No. 24-813

In the
Supreme Court of the United States

CHEVRON U.S.A. INCORPORATED, et al.,
Petitioners,

v.

PLAQUEMINES PARISH, et al.,
Respondents.

On Writ of Certiorari to the United States Court of Appeals for the Fifth Circuit

JOINT APPENDIX

J. BENJAMIN AGUIÑAGA
Solicitor General
Counsel of Record
LOUISIANA DEPARTMENT OF JUSTICE
1885 N. Third Street
Baton Rouge, LA 70802
(225) 506-3746
AguinagaB@ag.louisiana.gov

Counsel for the State of Louisiana

PAUL D. CLEMENT
Counsel of Record
CLEMENT & MURPHY, PLLC
706 Duke Street
Alexandria, VA 22314
(202) 742-8900
paul.clement@clementmurphy.com

Counsel for Petitioners

(*Additional counsel listed on inside cover*)

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VICTOR L. MARCELLO
Counsel of Record
TALBOT, CARMOUCHE
& MARCELLO
17405 Perkins Road
Baton Rouge, LA 70810
(225) 400-9991
vmarcello@tcmlawoffice.com

Counsel for Parish of Plaquemines and Parish of Cameron

TABLE OF CONTENTS

The following opinions, decisions, judgments, and orders have been omitted in printing this joint appendix because they appear on the following page in the appendix to the Petition for Certiorari:

Excerpts from Notice of Removal, *Parish of Plaquemines v. Total Petrochemicals & Refining USA, Inc.*, No. 18-cv-05256 (E.D. La. May 23, 2018)

…

… marine operations with *long distances* between wellheads and the tank battery was an inadequate and inefficient method that resulted in problems with fluid dynamics causing excessive equipment failures and pollution." Ex. 1, Report, at 13.	… —unnecessary purely in the sense that they would represent a relatively ineffective use of steel. This is accomplished by the issuance of regulations as to the spacing of wells. These regulations were designed to prevent the drilling of wells virtually on top of one another as too frequently had been the competitive practice."); Ex. 34, Legal opinion from the Dep't of Interior characterizing spacing regulations as "in furtherance of the powers conferred upon the President of the Second War Powers Act to take such appropriate measures as may be necessary to conserve steel and other materials which are essential in

	the prosecution of the war."
"the 24/7 nature of operations of the equipment generated accelerated wave action that erodes levees and destroys marshes." Ex. 1, Report, at 13.	Ex. 21, at 16-17, Records of Petroleum Admin. For War 1942-45, at 16 ("[I]it will be necessary to accelerate drilling activity from now on to the end of the year if the 1945 program of 27,000 wells is to be realised."); Ex. 35, Letter dated June 1945 ("So long as the PAW certifies a volume of oil is necessary for the prosecution of the war, the Commission can do nothing else but meet that certification."); Ex. 46, Oil & Gas Journal, May 5, 1945 ("current PAW quotas are pushing against the ceiling of the district's capacity to produce efficiently. But given sufficient steel and manpower to sustain the drilling program, preferably at an even higher rate than at present, these quotas can be maintained for another 6 months without harm.... Since

	production has conformed very closely with the PAW monthly crude quotas, it is possible to chart the history of the war demand for crude and its relationship to District 3 capacity to produce at maximum efficient rates."); Ex. 47, at 215, 1943 Department of Conservation Biennial Report ("all the states were asked to produce practically all the oil that could be taken without injury to the wells and reservoirs").
"inadequate amounts of cement were used in surface and production casing. These measures show that Texaco had little or no regard for designing long life equipment, resulting in failures that caused leaks and spills that caused pollution." Ex. 1, report, at 14.	Ex. 39, Records of PAW, Letter from Asst. Chief Counsel, November 16, 1943 ("I am advised you have instructed members of Production Division that PAW... does not have the right to require operators to use a *specified size of casing*.... If [that] is correct, I *cannot agree with this instruction or interpretation*.... It is within the province of

	PAW...to refuse to permit an operator to acquire casing of one size as against casing of another size, likewise to refuse to permit an operator to acquire casing of one character, such as an alloy steel, as against casing of another character, such as a carbon steel"); Ex. 30, (Preference Rating Order P-98b provides that "No operator may apply a rating assigned by this Order to obtain …

…

Excerpts from Chapter XI, John W. Frey & H. Chandler Ide, Petroleum Admin. for War, *History of the Petroleum Administration for War, 1941-1945* (1946), *Par. of Plaquemines v. Total Petrochemicals & Refining USA, Inc.*, No. 18-cv-05256 (E.D. La.), Dkt.86-48

THE STORY OF PRODUCTION

Oil Begins In The Earth

The average layman sees no glamour in an oil well.

But without the grimy, robust, persistent, ingenious oil driller, who pushes a steel pipe down as deep as 2 miles and more to draw precious crude oil from the pores of the earth, the towering war refineries would have stood idle, the mile-long tank-car trains would have been empty, the far flung Big Inch and Little Big Inch pipe lines would have been superfluous, and the fast ocean tankers would have rusted at anchor.

To fight the "Battle of Oil" the production branch of the American oil industry supplied staggering quantities of crude—in spite of endless war spawned obstacles, in spite of declining discoveries of new fields, in spite of the voracious appetite of the war machine, incessantly demanding "more oil—*more* oil—and MORE oil."

The American oil industry produced more oil and in volumes that oilmen, themselves, doubted possible. The United Nations required almost 7 billion barrels of crude oil from Pearl Harbor to VJ-day. That is equal to 315 billion gallons. And of that prodigious total, the American oil industry produced, from fields in this

country, a total of 5,800,000,000 barrels, and that is equal to 243,600,000,000 gallons of crude oil.

If all of the crude produced could have been converted into automotive gasoline, the 29,507,113 passenger cars in the United States in 1941 would have had enough gasoline to operate normally for more than 12 years. Or, putting it in terms of cities, the passenger cars registered in 1941 in Detroit, Chicago, Washington, Salt Lake City, Los Angeles, Fort Worth, Atlanta, New Orleans, Birmingham, New Fork, Boston, Seattle, Cleveland, Indianapolis, and Duluth all would have had enough gasoline to operate for a little more than 100 years.

To fill that wartime order the oil industry had to increase the production of crude oil in United States oil fields from an average of 3,840,000 barrels a day in 1941 to a peak of 4,890,000 barrels daily in July 1945, a gain of more than a million barrels. (See chart on page 170.)

But figures do not begin to tell the story. The story's real meaning lies in terms of human beings—the men who produced the oil—produced by sweat, by hard work, by never swerving from their objective regardless of handicaps; by utilizing every trick their craft had acquired in 82 years of drilling for oil and then adding a few new tricks.

The oil industry produced the oil that produced results. No Government agency had to compel them to do the job. In production, as in every other oil function, the job was done largely by cooperation among the team members—the Petroleum Administration for War, the Petroleum Industry War Council, the district committees, and, perhaps more important than them

all, the individual producer who went into the field and put together the brains and brawn and money and machinery that got the oil out of the ground.

Production—The Job and Its Pattern

The bringing about of a million-barrel-a-day increase in output and maintaining the productive capacity was the number one victory in the field of crude-oil production, but it was made possible only by certain major accomplishments which never came to the attention of the general public, or for that matter, the armed services for whose use that vast additional volume of oil was produced.

The combined oil forces foresaw that the war would require all of our oil-productive capacity, and so they developed, with painstaking study, the long-range programs of exploration, development, and produc-

…

California took care of west coast requirements and had some left for export.

Within the first weeks after Pearl Harbor, the first jolt was given to this peacetime production balance by Nazi submarines, which disrupted the tanker movements from the United States Gulf coast to the great refinery centers of the East. At this stage, the problem was not producing enough crude oil; it was getting that crude moved. Although this was essentially a matter of transportation, the producers had to adjust their program to meet the crisis. It was necessary to produce the required crude at the points where it could be moved to the ultimate points of consumption by pipe lines or tank cars, and when they

were available, boats. This meant that production development, insofar as the location of existing oil fields and pools would permit, had to be planned in harmony with the refining branch of the industry as well, because the need was not only for enough crude but the kinds needed for aviation gasoline and other war products.

These were trouble-filled days for the PAW-PIWC production men, for the industry's district production committees, and for all production operators. With the tanker route from the Gulf to the East throttled by submarines, and with substitute overland transportation still in the embryonic stage, it was necessary to feed the eastern refineries, insofar as possible, from the nearest source of supply, and that was the Middle West. But the Middle West oil fields were already being strained to bear the burden of supplying the war products refineries in that region. There was only one way that they would contribute to the East as well, and that was by being produced beyond their maximum efficient rates.[7]

Thoughtful oilmen who heeded the future were deeply concerned when they envisioned this prospect, for production beyond maximum efficient rates would mean reduction of the ultimate recovery from the affected fields. But war granted no freedom of choice. The midwestern producers did what the Nation's needs demanded; they operated the wells at excessive rates, and they sent the crude oil eastward that war

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[7] The "maximum efficient rate" is defined as the highest sustainable rate at which a field can be produced for a designated period without appreciable loss in ultimate oil recovery.

plants might turn out the military petroleum products that had to be made.

This unavoidable overproduction of midwestern fields came just at a time when first steps were being attempted in a program to avoid just that, for it was known that the productive capacity of existing wells must be preserved as a means of assuring sustained production through the war period. Policy in this respect was based upon experience showing that wells produced "wide open" suffered rapid declines in productive capacity and, generally, a loss in the amount of oil that could ultimately be produced. Out of this experience there had developed in the oil industry the concept of maximum efficient rate of production.

It was this maximum-efficient-rate standard, together with the indicated decline in production from stripper wells, that convinced those responsible for oil supply that the sustainable domestic productive capacity, contrary to opinion in many quarters, would not be adequate to insure the quantity of crude needed to meet anticipated requirements for war demands, and inspired the exploratory and development drilling programs.

Since some States were producing above and some below levels consistent with the maximum efficient rate, it was decided to recommend a production rate each month for each of the oil-producing States, leaving the carrying out of the recommendations to existing State regulatory mechanisms. The first recommendation was issued in January 1942.

By mid-1942, it was realized that the procedure needed strengthening and, in July, production rates were issued as certifications rather than recommendations, a procedure followed until the end of the war.

It was to facilitate cooperation and compliance that the National Conference of Petroleum Regulatory Authorities was formed. At the first meeting of this group in April 1942 assurance was given by each State represented that cooperation would be forthcoming in producing the quantities determined upon by the PAW. This body gave invaluable service throughout the war, and played a major role in bringing to the attention of individual operators the continuing wartime necessity of closely planned production.

In California, which had no State regulation of crude production, a voluntary system of recommended allocations among the fields, pools, and wells throughout the State had been in effect before the war. In order to make use of this existing mechanism, PAW evolved a plan[8] under which the district 5 production committee with the voluntary industry group as a subcommittee, prepared and submitted each month …

[8] Recommendation 19, issued December 11, 1941.

Excerpts From Statement of Philip H. Bohart, Director of Prod. Div., Petroleum Admin. for War, *Hearing on S. Res. 36 Before the S. Comm. Investigating Petroleum Resources*, 78th Cong. (1945), *Par. of Plaquemines v. Total Petrochemicals & Refining USA, Inc.*, No. 18-cv-05256 (E.D. La.), Dkt.86-48

Mr. BOHART. Mr. Chairman, my discussion will cover five charts. The charts cover a little longer period, as a rule, than the charts that you have seen today and therefore are a little more historical than perhaps some of the other charts. It is both desirable and necessary to include some historical data, necessary because it is difficult in this particular discussion to pick out a short period of time, since the activities are progressive, and to discuss that short period without showing at least what went on before it. It is desirable, perhaps, to include some historical data, for the reason that by doing so it may be possible to see or determine some event or occurrence in the past which may represent a hint for the future.

The first chart that I shall discuss is No. 6, "United States Crude Oil Production—Wells Drilled." Chart No. 6 consists of two panels: The one on the left shows the daily average production in the United States, by years. The chart begins with the year 1900, because the 40-year period preceding 1900 is of little interest as far as the future is concerned.

The oil industry has been a very important industry from the very beginning, because it laid the foundation of many important things. But before 1900, or in the period which might be called the pre-automobile period, production was not very great.

There were produced in the period only about 1,000,000,000 barrels, which is only about half of what was produced in 1944. It might be termed also the "lamp oil, candle, and axle grease" age. The products, gasoline, fuel oil, and lubricating oil, which were destined to make the industry grow large were not at that time produced in important quantities; so by virtue of the very small amount of production and by virtue of the nature of the products, the period cannot be considered as very important to us in measuring the events of recent times.

The chart, on quick inspection, will be seen to be divisible into three parts: One part from 1900 to 1920, a second part from 1920 to about 1941, and a third part from 1941 to 1945. The chart up to 1920 carries the record through World War I. The production record of this early period does not appear spectacular or particularly significant. As a matter of fact, the effect of World War I is not even visible. We know that it was right in here [indicating], but it did not make a change in the slope of the line.

Reference to that period, however, is of interest for this reason: There is a striking similarity between the situation which existed at the end of World War I and the one which exists now. At the end of World War I it was said that the United States was consuming about 60,000 barrels a day more than it was producing.

At the end of World War II we were not consuming more than we were producing or could produce. However, we were producing in excess of our maximum efficient rate and production was even approaching total capacity. Also, it is expected that

shortly after the war production will be only about 10 percent below maximum …

The CHAIRMAN. It isn't intended by this panel to indicate that wildcatting began in 1936?

Mr. BOHART. No, Mr. Chairman; the information was not available prior to 1936.

The CHAIRMAN. And I take it that that was intended rather to show the trend, than anything else?

Mr. BOHART. That is correct. Most of these charts, with the exception of the first one, were prepared for the first time by PAW, or the particular data which were used were compiled for the first time by PAW. In other words, to a considerable extent these charts represent quite a lot of original work.

Now, PAW was concerned with whether or not there would be a sufficient amount of crude to satisfy war demands and essential civilian demands. There are several factors which entered into that; namely, wildcat drilling, development drilling, reserves, productive capacity, and so forth. It was necessary and it was prudent for PAW to make a very careful and exhaustive study of these factors. And it was prudent not to take a complacent attitude about the supply of crude petroleum. So these studies represent an attempt to get at the facts and to understand the situation with which we were confronted during the war.

On chart No. 7 the red line represents the estimated maximum efficient productive capacity. Theoretically, the maximum efficient productive capacity is the maximum capacity, or maximum rate,

at which wells and fields can be produced without excessive loss of energy or without excessive decline.

Decline and hence maximum efficient productive capacity were of particular interest to PAW, because it was faced with trying to supply an adequate quantity of crude oil over an indefinite period of time. No one knew when the war would end. Therefore, plans had to be made for a long war. It would have been careless to plan operations to produce at excessive rates in the early part of the war, to find later that through excessive decline the capacity was insufficient to carry on. These considerations prompted the calculation of maximum efficient productive capacity.

It will be observed that from about 1941 a downward slope is shown for the maximum efficient productive capacity. This is because the fields were being produced at high rates and because a decline in the rate of discovery was observed. It was only reasonable to assume that with the discovery rates going down and fields being pulled very hard, that maximum efficient productive capacity would decline somewhat.

I ask you not to accept this as an absolute value. There was no time to make a detailed engineering study of each pool and field, which would be necessary if an absolute value, or one as nearly absolute as humanly possible to calculate, were to be determined. With the aid of industry committees, and with the aid of PAW's own engineers, this value, or this set of values, was arrived at, and I think it is representative of the situation or sufficiently so that the chart depicts a useful and significant picture.

The black line on chart 7 represents the daily production Therefore, the black area represents reserve productive capacity.

The United States started the war with a maximum efficient productive capacity of approximately 4,760,000 barrels daily. As the war pro-
…

Affidavit of Calvin Barnhill, *Total Petrochemicals & Refining USA, Inc.*, No. 18-cv-05256 (E.D. La. Jan. 5, 2023), Dkt.86-73

CALVIN BARNHILL, after first being duly sworn upon bis oath, makes this affidavit and states the following:

1. Attached as Exhibit "A" to this affidavit is a true and correct copy of my Curriculum Vitae. The contents of the Curriculum Vitae accurately describe my 49 years of experience in the oil and gas industry which includes the exploration, drilling, and production of oil and gas.

2. I was asked to analyze certain petroleum engineering and oil and gas operation issues relating to Plaintiffs' preliminary report. Plaintiffs' preliminary report asserts that oil and gas in coastal Louisiana should have been developed using techniques more commonly associated with an upland-based oil field development plan and offshore directional drilling. An upland-based development plan for the marsh/coastal areas of Louisiana would include building land-based access roads and land-based well sites in the marsh/coastal areas for the exploration and development of oil and gas. An offshore directional development plan would include utilizing a centralized facility for the wells' surface locations and using directional drilling techniques to access the oil and gas. It is my opinion, based on my education, training, experience and historical industry knowledge, that either of those type of development plans would have required significantly more time, manpower, equipment and resources (including steel and other materials) to implement than the

development plan actually employed, which included using existing waterways and canals.

3. For purposes of this review, I focused on the World War 2 (WW2) era when certain coastal oil and gas fields were developed. I have relied on documents relating to federal directives to the petroleum industry during WW2. Those documents are listed in Exhibit "B" to this affidavit. A common theme emerges in the documents: The federal government wanted maximum production as quickly as possible with minimum material usage. I have seen no example of the government approving use of additional materials, equipment or manpower during WW2 in order to specifically protect the environment in marsh areas such as coastal Louisiana.

Roads and Canals

4. Oil and gas drilling and production in coastal areas of the State of Louisiana presented a multitude of technical challenges, including access and logistical challenges before, during and after the 1940s. The magnitude of the Louisiana marsh lands, coupled with the multitude of existing bayous, rivers, lakes and bays, as well as the intracoastal waterway, which was begun in 1912, presented barriers to ready access to oil and gas reserves in coastal Louisiana.

5. As a result of the unique challenges presented by drilling in coastal Louisiana, the oil and gas industry predominantly used existing waterways, coupled with manmade canals, in order to reach drilling locations and to drill and then later service productive wells. Roads typically were not used.

6. The creation of a system of oil field roads in the coastal areas of Louisiana would have been highly

impractical particularly during WW2 due to the need to construct and maintain the roadbeds, bridges and drainage systems that could withstand the heavy loads of equipment used in oil and gas exploration and production. Given Louisiana's relatively undeveloped road system at the start of WW2, constructing new roads into the coastal marsh areas of the state which were capable of transporting large heavy loads would have required the construction of feeder systems from existing roads into areas to be explored and developed for oil and gas. The installation of such infrastructure would have required significant amounts of time, materials and manpower. Furthermore, given the exploratory nature of oil and gas reserve discovery, the exact location for such infrastructure would be largely unknown prior to hydrocarbon discovery. Road-building, coupled with land-based well site construction, would have required considerably more time, with the result being less timely oil production.

7. Borrow canals and pits would have been needed to efficiently and timely provide the fill material used to construct roadbeds and well sites in coastal marsh areas. This would have created multiple canals, which would have been adjacent to the roads, and multiple pits, which would have been adjacent to the well sites, resulting in a dual system of roads and borrow canals coupled with borrow pits and well site locations. Such road-building and location-building systems would have required considerable time, heavy equipment, materials, and manpower, which during WW2 were preferentially allocated to the war effort. At the end of the day, using roads and land-based well sites in the coastal marsh areas would have still resulted in the presence of canals and pits, and would have consumed

valuable personnel, equipment, and materials needed for the war effort.

Directional Drilling

8. Directional drilling during the WW2 years was still in its infancy. Compared with current technology, directional drilling tools and techniques were rudimentary. Downhole directional drilling motors were not utilized until the 1960s. During WW2, directional drilling was accomplished by setting one or more mechanical devices in the drilled hole that would deviate the drill bit in a hoped-for direction and angle. Directionally drilled wells before and during the WW2 years at best required significantly more drilling time, thus creating a situation in which fewer wells would be drilled during a time when the United States needed more oil for the war effort. In addition, due to the resultant well geometry, a directional well would also require significantly more casing, tubing and other resources than a vertical well accessing the intended reserves. Therefore, the Petroleum Administration for War (PAW) mandated vertical wellbores and specific well spacings in order to maximize production using the minimum amount of materials.

9. During WW2 the PAW permitted directional drilling in some specific cases, provided those cases complied with the spacing requirements accepted by PAW. This allowed directional drilling where a well's surface location could not be accessed directly above the well's productive bottom hole location. Exceptions were also allowed for directional drilling and well spacing on a case by case basis for certain salt domes, again under the concept of maximizing production

utilizing a minimum amount of materials. The PAW recognized that directional drilling could optimize well placement around certain piercement salt domes and further recognized that the regular well spacing it normally required would not be practical around those domes given the small reservoir sizes resulting from complex faulting and steep bed dip. I have seen no indications that PAW ever allowed the use of an offshore directional drilling model.

Saltwater Discharge

10. Oil and gas wells often produce water along with the hydrocarbons. In most cases the water contains salts of various concentrations. It is very common for newly completed producing sands to have little or no saltwater associated with the production stream. However, with time, saltwater may increase and, at some point, may comprise the majority of the production stream.

11. Today, the normal practice is to dispose of produced water underground through reinjection wells. However, that was not the practice in coastal Louisiana during the WW2 era. During that time, the common practice was to discharge produced water into suitable coastal surface water bodies. Produced water discharge to suitable surface waters in coastal areas complied with applicable governmental requirements. Regulatory agencies with oversight of oil and gas operations were aware of the surface discharge of produced water into suitable coastal water bodies. A review of the war documents, including the documents pertaining to Plaquemines Parish, does not show any request and approval for materials to be used in the construction or conversion of saltwater disposal

(SWD) wells to replace surface discharge in coastal Louisiana.

12. The drilling of a typical SWD well would require manpower, equipment, and materials. The materials required would include multiple steel casings and steel tubing (typically thousands of feet of steel pipe) along with other items, including downhole equipment, cements, muds, etc. The conversion of an existing well to a SWD well would also require manpower, equipment and materials. In addition, the outfitting of an SWD well's surface facility would require pumps to inject the saltwater, engines to power the pumps, tanks or pits to store and clean the saltwater and gathering flowlines to transport the saltwater to the SWD well facility and SWD well. Furthermore, the maintenance and upkeep of the SWD well and its facility would necessitate the use of manpower, equipment and materials. Such maintenance would also include the working over of the SWD well to maintain its injection capability and efficiency.

Earthen Pits, Steel Tanks, and Tubulars

13. Plaintiffs' report advocates that operators in coastal areas should have used steel tanks for the storage of saltwater prior to discharge, in lieu of earthen pits. Again, Plaintiffs' suggestions are inconsistent with typical practice during the WW2 era in coastal Louisiana. Earthen pits were commonly used near centralized tank batteries in coastal areas as land area was available. Government regulations allowed oil field operators to use earthen pits prior to, during and long after WW2. The earthen pits were used to store, clean and process (polish) the produced

saltwater prior to discharge into naturally saline or brackish water bodies (suitable coastal water bodies). Given the final disposition of the produced saltwater, steel tanks would not have provided any benefits over earthen pits. Obviously, using earthen pits and saltwater discharge into suitable coastal surface water bodies would greatly reduce the need for resources, such as steel and other materials, when compared to using steel tanks and SWD wells.

14. Plaintiffs' report advocates the use of production facilities and steel tanks at each individual well site, in lieu of using a centralized facility. The use of steel tanks was addressed by the PAW with the goal being the reduction in steel tank usage. In locations where oil and gas commingling was appropriate, the use of a centralized facility would reduce the number of steel tanks required; meeting the PAW's goal of reducing steel tank usage.

15. Furthermore, Plaintiffs' report claims that certain tubular design components were inadequate. Plaintiffs appear to assume that oil companies during WW2 had free rein to use as much steel as necessary to satisfy the Plaintiffs' modern notions of environmental protection. I do not agree with that conclusion. I have reviewed applications submitted to the PAW by various oil companies. PAW required a listing of the materials intended to be used on its applications. Applicants often listed tubular length, size, weight and grade. The PAW's overarching requirement, as previously noted, was to maximize oil and gas production utilizing a minimum amount of materials.

Secondary Recovery and Pressure Maintenance

16. Plaintiffs' report advocates that operators m coastal areas should have injected produced saltwater into oil and gas reservoirs for pressure maintenance to prevent subsidence. When oil and gas is produced from underground reservoirs through the natural energy that exists in that reservoir, such production is termed primary recovery. Natural energy sources include natural water encroachment due to the withdrawal of the oil and gas, gas expansion, and gravity drainage. Secondary recovery occurs when additional energy is supplied to the reservoir by human intervention. Pressure maintenance by human-controlled artificial means, such as waterflooding, is one form of secondary recovery.

17. Water-drive fields were predominant in south Louisiana during the WW2 era. Water-drive oil or gas reservoirs have a natural pressure maintenance due to water movement from the edge or bottom of the reservoir and would be considered primary recovery. Based on the records provided, it appears that the belief at the time of WW2 was that artificial waterflooding or pressure maintenance in a water-drive reservoir would have limited to no effect. Therefore, water-drive fields were not considered a good alternative for secondary recovery, especially for many fields in the Louisiana coastal areas. According to an API study in 1942, there were no water flooding secondary recovery operations in Louisiana. A review of the war era documents, including documents pertaining to Plaquemines Parish, showed no evidence that the government allowed or permitted injection into oil and gas reservoirs to combat subsidence.

Louisiana Oil and Gas Regulatory Oversight

18. The Louisiana Department of Conservation (LDOC) Statewide Order (SWO) 29 (effective on July 15, 1941), which was revised by SWO 29A (effective May 20, 1942), which was revised by SWO 29B (effective July 19, 1943) and the Rules of the Louisiana Stream Control Commission (LSCC) do not cover activities such as dredging, tank battery site location or design, pressure maintenance to avoid subsidence or well spacing as related to the conservation of minerals. Furthermore, LDOC Field Orders I have reviewed in the past have not covered activities such as dredging, tank battery site location or design, pressure maintenance to avoid subsidence or well spacing as related to the conservation of minerals.

FURTHER, AFFIANT SAYETH NOT.

[handwritten: signature]
Calvin Barnhill

Excerpts From Declaration of Alfred ("A.J.") Gravel, *Par. of Plaquemines v. Total Petrochemicals & Refining USA, Inc.*, No. 18-cv-05256 (E.D. La. Oct. 8, 2021), Dkt.86-81

Alfred M. Gravel, being duly sworn, deposes, and says:

1. My name is A.J. Gravel. I am over eighteen (18) years of age. I have personal knowledge of the facts set forth in this declaration and am competent to testify to them if necessary.

2. I am a Senior Managing Director at FTI Consulting, Inc. ("FTI"), a global strategy and business advisory firm. I am co-leader of the Environmental Solutions practice and lead the Forensic History and Analysis group. In my current work at FTI and in other professional experience dating back to 1995, I have provided forensic historical research and environmental cost analysis services to public and private sector clients. For more than 20 years I have researched and documented the role of the federal government in the operation of the oil industry during World War II ("WWII"). I also served as Exxon Mobil's expert forensic historian in the recent *Exxon Mobil v. United States* matter *(Exxon Mobil Corp. v. United States,* 2020 WL 5573048, (S.D. Tex. Sept. 16,

…

and tankage "to conserve critical materials."[137] The use of secondhand materials for pipelines and associated

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[137] PAW, "Project 18 Draft Application Summary," n.d., p. 2. [Attached hereto as Exhibit 1-74]

pump stations and tankage is entirely consistent with the government's overall directives for wartime construction and illustrates the extent of the government's control of all modes of transportation during the war.

64. On May 20, 1942 the WPB issued its "Directive for War-Time Construction," which was approved and signed by the War and Navy Departments.[138] This directive stated that "all construction, whether financed by [the] Government or other funds, be reduced to the **absolute minimum necessary for the war effort"** and that "all construction shall be of the **cheapest, temporary character** with structural stability only sufficient to meet the needs of the service which the structure is intended to fulfill during the period of its contemplated war use."[139] [Emphasis added]

Finding 6: PAW Management of Crude Oil Supplies

65. During WWII, PAW committees "maintained constant studies as to where crude could be had" and "analyzed various crudes to determine which could be used by which plants." The committees then "worked out and recommended new schedules of crude shipments whenever PAW would add new products to

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PAW, "Pipeline Projects Progress Report," March 2, 1943, p. 6. [Attached hereto as Exhibit 1-75]

[138] WPB, "Directive for War-Time Construction." May 20, 1942. [Attached hereto as Exhibit 1-76]

[139] WPB, "Directive for War-Time Construction," May 20, 1942, pp. 1-2. [Attached hereto as Exhibit 1-76]

its military 'essential' list."[140] In fulfilling their roles, PAW district offices and refining committees maintained statistical information about every refinery (e.g., crude stocks, runs, yields, etc.) so that "[s]upplies could be programmed into refineries that were in the greatest need of them; and, by the same token, when emergencies arose, supplies could be diverted from refineries that were in relatively comfortable position."[141] PAW established a "system of monthly allocations of *specific* volumes of crude to *specific* refiners on the basis, always, of providing first for the minimum quantities estimated to be necessary to assure maximum output of war products."[142] [Emphasis in original] "After minimum needs of war plants had been supplied, the rest of the crude was divided equitably, always with a view to keeping *all* refineries operating, because it was known that the Nation's entire refining plant must be kept in operation."[143] These crude oil allocations were made at the district level on a monthly basis and took into account the changing amounts of crude oil available and any newly completed refinery equipment for expanding the manufacturing of war products. PAW's Refining Division in Washington, DC, then collected data from all district offices and allocated crude oil for the entire country by issuing "all the necessary

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[140] *A History of the PAW,* p. 215 [Attached hereto as Exhibit 1-12]

[141] *A History of the PAW,* pp. 214-219. [Attached hereto as Exhibit 1-12]

[142] *A History of the PAW,* p. 215. [Attached hereto as Exhibit 1-12]

[143] *A History of the PAW,* p. 215. [Attached hereto as Exhibit 1-12]

regulations or directives" to get "crude oil to those who required it."[144]

66. The PAW District 3 Refining Committee forecasted the sources of crude oil used by district refineries. These forecasts included crude oils produced by coastal Louisiana fields that were transported to refineries that were under government contract to manufacture war products, including 100-octane aviation gasoline. **Table 2** summarizes crude oils sourced from select coastal Louisiana oil fields from April 1943 through 1944.[145]

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[144] D. Thomas Curtin, *Men, Oil and War;* p. 119. [Attached hereto as Exhibit 1-77]

[145] PAW District 3 Refining Committee, "Forecast of Operations: Third and Fourth Quarters 1943, First and Second Quarters 1944," March 19, 1943. [Attached hereto as Exhibit 1-113]

PAW District 3 Refining Committee, "Forecast of Operations: 1944," December 28, 1943. [Attached hereto as Exhibit 1-114]

Table 2: Select Crude Oil Sources by Field

Parish	Oil Field	Refinery	Barrels of Crude per Day	Forecast Time Period
Cameron	Cameron Meadows	Gulf Port Arthur	1,000	April 1943
Plaquemines	Garden Island	Texas Port Arthur	4,600	April 1943
Jefferson	Lafitte - Barataria	Texas Port Arthur	20,000	April 1943
Plaquemines	Garden Island	Texas Port Arthur	4,600	July-August 1943
		Texas Port Neches		July-August 1943
Cameron	Grand Lake	Pan Am, Texas City	2,100	July-August 1943
Cameron	Hackberry	Pan Am, Texas City	2,600	July-August 1943
Cameron	Black Bayou	Shell Houston	10,190	July-August 1943
		Shell Norco		July-August 1943
Cameron	Chalkley	Shell Houston	2,000	July-August 1943
		Shell Norco		July-August 1943
St. John the Baptist	La Place	Shell Houston	200	July-August 1943
		Shell Norco		July-August 1943
Cameron	Cameron Meadows	Gulf Port Arthur	1,000	July-August 1943
Jefferson	Lafitte	Texas Port Arthur	33,000	July-August 1943
		Texas Port Neches		July-August 1943
Cameron	Sweet Lake	Shell Houston	1,700	July-August 1943
		Shell Norco		July-August 1943
Cameron	Grand Lake	Pan Am Texas City	2,840	1st Quarter 1944
Cameron	Hackberry	Pan Am Texas City	2,385	1st Quarter 1944
Cameron	Hackberry	Pan Am Texas City	2,385	2nd-4th Quarter 1944
Cameron	Cameron Meadows	Gulf Port Arthur	1,000	1st Quarter 1944
Cameron	Cameron Meadows	Magnolia Beaumont	1,000	1st Quarter 1944
Plaquemines	Garden Island	Texas Port Arthur	4,100	1st Quarter 1944
		Texas Port Neches		1st Quarter 1944
Jefferson	Lafitte	Texas Port Arthur	38,400	1st Quarter 1944
		Texas Port Neches		1st Quarter 1944
Cameron	Sweet Lake	Pure Nederland	1,835	1st Quarter 1944
Cameron	Cameron Meadows	Gulf Port Arthur	1,000	2nd-4th Quarter 1944
Cameron	Cameron Meadows	Magnolia Beaumont	1,000	2nd-4th Quarter 1944
Plaquemines	Garden Island	Texas Port Arthur	4,100	2nd-4th Quarter 1944
		Texas Port Neches		2nd-4th Quarter 1944
Jefferson	Lafitte	Texas Port Arthur	33,000	2nd-4th Quarter 1944
		Texas Port Neches		2nd-4th Quarter 1944
Cameron	Sweet Lake	Pure Nederland	1,846	2nd-4th Quarter 1944
Cameron	Black Bayou	Shell Norco	2,470	1st Quarter 1944
Cameron	Chalkley	Shell Norco	3,435	1st Quarter 1944

Parish	Oil Field	Refinery	Barrels of Crude per Day	Forecast Time Period
Plaquemines	Lake Washington	River Petroleum NOLA	1,278	1st Quarter 1944
Plaquemines	Potash	Shell Norco	1,640	1st Quarter 1944
St. John the Baptist	La Place	Shell Norco	190	1st Quarter 1944
Cameron	Black Bayou	Shell Norco	1,535	2nd Quarter 1944
Cameron	Chalkley	Shell Norco	3,435	2nd Quarter 1944
Plaquemines	Lake Washington	River Petroleum NOLA	1,278	2nd Quarter 1944
St. John the Baptist	La Place	Shell Norco	190	2nd Quarter 1944
Plaquemines	Potash	Shell Norco	840	2nd Quarter 1944
Cameron	Black Bayou	Shell Norco	1,535	3rd and 4th Quarter 1944
Cameron	Chalkley	Shell Norco	3,435	3rd and 4th Quarter 1944
Plaquemines	Lake Washington	River Petroleum NOLA	1,278	3rd and 4th Quarter 1944
St. John the Baptist	La Place	Shell Norco	190	3rd and 4th Quarter 1944
Plaquemines	Potash	Shell Norco	840	3rd and 4th Quarter 1944

67. In Table 2, pairs of refineries owned by the same company often received joint crude assignments, such as Shell's Houston and Norco (Louisiana) refineries, or the Texas Company's Port Arthur and Port Neches refineries. In some instances, pairs of refineries operated in tandem to produce 100-octane aviation gasoline or synthetic rubber components pursuant to government contracts. For example, and as noted in a June 1945 Shell report, "alkylate, cumene and straight run base stock produced at [the] Norco refinery [were] shipped to Houston for blending" into 100-octane aviation gasoline.[146] In other words,

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[146] Shell Oil Company, "Resume of Recent Manufacturing Developments (East of the Rockies)," June 1, 1945, p. 1. [Attached hereto as Exhibit 1-97]

L.R. Goldsmith to E.D. Cumming, "Inspection Trip - 100 Octane and Butadiene Plants under Construction," July 8, 1943, p. 17. [Attached hereto as Exhibit 1-78]

crude oil processed at Shell's Norco refinery was used to manufacture essential aviation gasoline components that were shipped to Shell's Houston refinery for blending into 100-octane aviation gasoline pursuant to government contract.

