding John Deere Renewables, the company saw the wind business "as an extension of its agricultural work, with projects located in rural areas," as the AP noted. Deere had invested over $1 billion in the wind energy project over the last five years, buying much of the wind turbine equipment from a company in India, Suzlon Energy.

According to the AP, the Deere wind turbine business includes the physical infrastructure needed to operate 36 completed plants in eight states, with an operational capacity of 735 megawatts, enough according to Exelon estimates to power nearly 184,000 homes. In selling the wind turbine business, Deere anticipated recording a $25 million after-tax charge in the fourth quarter 2010, with the result that the sale is not reflected in Deere's profit estimate in August that fourth quarter earnings would total $375 million.

In abandoning the wind turbine business, Deere decided to concentrate on what it does best – making farm equipment.

At the time of the sale, Exelon, the largest operator in the United States, was just entering the wind turbine business, attempting to be a wholesale marketer of wind energy in Illinois, Pennsylvania and West Virginia.

EPA Double the Amount of Ethanol Allowed in Gasoline

On April 2, 2012, the Environmental Protection Agency gave approval for cars and light trucks manufactured in 2007 and newer to begin using 15 percent ethanol, known as E15, in a decision that push up the price of corn dramatically.

The EPA decision allowed a 50 percent increase from the current permitted limit of 10 percent ethanol in gasoline. According to the EPA statement, a decision on the use of E15 for cars and light trucks manufactured between 2001 and 2006 will be made after additional testing is completed in November.

“Our nation needs E15 to reduce our dependence on foreign oil – it will keep gas prices down at the pump and help to end the extreme fluctuations in gas prices caused by our reliance on fuel from unstable parts of the world,” proclaimed Tom Buis, the chief executive officer of Growth Energy, an ethanol trade group.[95]

The decision was made in response to a request in March 2009 made by Growth Energy, a coalition of U.S. ethanol supporters, and 54 ethanol manufacturers who had applied for a waiver to increase the allowable amount of ethanol in gasoline from E10 to E15.[96]

Poor die in Africa because U.S. produces ethanol

The poor are dying of famine in Third World Countries such as Africa because of an Obama administration political agenda to produce ethanol as a renewable fuel substitute for gasoline.

The Obama administration's mandates for the use of ethanol are "immoral," Robert Bryce, a writer on ethanol for Energy Tribune, told the author in an email written in April 2009, following an article Bryce had written charging that ethanol drives food prices higher.[97] "We are burning food to make motor fuel at a time when there's a growing global shortage of food and no shortage of motor fuel," Bryce said. "The corn ethanol scam is not an energy program.. "It is a massive farm subsidy program masquerading as an energy program."

A controversial 2009 report released by the Congressional Budget Office, or CBO, documented that the increasing demand for corn to produce ethanol contributed between 10 to 15 percent for overall 5.1 percent increase in the price of food from April 2007 to April 2008, as measured by the Consumer Price Index.[98] "Producing ethanol for use in motor fuels increases the demand for corn, which ultimately raises the prices that consumers pay for a wide variety of foods at grocery stores, ranging from corn syrup sweeteners found in soft drinks to meat, dairy, and poultry products," the CBO concluded.

An International Monetary Fund assessment was even more pessimistic. "With respect to food, biofuels policies in some advanced economies are spilling over to the price of key food items, particularly corn and soybeans," John Lipsky, First Managing Director of the IMF, told the Council on Foreign Relations, on May 8, 2008. "IMF estimates suggest increased demand for biofuels accounts for 70 percent of the increase in corn prices and 40 percent of the increase in soybean prices."[99]

In an article entitled “How Biofuels Could Starve the Poor,” published in the Council on Foreign Relations Foreign Affairs magazine for May/June 2007, economists C. Ford Runge and Benjamin Senauer concluded that if the prices of staple foods increase because of the demand for biofuels, “the number of food-insecure people in the world would rise by over 16 million for every percentage point in the real prices of staple foods.” Runge and Senauer projected that as many as 1.2 billion people could be chronically hungry by 2025, with 600 million more than previously projected, with the increase being due to the production of biofuels.[100]

Ethanol producers go broke

Despite heavy government subsidies, the history of the ethanol industry in the United States is that even major producers cannot make a profit.

