



History of the Offshore Oil and Gas Industry in Southern Louisiana

Volume IV: Terrebonne Parish



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ABOUT THE COVER

Offshore rig, vessels, and barge in the Gulf of Mexico, May 1956, Jesse Grice Collection (photo number 242-16), Morgan City Archives.

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PREFACE

The development of the offshore petroleum industry is a remarkable story of inventiveness, entrepreneurship, hard work, and risk-taking that turned Louisiana's relatively isolated coastal communities into significant contributors to the U.S. and global economies. This industry emerged as local residents and returning World War II veterans applied skills, technologies, and can-do attitudes to overcome the many challenges of producing oil from below the ocean floor. Offshore workers initially came from Texas, Oklahoma, and Louisiana, but soon people from throughout the United States were attracted to the Gulf Coast. This industry, born in the Louisiana marshes, has grown to have a key place in the modern world. Yet, it is little known, understood, or documented, and its dynamic economic role is virtually invisible.

To explore the history and evolution of this industry and the people and communities where it was born, in 2001 the U.S. Minerals Management Service (MMS) sponsored a study to examine the historical evolution of the offshore oil and gas industry and its effects on Louisiana's coastal culture, economy, landscape, and society. The study represented the convergence of the ideas of several people who recognized that an important piece of history – the origins of the offshore petroleum industry – was being lost and that capturing it would require the use of published works, periodicals and other documents, and oral histories. The idea for the study was supported by the Social Science Subcommittee of the MMS Scientific Committee, staff from MMS Headquarters and the Gulf of Mexico Region office in New Orleans, members of the business and academic communities, and Louisiana civic leaders and educators. As a result, researchers from universities in Louisiana, Texas, and Arizona came together to trace the development of the industry from land and marsh to state waters and then out across the Outer Continental Shelf.

Research of the MMS Environmental Studies Program provides information and analysis in support of MMS decision-making and assessment. From the beginning, a principal aim of the history study was to establish a collection of audio recordings of interviews with workers, company owners, family members, community leaders, and others whose lives were shaped by the offshore oil and gas industry in southern Louisiana. The focus of the study was on the earliest days, especially the period from the 1930's to the 1970's. Interviewees talked about how this industry grew from its fledgling beginning in the coastal wetlands and inner bays in the 1930's through the frenzied activity of the 1970's and beyond. The interviews ranged from very general conversations about life in southern Louisiana during this period to very specific discussions of particular aspects of the oil and gas industry.

The study began with a team of researchers from the Center for Energy Studies at Louisiana State University (LSU), the Departments of History and Business at the University of Houston (UH), the Program in Public History Studies at the University of Louisiana at Lafayette (ULL), and the Bureau of Applied Research in Anthropology at the University of Arizona (UA). The LSU team was led by Dr. Allan Pulsipher and included Ric Pincomb and Dr. Don Davis. Drs. Tyler Priest and Joseph Pratt led the UH team and were assisted by Jamie Christy, Joseph Stromberg, and Tom Lassiter. Suzanne Mascola transcribed the UH interviews. At ULL, Dr. Robert Carriker was assisted by Steven Wiltz and David DiTucci.

Drs. Diane Austin and Thomas McGuire of the UA were assisted by Ari Arand, Emily Bernier, Justin Gaines, Andrew Gardner, Mary Goode, Rylan Higgins, Scott Kennedy, Christina Leza, Karen Morrison, Lauren Penney, Jessica Piekelek, Dr. James Sell, Jeremy Slack, and Joanna Stone. UA researchers were supported by community assistants in Houma, Raceland, and New Iberia: Lois Boutte, Charlene Broussard, Norma Cormier, Nicole Crosby, Carolyn Cummings, Robyn Hargrave, and Debbie Toups. They received tremendous support from local organizations and individuals, especially the Barataria-Terrebonne National Estuary Program, Bayou Native Bed and Breakfast, C.J. Christ, the Desk and Derrick Clubs of Morgan City and New Orleans, the Louisiana Technical College Young Memorial Campus, the Morgan City Archives, the Morgan City Daily Review, the Nicholls State University Archives, Steve and Jean Shirley, and the United Houma Nation.

Over 450 interviews were recorded during this study. The tapes and discs onto which the interviews were recorded and the transcripts of the interviews are available in the archives of the University of Houston, Louisiana State University, University of Louisiana at Lafayette, and Nicholls State University. Each interview provides a unique look at the offshore oil and gas industry and its impacts on workers, their families, and their communities.

In addition to the recorded interviews, six volumes were produced during this project. The first, *Volume 1: Papers of the Evolving Offshore Industry*, is a collection of analytical papers, each of which deals with an important aspect of the evolution of the offshore oil and gas industry. That volume is followed by three more, *Volume 2: Bayou Lafourche – Oral Histories of the Oil and Gas Industry*; *Volume 3: Morgan City’s History in the Era of Oil and Gas – Perspectives of Those Who Were There*, and *Volume 4: Terrebonne Parish*, all of which examine the offshore oil and gas industry through the lens of a particular community or region of southern Louisiana. *Volume 5: Guide to the Interviews* summarizes information about the interviews, including how each interviewee became involved in the study, his or her family and/or occupational history, and particular highlights of the interview. The final volume, *Volume 6: A Collection of Photographs*, is a compilation of photographs, diagrams, and other visual images that were collected from interviewees during the study.

1. INTRODUCTION

When Louisiana's Supreme Court ruled in favor of Ludwig Doucet's claim that the oysters he bedded on the water bottoms of Terrebonne Parish had been killed by oil pollution, the court relied heavily on the testimony of two of The Texas Company's own witnesses. Mr. A.B. Patterson admitted that, "*Speaking generally I seen oil on the water, oil of some kind, almost every day of my travels. I took very few trips upon which I did not see oil spots or oil glaze on the waters of Terrebonne Bay.*" Another company man, Albert Dupont, "testified that in the fall of 1932, about a year prior to the filing of this suit and about the time the plaintiff's oysters began dying, he had seen oil in Lake Barre that appeared to cover the whole lake, and, answering the question as to whether there was any question about that, said: "No, I was afraid my boat would catch on fire. *I thought the whole lake might catch fire.*" (Italics ours)" (Doucet v. Texas Co. 1944).

The Texas Company, Texaco as it came to be known, was the major force in the exploration and development of the oil and gas fields of coastal Louisiana. Beginning in the late 1920's, on vast parcels of land leased from the Louisiana Land & Exploration Company and the State of Louisiana, the oil giant floated and hauled rigs into the swamps, bayous, backlands, and lakes, and built production platforms, living quarters, and tank batteries to store crude oil awaiting transport to refineries. To be sure, Texaco and the other pioneers, the majors, independents, and some individual wildcatters with high visions and meager resources left scars on Louisiana's fragile wetlands. The full magnitude of this disruption would not become evident for decades. In the process, though, the region's society and economy were transformed.

Prior to the opening of the oil fields, inhabitants of the isolated communities hunted and fished, planted and harvested oysters for the French Market in New Orleans, trapped fur-bearing mammals and alligators in the swamps, tended gardens and livestock, largely for household and neighborhood consumption, and grew sugarcane. Some of the skills and know-how of the inhabitants were of immediate use to the oil companies, such as how to navigate the bewildering mazes of bayous and waterways in the marsh. Other needs had to be filled by outsiders, an incoming workforce of skilled and semi-skilled men raised in the inland oil provinces of Texas, Arkansas, Oklahoma, and northern Louisiana. These "Texiens," mostly single men at first, virtually all Protestant, would through time assimilate – or at least co-exist – with local populations; many would bring their own families as the housing supply grew, and many would intermarry and raise their own families.

As well as workers, the oil companies required services of all sorts: individuals and companies to survey the water bottoms and marshes and to induce landowners to sign over mineral rights; firms, small and large, to build and repair the heavy equipment needed to explore for oil and extract it; pilots, mostly self-taught at first, to fly men and materials to rigs and platforms along the coast; drivers and trucks to haul spare parts and drilling pipe to the supply bases; cooks and catering services to feed the roustabouts, roughnecks, toolpushers, and, later, the petroleum engineers with college degrees, working out on the structures. Small communities like Houma, based on fishing and plantation sugarcane, found themselves well-situated vis-à-vis The Texas

Company's coastal discoveries and became preeminent oil service centers, attracting outside investment and home-grown entrepreneurs.

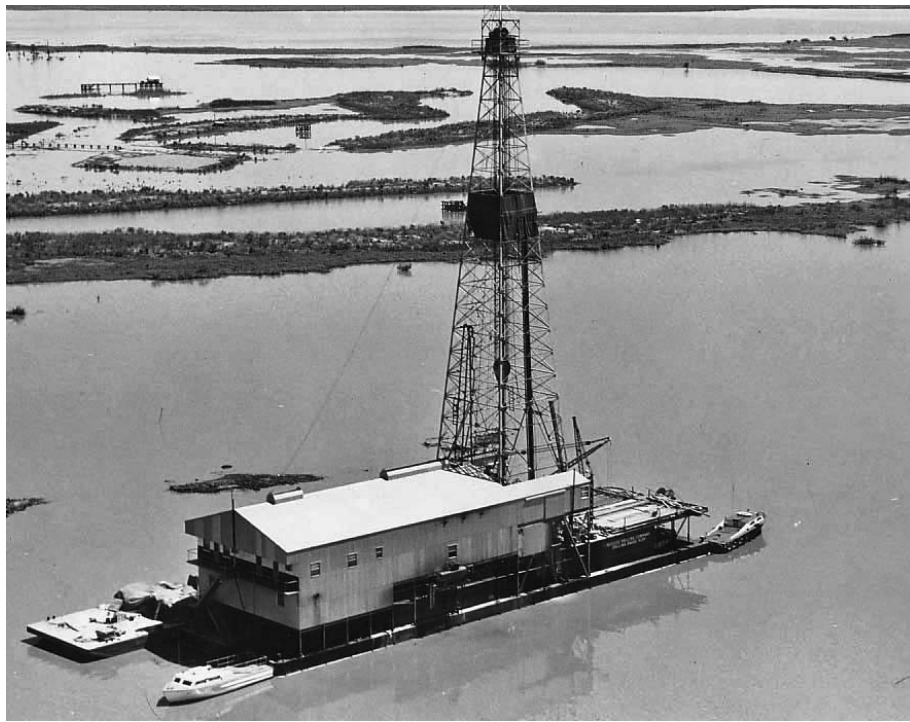


Figure 1. Drilling Rig on Lake Pelto in Terrebonne Parish.

The community's significance as a service center was codified when Texaco designated it as a district and established a management team and warehouse to attend to the company's Terrebonne Parish properties. New Iberia had similar status for fields west of the Atchafalaya River, and the company's operations east of Bayou Lafourche were managed out of the Harvey district office on New Orleans' West Bank. Houma was thus a "company town," Texaco's town. Texaco didn't own it or build it, of course, but until well into the 1960's Texaco was the dominant player.

Most of the other major oil companies turned their attention offshore in the 1950's, after the protracted legal dispute between the Gulf Coast states and the federal government over ownership of the Outer Continental Shelf (OCS) was more or less settled, largely in favor of the federal government. Texaco, with its legacy of huge mineral properties inshore, was rather late in following this trend offshore. But Houma's business and civic leaders positioned the community to capture some of the new activity. The Houma Navigation Canal was dredged and completed in 1962, giving the community and the parish straight access to the Gulf of Mexico. Although the channel would later be blamed for at least part of the deterioration of coastal wetlands, its initial promise was realized. Houma's population and its oilfield service sector grew in the 1960's and boomed in the 1970's. Some of the businesses that grew up specifically to service the inshore fields – the floatplane sector is the case we examine in some detail here – were no longer useful

as activity shifted farther and farther out onto the OCS. But others grew, with larger and larger fabrication facilities necessary to weld together the more robust structures for the offshore oil and gas industry. These industries, like virtually all others along the Gulf Coast, were hit hard by the downturn of the 1980's. But Houma and Terrebonne Parish survived and grew modestly in the 1990's. Into the present century, the area remains an important oil service center, but has also diversified as a regional shopping center and prominent supplier of health-care and advanced medical treatment for south Louisiana. With the upgrading of old Highway 90 into a spur of the interstate highway network, Houma envisions a future as a bedroom community for metropolitan New Orleans as well.

This report, based largely on discussions with residents of the Houma and Terrebonne Parish region, offers a very brief glance growth and change on this portion of the coast of south Louisiana. Both the natural and social histories of the region are complex and fluid; chapter 2 sketches out some of these dynamics. In chapter 3, we narrow the focus to oil history – the arrival of The Texas Company and the “Texiens” in Terrebonne Parish. The subsequent chapter, the core of this report, traces the development and functioning of several of the region's well-known oil-field service businesses: land surveying, trucking, and aviation. Finally, we follow a couple of other local businesses through the downturn of the 1980's and into the contemporary environment of oil and gas. The mandate of the larger project from which this report stems, the “History of the Offshore Oil and Gas Industry in Southern Louisiana,” did not take us into the 1980's and beyond, so this final chapter is offered in the spirit of “lagniappe.”

2. PLACE AND PEOPLE

The oil and gas industry of Terrebonne Parish and south Louisiana unfolded in a fluid environment, both natural and social. Terrebonne is a misnomer. The parish, like the region, is more water than land. And the “Cajun Coast” or “Acadiana,” chamber-of-commerce designations meant to capitalize on the resurgent popularity of a unique cultural tradition, masks the complex origin of the peoples of the region and the successive waves of colonial rule, from the French to the Spanish, then the French again, and finally the fledgling United States. Here we offer a very rudimentary glance at the ever-changing landscape of place and people.

2.1. The Coastal Environment

The land base of southern Louisiana is the gift of water. The largest river in North America, the Mississippi, has brought the outwash of its 1.2 million square miles of watershed to rest (if that’s the proper term) in the Gulf of Mexico. Not only does it bring the water from 40 percent of the continental United States to the Gulf, it also brings the topsoil. It has been doing that for about two million years (Ambrose and Brinkley, 2002). The result is the Mississippi Delta. What geologists call a “bird’s foot” delta was formed as the powerful river flowed across the coast like a loose fire hose – squirming and rolling as multiple channels deposited silt, which repeatedly blocked the flow of water and forced the river to flow in new directions. The result is a fan-like region stretching roughly from Lafayette to Lake Pontchartrain. This landscape is also a waterscape, a lattice-work of levees, lakes, bayous, and extensions of the Gulf of Mexico.