68. PAW's crude oil assignments took into consideration a range of factors, including efficiency of transport of both crude and refined products, capacity of the refinery to handle the volume of crude, and the types of war products that could be made from select crudes. It should be recalled that many refined products, beyond just 100-octane aviation gasoline, were considered war products. For example, in February 1943, war products included: 100-octane aviation gasoline, 91-octane aviation gasoline, components of aviation gasoline, toluene, butadiene, aviation lube oils, petroleum coke, asphalt, heavy duty lube oils, and cumene.[147]

69. During WWII, Humble Oil produced crude oil from the Potash field in Plaquemines Parish that was transported to the Standard Oil Company of Louisiana's ("SOLA") refinery in Baton Rouge, Louisiana, where 100-octane aviation gasoline and other military products were produced. According to Louisiana Department of Conservation, "Monthly Transporters and Starers Reports," at various times in 1942 through 1943, Koch-Ellis Marine Contractors received crude oil produced by Humble Oil from the

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PAW District 3 Refining Committee, "Forecast of Operations - March 1944," February 19, 1944, p. 7 (12 of 16 in PDF) [Attached hereto as Exhibit 1-79]

[147] PAW, "Refineries Producing War Products - Barrels Per Day," February 26, 1943. [Attached hereto as Exhibit 1-80]

Potash field and delivered crude oil to SOLA's refinery in Baton Rouge or SOLA's river terminal at Avondale, Louisiana.[148]

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85. Due to the closure of the National Archives since March 2020, copies of all these contracts have not been collected, but their existence is documented on contemporary wartime lists of such contracts.[182]

86. In conclusion, it is my opinion that during the WWII period, agencies of the federal government, including the PAW and the WPB, directed and controlled the entire petroleum industry, including the exploration, development, and production of crude oil, natural gas, and related products in coastal Louisiana that were produced to ensure adequate supplies of products for the federal government during WWII.

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[148] PAW Analyst Summary, "M-68, Case No. 1012," April 3, 1942. [Attached hereto as Exhibit 1-60]

For example, *see* Louisiana Department of Conservation, "Monthly Transporters and Storers Report - Koch-Ellis Marine Contractors, Inc.," March 1942, May 1943 and August 1943. [Attached hereto as Exhibit 1-81]

[182] Letter from Merle Crandall, DSC, to Mr. Brite, PAW, "Purchase by DSC of 100-Octane Avgas," July 10, 1942. [Attached hereto as Exhibit 1-92]

Under penalties of perjury, I declare that I have read the foregoing declaration and that the facts stated in it are true.

Executed on October 8, 2021

[handwritten: signature]
A.J. Gravel

Declaration of Jay L. Brigham, Ph.D., *Parish of Plaquemines v. Total Petrochemicals & Refining USA, Inc.*, No. 18-cv-05256 (E.D. La. Oct. 27, 2021), Dkt.86-94

1. My name is Jay L. Brigham. I am over eighteen years of age. I live in Vienna, Virginia.

2. Since 1997, I have been employed as a historian at Morgan, Angel & Associates, LLC. Morgan Angel is a historical and public policy research firm based in Washington D.C. Since 2014, I have served as the managing partner of Morgan Angel.

3. In 1992, I earned a doctoral degree from the University of California, Riverside in American history, with an emphasis on twentieth-century American history. I have since taught American history, including twentieth-century American history, at the University of California, Riverside; the University of Nevada, Las Vegas; and Arizona State University. I have also written a book, *Empowering the West,* that examined the public power movement in the United States. I have also written articles, book chapters, book reviews, and participated in professional conferences.

4. I have been retained as an expert historian in more than sixty-five cases, including many cases under the Comprehensive Environmental Response, Compensation, and Liability Act. I have testified as an expert in various federal district courts (District of Kansas, District of New Jersey, Central District of California, District of South Carolina, Western District of Washington, Southern District of California, District of Arizona, and the Southern

District of Texas) and the U.S. Court of Federal Claims.

5. I am compensated at the rate of $160.00 per hour.

6. I was retained by Talbot, Carmouche & Marcello.

7. Mr. A.J. Gravel argues that during World War II "agencies of the federal government, including the PAW and WPB, directed and controlled the entire petroleum industry."[1] This is incorrect for the reasons I state below.

8. Primary findings. **A.** America during WWII was a market economy, especially for war production involving intense regulation, but not a command economy. **B.** The War Production Board (WPB) managed resource scarcity on an economy-wide level to use limited resources for the most necessary war aims. **C.** The Defense Supplies Corporation (DSC) purchased critical war products like 100-octane aviation gasoline. **D.** The Petroleum Administration for War (PAW) used a variety of methods to encourage the oil industry to participate in wartime aims and one of these inducements was providing protection from antitrust concerns to allow cooperation between companies. **E.** The crude market during WWII functioned as it did before World War II with private petroleum companies engaging in the exploration and production of crude oil fields and crude oil. **F.** The Louisiana Department of Conservation continued to

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[1] Declaration of Alfred M. ("A.J.") Gravel, The Parish of Cameron v. Auster Oil and Gas, Inc., U.S. District Court, Western District of Louisiana, 52.

regulate oil exploration and production during World War II just as it had done prior to the War.

The Government-Business Partnership During World War II

9. Through an allocation system, the federal government coordinated the use of many raw materials and semi-finished and finished products, so that production in support of the war took precedence over non-war production.

10. The support and participation of American businesses was essential to build the American military and to sustain the war effort. Because the country was only beginning to emerge from the Great Depression, business executives and industrialists were understandably hesitant to invest in machines, equipment, buildings, and property that might have limited use beyond military production. Despite economic improvement by 1940, the gross national product of that year was only 9 percent above what it had been in 1929, before the stock market crashed. Unemployment in 1940 was at 14.6 percent. One economist has noted, "the expansion of the late 1920s had so overbuilt the nation's fixed capital stock that it would not ordinarily have been worked off long before 1940."[2]

11. The goal of President Roosevelt and the federal government was to engage private enterprise in the manufacture of the many items required to fight a war. In August 1940, Secretary of War Henry L. Stimson summarized the administration's view of

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[2] Harold Vatter, *The US. Economy in World War II* (New York: Columbia University Press, 1985), 7 [Exhibit 1-1].

mobilization when he said, "'If you are going to try to go to war, or to prepare for war, in a capitalist country, ... you have got to let business make money out of the process or business won't work.'"[3]

12. American business fared well during World War II. The war effort provided the necessary stimulus to pull the country out of the Great Depression and "business did what was necessary on all fronts, and business leaders enjoyed revived prominence and prestige."[4]

13. New laws and executive orders empowered the executive branch through various agencies of the government to increase defense production or otherwise manage the economy. If necessary, the president was authorized, through the War or Navy Departments or another federal agency, to seize plants that held government contracts to prevent poor management or labor unrest from undermining production and jeopardizing the war effort. If such a plant takeover occurred, "[t]he compensation to be paid to any individual, firm, company, association, corporation, or organized manufacturing industry for its products or material, or as rental for use of any manufacturing plant while used by the United States, shall be fair and just. ... "[5]

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[3] Alan Winkler, *Home Front US.A., America during World War II,* 2nd ed. (Wheeling, IL: Harlan Davidson, 2000), 14 [Exhibit 1-2]; and David M. Kennedy, *Freedom From Fear, The American People in Depression and War, 1929-1945* (New York: Oxford University Press, 1999), 622 [Exhibit 1-3]. This book won Pulitzer Prize for history in 2000.

[4] Winkler, *Home Front US.A.,* 27 [Exhibit 1-2].

[5] 54 Stat. 885, 9/16/1940, at 892 [Exhibit 1-4].

14. The government used this power infrequently during World War II. From 1941 through 1945, there were sixty-four instances when the Anny, Navy, or another agency of the federal government seized a plant. All but seven of the sixty-four were because of labor issues.[6] In order to seize a plant, the president had to issue an executive order. As one writer noted, "[s]eizures were emergency measures generally employed only in situations in which it was of great importance to the government, for any of several reasons, to maintain the production or service involved and in which other less drastic measures had failed or were impractical. The cause of the interruption or threatened interruption varied from case to case-labor disputes, incompetent management, or insolvency, among others. It so happened that the case of every War Department seizure during World War II was a labor dispute ...."[7]

15. In 1940 and 1941, the petroleum industry's suspicions of the Roosevelt Administration dating to the Madison anti-trust case in the mid-1930s remained. However, there is little in the contemporary accounts of World War II or in the historiography of the wartime economy that supports the assertion that the Federal government coerced American business and industry to support the war effort or produce for

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[6] John Ohly, I*ndustrialists in Olive Drab: The Emergency Operation of Private Industries During World War II* (Washington, D.C.: Center of Military History, 1999), Appendix C [Exhibit 1-5].

[7] Ohly, *Industrialists in Olive Drab,* 3. The Navy was involved in the seven plant seizures that were non labor related, ibid., Appendix C [Exhibit 1-5].

the wartime economy. On the contrary, contemporary commentators and participants in the wartime programs are virtually unanimous that the relationship was cooperative, and that the government left the production details largely to industry.

16. In 1945, the Board of Directors of Standard Oil Company (New Jersey) hired Dr. Charles Sterling Popple, formerly of the Harvard University Department of Business History to compile the story of the company's war-time efforts. The resulting book, *Standard Oil Company (New Jersey) in World War II,* was copyrighted by the Company in 1952. Dr. Popple summed up Standard Oil of New Jersey's wartime interaction with PAW and the government as follows: "Throughout the war period the petroleum industry, ***voluntarily and without governmental pressure,*** successfully met all of the demands made upon it."[8]

17. Standard Oil of New Jersey actively encouraged many of its executive-level employees to join the PAW staff by granting leaves of absence, providing financial assistance and promising an equal or better job upon their return. In fact, Standard Oil of New Jersey employees departing for PAW were "usually given a cash bonus roughly equivalent to their total cash return for a period of two years...."[9]

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[8] Charles S. Popple, *Standard Oil Company (New Jersey) In World War II* (New York: Standard Oil Company New Jersey, 1952), 280-81 [Exhibit 1-6].

[9] Charles S. Popple, *Standard Oil Company (New Jersey) In World War II* (New York: Standard Oil Company New Jersey, 1952), 280, 315-81 [Exhibit 1-6].

18. J. Howard Marshall, PAW General Counsel from July 25, 1941 to October 20, 1943 and Assistant Deputy Administrator from October 21, 1943 to February 6, 1945, wrote of wartime business-government relationship, "[c]oordination, rather than blind competition, was needed to produce, refine, transport and distribute the enormous quantities needed for the war effort ... Nothing less than a full-fledged partnership between all of government and all of the oil industry gave any promise of making ends meet. Given federal control of supplies from the oil industry and critical materials supplied to that industry- steel, pipe, pumps, chemicals, and equipment for example- it could be done."[10]

19. In their history of the PAW during World War II, John W. Frey and H. Chandler Ide discussed cooperation in a subsection titled "Cooperation: Proved Path to Success," "[g]ranted, then, that there should be, in the event of another war, a single civilian oil agency, cloaked with adequate authority, what should be its relationship with the industry? Should it use the cooperative system of World War II, or would it be more effective to do it next time by official fiat? The answer was so obvious to all who had had anything to do with the job, that no one even thought of asking the question. Clearly, the experiences of 1941 to 1945 showed that the democratic procedure

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[10] J. Howard Marshall II, *Done in Oil, An Autobiography* (College Station: Texas A&M Press, 1994), 114-15, 154-55 [Exhibit 1-7]. In August 1991, attorneys took Marshall's deposition in United States of America et al., vs. Shell Oil Company, et al., Case No. CV 91 0589 (Ex) U.S. District Court, C.D. CA.

was infinitely superior to any idea of dictatorial compulsion."[11]

20. Historian David Kennedy examined the history of the United States during the Great Depression and World War II. Kennedy wrote of government programs to increase defense production, "[w]hen tax-advantaged private capital was not forthcoming, the Reconstruction Finance Corporation stood ready to provide government loans for needed plant expansion. As a further emolument, Roosevelt ordered the Justice Department to relax antitrust prosecutions. In perhaps the sweetest deal of all, military procurement agencies let contracts on a cost-plus basis, providing iron-clad guarantees of profits beyond the most avaricious monopolist's dreams."[12]

War Production Board (WPB)

21. From the time President Roosevelt declared a "limited national emergency" in September 1939 to the establishment of the WPB in January 1942, a series of governmental organizations were involved in the process of moving the United States toward a wartime economy.[13] The various organizations that preceded the WPB struggled in their attempts to

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[11] John W. Frey and H. Chandler Ide, *A History of the Petroleum Administration for War, 1941-1945* (Washington, DC, GPO: 1946), 295 [Exhibit 1-8].

[12] Kennedy, *Freedom From Fear,* 623 [Exhibit 1-3].

[13] R. Elberton Smith, *United States Army in World War II: The War Department, The Army and Economic Mobilization* (Washington, D.C.: Government Printing Office, 1959), 101 [Exhibit 1-9].

prepare the country's economy for wartime production.

22. In May 1940, President Roosevelt reactivated the National Defense Advisory Commission (NDAC) to provide advice on numerous elements of war planning, including industrial production, industrial materials, and price stabilization.[14] The following month the Army Navy Munitions Board (ANMB) created a system whereby businesses would give priority to orders in support of national defense.[15]

23. On June 28, 1940, Congress passed legislation that gave the president the authority to require business and industry to prioritize orders received from the Army or Navy.[16] In January 1941, the president delegated that authority to the Office of Production Management (OPM), another agency tasked with overseeing defense production.[17] Then in August 1941, with the economy still floundering, Roosevelt created the Supply Priorities and Allocation Board (SPAB) in another attempt to increase production.[18] These agencies-ND AC, ANMB, OPM, and the SPAB—and their functions would later be subsumed under the WPB.[19]

24. During World War II, the WPB was the primary federal agency responsible for ensuring that

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[14] Smith, *United States Army in World War II,* 103 [Exhibit 1-9].

[15] Smith, *United States Army in World War II,* 508-509 [Exhibit 1-9].

[16] 54 Stat. 676, 6/28/1940 [Exhibit 1-10].

[17] Executive Order 8629, 1/7/1941 [Exhibit 1-11].

[18] Executive Order 8875, 8/28/1941 [Exhibit 1-12].

[19] Executive Order 9024, 1/16/1942 (Exhibit 1-13].

the American economy mobilized for war. The primary goal of the WPB and the PAW was to manage the scarcity of all types of resources needed for the war effort. The WPB set broad industrial policy to ensure that those engaged in military production received the necessary materials. Although the WPB established allocation criteria, the agency did not design products, own plants, or engage in procurement. The WPB relied on the cooperation of American business and industry in fulfilling its wartime mission.[20] Private enterprise provided the much-needed expertise and knowledge while the federal government provided the financial capital for plant expansion.

25. The allocation of steel, aluminum, and copper was of primary importance to the WPB. Each of these metals was in short supply and crucial to the war

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[20] See Winkler, *Home Front US.A., America during World War 11;* Smith, *United States Army in World War II* [Exhibit 1-2]; and Paul A.C. Koistinen, *Arsenal of World War IL The Political Economy of American Warfare* (Lawrence, KS: University Press of Kansas, 2004), for further discussion on the role and importance of the WPB during World War II and the role of business and industry [Exhibit 1-14]. Also see *Industrial Mobilization for War, History of the War Production Board and Predecessor Agencies, 1940-1945* (Washington, D.C., 1947; rprt. New York: Greenwood Press, 1969) [Exhibit 1-15]; Robert Connery, *The Navy and the Industrial Mobilization in World War 11* (Princeton: Princeton University Press, 1951) [Exhibit 1-16]; and Kennedy, *Freedom From Fear,* especially Chapter Eighteen, "The War of Machines." [Exhibit 1-3] For a first-hand account of WPB activities during WWII, see the Love Canal litigation testimony of Lincoln Gordon, who worked for the NDAC and then was WPB Program Vice Chairman, United States of America, The State of New York and UDC-Love Canal v. Hooker Chemicals & Plastics, Corp., et al., CIV 79-990, (U.S. District Court, W.D. New York, 1991) [Exhibit 1-17].

effort and the American military depended on their proper allocation and use for effective mobilization. The WPB prohibited nonessential use of steel and the WPB and other agencies promoted conservationist steps to increase its supply.[21]

26. During 1942, shortages and disorganization plagued the American economy. In the fall of that year, the WPB developed the Controlled Materials Plan (CMP) that focused on the allocation of steel, aluminum, and copper. Under the CMP, the WPB adopted a vertical allocation system in which it allocated to the military and other agencies raw material and semi-finished materials for redistribution to their contractors. This placed the burden of proper allocation on the military and other entities.

27. During the war, the priority system functioned economy wide. Enactment of the CMP brought increased order to the economy and under the CMP, "the entire mobilization program revolved around the allocation of the three most basic materials, copper, steel, and aluminum."[22]

28. On December 23, 1941, OPM amended OPM Priorities Order Number 1 that addressed the

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[21] Koistinen, *Arsenal of World War II,* 142 [Exhibit 1-14].

[22] Koistinen, *Arsenal of World War II,* 148, 206-07 [Exhibit 1-14]. A company needing to use copper, steel, or aluminum needs to file an application listing the amount of each needed for the project. Although the WPB directed the priority system, it had given the PAW the authority to grant priorities for the petroleum industry, see Knowlson to Davies, 5/22/1942, reprinted in Frey and Ide, *A History of the Petroleum Administration for War, 1941-1945* (Washington, D.C.: GPO, 1946), 388 [Exhibit 1-8].

priorities for defense contracts. Under the amendment any subcontract to a "Defense Order" to the Army, Navy, or several other government agencies would receive the same priority as the prime contract.[23]

29. During World War II there were more than 320,000 government defense contracts with a total value that exceeded $65,748,000,000. During the war many more subcontracts were signed, such as those covered by the December 23, 1943, amendment to OPM Priorities Order Number 1. The number of subcontracts is difficult to determine, although by June 30, 1947, the War Department had settled 460,000 first tier subcontracts.[24]

30. Lincoln Gordon was another influential figure from the era who worked for the WPB. Gordon started working for NDAC in 1940 and by the end of the war he was a vice chairman at the WPB. In 1991, Gordon testified in federal court, providing a first-hand account of the role of the government, specifically the WPB, during World War II. Gordon's testimony elaborated on the responsibilities of the WPB in the wartime economy.[25] Gordon testified that the WPB

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[23] 6 Fed. Reg. 6680-86, December 24, 1941, Amendment of Priorities Regulation No. 1 [Exhibit 1-18].

[24] Smith, *United States Army in World War II,* 697,662, 63 [Exhibit 1-9].

[25] Testimony of Lincoln Gordon, 1/18/1991, United States of America, The State of New York and UDC-Love Canal v. Hooker Chemicals & Plastics, Corp., et al. (United States District Court, Western District of New York) (hereafter Gordon Testimony), 11222-25 [Exhibit 1-17]; and Harry S Truman Library, Lincoln Gordon Oral History Interview, 7/17/1975 and 7/22/1975, http://www.trumanlibrary.org/oralhist/gordonl.htm [Exhibit 1-19].

used "regulations or controls" to direct the use of raw materials, but never engaged in the ownership of raw materials.[26] The WPB was not a procurement agency nor did it design products or design and build plants.[27]

31. Gordon testified, "the philosophy of the War Production Board-and this is reflected not only in my own writings on the subject, but in this history, official history volume- the philosophy of the War Production Board was hands off of operations, not hands on. The idea was that we would regulate what could be done in the flow of materials, the conservation of materials, but operations were for individual businesses to carry on, so I think hands on is a totally inappropriate term."[28]

32. During his cross examination, Gordon testified that the WPB "did not go down into micromanagement, details of operations." In fact, such management would not have been necessary as he further testified "that the cooperation of American industry with the war effort was overwhelming."[29]

Defense Supplies Corporation (DSC)

33. By August 1940 the reworking of the relationship between business and government had begun to shift the financial risk of expansion away from private enterprise to the federal government, however, problems specific to high-octane aviation gasoline remained. As occurred economy-wide, the

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[26] Gordon Testimony, 11265 [Exhibit 1-17].

[27] Gordon Testimony, 11284-85 [Exhibit 1-17].

[28] Gordon Testimony, 11290-91 [Exhibit 1-17].

[29] Gordon Testimony, 11345-46 [Exhibit 1-17].

petroleum industry feared expanding too quickly and overexpansion in general, fearing excess capacity after the war. A quick end to hostilities could bring financial ruin to a company that had invested heavily to increase production.

34. Important to the petroleum industry was the prohibition of the Army or Navy to enter into purchase contracts longer than one year. William Tidwell and Brendan O'Callaghan wrote in their history of the DSC: "Meanwhile, PAW and industry representatives were exploring the possibility of expanding productive facilities. They soon saw that an expansion of facilities to the extent desired was a risky multi-million-dollar proposition with relatively poor postwar commercial possibilities. Private capital was willing to invest in the program if it could be reasonably assured of a return on its investment. But neither the Army nor Navy could make purchase commitments beyond the year in which they were operating. Industry felt that a one-year purchase commitment was inadequate for the size of the investment required."[30]

35. To address this situation, the Reconstruction Finance Corporation (RFC), with presidential

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[30] William Tidwell and Brendan O'Callaghan, *The Role of Defense Supplies Corporation in the Wartime Aviation Gasoline Program: A Monograph*. Historical Reports on War Administration: Reconstruction Finance Corporation, 1949, 12 [1-20]. In reviewing the expansion of aviation gasoline facilities Tidwell and O'Callaghan noted that large companies "preferred not to use the DPC mechanism" and wrote that the PAW desired to achieve "the widest possible participation by industry." In discussing the involvement of small refiners Tidwell and O'Callaghan wrote, "the DPC mechanism was used when the company indicated its willingness to take part in the program," 14.

approval, created the DSC in August 1940 with the express purpose of entering into contracts of up to three years to purchase 100-octane aviation gasoline.

36. Although chartered in August 1940 with the express purpose of buying 100-octane aviation gasoline, a plan for DSC purchases did not develop until the fall of 1941. In November 1941 the PAW, the Army, the Navy, and the RFC reached an informal agreement by which the DSC would purchase all 100-octane aviation gasoline for resale to the Anny and Navy.[31] The government acting through the DSC signed 38 basic contracts and 15 supplemental contracts with 21 companies including Humble Oil for the purchase of 100-octane aviation gasoline and components.[32]

37. The idea behind an extended purchase contract was that it would provide the necessary security for refiners to expand their facilities. Initially, the RFC allocated $50 million to the DSC "for the purchase and carrying" of 7.5 million barrels of 100-octane aviation gasoline.[33]

Petroleum Administration for War (PAW)

38. The PAW was a claimant agency in that it worked with the WPB to gain whatever raw materials,

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[31] Tidwell and O'Callaghan, *The Role of Defense Supplies Corporation,* 12-19 [Exhibit 1-20].

[32] Tidwell and O'Callaghan, *The Role of Defense Supplies Corporation,* 31 [Exhibit 1-20].

[33] Jones to Knox, Secretary of the Navy, 9/27/1940 [Exhibit 1-21]. Also see Brown to Jones, 1/16/1941 [Exhibit 1-22]. The initial $50 million commitment to purchase 7.5 million barrels was canceled as of February 28, 1941.

semi-finished, and finished products the oil industry needed to produce for wartime aims. President Roosevelt instructed Harold Ickes, the Petroleum Coordinator for War: "To make specific recommendations to any appropriate department, officer, corporation, or other agency of the Federal Government, particularly the Office of Production Management and the Office of Price Administration and Supply ... to insure maintenance of a ready and adequate supply of petroleum and petroleum products."[34]

39. D.R. Knowlton, who was PAW Director of Production from January 30, 1942 through June 24, 1944, noted: "No industry using comparable quantities of materials enjoys the same leeway in the acquisition and use of materials; in fact, to our knowledge, the petroleum producer is the only industrial operator-in any industry, mind you,- who obtains his material by a process tailored to his needs.[35]

40. The "PAW was a claimant agency acting for the petroleum industry in requesting raw materials [from WPB] to be used by the industry."[36] The "PAW was justified in fighting hard [with rival claimants] for

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[34] F. Roosevelt to the Honorable Secretary of the Interior, 5/128/1941, reprinted in, Frey and Ide, *A History of the Petroleum Administration for War,* 374-75 [Exhibit 1-8].

[35] Statement of D.R. Knowlton, Director of Production, Petroleum Administration for War, to the Interstate Oil Compact Commission Relating to the Proposal to Rescind P AO-11 with the Respect to States Having Petroleum Regulatory Agencies, n.d., 6 [Exhibit 1-23].

[36] Frey and Ide, *A History of the Petroleum Administration for War,* 163 [Exhibit 1-8].

every ton of steel possible in order to maintain a drilling program that would prevent permanent harm to the nation's oil resources."[37]

41. The PAW Crude Supply, Crude Reserves, and Production Divisions had 99 employees in Washington, DC, and District 3. The Refining Division employed 194 in Washington, DC, and District 3.[38]

42. There was no enforcement office within the PAW.[39]

Anti-Trust Concerns and the PAW

43. As the 1940s began, the situation between the government and the oil industry was strained at best. The strain dated to President Roosevelt's New Deal policies. As part of the National Industrial Recovery Act (NIRA) of 1933 business and industry were allowed to write regulatory codes as a means of spurring economic recovery.[40]

44. In May 1935 the United States Supreme Court struck down the NIRA. What followed was a dramatic shift in federal policy from one "encouraging cooperation among industry members to one of

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[37] Charles J. Deegan, "Wartime Withdrawals of Crude," *The Oil and Gas Journal,* May 5, 1945 [Exhibit 1-24].

[38] Frey and Ide, *A History of the Petroleum Administration for War,* 351 [Exhibit 1-8].

[39] Frey and Ide, *A History of the Petroleum Administration for War,* 177 [Exhibit 1-8].

[40] Harold Williamson et al., *The American Petroleum Industry: The Age of Energy, 1899-1959* (Evanston, IL: Northwestern University Press, 1963), 689-95 [Exhibit 1-25].

renewed efforts to enforce anti-trust legislation."[41] The move toward anti-trust action occurred in the Madison case in 1935 and 1936 that involved the legality of codes that originated in the Petroleum Code and continued in effect even after the Supreme Court struck down the NIRA. The Department of Justice seated a grand jury in Madison, WI to hear complaints from "jobbers"-gasoline buyers and sellers- in the Midwest who alleged that refiners were engaged in price fixing. The grand jury indicted 47 oil companies, several trade publications, and more than 60 individuals. A district court trial that began in October 1937 resulted in guilty verdicts against thirty companies and sixty people. The Court of Appeals in Chicago overturned the convictions and ordered retrials. The retrials resulted in another round of convictions upheld by the Supreme Court.[42]

45. Government officials refused to testify in the case and without that testimony defense lawyers could not show that their clients were continuing New Deal petroleum policy. One person noted at the time, "[t]he prosecution of the case left the industry, rightly or

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[41] Williamson et al., *The American Petroleum Industry, The Age of Energy, 1899-1959,* 695 [Exhibit 1-25]. Also see, Ralph H. Vietor, *Energy Policy in America Since 1945: A Study of business-government relations* (New York: Cambridge University Press, 1984), 34-35 [Exhibit 1-26].

[42] Williamson et al., *The American Petroleum Industry, The Age of Energy, 1899-1959,* 695-96 [Exhibit 1-25]; Spencer Waller, *Thurmond Arnold, A Biography* (New York: New York University Press, 2005), 96-99 [Exhibit 1-27]; and the *Wausau Daily Herald,* 9/5/1936 [Exhibit 1-28].

wrongly, with an abiding feeling of distrust."[43] A 2002 study of the National Petroleum Council, which was organized shortly after World War II, noted the legacy of the Madison Case during the formative years of that organization. Following the Supreme Court's ruling against the NIRA, Roosevelt and Secretary of the Interior Harold Ickes encouraged the oilmen to continue their cooperative efforts. Ickes's refusal to testify and tell the court that the government favored continued cooperation "generated enormous ill will; many in the industry referred to them as the 'Madison Crucifixion.'" The government heightened that ill will in the late 1930s when it brought an anti-trust suits against large petroleum producers alleging the creation of "a monopolistic combination to restrain trade" in the Mother Hubbard case and another case involving violations of the Elkins Act. The government suspended the lawsuit with the outbreak of World War II before dropping it in 1946.[44]

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[43] Northcutt Ely, "The Government in the Exercise of Power over Interstate Commerce," *Conservation of Oil and Gas, A Legal History, 632,* in Beaton, *Enterprise in Oil,* 453, as cited in Williamson et al., *The American Petroleum Industry, The Age of Energy,* 696 [Exhibit 1-25].

[44] In the Mother Hubbard case, the DOJ brought anti-trust action against twenty-two oil companies and the American Petroleum Institute. In the Elkins Act case, the DOJ alleged that illegal rebates were given to shippers of petroleum. See, Williamson et al., *The American Petroleum Industry, The Age of Energy,* 597-600 [Exhibit 1-25]; Pratt, Becker, McClenahan, Jr., *Voice of the Market-place: A History of the National Petroleum Council* (College Station: 2002), 8 [Exhibit 1-29]; and Vietor, *Energy Policy in America Since 1945,* 34-35 [Exhibit 1-26].

46. An article in the May 22, 1940, issue of the *National Petroleum News,* one of the publications charged in the Madison Case, underscored the lingering animosity between President Roosevelt and the oil industry. The article, titled "FDR Eyes Oil Suit In View of War Plan," reported on discussions between the president and Attorney General Robert Jackson regarding whether or not the Justice Department would pursue anti-trust action against the oil industry in the face of increased demand for petroleum products resulting from the president's recent call for the annual production of 50,000 airplanes. The writer stated that the Justice Department had left the decision up to the president.[45]

47. On May 28, 1941, the president addressed the need for coordination of the petroleum industry in the expanding wartime economy when he appointed Secretary of the Interior Harold Ickes Petroleum Coordinator for War and in charge of the newly formed Office of Petroleum Coordinator (OPC).[46]

48. J. Howard Marshall, who worked for the government early in the New Deal, wrote of the formation of the OPC in his autobiography. He and

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[45] "FDR Eyes Oil Suit In View of War Plan," *National Petroleum News,* 5/22/1940 [Exhibit 1-30].

[46] F. Roosevelt to the Honorable Secretary of the Interior, 5/28/1941, reprinted in, Frey and Ide, *A History of the Petroleum Administration for War,* 374-75 [Exhibit 1-8]. On April 20, 1942, Roosevelt changed the name of the Petroleum Coordinator for National Defense to Petroleum Coordinator for War. On December 2, 1942, Executive Order 9267 established the Petroleum Administration for War, which assumed the functions of the Petroleum Coordinator for War [Exhibit 1-31].

Ralph Davies, who had worked at Standard Oil of California, questioned future oil industry leadership roles during times of war. Marshall stated, "Here was the key: if the president would direct the secretary of the Interior to establish an office to coordinate all governmental activities of the industry in any way related to oil ... The magic word was 'coordinate,' as opposed to 'regulate' or 'order'-words with too definite a legal meaning and requiring specific statutory authority."[47]

49. In fact, ten years prior to the creation of the OPC, Marshall had written a law review article entitled "Legal Planning of Petroleum Production" in which he introduced many of the ideas behind the formation of the PAW, such as "a legal basis for the rationalization of production" and as a cure for "the inability of the American petroleum industry to cooperate in the face of anti-trust laws."[48]

50. The question for Marshall and Davies was how to get their letter outlining their plan to the administration. Marshall and Davies feared that eastern oil companies would resent "up-starts from California" who were proposing "an old firebrand like Ickes" take the controls "whom the industry regarded as having let them down in the Madison trial." A Democratic Party insider delivered the letter to the

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[47] Marshall, *Done in Oil,* 114 [Exhibit 1-7].

[48] J. H. Marshall and Norman L. Myers, "Legal Planning of Petroleum Production" *Yale Law Journal* 41 Yale L. J. (1931), 33-68 at 33-34 [Exhibit 1-32].

White House, and Ickes's, Davies's, and Marshall's appointments soon followed.[49]

51. Ickes's appointment surprised industry leaders. Despite misgivings the industry may have had about Ickes, "association executives and others oil leaders were quick to pledge their co-operation in anything to aid the nation's defense preparations."[50]

52. On April 29, 1941, Attorney General Robert Jackson wrote to John Lord O'Brian. O'Brian, was the OPM's General Counsel, the federal agency charged at that time with overseeing defense production. Jackson wrote, "[t]he marshalling of the nation's industrial assets for a maximum productive effort in the national defense will doubtless require the allocation of orders, the curtailment of some kinds of production so as to increase production in defense fields, and the establishment of priorities and price ceilings."[51]

53. Jackson continued that these practices, if done privately, would violate anti-trust laws. However, the "Department of Justice recognizes that public interests which are asked to comply with public plans for increasing production and preventing inflation are entitled to the cooperation of agencies of the

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[49] Marshall, *Done in Oil,* 115-16 [Exhibit 1-7].

[50] "Ickes Assumes Oil Co-ordinator's Powers," *National Petroleum News, 6/411941* [Exhibit 1-33]. The same issue had a story that discussed the fact that eleven companies had recently received 100-octane contracts. An article in the June 4 issue reported that the Madison anti-trust case against several oil companies had finally ended.

[51] Jackson to O'Brian, 4/29/1941, reprinted in Thomas. Curtin, *Men, Oil and War* (Chicago: Petroleum Industry Committee, 1946), 339-42 [Exhibit 1-34].

Government in eliminating any uncertainties which may exist as to the application of the antitrust laws to their activities."[52]

54. The Justice Department created policies to avoid such uncertainties. Those policies included the formation of industrial committees at the request of the OPM or other government agencies, having industry people determine the membership of such committees, allowing the committees to collect and analyze information and present the information to the OPM. The committees were not allowed to determine industrial policies or "to compel or to coerce anyone to comply" to a public agency's order or request. Finally, any industrial action made at the request of the OPM that the Justice Department had approved would not be considered a violation of anti-trust laws.[53]

55. On June 3, 1941, just a few days after Ickes's appointment, Attorney General Jackson wrote Ickes and discussed "pendency of litigation" against the petroleum industry and how it might impact Ickes's work "in the interest of national defense."[54] Jackson proposed that for ongoing litigation Ickes should review any industry-proposed consent decrees and inform the Justice Department of the anticipated impact that such a decree would have on OPC's work. Jackson also recommended that he submit any

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[52] Jackson to O'Brian, 4/29/1941, reprinted in Curtin, *Men, Oil and War,* 339-42 [Exhibit 1-34].

[53] Jackson to O'Brian, 4/29/1941, reprinted in Curtin, *Men, Oil and War,* 339-42 [Exhibit 1-34].

[54] Jackson to The Secretary of the Interior, 6/3/1941, reprinted in Curtin, *Men, Oil and War,* 342-43 [Exhibit 1-34].

proposals for anti-trust action to Ickes to allow him to comment on them before instigating any litigation. Jackson pledged to review any industry proposals to facilitate Ickes's work as petroleum coordinator and told Ickes that the Justice Department would provide him with any information that he requested.[55]

56. Two weeks later Ickes responded favorably to Jackson and said that he thought that any "recommendations or directions" that the OPC made to industry should be made in writing and published in the *Federal Register* with a copy sent to the Department of Justice. Ickes pledged to seek, "the suggestions and counsel of the experts and operating executives of the Oil Industry... [and] to ask the industry to organize itself into regional committees for this purpose."[56]

57. Ickes asked if the Justice Department approved of this action, which it did in a June 18, 1941, letter to Ickes.[57]

58. In his autobiography J. Howard Marshall stated that the purpose of OPC recommendations and PAW orders was to protect industry against anti-trust charges rather than to force them to act against their will. After a recommendation or order had been issued, individual companies would request and

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[55] Jackson to The Secretary of the Interior, 6/3/1941, reprinted in Curtin, *Men, Oil and War,* 342-43 [Exhibit 1-34].

[56] Jackson to The Secretary of the Interior, 6/3/1941, reprinted in Curtin, *Men, Oil and War,* 344-45 [Exhibit 1-34].