The *Houston Chronicle* reported in May 2009 that White Energy, the largest ethanol producer in Texas, has filed for a Chapter 11 bankruptcy.[101] The White Energy bankruptcy adds to a string of ethanol industry bankruptcies that in the past two years have called into question the economic viability of the biofuel, despite federal government subsidies that amount to 45 cents per gallon and a federal mandate that requires U.S. gasoline producers to use 12 billion gallons of ethanol in 2009, with the requirement increasing to 15 billion gallons by 2015.

The Congressional Budget Office report issued in April 2009, concluded the "break-even ratio" of the price per gallon of retail gasoline to the price per bushel of corn is currently about 0.9. In other words, unless the price of gasoline is more than 90 percent of the price of a bushel of corn, it is not profitable to produce ethanol. When corn trades at about $5.78 a bushel, gasoline would have to cost about $5.20 a gallon for the production of ethanol to be profitable, even with government subsidies.

Finally, on Jan. 3, 2012, Congress adjourned without extending the multi-billion dollar subsidy for ethanol, thus allowing an ethanol subsidy that had been in place for more than 30 years to expire. In those 30 years, the ethanol subsidies totaled over $20 billion.[102] Yet, 30 years after Congress began subsidizing ethanol, no viable commercial ethanol energy emerged in the United States. Even with legislative demands to include ethanol in gasoline fuel and billions of dollars in ethanol subsidies, scores of ethanol companies went bankrupt.

The truth is that biofuels are not necessarily energy efficient. The production of ethanol may burn up more hydrocarbon fuel than it saves.

Consider the different uses of hydrocarbon fuels needed to convert corn into ethanol. Corn has to be planted, grown and harvested. Then corn needs to be transported to an ethanol plant and converted to ethanol through a chemical process that relies on hydrocarbon fuels.

An analysis conducted by David Pimentel, professor of ecology and agriculture at Cornell University, and Tad Patzek, professor of civil and environmental engineering at the University of California, Berkeley,[103] came to this conclusion by taking into account the production of pesticides and fertilizers needed to grow the crops, the running of farm machinery and irrigation, the grounding and transporting the crop, the fermenting and distilling of ethanol from the water mix. Their conclusions were that corn requires 29 percent more hydrocarbon energy than the fuel produced, switch grass requires 45 percent more, and wood biomass requires 57 percent more. The same conclusions held for soybean plants use to produce biodiesel fuel from soybean plants (27 percent more hydrocarbon fuel used than produced) or sunflower plants (118 percent more hydrocarbon fuel used). The analysis did not factor in the additional costs in federal and state subsidies that are passed on to consumers in the form of additional taxes.

The Solyndra Bankruptcy – An Obama administration Energy Scandal

When President Obama touts the "green economy," the mainstream media bends over backwards to give him extensive coverage, but when "green economy" ventures go bust, the mainstream media to bury the story.

One example was Solyndra, Inc, a maker of solar panels, headquartered in Fremont, California. In 2009, Solyndra received $535 million in a Department of Energy loan guarantee, in a ceremony attended by Vice President Biden, Energy Secretary Chu and California Governor Arnold Schwarzenegger. Then, on May 26, 2010, President Obama personally toured the plant and California Senator Barbara Boxer proclaimed Solyndra as the future not only of California, but also of the U.S. economy.

Then, on Aug. 31, 2011, Solyndra shut the doors to its California headquarters and declared bankruptcy.[104] Solyndra claimed the reason for the bankruptcy was cheaper foreign competition from China in manufacturing solar panels. But industry experts had a different explanation. Axiom Capital Management's solar power analyst Gordon Johnson told Bloomberg that the supply of photovoltaic panels is expected to climb to almost triple the level of demand in 2011, crashing prices in the industry.[105] "It could be Armageddon," Johnson said. "Demand is about to fall at a time when you're going to have a significant increase in supply. In a commoditized industry, that is a formula for disaster."