Where it exists, the waterlogged silt land is one of the most fertile soils in the United States. It gains more fertility from the biomass that it supports. Coastal wetlands themselves – where the nutrients of the land meet with those of the sea – are among the most productive in the world.

The climate of this area is humid subtropical, warm and wet most of the year. Much of the rain comes from the meeting of cold air masses from the north with the warm, moist masses from the Caribbean tropics. This combination wrings a large amount of water from the air. In addition, hurricanes and tropical storms dump large quantities of water quite quickly. Hurricanes are a hazard here, especially since the delta lands are barely above sea level. Because of coastal land loss, most coastal settlements are now at risk of flooding from hurricanes and “down the bayou” settlements have to be evacuated even for the smallest (category one) hurricanes. The Louisiana coast is not only wet but warm. Freezing temperatures are rare (although they do occur), and even the winters are comfortable. Summers are hot and humid.

The ecology of the region can be summed up as “teeming with life.” The basics of life were available – food, fuel, building material. It was possible, and preferred by some people, to live in self-sufficient isolation. Ironically, fresh water was in short supply along many of the coastal bayous, and rainwater cisterns were common in the landscape until very recently. The lack of potable water meant that many meals were boiled. Abundant natural resources included lumber (especially the hardwood cypress), marine life, furs, and fertile soils. Other material was available as well: meat, moss (for stuffing and plastering), and salt. While many comforts were

lacking, it was possible to live well off the land. The waterlogging made land travel difficult, but it was possible to travel by water, and bayou travel was enhanced by canal building. While the people who lived in the delta were somewhat isolated from the larger settlements in the northern part of the state, they were able to easily reach each other by boat. The isolation from the north and the easy water access gave these isolated communities real internal strength.

Terrebonne Parish is on the coastline – one might say *in* the coastline because it is so waterlogged. But it has no good deepwater harbor. The many indentations of the coast provide safe harbor for small boats, and fishermen can use the bayous like driveways, to tie up their shallow-draft boats alongside their homes. Houma was, and to some extent still is, an offloading port for small fishing boats, which is why it gave itself the nickname – “The Oyster City.” However, the industrial- age craft can only reach Houma because of the artificial Houma Navigation Channel and the Gulf Intracoastal Waterway. These projects were constructed from the 1940’s through the 1960’s as the oil industry was moving offshore (Alperin, 1983).

The Navigation Canal was built in 1962 so that Houma could have direct access to the Gulf. The Intracoastal is an inland channel running parallel to the Gulf to provide a coastal waterway safe from storms and submarines. While federal acquisition of canal property started before World War II, it was not until the early 1950’s that it was finally operational. Much of the impetus for both of these waterways was political, stemming from local economic interest and affected by landowners who thought they stood to benefit. In the long run the waterways became land communication barriers as well as water travel routes. Waiting for the drawbridges to come down is a common Houma occupation. Hartwell Lewis, a prominent Houma entrepreneur, recalls the influence of an earlier town booster, the general merchandiser, Mr. Dupont.

I don’t remember the exact time, but Mr. Dupont was the one that promoted the Intracoastal Canal. It was supposed to originally go well south of Houma and it would have done the community much more good well south because it ended up being a dividing line, a barrier, between Houma itself and east Houma and there were times when the old bridges were there and you’d sit for forty-five minutes trying to get across the Intracoastal. So it was a very difficult situation (Hartwell Lewis, 2002).

The Intracoastal was intended to provide a sheltered transportation route inland from the Gulf coast. Its promoters envisaged great industrial transportation and the impetus for economic development all along the route. Perhaps the final push in its development came after U-boat attacks in the Gulf in 1942. Since the U-boat attacks ended almost immediately after they began, this national security interest was never really a major issue (Christ 2005). The Intracoastal was important for transport of oil equipment and supplies during the heyday of inshore operation, but it is now less important in economic development than it was before 1980. One local planner suggested it could still be of value for Houma by providing access to small boat tourists, but that has not happened. Hartwell Lewis is of the opinion that the canal

...became an anchor, a millstone...the Intracoastal now has not developed a commercial [presence]... because of the marshlands and the inaccessibility to get to it. And then being on the Intracoastal is dangerous because of the barge traffic at night. There are times when those barges are being towed and they drag the

sides and you know if they had improvements they could get raked. So the developments came along Bayou Terrebonne, east and west of it and along Bayou Lacarpe and then subsequently when they dug the waterway, the navigation canal, the Gulf saw some development but it is very expensive to develop along a waterway. You're much better off getting off to the side on one of the tributaries (Hartwell Lewis, 2002).

The port of Houma has another disadvantage in the lack of land transportation – there is little for any ocean-borne shipping to connect to. The railroad that once reached the area is gone. The developing limited access Highway 90 bypasses Houma to the north, making any port there somewhat “high and dry.” The management of Gulf Island Fabrication, the largest industry in the Parish, makes do with imports of structural steel by water, which is just as well, since they have to import their steel from outside the US. Gulf Island itself is facing the difficulty of catering to the deepwater activity because of the constraints of the relatively shallow Navigation Canal, and may have to move at least part of its work to a deep-water port.

The geology of the Gulf Coast is critical not only for accessibility but for oil. Key to petroleum deposits on the Gulf Coast is salt. Over eons, salt has accumulated below the surface in large domes. When in contact with water, those domes tend to expand, trapping oil and natural gas in pockets alongside. They also tend to accumulate sulfur deposits.

These domes are spread along the coast, extending into the Gulf. The domes themselves define oil and gas fields (so a supervisor of a whole oil field is often called a “dome foreman”). They also present special problems in drilling and production. The oil and gas are mixed. This means that wells are under pressure and special precautions must be taken to prevent a “blowout.” It also means that most of the wells are free flowing; a person from the oil country in California sees few “grasshoppers” (oil pumps) that so define the oil landscape there. Much of the sediment is loose and special precautions must be taken to protect the wells from collapsing. This is exacerbated by the problems of drilling into water-soluble domes that demand special attention to drilling fluids (“mud”). Of most significance to offshore oil history is the presence of major dome deposits in waterlogged country.

While the physical environment is one element in the landscape evolution of Terrebonne Parish, so too is a quite distinctive human landscape.

2.2. The Social Environment

There is on the globe one single spot, the possessor of which is our natural and habitual enemy. It is New Orleans, through which the produce of three-eighths of our territory must pass to market, and from its fertility it will ere long yield more than half of our whole produce and contain more than half of our inhabitants (Thomas Jefferson, 1801, cited in Meinig, 1993, 10).

Sieur de La Salle's descent of the Mississippi in 1682 had the result of providing that river as the “backbone” of French territorial possessions in North America, allowing goods to be gathered and shipped by river to a port near its mouth, where they could be loaded onto ocean-going ships

and taken to France or other places. This was territory sparsely populated by Europeans, and settlers were encouraged, primarily by grants of land. John Law's abortive attempt to make money in Louisiana (1718-20) brought a number of Germans into the area alongside the French trappers and traders. These became assimilated into the dominant French culture, as indicated by the French town name, "Des Allemands" ("The Germans," in French).

One major group of settlers consisted of refugees from Acadia, renamed Nova Scotia by the British, in Canada. At the beginning of the French and Indian War, about 10,000 French settlers in English-controlled Acadia were rounded up and then expelled from the province. Some were shipped back to France, some to American colonies. Most Acadians wanted a homeland of their own. Eventually many of the Acadians made their way to Louisiana; from about 1765 to 1790, some 4000 came (Comeaux, 1972). At first the Acadians settled along the Mississippi and then moved into areas to the west and south. They were especially strong in the upper Bayou Lafourche to the southwest of New Orleans and the Attakapas and Opelousas areas west of the Atchafalaya River (Comeaux, 1972; Dormon, 1983; Rushton, 1979).

French culture itself is strong in Louisiana, and is much the result of successive waves of immigration from France and former French colonies in the Caribbean. This succession can be seen in such place-name reminders as Jena and Arcola (French military victories under Napoleon), or Napoleonville itself. It is clear that Louisiana itself is a major destination of a migration channel from France to the United States, and we can trace successive waves from the 1780's, 1800's, 1840's and 1850's. However, there is a change in nomenclature as Acadians from Canada mixed with French from the continent and Creoles (in theory, people of French descent born in the colonies) from the Caribbean. In general, the term Acadian was lost, Creole became ambiguous (referring to both white and black people of French heritage), and "Cajun" first became used as a derogatory term, then later a proud identity.

After 1765, this vast territory passed into Spanish control and brought a new cultural layer into the colony. Ironically, the major group of colonists arriving under Spanish rule consisted of French refugees from Canadian Acadia. Spanish rule continued until the French regained control for a short time in 1803. Along with this colonial development came the growing interest of the United States, which owned vast areas drained by the Mississippi but was dependent on Spanish good-will for use of the port of New Orleans (which was at times withheld). As the only effective riverine trade route for the interior, the Mississippi was so critical to the prosperity of the United States that Jefferson wrote the above threat in a letter that he knew Napoleon himself was sure to read – at that time a difficult man to threaten, especially for the Francophile Jefferson. The story of the Louisiana Purchase is well known. In 1801, Thomas Jefferson, hearing rumors of the impending recession of Louisiana from Spain to France, instructed his ambassador, Robert Livingston, to make an offer to buy New Orleans and a strip along the east side of the Mississippi. The response by Bonaparte's government was to offer the sale of the entire area at a very reasonable price and this purchase was made (Meinig, 1993).

There were misgivings, however. The United States had for the first time become owner of an area in which the culture and institutions were quite different from the Anglo-American cultural, legal, and political system.

Louisianans, in the eyes of these Americans, were a people speaking a foreign tongue and steeped in foreign ways, exhibiting unusual and even questionable values and behavior (festivals and frolics on Sundays!), used to authoritarian government, unlettered in representative institutions, following strange legal customs and laws (Meinig, 1993, 15).

In essence, Louisiana was the first imperial colony for the United States – a different culture group, protected by treaty, which was not part of the United States by choice. No one made any attempt to ask the Louisiana *habitants* if they wanted to be part of the US. On top of this, the 50,000 or so French-speaking inhabitants of the “Territory of Orleans” had some strong institutions of their own. French civil law, especially on the heels of the French Revolution and Declaration of the Rights of Man, had some liberalizing influences of its own. Louisianans saw the American system as “offensively litigious” (Meinig, 1993, 16) and lacking in guarantees of basic rights. For example, French law emphasized family interests over those of individuals, especially males. In Louisiana, women had the right to own property and live apart from husbands, all children had the right to inherit equally (instead of at the sole discretion of the father under Anglo-American common law), and the full rights of citizenship were granted to all free persons regardless of color. Even slaves had rights – they could work to earn money on their own time and use it to buy their freedom. The Louisiana French won a major victory in 1808 when the United States formally approved their Digest of Civil Laws as the basis of the state legal system. This was based on the Code Napoleon rather than Anglo-American common law (Meinig, 1993, 16-18).

Jefferson’s approach to acculturation – to make the place more “American” – was to offer free land incentives to Americans who would settle in the territory and make sure the territorial ruling council was stacked in favor of Anglo-Americans. In fact, more French came in during the 1808-1810 period. Driven from Haiti by the slave revolt, these wealthy sugar planters and their slaves at first sought refuge in Cuba. When Napoleon invaded Spain in 1808, the planters fled the hostile Spanish colony to settle in Louisiana. They brought their slaves and sugar production expertise with them. Other French revolutionaries came after Napoleon’s defeat, and continued to come as the opportunities for a better life in the United States remained attractive. So by 1810, the population of 76,556 included just 34,311 free persons, including 7,585 “free coloreds.” In numbers, that was enough to qualify for statehood, but it lacked in number of white Anglo-Americans, and this was a matter of great debate in Congress. After statehood (in 1812) there was a distinction between the “Americans” and “Creoles” (children of French parentage). There was also a split along class lines as well. The French sugar planters allied with the American merchants and planters to create an upper class, while many of the other French speakers (identified generally as “Acadians”) retreated into the western plains or bayou areas in the south (Meinig, 1993; Brasseaux, 1992).

The wealthy “Creole French” of New Orleans joined with the “Americans” who came south to make their fortunes. Many of these wealthy American planters came from the exhausted tobacco and cotton lands of the east coast that were worn out after 200 years of production. One of these Americans was the father of Robert Ruffin Barrow, who moved his family from North Carolina to a plantation in Louisiana in 1820. Robert himself started buying land in Terrebonne Parish in 1828 and by 1850 owned six plantations in Terrebonne (Residence, Caillou Grove, Honduras,

Myrtle Grove, Crescent Farm, and Point Farm), as well as others in Lafourche, Assumption, and Ascension parishes. Barrow also became the principal owner of the Barataria and Lafourche Canal Company, a private canal system started in 1829 that was a precursor to the Intracoastal Canal. The B & L connected New Orleans with Houma and Morgan City using existing lakes and bayous linked by artificial canals and locks. Robert Barrow, Jr., sold portions of the B and L Canal to the Army Corps of Engineers in 1925, and these portions were tied into the intracoastal system (Becnel, 1989). While the “quaking marshes” of Louisiana were well suited to water travel and continued to be important well into the railroad era, the canal companies were also very dependent on government subsidies. As both canal owners and sugar planters, the Barrows were highly creative in their financing, and tended to confuse their own private interests with state interests.

French colonials brought the cane sugar industry to Louisiana in the mid-1700’s. Originally domesticated in New Guinea, sugar cane is a tropical plant, requiring 11 to 12 months of frost-free growing season to mature a crop. Soil temperatures must remain higher than 62 degrees Fahrenheit to allow the canes to grow. Since south Louisiana has a ten-month growing season, it is the northernmost area to grow the crop and suffers from occasional freezes.

Sugar cane was first introduced to the Caribbean in the second voyage of Columbus in 1493. Since the Spanish were at first only searching for gold, it took some time for large-scale sugar production to become important. But important it was indeed, dominating in the Caribbean by the mid-1600’s. Sugar cane diffused to Louisiana in the mid-1700’s and developed slowly, in part because sugar cane was near its climate limits and also because Spain already had ample sugar production in its other Caribbean colonies. The first commercial-scale production of sugar in the colony dates from 1795, when 100,000 pounds were produced. The acquisition of Louisiana by the United States opened up the American market and eliminated colonial restrictions, so sugar became a major part of the southern plantation industry, dominating cotton in coastal Louisiana. This was abetted by a protective tariff placed on sugar imports into the United States. Production was encouraged by the immigration of both Creole French refugee planters from the Caribbean and Anglo planters mostly from the eastern coast of the South. These people brought capital, slaves, and production expertise with them; so introduced a larger production scale into Louisiana. The early statehood period of Louisiana saw movement of sugar planters into the coastal areas, including Terrebonne Parish. At the same time, the planters along the Mississippi were buying out the smaller Acadian landowners, who were moving into the areas “down the bayou” (Rehder, 1999, 42-46).