[57] Ickes to the Attorney General and Biddle to The Secretary of the Interior, 6/18/1941, both reprinted in Curtin, *Men, Oil and War,* 344-46 [Exhibit 1-34].

receive exemptions, a practice Marshall called the "[r]uling by the exception route."[58]

59. Marshall further discussed the creation of the "previously unheard of legal document called a 'recommendation'" when he wrote that a recommendation was based on the president's use of the word in the letter in which he established the OPC. To give recommendations the air of legality, the OPC published them in the *Federal Register*. Marshall also recognized that in the aftermath of the Madison case the oil industry needed legal protection from anti-trust law.

60. Marshall wrote, "[h]aving gone through the Madison Oil Case ... I wanted to leave a clear paper trail demonstrating that, if a group of companies did the same thing at the same time, their actions did not necessarily arise out of a private conspiracy.[59]

Crude Oil Exploration and Production During World War II

61. Regarding crude oil, the official PAW history stated: "The oil industry produced the oil that produced the results. No Government agency had to compel them to do the job. In production, as in every oil function, the job was largely done by cooperation among the team members- the Petroleum

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[58] Marshall, *Done in Oil,* 121 and 126 [Exhibit 1-7].

[59] Marshall, *Done in Oil,* 121 [Exhibit 1-7]. Marshall also wrote experts had discussed and agreed on recommendations and later directives before they were announced. He added that recommendations and directives without the backing of statutory law were adequate "to manage industry, they were not enough to manage everything that needed managing-politicians for example," ibid., 140 [Exhibit 1-7].

Administration for War, the Petroleum Industry War Council, the district committees, and, perhaps more important than them all, the individual producer who went into the field and put together the brains and brawn and money and machinery that got the oil out of the ground."[60]

62. The PAW history further stated: "The whole pattern of the program might be epitomized: to attain a maximum of sustained crude oil productive capacity with (a) the most effective use of the limited supply of critical materials, manpower, and service facilities (b) minimum disruption of the normal operations of the industry; (c) minimum government regulation; and (d) maximum use of industry counsel and assistance. "[61]

63. The Petroleum Industry War Council (PIWC) wanted a wide representation on the production committee: "To make the representation as broad as possible, PIWC production committee followed a policy of not only permitting but encouraging anyone in the industry- small , medium, and large operators-and representatives of allied groups, such as drilling contractors and other service companies, to participate in the meetings."[62]

64. Crude oil had to be produced in coordination with the refining requirements including those for aviation gasoline and other petroleum war products.

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[60] Frey and Ide, *A History of the Petroleum Administration for War,* 169 [Exhibit 1-8].

[61] Frey and Ide, *A History of the Petroleum Administration for War,* 171 [Exhibit 1-8].

[62] Frey and Ide, *A History of the Petroleum Administration for War,* 171 [Exhibit 1-8].

As a result, midwestem oil fields produced at a greater rate than their "maximum efficient rates." The PAW created a compensatory system to pay refiners who purchased crude sent by tankcar at higher than normal costs. Oil fields in Gulf Coast states—including Louisiana—continued to produce under their "maximum efficient rate" and under state oil regulations.[63]

65. In January 1942 it was "decided to recommend a production rate each month for each of the oil-producing States, leaving the carrying out of the recommendations to existing State regulatory mechanisms."[64]

66. The National Conference of Petroleum Regulatory Authorities fanned in April 1942 and each state body promised to cooperate with the PAW.[65]

67. In mid-1942, PAW established monthly production rate certifications for each state. Each state's regulatory apparatus agreed to enforce these rates using existing regulations.[66]

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[63] Frey and Ide, *A History of the Petroleum Administration for War,* 94-95, 176 [Exhibit 1-8].

[64] Frey and Ide, *A History of the Petroleum Administration for War,* 171 and 176 [Exhibit 1-8].

[65] Frey and Ide, *A History of the Petroleum Administration for War,* 176 [Exhibit 1-8].

[66] Frey and Ide, *A History of the Petroleum Administration for War,* 176 [Exhibit 1-8].

68. "PAW was guided, in establishing the monthly production rate certifications, by information obtained from the industry itself."[67]

69. Conservation Order M-68 issued on December 23, 1941 was designed to conserve materials used in production. However, under the terms of Order M-68 automatic materials priorities were given for oil wells spaced 40 acres apart, or exceptions granted thereto.[68]

70. On March 30, 1943, the PAW issued Petroleum Administration Order 11 (PAO 11) that superseded Order M-68. When crude oil requirements increased in the last six months of 1943 and the first half of 1944 the WPB made more material available and the PAW relaxed well spacing requirements. Eventually in several states, including Louisiana, the PAW, under modifications to PAO 11, "regulated only the density of the new wells drilled, and the problem of prescribing distance requirements was left to the State regulatory bodies."[69]

71. As historian Charles Popple wrote in his corporate history of Standard Oil of Jersey during the war: "The [f]ederal regulations requiring wide spacing

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[67] Frey and Ide, *A History of the Petroleum Administration for War,* 177 [Exhibit 1-8].

[68] Frey and Ide, *A History of the Petroleum Administration for War,* 179 [Exhibit 1-8).

[69] Frey and Ide, *A History of the Petroleum Administration for War,* 181 [Exhibit 1-8]; 8 Fed. Reg. 3955-60, March 31, 1943, PAO 11, Supplementary Order 1 to PAO 11 , Supplementary Order 2 to PAO 11, and Supplementary Order 3 to PAO 11 [Exhibit 1-35]; and 8 Fed. Reg. 10908, August 5, 1943, PAO 11, Amendment 1 [Exhibit 1-36]; and 9 Fed. Reg. 107-110, January 4, 1944, PAO 11 as Amended January 1, 1944 [Exhibit 1-37].

of wells had relatively little effect on Humble as it had followed this practice wherever possible for many years."[70]

72. Regulation by exception was a common practice for the PAW. There were 7,589 exceptions granted to Order M-68 and PAO-11. At one point in 1942, the PAW granted ninety percent of exceptions.[71]

73. The *Oil and Gas Journal* noted that after Order M-68, oil drilling declined significantly. Yet this change was not solely due to Order M-68, but also labor and material shortages. Even in locations commonly given exceptions to Order M-68, like Louisiana's piercement type salt domes, "the decline in drilling was as great as in other areas." Similarly, declines continued in places where Order M-68 spacing remained in place, like West Texas, even though 40-acre spacing was typical before the war.[72]

74. While the PAW encouraged wildcatting by individual companies in potentially attractive pools, it

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[70] Charles S. Popple, *Standard Oil Company (New Jersey) In World War II* (New York: Standard Oil Company New Jersey, 1952), 167 [Exhibit 1-6].

[71] Frey and Ide, *A History of the Petroleum Administration for War,* 180,446 [Exhibit 1-8]; and

D.R. Knowlton, "A Year ofM-68," speech given on November 12, 1942, at the Twenty-Third Annual Meeting of the American Petroleum Institute, printed in the Proceedings of the Twenty-Third Annual Meeting of the American Petroleum Institute (Wartime Convention of the Petroleum Industry), volume 23 [IV], 14 [Exhibit 1-59].

[72] W. V. Howard, "Wartime Regulations Sharply Reduce Drilling Operations During 1942," *Oil and Gas Journal,* January 28, 1943, 72 [Exhibit 1-38].

did not dictate where companies could drill. PAW Deputy Administrator Ralph Davies stated: "The Petroleum Administration for War proposes to do everything in its power to promote the drilling of an adequate number of wildcat wells. Where these wells will be drilled will be left, as it always has been, to the discretion of the wildcatters."[73]

75. There were over 12,000 employees in the crude petroleum and natural gas production industry in Louisiana in 1940 and less than 100 PAW employees working on Production or crude supply issues in Washington and District 3.[74]

76. Oil companies continued to have control over their personnel, including hiring and firing authority. The PAW "had no real jurisdiction in the field of manpower. "[75]

77. Due to labor shortages, skilled oil industry workers could receive draft deferments.[76]

78. Harold Ickes and the PAW sought to increase crude production by securing WPB priorities for

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[73] "Ickes Allays Fear That PAW Plans to Dictate Exploratory Locations," *Oil and Gas Journal,* March 25, 1943, 70 [Exhibit 1-39].

[74] Census Bureau, 1940 Census of Population: Vol. 3 the Labor Force, Part 3, table 17- Detailed Industry of Employed (excluding emergency workers), 262.

https://www.census.gov/1ibrary/publications/1943/dec/populatio n-vol-3.html [Exhibit 1-40]; and Frey and Ide, *A History of the Petroleum Administration for War,* 351 [Exhibit 1-8].

[75] Frey and Ide, *A History of the Petroleum Administration for War,* 146 [Exhibit 1-8].

[76] Frey and Ide, *A History of the Petroleum Administration for War,* 150 [Exhibit 1-8].

drilling equipment, improved conservation practices, and promoting the location of potential drilling fields to encourage wildcatting and stripper wells.[77]

79. The PAW sought to increase the price of crude as established by the OPA, which controlled the prices of all goods economy-wide.[78]

80. Petroleum companies bought and sold crude during the war. As shown in this excerpt from the *1945 Annual Report* of the Humble Oil and Refining Company, Humble bought and sold crude through the war years.[79]

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[77] Gerald D. Nash, *United States Oil Policy,* 1890-1964, Business and Government in Twentieth Century America (Pittsburgh, PA: University of Pittsburgh Press, 1968), 167 [Exhibit 1-41].

[78] Nash, *United States Oil Policy, 1890-1964,* 168 [Exhibit 1-41).

[79] *Annual Report,* 1945, Humble Oil & Refining Company, 8 [Exhibit 1-61). This same chart appears in the Humble Corporate History. See, Henrietta **M.** Larson and Kenneth W. Porter, *History of Humble Oil & Refining Company, A Study in Industrial Growth* (New York, NY: Harper and Brothers, 1959), 588 [Exhibit 1-42).

CRUDE OIL MARKETING

Purchases Increase Crude oil purchases of 399,200 barrels daily in 1945 were slightly greater than in 1944. Additional purchases of West Texas-New Mexico crudes accounted for the increase. Although net production was lower than in 1944, the total crude supply was higher. Humble bought from others 1.3 times as much oil as it produced in 1945.

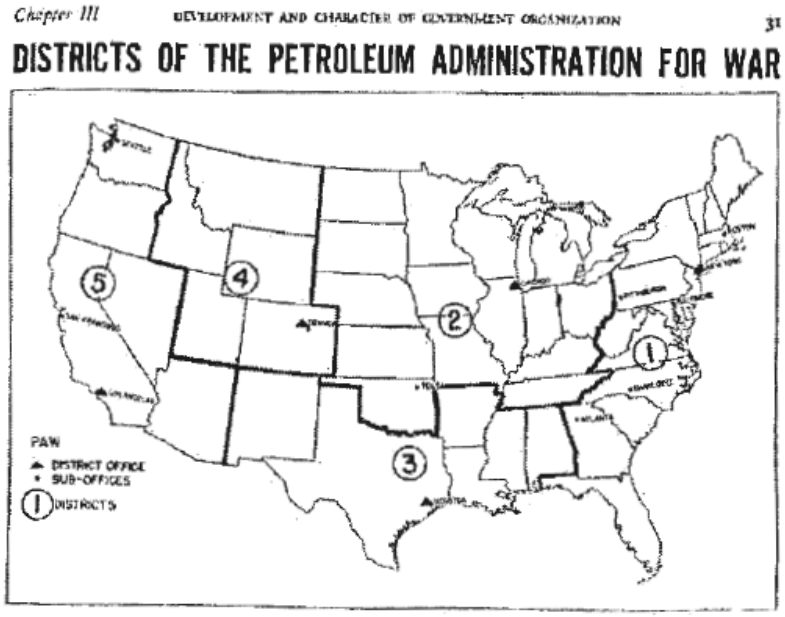
The demand for crude was slightly greater than supply, resulting in a small withdrawal from crude stocks. Sales of crude oil exceeded those of 1944, but the amount of crude used decreased. An analysis of Humble's crude oil supply and demand for the past four years is shown below in barrels daily:

	1942	1943	1944	1945
SUPPLY				
Net production	154,200	236,500	308,600	305,000
Purchases	218,000	281,300	386,600	399,200
Total	372,200	517,800	695,200	704,200
DEMAND				
Used by Humble	169,400	195,200	229,700	219,500
Sold at leases	44,100	55,900	67,900	75,200
Other sales	144,000	277,500	398,400	410,500
Total	357,500	528,600	696,000	705,200
Stock Change	+14,700	—10,800	—800	—1,000

Low Stocks Crude stocks owned by Humble as of December 31, 1945, exceeded 13,500,000 barrels. These stocks were nearly the same as at the end of 1941, although the volume of oil handled had increased greatly during the interval.

81. The DSC facilitated the buying and selling of crude involving companies in PAW Districts 2 and 3. This occurred after the DSC issued Regulation 5, the Mid-Continent Crude Compensatory Adjustments that facilitated the sale of West Texas Crude in PAW District 3 to Refiners in PAW District 2. Under the program, the DSC paid for the increased transportation costs associated with moving crude from District 3 to District 2. The reason for Regulation 5 was the crude oil shortage in District 2. District 2 refiners were willing to run "West Texas-New Mexico Crude oil provided it can be made available to them on

a cost basis comparable to that of crude delivered ... by pipe line."[80] The DSC issued Regulation 5 on January 22, 1944, retroactive to December 4, 1943. When the DSC amended Regulation 5 in May 1944 it included shipments by railcar from Wyoming and shipments by barge from Plaquemine and New Orleans, LA.[81] The PAW districts are shown in this map that Frey and Ide included in their history of the PAW.[82]



[80] 0. D. Donnell to George Hill, Jr. October 28, 1943 [Exhibit 1-43].

[81] 9 Fed. Reg. 1948-49, February 19, 1944, Regulation 5, the Mid-Continent Crude Compensatory Adjustments [Exhibit 1-44); and 9 Fed. Reg. 5380-83, May 20, 1944, Regulation 5, the Mid-Continent Crude Compensatory Adjustments, Rev. [Exhibit 1-45).

[82] Frey and Ide, *A History of the Petroleum Administration for War,* 31 [Exhibit 1-8).

82. The corporate history of Humble discussed crude sales and purchases during World War II. Regarding sales to Standard Oil of New Jersey, the authors of the corporate history wrote: "Sales to Jersey affiliates, after dropping off abruptly in 1942, gradually increased until in 1945 they amounted to 48,000,000 barrels—2,000,000 barrels more than in 1941—but sales to outsiders more than quadrupled, from nearly 32,000,000 in 1941 to 129,000,000 in 1945.[83]

83. The authors of the corporate history continued: "In order to supply the increased demand, Humble 1942-1945 doubled its own production and increased its outside purchases to the largest they had then ever been. Increased demand and expanded transportation also made possible the reduction of excess crude storage stocks."[84]

84. There is no question that World War II was a petroleum war and the first truly mechanized war. Petroleum products powered ships, planes, tanks, jeeps, trucks and were used for a multitude of things during the war. Yet, most petroleum products- more than seventy percent-were sold on the civilian market as shown in this excerpt from the November 4, 1943, *Oil and Gas Journal*[85].

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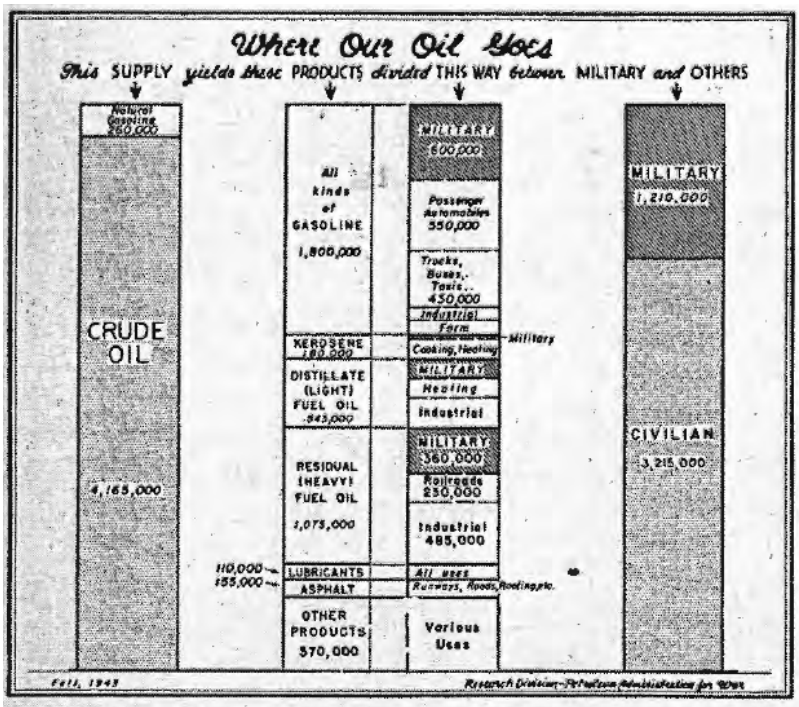
[83] Larson and Porter, *History of Humble Oil & Refining Company,* 587 [Exhibit 1-42).

[84] Larson and Porter, *History of Humble Oil & Refining Company,* 587 [Exhibit 1-42).

[85] "Direct Military Requirements Are 1,200,000 Bbl. Daily," *Oil and Gas Journal,* November 4, 1943, 16 [Exhibit 1-46).



All figures in barrels per day based on current requirements determined by the Army-Navy Petroleum Board, Office of Lend-Lease Administration, War Shipping Administration, Office of Economic Warfare, Office of Defense Transportation, War Foods Administration, Office of Civilian Requirements, Office of War Utilities, Office of Rubber Director, Petroleum Administration for War and the Oil Controller of Canada. (Research Division, Petroleum Administrator for War)

Oil Exploration and Production Regulation in Louisiana

85. The Louisiana Commission for the Conservation of Natural Resources was created in 1908 to address conservation issues in the State.[86]

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[86] State of Louisiana, Department of Natural Resources, Office of Conservation, http://www.dnr.louisiana.gov/index.cfm/page/47 [Exhibit 1-47].

86. Louisiana State Act 127 of 1912 allowed the Commission to regulate petroleum drilling. It required drilling permits and other regulations.[87]

87. The Louisiana Department of Conservation was created in 1916.[88]

88. Louisiana State Act 157 of 1940 developed an extensive conservation program regulated by the Louisiana Department of Conservation.[89] State Act 157 was the "first statewide comprehensive oil and gas conservation statute in the nation."[90] Passed prior to World War II, Louisiana's new law provided for unit operations and compulsory pooling. It also allowed for the prorating or limiting of production in pools so the "producer of such a well is allowed to produce no more than his just and equitable share of the oil and gas in the pool."[91]

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[87] State of Louisiana, Department of Natural Resources, Office of Conservation, http://www.dnr.louisiana.gov/index.cfm/page/47 [Exhibit 1-47].

[88] State of Louisiana, Department of Natural Resources, Office of Conservation, http://www.dnr.louisiana.gov/index.cfm/page/47 [Exhibit 1-47].

[89] State of Louisiana, Department of Natural Resources, Office of Conservation, http://www.dnr.louisiana.gov/index.cfm/page/47 [Exhibit 1-47].

[90] Diane Lindstedt, Lori Nunn, Joseph C. Holmes Jr., Elizabeth Willis, *History of Oil and Gas Development in Coastal Louisiana,* Resource Information Series no. 7, Louisiana Geological Survey, 1991, 18, 95 [Exhibit 1-48].

[91] *Conservation of Oil and Gas, A Legal History,* 1948, edited by Blakely M. Murphy, (American Bar Association, Chicago, Ill: 1949), 201-202, 206 [Exhibit 1-49].

89. The primary purpose of Louisiana State Act 157 was "to prevent waste" including as understood in the oil and gas industry—"the inefficient, excessive or improper use or dissipation of reservoir energy, and the locating, spacing, drilling, equipping, operating, or producing of any oil or gas well in a manner which results, or tends to result, in reducing ultimate recovery of oil or gas from any pool."[92]

90. In July 1941, the Commissioner of Conservation promulgated Order No. 29 under authority of Act 157 of 1940. A few months after Pearl Harbor, Louisiana Statewide Order No. 29-A was promulgated in May 1942 and combined a variety of oil drilling conservation measures including proper procedures for applications to drilling, well completions, and operations.[93]

91. Louisiana Statewide Order No. 29-B was promulgated in 1943 and more strictly regulated many aspects of petroleum drilling in Louisiana. It "outlined the regulations pertaining to applications, maps, casing programs, blowout preventers, fire hazards, well allowables, well completion, gas/oil ratios, directional surveys, reports, plugging, abandonment and casing pulling, record keeping, production methods, and production measurement." The regulation specifically allowed for directional drilling after a proper application on "Form MD-11R

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[92] *Conservation of Oil and Gas, A Legal History,* 1948, edited by Blakely M. Murphy, (American Bar Association, Chicago, Ill: 1949), 202 [Exhibit 1-49].

[93] *Conservation of Oil and Gas, A Legal History,* 1948, edited by Blakely M. Murphy, (American Bar Association, Chicago, Ill: 1949), 211 [Exhibit 1-49].

and a proper permit shall be received from the District Manager before the work is started."[94]

92. In 1943 the PAW filed an amicus curiae brief in the U.S. Supreme Court in the case of *The Hunter Company, Inc., v. Joseph L. McHugh, Commissioner of Conservation of the State of Louisiana.* In the brief, the PAW pointed to the strength of most state-level petroleum conservation laws:

> The majority of the principal oil and gas producing states have reasonably adequate petroleum conservation statutes which authorize their regulatory agencies to prevent waste and to protect the correlative rights of common owners in petroleum reserves. These state agencies, being acquainted through past experience with the peculiar problems of their respective states and possessing adequate administrative personnel to secure the requisite knowledge concerning individual fields, are well equipped to inaugurate and administer comprehensive programs of conservation and to adjust the interests of common owners in any pool. Their activities are important

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[94] Diane Lindstedt, Lori Nunn, Joseph C. Holmes Jr., Elizabeth Willis, *History of Oil and Gas Development in Coastal Louisiana,* Resource Information Series no. 7, Louisiana Geological Survey, 1991, 95 [Exhibit 1-48]. *Conservation of Oil and Gas, A Legal History,* 1948, edited by Blakely M. Murphy, (American Bar Association, Chicago, Ill: 1949), 211-212 [Exhibit 1-49].

factors in the national program sponsored by the Petroleum Administration for War.[95]

93. A contemporary history produced by the American Bar Association in 1948 stated: "The Supreme Court of Louisiana and the lower courts have indicated their willingness to uphold administrative action in the absence of a positive showing that such action is arbitrary and unreasonable. Act 157 of 1940 expresses the public policy in regard to oil and gas conservation, and the liberal attitude of the courts in supporting this statement of public policy is appreciated by the administrative agency and the industry with which it works .... [E]vidence indicates the private rights have not been disregarded."[96]

PAW Efforts to Increase Crude Oil Prices

94. The PAW remained the mouthpiece of the oil industry, even in interagency fights during World War II. For example, Ickes and the PAW strenuously fought for the OPA to increase the price of crude during the war. The OPA denied this national crude increase.[97]

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[95] Hunter Co., Inc. v. McHugh, 1943 WL 54507 (U.S.), 1-18 at 4-5 (U.S., 2006) [Exhibit 1-60].

[96] *Conservation of Oil and Gas, A Legal History,* 1948, edited by Blakely M. Murphy (American Bar Association, Chicago, Ill: 1949), 249 [Exhibit 1-49].

[97] "Industry Awaiting Action on Crude Advance Recommended by Ickes," *Oil and Gas Journal,* April 22, 1943, 28 [Exhibit 1-50]; "Crude-Price Advance Rejected," *Oil and Gas Journal,* May 6, 1943, 54 [Exhibit 1-51]; "Pressure on OPA Intensified for Reconsideration of Oil Decision," *Oil and Gas Journal,* May 20, 1943, 32 [Exhibit 1-52]; "Decisions Due Soon on PAW Request for

95. Petroleum Coordinator Harold Ickes testified before the House Committee on Small Business chaired by Texas Congressman Wright Patman and urged that OP A increase the price of crude. He further stated that the PAW should set oil prices. When Ickes left the stand, he received a "prolonged applause from the several dozen oil men in the audience."[98]

96. Congressman Wesley Disney of Oklahoma threatened to introduce legislation calling for increased crude prices as did Senator Elmer Thomas also of Oklahoma.[99]

97. The OPA authorized price increases for crude oil in Louisiana in late 1943.[100]

Executed on October [handwritten: 27], 2021

[handwritten: signature]
Jay L. Brigham, Ph.D.

Oil-Price and Rationing Powers," *Oil and Gas Journal,* June 17, 1943, 32 [Exhibit 1-53].

[98] "Industry Awaiting Action on Crude Advance Recommended by Ickes," *Oil and Gas Journal,* April 22, 1943, 28-29, 32 [Exhibit 1-50].

[99] "Vinson's Decision Expected Soon," *Oil and Gas Journal,* September 16, 1943, 22 [Exhibit 54]; and "Rejection of Crude-Price Advance Confirmed by Vinson's Decision," *Oil and Gas Journal,* November 4, 1943, 15 [Exhibit 1-55].

[100] "OPA Raises Prices of Crude in Louisiana and Michigan," *Oil and Gas Journal,* December 23, 1943, 87 [Exhibit 1-56]; "OPA Raises Ceiling Prices For Crude in Three States," *Oil and Gas Journal,* January 13, 1944, 30 [Exhibit 1-57]; and "Three Companies Announce Advances in Crude Prices," *Oil and Gas Journal,* January 20, 1944, 85 [Exhibit 1-58].

Excerpts From Declaration of Alfred M. ("A.J.") Gravel, *Parish of Plaquemines v. Total Petrochemicals & Refining USA, Inc.*, No. 18-cv-05256 (E.D. La. Jan. 20, 2023), Dkt.87-1

Alfred M. Gravel, being duly sworn, deposes, and says:

1. My name is A.J. Gravel. I am over eighteen (18) years of age. I have personal knowledge of the facts set forth in this declaration and am competent to testify to them if necessary.

2. I am a Senior Managing Director at FTI Consulting, Inc. ("FTI"), a global strategy and business advisory firm. I am co-leader of the Environmental Solutions practice and lead the Forensic History and Analysis group. In my current work at FTI and in other professional experience dating back to 1995, I have provided forensic historical research and environmental cost analysis services to public and private sector clients. For more than 20 years I have researched and documented the role of the federal government in the operation of the oil industry during World War II ("WWII"). I also served as Exxon Mobil's expert forensic historian in *Exxon Mobil v. United States* (*Exxon Mobil Corp. v. United States*, 2020 WL 5573048, (S.D. Tex. Sept. 16, 2020)), testifying on behalf of Exxon Mobil regarding the government's WWII-era involvement with the Baton Rouge, Louisiana, and Baytown, Texas, refineries. My educational background, work experience, publications and testimony are truly and correctly presented in my resume provided as Exhibit 1-135.

3. FTI is being compensated at the hourly rate of $500.00 for my work on this matter.

Assignment and Methodology

4. I have been retained by certain removing Defendants to conduct historical research and perform analyses relating to the activities of the federal government during WWII concerning petroleum oil field exploration, development, and operation (and the interrelationship between these activities and federally mandated refining and distribution of petroleum products during WWII). I and/or professionals working at my direction have conducted research in published documents and public and/or business records normally relied on by experts in my field. To date, the materials collected for this matter were obtained from various libraries, archives, and other repositories, including National Archives and Records Administration facilities in College Park, Maryland, Ft. Worth, Texas, and Philadelphia, Pennsylvania; the Library of Congress; Houston Metropolitan Research Center at the Houston Public Library; Louisiana State University; Louisiana State Geological Society; Louisiana Department of Conservation; digital archives such as the Hathi Trust; and from counsel. Collected and cited documents include primary source materials contemporaneous with the operations of the oil fields at issue in this litigation as well as secondary sources. For instance, contemporary trade literature for the WWIIera petroleum industry, such as *National Petroleum News, The Oil and Gas Journal,* and *The Oil Weekly*, and the official history of the Petroleum Administration for War for the period 1941-1945, (published in 1946 by the U.S. Government Printing Office), were examined.

5. The collection and analysis of the materials identified was conducted using an established historical methodology for inquiries of this type. Should additional relevant information become available to me. I may revise and/or supplement this declaration. The documents considered and relied on are identified in the footnotes to this declaration and are attached as exhibits.

Findings Summary

6. My findings are based on information available to date and will be discussed and supported in more detail below.

General Findings

(1) The federal government directed and controlled the entire petroleum industry during WWII, including the exploration, development, and production of crude oil, natural gas, and related products in coastal Louisiana oil fields as well as the nation's refineries. Federal control of the petroleum industry was necessary to ensure the adequate supply of petroleum products for the successful prosecution of the war, both on the military and civilian fronts.

(2) Petroleum was essential to the war effort. During WWII, the Petroleum Administration for War ("PAW"),[1] was the federal agency tasked with

[1] For the purpose of this declaration, the federal petroleum agency known as the Office of the Petroleum Coordinator for National Defense—later as the Office of the Petroleum Coordinator for War ("OPC"), and finally as the Petroleum Administration for War ("PAW")—will be referred to collectively as the "PAW."

"issuing, and taking appropriate action to enforce, such orders or directives to the petroleum industry, as the Administrator may deem necessary, in order to: (1) Provide adequate supplies of petroleum for military, or other essential uses; or (2) Effect the proper distribution of such amounts of materials as the Chairman of the War Production Board may allot for the use of the petroleum industry."[2]

(3) The War Production Board ("WPB") was created to "[e]xercise general direction over the war procurement and production program."[3] The WPB controlled the supply and distribution of steel, copper, and aluminum during the war, as well as industrial equipment such as piping, valves, pumps, and engines needed by the petroleum industry to produce crude oil and to refine it into war products.

(4) The PAW, pursuant to Recommendation 28 (issued January 1, 1942), established crude oil allowable production rates in Louisiana during WWII when "production of oil in the State reached an all time high in an effort to supply the huge demand, both military and civilian."[4] Between

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[2] Executive Order No. 9276, "Establishing the Petroleum Administration for War," December 2, 1942, *7 FR 10091*. [Attached hereto as Exhibit 1-136]

[3] Executive Order 9024, "Establishing the War Production Board in the Executive Office of the President and Defining Its Functions and Duties," January 16, 1942, *7 FR 329*. [Attached hereto as Exhibit 1-137]

[4] Louisiana Department of Conservation, *Seventeenth Biennial Report, 1944-1945,* p. 13. [Attached hereto as Exhibit 1-138]

1940 and 1945, crude production from Louisiana oil fields increased approximately 29%.[5]

(5) During WWII, the federal government, through PAW and the Office of Defense Transportation ("ODT"), controlled the transport of crude oil from fields to refineries, and the transport of refined products from refineries to end users. For example, two wartime pipeline projects were constructed in southern Louisiana in 1943 to bring crude oil from certain of the "critical fields" to petroleum refineries at Baton Rouge, Louisiana and Port Arthur, Texas, for the manufacture of war products. More generally, during the war the PAW directed "the physical operation of petroleum pipelines to the extent of prescribing the quantity and kind of petroleum to be transported by and the direction of flow through such pipe lines."[6] The government's control of the transportation of crude oil and refined petroleum products also included barge and railcar transportation.

(6) The federal government, through PAW, managed the nation's crude oil supplies. When PAW deemed it necessary, the agency allocated crude oil produced by coastal Louisiana fields to specific refineries on the basis of obtaining the

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[5] Louisiana Department of Conservation, *Seventeenth Biennial Report, 1944-1945,* p. 15. Attached hereto as Exhibit 1-138]

[6] Executive Order No. 9276, "Establishing the Petroleum Administration for War," December 2, 1942, *7 FR 10091.* [Attached hereto as Exhibit 1-136]

maximum amount of critical war products from the minimum run of crude oil.

(7) Coastal Louisiana crude oils were used by various refineries, including the following, to manufacture 100-octane aviation gasoline ("avgas") and avgas components pursuant to contracts with the federal government's Defense Supplies Corporation ("DSC").[7]

- Cities Service Refining Corporation, Lake Charles, Louisiana[8]
- Gulf Oil Corporation, Port Arthur, Texas[9]
- Humble Oil and Refining Company, Baytown, Texas[10]

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[7] The DSC was a government corporation organized in August 1940 as a subsidiary of the Reconstruction Finance Corporation to finance plant expansion and purchase 100-octane aviation gasoline. *See*, "Final Report on the Reconstruction Finance Corporation," 1959, pp. 130-138. [Attached hereto as Exhibit 1-139]

PAW, "Aviation Gasoline Report to the War Production Board," September 29, 1945, Table I. [Attached hereto as Exhibit 1-140]

[8] *Contract between Defense Supplies Corporation and Cities Service Refining Corporation (Lake Charles Refinery)*, June 16, 1942. [Attached hereto as Exhibit 1-141]

[9] *Contract between Gulf Oil Corporation and Defense Supplies Corporation,* August 10, 1942. [Attached hereto as Exhibit 1-142]

[10] *Contract between Defense Supplies Corporation and Humble Oil and Refining Company*, February 4, 1942. [Attached hereto as Exhibit 1-143]

- Magnolia Petroleum Company, Beaumont, Texas[11]
- Pan American Refining Corporation, Texas City, Texas[12]
- Pure Oil Company, Smith's Bluff Refinery, Nederland, Texas[13]
- Shell Oil Company, Houston, Texas and Norco, Louisiana[14]
- Sinclair Refining Company, Houston, Texas[15]
- Standard Oil Company of Louisiana, Baton Rouge, Louisiana[16]

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[11] A*greement between Defense Supplies Corporation and Magnolia Petroleum Company*, January 13, 1942. [Attached hereto as Exhibit 1-144]

[12] *Contract between Pan American Refining Corporation and Defense Supplies Corporation*, February 11, 1942. [Attached hereto as Exhibit 1-145]

[13] *Contract between Defense Supplies Corporation and The Pure Oil Company*, July 20, 1942. [Attached hereto as Exhibit 1-146]

[14] *Contract between Defense Supplies Corporation and Shell Oil Company, Incorporated (Houston and Norco Refineries),* October 15, 1942. [Attached hereto as Exhibit 1-147]

[15] *Contract between Defense Supplies Corporation and Sinclair Refining Company (Houston Refinery)*, February 3, 1942. [Attached hereto as Exhibit 1-148]

[16] *Contract between Defense Supplies Corporation and Standard Oil Company of New Jersey, January 13, 1942*. [Attached hereto as Exhibit 1-149]

Letter Agreement between Defense Supplies Corporation and Standard Oil Company Of Louisiana, February 16, 1943. [Attached hereto as Exhibit 1-150]

- The Texas Company, Port Arthur, Texas[17]
- Tidewater Associated Oil Company, Bayonne, New Jersey[18]

The federal government also contracted with refineries in the Gulf Coast region for other petroleum war products, including 91-octane avgas, alkylate, toluene, asphalt, synthetic rubber and its components (e.g., butadiene), fuel oil, and lubricating oil, among others.

Case-Specific Findings

(8) The PAW designated certain coastal Louisiana oil fields as "critical fields essential to the war program" in a November 1942 survey, including the following fields in Plaquemines and Jefferson Parishes:

a. Garden Island Bay: PAW identified the Garden Island Bay Field as a field having "substantial production" that yielded a "preferential type crude[ ] used for making aviation gasoline by normal distillation methods."[19]

b. Quarantine Bay: PAW identified the Quarantine Bay Field as a critical field

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[17] *Contract between Defense Supplies Corporation and The Texas Company (Port Arthur Refinery),* January 17, 1942. [Attached hereto as Exhibit 1-151]

[18] *Contract between Reconstruction Finance Corporation and Tidewater Associated Oil Company (Bayonne Refinery),* July 1, 1945. [Attached hereto as Exhibit 1-152]

[19] *See infra* note 190 and accompanying text.

because it had "high formation pressures and substantial reserves."[20]

c. Delta Duck Club: PAW lists the Delta Duck Club Field in a "Supplementary Schedule Showing Fields Furnishing War Plants with Essential Crudes" as a field producing a "preferential type crude used for making aviation gasoline by normal distillation methods."[21]

d. Grand Bay: PAW identified the Grand Bay Field as a critical field because it had "high formation pressures and substantial reserves…producing crudes of high value to the war program."[22]

e. West Bay: PAW identified the West Bay Field as a critical field because it had "high formation pressures and substantial reserves…producing crudes of high value to the war program."[23]

f. Venice: PAW identified the Venice Field as a critical field because it had "high formation pressures and substantial reserves…producing crudes of high value to the war program."[24]

g. Lafitte: PAW identified the Lafitte Field as a field having "substantial

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[20] *See infra* note 210 and accompanying text.