But from the Solyndra bankruptcy what emerged was a pattern of the Obama administration giving massive financial benefits to Obama campaign contributors who were willing to venture into green energy businesses. An April 2012 Treasury Department report, entitled "Consultation on Solyndra Loan Guarantee Was Rushed," revealed that the Department of Energy cut out Treasury officials from issues involving

Solyndra, ignoring Treasury's advice and limiting Treasury's opportunity to review the high-priced, high-financing-risk of what critics called "an Obama pipe dream." [106] A top Obama fundraiser, George Kaiser of Tulsa, Oklahoma, had bankrolled Solyndra, leading to charges that corruption, not jobs, was the motivation behind the Solyndra government financing from the beginning.

On Sept. 8, 2011, just two days after the company formally declared Chapter 11 bankruptcy, the FBI and the Energy Department's inspector general's office executed a search warrant at the Fremont, California, headquarters of solar panel maker Solyndra.[107]

Top leftist altruist goes bust on green energy investments

In December 2009, David Gelbaum, a major donor to the Sierra Club and the American Civil Liberties Union, plus several military assistance foundations with a leftist political bent, announced that after donating $389 million to these groups from 2005 to 2009, he had to cut back because his investments in alternative-energy firms "laced me in a highly liquid position," according to a *Wall Street Journal* report.[108] He made his fortune as a mathematician working in a Wall Street hedge fund, but now his commitment to renewable energy has cost him dearly. Gelbaum, also a major donor to the Democratic National Party, indicated to the *Wall Street Journal* that the Quercus Trust, the group he runs, was down almost 57 percent over an 18-month period from 2008-2009.

In November 2008, GreenTechMedia.com identified 34 green technology companies that had received Quercus Trust funding.[109] "Entrepreneurs who have received money say Gelbaum takes a long term, holistic vies of the market and is patient enough to put money into an investment that might pay off well beyond five years," GreenTechMedia.com wrote, "He's also not seeing attention." In January 2009, GreenTechMedia identified that Guercus Trust investments had been placed in 47 green technology companies. "Entrepreneurs who have received money from the trust say Gelbaum is not investing in these companies as a way to evangelize green or as a form of charity," GreenTechMedia.com wrote.[110]

That Gelbaum's fortune was diminished by his ideological enthusiasm for green energy companies was made clear by a *USA Today* article published in November 2010, under the title "Donor's millions for military causes drying up."[111] The newspaper noted that Gelbaum had donated $450 million to environmental causes for several years and invested $500 million in clean technology. In 2005, he funded charities that assisted troops,

veterans, and their families through Sierra Club and an organization Gelbaum created, called the Iraq and Afghanistan Deployment Impact Fund. Gelbaum told *USA Today* that his personal funds for charity had dried up because he has lost or remains at risk for hundreds of millions of dollars he invested in green-technology start-up companies that have done poorly or have not yet become commercially viable.

NIMBY Syndrome Blocks Wind Turbine and Solar Panel Farms

Ever since former Massachusetts Senator Ted Kennedy objected to putting wind turbines off his beloved Cape Cod, the NIMBY, or "Not In My Back Yard," syndrome has been a major obstacle to the expansion of wind and solar power around the world. The truth is that wind and solar power require a massive amount of space in order to generate the quantities of electricity needed to provide more than minimal electricity.

In an article entitled "Renewable Energy, Meet the New Nimbys," reporter Jeffrey Ball wrote in the *Wall Street Journal* that, "Even as Americans tell pollsters they are eager for alternatives to fossil fuel, some are fighting proposals for solar and wind projects and for the thousands of miles of transmission lines that would be needed to carry the cleaner energy to market."[112] The new backlash, Ball noted, was fueled by worries that renewable-energy projects would need to occupy vast amounts of land to produce significant amounts of power. He reported that California, considering a proposal to produce a third of its electricity from renewable sources by 2020, would have to build vast solar-energy plants in the Mojave Dessert. As enthusiastic as Californians might be to get solar energy, environmentalists resist the massive intrusion the solar plants would impose, even on a pristine region as remote as the Mojave Dessert.