The Civil War changed the economic situation of Louisiana. The planters lost the use of slave labor and many were also bankrupted by the “scorched earth” policy (something of a misnomer in the bayou country where everything is wet) the northern soldiers used to help win the war. After the war, there was very little money available in coastal Louisiana and recovery would have to come from a long period of resource and agricultural exploitation, perhaps with a little bootlegging on the side. Logging, fishing, fur trapping, and agriculture were the mainstays, often under the ownership of people from outside the state.

Thus, the cultural mores of southern Louisiana at the beginning of oil industry development were different than the United States in general, although some historical patterns, for example, the

migration from rural to urban industrial areas, were similar. The language was different, the land system was different, and ways of operating were not the same, so go-betweens were needed. Since it seemed somewhat “foreign,” many American oil companies treated Louisiana as a colony – to make their money quickly, then go elsewhere when the oil ran out. Many oil workers from outside the area were also pleasantly surprised by the people, country, and quality of life, and decided to make their homes there. The result today is a mixture of American ethnicities, diluting the French plurality, yet seeming to encourage the Cajun heritage as part of the sense of place of the region.

3. TERREBONNE PARISH AND THE CITY OF HOUMA

Terrebonne Parish is one of the southernmost parishes in Louisiana. Its seat, Houma, is located in the midst of a convergence of seven fingers of land separated by natural bayous and human-made channels, about 60 miles south-southwest of New Orleans. Its land connection to the north is tenuous. Highway 90 is being developed as a four lane limited access parkway arcing from New Orleans to Lafayette, cutting across the north edge of the parish, bypassing Houma. Highway 24 connects with Highway 1 out of Lafourche Parish to Thibodaux, then to Donaldsonville on the Mississippi River. Aside from a few smaller roads, those are the only connections with the higher ground to the north, of which the local residents are uncomfortably aware when hurricanes threaten. With the elevation at the Houma Airport at 11 feet, it is not necessarily safe from major (category 5) hurricanes. The smaller settlements closer to the Gulf are vulnerable to damage from the smaller storms (tropical storms and category 1 hurricanes) of the last few years. For the parish is primarily wetland. Only eight percent of the total land area is dry enough to be considered suitable for development. The rest is classified as “environmentally sensitive,” marsh, swamp, or waterlogged, merging into the bayous, lakes, and bays that define its coastal zone (Tamerica Management Company, 2003). The major ecological systems represented are classed as “flotant communities” (with flood-tolerant plant species anchored in a thin layer of decomposing plant material that either floats on water or is a sort of organic ooze (Davis and Place, 1983), or Roseau cane marsh dominated by tall grasses and reeds that can support the weight of a human. The flotant environment is what is also referred to as “trembling prairie” and is an obstruction to both land and water traffic.

The “down the bayou” settlements of Montegut, Dulac, Chauvin, Theriot, Cocodrie, Boudreaux, and especially Point-Aux-Chenes rest precariously on small fingers of land that are threatened with further inundation as land loss continues and storm threat increases. These smaller settlements contain a core of Cajun settlement in the area, what local resident Werlien Prosperie refers to as “Bayou Cajuns.” The Bayou Cajuns have strong ties to the very same land that is disappearing.

The parish has a rural feel to it, even though it is highly industrialized. The city of Houma has a population of about 32,000, but the city merges imperceptibly into the suburban countryside that houses the bulk of Terrebonne’s 104,503 people (U.S. Census 2000). Dividing that number by the total land area (including wetlands) gives a sparse density of about .09 people per acre. But persons per acre of developable land (93,491 acres) comes out as 1.12, or 717 per square mile. There is also about 28 percent of the developable land in agriculture, mostly declining sugar cane and expanding livestock production (Tamerica Management Company, 2003). The landscape, then, has concentrations of development on islands and peninsulas of solid land, yet “undeveloped wilderness,” usually waterlogged, within easy access of even the most developed areas. It is possible to walk from the parish courthouse in the center of Houma to undeveloped wilderness within a half hour (faster by pirogue), and during hunting season, it is common to see armed hunters while driving around the edge of town. The industrial areas – fabrication yards, machine shops, boat builders, and oil service industries – tend to be oriented toward the waterways or airport for transport. Most of this is on the edge of Houma, although some tends to be closer to the city center. The resulting landscape is one of “industrial rurality” – heavy

industrial activity on the edge of farmland or environmentally sensitive wetland. This ruralism merges with local lifestyles in recreational preferences of hunting, fishing, or gardening.

The land and wetland areas are rich in natural resources. The fisheries of southern Louisiana are probably the best in the United States, especially for shrimp and oyster. In fact, Houma used to call itself “The Oyster City” and of course claims its oysters were better in flavor and healthier than other oysters in the country (Bazet, 1934).

In addition, the swamps at one time held extensive areas of cypress trees, valuable wood for logging. Much of this was clearcut by the end of the 1920’s. In 1930, the assessor’s report recorded 88,963 acres of “cut over cypress lands” and 6,203 acres of remaining cypress forest (Houma *Courier*, Sept. 18, 1930, p.1). In essence, just as the logging industry was forced out by over-cutting, the oil industry was poised to come in. The strongest representative of the oil industry in Terrebonne Parish was The Texas Company (Texaco).

3.1. The Texas Company and Oil Development in Terrebonne Parish

The Texas Company officially started in 1902, founded by one of those freewheeling oil men, Joseph S. Cullinan, in Beaumont, Texas. Cullinan was one of the entrepreneurs drawn to Spindletop (near Beaumont) by the 1901 gusher and subsequent oil boom. Cullinan’s financial backing came from a combination of Texas, New York, and Illinois investors not tied to the dominant Standard Oil conglomerate. The Texas Company developed a pipeline system and refinery at Port Arthur, Texas, then began expansion into nearby fields in East Texas and Louisiana. The Company made an early commitment to producing gasoline for automobiles (marketed under the Texaco brand, symbolized by a red star with a green “T” in the center). Suffice to say, it developed as an integrated oil company with a national distribution system. In 1928, The Texas Company entered into a contract with Louisiana Land and Exploration Company to explore and drill in southern Louisiana (James, 1953). It also contracted directly with the State of Louisiana to develop oil fields in the water areas of coastal Louisiana. The state was the owner of the land under navigable bodies of water, and in the 1920’s and 30’s, that meant dealing with Huey Long.

Oil was first discovered in Terrebonne Parish in 1929, when The Texas Company brought in wells at Lake Pelto and Lake Barre. The major field of Caillou Island started producing in 1930. Later came the fields at Four Isle Bay (1934), Gibson (1937), Bourg (1952), Mosquito Island (1955), and East Caillou Island (1956) (Bertrand, 1952). By 1965, the New Orleans Geological Society had mapped some three dozen oil and gas fields in the parish (inshore) as well as 17 offshore blocks under production. Texaco was the largest oil company operating in the parish (Bertrand, 1952).

If you look at the geography, Morgan City had no place to expand. They had no property where here in Houma we did have something to expand. For the oil industry or offshore-ists in particular, Morgan City had the advantage of having the Atchafalaya River, so the people of Terrebonne Parish went along and dug what is know as the Houma Navigation Canal so we would have an access to the Gulf of Mexico which was really great. And, of

course, now it is really hindering us because of the saltwater intrusion. But, at the time, it drove a lot of industry in and made a lot of money for the parish (Phillip Fanguy, 2003).

As oil development expanded offshore, Morgan City's deepwater harbor allowed it to prosper while Houma's lack of such a harbor was a hindrance. Houma's advantage lay in accessibility for shallow draft vessels and aircraft serving the inshore fields surrounding it in all directions. Thus the oil development story in Terrebonne Parish is essentially an inshore story – with significant production in the marshes, lakes, and coastal areas inshore of the barrier islands. There were innovations in design and production techniques that were developed in this area, including solutions to problems that needed to be solved before offshore development (on federal lands offshore from the barrier islands) could succeed. As oil development progressed, the story of oil development in Terrebonne Parish became more of a story of oilfield service industry development.

Inshore oil and gas development peaked in the 1960's and 70's and production began to diminish significantly after 1980 (gas peaked in 1970, with annual production at 38,974 million cubic meters, oil's best year was also 1970, with production of 20,501 thousand cubic meters). After 1970, offshore production came into prominence (Davis and Place, 1983).

3.2. The Coming of the “Texiens”

Oil, sulphur, and related industries have brought to the Delta floods of newcomers, rangy, lighthaired men of other Southern states. A large proportion are the drawling men of Texas; and as the Deltans applied the term “Irish” to every levee worker of the earlier period, they use “Texan” (pronounced with a strong French accent) for all of these, including Georgians, Oklahomans, Mississippians, and even Anglo-Saxons from North Louisiana. Whatever their origins the “Texans” have introduced another tempo as well as another drawl. At the bars and restaurants, the juke boxes play songs of the range and the mountains, and the older natives watch in wonder as the slow-talking, quick-walking new arrivals step past them. The oil-rig workers look puzzled at what they find; they know no French and they are not inclined to learn it...But like the “old Irish,” these “old Texans” are coming to appreciate the Delta; and to it they have brought an increased prosperity (Kane, 1944, 258).

In the 20th century, Terrebonne Parish was going through the same sort of transition faced by rural areas all over the United States. As farms continued to grow larger and subsistence farming gave way to corporate, market-oriented agribusiness, the displaced small farmers were forced to find other means of work. Terrebonne Parish had been able to provide for some of that displacement by cypress logging, trapping in the marshlands, or fishing in the Gulf and bays inshore. However, it was clear that for many people, staying in the area would condemn them to low-wage labor in the sugar plantations and mills. In many other parts of the country, the only alternative was to migrate to the cities to work in the factories. It does appear that the only reason there was no “Grapes of Wrath” story written for Bayou Cajuns was the opportunity

provided by the oil field. They did not have to go to the industrial part of the United States to work; it came to them. But oil work was “high technology” in the 1920’s and 30’s and the local people needed to learn how to do the work. Their teachers came primarily from the older oil fields of Texas, Oklahoma, Arkansas, and north Louisiana. Many of them liked what they saw, and stayed. Those people significantly changed the cultural mix of Terrebonne Parish.

Well, when the offshore industry started first we did not have enough local people to supply the work force. People started moving into Houma. One of the things that aided the break-up of Houma was that the land was mainly agricultural land. And the sugar cane industry was big and strong then. And eventually some of the larger cane farmers started selling off some of their properties to build subdivisions. Of course that’s when the big change really started to hit Houma (Phillip Fanguy, 2002).

The local people had a vast folk knowledge of how to live in this bayou and marsh country. They were able to survive through the combination of hunting, fishing, trapping, and subsistence agriculture, supplemented by seasonal employment in the sugar mills; at least that was one view.

...the locals were not going to work for the oil companies. They liked the boat building that they did. And the fishing. Trapping was a large industry in the southeast [of] Louisiana... And I will give you an example. In the forties, a trapper would average 14,000 dollars a year where the governor of the state of Louisiana only made 3,000 dollars a year salary. So it was hard to give that up (Phillip Fanguy, 2001).

Well, there was a big fur trapping [industry]. We had two or three very big fur people. We treated furs, you know they came and bought the treated furs, not coats or anything, but came and bought the furs. Mahler, I think, was the biggest one. And then of course, at one time this was the oyster capital of Louisiana and before we came, they had something they called “turtle camps” down on the bayou that goes through town ...and people got turtles, I guess to eat, make turtle soup ... or something. And then of course we have always had the [sugar] canes. Canes is a major industry (Annie Weaver, 2001).

The transition between old fishing/trapping/hunting ways of life and the new steady industrial work came slowly.

Yet even today, when trapping time comes or a friend reports that the alligators are more plentiful than usual, some grow restless on the jobs. With high oyster prices, they can expect two months of bonanza pay on a lugger; a especially good season with the [musk]rats and a man can bring home more in a day than a steady job will net in six months. Some of the companies have worked out a compromise. As trapping opens, for instance, a man takes a leave of absence. He returns satisfied, comparatively enriched, a happier Deltan. Deny him this, and he will fidget, swear at his Yankee overseer, and quit for the marsh (Kane, 1944, 259).

Kane (1944, 259) overheard one oil field supervisor say, "I wish every damned muskrat in Louisiana would curl up and die! Then they'd have to come to us. What's the matter with these people? Is oil money poison?" In some ways, the 6 day on and 6 day off schedule (later 7 and 7) was better suited to allow time for trapping and fishing.

The oil companies, especially The Texas Company, imported their drillers from the established oil fields in Texas, Oklahoma, and northern Louisiana. These were perceived by the local people as northerners, as often as not lumped together as the generic "Texien" or "Texan," as in the quote at the beginning of the section.

Billy Joe Tillery's father was sent from The Texas Company's Texas fields to work the new finds in Terrebonne Parish in the early 1930's, and Billy Joe himself would spend his working life with the company.

My daddy started working in the oilfield about 1920 and back in those days you worked in a field and you drill all the hole wells out and when you got finished they left the derrick but they took the equipment from the derrick and most of 'em were wooden derricks and they'd, they'd move to another field and as soon as they drew the last one, you lost your job. You went to another company and got you another job. And my daddy left Panola County and he went to Arkansas, 'round...Camden, up in that area and there was a lot of drilling at the time and...and...and they messed up Arkansas a little worse and they messed up a lot of other states and...and counties. And he worked there a while and he went back over there and worked in Texas...he was working for Texaco at that time, and they told him that they had a job either in Houma or New Iberia or Venice, and he could go to either one of the three he wanted and he'd get a drilling job back, he was a driller. And he looked at that map they showed him of South Louisiana and he told him... there was a man named Mr. Peavey, who worked at Garden Island after that for years. He said, "Mr. Peavey, before I go down there and get eat up by the mosquitoes and alligators," he said, "I'll starve to death." And that was back in '33. So he took us to my grandmother's, over in Monroe, and we all liked to starve to death. So, he come to Houma, we come to Houma in '33. We stayed there about a year, and then we moved to Breaux Bridge. We lived in Breaux Bridge about a year and then we moved back to Houma after a year. And I remember when we come back, they had about five or six drilling rigs down at Dulac, waiting on crews, 'cause they didn't have crews. The people in this area, they were fishermen and hunters and trappers and sugarcane farmers and they didn't want to work on the rig. They thought it was too dangerous. And as time went by, why, they changed their minds. Some of them wanted work and they decided that, you know, good paying work. Well, you could go to work in the kitchen, make 80, 90 dollars a month, if you worked 24 to 26 days a month. And I had an uncle that went to work on the rigs at that time, back in 1937, he'd just got married to my aunt. And he was from Pointe-aux-Chenes, a little town not far from Montegut, Louisiana. Well anyway, he went down there and he went to

work, and he stayed 68 days, with no days off.... But they would give you four days off a month. Well anyway, he worked those 68 days that the tool pusher asked him, 'Why don't you have some time off coming?' He said 'I don't know, I been out here 68 days.' He said, 'Well, catch the next boat going in.' And he was working at Lake Barre. So he went to the landing and he walked to Pointe-aux-Chenes, 'bout 10 or 12 miles from the landing. And the next morning he got up real early and went to get him a fresh store-bought hair cut (Billy Joe Tillery, 2002).