[21] *See infra* note 238 and accompanying text.

[22] *See infra* note 258 and accompanying text.

[23] *See infra* note 270 and accompanying text.

[24] *See infra* note 288 and accompanying text.

production" that yielded a "preferential type crude used for making aviation gasoline" and other critical war products.[25]

h. Barataria: PAW identified the Barataria Field as a field that yielded a "preferential type crude used for making aviation gasoline" and other critical war products.[26]

(9) During WWII, The Texas Company produced crude in the Delacroix Island, Delta Duck Club, and Garden Island Fields in Plaquemines Parish and the Bay de Chene, Delta Farms, and Lafitte Fields in Jefferson Parish that was transported to the company's refinery in Port Arthur (Texas), which manufactured critical war products such as 100- and 91-octane avgas during WWII pursuant to federal government contracts.[27] In November 1942, a PAW official noted that The Texas Company's Port Arthur refinery was "making war products from every barrel of crude coming from Southern Louisiana."[28] During WWII, The Texas Company's Port Arthur refinery produced 14.2

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[25] *See infra* note 339 and accompanying text.

[26] *See infra* note 358 and accompanying text.

[27] *See infra* ¶¶ 75-91 (Garden Island Bay), ¶¶ 104-116 (Delacroix Island), ¶¶ 117-128 (Delta Duck Club), ¶¶ 179-189 (Bay de Chene), ¶¶ 190-200 (Delta Farms), ¶¶ 201-215 (Lafitte).

[28] *See infra* notes 194, 224, 241, 312, 327, and 342 and accompanying text.

million barrels of 100-octane avgas and 2.6 million barrels of 91-octane avgas.[29]

(10) During WWII, Gulf Oil Corporation ("Gulf") produced crude in the Quarantine Bay, Lake Hermitage, Grand Bay, and West Bay Fields in Plaquemines Parish that was transported to the company's refinery in Port Arthur (Texas), which manufactured critical war products such as 100- and 91-octane avgas during WWII pursuant to federal government contracts.[30] In July 1942, Gulf reported that any crude moving westward from Louisiana to the company's Port Arthur refinery was "mostly used for war products."[31] Throughout WWII, Gulf's Port Arthur refinery was "one of the United Nations' largest refineries turning out 100-octane aviation gasoline," producing 8.47 million barrels of 100-octane avgas and 2.96 million barrels of 91-octane avgas.[32]

(11) During WWII, Tide Water Associated Oil Company produced crude in the Venice Field in Plaquemines Parish that was transported to the company's refinery in Bayonne (New Jersey), which manufactured critical war products such as 100- and 91-octane avgas during WWII pursuant

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[29] *See infra* notes 208, 236, 252, 323, 337, and 356 and accompanying text.

[30] *See infra* ¶¶ 92-103 (Quarantine Bay), ¶¶ 130-142 (Grand Bay), ¶¶ 143-154 (West Bay), ¶¶ 169-178 (Lake Hermitage).

[31] *See infra* notes 216, 264, 279, and 305 and accompanying text.

[32] *See infra* notes 220, 268, 283, and 309 and accompanying text.

to federal government contracts.[33] In 1943 a Tide Water official noted that "Venice crude blended with other sweet crudes has been found to be ideally suited for processing" at the company's Bayonne refinery.[34] During WWII, Tide Water's Bayonne refinery produced 327,000 barrels of 100-octane avgas and 1.9 million barrels of 91-octane avgas.[35]

(12) During WWII, the California Company produced crude in the Barataria Field in Jefferson Parish. Barataria crude was transported to The Texas Company's refinery in Port Arthur (Texas), which manufactured critical war products such as 100- and 91-octane avgas during WWII pursuant to federal government contracts.[36] In November 1942, a PAW official noted that The Texas Company's Port Arthur refinery was "making war products from every barrel of crude coming from Southern Louisiana."[37] During WWII, The Texas Company's Port Arthur refinery produced 14.2 million barrels of 100-octane avgas and 2.6 million barrels of 91-octane avgas.[38]

(13) During WWII, Phillips Petroleum Company produced crude in the Bastian Bay Field in Plaquemines Parish. Bastian Bay crude was transported to Standard Oil Company of New

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[33] *See infra* ¶¶ 155-168.

[34] *See infra* note 295 and accompanying text.

[35] *See infra* note 299 and accompanying text.

[36] *See infra* ¶¶ 224-226.

[37] *See infra* note 365 and accompanying text.

[38] *See infra* note 375 and accompanying text.

Jersey refineries in Baton Rouge (Louisiana) and Baltimore (Maryland), which manufactured critical war products such as 100-octane avgas during WWII pursuant to federal government contracts.[39] Standard Oil's Baton Rouge refinery produced 23.2 million barrels of 100- octane avgas and 2.9 million barrels of 91-octane avgas, and Standard Oil's Baltimore refinery produced 5.7 million barrels of 100-octane avgas and 57,000 barrels of 91-octane avgas.[40]

(14) During WWII, Humble Oil and Refining Company produced crude in the Lake Washington Field in Plaquemines Parish. In 1940, Lake Washington crude was loaded at the Avondale (Louisiana) terminal and consigned to Standard Oil Company of New Jersey refineries in Bayonne, New York, and Baltimore.[41] During WWII, Lake Washington crude was transported to River Petroleum's refinery in New Orleans (Louisiana), which manufactured engine oil and lubricating oil pursuant to contracts with the federal government.[42]

GENERAL FINDINGS

The Role of Petroleum in World War II

7. WWII was "from beginning to end…a war of oil."[43] While certain petroleum products such as 100-

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[39] *See infra* ¶¶ 231-233.

[40] *See infra* note 383 and accompanying text.

[41] *See infra* note 386 and accompanying text.

[42] *See infra* ¶¶ 239-241.

[43]John W. Frey and H. Chandler Ide, *A History of the Petroleum Administration for War: 1941-1945,* U.S. Government Printing

octane avgas were of special importance during the war, there was a general recognition by the federal government that all petroleum products were essential to the war effort. As Brigadier General Howard L. Peckham, Director, Fuels and Lubricants Division of the Office of the Quartermaster General stated in 1945:

> In time of war, the combined demands of our Army, our Navy and our Air Forces are tremendous. The combatant of today, whether he wears the uniform of the Army or Navy, is so totally dependent on the products of petroleum that the success of land, sea and air operations can be said to depend on their availability.[44]

8. Because of the importance of oil to the war effort, a new federal agency, the PAW, was created to control and direct the entire petroleum industry. PAW's jurisdiction was all encompassing and included control of crude oil production, refining and product manufacture, supply and transportation of crude oil and refined products, and distribution to ensure petroleum products were supplied where needed.[45] As

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Office, Washington, DC, 1946, p. 1. Hereafter, *A History of the PAW*. [Attached hereto as Exhibit 1-153]

[44] Brigadier General Howard L. Peckham, "Operations of the Fuels and Lubricants Division," in Army Industrial College, *Seminar, Mobilization of the Petroleum Industry for War (War and Navy Agencies)*, June 20, 1945, p. 13. [Attached hereto as Exhibit 1-154]

[45] As described by one historian, "America's oil industry…[had] to be fused in effect, though not formally, into one giant organization under government direction and mobilized for war."

Senator Joseph C. O'Mahoney stated after the war while presiding over the U.S. Senate Special Committee Investigating Petroleum Resources:

> We have just come through a great war, in which, in order to achieve the objectives for which this Nation committed itself in the fighting, it was necessary to adopt a great many governmental controls. Frequently I have referred to them as **totalitarian controls**, because they were **definite orders which were given by the Government to all branches of industry** and to the people, so that the efforts and resources of the Nation might be marshaled for the striking blow delivered against the enemy.[46] [Emphasis added]

9. On June 19, 1941, about six months before the attack on Pearl Harbor, Ralph K. Davies, the newly appointed Deputy Petroleum Administrator, spoke to over 1,000 oil men, stating:

> The stern necessity of accommodating the petroleum resources of the Nation to the critical needs of national defense, obviously

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See Daniel Yergin, *The Prize: The Epic Quest for Oil, Money & Power*, 1990, pp. 354 and 360. [Attached hereto as Exhibit 1- 155]

See also, Henry D. Ralph, "Federal Relationship With Oil Industry Solidified by War," *The Oil and Gas Journal*, Vol. 40, No. 9, July 30, 1942, p. 79. [Attached hereto as Exhibit 1-156]

[46] U.S. Congress, Senate, Special Committee Investigating Petroleum Resources, *The Independent Petroleum Company: Hearings before a Special Committee Investigating Petroleum Resources,* 79th Congress, 2nd Session, March 19, 1946, p. 1. [Attached hereto as Exhibit 1-157]

> **demands Government coordination**. Left to itself, there is no way by which the industry can effectively organize its resources and facilities so as to deal quickly and decisively with the extraordinary problems of the day. No matter how patriotic and unselfish the component interests and groups within the industry, it is clear that as separate and competing units **they cannot act cooperatively, independent of Government direction**.
>
> Government and industry have here a common undertaking. Neither one can act effectively by itself. The demand is for teamwork of the highest order.[47] [Emphasis added]

10. The historical context for Mr. Davies' remarks should be noted. Voluntary cooperation among oil companies is banned by federal antitrust laws, even in time of war, unless undertaken at the direction of an officer or agency of the federal government. As one PAW official noted in January 1945, oil company officers risked "fine and imprisonment for doing things that in war are called cooperation but in peace are called collusion[.] Oil men hesitate to lunch with a competitor for fear of an anti-trust investigation."[48] These fears were well founded.

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[47] *A History of the PAW*, p. 56. [Attached hereto as Exhibit 1-153]

[48] Max W. Ball, "Fueling a Global War – An Adventure in Statecraft," *The Ohio Journal of Science,* vol. 45, no. 1, January, 1945, p. 33. [Attached hereto as Exhibit 1-158]

11. On September 30, 1940 the U.S. Department of Justice launched an antitrust program against the petroleum industry.[49] The Attorney General envisioned the program would provide "correction in a single investigation of all of the restraints which affect the distribution of petroleum products, from extraction of the raw material to its delivery to the consumer."[50] The primary antitrust case (*United States v. American Petroleum Institute*, et al.) indicted 22 major, integrated oil companies and 379 of their subsidiary or affiliated companies under the Sherman and Clayton antitrust acts and came to be known as the "Mother Hubbard" case.[51] The case "put the oil industry on notice that its every action was subject to question by the Attorney General of the United States."[52]

12. The Advisory Commission of the Council of National Defense, a predecessor of the WPB, reviewed and discussed the draft of the Mother Hubbard

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[49] *United States v. Socony-Vacuum Oil Co., Inc.* 310 U.S. 150 (1940), decided May 6, 1940. [Attached hereto as Exhibit 1-159]

[50] "Consent Decree Program of the Department of Justice," Report of the Antitrust Subcommittee of the Committee on the Judiciary, House of Representatives, 86th Congress, First Session, January 30, 1959, p. 137. [Attached hereto as Exhibit 1-160]

[51] "Consent Decree Program of the Department of Justice," Report of the Antitrust Subcommittee of the Committee on the Judiciary, House of Representatives, 86th Congress, First Session, January 30, 1959, p. 138. [Attached hereto as Exhibit 1-160]

[52] Richard H. K. Vietor, *Energy Policy in America Since 1945: A Study of Business-Government Relations*, New York, Cambridge University Press, 1984, p. 34. [Attached hereto as Exhibit 1-161]

complaint for several weeks before it was filed in court. The Commission was concerned about the impact of this prosecution on the oil industry and its vital role in the national defense effort. After its meeting on July 26, 1940, the Advisory Commission sent a letter to Attorney General Robert H. Jackson requesting the lawsuits be postponed while the Commission considered them. The letter stated in part:

> Apart from the fact that the oil industry will be **required**, during the next several months, to **furnish vastly enlarged and vital supplies of oil and oil derivatives** to our army, our navy, and our air force, the industry, within recent weeks has been asked to consider the construction of new facilities, including facilities for the manufacture of aviation gasoline; facilities for the storage of gasoline and other supplies; facilities for the manufacture of toluol, important in the production of high explosives; and facilities for the manufacture of synthetic rubber.… The oil industry has been **called upon to cooperate with the government** by investing enormous sums in new plant and equipment. This program, which is only part of our broader program for expanding industrial capacity through private capital, we regard as important.[53] [Emphasis added]

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[53] Civilian Production Administration, "Minutes of the Advisory Commission to the Council of National Defense, July 26, 1940," p. 42. [Attached hereto as Exhibit 1-162]

13. The fact that the Attorney General and the PAW could bring pressure on the industry to cooperate is documented in correspondence between the two agencies, in which Attorney General Robert Jackson offered his support to PAW Administrator Harold L. Ickes, stating "my Department stands ready to implement your activities," and also "[a]ny proposals for future civil or criminal proceedings under the antitrust laws…be submitted to you [Ickes] for advice as to whether the proposed proceeding should be conducted as a preferred proceeding."[54]

Federal Government 100-Octane Avgas Contracts

14. If WWII was (as stated in *A History of the PAW*) "from beginning to end…a war of oil," it was particularly a war of 100-octane avgas, which fueled the Allies' aerial supremacy.[55] The importance of 100-octane avgas to the war effort cannot be overstated. According to PAW's *Handbook on 100-Octane*, "the entire American oil industry [had to] be totally mobilized and integrated for the job**, cutting across company lines and treating the individual refining facilities of the various companies as units in one vast national refinery** devoted to maximum production of 100 octane gasoline."[56] [Emphasis added] In the end, the federal

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[54] U.S. Attorney General Robert H. Jackson to Harold L. Ickes, Secretary of the Interior, June 3, 1941, in *A History of the PAW*, p. 382. [Attached hereto as Exhibit 1-153]

[55] *A History of the PAW*, p. 1. [Attached hereto as Exhibit 1-153]

[56] PAW Public Relations Division, "Handbook on 100 Octane – Section II. 100-Octane Program," November 27, 1943. [Attached hereto as Exhibit 1-163]

government's control over the petroleum industry resulted in a 1,185% increase in domestic 100-octane avgas production during the war, from 40,000 barrels/day to 514,000 barrels/day.[57]

15. The government's mandate for maximum production of avgas was presented in a directive issued by PAW Administrator Ickes on December 18, 1941, which "require[d] that the production of 100 octane aviation gasoline be greatly increased."[58] To help meet the demand for avgas, the federal government's Defense Plant Corporation invested over $235 million (approximately $3.9 billion in 2022 dollars) to construct avgas manufacturing facilities at 29 refineries.[59]

16. During WWII, 56 refineries in the United States manufactured 100-octane avgas under contract with the federal government through the Defense Supplies Corporation, ("DSC"), a government

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[57] *A History of the PAW,* p. 191. [Attached hereto as Exhibit 1-153]

[58] PAW Recommendation 23, Production of Alkylate for Use in Manufacture of 100 Octane Aviation Gasoline," December 18, 1941, *7 FR 41*. [Attached hereto as Exhibit 1-164]

PAW Recommendation 16, Processing and Refining Aviation Gasoline," December 16, 1941, *6 FR 6433*. [Attached hereto as Exhibit 1-165]

[59] *History of the PAW*, p. 368. [Attached hereto as Exhibit 1-153]

Note: The U.S. Bureau of Labor Statistics' *CPI Inflation Calculator* was used to estimate the value of $235 million in August 1945 in October 2022 dollars. *See CPI Inflation Calculator*, U.S. Bureau of Lab. Stats., https://www.bls.gov/data/inflation_calculator.htm (last visited December 20, 2022).

corporation operated by the Reconstruction Finance Corporation.[60] WWII-era "avgas" refineries included the following that were operated by integrated oil companies that had upstream, oil production operations in coastal Louisiana fields:

- Gulf Oil Corporation's refinery in Port Arthur, Texas
- Shell Oil Company's refineries in Houston, Texas and Norco, Louisiana
- The Texas Company's refinery in Port Arthur, Texas
- Tidewater Associated Oil Company's refinery in Bayonne, New Jersey.

17. The government not only directed the nation's refineries to maximize 100- octane avgas production, but it also had a wartime monopsony over the product as the sole wartime purchaser of 100-octane avgas.[61] As noted in 1943 by PAW's Assistant Director of Refining:

> [I]n the case of the 100 octane contracts…Defense Supplies Company is the

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[60] PAW, "Aviation Gasoline Report to the War Production Board," September 29, 1945, Table 1. [Attached hereto as Exhibit 1-140]

A History of the PAW, p. 202. [Attached hereto as Exhibit 1-153]

Brendan J. O'Callaghan, "The Role of Defense Supplies Corporation in the Wartime Aviation Gasoline Program," 1948. [Attached hereto as Exhibit 1-166]

[61] *A History of the PAW*, pp. 202-203 and 361. [Attached hereto as Exhibit 1-153]

Note: In economics, a monopsony is a market condition in which a single buyer controls the market as the major purchaser of goods offered by many would-be sellers.

> sole purchaser and P.A.W. insists that each company utilize all of its facilities to make 100 octane aviation gasoline to the extent of its ability to do so, and **there is not in fact any freedom to make a choice between contracting and not contracting** [with the federal government].[62] [Emphasis added.]

18. DSC 100-octane avgas contracts for privately financed facilities (i.e., those not built under Defense Plant Corporation auspices with government funds) contain a similar clause regarding the price of avgas as the one found in Shell's DSC contract for the Houston and Norco refineries. The clause states that all of the "petroleum raw materials" (e.g., crude oil) used at the refinery were necessary to produce the 100-octane avgas purchased by the government under the DSC contract:

> The price [of 100-octane avgas] is based upon present normal methods of transporting petroleum raw materials to [Shell's] refineries at Houston, Texas and Norco, Louisiana refinery, and upon a normal operation of these refineries in which substantial quantities of motor fuel and other products **must necessarily be produced and sold** in connection with the production

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[62] George L. Parkhurst, PAW Assistant Director of Refining, to George W. Hill, DSC Executive Vice President & General Counsel, November 6, 1943. [Attached hereto as Exhibit 1-167]

> of 100 octane aviation gasoline.[63] [Emphasis added]

19. All of the crude oil received by a refinery manufacturing war products was used to manufacture those products. As Humble Oil described its operations in February 1943:

> On the basis of the current refinery input of 143,780 barrels daily of crude and 6,860 barrels daily of other raw materials, the output of war products is 31.1%. At first glance it might appear that this represents less than one-third conversion to the manufacture of war products but this is hardly true, since, **in order that these war products be made, it is unavoidable that other products** such as motor gasoline, kerosene, heating oil, and residual fuel oil **be made as byproducts**. Although these are not classified as war products they are nevertheless playing an important part in the nation's war economy. The current production of war products represents essentially 100% conversion since **all of the crudes** and other raw materials **taken into the refinery are run specifically for the production of one or more war products.**[64] [Emphasis added]

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[63] *Contract between Defense Supplies Corporation and Shell Oil Company, Incorporated (Houston and Norco Refineries),* October 15, 1942. [Attached hereto as Exhibit 1-147]

[64] Humble Oil, "Production of War Products at Humble Oil & Refining Company's Baytown Refinery," February 25, 1943. [Attached hereto as Exhibit 1-168]

20. Refineries producing 100-octane avgas during WWII pursuant to federal government contracts, and which used crude from coastal Louisiana fields, included the following:

- Cities Service Refining Corporation, Lake Charles, Louisiana[65]
- Gulf Oil Corporation, Port Arthur, Texas[66]
- Humble Oil and Refining Company, Baytown, Texas[67]
- Magnolia Petroleum Company, Beaumont, Texas[68]
- Pan American Refining Corporation, Texas City, Texas[69]
- Pure Oil Company, Smith's Bluff Refinery, Nederland, Texas[70]

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[65] *Contract between Defense Supplies Corporation and Cities Service Refining Corporation (Lake Charles Refinery)*, June 16, 1942. [Attached hereto as Exhibit 1-141]

[66] *Contract between Gulf Oil Corporation and Defense Supplies Corporation,* August 10, 1942. [Attached hereto as Exhibit 1-142]

[67] *Contract between Defense Supplies Corporation and Humble Oil and Refining Company, February 4, 1942.* [Attached hereto as Exhibit 1-143]

[68] *Agreement between Defense Supplies Corporation and Magnolia Petroleum Company,* January 13, 1942. [Attached hereto as Exhibit 1-144]

[69] *Contract between Pan American Refining Corporation and Defense Supplies Corporation*, February 11, 1942. [Attached hereto as Exhibit 1-145]

[70] *Contract between Defense Supplies Corporation and The Pure Oil Company*, July 20, 1942. [Attached hereto as Exhibit 1-146]

- Shell Oil Company, Houston, Texas, and Norco, Louisiana[71]
- Sinclair Refining Company, Houston, Texas[72]
- Standard Oil Company of Louisiana, Baton Rouge, Louisiana[73]
- The Texas Company, Port Arthur, Texas[74]
- Tidewater Associated Oil Company, Bayonne, New Jersey[75]

Federal Wartime Agencies Controlled and Directed the Petroleum Industry during WWII

21. President Roosevelt established PAW on May 28, 1941—one day after his declaration of a state of Unlimited National Emergency—in order to "coordin[ate] existing federal authority over oil and gas and insuring that the supply of petroleum and its

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[71] *Contract between Defense Supplies Corporation and Shell Oil Company, Incorporated (Houston and Norco Refineries),* October 15, 1942. [Attached hereto as Exhibit 1-147]

[72] *Contract between Defense Supplies Corporation and Sinclair Refining Company (Houston Refinery),* February 3, 1942. [Attached hereto as Exhibit 1-148]

[73] *Contract between Defense Supplies Corporation and Standard Oil Company of New Jersey,* January 13, 1942. [Attached hereto as Exhibit 1-149]

Letter Agreement between Defense Supplies Corporation and Standard Oil Company Of Louisiana, February 16, 1943. [Attached hereto as Exhibit 1-150]

[74] *Contract between Defense Supplies Corporation and The Texas Company (Port Arthur Refinery),* January 17, 1942. [Attached hereto as Exhibit 1-151]

[75] *Contract between Reconstruction Finance Corporation and Tidewater Associated Oil Company (Bayonne Refinery),* July 1, 1945. [Attached hereto as Exhibit 1-152].

products will be accommodated to the needs of the Nation and the national defense program."[76] The new, independent federal agency was headed by Harold L. Ickes, the Secretary of the Interior.[77]

22. PAW's role in controlling, directing, and managing the United States' oil and gas industry during WWII went far beyond the regulatory function and monitoring activities commonly performed by modern-day federal agencies. The PAW was an "*action agenc[y]"* created "to get certain specific limited jobs done."[78] The new agency was structured like a vertically integrated oil company, with a (1) Production Division responsible for directing crude oil production;[79] (2) Refining Division responsible for

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[76] Letter from President Franklin D. Roosevelt to Harold J. Ickes, Secretary of the Interior, May 28, 1941 published in *A History of the PAW*, pp. 374-375. [Attached hereto as Exhibit 1-153]

[77] *A History of the PAW*, p. 14. [Attached hereto as Exhibit 1-153]

[78] Luther Gulick, "V. War Organization of the Federal Government," *The American Political Science Review,* vol. 38, no. 6, December 1944, p. 1174. [Attached hereto as Exhibit 1-169]

[79] The role of PAW's Production Division was to take "all appropriate steps to insure that the domestic petroleum industry produces the crude oil necessary to meet essential domestic refining requirements, through maximum effective utilization of existing production capacity and development of necessary additional capacity and reserves, in accordance with the general operation program." See *A History of the PAW*, p. 308. [Attached hereto as Exhibit 1-153]

During the war, the PAW worked with the government's Office of Price Administration, which established prices for crude oil. *See* "Higher Ceilings Granted Two Fields," *The Oil and Gas Journal*, July 8, 1944, p. 37. [Attached hereto as Exhibit 1-170]; Office of Price Administration, "Crude Petroleum and Natural and

the manufacture of refined products; (3) Supply and Transportation Division responsible for moving crude oil and refined products; and, (4) a Distribution and Marketing Division to handle distribution to end users.[80] The PAW also established five geographic districts, each with its own office and divisions paralleling those of PAW's Washington headquarters.[81] Louisiana and Texas were part of PAW-District 3, which was headquartered in Houston, Texas.[82]

23. PAW's structure and organization is important because the agency was "designed to fit the industry that was to be **directed and controlled**" and was "designed to carry out the objectives of the agency."[83] [Emphasis added] In November 1942, Ralph K. Davies, Deputy Petroleum Administrator, summarized the objectives of PAW in testimony before Congress:

Petroleum Gas: Adjustment of Maximum Prices," May 22, 1945, *10 FR 5832*. [Attached hereto as Exhibit 1-171]

[80] The Army Industrial College, Department of Research, "Mobilization of the Petroleum Industry for World War II (Petroleum Administration for War - I)," Seminar on June 11, 1945, pp. 3-4. [Attached hereto as Exhibit 1-172]

[81] *A History of the PAW*, p. 31. [Attached hereto as Exhibit 1-153]

[82] PAW-District 1 covered the East Coast; District 2 the Midwest, District 3 the Gulf Coast, District 4 the Rocky Mountains, and District 5 the West Coast.

[83] The Army Industrial College, Department of Research, "Mobilization of the Petroleum Industry for World War II (Petroleum Administration for War - I)," Seminar on June 11, 1945, p. 16. [Attached hereto as Exhibit 1-172]

> The [PAW] exists for the primary purpose of furnishing **central direction to the oil industry during the war period**…without such a central agency of Government guiding and coordinating the efforts of the oil industry the great task which faces us in oil could not possibly be met. The requirements of the Nation must be ascertained by [PAW], they must be interpreted to the various units of the industry, the necessary allocation of materials must be arranged for…and plans must be formulated and executed, aimed at attaining the equivalent of consolidated operation of the many separate units of the industry which in normal times work best in independent competition, but in time of war must be banded together to meet the immediate necessities of the period.[84] [Emphasis added]

24. While the PAW's preference was cooperation with the petroleum industry, during WWII "disciplinary measures such as restricting transportation, reducing crude oil supplies, and withholding priority assistance" were available to the agency to coerce assistance from the industry in implementing the government's war plan.[85] Or, as

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[84] U.S. Congress, House of Representatives, Committee on Interstate and Foreign Commerce, Petroleum Investigation (Gasoline and Rubber): Hearings before a Subcommittee of the Committee on Interstate and Foreign Commerce, 77th Congress, 2nd Session, November 23, 1942, p. 6. [Attached hereto as Exhibit 1-173]

[85] P.M. Robinson, PAW Assistant Director of Refining, to Ralph K. Davies, PAW Deputy Administrator, Subject: "Refiners Who

stated by one historian, "the carrot was preferred to the stick, but one or the other was normally necessary."[86] This characterization of the relationship between the PAW and the petroleum industry is corroborated by a former PAW official, who noted that the post-war successor agency to the PAW (the Interior Department's Division of Oil and Gas) had "primarily coordinating rather than coercive powers," which PAW had enjoyed.[87]

25. In August 1941, PAW Administrator Ickes warned industry representatives that "[w]e have to get the results. We are going to get them by cooperation, but if by any mischance we can't get them by cooperation, then we will get them some other way."[88] PAW's Ralph Davies reiterated Ickes' warning, stating that "[w]e will do all we can by persuasion, and I hope no element in the industry will be so stubborn as to force upon the Government here the compulsory thing…finally results must be had, there is no dodging."[89]

Did Not Reply to the Gasoline Yield Reduction Telegrams," August 12, 1942. [Attached hereto as Exhibit 1-174]

[86] John G. Clark, *Energy and the Federal Government: Fossil Fuel Policies, 1900-1946*, p. 317. [Attached hereto as Exhibit 1-175]

[87] "Chandler Ide," in *Ralph K. Davies: As We Knew Him*, San Francisco, California, December 1976, p. 18. [Attached hereto as Exhibit 1-175]

[88] Speech by Harold Ickes, Administrator of PAW to a conference of petroleum industry committee chairmen, August 11, 1941, p. 8. [Attached hereto as Exhibit 1-176]

[89] Speech by Ralph Davies, Deputy Administrator of PAW to a conference of petroleum industry committee chairmen, August 11, 1941, p. 43. [Attached hereto as Exhibit 1-177]

26. At the November 1941 meeting of the American Petroleum Institute ("API"), Mr. Davies informed the oil and gas industry that "[c]entralized direction [of the industry] is inevitable if its resources are to be employed to effective purpose."[90] At the same API meeting, industry leadership acknowledged that "[f]or defense purposes we shall be guided, directed, regulated."[91]

27. In a separate speech before the API, Mr. Ickes informed the industry that he viewed the PAW "as an agency created to do a necessary work during the emergency—an agency that will be discontinued when the emergency ends," which it was.[92] But Ickes also made it clear that he hoped not to have to ask for additional powers to carry out his responsibilities if the industry failed to cooperate.[93] As noted by a prominent historian, Ickes "employed the rhetoric of

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[90] Speech by Ralph Davies, Deputy Director of PAW to the annual meeting of the American Petroleum Institute, November 3-7, 1941, p. 10. [Attached hereto as Exhibit 1-178]

[91] Speech by W. R. Boyd, Jr., president of the American Petroleum Institute to the annual meeting of the American Petroleum Institute, November 3-7, 1941, p. 14. [Attached hereto as Exhibit 1-179]

[92] Harold L. Ickes, "National Defense and the Oil Industry," in "Address and Reports" in *Proceedings: Twenty-Second Annual Meeting American Petroleum Institute, Section I*, November 3-7, 1941, p. 22. [Attached hereto as Exhibit 1-180]

[93] Harold L. Ickes, "National Defense and the Oil Industry," in "Address and Reports" in *Proceedings: Twenty-Second Annual Meeting American Petroleum Institute, Section I*, November 3-7, 1941, p. 19. [Attached hereto as Exhibit 1-180]

cooperation but believed in the necessity of coercion…."[94]

…

Railroad Commission considered the directives of the PAW to be "orders from the Commander-in-Chief of the Army and Navy and will be carried out to the letter."[158]

60. A review of crude oil production statistics published in *The Oil Weekly* confirms that both the number of producing oil wells and oil production increased sharply in South Louisiana during WWI I. In fact, between 1940 and 1946, the number of producing wells and barrels of oil produced in South Louisiana fields increased approximately 52% and 43%, respectively.[159]

61. These statistics reflect the federal government's mandate for maximum oil production during WWII through (1) an increase in exploration activities and new wells and (2) maximizing output from existing wells. To meet the government's "call for

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[94] John G. Clark, *Energy and the Federal Government: Fossil Fuel Policies, 1900-1946*, University of Illinois Press, Urbana and Chicago, Illinois, 1987, p. 347. [Attached hereto as Exhibit 1-175]

[158] "The Quarterly Meeting," *Interstate Oil Compact Quarterly Bulletin,* Vol. 1, No. 4, December 1942, p. 4. [Attached hereto as Exhibit 1-218]

[159] "Producing Oil Wells Increase to New High in 1941, but Number Flowing Down Slightly" and "Production by Fields," *The Oil Weekly,* January 26, 1942, vol. 104, no. 8, pp. 64 and 80. [Attached hereto as Exhibit 1-219]

"Producing Wells and Production in U.S. Oil Fields," *The Oil Weekly,* February 10, 1947, vol. 124, no. 11, pp. 108 and 162. [Attached hereto as Exhibit 1-220]

more crude oil... the industry kept as many old wells on production as possible" and "materially expand[ed] output of the better wells which had additional producing ability."[160]

Federal Government Controls on Petroleum Transportation

62. During WWII, the federal government controlled the transportation of crude oil from production fields to refineries, and refined products from refineries to the military and the public. When the war began, the PAW "immediately faced serious problems in transportation. It was no longer a case of producing the oil and then moving it almost anywhere we wanted to have it go and manufacturing it into products we needed; it was a case of using the transportation facilities we had to their utmost efficiency so as to avoid cross hauling, to avoid unnecessary long hauls, and to move the product to those refineries where it could be used promptly and where it could be used to produce the products we wanted."[161]

63. During the war, the PAW and the ODT "completely revolutionized" the nation's petroleum

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[160] "Subnormal Gain in U.S. Producing Oil Wells," *The Oil Weekly,* January 31, 1944, p. 106. [Attached hereto as Exhibit 1-221]

[161] Walter Hochuli, PAW Director of Distributing and Marketing, "Domestic Divisions of the Petroleum Administration for War," The Army Industrial College, Department of Research, "Mobilization of the Petroleum Industry for World War II (Petroleum Administration for War- I)," Seminar on June 11, 1945, p. 27. [Attached hereto as Exhibit 1-172]

transportation and distribution system.[162] In coordination with the PAW, new pipelines were constructed and old pipelines were dug up, re-laid, and repurposed.[163] Rail tank cars carrying crude oil and refined petroleum products were formed into full trains traveling from terminal to terminal, known as "symbol" trains.[164] The use of barges was maximized, especially for "local hauling" in order to "release as many [railroad] tank cars as possible for the east-coast run."[165]

64. The PAW's control of petroleum transportation was programmed, along with all other aspects of the petroleum industry. As described in *A History of the PAW,* "[p]rogramming actually involved the correlation of all branches of the oil industry to meet the immediate and more distant requirements for military and essential civilian activities. The operations of hundreds of thousands of individual oil wells, hundreds of refineries, tens of thousands of tank cars and barges, and an undetermined, always fluctuating number of tankers had to be dovetailed so that wasted operations and lost motion were reduced to a minimum."[166]

65. In 1942, PAW worked with ODT to ensure the nation's transportation resources were operating

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[162] *A History of the PAW,* p. 90. [Attached hereto as Exhibit 1-153]

[163] *A History of the PAW,* pp. 100-109. [Attached hereto as Exhibit 1-153]

[164] *A History of the PAW,* pp. 91-92. [Attached hereto as Exhibit 1-153]

[165] *A History of the PAW,* p. 97. [Attached hereto as Exhibit 1-153]

[166] *A History of the PAW,* p. 70. [Attached hereto as Exhibit 1-153]

efficiently to minimize "wasteful transportation" and to maximize the flow of crude oil in a northward and eastward direction (i.e., toward East Coast refineries). As summarized in *A History of the PAW,* "[d]irection of movement was a cardinal principle in the war on wasteful transportation. The general principle was simple: the shortage was in the Northeastern States, and the main source of petroleum was in the Southwest; therefore, all petroleum must move north and east."[167]

66. On August 17, 1942, ODT issued General Order 19, which prohibited the unpermitted operation of waterborne vessels engaged in the domestic transportation of property. Notably, the Order did not require permits for the transportation of crude 60 miles or less from "producing oil fields to refining centers" or for transporting crude via the Gulf of Mexico or the Gulf Intracoastal Waterway "to a destination east or north of the shipping point."[168]

67. Consistent with the PAW's goal to expedite the transportation of crude, the agency authorized construction of two coastal Louisiana pipeline projects during WWII. These projects were completed in 1943:

- Project 14: The Texas Pipe Line Company constructed 266 miles of 8-inch and 10-inch crude line from the Paradis oil field in St. Charles Parish to Port Arthur, Texas. The new line connected with existing Texas Company pipe lines between Lafitte and Paradis and

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[167] *A History of the PAW,* p. 97. [Attached hereto as Exhibit 1-153]

[168] General Order O.D.T. 19, August 17, 1942, 7 *FR 6499,* August 18, 1942. [Attached hereto as Exhibit 1-222]

served to bring to "the Beaumont refining area **special Louisiana Gulf coastal crude required in the manufacture of butadiene and 100-octane gasoline**."[169] [Emphasis added]

- Project 18: The Standard Oil Company of Louisiana constructed a 109-mile 6-, 8-, and 10-inch crude line from Golden Meadows oil field in Lafourche Parish to the Anchorage tank farm serving its Baton Rouge Refinery.[170] These lines were to "enable pipeline movement of about 15,000 b/d of crude... to the Baton Rouge refinery, thereby releasing six 200 horsepower tug boats and twenty-six 3000-barrel barges for use on other intracoastal movements of petroleum.... The oil is essential to insure (sic) a supply of crude to the refinery which has facilities for processing 100-octane gasoline."[171] [Emphasis added]

68. Project 14 was the only wartime pipeline project that did not move crude oil northward or eastward; rather, it carried 40,000 to 45,000 barrels per day of crude oil westward from coastal Louisiana

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[169] *A History of the PAW,* p. 421. [Attached hereto as Exhibit 1-153]

Fayette B. Dow, 'The Role of Petroleum Pipelines in the War," *Annals of the American Academy of Political and Social Science,* November 1, 1943, p. 98. [Attached hereto as Exhibit 1-223]

[170] *A History of the PAW,* p. 422. [Attached hereto as Exhibit 1-153]

[171] PAW, "Application 58305, Standard Oil of Louisiana," January 27, 1943. [Attached hereto as Exhibit 1-224]

fields to refineries in Port Arthur, Texas.[172] According to The Texas Pipe Line Company, the pipeline was to be "utilized wholly" to transport South Louisiana crudes to Port Arthur and Port Neches refineries for use in the "manufacture of essential war products for the Army, Navy and Treasury Departments of the United States Government, also to transport distillates used in the manufacture of synthetic rubber."[173]

69. Consistent with federal requirements to conserve critical materials, PAW approved the proposals for both pipeline projects to use secondhand pipe.[174] Additionally, Project 18 used secondhand pumping engines, buildings and tankage "to conserve critical materials."[175] The use of secondhand materials for pipelines and associated pump stations and tankage is consistent with the government's overall directives for wartime construction and illustrates the extent of the government's control of all modes of transportation during the war.