National Geographic examined how large an area would have to be devoted to windmill technology if New York City were to abandon coal and natural gas to generate 60 percent of the city's needs for electricity. The answer was that 10.6 square miles, an area larger than southern Manhattan from the tip of the island through Greenwich Village would have to hold some 6,800 turbine windmills, each capable of generating 1.5 megawatts of electricity.[113] Yet, to deliver the same amount of electricity with solar power would take an area of 74 square miles, an area stretching from about 59th

Street north to the tip of the island in a square block that would reach across into New Jersey on the west and include the Bronx on the east. The installation would involve over 145 million solar panels, each delivering 175 watts of power. By comparison, that quantity of electricity would take 4 nuclear reactors capable of delivering 1,000 megawatts each, with each plant taking up about 2 square miles.

Still, when the wind does not blow, windmill technology is no more effective than a sailboat in a race caught in a doldrums. A modern giant windmill, standing about 150 meters (about 500 feet) high with a blade diameter of about 100 meters (328 feet, slightly more than one football field) can generate about 2 megawatts of electricity when the wind blows hard, about 10 miles per second. But when the wind blows moderately, say at 1 mile per second, the windmill hardly produces any electricity at all, not even enough to power an average dishwasher. Experts estimate that it would require 1500 giant windmills operating with the wind always blowing at full capacity to produce as much energy as one nuclear reactor of 1500 megawatts with a reactor that would be at most only a few meters high and wide.[114]

A 2007 study titled "Calculating the Real Cost of Industrial Wind Power,"[115] produced in Bruce County, Ontario, Canada, examined data from wind power generated on an industrial basis in Europe over the last 10 years. The study concluded, "As the public increasingly learns the real costs of wind turbine development, publicly subsidized industrial wind projects are rapidly becoming unacceptable."

The study noted that in Denmark, which has one of the world's highest concentrations of wind turbines, approximately 80 percent of the wind energy that is produced has to be sold to Denmark's neighbors, Norway and Sweden, "at a price far below the cost of production in order to stabilize the grid because it is produced during periods of low consumer demand." Conversely, the study observed, Denmark is frequently forced to buy hydro and nuclear power from its neighbors. "The net outcome," the Ontario study concluded, "is that Denmark with the highest amount of installed wind energy has the highest consumer electricity charges in Europe. Danish

households already pay 100 percent more for their electricity than other European customers.”

Toward a Comprehensive Energy Policy: EPA Shuts Down Coal Plants?

The national energy policy implemented by the Obama administration has heavily favored green energy technologies, despite the failure of renewable energies such as wind turbine and solar power. What the nation's 30-year experience with ethanol has demonstrated is that government regulations and subsidies are not sufficient to make problematic energy technologies into commercially viable realities. Scandals such as Solyndra reinforce the point, demonstrating that corruption, not sound energy policy, is the most likely result when ideology, not practical energy realities, dictates the nation's energy policy.

Through 2013, the EPA plans to implement new rules designed to curb pollution from coal-fired power plants. Experts estimate that the regulations will cost utilities up to $129 billion and force the retirement of up to 20 percent of the nation's coal capacity. Given that coal now powers approximately 45 percent of U.S. electric power, the new EPA regulations inevitably mean the closing of possibly dozens of electric plants and higher electric bills.[116] Again, the EPA plan indicates the Obama administration places ideology above economic efficiency when dictating the nation's energy policy.

John Simon would champion oil produced from Canadian tar sands as the type of technological innovation he anticipated would expand hydrocarbon fuel resources beyond definitions understood in the 1950s, when Shell Oil's Hubbert first drew his peak production graph. But when the Obama administration decided to block the Keystone XL pipeline from bringing that oil from Canada to Texas, Simon would have noted U.S. energy politics were being driven by environmental concerns. At its core, the Obama administration energy policy displays a hostility to hydrocarbon fuels that

has already cost the U.S. taxpayer countless billions in wasted loan guarantees, pointless subsidies, and political corruption.

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Chapter 6

“Drill, Baby, Drill” –
Achieving USA Energy Independence Now

President Barack Obama has repeatedly claimed the United States consumes more than 20 percent of the world’s oil reserves, but we have less than 2 percent of all the world’s oil reserves.