Billy Joe recalls that the barber shop was right across the street from The Texas Company's main operations base in Houma. After his uncle got the hair cut, he had the misfortune to bump into the man in charge of the company's commissary, Leroy Johnson.

"Rog, you're just the man I wanted to see," he said. "You got to go to Lafitte and relieve somebody down there," he said. "We don't have nobody to work down there." So he went down there and he worked 72 more days before he got a day off. So he had one night off, in about 140 days (Billy Joe Tillery, 2002).

Another of the "Texiens" who came into southern Louisiana as a boilerman found both the people and the physical conditions especially distinctive.

It was a kinfolks crew. Louie [the Cajun driller] had his son-in-law, his brother-in-law, and a nephew working for him. All of them had French names, and all of them had a peculiar habit of not calling each other by name. If one of them needed some help, he would say, 'Hey, Nephew, give me a hand,' or 'Bro-in-law, help me here a minute.' So I fell in with them and said the same things. Inside a week, all of them, driller and all, were calling me 'brother-in-law.' And I carried that nickname for twenty-six years. That was a fun winter. We worked hard, it rained an awful lot, and we drove to work over corduroy roads made of logs and sometimes planks. You kept your mouth shut on those roads or you would chip a tooth. Those roads were pretty rough (Lynch, 1987, 67).

Gerald Lynch, the "Brother-in-Law" from Texas, didn't stick. While he enjoyed the mild winter and he "got along fine with the Cajuns," by spring he found physical conditions uncomfortable.

Came spring, came mosquitoes, gnats, and every other flying insect you could name...Mosquitoes came in clouds and some of those big gallinipper mosquitoes could bite through two khaki shirts. They had bug fans on the derrick floor, and the mosquitoes didn't bother the Cajuns too much, but I had no fans at the boilers. I wore mosquito netting over my hat and face, but I suffered...By the last week in March I had had it. I quit and went back to Kilgore, looking as though I had smallpox... It's a beautiful country, but not for this central Texas boy (Lynch, 1987, 67).

Then came the Depression, and in 1933, Billy Joe Tillery's family moved to Houma and they took its chances with the mosquitoes and alligators

Other old Texaco hands or their children moved south during the Depression, bringing their families with them as well. Joe Robinson's father worked in the oil industry, and when the Depression brought unemployment, Joe found out about Texaco hiring in Houma in 1937.

So I came down here [Houma] and I guess there were about 300 people on the streets doing the same thing I was doing. Out of those 300, I was fortunate to be one of two people to go out (Joe Robinson, 2002).

Robinson had had an advantage in hiring because "a fellow that I knew from where I am from had been down here and he knew one of the superintendents. He put in a good word for me." The oil workers who came were able to take advantage of their own social network within the oil industry. This was also true for Harold Burton and Arles Doss.

Harold Burton grew up near Shreveport with his grandfather, who was a production foreman for Texaco. When he started, he began work as a roughneck for various workover contractors in Illinois, but his grandfather asked him to work in Louisiana to be closer to the family. He began work for The Texas Company in Morgan City, then transferred to Harvey and worked on the drilling barges, *Gibbons* and *Terrebonne Bay*. In 1956 he was promoted to toolpusher, then in 1958 he was dome foreman. The next year he was made dome foreman at Caillou Island, the largest field in the parish. After retiring in 1983, he continued to maintain his home in Houma. He represents another example of a person continuing a family tradition of working for Texaco. Several other retired oil workers pointed him out as one of the most highly respected toolpushers in the Texaco organization.

Arles Doss was a similar case of a "northerner" who came south and stuck. His father worked for The Texas Company at Caddo Lake in that early waterborne development area. Arles came to roughneck in the field at Golden Meadow field in 1942.

...my father worked for Texaco for 42 years and I worked 34 years. My brother worked 32 years, but Daddy worked 42. Figuring all together, I believe the three of us had 108 years with Texaco...Well, for a long time I had Fire Chief gasoline for blood (Arles Doss, 2003).

Conditions were rough in Terrebonne Parish at the time. The area was not well developed and lacked basic infrastructure. As Annie Weaver found when her family moved down from the oil fields of north Louisiana and Texas in 1939, "There was one main street. It had about three blocks of paving on it. That was the paving in Houma." The problems of crossing the drawbridges were evident even then. "And then when you tried to cross town, you had to wait for the bridge to close because there was a boat coming." As a newcomer, Annie was impressed by the churches. "And churches, we have always had nice churches and St. Francis was the biggest and being right downtown, it was so gorgeous. Every time you had visitors, you took 'em to St. Francis so they could see the stained glass windows, the statuary." In her 90's at the time of our project, Annie Weaver recalls that living conditions in the 1930's were tough.

When we first came here, there was no gas. We had to have oil stoves to cook on. And we had a heater in the living room that we burned coal in. And that was so dirty. It was just cleaning constantly from that coal soot. Then they finally got natural gas. Now there's gas so close in the ground, we had a neighbor who put a pipe in the ground and tied his into his wife's cooking stove, but when the powers-that-be found it out, they made him cap it. They told him it was dangerous. And we had shell streets. Oh, brother. And we didn't have cooling back then either, no ACs. There were fans and the fans just sucked the shell dust in. You could write your name on any piece of furniture you passed unless you dusted every morning. And when we first settled here, we lived on the bayou and the boats going by would blow their whistles for the bridge and it would knock you out of bed. Then if there was a fire, the fire station had the most awful thing on it, the warning for the volunteer fire people. That would knock you out of bed. We had a lot to get used to when we came (Annie Weaver, 2002).

But Annie found the people hospitable from the outset. Within a few days, she and her children had met "Grandma Bergeron" and her daughter.

They were around the corner from us. The children met them first. You know how kids get out and visit. I wasn't well the first year we were in Houma. I had a knock on my back door and I was in bed. I had a cold there and she said, "One of your neighbors wants to talk to you." And I said, "Well, ask her in." So she brought her in and Grandma came in with a bowl of black-eyed peas and bowl of cabbage and I didn't know what it was for. We didn't do that in Texas. They were wonderful people (Annie Weaver, 2002).

The children were able to make friends with other children right away, even developing French language skills – the wrong ones.

And I thought my children were learning French and I said to Grandma one day, "I am so happy that my children are learning French. They are going to have a second language." She said, "Well, what are they saying?" So I repeated the few things I could pronounce. And she said, "Oh, no they are not learning French. They are learning to cuss." Oh, yeah and dirty words. Cuss and dirty words, so I had to stop that (Annie Weaver, 2002).

Despite the abrupt introduction to French culture, Annie decided "this is home to us." When the company "tried to send us back to Texas, our two children said, 'We're not goin'.'" Then she and her husband had to choose between job and home.

...when they want[ed] to send us back to Houston, they said, "Well, you know, we need you in the other place." And Daddy told them, "I just can't leave my children so we are just going to have to resign." So my husband said. He come home to tell me about it. So we both cried. He said, "I could work anywhere there is an oil well." He said, "We will stay right here." So that happened every

time a company wanted to send him somewhere else. He would just move and go over to another company and we've been here ever since (Annie Weaver, 2002).

There was some local concern about these newcomers as "oil field trash," and people like Annie had to prove themselves.

In the early days a group of oil field people called "Wildcatters" came in and they give us kind of a bad name, because they drilled, they drilled, but they'd get a dry hole, so they would just move on. And it was mostly men. You know, the wives didn't come. So when my area started here, the wives were here with the children and of course, our children went to school. They went to Sunday school and church. And it was a different thing altogether, but we were looked down on at first. We really were. We were looked down on at first. I went to a coffee at one of the elderly Legion ladies' in my neighborhood and she said, "Please don't tell anybody you are with the oil field." Oh, yes. And then in later years, I had a woman in the Literary Club one day tell me, "I just never realized you were with the oil people." I don't know what they expected me to do. But they eventually accepted us and we all made wonderful friends and just... we're at home (Annie Weaver, 2002).

Annie's experience is typical of a number of people who came to Louisiana, liked it, and stayed. These "outsiders" also became agents of change, representing different religions and also different attitudes.

...they were Catholics and we were Methodists. So you see it was only during the day, during the weeks that we really got together. And I met people through the Club and when we tried to develop a PTA group. Grandma didn't know what a PTA was and she didn't approve of it, so that's all there was. And it took us several years to convince them that it was for the benefit of the children and the parents to have it. So finally they give in and really a lot of the French ladies joined it and they were surprised. I don't think they knew what it was. You know, they just stayed home and left the teachers and the powers-that-be take care of the school.

Well, that changed, because when the oil women come, they were used to doing, you know, taking care of themselves and doing their shopping. They didn't wait, well, they couldn't wait for papa. Papa wasn't coming home (Annie Weaver, 2002).

Race relations were more problematic. But a number of people noted that blacks were treated more harshly by northerners than local people. Burleigh Ruiz, who retired in 1987 after 39 years with Texaco, remembers growing up on the sugar plantation where his father worked.

We didn't have much trouble with the blacks coming in, one or two guys [did]. South Louisiana guys, it didn't matter to them. Like me, I was raised, we both [are] from plantations. My daddy worked blacks and whites too and her (Molly

Ruiz) daddy worked at a sugar refinery at Southdown. My daddy worked for South Coast Sugar and her worked for Southdown Sugar. We had Blacks working next door, so it didn't matter to me. Some of these guys though, we call them rednecks from north Louisiana and Alabama, they didn't care too much for it. I remember one guy, when the first black came to work at Lake Barre (oil field) he happened to come sit at the table. This guy was from north Louisiana, when the black sat next to him the other one kind of sat and laughed... he never went back to sit at the table, he would cook his meals at the compressor table (Burleigh Ruiz, 2001).

Phillip Fanguy of Duplantis Trucking recalls back to the 1950's.

We were one of the first people to hire an Afro-American. African Americans was not accepted in the oil field and then the only place is when they started fooling with drilling muds, and back then they did not have forklifts like today. Here's a picture of a man that we actually made a truck pusher, is black. Of course, there is a lot of resentment. He could read and write, which was an asset...And Mr. Duplantis made him a pusher, you know, a supervisor (Phillip Fanguy, 2002).

In the mid 1950's the oil industry was really starting to grow and carry Houma along with it. At the time, however, there wasn't much urban development, as Hartwell Lewis recalls.

At that particular time, you know, all that you see here was sugar cane fields and even where the Civic Center is, that was cane fields. In fact where the Methodist church is was out of town, you see, because you had little down Barrow Street until you get to Little Bayou Black and you go over Lafayette Street and go back to Main Street and that was Houma. At that particular time when you cross Bayou Terrebonne to the north side none of that was there; that was the city dump. And that was constantly on fire, you know, burning trash; that was an accepted fact. So the fishing, shrimp and oyster fishing, and sugar cane were the predominant industries and then the oil industry started moving in and more and more people moved in. And within time they started hiring people (Hartwell Lewis, 2002).

The bulk of urbanization came later, but it was mingled with a rural landscape and a blue collar feeling. For example, "Deep Hole Corner" was a vacant lot at the corner of Barrow and Main Streets in Houma, where unemployed oil workers could gather in the morning and be picked up by people needing workers for projects lasting for just the day or longer (CJ Christ, 2003). This informal "employment office" was in the shadow of the most developed part of Houma.

3.3 Working in the Oil Fields: Photographs from the Jerry Shea Collection

Jerry Shea of New Iberia had accumulated, over the years, a number of photographs of the people and the equipment employed in the oilfields of south Louisiana. He shared the collection with our project researchers. Shea's grandfather began with Texaco in Texas in 1908 as a welder, worked many of the properties in south Louisiana, and eventually became superintendent of the company's New Iberia District. Jerry's father and an uncle, also trained as welders, worked for Texaco, then joined Moran Tank Company, which built tanks for Texaco. Soon, they started up

their own companies in New Iberia – Bayou Welding and Bayou Pipe Company – the latter still a major enterprise at the Port of New Iberia. It is likely that the photographs were taken at many different times and places, by a number of now-anonymous workers on the rigs, in the camps out in the fields, and on the boats; Jerry Shea himself didn't provide extended interpretations or identifications of every scene. The photographs reproduced here are thus not intended as a documentary record of time, people, and places, but simply as a portrait of, and tribute to, those in the oil fields of south Louisiana.

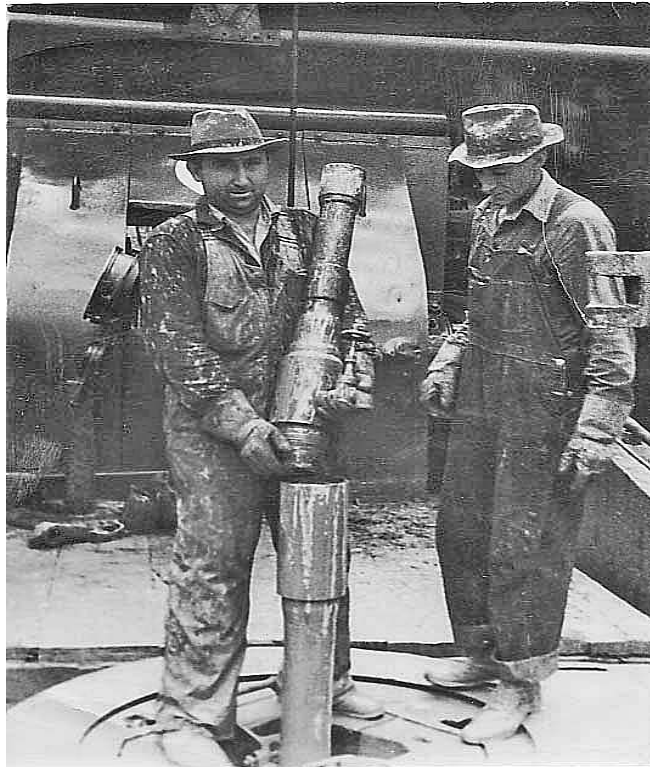


Figure 2. Two Men Working on a Rig Floor.