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[172] Henry D. Ralph, "National Pipe-Line Program for Increasing Shipments to East Coast," *The Oil and Gas Journal,* v. 42, n. 20, September 23, 1943, p. 234. [Attached hereto as Exhibit 1-225]

[173] The Texas Pipe Line Company, *Application for a Necessity Certificate,* #NDN-7887, January 15, 1943. [Attached hereto as Exhibit 1-226]

[174] *A History of the PAW,* pp. 421-422. [Attached hereto as Exhibit 1-153]

[175] PAW, "Project 18 Draft Application Summary," n.d., p. 2. [Attached hereto as Exhibit 1-227]

PAW, "Pipeline Projects Progress Report," March 2, 1943, p. 6. [Attached hereto as Exhibit 1-228]

70. On May 20, 1942 the WPB issued its "Directive for War-Time Construction," which was approved and signed by the War and Navy Departments.[176] This directive stated that "all construction, whether financed by [the] Government or other funds, be reduced to the **absolute minimum necessary for the war effort"** and that "all construction shall be of the **cheapest, temporary character** with structural stability only sufficient to meet the needs of the service which the structure is intended to fulfill during the period of its contemplated war use."[177] [Emphasis added]

PAW Management of Crude Oil Supplies

71. During WWII, PAW-appointed industry committees "maintained constant studies as to where crude could be had" and "analyzed various crudes to determine which could be used by which plants." The committees then "worked out and recommended new schedules of crude shipments whenever PAW would add new products to its military 'essential' list."[178] In fulfilling their roles, PAW district offices and refining committees maintained statistical information about every refinery (e.g., crude stocks, runs, yields, etc.) so that "[s]upplies could be programmed into refineries that were in the greatest need of them; and, by the same token, when emergencies arose, supplies could be diverted from refineries that were in relatively

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[176] WPB, "Directive for War-Time Construction." May 20, 1942. [Attached hereto as Exhibit 1-229]

[177] WPB, "Directive for War-Time Construction," May 20, 1942, pp. 1-2. [Attached hereto as Exhibit 1-229]

[178] *A History of the PAW,* p. 215 [Attached hereto as Exhibit 1-153]

comfortable position."[179] PAW established a "system of monthly allocations of *specific* volumes of crude to *specific* refiners on the basis, always, of providing first for the minimum quantities estimated to be necessary to assure maximum output of war products."[180] "After minimum needs of war plants had been supplied, the rest of the crude was divided equitably, always with a view to keeping a// refineries operating, because it was known that the Nation's entire refining plant must be kept in operation."[181] These crude oil allocations were made at the district level on a monthly basis and took into account the changing amounts of crude oil available and any newly completed refinery equipment for expanding the manufacturing of war products. PAW's Refining Division in Washington, DC, then collected data from all district offices and allocated crude oil for the entire country by issuing "all the necessary regulations or directives" to get "crude oil to those who required it."[182]

72. It should be recalled that many refined products, beyond just 100-octane avgas, were considered war products. For example, in February 1943, war products included: 100-octane avgas, 91-octane avgas, avgas components, toluene, butadiene,

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[179] *A History of the PAW,* pp. 214-219. [Attached hereto as Exhibit 1-153]

[180] *History of the PAW,* p. 215. [Emphasis in original] [Attached hereto as Exhibit 1-153]

[181] *A History of the PAW,* p. 215. [Attached hereto as Exhibit 1-153]

[182] D. Thomas Curtin, *Men, Oil and War,* p. 119. [Attached hereto as Exhibit 1-230]

aviation lube oils, petroleum coke, asphalt, heavy duty lube oils, and cumene.[183]

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The Texas Company's Wartime Operations in the Delta Duck Club Field and Refinery Operations Using Delta Duck Club Crude

Delta Duck Club Field (Plaquemines Parish)

117. Between 1942 and 1945, The Texas Company produced approximately 400,000 barrels of crude oil from the Delta Duck Club Field; during this period, annual production increased more than sixfold, from 34,271 barrels in 1942 to 246,519 barrels in 1945.[237]

118. In November 1942, PAW headquarters requested that the PAW-District 3 Production Division prepare a survey identifying "Critical Fields Essential to the War Program." The survey lists the Delta Duck Club Field in a "Supplementary Schedule

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[183] PAW, "Refineries Producing War Products - Barrels Per Day," February 26, 1943. [Attached hereto as Exhibit 1-231]

[237] The Texas Company Crude Production Cards – Delta Duck Club Field. [Attached hereto as Exhibit 1-263]

"Producing Oil Wells, Crude Oil Production, and Well Completion in U.S. Fields," *The Oil Weekly*, vol. 108, no. 9., February 1, 1943, p. 150. [Attached hereto as Exhibit 1-233]

"Producing Oil Wells, Crude Oil Production, and Well Completion in U.S. Fields," *The Oil Weekly*, vol. 112, no. 9., January 31, 1944, p. 152. [Attached hereto as Exhibit 1-234]

"Producing Oil Wells and Crude Oil Production in U.S. Fields," *The Oil Weekly*, vol. 116, no. 9, January 29, 1945, p. 186. [Attached hereto as Exhibit 1-235]

"Producing Oil Wells, Crude Oil Production, and Well Completion in U.S. Fields," *The Oil Weekly*, vol. 120, no. 11, February 11, 1946, p. 214. [Attached hereto as Exhibit 1-236]

Showing Fields Furnishing War Plants with Essential Crudes" as a field producing a "preferential type crude used for making aviation gasoline by normal distillation methods."[238]

Texas Company's Delta Duck Club Crude Used at Company Refineries Producing 100-Octane Avgas Pursuant to a Federal Government Contract

119. During WWII, crude from the Delta Duck Club Field was transported to The Texas Company's Port Arthur refinery, where critical war products such as 100-octane avgas were manufactured pursuant to federal government contracts.

120. Between January and September 1942, The Texas Company's Port Arthur refinery ran 16,153 barrels of crude (approximately 59 barrels per day) from the Delta Duck Club Field.[239] When compared to field production data, this suggests that most of the Delta Duck Club crude produced during this time was transported to the Port Arthur refinery.

121. In September 1942, an official from The Texas Company reported that the company required 4,068 barrels of day of "Garden Island-Delacroix-Delta Duck Farms [*sic*]" crude at the company's Port Arthur and Port Neches refineries, where the crude was used to manufacture "essential products," specifically

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[238] PAW District 3, "Preliminary Survey Listing Critical Fields Essential to the War Effort," November 12, 1942, p. 16. [Attached hereto as Exhibit 1-240]

[239] OPA Petroleum Refiner's Reports – The Texas Company, Port Arthur, Texas and Port Neches, Texas, January-September 1942. [Attached hereto as Exhibit 1-242]

"Aviation Gasoline (100 base stock)" and "Solvent Refined Motor Oils."[240]

122. In November 1942, the Chairman of PAW's District 3 Coastwise and Inland Waterways Subcommittee noted that The Texas Company's Port Arthur refinery was "making war products from every barrel of crude coming from Southern Louisiana."[241] On November 5, 1942, a Texas Company official similarly noted that the company was "producing essential war materials from all crudes we are receiving from South Louisiana by water."[242]

123. In February 1944, The Texas Company's Port Arthur refinery ran 57 barrels per day of crude from the Delta Duck Club Field.[243]

124. During WWII, The Texas Company's Port Arthur refinery manufactured 100- octane avgas and other critical war products, including 91-octane avgas,

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[240] M. Holpern to P.M. Robinson, PAW Acting Director of Refining, September 16, 1942. [Attached hereto as Exhibit 1-243]

[241] Minutes of Meeting of Coastwise and Inland Waterways Subcommittee of the Transportation Committee District III, November 4, 1942, p. 14. [Attached hereto as Exhibit 1-244]

[242] J.S. Leach, The Texas Company, to Maston Nixon, Chairman District 3 Barge Subcommittee, November 5, 1942. Attached to Minutes of Meeting of Coastwise and Inland Waterways Subcommittee of the Transportation Committee District III, November 4, 1942, p. 32. [Attached hereto as Exhibit 1-244]

[243] The Texas Company Daily Average Crude Runs, Louisiana Gulf Coast, February 1944. [Attached hereto as Exhibit 1-249]

alkylate, and cumene, pursuant to hundreds of contracts with the federal government.[244]

125. On January 17, 1942, the federal government's DSC contracted with The Texas Company for the Port Arthur refinery to manufacture 100-octane avgas on behalf of the federal government.[245] Per the contract, The Texas Company was to produce 100-octane avgas "in accordance with the specifications" attached to the contract, which were set by the federal government.[246]

126. During the war, The Texas Company expanded its avgas manufacturing capabilities at Port Arthur on multiple occasions. As noted in the company's January 1942 avgas contract, the Port Arthur refinery could produce approximately 2,940 barrels per calendar day of 100-octane avgas, but The Texas Company was "willing to expand its facilities" to allow the Port Arthur refinery to produce approximately 6,750 barrels per calendar day of 100-

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[244] PAW, "Aviation Gasoline Report to the War Production Board," September 29, 1945, Tables I and IV. [Attached hereto as Exhibit 1-140]

"Texas Co. – Port Arthur, Tex.," in Civilian Production Administration, *Alphabetic Listing of Major War Supply Contracts, July 1940 through September 1945, Volume K-Rex,* pp. 3079-3082. [Attached hereto as Exhibit 1-250]

[245] *Contract between Defense Supplies Corporation and The Texas Company (Port Arthur Refinery)*, January 17, 1942. [Attached hereto as Exhibit 1-151]

[246] *Contract between Defense Supplies Corporation and The Texas Company (Port Arthur Refinery)*, January 17, 1942, p. 2. [Attached hereto as Exhibit 1-151]

octane avgas.[247] DSC agreed to finance The Texas Company's expansion by loaning the company $5.5 million (approximately $99 million in 2022 dollars).[248] In March 1942, the company and DSC entered into a second avgas contract, in which The Texas Company indicated that it was "willing to make an additional expansion of its facilities for the production of 100-octane aviation gasoline at Port Arthur that would "allow the refinery to produce approximately 13,625 barrels per calendar day" of avgas.[249] To finance the additional expansion, DSC agreed to loan The Texas Company another $16.125 million (approximately $284 million in 2022 dollars).[250] In January 1945, DSC

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[247] *Contract between Defense Supplies Corporation and The Texas Company (Port Arthur Refinery)*, January 17, 1942, p. 1. [Attached hereto as Exhibit 1-151]

[248] *Contract between Defense Supplies Corporation and The Texas Company (Port Arthur Refinery)*, January 17, 1942, p. 1. [Attached hereto as Exhibit 1-151]

Note: The U.S. Bureau of Labor Statistics' *CPI Inflation Calculator* was used to estimate the value of $5.5 million in September 1942 in October 2022 dollars. *See CPI Inflation Calculator*, U.S. Bureau of Lab. Stats., https://www.bls.gov/data/inflation_calculator.htm (last visited December 20, 2022).

[249] *Contract between Defense Supplies Corporation and The Texas Company (Port Arthur Refinery – Second Contract),* March 10, 1942, p. 1. [Attached hereto as Exhibit 1-251].

[250] *Contract between Defense Supplies Corporation and The Texas Company (Port Arthur Refinery – Second Contract),* March 10, 1942, p. 1. [Attached hereto as Exhibit 1-251].

Note: The U.S. Bureau of Labor Statistics' *CPI Inflation Calculator* was used to estimate the value of $16.125 million in December 1942 in October 2022 dollars. *See CPI Inflation Calculator*, U.S. Bureau of Lab. Stats., https://www.bls.gov/data/inflation_calculator.htm (last visited December 20, 2022).

and The Texas Company entered into an amended avgas contract, which noted that the Port Arthur refinery could produce 21,500 barrels per calendar day of 100-octane avgas.[251]

127. During WWII, The Texas Company's Port Arthur refinery produced 14.2 million barrels of 100-octane avgas and 2.6 million barrels of 91-octane avgas.[252]

Delta Duck Club Field-Specific Conclusion

128. In conclusion, consistent with my overall conclusion in Paragraph 73 above, during the WWII period, federal government agencies exerted substantial control over The Texas Company's crude oil production in the Delta Duck Club Field in Plaquemines Parish as well as The Texas Company's refining of Delta Duck Club crude at its Port Arthur (Texas) refinery, which manufactured critical war products such as 100-octane and 91-octane avgas during WWII pursuant to contracts with the federal government.

Gulf Oil Corporation's Wartime Operations in the Grand Bay Field and Refinery Operations Using Grand Bay Crude

Grand Bay Field (Plaquemines Parish)

129. During WWII, Gulf Oil Corporation ("Gulf"), via its subsidiary the Gulf Refining Company, and The

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[251] *Amending Contract #1 between Defense Supplies Corporation and The Texas Company (Port Arthur Refinery – Second Contract)*, January 1, 1945. [Attached hereto as Exhibit 1-252]

[252] PAW, "Aviation Gasoline Report to the War Production Board," September 29, 1945, Tables I and IV. [Attached hereto as Exhibit 1-140]

Texas Company operated in the Grand Bay Field. In 1943, an Army official reported that Gulf conducted 80% of the operations in the field.[253] Between 1942 and 1945, more than ten million barrels of crude was produced from the Grand Bay Field;[254] during this time, annual production increased 54% (from 1.95 million barrels in 1942 to 3.00 million barrels in 1945).[255]

130. On October 26, 1942, Gulf applied for an exception to Conservation Order M-68 to deepen and recomplete a well in the Grand Bay Field.[256] On November 7, 1942, the WPB approved Gulf's request, finding the material necessary to deepen and

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[253] Army Internal Security Inspection Report – Grand Bay Field, May 17, 1943, p. 3. [Attached hereto as Exhibit 1-264]

[254] Gulf Refining Company Crude Production Cards – Grand Bay Field. [Attached hereto as Exhibit 1-265]

[255] "Producing Oil Wells, Crude Oil Production, and Well Completion in U.S. Fields," *The Oil Weekly*, vol. 108, no. 9., February 1, 1943, p. 150. [Attached hereto as Exhibit 1-233]

"Producing Oil Wells, Crude Oil Production, and Well Completion in U.S. Fields," *The Oil Weekly*, vol. 112, no. 9., January 31, 1944, p. 152. [Attached hereto as Exhibit 1-234]

"Producing Oil Wells and Crude Oil Production in U.S. Fields," *The Oil Weekly*, vol. 116, no. 9, January 29, 1945, p. 186. [Attached hereto as Exhibit 1-235]

"Producing Oil Wells, Crude Oil Production, and Well Completion in U.S. Fields," *The Oil Weekly*, vol. 120, no. 11, February 11, 1946, p. 214. [Attached hereto as Exhibit 1-236]

[256] E.P. Hubbard, Gulf Assistant Superintendent of Production, to Don R. Knowlton, PAW Director of Production, October 26, 1942. [Attached hereto as Exhibit 1-266]

recomplete the well "necessary and appropriate in the public interest and to promote the war effort.[257]

131. In November 1942, PAW headquarters requested that the PAW-District 3 Production Division prepare a survey identifying "Critical Fields Essential to the War Program." As part of the survey, PAW identified the Grand Bay Field as a critical field because it had "high formation pressures and substantial reserves…producing crudes of high value to the war program."[258]

132. On September 30, 1943, Gulf applied for an exception to PAO-11 to drill ten wells in the Grand Bay Field.[259] On November 5, 1943, PAW approved the request.[260]

Gulf's Grand Bay Crude Used at Company Refineries Producing 100-Octane Avgas Pursuant to a Federal Government Contract

133. During WWII, crude from the Grand Bay Field was transported to, among other places, Gulf's Port Arthur refinery where critical war products such

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[257] Ernest Kansler, WPB Director General for Operations, to Gulf Refining Company, November 7, 1942. [Attached hereto as Exhibit 1-267]

[258] PAW District 3, "Preliminary Survey Listing Critical Fields Essential to the War Effort," November 12, 1942, p. 3. [Attached hereto as Exhibit 1-240]

[259] Gulf Refining Company to PAW, September 30, 1943. [Attached hereto as Exhibit 1-268]

[260] Ralph K. Davies, PAW Deputy Petroleum Administrator, to Gulf Refining Co. and William Helis, November 5, 1943. [Attached hereto as Exhibit 1-269]

as 100-octane avgas were manufactured pursuant to federal government contracts.

134. During WWII, Gulf's Port Arthur refinery manufactured 100-octane avgas and other critical war products, including 91- and 87-octane avgas, alkylate, and 80-octane gasoline, pursuant to hundreds of contracts with the federal government.[261]

135. In March 1942, Gulf Oil's Port Arthur refinery received 6,410 barrels per day of crude from the Grand Bay Field.[262]

136. Monthly Transporters and Storers Reports filed with the Louisiana Department of Conservation further support that crude from the Grand Bay Field was transported to, among other places, Gulf's nearby Port Arthur refinery during WWII.[263]

137. At a July 1942 meeting of PAW's Temporary Barge Subcommittee, Gulf reported that any crude moving westward from Louisiana to the company's

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[261] PAW, "Aviation Gasoline Report to the War Production Board," September 29, 1945, Tables I and IV. [Attached hereto as Exhibit 1-140]

"Gulf Oil Corp. – Port Arthur, Tex.," in Civilian Production Administration, *Alphabetic Listing of Major War Supply Contracts, July 1940 through September 1945, Volume 2 D-J*, pp. 1448-1450. [Attached hereto as Exhibit 1-256]

[262] Table III in Report of the Subcommittee on Emergency Supply of the District No. 3 Transportation Committee, March 1, 1942, p. 56. [Attached hereto as Exhibit 1-258]

[263] Louisiana Department of Conservation, "Monthly Transporters and Storers Report – Grand Bay Field," 1942, *passim*. [Attached hereto as Exhibit 1-270]

Port Arthur refinery was "mostly used for war products."[264]

138. On August 10, 1942, the federal government's DSC contracted with Gulf to manufacture 100-octane avgas at Port Arthur on behalf of the federal government. Per the contract, Gulf was to produce avgas in accordance with government-set specifications attached to the contract.[265]

139. During the war, Gulf expanded its avgas manufacturing capabilities at Port Arthur. At the time of the company's August 1942 avgas contract with the DSC, Gulf could manufacture approximately 2,000 barrels per calendar day of 100-octane avgas at Port Arthur, but, per the contract, the company planned to expand the refinery's avgas productive capacity to more than 8,700 barrels per calendar day.[266] To finance the expansion, DSC agreed to make advance payments to Gulf of up to $9.825 million (approximately $174 million in 2022 dollars) as construction progressed.[267]

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[264] Report of Gulf to Temporary Barge Subcommittee, July 13, 1942. Attached to Report of the Temporary Barge Subcommittee…July 20, 1942. p. 22. [Attached hereto as Exhibit 1-259]

[265] *Contract between Gulf Oil Corporation and Defense Supplies Corporation,* August 10, 1942. [Attached hereto as Exhibit 1-142]

[266] *Contract between Gulf Oil Corporation and Defense Supplies Corporation,* August 10, 1942, pp. 1-2. [Attached hereto as Exhibit 1-142]

[267] *Contract between Gulf Oil Corporation and Defense Supplies Corporation,* August 10, 1942. [Attached hereto as Exhibit 1-142]

140. Throughout WWII, Gulf's Port Arthur refinery was "one of the United Nations' largest refineries turning out 100-octane aviation gasoline," producing 8.47 million barrels of 100-octane avgas and 2.96 million barrels of 91-octane avgas.[268]

Grand Bay Field-Specific Conclusion

141. In conclusion, consistent with my overall conclusion in Paragraph 73 above, during the WWII period, federal government agencies exerted substantial control over Gulf's crude oil production in the Grand Bay Field in Plaquemines Parish as well as Gulf's refining of Grand Bay crude at its Port Arthur (Texas) refinery, which manufactured critical war products such as 100-octane and 91-octane avgas during WWII pursuant to contracts with the federal government.

…

Under penalties of perjury, I declare that the facts stated in the foregoing declaration are true.

Executed on January 12, 2023

[handwritten: signature]
A.J. Gravel

Note: The U.S. Bureau of Labor Statistics' *CPI Inflation Calculator* was used to estimate the value of $16.125 million in November 1942 in October 2022 dollars. *See CPI Inflation Calculator*, U.S. Bureau of Lab. Stats., https://www.bls.gov/data/inflation_calculator.htm (last visited December 20, 2022).

[268] PAW Press Release, May 30, 1945. [Attached here to as Exhibit 1-260]

PAW, "Aviation Gasoline Report to the War Production Board," September 29, 1945, Tables I and IV. [Attached hereto as Exhibit 1-140]

Declaration of Jay L. Brigham, Ph.D., *Parish of Plaquemines v. Total Petrochemicals & Refining USA, Inc.*, No. 18-cv-05256 (E.D. La. Feb. 20, 2023), Dkt.91-1

1. My name is Jay L. Brigham. I am over eighteen years of age. I live in Vienna, Virginia.

2. Since 1997, I have been employed as a historian at Morgan, Angel, Brigham & Associates, LLC. Morgan Angel Brigham is a historical and public policy research firm based in Washington D.C. Since 2014, I have served as the company's managing partner.

3. In 1992, I earned a doctoral degree from the University of California, Riverside in American history, with an emphasis on twentieth-century American history. I have since taught American history; including twentieth-century American history; at the University of California, Riverside; the University of Nevada, Las Vegas; and Arizona State University. I have also authored a book, *Empowering the West,* that examined the public power movement in the United States. I have also written articles, book chapters, book reviews, and participated in professional conferences.

4. I have been retained as an expert historian in more than sixty-five court cases, including many dealing with the Comprehensive Environmental Response, Compensation, and Liability Act. I have testified as an expert in various federal district courts (District of Kansas, District of New Jersey, Central District of California, District of South Carolina, Western District of Washington, Southern District of California, District of Arizona, Southern District of

Texas, and the District of New Mexico) and the U.S. Court of Federal Claims.

5. I am compensated at the rate of $175.00 per hour.

6. I was hired by Talbot, Carmouche & Marcello.

7. In his declaration filed in this case, Mr. A.J. Gravel states: "it is my opinion that during the WWII period, agencies of the federal government, including the PAW and WPB, directed and controlled the entire petroleum industry, including the exploration, development, and production of crude oil, natural gas, and related products in coastal Louisiana fields that were produced to ensure adequate supplies of products for the federal government during WWII." Gravel Declaration, para. 73. For the detailed reasons set forth in my prior declaration filed in *Parish of Plaquemines v. Riverwood Production Co.*,[1] and for the additional reasons set forth below, I respectfully disagree with Mr. Gravel's characterization of the petroleum industry during World War II.

8. In July 1942, in order to increase production of aviation gasoline and facilitate the movement of crude oil, the Defense Supplies Corporation (DSC) created the planned blending program that was part of the Aviation Gasoline Reimbursement Plan (AGRP). The AGRP "enable[d] manufacturers to undertake

[1] *See* Declaration of Jay L. Brigham, Ph.D., *Parish of Plaquemines v. Riverwood Production Co.,* 2:18-cv--05217, Doc. 109-1, Riverwood Appellate record, ROA.22-30055.16421-16456.

extraordinary modes of operation which often were uneconomical and costly."[2]

9. The planned blending program also allowed for the movement of semi-finished or finished gasoline components from one refinery to another.[3]

10. The planned blending program enabled a refinery capable of producing, for example, 100-octane aviation gasoline, to receive components best suited for such production. If the movement of components was uneconomical the involved refineries could apply to the DSC for reimbursement of the uneconomical costs so that the private company would not suffer economically. This system did not dictate crude drilling practices, production quantities, or impact exploration. The DSC solely reimbursed extraordinary

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[2] W. Tidwell and B. O'Callaghan, *The Role of Defense Supplies Corporation in the Wartime Aviation Gasoline Program: A Monograph* (Historical Reports on War Administration: Reconstruction Finance Corporation), 1949, 69-70 [Exhibit 1-2]. Important to the petroleum industry was the prohibition of the Army or Navy to enter into purchase contracts longer than one year. To address this situation, the Reconstruction Finance Corporation (RFC), with presidential approval, created the DSC in August 1940 with the express purpose of entering into contracts of up to three years to purchase 100-octane aviation gasoline. The idea behind an extended purchase contract was that it would provide the necessary security for refiners to expand their facilities. Ibid., 12-14 [Exbibit 1-2.] These contracts solely dealt with downstream refined products.

[3] Tidwell and O'Callaghan, *The Role of Defense Supplies Corporation,* 70 [Exhibit 1-2].

costs, primarily linked to uneconomical transportation.[4]

11. The PAW's crude allocation program provided for the movement of crude runs from well to refinery, based on refinery capacity, and "analyzed various crudes to determine which could be used by which plants."[5]

12. Under this system, after crude was produced at a well, it was allocated to refineries not on the basis of which company owned the crude, but "providing first for the minimum quantities estimated to be necessary to assure maximum output of war products."[6]

13. These PAW crude supply and transportation programs relied on "Government-industry teamwork, with both agreeing on the desired objectives and methods of reaching them, and with industry doing the actual job." The PAW supply and transportation programs did not dictate crude drilling or production practices, production quantities, or impact exploration.[7]

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[4] Tidwell and O'Callaghan, *The Role of Defense Supplies Corporation,* 70 [Exhibit 1-2].

[5] Frey and *Ide, A History of the Petroleum Administration for War,* 215 [Exhibit 1-1].

[6] Frey and Ide, *A History of the Petroleum Administration for War,* 215 [Exhibit 1-1].

[7] Frey and Ide, *A History of the Petroleum Administration for War,* 115 [Exhibit 1-1].

14. Information on crude allocations to refineries came from industry itself and were not dictated by the PAW.[8]

Executed on January [handwritten: 26], 2023

[handwritten: signature]
Jay L. Brigham, Ph.D.

[8] Frey and Ide, *A History of the Petroleum Administration for War,* 218 [Exhibit 1-1].

Excerpts From Notice of Removal, *Parish of Cameron v. Apache Corp. (of Del.)*, No. 18-cv-00688 (W.D. La. May 23, 2018), Dkt.1

Defendants, Shell Oil Company, SWEPI LP, BP America Production Company, and Chevron U.S.A., Inc. ("the removing Defendants") with a full reservation of rights, defenses, objections, and exceptions, hereby remove to this Court, pursuant to 28 U.S.C. §§ 1331, 1367, 1441 and 1442, the above-captioned civil action bearing the number 10-19579 in the 38th Judicial District Court for the Parish of Cameron, State of Louisiana.

…

distances between wellheads and the tank battery was an inadequate and inefficient method that resulted in problems with fluid dynamics causing excessive equipment failures and pollution." Ex. 1, Report, at 13.	sense that they would represent a relatively ineffective use of steel. This is accomplished by the issuance of regulations as to the spacing of wells. These regulations were designed to prevent the drilling of wells virtually on top of one another as too frequently had been the competitive practice."); Ex. 34, Legal opinion from the Dep't of Interior characterizing spacing regulations as "in furtherance of the powers conferred upon the President of the Second War Powers Act to take such appropriate measures as

	may be necessary to conserve steel and other materials which are utilized in drilling for oil and gas and which are essential in the prosecution of the war."
"the 24/7 nature of operations of the equipment generated accelerated wave action that erodes levees and destroys marshes." Ex. 1, Report, at 13.	Ex. 21, at 16-17, Records of Petroleum Admin. For War 1942-45, at 16 ("[I]it will be necessary to accelerate drilling activity from now on to the end of the year if the 1945 program of 27,000 wells is to be realised."); Ex. 35, Letter dated June 1945 ("So long as the PAW certifies a volume of oil is necessary for the prosecution of the war, the Commission can do nothing else but meet that certification."); Ex. 46, Oil & Gas Journal, May 5, 1945 ("current PAW quotas are pushing against the ceiling of the district's capacity to produce efficiently. But given sufficient steel and manpower to sustain the drilling program, preferably at an even higher rate than at present, these quotas can be maintained for another 6 months without harm....

	Since production has conformed very closely with the PAW monthly crude quotas, it is possible to chart the history of the war demand for crude and its relationship to District 3 capacity to produce at maximum efficient rates."); Ex. 47, at 215, 1943 Department of Conservation Biennial Report ("all the states were asked to produce practically all the oil that could be taken without injury to the wells and reservoirs").
"*inadequate amounts of cement were used in surface and production casing.* These measures show that Texaco had little or no regard for designing long life equipment,	Ex. 39, Records of PAW, Letter from Asst. Chief Counsel, November 16, 1943 ("I am advised you have instructed members of Production Division that PAW ... does not have the right to require operators to use a *specified size of casing*.... If [that] is correct, I *cannot agree with this instruction or interpretation* .... It is within the province of PAW ... to refuse to permit

…

Excerpts of Declaration of Alfred M. ("A.J.") Gravel, *Parish of Cameron v. Apache Corp. (of Del.)*, No. 18-cv-00688 (W.D. La. Dec. 24, 2022), Dkt.113-2

Alfred M. Gravel, being duly sworn, deposes, and says:

1. My name is A.J. Gravel. I am over eighteen (18) years of age. I have personal knowledge of the facts set forth in this declaration and am competent to testify to them if necessary.

2. I am a Senior Managing Director at FTI Consulting, Inc. ("FTI"), a global strategy and business advisory firm. I am co-leader of the Environmental Solutions practice and lead the Forensic History and Analysis group. In my current work at FTI and in other professional experience dating back to 1995, I have provided forensic historical research and environmental cost analysis services to public and private sector clients. For more than 20 years I have researched and documented the role of the federal government in the operation of the oil industry during World War II ("WWII"). I also served as Exxon Mobil's expert forensic historian in *Exxon Mobil v. United States* (*Exxon Mobil Corp. v. United States*, 2020 WL 5573048, (S.D. Tex. Sept. 16, 2020)), testifying on behalf of Exxon Mobil regarding the government's WWII-era involvement with the Baton Rouge, Louisiana, and Baytown, Texas, refineries. My educational background, work experience, publications and testimony are truly and correctly presented in my resume provided as Exhibit 1-135.

3. FTI is being compensated at the hourly rate of $500.00 for my work on this matter.

Assignment and Methodology

4. I have been retained by certain removing Defendants to conduct historical research and perform analyses relating to the activities of the federal government during WWII concerning petroleum oil field exploration, development, and operation (and the interrelationship between these activities and federally mandated refining and distribution of petroleum products during WWII). I and/or professionals working at my direction have conducted research in published documents and public and/or business records normally relied on by experts in my field. To date, the materials collected for this matter were obtained from various libraries, archives, and other repositories, including National Archives and Records Administration facilities in College Park, Maryland, Ft. Worth, Texas, and Philadelphia, Pennsylvania; the Library of Congress; Houston Metropolitan Research Center at the Houston Public Library; Louisiana State University; Louisiana State Geological Society; Louisiana Department of Conservation; digital archives such as the Hathi Trust; and from counsel. Collected and cited documents include primary source materials contemporaneous with the operations of the oil fields at issue in this litigation as well as secondary sources. For instance, contemporary trade literature for the WWII-era petroleum industry, such as *National Petroleum News, The Oil and Gas Journal,* and *The Oil Weekly*, and the official history of the Petroleum Administration for War for the period 1941-1945, (published in 1946 by the U.S. Government Printing Office), were examined.

5. The collection and analysis of the materials identified was conducted using an established historical methodology for inquiries of this type. Should additional relevant information become available to me, I may revise and/or supplement this declaration. The documents considered and relied on are identified in the footnotes to this declaration and are attached as exhibits.

Findings Summary

General Findings

6. My findings are based on information available to date and will be discussed and supported in more detail below.

(1) The federal government directed and controlled the entire petroleum industry during WWII, including the exploration, development, and production of crude oil, natural gas, and related products in coastal Louisiana oil fields as well as the nation's refineries. Federal control of the petroleum industry was necessary to ensure the adequate supply of petroleum products for the successful prosecution of the war, both on the military and civilian fronts.

(2) Petroleum was essential to the war effort. During WWII, the Petroleum Administration for War ("PAW")[1] was the federal agency

[1] For the purpose of this declaration, the federal petroleum agency known as the Office of the Petroleum Coordinator for National Defense—later as the Office of the Petroleum Coordinator for War ("OPC"), and finally as the Petroleum

tasked with "issuing, and taking appropriate action to enforce, such orders or directives to the petroleum industry, as the Administrator may deem necessary, in order to: (1) Provide adequate supplies of petroleum for military, or other essential uses; or (2) Effect the proper distribution of such amounts of materials as the Chairman of the War Production Board may allot for the use of the petroleum industry."[2]

(3) The War Production Board ("WPB") was created to "[e]xercise general direction over the war procurement and production program."[3] The WPB controlled the supply and distribution of steel, copper, and aluminum during the war, as well as industrial equipment such as piping, valves, pumps, and engines needed by the petroleum industry to produce crude oil and to refine it into war products.

(4) The PAW, pursuant to Recommendation 28 (issued January 1, 1942), established crude oil allowable production rates in Louisiana during WWII when "production of oil in the

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Administration for War ("PAW")—will be referred to collectively as the "PAW."

[2] Executive Order No. 9276, "Establishing the Petroleum Administration for War," December 2, 1942, *7 FR 10091*. [Attached hereto as Exhibit 1-136]

[3] Executive Order 9024, "Establishing the War Production Board in the Executive Office of the President and Defining Its Functions and Duties," January 16, 1942, *7 FR 329*. [Attached hereto as Exhibit 1-137]

State reached an all time high in an effort to supply the huge demand, both military and civilian."[4] Between 1940 and 1945, crude production from Louisiana oil fields increased approximately 29%.[5]

(5) During WWII, the federal government, through PAW and the Office of Defense Transportation ("ODT"), controlled the transport of crude oil from fields to refineries, and the transport of refined products from refineries to end users. For example, two wartime pipeline projects were constructed in southern Louisiana in 1943 to bring crude oil from certain of the "critical fields" to petroleum refineries at Baton Rouge, Louisiana and Port Arthur, Texas, for the manufacture of war products. More generally, during the war the PAW directed "the physical operation of petroleum pipelines to the extent of prescribing the quantity and kind of petroleum to be transported by and the direction of flow through such pipe lines."[6] The government's control of the transportation of crude oil and refined petroleum products also included barge and railcar transportation.