Clearly, Julian Simon would ask, “How Obama could possibly know exactly how large the U.S. or the world oil reserves truly are?” This is a common mistake make by peak production theorists. Implicit in the concept that we are running out of hydrocarbon fuels is the assumption that we know the quantity of hydrocarbon fuels there are. Otherwise, how could we know we were running out?

Simon’s assumptions are both that we will find more hydrocarbon resources than we assume exist – something already proved by deep-earth and deep-water drilling, a field largely not invented when Hubbert drew his famous peak in 1956 – and that technological advances will make economically possible the recovery of previously unappreciated hydrocarbon resources.

In evaluating Obama’s claim, the *Washington Post* pointed out that two arms of the Interior Department – the U.S. Geological Survey, for onshore estimates and the Bureau of Ocean Energy Management, for offshore estimates – reported the U.S. in 2011 had 219 billion barrels of “undiscovered technically recoverable resources” that may be recovered depending in part on technology and/or the price of oil. This is ten times more than the 21 billion barrels of oil the Energy Information Administration claims the United States had in 2011 when counting “proven reserves.” In other words, as the Washington Post pointed out, “These estimates change over time.”

A greater example of this is the Bakken Formation that stretches across three states in the northern United States and into southern Canada.[117]

The Bakken Formation

The Bakken Formation, discovered in the 1980s and 1990s, was initially thought to have only a limited amount of oil, scattered between layers of shale and sandstone. The U.S. Geological Survey estimated in 1995 that the Bakken Formation had only about 151 million barrels of recoverable oil.

Then, with advances in drilling technology, the U.S. Geological Survey reassessed the quantity of recoverable oil in the Bakken Formation. A USGS assessment released in April 2008, concluded the Bakken Formation may have an estimated 3.0 to 4.3 billion barrels of technically recoverable oil, a 2,800 percent, or 28-times increase in the amount of oil recoverable identified in the agency's initial 1995 assessment. The Energy Information Administration has officially attributed the success of horizontal drilling and fracturing efforts in Montana as the reason a decision was made to reevaluate the 1995 USGS Assessment of Resources that had estimated only 151 million barrels were technically recoverable from the Bakken Formation.[118]

"Oil production from shale plays, particularly in the Bakken shale in North Dakota, has been rising rapidly," Richard Newell, the EIA administrator, told the House Committee on Natural Resources, on March 17, 2011.[119] "Using horizontal drilling and hydraulic fracturing, operators increased Bakken production form about 3,000 barrels per day in 2005 to 137,000 barrels per day in 2009 and 225,000 barrels per day in 2010." Newell told Congress the government currently estimates there are nearly 24 billion barrels of technically recoverable crude oil in Bakken and three other producing shale oil formations in the United States.

"The domestic grade oil and natural gas industry has undergone a technological revolution that has revitalized the resource base in the onshore lower-48 states," Newell continued. "The use of horizontal drilling in conjunction with hydraulic fracturing has greatly expanded the ability of

producers to profitably produce crude oil and natural gas from low permeability geologic formations, particularly shale oil formations." As a result of this technological revolution, U.S. natural gas reserves grew 63 percent between 2000 and 2010, increasing from 167.4 trillion cubic feet at the start of 2000 to 272.5 trillion cubic feet at the start of 2010, the highest since 1971.

"The Bakken Formation estimate is larger than all other current USGS oil assessments of the lower 48 states and is the largest 'continuous' oil accumulation ever assessed by the USGS," said the USGS press release making the April 2008 announcement.[120] The Bakken Formation lies in "Williston Basin," a geological formation in the north central United States, underlying much of North Dakota, eastern Montana, northwestern South Dakota, and southern Saskatchewan and Manitoba, Canada.