Figure 3. Assessing a Blowout.



Figure 4. Working on a Blowout.



Figure 5. Drilling Rig.



Figure 6. Field Office and Crew Quarters.



Figure 7. Texaco Amphibious Biplane.



Figure 8. Barges in Tow.



Figure 9. Working on a Rig Floor.



Figure 10. Barge Drilling Rig by Field Facilities.



Figure 11. Texaco Barge Drilling Rig.



Figure 12. Strategy Session.

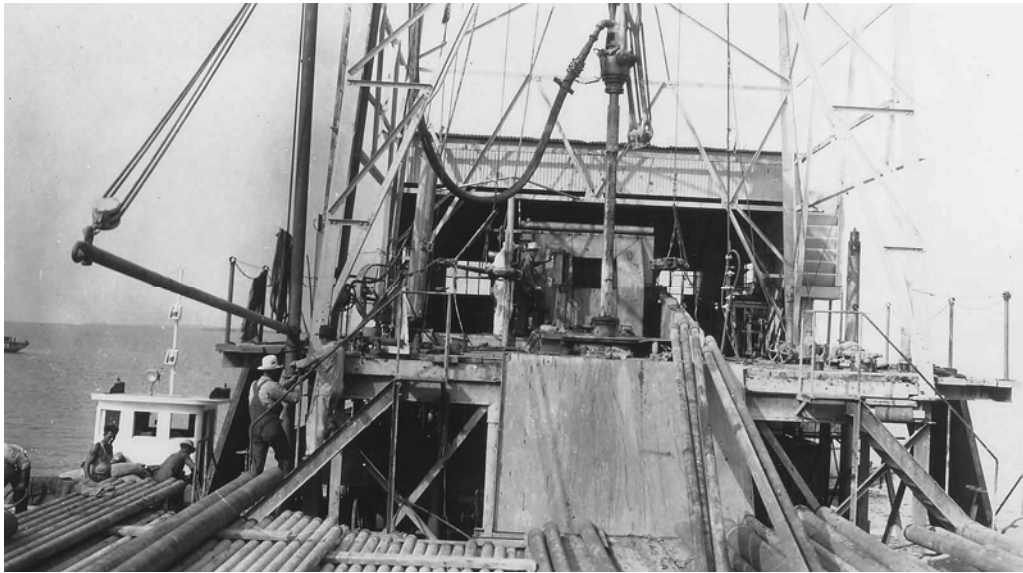


Figure 13. View of a Rig Floor.



Figure 14. Field Office Complex.



Figure 15. Men Working on a Well.

3.4. The Parish by the Numbers

Oil service development in Terrebonne Parish was facilitated by its access to the loading docks for both inshore and the incipient offshore areas. At the same time, its relatively limited land base meant that oil field businesses had to compete with established businesses and plantations that were already on the land.

...you didn't have as much land to expand on as like you did in Lafayette. Lafayette became the engineering hub for a long time, of oil field companies coming in and setting up their engineering headquarters, and Houma got left with the service sector because it was so close to the boat docks and facilities. And there was a lot of oil drilling around here as well, land and inland barge because of our waterway structure. We had a lot of inland barge capacity, to either store them or house them here. And then they would go out and work in the marshes here, Terrebonne and Lafourche (Billy Coyle, 2002).

Land limitations inhibited development in both Morgan City and Houma, even though both were very well located in relation to the oil fields. The more land-rich area of Lafayette was able to expand more aggressively despite its greater distance from the wetland production areas. Perhaps the lack of land was one of the reasons for the tempering of oil development in these coastal parishes, as suggested by Gramling (1993). Population did grow in the times after oil was discovered in Terrebonne Parish, and, as shown in Table 1 below, the growth rate was greatest during the time of peak oil development (1960-1980).

Parish population more than tripled from 1930, when oil began to become important to the parish economy (see Table 1). While the general growth may have been stimulated by oil, perhaps that may have also precluded other types of growth (tourism and retirement homes are major aspects of other coastal sunbelt cities). As Gramling (1993) pointed out, Florida has been adamantly opposed to offshore oil development because of its potential threat to the environmental quality that is the core salable product of its recreation industry (and Florida’s population growth rate has been far higher than Louisiana’s). While there is indeed tourism in southern Louisiana, it seems handicapped by the widespread environmental deterioration caused, at least in part, by the oil industry. The relative lack of accessible sandy beaches is no doubt another tourism development factor. However, resort and tourism development on the barrier islands (Isle Derniers and Grand Isle) has been in the area since the 1850’s (Davis, 1992).

Table 1

Population Change, Terrebonne Parish

Year	Population	Percent Change From Previous Decade
2000	104,503	7.8
1990	96,982	3.8
1980	93,393	22.8
1970	76,049	25.1
1960	60,771	40.3
1950	43,328	20.8
1940	35,880	20.3
1930	29,816	

Sources: Gramling, 1993; U.S. Bureau of the Census, 2000

The high-paying mining jobs shown in Terrebonne’s economic profile have been very important in the parish economy (see Table 2). However the cyclical nature of such work makes the economy quite susceptible to the downturns of the oil industry. This is probably most evident in the differences in mining employment between 1980 and 1990, when the “oil bust” of 1982-87 cut mining employment drastically. Because the parish depended so much on the oil money for other businesses, all the other sectors of the economy fell along with mining employment. In fact, the Houma Metropolitan Statistical Area (the combination of all of Terrebonne and Lafourche Parishes) lost nearly one quarter of all its jobs in the major downturn between 1982 and 1987. Recovery has been steady as oil prices have gone back up, but the area is also diversifying into other areas of employment.

Today retail trade and services are the major growth areas. These jobs are more stable but more often than not are lower paying than oil work. A former administrator of Terrebonne General Hospital, noting that healthcare is now providing an alternative support to the community economy, pointed out that during the 1980's downturn a number of oil workers shifted to the nursing profession, providing the parish with "more than the usual number of male nurses." The boat builders who were heavily dependent on oil work have now been able to diversify into government contracts or building boats for use on inland waterways. As the inshore oil fields themselves have been largely sold off to smaller "independent" oil producers, workers have been hired by these companies, generally at a lower pay and benefit scale than that paid by the major oil companies.

Table 2
Employment Profile, Terrebonne Parish

	1970	1980	1990	1997
Total	18,048	35,436	29,830	41,649
Ag/Forestry/Fisheries	121	81	127	152
Mining	3,785	6,019	3,917	6,464
Construction	1,586	2,073	1,714	3,306
Water Transport	964	2,435	1,168	1,569
Air Transport	NA	182	175	136
Wholesale Trade	1,102	2,994	2,740	2,692
Retail Trade	3,555	8,436	8,054	8,949
FIRE*	712	1,439	1,333	1,185
Services	2,504	5,849	6,462	11,367

*Finance, Insurance, and Real Estate

Sources: U.S. Department of Commerce, Bureau of the Census. County Business Patterns, 1970, 1980, 1990, 1997.

The other major aspect of change in oil workers is that many of the workers currently involved in the "mining" sector are working "28 and 28" schedules (28 days at work followed by 28 days off), alternating a month offshore or in places like Nigeria or Malaysia with a month back home. The world oil boom at present, combined with the hiring of people at lower rates by local independents, has resulted in a most recent (1997) number of oil-extraction workers higher than at peak in 1980 (see Table 3). However, the most significant oil-related growth in the parish since 1990 has been in employment in oil/gas field service and metal fabrication. The metal fabrication employment is concentrated in Gulf Island Fabrication, which serves the offshore oil industry. So the strongest area of current growth is in the oil service sector, not oil production.

Table 3

Selected Occupations, Terrebonne Parish

	1970	1980	1990	1997
Oil/Gas Extraction	NA	5,960	3,750	6,305
Oil/Gas Field Service	2,295	3,166	3,455	6,140
Fabricated Metal Prod.	199	522	173	1,126
Oil Field Machinery	616	507	375	374
Ship Building/Repair	391	1,873	899	1,216
Trucking/Warehousing	499	527	215	689
Legal Services	59	195	303	356

Sources: U.S. Department of Commerce, Bureau of the Census. County Business Patterns, 1970, 1980, 1990, 1997.

Educational attainment has improved, just as it has in the United States as a whole. It is hard to attribute this gain directly to oil work. These educational attainment levels are lower than for Louisiana as a whole (16 percent college graduates or higher in 1990) and the United States (21 percent college graduates or higher in 1990). This is a major concern of some community leaders in the parish, who feel that well-paid oil related work draws people into the workforce before they have a chance at higher education, which would give them a better chance of steady income to offset the cyclic nature of the oil industry. Others feel the skilled craft work available provides the workers of the parish with an alternative to college education that pays very well and enables people who have no academic skills to make a good living. Perhaps most representative of this tug of war is the change in the Houma campus of the Louisiana Technical College, which is transforming from a trade school to a community college.

Several study participants noted that their promotions in oil work were tied to high school diplomas, so they went back to school to obtain GED degrees. The promotion to driller at Texaco was noted as requiring a high school diploma. Education requirements have strengthened since World War II, but it is still possible to do well without a college degree.

Table 4

Educational Attainment, Terrebonne Parish

Year	Persons 25 and Older	Percent Finished High School	Percent 4 Year College Degree or Higher
1940	15,733	5.4	2.3
1950	19,725	7.3	2.5
1960	26,479	15.5	4.3
1970	33,600	23.8	5.7
1980	46,849	32.6	9.8
1990	55,636	34.9	9.4
2000	63,271	35.8	12.3*

* Educational attainment for 2000 also includes 19 percent of adults with some college, no degree.

Source: U.S. Department of Commerce, Bureau of the Census. Census of population and housing, 1940, 1950, 1960, 1970, 1980, 1990, 2000.

The argument that oil development has affected the growth of Terrebonne Parish can be made with ease. The economic rises and falls parallel the oil industry cycles and the oil workers themselves have life stories that are substantially affected by oil work. However, there is little evidence that this is a “boomtown” situation. There is little indication that the parish has grown much faster than other sunbelt areas without oil or faster than the United States as a whole during the period 1930-1990. The Louisiana communities cannot be called “boomtowns” in the same way the energy development communities in the Rocky Mountain States were in the 1970’s. Oil work did enable many people to stay in the area and brought a number of others, especially people from the “oil patch.” But the growth was maintained within the ability of the region to adjust to it.

4. OILFIELD SERVICES

Doc Laborde, he invented the supply boat. Alden Laborde invented the supply boat. He also invented the first submersible drilling rig, and had a lot to do with the same submersibles in the development in deeper water. That was very, very innovative. Especially supply boats. So, you know, there's a tremendous amount in this area still being used worldwide. And these seemed to have evolved into a lot more technical pieces of equipment. But basically the first rigs and platforms were built in this area (Kerry Chauvin, 2003).

The oil fields of Terrebonne Parish, as all of the inshore and offshore areas, demanded new approaches – the soft wetlands required submersible drilling barges and a host of specialized boats, the soft sediment required use of heavy drilling fluids (“muds”) and cemented casings to hold the wells open, the high pressure mixture of oil and natural gas necessitated precautions for preventing blowouts, the highly corrosive gases in the wells required special metal products to maintain product integrity, and the list goes on. All of these requirements, and more mundane needs to supply and service the rigs, spawned a large oilfield service industry. That industry provides much of the economic base of Terrebonne Parish. So, while part of the story of oil development in Terrebonne Parish is the story of oil well drilling and production, another major aspect is that of oilfield services. This section will discuss the views of some of the oilfield service workers and also concentrate on one example of oil field service that may have “run its course,” the floatplane aviation services.

The first producing well in Terrebonne Parish was drilled in 1928, marking the beginning of the oil business in the area. Houma was the largest town in the parish, and the oil field businesses tended to locate there. In the Houma City Directory of 1938-39, a total of 22 businesses were listed as “oil and oil services.” This would grow to 260 by 2001. These businesses were either directly engaged with oil production, like The Texas Company and Louisiana Land and Exploration, whose partnership really started oil development in the parish, or service groups like Schlumberger, Halliburton, or Reed Roller Bit which came into the area to support drilling activity. Over the next 65 years, those companies would become international in scope. Other companies started out as entrepreneurs, either local or oil field based, saw opportunities and created businesses. Probably the earliest “local” companies were the truckers and boat owners and builders. In each case, their equipment had to be modified to haul oil equipment or supplies, and each had to continually adapt to changing conditions. These oil field service companies probably best represent the dynamics of oil development.

...very few oil companies, in fact, I don't think any of them today, owned a drilling rig or the pipe or the bits or the mud or the hundred and one various other things you have to do to successfully drill and maintain, drill a well, bring it to production and then maintain the production, because they will sand up, they'll silt up, they'll paraffin up. And so that's what all these companies like Halliburton and Schlumberger and Patterson Rental Tools and Frank's Casing, all this stuff is, that was the real boom down here was, not so much people working for the oil companies, it was working for the companies that were working for the oil companies, because it's expensive to do and of course, they want to spread the

liability out. I mean, they don't want to own everything. If something goes wrong, you'd have to be able to spread it out a little bit (Ken Perry, 2003).

4.1. The Business Climate

The business climate in Houma during the period of the expansion of oil field activity, roughly 1940 to 1982, was free-wheeling. People saw a need and formed a company to serve that need. The Heldenbrand story sounds apocryphal – at least as related by Parish President Bobby Bergeron – “Old Man Heldenbrand came down here with a pickup truck and pipe cutter.” He started by going to old wells and salvaging pipe joints and other equipment for refurbishing and resale. Later Heldenbrand developed some tool joints that resisted abrasion in the rough environment of well drilling. The company became part of American Chromalloy, later became part of Delta Industries, and was reformed after Delta's bankruptcy. The original Heldenbrand Industries portion was bought out of bankruptcy by a group of local investors, with Robert Bergeron as president of the newly formed Surbo Tubular Services. In essence, the evolution of Surbo Tubular represents a recurring story in the oil fields. The business began as one person with a pickup and other simple equipment filled a need. It developed as that pioneering individual saw other needs and filled them. Many times those single-owner businesses were bought out by a larger regional or national conglomerate as the founder became too old or tired to continue (in some cases the founders were able to pass their companies on to children). Sometimes the large conglomerate could no longer adapt to changing needs or oil down-cycles and had to downsize or divest itself of the original business. The original company then could be bought by a group of local investors and continued as a smaller version able to adapt to changing conditions. Much of the history of oil service businesses is contained within the actions of knowledgeable pioneers, especially their abilities to train successors and to adjust to changing conditions. One other ingredient here is the ability of local or regional investors to provide money for buyouts or expansion.