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[4] Louisiana Department of Conservation, *Seventeenth Biennial Report, 1944-1945,* p. 13. [Attached hereto as Exhibit 1-138]

[5] Louisiana Department of Conservation, *Seventeenth Biennial Report, 1944-1945,* p. 15. Attached hereto as Exhibit 1-138]

[6] Executive Order No. 9276, "Establishing the Petroleum Administration for War," December 2, 1942, *7 FR 10091.* [Attached hereto as Exhibit 1-136]

(6) The federal government, through PAW, managed the nation's crude oil supplies. When PAW deemed it necessary, the agency allocated crude oil produced by coastal Louisiana fields to specific refineries on the basis of obtaining the maximum amount of critical war products from the minimum run of crude oil.

(7) Coastal Louisiana crude oils were used by various refineries, including the following, to manufacture 100-octane aviation gasoline ("avgas") and avgas components pursuant to contracts with the federal government's Defense Supplies Corporation ("DSC").[7]

- Cities Service Refining Corporation, Lake Charles, Louisiana[8]
- Gulf Oil Corporation, Port Arthur, Texas[9]

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[7] The DSC was a government corporation organized in August 1940 as a subsidiary of the Reconstruction Finance Corporation to finance plant expansion and purchase 100-octane aviation gasoline. *See,* "Final Report on the Reconstruction Finance Corporation," 1959, pp. 130-138. [Attached hereto as Exhibit 1-139]

PAW, "Aviation Gasoline Report to the War Production Board," September 29, 1945, Table I. [Attached hereto as Exhibit 1-140]

[8] *Contract between Defense Supplies Corporation and Cities Service Refining Corporation (Lake Charles Refinery)*, June 16, 1942. [Attached hereto as Exhibit 1-141]

[9] *Contract between Gulf Oil Corporation and Defense Supplies Corporation,* August 10, 1942. [Attached hereto as Exhibit 1-142]

- Humble Oil and Refining Company, Baytown, Texas[10]
- Magnolia Petroleum Company, Beaumont, Texas[11]
- Pan American Refining Corporation, Texas City, Texas[12]
- Pure Oil Company, Smith's Bluff Refinery, Nederland, Texas[13]
- Shell Oil Company, Houston, Texas and Norco, Louisiana[14]
- Sinclair Refining Company, Houston, Texas[15]

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[10] *Contract between Defense Supplies Corporation and Humble Oil and Refining Company*, February 4, 1942. [Attached hereto as Exhibit 1-143]

[11] *Agreement between Defense Supplies Corporation and Magnolia Petroleum Company*, January 13, 1942. [Attached hereto as Exhibit 1-144]

[12] *Contract between Pan American Refining Corporation and Defense Supplies Corporation*, February 11, 1942. [Attached hereto as Exhibit 1-145]

[13] *Contract between Defense Supplies Corporation and The Pure Oil Company*, July 20, 1942. [Attached hereto as Exhibit 1-146]

[14] *Contract between Defense Supplies Corporation and Shell Oil Company, Incorporated (Houston and Norco Refineries),* October 15, 1942. [Attached hereto as Exhibit 1-147]

[15] *Contract between Defense Supplies Corporation and Sinclair Refining Company (Houston Refinery),* February 3, 1942. [Attached hereto as Exhibit 1-148]

- Standard Oil Company of Louisiana, Baton Rouge, Louisiana[16]
- The Texas Company, Port Arthur, Texas[17]
- Tidewater Associated Oil Company, Bayonne, New Jersey[18]

The federal government also contracted with refineries in the Gulf Coast region for other petroleum war products, including 91-octane avgas, alkylate, toluene, asphalt, synthetic rubber and its components (e.g., butadiene), fuel oil, and lubricating oil, among others.

Case-Specific Findings

(8) The PAW designated certain coastal Louisiana oil fields as "critical fields essential to the war program" in a November 1942 survey, including the following fields in Cameron and Vermilion Parishes:

a. Black Bayou: PAW identified that the Black Bayou Field produced crude

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[16] *Contract between Defense Supplies Corporation and Standard Oil Company of New Jersey, January 13, 1942*. [Attached hereto as Exhibit 1-149]

Letter Agreement between Defense Supplies Corporation and Standard Oil Company Of Louisiana, February 16, 1943. [Attached hereto as Exhibit 1-150]

[17] *Contract between Defense Supplies Corporation and The Texas Company (Port Arthur Refinery),* January 17, 1942. [Attached hereto as Exhibit 1-151]

[18] *Contract between Reconstruction Finance Corporation and Tidewater Associated Oil Company (Bayonne Refinery),* July 1, 1945. [Attached hereto as Exhibit 1-152]

"necessary for the production of…critical war products," specifically components of 100- and 91-octane aviation gasoline and toluene concentrate.[19]

b. Grand Lake: PAW identified the Grand Lake Field as a field having "high formation pressures and substantial reserves…producing crudes of high value to the war program." PAW also identified that the Grand Lake Field had "substantial production."[20]

(9) During WWII, Shell Oil Company ("Shell") produced crude in the Black Bayou Field that was transported to Shell refineries in Houston, Texas and Norco, Louisiana, each of which produced 100-octane avgas and avgas components pursuant to a federal government contract.[21] During the war, Shell's Houston refinery blended more than 15 million barrels of 100-octane avgas,[22] whereas Shell's Norco refinery was "plunged almost completely into war production," with "perhaps its greatest contributions….in the

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[19] *See infra* ¶ 76 and accompanying notes.

[20] *See infra* ¶ 91 and accompanying notes.

[21] During WWII, Black Bayou crude was also barged to Pan American Refining Corporation's Texas City refinery, and Sinclair Refining Company's Houston refinery, each of which also produced 100-octane avgas and other petroleum products pursuant to government contracts.

[22] *See infra* note 196 and accompanying text.

field of 100-octane aviation gasoline components."[23]

(10) During WWII, Superior Oil Company produced crude in the Grand Lake and Pecan Lake Fields in Cameron Parish. Grand Lake and Pecan Lake crude was transported to the Pan American Refining Corporation's refinery in Texas City (Texas), which manufactured critical war products such as 100- and 91-octane avgas during WWII pursuant to federal government contracts.[24] During WWII, Pan American's Texas City refinery produced 3.4 million barrels of 100-octane avgas and 5.2 million barrels of 91-octane avgas.[25]

(11) During WWII, Union Oil Company of California produced crude in the Fresh Water Bayou and West White Lake Fields in Vermilion Parish. Fresh Water Bayou and West White Lake crude was likely transported to the Cities Service Refining Corporation in Lake Charles (Louisiana), which manufactured critical war products such as 100-octane avgas during WWII pursuant to federal government contracts.[26] Cities Service agreed to construct a "complete

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[23] *See infra* note 197 and accompanying text.

[24] *See infra* notes 206-209 (Grand Lake) and 218-219 (Pecan Lake) and accompanying text.

[25] *See infra* notes 212 (Grand Lake) and 222 (Pecan Lake) and accompanying text.

[26] *See infra* notes 225-227 and accompanying text.

> new refinery" near Lake Charles, at an estimated cost of $50 million (approximately $914 million in 2022 dollars).[27] Cities Service's Lake Charles refinery produced 8.2 million barrels of 100-octane avgas.[28]

GENERAL FINDINGS

The Role of Petroleum in World War II

7. WWII was "from beginning to end…a war of oil."[29] While certain petroleum products such as 100-octane avgas were of special importance during the war, there was a general recognition by the federal government that all petroleum products were essential to the war effort. As Brigadier General Howard L. Peckham, Director, Fuels and Lubricants Division of the Office of the Quartermaster General stated in 1945:

> In time of war, the combined demands of our Army, our Navy and our Air Forces are tremendous. The combatant of today, whether he wears the uniform of the Army or Navy, is so totally dependent on the products of petroleum that the success of land, sea and air operations can be said to depend on their availability.[30]

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[27] *See infra* note 227 and accompanying text.

[28] *See infra* note 228 and accompanying text.

[29] John W. Frey and H. Chandler Ide, *A History of the Petroleum Administration for War: 1941-1945,* U.S. Government Printing Office, Washington, DC, 1946, p. 1. Hereafter, *A History of the PAW*. [Attached hereto as Exhibit 1-153]

[30] Brigadier General Howard L. Peckham, "Operations of the Fuels and Lubricants Division," in Army Industrial College,

8. Because of the importance of oil to the war effort, a new federal agency, the PAW, was created to control and direct the entire petroleum industry. PAW's jurisdiction was all encompassing and included control of crude oil production, refining and product manufacture, supply and transportation of crude oil and refined products, and distribution to ensure petroleum products were supplied where needed.[31] As Senator Joseph C. O'Mahoney stated after the war while presiding over the U.S. Senate Special Committee Investigating Petroleum Resources:

> We have just come through a great war, in which, in order to achieve the objectives for which this Nation committed itself in the fighting, it was necessary to adopt a great many governmental controls. Frequently I have referred to them as **totalitarian controls**, because they were **definite orders which were given by the Government to all branches of industry** and to the people, so that the efforts and resources of the Nation might be marshaled

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Seminar, Mobilization of the Petroleum Industry for War (War and Navy Agencies), June 20, 1945, p. 13. [Attached hereto as Exhibit 1-154]

[31] As described by one historian, "America's oil industry…[had] to be fused in effect, though not formally, into one giant organization under government direction and mobilized for war." *See* Daniel Yergin, *The Prize: The Epic Quest for Oil, Money & Power*, 1990, pp. 354 and 360. [Attached hereto as Exhibit 1-155]

See also, Henry D. Ralph, "Federal Relationship With Oil Industry Solidified by War," *The Oil and Gas Journal*, Vol. 40, No. 9, July 30, 1942, p. 79. [Attached hereto as Exhibit 1-156]

> for the striking blow delivered against the enemy.[32] [Emphasis added]

9. On June 19, 1941, about six months before the attack on Pearl Harbor, Ralph K. Davies, the newly appointed Deputy Petroleum Administrator, spoke to over 1,000 oil men, stating:

> The stern necessity of accommodating the petroleum resources of the Nation to the critical needs of national defense, obviously **demands Government coordination**. Left to itself, there is no way by which the industry can effectively organize its resources and facilities so as to deal quickly and decisively with the extraordinary problems of the day. No matter how patriotic and unselfish the component interests and groups within the industry, it is clear that as separate and competing units **they cannot act cooperatively, independent of Government direction**.
>
> Government and industry have here a common undertaking. Neither one can act effectively by itself. The demand is for teamwork of the highest order.[33] [Emphasis added]

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[32] U.S. Congress, Senate, Special Committee Investigating Petroleum Resources, *The Independent Petroleum Company: Hearings before a Special Committee Investigating Petroleum Resources,* 79th Congress, 2nd Session, March 19, 1946, p. 1. [Attached hereto as Exhibit 1-157]

[33] *A History of the PAW*, p. 56. [Attached hereto as Exhibit 1-153]

10. The historical context for Mr. Davies' remarks should be noted. Voluntary cooperation among oil companies is banned by federal antitrust laws, even in time of war, unless undertaken at the direction of an officer or agency of the federal government. As one PAW official noted in January 1945, oil company officers risked "fine and imprisonment for doing things that in war are called cooperation but in peace are called collusion[.] Oil men hesitate to lunch with a competitor for fear of an anti-trust investigation."[34] These fears were well founded.

11. On September 30, 1940 the U.S. Department of Justice launched an antitrust program against the petroleum industry.[35] The Attorney General envisioned the program would provide "correction in a single investigation of all of the restraints which affect the distribution of petroleum products, from extraction of the raw material to its delivery to the consumer."[36] The primary antitrust case (*United States v. American Petroleum Institute*, et al.) indicted 22 major, integrated oil companies and 379 of their subsidiary or affiliated companies under the Sherman and Clayton antitrust acts and came to be known as

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[34] Max W. Ball, "Fueling a Global War—An Adventure in Statecraft," *The Ohio Journal of Science,* vol. 45, no. 1, January, 1945, p. 33. [Attached hereto as Exhibit 1-158]

[35] *United States v. Socony-Vacuum Oil Co., Inc.* 310 U.S. 150 (1940), decided May 6, 1940. [Attached hereto as Exhibit 1-159]

[36] "Consent Decree Program of the Department of Justice," Report of the Antitrust Subcommittee of the Committee on the Judiciary, House of Representatives, 86th Congress, First Session, January 30, 1959, p. 137. [Attached hereto as Exhibit 1-160]

the "Mother Hubbard" case.[37] The case "put the oil industry on notice that its every action was subject to question by the Attorney General of the United States."[38]

12. The Advisory Commission of the Council of National Defense, a predecessor of the WPB, reviewed and discussed the draft of the Mother Hubbard complaint for several weeks before it was filed in court. The Commission was concerned about the impact of this prosecution on the oil industry and its vital role in the national defense effort. After its meeting on July 26, 1940, the Advisory Commission sent a letter to Attorney General Robert H. Jackson requesting the lawsuits be postponed while the Commission considered them. The letter stated in part:

> Apart from the fact that the oil industry will be **required**, during the next several months, to **furnish vastly enlarged and vital supplies of oil and oil derivatives** to our army, our navy, and our air force, the industry, within recent weeks has been asked to consider the construction of new facilities, including facilities for the manufacture of aviation gasoline; facilities for the storage of

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[37] "Consent Decree Program of the Department of Justice," Report of the Antitrust Subcommittee of the Committee on the Judiciary, House of Representatives, 86th Congress, First Session, January 30, 1959, p. 138. [Attached hereto as Exhibit 1-160]

[38] Richard H. K. Vietor, *Energy Policy in America Since 1945: A Study of Business-Government Relations*, New York, Cambridge University Press, 1984, p. 34. [Attached hereto as Exhibit 1-161]

> gasoline and other supplies; facilities for the manufacture of toluol, important in the production of high explosives; and facilities for the manufacture of synthetic rubber.… The oil industry has been **called upon to cooperate with the government** by investing enormous sums in new plant and equipment. This program, which is only part of our broader program for expanding industrial capacity through private capital, we regard as important.[39] [Emphasis added]

13. The fact that the Attorney General and the PAW could bring pressure on the industry to cooperate is documented in correspondence between the two agencies, in which Attorney General Robert Jackson offered his support to PAW Administrator Harold L. Ickes, stating "my Department stands ready to implement your activities," and also "[a]ny proposals for future civil or criminal proceedings under the antitrust laws…be submitted to you [Ickes] for advice as to whether the proposed proceeding should be conducted as a preferred proceeding."[40]

Federal Government 100-Octane Avgas Contracts

14. If WWII was (as stated in *A History of the PAW*) "from beginning to end…a war of oil," it was particularly a war of 100-octane avgas, which fueled

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[39] Civilian Production Administration, "Minutes of the Advisory Commission to the Council of National Defense, July 26, 1940," p. 42. [Attached hereto as Exhibit 1-162]

[40] U.S. Attorney General Robert H. Jackson to Harold L. Ickes, Secretary of the Interior, June 3, 1941, in *A History of the PAW*, p. 382. [Attached hereto as Exhibit 1-153]

the Allies' aerial supremacy.[41] The importance of 100-octane avgas to the war effort cannot be overstated. According to PAW's *Handbook on 100-Octane*, "the entire American oil industry [had to] be totally mobilized and integrated for the job**, cutting across company lines and treating the individual refining facilities of the various companies as units in one vast national refinery** devoted to maximum production of 100 octane gasoline."[42] [Emphasis added] In the end, the federal government's control over the petroleum industry resulted in a 1,185% increase in domestic 100-octane avgas production during the war, from 40,000 barrels/day to 514,000 barrels/day.[43]

15. The government's mandate for maximum production of avgas was presented in a directive issued by PAW Administrator Ickes on December 18, 1941, which "require[d] that the production of 100 octane aviation gasoline be greatly increased."[44] To help meet the demand for avgas, the federal government's Defense Plant Corporation invested

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[41] *A History of the PAW*, p. 1. [Attached hereto as Exhibit 1-153]

[42] PAW Public Relations Division, "Handbook on 100 Octane– Section II. 100-Octane Program," November 27, 1943. [Attached hereto as Exhibit 1-163]

[43] *A History of the PAW,* p. 191. [Attached hereto as Exhibit 1-153]

[44] PAW Recommendation 23, Production of Alkylate for Use in Manufacture of 100 Octane Aviation Gasoline," December 18, 1941, *7 FR 41*. [Attached hereto as Exhibit 1-164]

PAW Recommendation 16, Processing and Refining Aviation Gasoline," December 16, 1941, *6 FR 6433*. [Attached hereto as Exhibit 1-165]

over $235 million (approximately $3.9 billion in 2022 dollars) to construct avgas manufacturing facilities at 29 refineries.[45]

16. During WWII, 56 refineries in the United States manufactured 100-octane avgas under contract with the federal government through the Defense Supplies Corporation, ("DSC"), a government corporation operated by the Reconstruction Finance Corporation.[46] WWII-era "avgas" refineries included the following that were operated by integrated oil companies that had upstream, oil production operations in coastal Louisiana fields:

- Gulf Oil Corporation's refinery in Port Arthur, Texas
- Shell Oil Company's refineries in Houston, Texas and Norco, Louisiana
- The Texas Company's refinery in Port Arthur, Texas

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[45] *A History of the PAW*, p. 368. [Attached hereto as Exhibit 1-153]

Note: The U.S. Bureau of Labor Statistics' *CPI Inflation Calculator* was used to estimate the value of $235 million in August 1945 in October 2022 dollars. *See CPI Inflation Calculator*, U.S. Bureau of Lab. Stats., https://www.bls.gov/data/inflation_calculator.htm (last visited December 20, 2022).

[46] PAW, "Aviation Gasoline Report to the War Production Board," September 29, 1945, Table 1. [Attached hereto as Exhibit 1-140]

A History of the PAW, p. 202. [Attached hereto as Exhibit 1-153]

Brendan J. O'Callaghan, "The Role of Defense Supplies Corporation in the Wartime Aviation Gasoline Program," 1948. [Attached hereto as Exhibit 1-166]

- Tide Water Associated Oil Company's refinery in Bayonne, New Jersey.

17. The government not only directed the nation's refineries to maximize 100-octane avgas production, but it also had a wartime monopsony over the product as the sole wartime purchaser of 100-octane avgas.[47] As noted in 1943 by PAW's Assistant Director of Refining:

> [I]n the case of the 100 octane contracts…Defense Supplies Company is the sole purchaser and P.A.W. insists that each company utilize all of its facilities to make 100 octane aviation gasoline to the extent of its ability to do so, and **there is not in fact any freedom to make a choice between contracting and not contracting** [with the federal government].[48] [Emphasis added.]

18. DSC 100-octane avgas contracts for privately financed facilities (i.e., those not built under Defense Plant Corporation auspices with government funds) contain a similar clause regarding the price of avgas as the one found in Shell's DSC contract for the Houston and Norco refineries. The clause states that all of the "petroleum raw materials" (e.g., crude oil) used at the refinery were necessary to produce the

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[47] *A History of the PAW*, pp. 202-203 and 361. [Attached hereto as Exhibit 1-153]

Note: In economics, a monopsony is a market condition in which a single buyer controls the market as the major purchaser of goods offered by many would-be sellers.

[48] George L. Parkhurst, PAW Assistant Director of Refining, to George W. Hill, DSC Executive Vice President & General Counsel, November 6, 1943. [Attached hereto as Exhibit 1-167]

100-octane avgas purchased by the government under the DSC contract:

> The price [of 100-octane avgas] is based upon present normal methods of transporting petroleum raw materials to [Shell's] refineries at Houston, Texas and Norco, Louisiana refinery, and upon a normal operation of these refineries in which substantial quantities of motor fuel and other products **must necessarily be produced and sold** in connection with the production of 100 octane aviation gasoline.[49] [Emphasis added]

19. All of the crude oil received by a refinery manufacturing war products was used to manufacture those products. As Humble Oil described its operations in February 1943:

> On the basis of the current refinery input of 143,780 barrels daily of crude and 6,860 barrels daily of other raw materials, the output of war products is 31.1%. At first glance it might appear that this represents less than one-third conversion to the manufacture of war products but this is hardly true, since, **in order that these war products be made, it is unavoidable that other products** such as motor gasoline, kerosene, heating oil, and residual fuel oil **be made as byproducts**. Although these are

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[49] *Contract between Defense Supplies Corporation and Shell Oil Company, Incorporated (Houston and Norco Refineries),* October 15, 1942. [Attached hereto as Exhibit 1-147]

> not classified as war products they are nevertheless playing an important part in the nation's war economy. The current production of war products represents essentially 100% conversion since **all of the crudes** and other raw materials **taken into the refinery are run specifically for the production of one or more war products**.[50] [Emphasis added]

20. Refineries producing 100-octane avgas during WWII pursuant to federal government contracts, and which used crude from coastal Louisiana fields, included the following:

- Cities Service Refining Corporation, Lake Charles, Louisiana[51]
- Gulf Oil Corporation, Port Arthur, Texas[52]
- Humble Oil and Refining Company, Baytown, Texas[53]

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[50] Humble Oil, "Production of War Products at Humble Oil & Refining Company's Baytown Refinery," February 25, 1943. [Attached hereto as Exhibit 1-168]

[51] *Contract between Defense Supplies Corporation and Cities Service Refining Corporation (Lake Charles Refinery)*, June 16, 1942. [Attached hereto as Exhibit 1-141]

[52] *Contract between Gulf Oil Corporation and Defense Supplies Corporation,* August 10, 1942. [Attached hereto as Exhibit 1-142]

[53] *Contract between Defense Supplies Corporation and Humble Oil and Refining Company, February 4, 1942.* [Attached hereto as Exhibit 1-143]

- Magnolia Petroleum Company, Beaumont, Texas[54]
- Pan American Refining Corporation, Texas City, Texas[55]
- Pure Oil Company, Smith's Bluff Refinery, Nederland, Texas[56]
- Shell Oil Company, Houston, Texas, and Norco, Louisiana[57]
- Sinclair Refining Company, Houston, Texas[58]
- Standard Oil Company of Louisiana, Baton Rouge, Louisiana[59]

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[54] *Agreement between Defense Supplies Corporation and Magnolia Petroleum Company,* January 13, 1942. [Attached hereto as Exhibit 1-144]

[55] *Contract between Pan American Refining Corporation and Defense Supplies Corporation*, February 11, 1942. [Attached hereto as Exhibit 1-145]

[56] *Contract between Defense Supplies Corporation and The Pure Oil Company*, July 20, 1942. [Attached hereto as Exhibit 1-146]

[57] *Contract between Defense Supplies Corporation and Shell Oil Company, Incorporated (Houston and Norco Refineries),* October 15, 1942. [Attached hereto as Exhibit 1-147]

[58] *Contract between Defense Supplies Corporation and Sinclair Refining Company (Houston Refinery),* February 3, 1942. [Attached hereto as Exhibit 1-148]

[59] *Contract between Defense Supplies Corporation and Standard Oil Company of New Jersey,* January 13, 1942. [Attached hereto as Exhibit 1-149]

Letter Agreement between Defense Supplies Corporation and Standard Oil Company Of Louisiana, February 16, 1943. [Attached hereto as Exhibit 1-150]

- The Texas Company, Port Arthur, Texas[60]
- Tidewater Associated Oil Company, Bayonne, New Jersey[61]

Federal Wartime Agencies Controlled and Directed the Petroleum Industry during WWII

21. President Roosevelt established PAW on May 28, 1941—one day after his declaration of a state of Unlimited National Emergency—in order to "coordin[ate] existing federal authority over oil and gas and insuring that the supply of petroleum and its products will be accommodated to the needs of the Nation and the national defense program."[62] The new, independent federal agency was headed by Harold L. Ickes, the Secretary of the Interior.[63]

22. PAW's role in controlling, directing, and managing the United States' oil and gas industry during WWII went far beyond the regulatory function and monitoring activities commonly performed by modern-day federal agencies. The PAW was an *"action agenc[y]"* created "to get certain specific limited jobs

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[60] *Contract between Defense Supplies Corporation and The Texas Company (Port Arthur Refinery),* January 17, 1942. [Attached hereto as Exhibit 1-151].

[61] *Contract between Reconstruction Finance Corporation and Tidewater Associated Oil Company (Bayonne Refinery),* July 1, 1945. [Attached hereto as Exhibit 1-152].

[62] Letter from President Franklin D. Roosevelt to Harold J. Ickes, Secretary of the Interior, May 28, 1941 published in *A History of the PAW*, pp. 374-375. [Attached hereto as Exhibit 1-153]

[63] *A History of the PAW*, p. 14. [Attached hereto as Exhibit 1-153]

done."[64] The new agency was structured like a vertically integrated oil company, with a (1) Production Division responsible for directing crude oil production;[65] (2) Refining Division responsible for the manufacture of refined products; (3) Supply and Transportation Division responsible for moving crude oil and refined products; and (4) a Distribution and Marketing Division to handle distribution to end users.[66] The PAW also established five geographic districts, each with its own office and divisions paralleling those of PAW's Washington headquarters.[67] Louisiana and Texas were part of

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[64] Luther Gulick, "V. War Organization of the Federal Government," *The American Political Science Review,* vol. 38, no. 6, December 1944, p. 1174. [Attached hereto as Exhibit 1-20]

[65] The role of PAW's Production Division was to take "all appropriate steps to insure that the domestic petroleum industry produces the crude oil necessary to meet essential domestic refining requirements, through maximum effective utilization of existing production capacity and development of necessary additional capacity and reserves, in accordance with the general operation program." See *A History of the PAW*, p. 308. [Attached hereto as Exhibit 1-12]

During the war, the PAW worked with the government's Office of Price Administration, which established prices for crude oil. *See* "Higher Ceilings Granted Two Fields," *The Oil and Gas Journal*, July 8, 1944, p. 37. [Attached hereto as Exhibit 1-105]; Office of Price Administration, "Crude Petroleum and Natural and Petroleum Gas: Adjustment of Maximum Prices," May 22, 1945, *10 FR 5832.* [Attached hereto as Exhibit 1-106]

[66] The Army Industrial College, Department of Research, "Mobilization of the Petroleum Industry for World War II (Petroleum Administration for War-I)," Seminar on June 11, 1945, pp. 3-4. [Attached hereto as Exhibit 1-21]

[67] *A History of the PAW*, p. 31. [Attached hereto as Exhibit 1-153]

PAW-District 3, which was headquartered in Houston, Texas.[68]

23. PAW's structure and organization is important because the agency was "designed to fit the industry that was to be **directed and controlled**" and was "designed to carry out the objectives of the agency."[69] [Emphasis added] In November 1942, Ralph K. Davies, Deputy Petroleum Administrator, summarized the objectives of PAW in testimony before Congress:

> The [PAW] exists for the primary purpose of furnishing **central direction to the oil industry during the war period**…without such a central agency of Government guiding and coordinating the efforts of the oil industry the great task which faces us in oil could not possibly be met. The requirements of the Nation must be ascertained by [PAW], they must be interpreted to the various units of the industry, the necessary allocation of materials must be arranged for…and plans must be formulated and executed, aimed at attaining the equivalent of consolidated operation of the many separate units of the industry which in normal times work best in independent competition, but in time of war

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[68] PAW-District 1 covered the East Coast; District 2 the Midwest, District 3 the Gulf Coast, District 4 the Rocky Mountains, and District 5 the West Coast.

[69] The Army Industrial College, Department of Research, "Mobilization of the Petroleum Industry for World War II (Petroleum Administration for War-I)," Seminar on June 11, 1945, p. 16. [Attached hereto as Exhibit 1-172]

> must be banded together to meet the immediate necessities of the period.[70] [Emphasis added]

24. While the PAW's preference was cooperation with the petroleum industry, during WWII "disciplinary measures such as restricting transportation, reducing crude oil supplies, and withholding priority assistance" were available to the agency to coerce assistance from the industry in implementing the government's war plan.[71] Or, as stated by one historian, "the carrot was preferred to the stick, but one or the other was normally necessary."[72] This characterization of the relationship between the PAW and the petroleum industry is corroborated by a former PAW official, who noted that the post-war successor agency to the PAW (the Interior Department's Division of Oil and Gas) had

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[70] U.S. Congress, House of Representatives, Committee on Interstate and Foreign Commerce, Petroleum

Investigation (Gasoline and Rubber): Hearings before a Subcommittee of the Committee on Interstate and Foreign Commerce, 77th Congress, 2nd Session, November 23, 1942, p. 6. [Attached hereto as Exhibit 1-173]

[71] P.M. Robinson, PAW Assistant Director of Refining, to Ralph K. Davies, PAW Deputy Administrator, Subject: "Refiners Who Did Not Reply to the Gasoline Yield Reduction Telegrams," August 12, 1942. [Attached hereto as Exhibit 1-174]

[72] John G. Clark, *Energy and the Federal Government: Fossil Fuel Policies, 1900-1946*, p. 317. [Attached hereto as Exhibit 1-175]

"primarily coordinating rather than coercive powers," which PAW had enjoyed.[73]

25. In August 1941, PAW Administrator Ickes warned industry representatives that "[w]e have to get the results. We are going to get them by cooperation, but if by any mischance we can't get them by cooperation, then we will get them some other way."[74] PAW's Ralph Davies reiterated Ickes' warning, stating that "[w]e will do all we can by persuasion, and I hope no element in the industry will be so stubborn as to force upon the Government here the compulsory thing…finally results must be had, there is no dodging."[75]

26. At the November 1941 meeting of the American Petroleum Institute ("API"), Mr. Davies informed the oil and gas industry that "[c]entralized direction [of the industry] is inevitable if its resources are to be employed to effective purpose."[76] At the same API meeting, industry leadership acknowledged that

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[73] "Chandler Ide," in *Ralph K. Davies: As We Knew Him*, San Francisco, California, December 1976, p. 18. [Attached hereto as Exhibit 1-175]

[74] Speech by Harold Ickes, Administrator of PAW to a conference of petroleum industry committee chairmen, August 11, 1941, p. 8. [Attached hereto as Exhibit 1-176]

[75] Speech by Ralph Davies, Deputy Administrator of PAW to a conference of petroleum industry committee chairmen, August 11, 1941, p. 43. [Attached hereto as Exhibit 1-177]

[76] Speech by Ralph Davies, Deputy Director of PAW to the annual meeting of the American Petroleum Institute, November 3-7, 1941, p. 10. [Attached hereto as Exhibit 1-178]

"[f]or defense purposes we shall be guided, directed, regulated."[77]

27. In a separate speech before the API, Mr. Ickes informed the industry that he viewed the PAW "as an agency created to do a necessary work during the emergency—an agency that will be discontinued when the emergency ends," which it was.[78] But Ickes also made it clear that he hoped not to have to ask for additional powers to carry out his responsibilities if the industry failed to cooperate.[79] As noted by a prominent historian, Ickes "employed the rhetoric of cooperation but believed in the necessity of coercion…."[80]

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[77] Speech by W. R. Boyd, Jr., president of the American Petroleum Institute to the annual meeting of the American Petroleum Institute, November 3-7, 1941, p. 14. [Attached hereto as Exhibit 1-179]

[78] Harold L. Ickes, "National Defense and the Oil Industry," in "Address and Reports" in *Proceedings: Twenty-Second Annual Meeting American Petroleum Institute, Section I*, November 3-7, 1941, p. 22. [Attached hereto as Exhibit 1-180]

[79] Harold L. Ickes, "National Defense and the Oil Industry," in "Address and Reports" in *Proceedings: Twenty-Second Annual Meeting American Petroleum Institute, Section I*, November 3-7, 1941, p. 19. [Attached hereto as Exhibit 1-180]

[80] John G. Clark, *Energy and the Federal Government: Fossil Fuel Policies, 1900-1946*, University of Illinois Press, Urbana and Chicago, Illinois, 1987, p. 347. [Attached hereto as Exhibit 1-175]

CASE-SPECIFIC FINDINGS

Shell's Wartime Operations in Black Bayou Field and Shell Refinery Operations Using Black Bayou Crude

Black Bayou Field (Cameron Parish)

74. Between 1942 and 1945, Shell produced more than 3.7 million barrels of crude oil from the Black Bayou Field.[170]

75. On January 20, 1942, Shell applied to PAW for an exception to Conservation Order M-68 to drill ten wells in the Black Bayou Field that would be spaced closer than 40 acres. On February 26, 1942, the WPB approved Shell's request, noting that the use of material "required to drill, complete and provide surface connections for these 10 wells [was] necessary and appropriate in the public interest and to promote the war effort."[171] On April 23, 1942, Shell requested an exception to M-68 to "abandon a depleted oil sand" in the Black Bayou Field "and recomplete in a shallower oil sand."[172] On May 25, 1942, the WPB

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[170] Shell Oil Company, Inc. Production Cards – Black Bayou Field. [Attached hereto as Exhibit 1-232]

[171] J.S. Knowlson, WPB Director of Industry Operations, to Shell Oil Company, Inc. re: Black Bayou Field, Cameron Parish, Louisiana, February 26, 1942. Attached to Telegram from E.O. Buck, PAW District-3 Director of Production to D.R. Knowlton, PAW Director of Production, December 15, 1942. [Attached hereto as Exhibit 1-233]

[172] Shell Oil Company to Petroleum Coordinator for National Defense, April 23, 1942. Attached to J.S. Knowlson, PAW Director of Industry Operations, to Shell Oil Company, Inc. re: Watkins No. 23, Black Bayou Field, Cameron Parish, Louisiana, May 25, 1942. [Attached hereto as Exhibit 1-234]

approved Shell's request, after noting that it was "estimated that considerable additional production and reserves will be established by the proposed operations."[173]

76. In November 1942, PAW headquarters requested that the PAW-District 3 Production Division prepare a survey identifying "Critical Fields Essential to the War Program." As part of the survey, PAW identified the Black Bayou Field as a field that produced a crude "of high value to the war program."[174] Specifically, the PAW-District 3 Production Division observed that Black Bayou crude was "necessary for the production of…critical war products," namely components of 100- and 91-octane aviation gasoline and toluene concentrate.[175]

77. On June 10, 1943, Shell requested an exception to PAO-11 to deepen a well in the Black Bayou Field.[176] On June 17, 1943, PAW approved

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[173] Office of Production Management, M-68, Case #1350, re: Watkins No. 23 Well, Black Bayou Field, Cameron Parish, Louisiana, *ca*. May 1942. Attached to J.S. Knowlson, PAW Director of Industry Operations, to Shell Oil Company, Inc. re: Watkins No. 23, Black Bayou Field, Cameron Parish, Louisiana, May 25, 1942. [Attached hereto as Exhibit 1-234]

[174] PAW District 3, "Preliminary Survey Listing Critical Fields Essential to the War Effort," November 12, 1942, p. 3. [Attached hereto as Exhibit 1-235]

[175] PAW District 3, "Preliminary Survey Listing Critical Fields Essential to the War Effort," November 12, 1942, p. 3. [Attached hereto as Exhibit 1-235]

[176] Shell Oil Company to D.R. Knowlton, PAW Director of Production, June 10, 1943. Attached to Ralph K. Davies, Deputy Petroleum Administrator, to Shell Oil Company, Subject PAO

Shell's request.[177] In requesting an exception to PAO-11, Shell reported that Black Bayou crude "above 24 degrees [API] gravity, currently amounting to 1630 barrels daily, is barged to our Haymark terminal where it is mixed with Iowa high gravity crude and Roanoke and Jennings crudes, and then is barged to our Houston Refinery. After passing through various refinery processes it yields important quantities of:

> (1) Aviation base stock, isobutane, and isopentane, which are used in the making of 100 octane aviation gasoline.
>
> (2) Alkylates for 100 octane aviation gasoline and butadiene for synthetic rubber.
>
> (3) Toluene for explosives."[178]

78. On June 11, 1943, Shell requested an exception to PAO-11 to deepen and recomplete another well in the Black Bayou Field.[179] In its application, Shell included the same information

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No. 11 Case No. 4324, June 17, 1943 [Attached hereto as Exhibit 1-236]

[177] Ralph K. Davies, Deputy Petroleum Administrator, to Shell Oil Company, Subject PAO No. 11 Case No. 4324, June 17, 1943 [Attached hereto as Exhibit 1-236]