U.S. the Saudi Arabia of natural gas

In 2008, Aubrey McClendon, the chief executive of major natural gas producer Chesapeake Energy Corporation proclaimed, “Shale gas makes the United States the Saudi Arabia of natural gas.”[121]

Contrary to the typically failed predictions of peak production theorists that we are running out of oil in a world dependent upon hydrocarbon fuels, newly explored shale oil and shale gas reserves in North America promise to provide abundant domestic reserves adequate to meet U.S. energy needs for hundreds of years to come. Yet, in an era where the Obama administration is pressing a carbon-hysteria agenda that masks an ideological preference for green renewable energy alternatives such as wind and solar power, President Obama is unlikely to tout abundant shale-oil reserves as a solution to provide cheap energy for decades to come.

In sharp contrast, the green industries – including ethanol and other biofuels, as well as wind turbines and solar power – largely collapsed in 2011, amidst scandals that tied billions of dollars in public funding and tax breaks to Democratic donors and fundraisers for Barack Obama.

In December 2011, the *Wall Street Journal* reported that over the past several months, at least seven solar-panel manufacturers in additional to Solyndra, have filed for bankruptcy or declared insolvency.[122] The problem was predictable – Chinese low-cost manufacturers have entered the solar panel business, undercutting U.S. and EU manufacturers pursuing the clean energy dreams of the Obama administration and their leftist political supports. To the dismay of the Obama administration and their green ideological supporters, 2011 saw a boom, not in clean or renewable fuels, but in the oil and gas arena where technological advances have truly created a horizon for sustainable profits into the foreseeable future, baring political intervention and disruption from an ideologically driven EPA.

In the same month, the *Wall Street Journal* reported that the boom in low-cost natural gas obtained from shale is driving investment in plants that use gas for fuel or as a raw material, setting off a race by states to attract such factories and the jobs they create.[123] The article noted that shale gas now accounts for more than one-third of all U.S. natural-gas production; the surge in production has pushed down U.S. natural-gas prices, from a high of about $15 per million British thermal units six years ago, to today when near-term futures prices have fallen below $3.20. Whether the green ideologies in the Obama administration like it or not, the energy play for 2012 and beyond remains in the oil and natural gas fields, not in solar or wind technologies.

Oil and natural gas produced from shale are non-conventional hydrocarbon energy resources produced synthetically every bit as much as the Nazis produced synthetic oil from coal. This proves Julian Simon's point. Through technological advances, the United States has developed abundant shale resources into oil and natural gas reserves unimagined in 1956 when M. King Hubbert first drew his peak graph.

The Age of Small Nuclear Reactors Beginning to Dawn

Bill Gates of Microsoft Fame has financed TerraPower LLC, a company created to build small-scale nuclear reactors that theoretically could power a local community for decades at a time without having to be refueled. Realizing that nuclear reactors continue to power U.S. Navy vessels around the globe, the idea might just work – proving once again Julian Simon's insight that nuclear power will be the inexhaustible energy resource of the future. Gates is intrigued by the potential for small nuclear reactors to produce cheap, zero-carbon energy and its ability to turn what is a waste product (depleted uranium) into fuel

The TerraPower traveling-wave reactor is designed to be buried in the ground, where it would run for 100 years. Describing how the reactor would work, the *Wall Street Journal* explained last week that enriched uranium would shoot neutrons into the depleted uranium making up approximately 90 percent of the fuel. That process would produce plutonium, designed to burn slowly in a controlled reaction that would continue over many years without the need of human intervention. The *Wall Street Journal* also pointed out that large supplies of depleted uranium are available as a byproduct of today's water-cooled nuclear reactors.[124]

Another pioneer in the small nukes business, Hyperion Power Generation, Inc., was formed to market a small, modular, non-weapons grade nuclear power generator created by Dr. Otis "Pete" Peterson at the Los Alamos National Office in New Mexico, with the goal of powering industrial plants, military bases, hospitals, government complexes and college campuses. The Hyperion website touts a small reactor – 1.5 meters in length and width, 2.5 meters in height – that produces enough electricity to power 20,000 average American homes. The module can be buried underground, "out of sight and harm's way," and is equally capable of being transported by train, ship or

truck. Buried underground, the Hyperion nuclear generator is designed to provide power for 7 to 10 years with minimal maintenance and no emission of so-called greenhouse gases.