The success of many of these businesses came from a climate in which toolpushers and field supervisors had great latitude in buying decisions. As CJ Christ, a veteran oil field pilot, noted, many deals were made on a handshake or simply a telephone call. The oil companies upon which the Terrebonne service industries relied, Texaco in particular, were primarily represented by field operators who had to get the job done with cost as a secondary factor. When one takes into account that many of these oil field supervisors were not educated in business schools and were to a great extent isolated, it seems clear that face-to-face contact and “your word is your bond” agreements were the norm.

...here's a guy... a lot of times with no formal education, he got all of his experience on the drilling rig. He's out there either on the rig or in an office someplace nearby, and he's got a budget of millions. In fact, most of the time he doesn't have a budget. His basic instruction is to go out there and drill that well – “You know the area. You know the problems you are likely to encounter. You know the people you can count on. You know the boat companies to call and the drilling mud companies to call, the drilling pipe companies and the supply companies and so forth, lubricant companies, fuel companies, you know, to furnish you with all the things you need. Just go out there and drill that well,” and

he had a tremendous amount of freedom... That puts a big, I guess you would say, responsibility on his shoulders because now he is lavishly entertained all the time by people... and there was a lot of profit in this business, a lot of profit (CJ Christ, 2003).

Christ also noted that rig supervisors had the primary decision making power and could call on anyone to do whatever they considered necessary.

But it's a comparison with what the rest of the United States business-wise thought of the oil field and that it was, it seemed to be run slipshod. It was almost without any control as far as the actual profit and loss statement and budget constraints and things like that. You just had the orders to go out and drill a well and you pretty much had the freedom to go out there and drill a well and show that whatever you spent was to drill that well. So the toolpusher and the drilling superintendent was the toolpusher's boss. You would have a toolpusher for probably every big job, but let's say you had Union Oil or Texaco or Exxon or Shell or Gulf, one of those big companies with a whole bunch of rigs running in one area, then the drilling superintendent would be over the whole area ordinarily and he wasn't very often out on the job unless there was something special going on. He was usually in an office someplace that coordinates this whole thing, but the toolpusher on the rig, when he got in trouble, the rig got in trouble, he had all kind of privileges to say who he could call. And they could manufacture something for that particular job right on the spot or describe it on the telephone to somebody in Houston or someplace else and they would manufacture it. And they would work all night long and get it on a truck or get it on an airplane and it didn't make any difference how much it cost. I keep saying that, but that's the basic theme that permeates this whole era is that the main thing was to get the rig on location and hopefully, hit a well and move on to the next one (CJ Christ, 2003).

The service businesses needed to adjust their "bidding" to the wants of the field supervisors who were relatively independent and had to be approached as individuals. That meant going out to the oil fields and drilling barges, at times giving "gifts" of whiskey, hunting equipment, clothes, paid vacations, and so on. There was indeed a corrupt aspect of this. It also meant that the personal friendships were also business relationships. Doing good work for someone translated into more contracts and personal friendship as well. At times these contracts were on an oral basis, written down after the work was done. So the bidding was flexible at first. That changed in the 1980's. Billy Coyle, Sr., founder of a successful oil tool company and now in his 80's, noted:

There was a company in this area in what we do, there was a company that had just started and had borrowed a lot of money and when things really got tightening up, they couldn't sell off of quality. All they could sell off of was pricing. They are not even in business anymore, but they were the ones I know that cut the first price and they went in and cut their price like by 25 percent to the customer, but when they cut the price, the customer said, "Well, we are going to

use him, 'cause y'all's prices are too [high]." Then it started, well then I guess the bean counters got involved and the counters started getting higher up over control because there was such a swing in the market place. Every barrel of oil goes under a dollar a barrel, I mean, 10 dollars a barrel or so then oil companies start losing money and they have all these commitments for rigs for one year or whatever and some of the rigs at the time were 80 to 100 thousand a day. They can lose money in a hurry. So they started tightening up their budgets and getting other people involved. But I can remember before [when] no one looked at a price book. They looked at the price book, but no one looked at bids. Like I said, we couldn't even spell the word "bid" until 1982. And after that, it just like went everywhere. Now you don't do anything without giving a bid. It's almost like working for a public company, three bids type deal. A lot of the people you are bidding against, depending on who they know, they may get another look at your bids later on. So it's, it's all a slanted deal in most cases. Now maybe not as much now, but back then there was a lot of deals cut, a lot of cowboy boots bought, a lot of steaks bought to give the so-called customers their gratitude and a lot of business was bought like that. We'd give a case, a dozen steaks to someone in appreciation for something and that would be about it, but there was people taking people all over the world and flying them, decking 'em out and all kinds of stuff, just to get a favor from them (Billy Coyle, 2002).

This local control by field superintendents was very territorial. Billy Coyle noted this about one company he worked with:

...their policy may be out of New York, but their office in Houston and the office in New Orleans were like two different companies, because they didn't communicate with each other on technology or anything else. You would get, give this entity pricing and you'd have to give this entity pricing. Two different contracts even though you worked for the same company. It was really amazing how independent these turf battles are with these superintendents and these districts. You don't go into one of the guy's districts and say, "Well, we are doing this over here in your other district." "Hell, I don't give a damn what they are doing over there. You are in my territory" (Billy Coyle, 2002).

Billy Coyle and CJ Christ noted that one of the major changes in the 1980's was the increase in corporate accounting, which took contract decision making from the field to the back-office regional headquarters. Coyle added, "Now as the accounting people took over control, then more of an educated management force was created, a lot of that (gifting) now is really frowned upon." That took away most of the advantage to going in the field and making face-to-face contact.

In the early times, successful business people tended to know many people and rely on the oil field social network. In this network, reputation was a key factor. John Monteiro, proprietor of an oil-field construction company and later head of the Houma-Terrebonne Airport Commission, recalled:

It was kinda hard to fail really, if you just stuck with it. See I knew a lot of people. I've been down, I've been down here 50 years. I started workin' in the oil field in 48, and people that I knew as roustabouts I still know...So I knew people, and that helped...But the biggest problem was being unknown. In spite of the people I knew, nobody heard of my company...It takes a while to get known. Once you get out and start meeting people, it helps (John Monteiro, 2003).

There was also a tendency for the supervisors in the field to want "one stop shopping," to make one call to get everything they needed.

This is my interpretation, now, maybe somebody else will have it slightly differently. But my interpretation was, if you could get it done instead of having to call in a whole bunch of people from the yellow pages when something needed to be done, they called whoever was reliable. Example, one of the ways the stores, the supply stores were, is a drilling rig superintendent or toolpusher, he was called, would get on the phone and he would call someone and say, "This is a shopping list of what I need." And he knew that the supply store didn't carry the extra dope and extra tong ties and extra dope that you put on the pipe threads and all that. He knew that they would have to go out and get it. He might even throw in 20 rolls of paper towels "and bring me some toilet paper," whatever like that and they would just do it. They might mark it up whatever, 20 percent or so, but they would do it. And so he just had to deal with one person who he knew he could count on and was reliable. Good equipment, good reliable people, radio control, all weather and so forth so that you didn't shut down their drilling rig dealing with some man on the telephone that didn't care about his job or whatever.

So I don't think you'll see that again, because over the years, especially when the oil field went down in the early '80s', then it got much more businesslike and the bidding goes on on the 21st floor of One Shell Square [company headquarters in New Orleans] now, and a bunch of CPAs open up the bids and whether you bought that guy a bottle of whiskey or not doesn't make any difference. They are going to take the best price from the best operator and so forth. And I am not in it anymore so I can't say exactly how it works nowadays, but I can tell you exactly how it used to work (CJ Christ, 2003).

Another example of the ease with which a business could be started is found in John Monteiro's experience helping his son, Bucky, get started in a boat service business:

When Bucky wanted to go into the boat business he was workin' for me. We found the boats we wanted...We bought two 600 horsepower boats at \$375,000 apiece, and two 900 [horsepower] boats for \$475,000 apiece, and didn't put a nickel down on 'em. They came off the shipyard with fuel in the tanks, [and went] straight on the job and we were clearing about \$10,000 a month a boat. And that started about late 80, 81, and the bottom fell out in about May of 82...When things got bad, Bucky did something very smart. All these boats were

going into the graveyard fleet; he'd go out and buy a boat for about \$150-\$200,000 that might cost a million. He'd take it somewhere to some shipyard and clean it up, repaint it, make it look nice – he built a nice fleet like that. He always had first class equipment and good people. When my company went broke, he went and rented an office and we all moved over there and started another one. You could start with nothin'. Bucky started with nothin', we didn't put any money down on those boats. And then we started the contracting company...just from practically nothin'. You just had to build it as you went (John Monteiro, 2003).

4.2. Experiences

The oil service businesses had varying types of experience as oil field conditions changed. The land leasing business was important when operating inshore among the intricate land tenure and inheritance systems of Louisiana, and became less important as oil work tended to concentrate offshore in the area owned by the federal government. Oilfield truck transport provides a good example of the way two Houma trucking companies had to respond to changing requirements for transport, storage, and inspection of oil-field equipment and supplies. The floatplane aviation industry affords an opportunity to examine the development and downfall of an industry that met a critical need in the inshore fields but whose technology was not adequate for the offshore platforms.

4.2.1. Land Leasing: In Louisiana, land allocation was affected by both the environment and its colonial heritage. Oil leasing was a tap dance between large landowners of vast tracts of land, small landholders with a totally different survey system, and the State of Louisiana, which was the official owner of the lands below the surface of navigable waters. The marsh environment was not suitable for settlement, although its resources could be exploited by hunting, trapping, logging cypress, or gathering moss. So that land eventually came under the control of large landowners, most notably Louisiana Land and Exploration Corporation (LL&E). Texaco's lease arrangement with LL&E made oil production on that land fairly simple. The smaller landowners often inherited land that was allocated under the French and Spanish colonial governments. The French "long lot" system was dominant. This system provided each original landowner with access to water transport by fronting each plot on a bayou and granting land in long lots stretching back into the less usable land in the back. The typical allocation was to go along the waterway, and allocate four arpents (one linear arpent is about 98 feet in length; a square arpent is about 0.85 acre) of water frontage to each grantee, to extend 40 arpents away from the river on a perpendicular line. In reality, the survey of the back part of the grants was not a major concern, and, even under the U.S. government, surveys were not well done. T. Baker Smith, after graduating from LSU, began doing land surveying for The Texas Company in the 1930s. His son, Clifford Smith, operates the third-generation engineering, surveying, and environmental services firm of T. Baker Smith and Sons in Houma, now employing around 100 persons, housed in the former Texaco operations building. Clifford is a member of the governor's Mississippi River Commission. Ken Smith, another son, also works for the firm, as does another son, Steven. Clifford briefly recounts the landscape.

Louisiana came into the US after it had been a French and Spanish territory and there were grants. There were people that were given lands based on the French and Spanish grants and not on the US government rectangular section, that became huge headaches. Then the US government survey came down and had to resurvey the land based upon the rectangular procedures and processes of the U.S. government but they had to fit into the grants. So, we end up with hellacious looking townships, sections, ranges, and titles. Then, the land didn't have enough surface value especially when you got off of the ridges. So, they protracted the surveys. The US government surveyors were being paid so much a mile. They had to have a buggy, a mule, or a sailboat to get around. They protracted a lot of the surveys and nobody gave a rat's ass if these were 10 miles between Bayou Grand Caillou and Bayou Terrebonne until they discovered oil and gas out there and then they wanted to know how many miles it was (Clifford Smith, 2003).

The resulting layout can still be seen in maps of the area. The "long lots" are arranged along the levees, fronting on the bayous, and extend 40 arpents into the back lot (arpents as well as acres are still used in local land surveys). In the marsh areas beyond the bayou frontages the U.S. Rectangular Land Survey takes over and imposes its more familiar (to Americans, at least) square pattern.

With the lack of an accurate survey on the back, landowners usually agreed informally to define use areas (usually trap lines or gathering areas) between neighboring plots. Under French law, all children inherit land, so those original plots were often subdivided into a larger number of smaller strips, or larger strips with many heirs as co-owners. These and larger plots would also have multiple family members as joint owners as inheritance patterns continued through generations. In addition, people "down the bayou" initially had little idea how to deal with the idea of leasing land for mineral exploitation. Annie Weaver remembers:

...a friend of mine, they have discovered that her father had leased land down in Chauvin, he had never signed, never cashed a [royalty] check. When he died about two years ago and they started to clean out the house, they found all of these checks in his sock drawer and each one of them said 400 dollars a month now and two girls and three boys and the girl is dead but her husband took his pay for what she was getting so that adds up to a pretty nice little sum (Annie Weaver, 2001).

The worst of this lack of knowledge was that the local people, often illiterate, were swindled by people who would tell them they were signing an oil lease when actually it was a bill of sale. The "land men" who were trustworthy were highly valued. Kermit Wurzlów, one of these, was identified as a man "who saved many people's land for them." Wurzlów himself attributed the protection of smaller landowners to his father, Herbert, Sr., who started the land business in the 1920's.

Oil leasing itself has a long history that is compounded by the Louisiana legal principle that mineral rights can be separated from surface rights, yet after 10 years will revert to the current owner if no oil production occurs. So people can buy land that eventually may gain previously

leased mineral rights. They may also find those rights were leased many years before. This situation creates a lawyer's paradise.