[178] Shell Oil Company to D.R. Knowlton, PAW Director of Production, June 10, 1943. Attached to Ralph K. Davies, Deputy Petroleum Administrator, to Shell Oil Company, Subject PAO No. 11 Case No. 4324, June 17, 1943. [Attached hereto as Exhibit 1-236]

[179] Shell Oil Company to Don R. Knowlton, PAW Director of Production, June 11, 1943. Attached to Ralph K. Davies, Deputy Petroleum Administrator, to Shell Oil Company, Subject PAO No. 11 Case No. 4353, June 23, 1943. [Attached hereto as Exhibit 1-237]

about the "portion of crude above 24 degrees gravity" being "barged to our Haymark terminal where it is mixed with Iowa high gravity crude and Roanoke and Jennings crudes, and then is barged to our Houston Refinery."[180] On June 23, 1943, the Deputy Petroleum Administrator notified Shell that its application had been approved.[181]

79. On February 29, 1944, Shell requested an exception to PAO-11 to drill seven wells in the Black Bayou Field.[182] In its application, Shell reported that Black Bayou crude with an API gravity above 36 degrees was being barged to Shell's Houston refinery and that Black Bayou heavy crude (approximately 26 degree gravity) was being barged to Shell's Norco refinery, "where it form[ed] a part of the common stream input to the refinery."[183] On March 8, 1944, PAW approved Shell's request.[184]

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[180] Shell Oil Company to Don R. Knowlton, PAW Director of Production, June 11, 1943. Attached to Ralph K. Davies, Deputy Petroleum Administrator, to Shell Oil Company, Subject PAO No. 11 Case No. 4353, June 23, 1943. [Attached hereto as Exhibit 1-237]

[181] Ralph K. Davies, Deputy Petroleum Administrator, to Shell Oil Company, Subject PAO No. 11 Case No. 4353, June 23, 1943. [Attached hereto as Exhibit 1-237]

[182] Shell Oil Company to PAW-District 3 Director of Production, February 29, 1944. [Attached hereto as Exhibit 1-238]

[183] Shell Oil Company to PAW-District 3 Director of Production, February 29, 1944. [Attached hereto as Exhibit 1-238]

[184] Adrian Moore, PAW-District 3 Director of Production to Shell Oil Company, Subject: PAO-11 Case No. 3-P-509, March 8, 1944. [Attached hereto as Exhibit 1-239]

Shell's Black Bayou Crude Used at Shell Refineries Producing 100-Octane Avgas Pursuant to a Federal Government Contract

80. During the war, Shell's Black Bayou crude was transported to, among other places, Shell refineries in Houston and Norco, each of which manufactured 100-octane avgas or components, as well as other petroleum products, pursuant to contracts with the federal government.[185]

81. In November 1942, Shell reported that the company had received "special permits" pursuant to ODT General Order 19 for the westward movement of crude from the Black Bayou Field to the Shell-Houston refinery.[186]

82. In February 1943, the PAW-District 3 Refining Committee recommended that the Shell-Houston and Shell-Norco refineries run a combined 1,715 barrels per day of Black Bayou Heavy crude in March 1943.[187]

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[185] Louisiana Department of Conservation, "Monthly Transporters and Storers Report – Shell Oil Company, Incorporated," 1942-1945, *passim*. [Attached hereto as Exhibit 1-240]

[186] Statement of Shell Oil Company, November 4, 1942. Exhibit A to Minutes of Meeting of Coastwise and Inland Waterways Subcommittee of the Transportation Committee District III, November 4, 1942. p. 25 of 38 in .pdf. [Attached hereto as Exhibit 1-241]

[187] Table IV in Report of the Operations Subcommittee of the Refining Committee, District III on Minimum Crude Runs for Maximum War Products for March of Gulf Coast War Plants," February 23, 1943, p. 10 of 12 in .pdf. [Attached hereto as Exhibit 1-242]

83. During WWII, the PAW-District 3 Refining Committee periodically prepared forecasts of the sources of crude oil used by district refineries. These forecasts included crude oils produced by coastal Louisiana fields that were transported to refineries that manufactured war products, including 100-octane avgas and its components, pursuant to government contracts. In March 1943, PAW forecast that 10,190 barrels/calendar day of Black Bayou crude, commingled with crude from the Iowa and Roanoke fields in coastal Louisiana, would be run at Shell's Houston and Norco refineries from July-September 1943. For the fourth quarter of 1943, PAW forecast that 10,290 barrels/calendar day of this same crude would be run at Shell's Houston and Norco refineries.[188]

84. For the first quarter of 1944 through the fourth quarter of 1944, PAW forecast that 1,535 barrels/calendar day of "Black Bayou Heavy" crude would be run at Shell's Norco facility. For that same period, PAW forecast that 2,470 barrels/calendar day of "Iowa-Black Bayou" crude would be run at Norco.[189]

85. During WWII, Shell's Houston and Norco refineries manufactured critical war products, including 100-octane avgas and its components, under contract with the federal government. Specifically, the Shell-Houston refinery manufactured 100- and 91-octane avgas and had more than 100 government

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[188] PAW District 3 Refining Committee, "Forecast of Operations: Third and Fourth Quarters 1943, First and Second Quarters 1944," March 19, 1943. [Attached hereto as Exhibit 1-243]

[189] PAW District 3 Refining Committee, "Forecast of Operations: 1944," December 28, 1943. [Attached hereto as Exhibit 1-244]

contracts for various petroleum products, including 100- and 91-octane avgas, 80-octane gasoline, and toluene.[190] For its part, the Shell-Norco refinery had at least twenty wartime contracts with the federal government for various petroleum products such as alkylate (which was shipped to Shell's Houston refinery for blending into 100-octane avgas), fuel oil, and gasoline.[191]

86. On October 15, 1942, DSC contracted with Shell for its Houston and Norco refineries to produce 100-octane avgas on behalf of the federal government. Per the contract, Shell had to produce 100-octane avgas "in accordance with the specifications" attached to the contract.[192] Shell's avgas contract with the DSC noted that "production at the Norco, Louisiana refinery comprises aviation alkylate and cumene only, which are normally transported to the Houston, Texas refinery and are blended there with other aviation

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[190] PAW, "Aviation Gasoline Report to the War Production Board," September 29, 1945, Tables I and IV. [Attached hereto as Exhibit 1-140]

"Shell Oil Co., Inc. – Houston, Tex.," in Civilian Production Administration, *Alphabetic Listing of Major War Supply Contracts, July 1940 through September 1945, Volume K-Rex,* pp. 2809-2811. [Attached hereto as Exhibit 1-245]

[191] "Shell Oil Co., Inc. – Norco, LA," in Civilian Production Administration, *Alphabetic Listing of Major War Supply Contracts, July 1940 through September 1945, Volume K-Rex,* pp. 2812-2813. [Attached hereto as Exhibit 1-245]

[192] *Contract between Defense Supplies Corporation and Shell Oil Company, Incorporated (Houston and Norco Refineries)*, October 15, 1942. [Attached hereto as Exhibit 1-147]

gasoline components produced at Houston…."[193] In other words, crude oil processed at Shell's Norco refinery was used to manufacture essential avgas components that were shipped to Shell's Houston refinery for blending into 100-octane avgas pursuant to government contract.

87. As noted in its avgas contract, in October 1942 Shell's refineries in Houston and Norco could produce approximately 9,000 barrels per calendar day of 100-octane avgas.[194] Effective July 1, 1944, DSC and Shell amended their 100-octane avgas contract, with the amended contract noting that the Houston and Norco refineries could produce approximately 12,000 barrels per calendar day of avgas.[195]

88. During the war, Shell-Houston blended more than 15 million barrels of 100-octane avgas,[196] whereas Shell-Norco was "plunged almost completely into war production" with "perhaps its greatest

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[193] *Contract between Defense Supplies Corporation and Shell Oil Company, Incorporated (Houston and Norco Refineries),* October 15, 1942, p. 1. [Attached hereto as Exhibit 1-147]

[194] *Contract between Defense Supplies Corporation and Shell Oil Company, Incorporated (Houston and Norco Refineries)*, October 15, 1942. [Attached hereto as Exhibit 1-147]

[195] *Amending Contract #1 between Defense Supplies Corporation and Shell Oil Company, Incorporated (Houston and Norco Refineries)*, July 1, 1944. [Attached hereto as Exhibit 1-246]

[196] PAW, "Aviation Gasoline Report to the War Production Board," September 29, 1945, Table I. [Attached hereto as Exhibit 1-140]

contributions…in the field of 100-octane aviation gasoline components."[197]

Field-Specific Conclusion

89. In conclusion, consistent with my overall conclusion in Paragraph 73 above, during the WWII period, federal government agencies exerted substantial control over Shell's crude oil production in the Black Bayou Field and Shell's refining of Black Bayou crude at the company's Houston and Norco refineries where Black Bayou crude was used in the manufacture of 100-octane avgas, according to federal specifications, for purchase by the federal government.

…

Under penalties of perjury, I declare that the facts stated in the foregoing declaration are true.

Executed on December 23, 2022

[handwritten: signature]
A.J. Gravel

[197] "Souvenir Guide to Norco Refinery," p. 5. [Attached hereto as Exhibit 1-247]

Contract Between Defense Supplies Corporation and Shell Oil Company, Inc. re: 100 Octane Aviation Gasoline (Oct. 15, 1942), *Par. of Cameron v. Apache Corp. (of Del.)*, No.18-cv-00688 (W.D. La.), Dkt.113-15

DEFENSE SUPPLIES - SHELL CONTRACT

(Houston and Norco Refineries)

Revised October 9, 1942

CONTRACT made as of October 15, 1942, between SHELL OIL COMPANY, INCORPORATED, a Virginia corporation, having its principal place of business at 50 West 50th Street, New York, New York, hereinafter called Seller, and DEFENSE SUPPLIES CORPORATION, a corporation created by Reconstruction Finance Corporation, pursuant to Section 5(d) of the Reconstruction Finance Corporation Act as amended, having its principal place of business at Washington, D.C., hereinafter called Buyer.

In consideration of the mutual agreements herein contained the parties agree as follows:

I. Expansion of Seller's Refining Facilities.

Seller has existing facilities at its Houston, Texas and Norco, Louisiana refineries for producing an aggregate of approximately nine thousand (9000) barrels per calendar day of the types of 100 octane aviation gasoline specified as Items 2 and 3 of Exhibit A attached hereto and made a part hereof, having expanded said facilities at its own expense to increase production from two thousand nine hundred (2900) barrels per calendar day of the type of 100 octane aviation gasoline specified as Item 1 of Exhibit A

hereof. The production at the Norco, Louisiana refinery comprises aviation alkylate and cumene only, which are normally transported to the Houston, Texas refinery and are blended there with other aviation gasoline components produced at Houston to make said aggregate production of nine thousand (9000) barrels per calendar day.

II. Sale and Storage of Products.

(a) Beginning January 1, 1943, Seller shall sell and deliver and Buyer shall buy and receive 100-Octane aviation gasoline which shall be in accordance with the alternate specifications set forth in Exhibit A attached hereto and made a part hereof or any other specification which by mutual agreement shall be attached as an addendum to Exhibit A.

(b) The quantity of said gasoline shall be such quantity as, together with all other sales by Seller to the United States Government of said gasoline produced at Seller's Houston and Norco Refineries, shall equal Seller's pro rata share of the entire requirements of the United States Government, as hereinafter defined. Wherever in this contract provision is made for the sale and delivery to Buyer of a stated quantity of gasoline, such quantity is an aggregate quantity of the various grades of gasoline specified in Exhibit A collectively considered. Buyer may apportion such aggregate quantity among the various grades of gasoline. It is contemplated, however, that Buyer shall not require production and delivery by Seller of more than one grade of gasoline specified in Exhibit A at any one time unless Buyer can do so with his available facilities. The damages, if any, for a breach of the foregoing provisions of

paragraphs (a) and (b) of this Section II shall be in accordance with Section VIII hereof.

(c) Buyer on giving reasonable notice to Seller may require the delivery hereunder of aviation gasoline of specifications other than those originally set forth in Exhibit A which are capable of being produced with the same refinery facilities and the same raw materials as are used in producing 100-Octane aviation gasoline in accordance with the specifications originally set forth in Exhibit A. The prices and specifications of such products shall be determined by negotiation between the parties, and Seller shall not be required to deliver such products unless and until an agreement has been reached. Such agreement shall be reduced to writing as an addendum to Exhibit A and shall constitute a part thereof.

(d) The term "United States Government", whenever used in this contract, shall include the War Department, any other department, agency or instrumentality of the United States Government, and any corporation wholly owned by the United States.

(e) The term "Seller's pro-rate share of the entire requirements of the United States Government" shall mean that quantity which bears the same ratio to the entire requirements of the United States Government of 100-Octane aviation gasoline as the total refining capacity for 100-Octane aviation gasoline at Seller's Houston and Norco Refineries, less the quantity of Seller's sales of 100-Octane aviation gasoline from said refineries to customers other than the United States Government, bears to the total refining capacity for 100-Octane aviation gasoline of all

refiners in the United States and Lago Oil & Transport Company, Ltd., in Aruba, Netherlands West Indies, less the quantity of said refiners' sales to customers other than the United States Government. Buyer shall use its best efforts to furnish the data necessary for the calculation of such pro-rata share.

(f) The term "barrel" as used in this contract means a barrel of forty-two (42) gallons and a gallon is a United States gallon of two hundred and thirty-one (231) cubic inches.

(g) Seller shall maintain storage facilities at, or in the vicinity of, its Houston and Norco Refineries to accommodate at least sixty (60) days' production, at nine thousand (9000) barrels per day, of 100-Octane aviation gasoline or components thereof ready for blending.

(h) Whenever Seller's above-specified storage facilities for said aviation gasoline shall be filled, Seller shall not be obligated to produce any more of said gasoline for delivery to Buyer hereunder until Buyer shall have substantially reduced by purchase and removal the amount of gasoline in storage. If such full storage condition exists, Seller shall have the right to diminish the quantities otherwise to be delivered to Buyer by an amount equal to the amount of 100-Octane aviation gasoline which was produced during such full storage condition or which would have been produced except for such full storage condition; but Buyer shall not thereby be relieved of its obligation to take delivery of the quantity specified in paragraph (b) of this Section II. If, however, Seller shall produce during any such period of full storage any additional 100-Octane aviation gasoline of the kind covered by

this contract, then such additional aviation gasoline shall be treated as covered by Section III hereof.

(i) In accumulating said storage, Seller may store gasoline of the specifications last ordered by Buyer unless Buyer otherwise directs by written notice; and Buyer in ordering deliveries shall first order against the gasoline in storage; provided however, that on Buyer's request and if Seller can do so without extra cost, or if Seller can do so at extra cost and Buyer shall agree to assume such extra cost, Seller shall change the gasoline in storage to meet other specifications covered in Exhibit A hereof.

(j) Seller shall sell and deliver and Buyer shall buy and receive at the end of the original term of this contract or any extension thereof the 100-Octane aviation gasoline stored at that time in the facilities referred to in Section II (g) hereof to the extent of either (a) the difference between the quantity of aviation gasoline 11/which Buyer is required to buy and receive and Seller to sell and deliver in accordance with Section II (b) hereof during the period of the contract, end tile quantity actually purchased by Buyer and delivered by Seller during said period, or (b) five hundred and forty thousand (540,000) barrels, whichever is the lesser.

III. Optional Gasoline

Buyer shall have the option from time to time and at any time to purchase all or any part of the aviation gasoline which Seller may produce at its Houston and Norco Refineries between January 1, 1943 and the expiration of the original term of this contract, to the extent that such gasoline is in excess of the sum of (a) the quantity to be purchased by Buyer under the

provisions of paragraphs (a) and (b) of Section II hereof and (b) the quantities which Seller has, prior to receipt of notification of exercise of such option, contracted to sell to parties other than Buyer. Upon the exercise of such option Seller shall operate the facilities at full capacity or at a capacity sufficient at least to satisfy Buyer's requirements indicated in such notification.

IV. Price and Payment.

(a) The base price of 100-Octane aviation gasoline specified as Items 2 and 3 of Exhibit A hereof, shall be thirteen and one-half cents ($0.135) per gallon, f.o.b. Seller's refinery at Houston, Texas, and Seller shall be required to deliver such aviation gasoline only from its Houston, Texas refinery.

(b) Seller represents that there has not been included in its computation of the above base price any allowance for depreciation, amortization and obsolescence in excess of ten percent (10%) per annum of the portion of that original cost of its refining facilities used in the manufacture. Nothing in the preceding sentence shall preclude Seller from using a different rate or rates for tax and accounting purposes.

(c) Seller further represents that there has not been included in its computation of the above base price any allowance for patent royalties for any process employed by it in the manufacture of said 100-Octane aviation gasoline.

(d) Buyer shall pay promptly, but not later than the twentieth (20th) day of each calendar month, all money due for gasoline delivered to it by Seller during the preceding calendar month. On or before the tenth (10th) day of each month in which such payments are

to be made, Seller shall render to Buyer a statement setting forth the quantity of aviation gasoline delivered during the preceding month, the price per gallon, and the total amount to be paid therefor. Copies of the certificate of inspection referred to in Section IX hereof shall accompany the aforesaid monthly statements.

(e) Seller represents that there has been included in its computation of the above prices an allowance for the cost of transporting alkylate and cumene from Norco to Houston. Accordingly, for all alkylate and/or cumene which shall be delivered to Buyer at Norco, Louisiana, there shall be subtracted from Seller's charges for 100-Octane aviation gasoline delivered in each calendar month an amount equal to the cost to Seller of transporting from Norco to Houston an equivalent quantity of the alkylate and/or cumene. The charge for such transportation shall be the prevailing contract carrier rate, if any be published and then in existence, and in the absence of such rate Seller's own costs for such transportation shall be used.

V. Price Escalation

The price of 100-Octane aviation gasoline purchased hereunder shall be subject to adjustment as follows:

(a) The said price is based 011 a price of One Dollar and Twenty-five Cents ($1.25) per barrel for thirty-eight to thirty-eight and nine-tenths degree (38-38.90) A.P.I. East Texas crude deliverable to Seller or Seller's affiliated companies in the East Texas Field. The said price shall be increased or decreased by a percentage equal to one-half the percentage increase

or decrease in the average price paid for such crude over or under One Dollar and Twenty-five Cents ($1.25) per barrel by the three (3) largest purchasers of such crude in the East Texas Field. The prices posted for such crude in the East Texas Field shall constitute prima facie evidence of the prices paid by such purchasers.

(b) The said price shall also be increased or decreased by a percentage equal to one-half the percentage increase or decrease in the final monthly wholesale price Index Number for "All Commodities other than Farm Products and Foods," as now published by the Bureau of Labor Statistics, United States Department. of Labor, over or under the index figure of ninety-five and six-tenths (95.6). The effective date of a change in price due to a change in the index number shall be the date of publication by the Bureau of Labor Statistics of the latest final monthly index number. If said index shall cease to be issued, the parties shall use such other index as may most closely approximate the discontinued one, and if they shall be unable to agree within ten (10) days after notice of such discontinuance as to the index to be substituted, the determination of the new index shall be made by arbitration under Section XI hereof.

(c) The price hereinabove set forth is based upon present normal methods of transporting petroleum raw materials to Seller's refineries at Houston, Texas and Norco, Louisiana, and upon a normal operation of these refineries in which substantial quantities of motor fuel and other products must necessarily be produced and sold in connection with the production of 100-Octane aviation gasoline. If it becomes

necessary to transport petroleum raw materials to said refineries by other than present normal methods thereby incurring additional costs of transportation, or if through an abnormal reduction of available markets for motor fuel md petroleum products other than 100-Octane aviation gasoline, or if by reason of any cause or condition (whether or not of the same class or kind) resulting directly or indirectly from the existence of a state of war, the normal functioning of any refinery at which any portion of the 100-Octane aviation gasoline supplied hereunder is manufactured shall be interfered with to such an extent that in the opinion of Seller the cost of refining 100-Octane aviation gasoline is increased in respects other than those corrected by adjustment of the base price under the above paragraphs (a) and (b), Seller may give notice to Buyer that the delivery of l00-Octane aviation gasoline will be reduced in an amount sufficient in the judgement of Seller to offset the added cost of refining unless Buyer shall agree with Seller to increase the price paid for l00-Octane aviation gasoline by an amount sufficient to offset such increased cost. If within ten (10) days after the date of mailing such notice Buyer advises Seller that it does not elect to take such reduced output and Buyer and Seller are unable to agree upon the amount of such increase in price within ten (10) days thereafter, Buyer may give notice to Seller that it desires to have the amount of such increase fixed by arbitration in accordance with Section XI hereof. The arbitrators to be chosen in this instance shall be persons who have had at least ten (10) years' experience in the petroleum business and who are not connected with either of the parties hereto. The arbitrators shall be directed to

make their findings as to the amount and effective date of such price increase, if any, within fifteen (15) days after the appointment of the last-appointed arbitrator and if no decision is reached by the arbitrators within such period, the production of 100-Octane aviation gasoline by the refinery affected may be reduced as above provided.

(d) If at the request of Buyer or other agency of the United States Government, Seller acquires from other refiners some of the components of l00-Octane aviation gasoline and moves the same to its refineries for blending with other stocks for the production of l00-Octane aviation gasoline, it shall be entitled to compensation for any increase in costs thereby incurred by increasing the price of the 100-Octane aviation gasoline so produced by an amount which will equal the difference between the purchase price of such components and. the cost of manufacturing the same or similar components at its own refineries, plus transportation and other costs of any kind or character involved in the delivery of the components to the refinery where the blending occurs. If Seller and Buyer are unable to agree upon the amount of such additional compensation, the question shall be submitted to arbitration in the manner provided in Section XI hereof.

(e) The base price for aviation gasoline set forth in Section IV hereof is based in part upon the ceiling price for benzol applicable to Seller as established by the Office of the Price Administrator and it is agreed that in the event such ceiling price be changed during the term of this contract said base price shall be subject to renegotiation.

(f) In making adjustments under this Section V, the price to be adjusted shall be that price in effect immediately prior to the adjustment and such adjustment shall be made regardless of what Seller's crude inventory may be at the time of such adjustment.

VI. Duration of Contract.

The original term of this contract shall expire at midnight on June 30, 1945. Buyer shall have the option to extend this contract for two (2) successive yearly periods beyond the original term by giving notice in writing to Seller of the exercise of such option at least ninety (90) days prior to the end of the original term for the first yearly extension and at least ninety (90) days prior to the end of the first yearly extension for the second yearly extension. Upon such extension the obligations to purchase and receive shall be in accordance with Section II (b) hereof and the prices to be paid shall be fixed by agreement of the parties hereto during the ninety (90) day period prior to each such extension. All of the other provisions of this contract except those not then applicable shall be in full force and effect.

VII.(Section omitted.)

VIII. Damages.

(a) In the event that Seller shall fail to sell and deliver or Buyer shall fail to take and pay for 100-Octane aviation gasoline in accordance with Sections II (a) and II (b) hereof, the amount of damages, if any, to which Buyer or Seller as the case may be, shall be entitled for such failure shall be determined by agreement or, failing agreement, by arbitration in

accordance with Section XI hereof; provided, however, that Seller shall not be entitled to damages for failure by Buyer to take and pay for 100-Octane aviation gasoline unless the storage facilities referred to in Section II (g) hereof are full of 100-Octane aviation gasoline, leaded or unleaded; provided further that Seller shall be entitled to damages for failure by Buyer to take and pay for 100-Octane aviation gasoline only to the extent that the amount taken and paid for is less than (1) the amount called for in Section II (b) hereof or (2) Seller's average productive capacity per calendar day for 100-Octane aviation gasoline (of current specifications) over the period for which damages are to be computed, whichever quantity is the lesser; and provided further that Buyer's right to damages under this Section VIII shall be subject to Seller's rights under Sections II (h) and V (c) hereof.

(b) Damages under this contract shall be limited to those arising proximately from a breach of contract.

IX. Deliveries and Inspections.

(a) Seller warrants full and unencumbered title to all gasoline delivered under the contract.

(b) Buyer shall take delivery of said gasoline in tankers, barges, tank cars, and tank trucks, (tank truck deliveries to be not in excess of available tank truck loading facilities for 100-Octane aviation gasoline) to be supplied by Buyer (except as otherwise provided in paragraph (1) of this Section IX) at its own cost and expense.

(c) Each tanker or barge delivery shall be made and title and risk of loss shall pass at the intake pipe of the tanker or barge. Buyer shall give notice to Seller as far in advance as practicable, and in no case less

than forty-eight (48) hours, of the arrival of each tanker or barge and of the quantity of and specifications of the gasoline to be loaded. Seller shall furnish without cost to Buyer berth at which each tanker or barge may safely lie afloat together with all connections and facilities for loading, and shall load the product on board. Deliveries shall be made in accordance with the delivery conditions at Seller's loading point which currently are in effect with respect to deliveries made at such point to other customers.

(d) Each tank car delivery shall be made and title and risk of loss shall pass at the time the loaded tank car is turned over to the railroad.

(e) Each tank truck delivery shall be made and title and risk of loss shall pass at the time the loading of the truck is completed.

(f) On shipments made from refineries and any other points where licensed inspectors are regularly available, Seller shall furnish certificates of inspection by a licensed inspector satisfactory to Buyer which shall set forth the quantity and quality of each shipment of gasoline. The inspection procedure and the form of the certificate shall conform to usual industry practice. The certificates of inspection shall be issued in quadruplicate, one set of which shall accompany the relative shipment, a second set of which shall be forwarded forthwith to Buyer, a third set of which shall be submitted to Buyer with the monthly statement required by Section IV hereof, and a fourth set of which shall forthwith be delivered to Seller. Buyer may, at its option, waive the requirement of inspection by a licensed inspector, and

in such event, and in case of shipments made from points (other than refineries) where no licensed inspector is available, Seller shall furnish its own certificates of inspection, which certificates shall be controlling.

(g) Inspection as to quantity of delivery into tanker or barges shall be made by taking the temperature and measuring and gauging the product in shore tanks from which delivery is made immediately before and immediately after loading. Inspection as to quantity of delivery into tank cars and tank trucks shall be made in accordance with the accepted practices of the trade. Adjustment in volume to a sixty degree Fahrenheit (60°F) basis shall be made in accordance with the correction tables of the United States Bureau of Standards prevailing at the time of delivery, except in case of deliveries into tank trucks in which case no adjustment shall be made.

(h) Inspection as to quality shall be made according to the latest standard or tentative standard methods of the American Society for Testing Materials wherever applicable and the product shall conform as to quality with the specifications set forth in Exhibit A hereof.

(i) The cost of product inspection shall be paid by Seller and billed separately to Buyer, which shall pay such cost, except when Seller's inspection is accepted in which case Seller shall assume the cost of its own inspection.

(j) The certificates of inspection of quantity and quality shall be accepted by Buyer and Seller as conclusive for invoice, payment, and all other purposes of this contract.

(k) Should any such certificate indicate a failure of the product shipped to conform completely to the specifications of quality, Buyer may accept delivery of the product and claim an adjustment for such deficiency, provided, that in the event that such a claim is made Seller shall be notified and given an opportunity to inspect said shipment within five (5) days after arrival at destination but in any event before unloading.

(*l*) Notwithstanding the preceding provisions of this Section IX and at the request of Buyer, Seller shall utilize its existing and available facilities for handling, metering and delivering the gasoline purchased by Buyer to points (other than Seller's refinery at which the gasoline was manufactured) designated by Buyer within the marketing area in the continental United States within which Seller customarily delivers aviation gasoline from its Houston Refinery, such service to be at the expense of Buyer and at Buyer's risk. In the event of loss during the performance of such service, Seller shall make available to Buyer all information and records necessary to prove the extent and value of such loss.

(m) As recited above, a portion of the cumene and the alkylate for the 100-Octane aviation gasoline to be delivered hereunder will come from Seller's refinery at Norco and will normally be transported to Houston by barge. In lieu of taking 100-Octane aviation gasoline in its finished form at Houston, Buyer may from time to time on reasonable notice to Seller elect to take by tank car, tank truck, or barge (to be supplied by Buyer), f.o.b. Seller's refinery at Norco, such quantity of alkylate and/or cumene as Seller shall have

available at Norco for use in making the 100-Octane aviation gasoline. With such exercise of this option, Buyer shall take at Houston, substantially concurrently with the deliveries of alkylate and/or cumene from Norco, the complementary materials and ingredients which, if blended by Buyer with those taken at Norco will constitute the 100-Octane aviation gasoline, excepting, however, lead, unless Buyer elects to take leaded materials and ingredients at Houston. Materials and ingredients so taken separately shall, to the extent of their aggregate volume, be considered as part of the total quantity to be delivered hereunder and shall be subject to all applicable provisions of this contract, including those relating to price (it being agreed that for price purposes such materials and ingredients shall be considered as the finished product) except that (1) the price for each Norco delivery shall be that which would apply to the finished product for a delivery at the same time at Houston less transportation costs from Norco to Houston as provided in Section IV (e) hereof, and (2) the prices for each Houston delivery shall be reduced by the actual cost for lead if Buyer in exercising its option shall elect to take unleaded materials and ingredients from Houston.

X. Force Majeure.

Seller shall not be liable for delays or defaults in performance under this contract due to causes beyond its control and without its fault or negligence, including, but not restricted to, acts of God or of the public enemy, acts or requests of the Government or of any governmental officer or agent purporting to act under authority, floods, fires, epidemics, quarantine

restrictions, strikes, freight embargoes and failures, exhaustion or unavailability, or delays in delivery of any product, service or material necessary in the manufacture and delivery of aviation gasoline deliverable hereunder, including crude oil, gas oil, sulphuric acid, alumina, silica, lead tetraethyl and other supplies, raw materials and ingredients.

XI. Arbitration

In case of any disagreement between Buyer and Seller as to any right, obligation, term, or provision of this contract, including any disagreement as to the price to be paid for gasoline to be delivered hereunder, the parties shall make an earnest effort to settle such disagreement to their mutual satisfaction. If such effort be unsuccessful, then either party may cause such disagreement to be submitted for determination by arbitrators (none of whom shall be connected with either party hereto) by giving to the other party a notice in writing or by telegraph to that effect and giving the name of the arbitrator chosen by the party giving the notice. Within five (5) days of receipt of such notice of arbitration, the other party shall, in writing or by telegraph, name the arbitrator chosen by such party, and within five (5) days after the appointment of the second arbitrator, an additional arbitrator shall be selected by the two (2) arbitrators theretofore appointed, provided, however, if one of the parties shall have failed to appoint an arbitrator as hereinbefore provided, the sole arbitrator shall arbitrate the disagreement alone. If two (2) arbitrators shall have been appointed as aforesaid and shall have failed to select an additional arbitrator within the above stated time, the additional arbitrator shall be

appointed by the Senior Judge of the United States Circuit Court of Appeals for the Fifth Circuit acting in his individual capacity, upon application therefor by either of the parties. The decision of a majority of the arbitrators so appointed, or if either party shall have failed to appoint its arbitrator as aforesaid, the decision of the sole arbitrator shall be final and binding on the parties for all purposes. Each party shall pay the cost and expense of the arbitrator appointed by such party, and the other costs and expenses of the arbitration, including the cost and expense of the additional arbitrator, shall be paid by the party to the arbitration whose claim is not sustained or if partially sustained the costs shall be apportioned. Pending such determination of every disagreement as to the price to be paid for gasoline delivered hereunder, Buyer shall, upon contesting any price claimed by Seller to be due, pay the price which Buyer alleges to be due and shall immediately upon such determination pay any balance found by mutual agreement or by said arbitrators to be due.

XII. Taxes.

(a) Buyer shall pay in addition to the prices as established in Sections IV and V hereof, any new or additional taxes, fees, or charges, other than income, excess profits, or corporate franchise taxes, which Seller may be required by any municipal, state, or federal law in the United States or any foreign country to collect or pay by reason of the production, manufacture, sale or delivery of the commodities delivered hereunder. Buyer shall also pay any such taxes on crude petroleum, or the transportation thereof, to the extent such taxes result in increased

cost of the commodities delivered hereunder not compensated for by Section V hereof.

(b) Buyer shall also pay in addition to the prices as established in Sections IV and V hereof, any now existing taxes, fees, or charges measured by the volume or sales price of the aviation gasoline delivered hereunder, imposed upon Seller by reason of the production, manufacture, storage, sale or delivery of such gasoline, unless Buyer or Seller is entitled to exemption from a given tax, fee or charge by virtue of Buyer's governmental status; it being understood that Buyer now believes that both Buyer and Seller are entitled to such exemption. Seller represents that the taxes, fees and charges referred to in this paragraph have not been included in its computation of costs on which the prices set forth in Section IV hereof are based.

(c) If in any case the parties cannot agree on the question as to whether or not Buyer or Seller is entitled to exemption from a given tax by virtue of Buyer's governmental status, the burden shall be upon Buyer to obtain a ruling in writing from a duly constituted and authorized governmental tax authority as to such exemption. Until such ruling is obtained Buyer shall pay the amount of the tax to Seller or to the appropriate tax collecting agency or make satisfactory arrangements with such tax collecting agency.

XIII. Notices.

Any notice to be given hereunder shall be in writing and may be personally delivered or sent by cable, telegram or mail to the party for whom intended at the address of such party as specified above. A

notice personally delivered to either party must be personally delivered to an officer or manager thereof. Notice by registered mail shall be deemed to have been given at the expiration of that time after mailing which is normally required by the postal authorities to make delivery. Cabled or telegraphed notice shall be deemed given the day after sending the cable or telegram. Each party shall immediately send to the other by regular mail confirming copies of any notices sent by cable, telegraph or air mail. Either party may by notice given as aforesaid change its address for notices thereafter.

XIV. Entirety of Contract.

This instrument contains the entire agreement between the parties in respect of the subject matter and there are no oral conditions, warranties, representations or stipulations relating thereto which are not merged herein. The right of either party to require strict performance shall not be affected by any previous waiver or course of dealing unless such waiver be in writing signed by an officer or other duly authorized person and specify a duration sufficient in time to embrace the matter in question.

XV. Assignability.

This contract shall be binding upon, and shall inure to the benefit of, the successors and assigns of the respective parties hereto, provided, however, neither party shall have the right to assign this contract without the written consent of the other party, except that Buyer may assign to any other Governmental agency, department, instrumentality or wholly Government-owned corporation in which event Buyer shall remain liable.

XVI. Statutory Compliance.

(a) In carrying out this contract Seller agrees to comply with, and give all stipulations and representations required by applicable Federal laws and further agrees to require such compliances, representations, and stipulations with respect to any contract entered into by it with others incidental to or in connection with this contract as may be required by applicable Federal laws; and notwithstanding the generality of the foregoing, Seller further agrees that in the performance of this contract it will not discriminate against any worker because of race, creed, color or national origin.

(b) Seller is a corporation and this contract is made with it for its general benefit and no Member of, or Delegate to Congress, or Resident Commissioner shall be admitted to any share or part of this contract or to any benefit that may arise therefrom in violation of the law of the United States covering such matters.

IN WITNESS WHEREOF the parties hereto have executed this contract as of the date and year first above written.

DEFENSE SUPPLIES CORPORATION

By (Sgd) H. A. Mulligan
President

ATTEST:

(Sgd) Dudley H. Diggs
Secretary

(Seal)

SHELL OIL COMPANY, INCORPORATED

By (Sgd) Alexander Fraser
President

ATTEST:

(Sgd) C. S. Gentry
Secretary

(Seal)

EXHIBIT A

Item 1

U. S. ARMY – NAVY SUPPLY

AN-VV-F-781 – September 26, 1940

Amendment No. 3 – June 6, 1941

Knock Test Method – AN-VV-F-746

100 Octane Number by Method AN-VV-F-746

Tetraethyl Lead Limit 3.0 cc./Gal.

Item 2

U. S. ARMY – NAVY SUPPLY

Same as above with Amendment No. 4 November 24, 1941

100-Octane Number by Method AN-VV-F-746

Tetraethyl Lead Limit 4.0 cc./Gal.