The success of companies producing small nuclear reactors has led to the designation of a new industry grouping under the heading of "Small and Modular Nuclear Power Reactors," or SMRs. Small Modular Reactors have the advantage of providing power away from the large grids generating electricity throughout most of the United States today, according to the World Nuclear Association.[125]

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Conclusion

The USA #1 in Oil Production?

On Sept. 11, 2011, Goldman Sachs issued a report predicting the United States will be the world's largest oil producing country by 2017. The Goldman Sachs report forecast that U.S. daily production of oil will grow from a current 8.3 million barrels of oil per day to 10.9 million barrels by 2017, a level of production that would surpass both Saudi Arabia and Russia.[126] The report was a shock to peak oil believers in the oil industry who had been conditioned to expect that the United States would have completely depleted all available oil resources by the third decade of the twenty-first century, not that the United States could possibly be the world's largest producer of oil within this decade.

Little noticed, data from the Energy Information Administration has documented that U.S. reliance on foreign oil has actually shrunk in recent years, from over 60 percent in 2006 to under 50 percent in 2010.[127] The prolonged economic downturn continuing since 2008 has reduced demand for oil in the U.S. economy. However, Goldman Sachs concluded the effect of a slow economy was insufficient to explain the entire shift. U.S. hydrocarbon liquids production, including both crude oil and natural gas liquids, has jumped roughly 1 million barrels per day between 2008 and 2011. Much of that has come from increased production of the onshore lower-48 states and reflects the significant contributions of America's independent producer. Independents currently produce 95 percent of the oil and gas wells in the United States. The investment bank report also noted that net import for natural gas was at its lowest point in seventeen years, at 10.8 percent, down from a peak of 16.4 percent in 2005.

On Aug. 28, 2008, WND columnist published a piece in which he countered the far left and congressional Democrats who oppose exploration for new oil resources and have done so for decades by declaring, "Drill, Baby, Drill!"[128] We concluded here by echoing Eric Rush's call to action. It is time to end the cover-up and misinformation that has prevented the American public from knowing what the truth about oil – that hydrocarbon

fuels are abiotic in nature, produced by the earth naturally on a continuous basis, and that the quantity of abiotic hydrocarbons yet to be discovered suggests the world will never run out of oil or natural gas, exactly as Julian Simon predicted decades ago.

Consider this paragraph published by Simon in 1981:

> Natural resources. Hold your hat—our supplies of natural resources are not finite in any economic sense. Nor does past experience give reason to expect natural resources to become more scarce. Rather, if the past is any guide, natural resources will progressively become less scarce and less costly, and will constitute a smaller proportion of our expenses in future years. And population growth is likely to have a long run *beneficial* impact on the natural-resource situation.[129]

Simon countered the Malthusians by learning how to think from the perspective of abundance, not scarcity. He had confidence in a private economy in which entrepreneurs and independent economic actors could adapt to market conditions, seeking profit opportunities outside of government assistance. Simon new an unregulated market succeeds to a far greater extent than the type of highly regulated economy the Obama administration seeks to impose upon us.

Air renews itself naturally, as does water. Why should oil or natural gas be different? A view that modern industrial society doomed to outlive the affordable hydrocarbon fuels that have made economic growth and prosperity possible is consistent with a secular society desperate to replace God and Divine Providence with central planning imposed by a crushing state bureaucratic apparatus. In the 1950s, Sinclair Oil sold gasoline to motorists under a logo that featured a green dinosaur, while Shell Oil employed an executive who sought to prove the end of “fossil fuels” was at hand by adapting the graph of a normal distribution that is taught to every Statistics 101 college student. More than 60 years later, the world still has abundant hydrocarbon fuels, even though Sinclair Oil has dropped the dinosaur logo and a Shell Oil executive has expressed doubt on national television that peak production theory is correct.

"The peak oil theory has really swamped the world," John Hofmeister, then the president of Shell Oil's U.S. operations, said on CNBC's *Squawk Box* show on March 20, 2008. "God Bless Matt Simmons. His assumptions are correct based on his hypotheses, but his hypotheses are too narrow."[130]

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