I bought a piece of property from a guy about 30 years ago. It was 10 acres. I bought it for the surface. He reserved the minerals. I forget about it because I don't own the minerals. There is production all around the property. One day I am walking through the office and my people are doing a unit map, meaning when you drill a well somebody decides which parts are going to be productive and you are part of the unit. I walked in and they have my property on the unit. I asked why they had that. They said, "Well you own it." I said, "Yes I own the surface but I never got the minerals." The client said, "You own it and the minerals." I said, "if I own the minerals I don't have a lease." I called the client and asked him how I owned the minerals. He said that 10 acres hadn't been productive for over 10 years and that I owned the minerals. I said "Okay." I said, "If I own the minerals, what are ya'll going to do because there is no lease?" He said, "They had a lease." I asked him how. Thirty years before I bought the property, they bought a lease from a guy that owned the property and it covered about 600 acres of land. The lease said that any production of the 600 acres holds the lease. "We got a well on the edge of the 600 acres that is still producing so it holds the lease on the property of 600 acres." "I owned 10 acres of it and you got the minerals because you bought it over 10 years ago and the minerals revert back to you as the surface owner?" He said, "And we have a lease because we have a lease on 600 acres." I said, "Well how can you have a lease on my acreage when I never signed a lease?" He said, "we have it." I really believe that there is a possibility that I could have sued them and said I didn't care what the lease said 30 years ago and who you did it with. I wasn't a part of that lease (Clifford Smith, 2003).

In addition, the state of Louisiana owns the bottoms of all navigable waters. This is a legacy of the colonial era as well. Responsibility for navigable waters was under state control. When oil was discovered under much of that water, the state found itself with some valuable real estate. There are also some local horror stories about corrupt state officials declaring land next to water bodies as "water bottoms" and confiscating it to lease to oil companies. Needless to say, that has resulted in a great deal of litigation.

The bottom of navigable waters belongs to the state of Louisiana. We get into what is navigable. There has been a lot of litigation over that locally. There has been a lot of legislation in attempting to reduce the conflict. That has been a big problem. It goes on and on and on. It is not a big negative thing except that if the landowner owns it then he goes and does what he wants with his money. But, if the state owns it, if I am the taxpayer, I am not so sure that I am in favor of it being the state ownership. The state of Louisiana probably gets more royalties off of the land and off the minerals of Louisiana than anybody. They have more leases and they have more acreage than anybody because they own water bottoms, particularly in this area (Clifford Smith, 2003).

Thus, the discovery of oil in coastal Louisiana made a lot of people, including the state, pay close attention to land surveys, land leasing, and the fluid ecology of the water bottoms. Starting in the 1920's, the land surveys had to be revisited, and surveyors, land abstractors, and leasing agents became important. People like Herbert Wurzlow and T. Baker Smith rose to prominence for their expertise in local land survey. Smith was an engineer who began reconstructing the old surveys for various clients.

Back in the 1920's and 30's, my father began to retrace these government surveys. The land was becoming more valuable even before oil and gas. There was a farming industry down here. So, he became somewhat of an expert in trying to reconstruct these government surveys. Also, in the early teens, '20's, and '30's, you could find U.S. government monuments. We have a geography that has deteriorated over the years. The old survey monuments and survey controls were disappearing, but my father was able to reestablish them and became somewhat of an expert at doing that. Then, when they came and discovered oil and gas, he began to develop a clientele with the oil and gas industry (Clifford Smith, 2003).

Herbert Wurzlow had tried several businesses in Houma, including owning the first movie theater, but he came into his own when he started Wurzlow Land Abstracting. He became adept at tracking ownership records through inheritance divisions and sales, to make sure of land ownership under conditions of multiple inheritance. Wurzlow's primary business was not with The Texas Company, but with other oil companies who had smaller interests in the area (Texaco worked mostly with T. Baker Smith). Assembling productive parcels of land leases required a good working relationship with the small landowners, including the ability to speak French and a strong trustworthiness. The need to be trusted extended to the oil companies as well. Their land men would often ask Wurzlow to assemble tracts of land leases in secrecy. For this work, Wurzlow was often given a choice of cash payment or an "override." The override was a certain proportion of oil or gas production from the leased parcel. This "pay" was contingent on a producing well being drilled on the site. The override might consist of, for example, one twentieth of all oil produced from the lease. For a time, the Wurzlow Company was able to prosper on those overrides, but it was a gamble. The two brothers who inherited the business, Herbert, Jr., and Kermit, had different levels of risk tolerance, and took part of their pay in cash and part in overrides. There is still land in the parish with Wurzlow overrides on it, even though the odds of production are much lower.

T. Baker Smith developed the same expertise, with children also contributing engineering and planning expertise to one of the most successful consulting firms in the parish.

Because of my father's expertise in the reconstruction of U.S. government surveys, first for the major landowners, then for the oil and gas producing companies and transmission companies and all the related people in the oil and gas industry, we've always had a clientele in the oil and gas industry (Clifford Smith, 2003).

Much of the land in coastal Louisiana is owned by large landholders, often out of state corporations.

That is another thing that is unusual about coastal Louisiana. The majority of coastal Louisiana is owned by corporations, not by the government as it is in other states. We don't have that in Louisiana. In Terrebonne, 90 percent of the land is controlled by out of state, out of parish corporations. In my opinion, the major wealth of the community leaks. Now, we have jobs, three percent unemployment rate; we have a lot of jobs and a lot of activity here. But, just think if the people of Terrebonne Parish controlled the marshland and got the royalties off of the marshland (Clifford Smith, 2003).

Oil was a windfall for these large land companies who were on the verge of failing just before the discovery of oil on their lands. Prior to this, the coastal land was deemed worthless because the "quaking prairie" was unsuitable for anything other than fur trapping. With petroleum, those land companies had no need to do any land development, simply lease the mineral rights to oil companies who did all the work. Steven C. Smith, an attorney and Clifford Smith's son, adds to the history.

When you discover oil and gas, getting back to the point you're here [to discuss], as land becomes extremely valuable, because mineral ownership is predicated on surface ownership so you see companies like Louisiana Land suddenly turn into a major player in the oil and gas industry. You see companies like Continental Land, Fur and Miami Corporation, La Terre, which was a part of Fina Oil and Chemical Company, from La Terre to part of Tenneco, then eventually into Fina, which is now owned by a group called Castex. It is the same property here locally and it is oil and gas related development. These landowners lease their surface for other uses such as for duck hunting, trapping, and such. They don't make any money off of that. They make a very small amount and a generous amount. They have made a generous amount of money off of minerals. You think, well, what do they have to do for minerals? They don't have to do anything. They just lease it to Texaco. As the oil company, Texaco goes hire a drilling company to drill the well. If they are lucky and it produces, Texaco pays the landowner and it is little or no out of pocket expense for the landowner. It is an easy deal for them. There is no reason for them not to do it (Steven Smith, 2003).

The discovery of oil was a savior to these struggling land companies, enabling them to profit greatly without having to do much work, nor pay much attention to the consequences.

Our land has been a wonderful resource for the oil and gas companies. We talked about Louisiana Land with their 600,000 acres of land which primarily came out of the Atchafalaya Levee District. They struggled. In the 30's, they were paying people working for them with script. Louisiana Land and Exploration was controlled at one time by the Temkin family out of Toledo, Ohio. Someone went up there and sold him this bill of goods and they were going to reclaim all of this

land and everything. They couldn't pay the taxes. Here comes a geophysicist out of Sweden and says this is not going to be a reclamation project, this is going to be an oil and gas project...He told Mr. Temkin that they needed to start drilling for oil and gas to make money. So, not only did he start drilling on Louisiana land, but he also bought the first state lease from the Win or Lose Oil Company, which was one of Huey Long's deals. He goes out and buys some state leases primarily in Terrebonne Parish. The story is that they drilled six dry holes and they were about to go bust...They couldn't pay their employees. Somebody goes up to Shreveport and runs into the Texas Company, which was not a very big company around Caddo Lake. They conned the Texas Company to come down here. I think they had a 100 billion dollar line of credit. They started drilling on those state leases. They kept a 22 percent override. You could write a book about all of this stuff. It made Texaco and Louisiana Land, which is now Burlington. All of that came about because somebody was trying to raise some money to build some levees on the Mississippi River to keep us from drowning every spring unknowing that ultimately it would cause us a coastal erosion problem (Clifford Smith, 2003).

There was also a huge advantage for the oil companies when they only had to deal with a few large landowners rather than a large number of smallholders. This advantage can also be seen in working in the federally controlled Outer Continental Shelf.

The oil and gas companies are dealing with people and putting money in escrows. You go offshore and you deal with the feds. There is no debate. It is a cleaner deal. You have to put up with all of the federal BS. You have to bid on it, and produce and comply with all of the [regulations]...but, headache-wise, once you get all of that squared away, you produce it and send the money to the feds and keep the rest. As opposed to having to deal with whether or not Stevie Smith is a legal heir and whether he is fighting with his brothers and sisters. You could imagine how this goes. There is a place called Pier Island right here that has been in litigation forever. They have 200 heirs on the family name of Dehart and 200 heirs on the other side of the deal with the name of Bass. They just went to trial a month ago. It has been in proceedings forever. The oil companies just don't care.

It is just a mess. From the shore to the three mile limit you deal with the state. From the three mile limit and out you deal with someone else (Steven Smith, 2003).

4.2.2. Oilfield Trucking Services: The standard model of oil field trucking may be seen in outfits like Sammy Broussard or Saia Trucking. These specialized in hauling supplies, equipment, and material for the oil companies. When the oil field went downhill, these companies expanded their operations to hauling freight for non-oil businesses. For example, Saia now does contract hauling for such chain stores as J.C. Penney. Those companies simply specialized in transport, expanding beyond the oil fields when the "oil bust" hit.

Some of the other truck lines in Houma that succeeded as oil field haulers were able to do so because of their ability to provide a variety of services beyond specialized hauling of freight and equipment. The business situation seemed to grow “organically.” Starting with the ability to haul oil field equipment (in specially designed trucks), the truckers needed to buy cranes in order to load the heavy equipment. As drilling activity cycled up and down (this was seasonal as well as in line with fluctuating oil prices on longer-term cycles), they began storing equipment in slow times. As drilling material came in, especially pipe, they had to carry on a warehousing function, storing the material until called for by the toolpushers, then loading it onto trucks and shipping it out. That required land for storage and a way of accounting for the material. They needed loading docks not just for trucks but also for barges. Toolpushers did not want defective equipment, especially pipe, so the truckers also found themselves needing to set up pipe inspection units. Some entrepreneurs who started in trucking also found opportunities in related businesses. Charles Patterson, Sr., and Elwin Duplantis were good examples of this incremental entrepreneurial approach. Information on these two pioneers came primarily from Phillip Fanguy, Elwin Duplantis’ son-in-law and present president of Duplantis Truck Line, and Arthur Lee, trusted assistant to both Charles Patterson Senior and Junior.

4.2.2.1. Duplantis Truck Line: Duplantis Truck Line began in 1936, started by Elwin Duplantis, who started by hauling gravel and later furniture. When he built up enough capital he was able to buy some trucks and convert them for oilfield work.

[Duplantis] started out with a dump truck and a shovel, hauling gravel. Then he got a moving van and started moving furniture on the North American Van Lines and that’s where he made his money for his capital. Back then, ’36, banks weren’t willing to loan you money to get into a venture of trucking or anything to do with the oil industry in Terrebonne Parish...When the oil field trucking started out in Louisiana, all transportation and public services were controlled by the Louisiana Public Service Commission. He applied for authority to haul all oil field equipment, which he was granted. And back in the early ‘30’s there were only two oil field truck lines here in Houma. One was Patterson Truck Line and the other was Duplantis Truck Line (Phillip Fanguy, 2002).

Oil field work was new to southern Louisiana at the time; it was an unknown to local businessmen, and thus seemed more of a financial gamble to them.

Well, no one knew what the oil industry was. Remember, when it was discovered, it was discovered by people that were not local people and they just did not have the trust in them. And that was why you could not go to a bank and borrow money to do anything with the oil industry. He [Duplantis] first purchased some used trucks from the City of New Orleans Sanitation Department and converted those trucks into oil field hauling trucks. He built beds on them. He bought trailers (Phillip Fanguy, 2002).

There was obviously a need for heavy equipment in the oil industry, and trucks were needed to move material on land.

Well, they would move such things as the drilling rigs used for drilling for the oil on land. They would move the pipe that was needed. Back when the first drilling rigs came out they were operating by steam boilers... The derricks were put up by hand. Today you have what is known as a jackknife rig. Back then the derrick was strictly a signal of rig builders doing everything by hand (Phillip Fanguy, 2002).

These trucks needed modification to handle the heavy and awkward loads of pipe and equipment. At first these were loaded and unloaded by hand, but the large bulk of the loads required cranes to handle this task efficiently.

He put beds on them, that was known as “gin-poles.” That was an “A” frame assembly that the wind line would go through. It was used to lift things. When the oil industry first started, gin hook trucks was the name. We kept loading and unloading the things. Rigs and at docks after they started building barge rigs. But the trucks were the main way of getting things around, you know, on land, on the docks. As the industry progressed, they started drilling in water and there you would haul the necessary equipment to the different docks to be loaded out. Then in 1955, he was asked by one of his customers to buy Mobile Crane. The cranes were more versatile in that they could handle the pipe in a better fashion and move it around and he did so. As time went on he just kept expanding his business in trucks and frames (Phillip Fanguy, 2002).

Expansion of Duplantis’ business followed along the lines of changing needs and general oil field expansion. Duplantis’ knowledge of the nature of oil field business gave him the confidence to extend credit and move into associated businesses that would pay off in the long run.

Well, we went into storing pipe. Some of the drilling contractors...storing rigs for them such as that, after the oil industry expanded, not only for the drilling part but for the production. And in the heydays, Placid Oil Company was owned by the Hunt brothers. H.L. Hunt & Sons set up a yard here in Houma and there again, when they moved to Houma no one would give them credit because they did not know them. Mr. Duplantis was willing to give them credit and Placid Oil Company and Humble Oil Company ended up being as large as it comes. Their main drilling was drilling offshore. There was five years of drilling ended up in the Gulf of Mexico. Of course, we used to move pipe in their yard and load the pipe onto the offshore boats. That was a big part of our business (Phillip Fanguy, 2002).



Figure 16. A Duplantis Truck with Pipe, 1958, with a Black Supervisor Who Started as a Driver (photo courtesy of Phillip Fanguy).

Houma-Terrebonne Airport records indicate that Elwin Duplantis signed his first lease at the airport in 1958, making his company the second tenant. The first was Texaco, which actually started the airstrip in the 1930's. Since Texaco is gone from Houma, that makes Duplantis Truck Line the longest-running tenant at the airport. The airport provided hardened space that enabled Duplantis to expand and branch out. Airport lease records indicate Duplantis subleased large proportions of his property to more specialized drilling and supply companies, operating as a storage facility for equipment owned by other companies.