Item 3

U. S. ARMY – NAVY SUPPLY

Same as above with Amendment No. 5 May 13, 1942

(S + l cc. T.E.L.)

Tetraethyl Lead Limit 4.0 cc./Gal.

GUARANTEE BY RECONSTRUCTION FINANCE CORPORATION

In consideration of the execution of the within contract and as an inducement to Shell Oil Company, Incorporated to enter into said contract, Reconstruction Finance Corporation does hereby guarantee the full and complete performance of all of the terms and conditions of said contract on the part of Defense Supplies Corporation (a subsidiary of Reconstruction Finance Corporation) to be performed at the time and in the manner therein provided.

IN WITNESS WHEREOF, Reconstruction Finance Corporation has caused this Guarantee to be executed by its officers thereunto duly authorized as of October 15, 1942.

RECONSTRUCTION FINANCE CORPORATION

By (Sgd) H. J. Klossner
Vice Chairman

ATTEST:

(Sgd) A. T. Hobson
Secretary

(Seal)

GUARANTEE BY SHELL UNION OIL CORPORATION

In consideration of the execution of the within contract and as an inducement to Defense Supplies Corporation to enter into said contract, Shell Union Oil Corporation, a Delaware corporation, does hereby guarantee the full and complete performance of all of the terms and conditions of said contract on the part of Shell Oil Company, Incorporated (a subsidiary of Shell Union Oil Corporation) to be performed at the time and in the manner therein provided.

IN WITNESS WHEREOF, Shell Union Oil Corporation has caused this Guarantee to be executed by its officers thereunto duly authorized as of October 15, 1942.

SHELL UNION OIL CORPORATION

By (Sgd) S. W. Duhig
Vice President

ATTEST:

(Sgd) F. W. Woods
Secretary

(Seal)

ADDENDUM #1

Shell Oil Company, Incorporated

New York, New York.

All material ordered hereunder is for Defense Supplies Corporation, a corporation created by Reconstruction Finance Corporation pursuant to Section 5d of the Reconstruction Finance Corporation Act as amended, and in accepting this contract Shell Oil Company, Incorporated, a Virginia corporation, (hereinafter designated as "Contractor") agrees:

I. (a) The Contractor is the manufacturer of or a regular dealer in the materials, supplies, articles, or equipment to be manufactured or used in the performance of the contract.

(b) All persons employed by the Contractor in the manufacture or furnishing of the materials, supplies, articles · or equipment used in the performance of the contract will be paid, without subsequent deduction or rebate on any account, not less than the minimum wages as determined by the Secretary of Labor to be the prevailing minimum wages for persons employed on similar work or in the particular or similar industries or groups of industries currently operating in the locality in which the materials, supplies, articles, or equipment are to be manufactured or furnished under the contract; PROVIDED, however, that this stipulation with respect to minimum wages shall apply only to purchases or contracts relating to such industries as have been the subject matter of a determination by the Secretary of Labor.

(c) No person employed by the Contractor in the manufacture of furnishing of the materials, supplies, articles, or equipment used in the performance of the contract shall be permitted to work in excess of eight (8) hours in any one day or in excess of forty (40) hours in any one week, unless such person is paid such applicable overtime rate as has been set by the Secretary of Labor.

(d) No male person under 16 years of age and no female person under 18 years of age and no convict labor will be employed by the Contractor in the manufacture or production or furnishing of any of the materials, supplies, articles, or equipment included in the contract.

(e) No part of the contract will be performed nor will any of the materials, supplies, articles, or equipment to be manufactured or furnished under said contract be manufactured or fabricated in any plants, factories, buildings, or surroundings or under working conditions which are unsanitary or hazardous or dangerous to the health and safety of employees engaged in the performance of the contract. Compliance with the safety, sanitary, and factory inspection laws of the State in which the work or part thereof is to be performed shall be prima-facie evidence of compliance with this subsection.

(f) Any breach or violation of any of the foregoing representations and stipulations shall render the party responsible therefor liable to the

United States of America for liquidated damages, in addition to damages for any other breach of the contract, in the sum of ten dollars ($10.00) per day for each male person under 16 years of age or each female person under 18 years of age, or each convict laborer knowingly employed in the performance of the contract, and a sum equal to the amount of any deductions, rebates, refunds or underpayment of wages due to any employee engaged in the performance of the contract; and, in addition, the agency of the United States entering into the contract shall have the right to cancel same and to make open-market purchases or enter into other contracts for the completion of the original contract, charging any additional cost to the original Contractor. Any sums of money due to the United States of America by reason of any violation of any of the representations and stipulations of the contract as set forth herein may be withheld from any amounts due on the contract or may be recovered in a suit brought in the name of the United States of America by the Attorney General thereof. All sums withheld or recovered as deductions, rebates, refunds, or underpayments of wages shall be held in a special deposit account and shall be paid, on order of the Secretary of Labor, directly to the employees who have been paid less than minimum rates of pay as set forth in such contracts and on whose account such sums were withheld or recovered; PROVIDED, That no claims by

employees for such payments shall be entertained unless made within one year from the date of actual notice to the Contractor of the withholding or recovery of such sums by the United States of America.

(g) The Contractor shall post a copy of the stipulations in a prominent and readily accessible place at the site of the contract work and shall keep such employment records as are required in the Regulations under the Act available for inspection by authorized representatives of the Secretary of Labor.

(h) The foregoing stipulation shall be deemed inoperative if this contract is for a definite amount not in excess of $10,000.00.

This Addendum #1 is hereby made a part of the contract between Defense Supplies Corporation and the undersigned dated as of October 15, 1942.

SHELL OIL COMPANY, INCORPORATED

By: (Sgd) Alexander Fraser
President

Declaration of Jay L. Brigham Ph.D, *Parish of Cameron v. Apache Corp. (of Del.)*, No. 18-cv-00688 (W.D. La. Jan. 13, 2023), Dkt.126-1

1. My name is Jay L. Brigham. I am over eighteen years of age. I live in Vienna, Virginia.

2. Since 1997, I have been employed as a historian at Morgan, Angel, Brigham & Associates, LLC. Morgan Angel Brigham is a historical and public policy research firm based in Washington D.C. Since 2014, I have served as the company's managing partner.

3. In 1992, I earned a doctoral degree from the University of California, Riverside in American history, with an emphasis on twentieth-century American history. I have since taught American history, including twentieth-century American history, at the University of California, Riverside; the University of Nevada, Las Vegas; and Arizona State University. I have also authored a book, *Empowering the West,* that examined the public power movement in the United States. I have also written articles, book chapters, book reviews, and participated in professional conferences.

4. I have been retained as an expert historian in more than sixty-five court cases, including many dealing with the Comprehensive Environmental Response, Compensation, and Liability Act. I have testified as an expert in various federal district courts (District of Kansas, District of New Jersey, Central District of California, District of South Carolina, Western District of Washington, Southern District of California, District of Arizona, Southern. District of

Texas, and the District of New Mexico) and the U.S. Court of Federal Claims.

5. I am compensated at the rate of $175.00 per hour.

6. I was hired by Talbot, Carmouche & Marcello.

7. In his declaration filed in this case, Mr. A.J. Gravel states: "it is my opinion that during the WWII period, agencies of the federal government, including the PAW and WPB, directed and controlled the entire petroleum industry, including the exploration, development, and production of crude oil, natural gas, and related products in coastal Louisiana that were produced to ensure adequate supplies of products for the federal government during WWII."[1] For the reasons discussed below I respectfully disagree with Mr. Gravel's characterization of the petroleum industry during World War II.

8. On May 28, 1941, the US president addressed the need for coordination of the petroleum industry in. the expanding wartime economy when he appointed Secretary of the Interior Harold Ickes Petroleum Coordinator for National Defense and in charge of the newly formed Office of Petroleum Coordinator (OPC).[2]

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[1] Declaration of Alfred M. ("A.J.") Gravel, The Parish of Cameron v. Ballard Exploration Company, Inc., et al., U.S. District Court, Western District of Louisiana (Lake Charles Division) Civil Action No. 2:18-CV-00678, paragraph 73 [Gravel Declaration December 2022].

[2] F. Roosevelt to The Honorable The [sic] Secretary of the Interior, 5/28/1941, reprinted in, J. Frey and H. Chandler Ide, *A History of the Petroleum Administration for War, 1941-1945* (Washington, .DC: U.S. Government Printing Office, 1946), 374-75 [Exhibit 1-1]. On April 20, 1942, Roosevelt changed the name

9. J. Howard Marshall II, who worked for the government early in the New Deal, wrote of the formation of the OPC in his autobiography. He and Ralph Davies, who had worked at Standard Oil of California, questioned future oil industry leadership roles during times of war. Marshall stated, "Here was the key: if the president would direct the secretary of the Interior to establish an office to coordinate all governmental activities in any way related to oil ... The magic word was 'coordinate,' as opposed to 'regulate' or 'order'-words with too definite a legal meaning and requiring specific statutory authority."[3]

10. Marshall was chief counsel for OPC and then the Petroleum Administration for War (PAW) from July 25, 1941, to October 20, 1943, and assistant deputy administrator from October 20, 1943, to September 1, 1944. Marshall wrote on the wartime business-government relationship: "Coordination, rather than blind competition, was needed to produce, refine, transport and distribute the enormous quantities needed for the war effort.[4]

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of the Petroleum Coordinator for National Defense to Petroleum Coordinator for War. On December 2, 1942, Executive Order 9276 established the Petroleum Administration for War, tvhich assumed the functions of the Petroleum Coordinator for War [Exhibit 1-2].

[3] J. Howard Marshall II, *Done in Oil, An Autobiography* (College Station: Texas A&M University Press, 1994), 114 [Exhibit 1-3].

[4] Marshall, *Done in Oil,* 114-15, 154-55 [Exhibit 1-3]. In August 1991, attorneys took Marshall's deposition in United States of America et al., vs. Shell Oil Company, et al., Case No. CV 91 0589 (Ex) U.S. District Court, C.D. CA.

11. In his autobiography Marshall stated that the purpose of OPC recommendations and PAW orders was to protect industry against anti-trust charges rather than to force them to act against their will.[5]

12. Marshall further discussed the creation of the previously unheard of legal document called a 'recommendation,'" when he wrote that a recommendation was based on the president's use of the word in the letter in which he established the OPC. To give recommendations the air of legality, the OPC published them in the *Federal Register*.[6] Marshall also recognized the legacy of the Madison case on the oil industry.

13. Marshall wrote: "Having gone through the Madison Oil Case ... I wanted to leave a clear paper trail demonstrating that, if a group of companies did the same thing at the same time, their actions did not necessarily arise out of a private conspiracy.[7]

14. In his declaration Mr. Gravel discusses that Shell applied to the PAW for an exception to Conservation Order M-68 twice and PAW Order PAO-

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[5] Marshall, *Done in Oil,* 121 and 126 [Exhibit 1-3].

[6] Marshall, *Done in Oil,* 121 [Exhibit 1-3].

[7] Marshall, *Done in Oil,* 121 [Exhibit 1-3]. The Madison case was an anti-trust case brought by the federal government against certain petroleum companies and industry publications in the mid-1930s, Williamson et al., *The American Petroleum Industry, The Age of Energy, 1899-1959,* 695-96 [Exhibit 1-4]; Spencer Waller, *Thurmond Amold, A Biography* (New York: New York University Press, 2005), 96-99 [Exhibit 1-5]; and the *Wausau Daily Herald,* 9/5/1936 [Exhibit 1-6].

11 three times. Each time the PAW granted Shell an exception.[8]

15. Lincoln Gordon was another influential figure from the era who worked for the War Production Board (WPB). In 1940, when President Roosevelt reestablished the National Defense Advisory Council (NDAC) Gordon started working for the NDAC, a predecessor to the WPB. By the end of the war, he was a vice chairman at the WPB.[9] In 1991, Gordon testified in federal court providing a first-hand account of the role of the government, specifically the WPB, during World War II. Gordon's testimony elaborated on the responsibilities of the WPB in the wartime economy. Gordon testified that the WPB used regulations to direct the use of raw materials, but never engaged in the ownership of raw materials.[10] The WPB was not a procurement agency nor did it design products or design and build plants.[11]

16. Gordon testified, "the philosophy of the War Production Board—and this is reflected not only in my own writings on the subject, but in this history, official history volume—the philosophy of the War Production

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[8] Gravel December 2022 Declaration paragraphs 75, 77-79.

[9] Testimony of Lincoln Gordon, 6/18/1991, United States of America, The State of New York and UDC-Love Canal v. Hooker Chemicals & Plastics, Corp., et al. (United States District Court, Western District of New York) (hereafter Gordon Testimony), 11222-25 [Exhibit 1-7]; and Harry S Truman Library, Lincoln Gordon Oral History Interview, 7/17/1975 and 7/22/1975, http://www.trumanlibrary.org/oralhist/gordonl.htm [Exhibit 1-8].

[10] Gordon Testimony, 11265 [Exhibit 1-7].

[11] Gordon Testimony, 11284-85 [Exhibit 1-7].

Board was hands off of operations, not hands on. The idea was that we would regulate what could be done in the flow of materials, the conservation of materials, but operations were for individual businesses to carry on, so I think hands on is a totally inappropriate term."[12]

17. In 1945, the board of directors of Standard Oil Company (New Jersey) hired Dr. Charles Sterling Popple, formerly of Harvard University's Department of Business History, to compile the story of the company's war-time efforts. The resulting book, *Standard Oil Company (New Jersey) in World War II*, was copyrighted by the company in 1952. Dr. Popple summed up Standard Oil of New Jersey's wartime interaction with the PAW and the government as follows: "Throughout the war period the petroleum industry, ***voluntarily and without governmental pressure***, successfully met all the demands made upon it" [emphasis added].[13]

18. Mr. Gravel discusses that Shell refineries in Houston and Norco used crude from the company's Black Bayou Field.[14]

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[12] Gordon Testimony, 11290-91 [Exhibit 1-7].

[13] C. S. Popple, *Standard Oil Company (New Jersey) In World War II* (New York: Standard Oil Company New Jersey, 1952), 280-81 [Exhibit 1-9].

[14] Gravel December 2022 Declaration, paragraphs 80, 82-83.

19. Mr. Gravel claims that the PAW "designated" several oil fields, including Black Bayou, as "Critical Fields Essential to the War Program."[15]

20. The context of the classified draft report, "Critical Fields Essential to the War Program" is that these fields were subject to enemy sabotage and their "designation" as such did not have any force of law to dictate production methods or quantities. In addition to suitability of crude as a war product, the list focused on risk factors such as centralized equipment, high pressure wells, or proximity to shipping lanes, all of which would be a target for enemy sabotage.[16]

21. Regarding crude oil production, the official PAW history stated: "The oil industry produced the oil that produced results. No Government agency had to compel them to do the job. In production, as in every other oil function, the job was done largely by cooperation among the team members—the Petroleum Administration for War, the Petroleum Industry War Council, the district committees, and, perhaps more important than them all, the individual producer who went into the field and put together the brains and brawn and money and machinery that got the oil out of the ground."[17] ***Stated differently, and in line with Shell's request for exceptions to Conservation Order M-68 and PAW Order PAO-***

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[15] Gravel December 2022 Declaration, paragraph 76. Draft Report, Preliminary Survey Listing Critical Fields Essential to the War Program, 11/12/1942, [Gravel Exhibit 1-70].

[16] Draft Report, Preliminary Survey Listing Critical Fields Essential to the War Program, 11/12/1942, Gravel Exhibit 1-70.

[17] Frey and Ide, *A History of the Petroleum Administration for War,* 169 [Exhibit 1-1].

11, Shell—not an agency of the federal government—sought to expand production in the Black Bayou Field [emphasis added].

22. Regulation by exception was a common practice for the PAW. There were 7,589 exceptions granted to Orders M-68 and PAO-11. At one point in 1942, the PAW granted 90 percent of exceptions. [18]

23. The PAW history further stated: "The whole pattern of the program might be epitomized: to attain a maximum of sustained crude oil productive capacity with *(a)* the most effective use of the limited supply of critical materials, manpower, and service facilities; *(b)* minimum disruption of the normal operations of the industry; (c) minimum of government regulation; and *(d)* maximum use of industry counsel and assistance."[19]

24. While the PAW encouraged wildcatting by individual companies in potentially attractive pools, it did not dictate where companies could drill. PAW Deputy Administrator Ralph Davies stated: "The Petroleum Administration for War proposes to do everything in its power to promote the drilling of an adequate number of wildcat wells. Where these wells

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[18] Frey and Ide, *A History of the Petroleum Administration for War,* 180,446 [Exhibit 1-1]; and D.R. Knowlton, "A Year of M-68," speech given on November 12, 1942, at the Twenty-Third Annual Meeting of the American Petroleum Institute, printed in the Proceedings of the Twenty-Third Annual Meeting of the American Petroleum Institute (Wartime Convention of the Petroleum Industry), volume 23 [IV], 14 [Exhibit 1-10].

[19] Frey and Ide, *A History of the Petroleum Administration for War,* 171 [Exhibit 1-1].

will be drilled will be left, as it always has been, to the discretion of the wildcatters."[20]

25. Mr. Gravel also discusses the "PAW Management of Crude Oil Supplies" noting that "PAW-appointed industry committees 'maintained constant studies as to where crude could be had' and 'analyzed various crudes to determine which could be used by which plants.' The committees then 'worked out and recommended new schedules of crude shipments whenever PAW would add new products to its military 'essential list.'"[21] This meant that the government relied on PIWC recommendations to direct where crude went after it was produced but did not direct or control the exploration or production operations.

26. As the authors of the official history of the PAW wrote, The Petroleum Industry War Council (PIWC) wanted a wide representation on the production committee: "To make the representation as broad as possible, the PIWC production committee followed a policy of not only permitting but encouraging anyone in the industry—small, medium, and large operators—and representatives of allied groups, such as drilling contractors and other service companies, to participate in the meetings."[22]

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[20] "Ickes Allays Fear That PAW Plans to Dictate Exploratory Locations," *The Oil and Gas Journal,* 3/25/1943, 70 [Exhibit 1-11].

[21] Gravel December 2022 Declaration, paragraphs, 71-72.

[22] Frey and Ide, *A History of the Petroleum Administration for War,* 171 [Exhibit 1-1].

27. Crude oil had to be produced in coordination with the refining requirements including those for aviation gasoline and other petroleum war products. As a result, midwestern oil fields produced at a greater rate than their "maximum efficient rates." The PAW created a compensatory system to pay refiners who purchased crude sent by tank car at higher-than-normal costs. Oil fields in Gulf Coast states—including Louisiana—continued to produce under their "maximum efficient rate" and under state oil regulations.[23]

28. In January 1942 it was "decided to recommend a production rate each month for each of the oil-producing States, leaving the carrying out of the recommendations to existing State regulatory mechanisms."[24]

29. The National Conference of Petroleum Regulatory Authorities formed in April 1942 and each state body promised to cooperate with the PAW.[25]

30. In mid-1942, PAW established monthly production rate certifications for each state. Each state's regulatory apparatus agreed to enforce these rates using existing state regulations.[26]

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[23] Frey and Ide, *A History of the Petroleum Administration for War,* 94-95, 176 [Exhibit 1-1].

[24] Frey and Ide, *A History of the Petroleum Administration for War,* 176 [Exhibit 1-1].

[25] Frey and Ide, *A History of the Petroleum Administration/or War,* 176 [Exhibit 1-1].

[26] Frey and Ide, *A History of the Petroleum Administration for War,* 176 [Exhibit 1-1].

31. "PAW was guided, in establishing the monthly production rate certifications, by information obtained from the industry itself"[27]

32. In 1943 the PAW filed an amicus curiae brief in the US Supreme Court in the case of *The Hunter Company, Inc., v. Joseph L. McHugh, Commissioner of Conservation of the State of Louisiana.* In the brief, the PAW pointed to the strength of most state-level petroleum conservation laws, including Louisiana's:

> The majority of the principal oil and gas producing states have reasonably adequate petroleum conservation statutes which authorize their regulatory agencies to prevent waste and to protect the correlative rights of common owners in petroleum reserves. These state agencies, being acquainted through past experience with the peculiar problems of their respective states and possessing adequate administrative personnel to secure the requisite knowledge concerning individual fields, are well equipped to inaugurate and administer comprehensive programs of conservation and to adjust the interests of common owners in any pool. Their activities are important factors in the national program sponsored by the Petroleum Administration for War.[28]

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[27] Frey and Ide, *A History of the Petroleum Administration for War,* 177 [Exhibit 1-1].

[28] Hunter Co., Inc. v. McHugh, 1943 WL 54507 (U.S.), Brief for the Petroleum Administrator for War as Amicus Curiae, 1-18 at 3 (Westlaw 2021) [Exhibit 1-12].

33. There were over 12,000 employees in the crude petroleum and natural gas production industry in Louisiana in 1940 and fewer than 100 PAW employees working on production or crude supply issues in Washington DC and PAW District Three that included the Gulf states.[29]

34. In July 1942, in order to increase production of aviation gasoline and facilitate the movement of crude oil, the Defense Supplies Corporation (DSC) created the planned blending program that was part of the Aviation Gasoline Reimbursement Plan (AGRP). The AGRP "enable[d] manufacturers to undertake extraordinary modes of operation which often were uneconomical and costly."[30]

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[29] Bureau of the Census, Sixteenth Census of the United States: 1940, Population: Vol. III, The Labor Force, Table 17-Detailed Industry of Employed (Except Emergency Workers), 262. https://www.census.gov/library/pubhcations/1943/dec/population-vol-3.html [Exhibit 1-13]; and Frey and Ide, *A History of the Petroleum Administration for War,* 351 [Exhibit 1-1].

[30] W. Tidwell and B. O'Callaghan, *The Role of Defense Supplies Corporation in the Wartime Aviation Gasoline Program: A Monograph* (Historical Reports on War Administration: Reconstruction Finance Corporation), 1949, 69-70 [Exhibit 1-14]. Important to the petroleum industry was the prohibition of the Army or Navy to enter into purchase contracts longer than one year. To address this situation, the Reconstruction Finance Corporation (RFC), with presidential approval, created the DSC in August 1940 with the express purpose of entering into contracts of up to three years to purchase 100-octane aviation gasoline. The idea behind an extended purchase contract was that it would provide the necessary security for refiners to expand their facilities. Ibid., 12-14 [Exhibit 1-14. These contracts solely dealt with downstream refined products.

35. The planned blending program also allowed for the movement of semi-finished or finished gasoline components from one refinery to another.[31]

36. The planned blending program enabled a refinery capable of producing, for example, 100-octane aviation gasoline, to receive components best suited for such production. If the movement of components was uneconomical the involved refineries could apply to the DSC for reimbursement of the uneconomical costs so that the private company would not suffer economically. This system did not dictate crude drilling practices, production quantities, or impact exploration. The DSC solely reimbursed extraordinary costs, primarily linked to uneconomical transportation.[32]

37. The PAW's crude allocation program provided for the movement of crude runs from well to refinery, based on refinery capacity, and "analyzed various crudes to determine which could be used by which plants."[33]

38. Under this system, after crude was produced at a well, it was allocated to refineries not on the basis of which company owned the crude, but "providing first for the minimum quantities estimated to be

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[31] Tidwell and O'Callaghan, *The Role of Defense Supplies Corporation,* 70 [Exhibit 1-14].

[32] Tidwell and O'Callaghan, *The Role of Defense Supplies Corporation,* 70 [Exhibit 1-14].

[33] Frey and Ide, *A History of the Petroleum Administration for War,* 215 [Exhibit 1-1].

necessary to assure maximum output of war products."[34]

39. These PAW crude supply and transportation programs relied on "Government-industry teamwork, with both agreeing on the desired objectives and methods of reaching them, and with industry doing the actual job." The PAW supply and transportation programs did not dictate crude drilling or production practices, production quantities, or impact exploration.[35]

40. Information on crude allocations to refineries came from industry itself and were not dictated by the PAW.[36]

41. In his October 8, 2021, declaration for the case Parish of Cameron v. Auster Oil and Gas, Inc., et al. Mr. Gravel discussed an instance when crude oil from one company's field went to another company's refinery for processing. He noted that during World War II the Standard Oil of Louisiana refinery in Baton Rouge refined oil produced from the Humble Oil Company's Potash field in Plaquemines Parish. Mr. Gravel further pointed out that Humble Oil was

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[34] Frey and Ide, *A History of the Petroleum Administration for War,* 215 [Exhibit 1-1].

[35] Frey and Ide, *A History of the Petroleum Administration for War,* 115 [Exhibit 1-1].

[36] Frey and Ide, *A History of the Petroleum Administration for War,* 218 [Exhibit 1-1].

majority owned by Standard of New Jersey, who also owned Standard Oil of Louisiana.[37]

42. Integrated oil companies organize operations between "upstream" and "downstream" businesses. For example, a Shell investors handbook notes that its "Upstream business explores for and extracts crude oil, natural gas and natural gas liquids." Its Downstream business activities "collectively turn crude oil into a range of refined products."[38]

43. During World War II, Shell similarly separated these businesses into exploration, production, and refining divisions.[39]

44. From 1941-1945, the Shell Oil Company purchased over 174 million barrels of crude oil on the open market from non-Shell affiliated oil producers for use in their own refineries.[40]

45. Reviewing Shell's annual reports for the World War II years gives insight into how the company viewed its contribution to the war effort and its relationship with the federal government.

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[37] Declaration of Alfred M. ("AJ.") Gravel, The Parish of Cameron v. Auster Oil and Gas, Inc., U.S. District Court, Western District of Louisiana, paragraph 43, 69, and footnote 152.

[38] *Shell Investors' Handbook, 2011-2015, Our Businesses and Organisation.* https://reports.shell.com/investors-handbook/2015/company-overview/our-businesses-andorganisation.html. Accessed 1/8/2023 [Exhibit 1-15].

[39] K. Beaton, *Enterprise in Oil: A History of Shell in the United States* (New York: Appleton-Century-Crofts, Inc., 1957), 765-67 [Exhibit 1-16].

[40] Beaton, *Enterprise in Oil,* 785 [Exhibit 1-16].

46. The Shell annual report for 1942 stated: "The year 1942 was one of rapidly changing conditions and of ever increasing demands for war materials of all kinds. The success of industry as a whole in adjusting itself to new circumstances and in meeting the vast demands made upon it has been remarkable and is a proof, if one were needed, that Democracy can rise to any heights of accomplishment when emergency faces it."[41] The company president continued: "Close cooperation was maintained by the Oil Industry with the Office of Petroleum Coordinator in the many and varied mutual problems that were constantly arising."[42]

47. In the 1943 annual report the company president wrote on the everchanging demands of war: "frequent changes in plans to meet changes in outlook have become a common experience in this war ... The constantly increasing tempo of the war brought with it ever-increasing demands for that life blood of modem warfare, petroleum products."[43]

48. When writing the 1945 annual report, the company president reflected on the war and the contributions of the oil industry to the war effort and its partnership with the federal government. "The achievements of the Oil Industry during the war years would not have been possible without a proper degree of cooperation with the Government. In the

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[41] Shell Union Oil Corporation, *Annual Report For the Year Ended December 31, 1942*, 5 [Exhibit 1-17].

[42] Shell Union Oil Corporation, *Annual Report For the Year Ended December 31, 1942*, 6 [Exhibit 1-17].

[43] Shell Union Oil Corporation, *Annual Report For the Year Ended December 31, 1943*, 4 [Exhibit 1-18]

establishment of a real team spirit between Government and Industry, coupled with effective leadership, the Petroleum Administrator for War, together with the organization working for him, deserves the highest commendation."[44]

Executed on January [handwritten: 13]

[handwritten: signature]
Jay L. Brigham, Ph.D.

[44] Shell Union Oil Corporation, *Annual Report For the Year Ended December 31, 1945*, 6 [Exhibit 1-19].

Excerpts from Chapter XII, John W. Frey & H. Chandler Ide, Petroleum Admin. for War, *History of the Petroleum Administration for War, 1941-1945* (1946), *Par. of Cameron v. Apache Corp. (of Del.)*, No. 18-cv-00688 (W.D. La.), Dkt.135-82

Miracles from Molecules

The Refining Story

It was December 7, 1942—one year after Pearl Harbor. In those 12 months, the output of 100-octane aviation gasoline in the United States had been sent climbing from 46,000 barrels daily to 118,000 barrels daily. It was a job which, in the beginning, had seemed physically impossible. Most people were sure that it was impossible. But there it was, for all to see. And, as time was to show, the achievement was to be multiplied again and again before victory was won.

This 100-octane performance was the sort of thing which prompted the Army-Navy Petroleum Board of the Joint Chiefs of Staff to proclaim at wars end that the record in oil was "without question one of the. great industrial accomplishments in the history of warfare."

But aviation gasoline was only one phase of a war-time petroleum program that required the unfailing fulfillment of military and civilian needs—needs that demanded the squeezing of the last precious drops of a multitude of products from every barrel of crude that could be brought from the ground.

From refineries at home and those operated by Americans abroad there had to be derived 80 percent of all the principal petroleum products used by the

United Nations—not merely 100-octane, but 91-, 87-, and 73-octane for pilot training, 80-octane all-purpose gasoline for trucks, tanks and every other type of motorized ground equipment, diesel fuel for submarines and landing craft, lubricants for everything that moved, asphalt to pave the runways, and butadiene for the synthetic rubber that kept us in tires, toluene for TNT, jellied gasoline for flame throwers, smoke for screening, petroleum coke for aluminum, and wax for packaging.

But, even as these military specialty products were being turned out unceasingly, these same refineries had to sustain the home front, keeping the buses, trucks, taxicabs, air lines, oil burning locomotives and essential automobiles running; keeping war factory wheels and power plant dynamos turning; seeing to it that there was no break down in the supply of kerosene and distillate for home heating.

It was a mammoth task (see chart below)

When it was over United States refineries had:

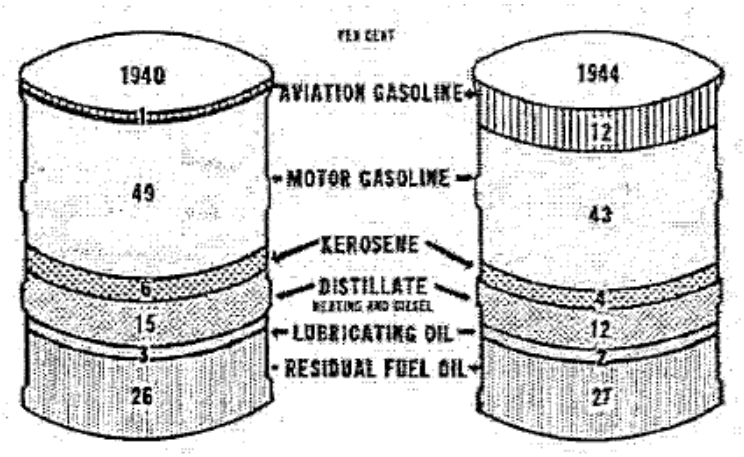
1. Increased their throughput from 3,861,000 barrels daily as of 1941 to 5,001,000 barrels daily—32 percent up.

2. Boosted 100-octane production from 40,000 barrels daily to 514,000 barrels daily in domestic refineries, alone.

3. Met every demand made upon them for more than 500 different kinds of petroleum products for the armed forces, plus every essential civilian requirement.

They did these things in spite of shortages of manpower and materials in spite of deficiencies in crude …

AVAILABLE LIQUID PETROLEUM PRODUCTS



…

Thousands upon thousands of hours of painstaking study was devoted, in the aggregate, by literally hundreds of industry executives of PIWC and district committees, and by technical people from many companies in solving one phase or another of the puzzle. There were differences in details of the solutions devised in the various districts, but, generally speaking, the pattern followed everywhere was to make provisions, first of all, for those refineries that were manufacturing critically needed war products.

These activities involved an impressive disregard of self considerations, and a tremendous amount of work. The refining committees of PIWC and of the various districts attacked the question from any

number of angles at one time or another. For example: The committees determined throughput capacities of refineries, either utilized or available. Working with other committees, they maintained constant studies as to where crude could be had, both foreign and domestic. They analyzed various crudes to determine which could be used by which plants. They obtained and maintained data as to available storage for both crude and products, and as to how much was stored where. They worked out and recommended new schedules of crude shipments whenever PAW would add new products to its military "essential" list. Whenever they came across some idle refining capacity and some surplus crude they would work with the Government to bring the two together.

In a word: if the crude problem was always present—as it was—it was also always being attacked, so that it never got out of control. The most painstaking kind of treatment was needed for it was a job of extreme complexity and difficulty. Fortunately, competent men were available, contributed by the companies whose combined efforts made the solution possible.

Through most of the war period, transportation was the limiting factor, although there were times, especially in the midsummer of 1944 and the early part of 1945 when lack of crude, itself, was the problem. The *quantity* of the crude was not the only worry: there was also the matter of the *kinds* that could be obtained. By the time the Big Inch was finished, there had been a decline in production from the great East Texas field, which produces an especially desirable type of light, sweet crude—just

the kind that refiners can use best for gasoline, and especially 100-octane aviation and 80-octane all purpose. As East Texas supplies became inadequate it was necessary to draw upon fields where the crudes were not as adaptable to the making of war products.

As a means of keeping on top of the problem the district PAW offices and the industry refining committees maintained "scoreboards" of statistical information as to crude stocks runs yields and other pertinent information at *each* refinery. This system made it possible to discover situations that required attention Supplies could be programmed into refineries that were in the greatest need of them; and, by the same token, when emergencies arose, supplies could be diverted from refineries that were in relatively comfortable position. This close watchfulness became especially important when it became necessary to use more and more of the sour high-sulphur content crudes from west Texas and Venezuela. These high-sulphur crudes, because of their corrosive qualities could not be used in all refineries; and in most cases, certain special methods had to be employed.

Imports of foreign crude, which dropped to practically nothing during the worst submarine attacks in 1942, climbed to 214,000 barrels daily in May 1945, and reached 245,000 barrels daily by the time of final surrender.

Although the crude supply problem was very substantially eased as the transportation situation steadily improved, there is no doubt that a large factor in meeting requirements was the system of monthly allocations of *specific* volumes of crude to *specific*

refiners on the basis, always, of providing first for the minimum quantities estimated to be necessary to assure maximum output of war products. After minimum needs of war plants had been supplied, the rest of the crude was divided equitably, always with a view to keeping *all* refineries operating, because it was known that the Nation's entire refining plant must be kept in operation. Many a small plant was able to survive the war, which otherwise would very possibly have gone under had it not been for these efforts. By far the greatest share of the work was done by the industry itself, with final approval always remaining the responsibility of PAW.

This system of allocations proved to be the most effective way that was found during the war for utilizing the continually-limited crude supply to best advantage. It was continued in force through August 1945, when the end of the European war made its continuance unnecessary.

Although there was an over-all similarity to the methods used in all districts to solve the crude oil sup-

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Letter from Robert Allen, Director of Production to H.W. Bell, Director, Division of Minerals (Jan. 1942), *Par. of Cameron v. Apache Corp. (of Del.)*, No. 18-cv-00688 (W.D. La.), Dkt.136-22

Mr. H.W. Bell, Director
Division of Minerals,
Baton Rouge, Louisiana.

My dear Mr. Bell:

I have the pleasure of responding to your letter of January 22, addressed to the Petroleum Coordinator, wherein you acknowledge receipt of the telegram certifying the maximum production rate for Louisiana during the month of February 1942.

On the basis of the schedule submitted with your letter, it is apparent that the allowance made for deficient wells, at least for the months shown, has never been so large but to result in an actual daily production rate that, although not always less than the forecasts of market demand previously issued by the Bureau of Mines, has been in substantial agreement therewith. We are pleased to have your assurance that the production rate of Louisiana will not exceed the certification for February 1942.

It is hoped that the urgent necessity for maintaining a balanced participation by several oil-producing States in order to assure an adequate continuous supply of petroleum for the duration of the emergency will cause each state to take the necessary steps to control its production rate within the limits designated by the Certifications issued from month to month by this Office.

I want to express the full measure of appreciation with which this office has welcomed the excellent cooperation thus far extended by the State of Louisiana.

Sincerely yours,

Robert E. Allen,
Director of Production