4.2.2.2. Patterson Truck Line: Patterson Truck Line was one of Duplantis' rivals. According to Arthur Lee, a long-time business associate, Charles R. Patterson Sr., was an old oil field hand from Arlington, Texas. He clerked for National Oil Well at first. Patterson then managed a truck company in Lafayette in 1938, and moved to Houma with the owner. After his original employer left, he stayed behind and started his own truck line.

They moved to Houma in 1939, Mr. Patterson did. He had one child. He managed [an] oil field truck line, which hauled pipe – oil field pipe, tubing, and everything. So he managed....and the people that owned it...he probably left him all kinds of things because he did so well with the company. Till they reneged on their promises. So he decided to go in business himself. So he bought two little trucks and said when you got through with the bank, he just didn't know at the bank how they got along after [they] got all their money. But anyways, he started his trucking and mud and chemical company. In 1945, April Fool's Day, April the first, 1945, he started the Oil Field Trucking Company and the Oil Field Mud and Chemical Company which supplied the weight material and all the other supplies needed for the oil field... But originally, he didn't have maybe five or six people, you know? Starting out with the drivers and a couple of helpers. Of course, he was in the oil field for 20 some odd years. And everybody knew him and liked him. That's why he was successful in the oil field business...his attitude about people and his knowledge of the oil field (Arthur Lee, 2002).

Charles Patterson, Sr., was clearly entrepreneurial in outlook. Soon after starting the first two companies, he was involved in startups of insurance, real estate, and oil field service businesses. Courthouse records indicate the C.R. Patterson Insurance Agency was originally formed in 1947, with Henry Minor Pipes as partner. Pipes was a scion of the Southdown Plantation owners. By 1950, it was changed to the C.R. Patterson Agency. In 1950, Charles Patterson, Sr. also incorporated Patterson and Edmonson Construction Company, with Russel Bayless Edmonson and Charles Hurst as partners. In 1951 came Patterson Pile Driving, which in 1953 was renamed, B and B Pile Driving. This was after the death of Charles Patterson, Sr. It is evident that Charles Patterson was an investor in a number of oil field and community related businesses, even going in as partner in Builders, Inc., a general construction contractor, in 1950, and Family Drugs, Inc., a pharmacy, in 1951. Charles Patterson, Jr., continued the family entrepreneurial tradition, with Patterson Truck Line (1954), Patterson Marine Construction (1954), Patterson Mud and Chemical (1954), Patterson Industries Credit Union (1954), Patterson Realty Company (1954), Patterson Marine Equipment (1954), Patterson Real Estate Agency (1957), Patterson Rental Tools (1959), and Patterson Crane Service (1961).

Arthur Lee went to work for Patterson in 1951, having met Charles Sr. and his wife while attending Southwestern Louisiana University (now University of Louisiana at Lafayette) in the late 1930's.

Mr. Patterson passed away with a heart attack on December the 15th 1952, so I didn't get a chance to work with him very long but his son was 26 years old at the time, and he and his mother kept the companies together and he moved me out of the office into the field. And then I was general manager of the truck line and the mud and chemical company in 1953 (Arthur Lee, 2002).

Lee stayed with the company through the 1980's, witnessing major changes. The primary business was oil field trucking, but with an emphasis on the inshore market.

We were in business to haul oil field pipe and oil field machinery. And then we...had the drilling muds and chemicals in the mud and chemical business. And we served the land and inland water rigs. We never did get involved in the offshore, [just] the inland water and the land rigs. And then from nothing it just gradually grew in and we kept adding to it. Kept buying old second-hand trucks and second-hand equipment. And finally we got it to where we could buy brand new equipment. (Arthur Lee, 2002).

This company, too, started out as a truck line, but found itself in demand for other services. Trucking expanded from hauling equipment and supplies to the rigs, to moving the rigs themselves. As the rigs grew in size, so did the capacity to move them.

...at that time we needed the big tandems to move the drilling rigs. We used...the 20 tons...we called them the 20-ton tandems that would back up on these big ramps up to the floor of the rig. The floors of the rigs were real tall, at that time, and then we would latch onto the draw works and the other structures and we'd haul 'em to the next location wherever they were drilling from...from that location to the other one (Arthur Lee, 2002).

The core business was still trucking, and this work grew significantly. As the equipment being hauled gained in size and complexity, so too did the trucks themselves.

But it grew from two trucks. I am going to say to 150. And we would have the trucks...we would get with the manufacturers and tell them what we had to do. Getting in...getting on these board roads to drill these wells, to haul this stuff out to the rigs on these board roads, we needed some extra engineering on the trucks so we would tell them what we needed and then they would figure it all out and come up with a price. And we would decide, you know, which one. We had...we had all the manufacturers on it at one time (Arthur Lee, 2002).

It was a logical step from hauling equipment to renting the equipment. Later, they would also develop subsidiary companies to set the casing at the wells and drive piles for support. Eventually the rental tool business became one of the most profitable parts of the business group.

... the old truck line started the rental tools. And the rental tools became the biggest money making company we had. And that was all rental. All they did was rent drill pipe. They....the oil companies that would come here didn't want to invest in drill pipes.

They'd rent it from these rental tool companies. All the tubes and everything else... if they damaged it they had to repair it or replace it... (Arthur Lee, 2002).

Patterson Mud and Chemical (the successor to Oil Field Mud and Chemical) distributed mud and weight material for the major mud companies, Baroid and Magcobar. This tied in well with their rig-moving business, because they could transport the rig to a new place and provide all the chemicals needed to start drilling as well as service them later. In 1958, the mud distribution

business was so lucrative that both manufacturers decided to go into the distribution business for themselves, breaking their Patterson contracts. However, they needed to duplicate the facilities and equipment that Patterson had developed, which meant that Patterson Mud and Chemical was bought out.

....we were doing so well with it. The manufacturers decided that they were going to distribute their own. So they cancelled us out in 1958. And they need[ed]...our facilities...we had the best facilities so they bought everything we had in the mud and chemical company. All the boats and barges and warehouses, you know? All that stuff. So we came out of that smelling like a rose (Arthur Lee, 2002).

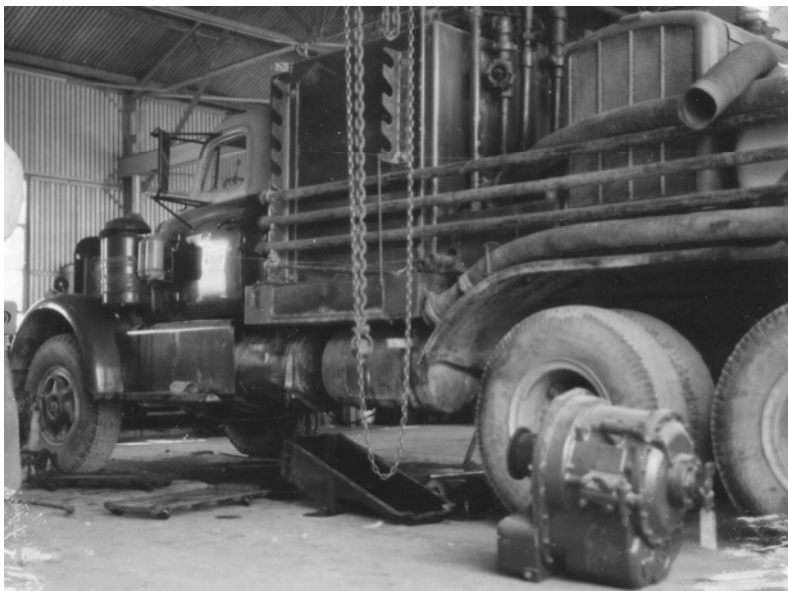


Figure 17. Truck with Mud Tanks (photo courtesy of Eddie Babin).

One of their growth operations was simply handling the pipe. Many drilling and production companies were ordering excess pipe, just to have it on hand when needed. Patterson, like Duplantis, found it necessary to manage a large pipeyard for the various companies.

When you are in the oil field business you were in the oil field business. We never did get out of hauling anything and everything for everybody. All we did was deal directly with the oil field – anything pertaining to the oil field. We'd store the pipe and sometimes if they didn't have anything for the rigs...when they finished the well...we would store the rigs on some of the property that they had too. That way we'd get a chance to move it in and then move it out when it got ready to go. So we had enough land that we were able to store.

We'd have those big cranes. And we had some good operators. And we had some good equipment. And ...we had a big [railroad] spur on the yard where the pipe would come in by rail. We used to get it in those big cargo barges and also the big rail cars that used to come in the yard. We'd unload it and store it on the rigs. We had every rack on the pipe yards numbered... we'd total the pipe by feet, with a tape. Every joint was measured so we knew how much footage we had so when they called they knew what he had on the yard and what they needed on the rig (Arthur Lee, 2002).

The market demand brought in most of the big steel companies and Patterson's need for storage space increased. They filled the yard in Houma and expanded to Morgan City.

...the latter part of 1955, we developed 50 acres for pipe storage. And completely filled the yard. In a matter of just a few years. We had that...we had the yard full [in a] year... that was the original yard, in '55. And then in 1960-61 we started the yard in ...Morgan City before, but all the steel mills came down and wanted us to handle their pipe. Wanted to come on our yard, U.S. Steel and Bethlehem, all of them. We had every company that...that used oil field pipe and every mill that...that made oil field pipe stored in our yard. We maintained the inventories coming in. Maintained the inventories going out. And we billed them every time we'd touched it. So we did real good in that.

And then in 1961, in Morgan City, we ended up in Morgan City with the largest stock of oil field pipe in the world. We had over 200 tons on 200 acres or more. In Morgan City. And just handling that pipe on the barges we had the...we had the docks on the water which we bulkheaded and we'd load the pipe on these big offshore barges. Or inland barges. Wherever the pipe material was going from our dock and we... we got to going good over there. In '62, '63, right in that area, within the '60's. Just handling...just handling the stuff off of the Morgan City yard was over a half a million a month (Arthur Lee, 2002).

Other companies were added as needed – a company to set the pipe, and another for well control in blowouts:

We had a company like Coyle Tools and they would go in on these rigs that were having trouble. And...with the equipment and the men to get it...to get it back under control. To drill. That was one of the companies. But in the rental tools, trucking-wise, we had trucks in Houston, Morgan City, and Houma, ok? And then...rental-tool wise we had ten stores in Texas and Louisiana. And Mississippi where we...where we supplied, you know, pipe and tools and stuff ... on the rental basis. That was a money-making company too (Arthur Lee, 2002).

Success in business eventually drew in a buyer.

In 1973, I was 20 years. Mr. Patterson decided he needed some help so he wanted me to be the Administrative Assistant to the President. I said, "What is that?" I

said, "That's doing everything he doesn't want to do." That's about the way that works so anyway, in '73 he decided he was going to sell the companies to Rollins Incorporated out of Atlanta, Georgia. Nobody has ever figured out why he wanted to sell because we were doing well, making plenty money. But, anyway, everybody stayed together and everybody stayed in the companies. And...but he managed the companies for Rollins. And well let's see, I kept a record, in '73 when he sold we were clearing 10 million a year, our revenues, and profits were about 33 percent. And then he sold to Rollins and in 1981 when the big drop came in the oil field, you know? Everybody's got to hurting. The year before our overall revenue was 16.5 million and our profit was still 33 percent. So nobody has ever been able to determine why Mr. Patterson sold it. I know if his daddy had lived he would have never sold it (Arthur Lee, 2002).

This business was highly cyclical in nature. The downturn of the 1980's was a major turning point, not just in the volume of work, but in the way the oil companies did business.

I kept a record of all of our revenues in all of the companies. And during the year, I mean it was up and down. But by the end of the year, from year to year, that thing just kept going up. Until it really hit the downgrade back in the early part of the '80s. That changed the whole history of the oil field, 'cause the drilling contractors got to where they couldn't pay for the services. And then too...it got to where wherever they wanted a pipe job or something they'd tell you how much they were gonna pay. So a lot of time you couldn't even do the work (Arthur Lee, 2002).

Arthur Lee's relationship to Charles Patterson Sr. was almost as a member of the family.

He was the greatest guy I have ever met. And, of course, I guess leaving home and... I guess needing somebody... I needed him and he needed me. And I got over my daddy dying quicker than I did Mr. Patterson, that's how much I thought of him. And I named my first child, my little boy, after him. And he was a Methodist and a Mason. He was a godfather at a Catholic baptism. And every nun and every priest he saw after that he'd tell them he was the godfather. But anyway, he was a great guy. He died too young. He was 50 years old when he had his heart attack (Arthur Lee, 2002).

Arthur Lee recalls the stress of work. The relationship to the business was one of constant pressure.

It was a lot of work. We worked long hours. I asked Patterson one time to put me on by the hour. He said, "You're on." I said, "Well, what's my hours?" He says, "They are 24 hours a day, 7 days a week..." Well, we had a direct line at the house. If they ever needed...but the only time they ever called me was if they got in trouble. Or something unusual was happening. Or they didn't want a decision on a certain deal, you know? But it was hectic. They didn't have a choice, really. They wanted to eat (Arthur Lee, 2002).

This pressure was due to the needs of the oil fields. The drilling and production crews worked 24-hour days on a continuous seven-day schedule. Whenever a breakdown occurred or additional supplies were needed, they wanted them as soon as possible.

Twenty-four hours a day, seven days a week...you'd get calls from oil companies all the time. You'd just have to have people on. People on, dispatchers, 24 hours a day answered the phone. And we had supervisors over the dispatchers that, you know, hired the truck drivers and worked them and got the job done (Arthur Lee, 2002).

Customer and employee relations were very personal. Problems were worked out on a one-on-one basis, and the labor market was such that people who didn't get along were asked to leave.

...we'd get a complaint from a customer or something and we'd sit down with whoever was responsible and get it straightened out. If we couldn't we shook hands. I tell them all the time, "I'm staying. If you can't abide, pick up your check." It's just the way it was (Arthur Lee, 2002).

Those employees who worked out tended to stay for the long term.

...we had people that was with us, you know, the whole time. The only time they'd leave is if they die or they got too old. They are a rare breed, I tell you, those truck drivers. And you always...course they were the ones out there making the money and...and drive on the highways and everything. I always had a soft spot on them because they had to work. They had families and they had kids. We did as much with what we had to do with oral [agreements] (Arthur Lee, 2002).

The business climate was such that competitors all had enough work to do; they really weren't competing directly with each other.

Well, they had Duplantis Truck Line. They had Burgh...S.A. Burgh out of Lockport was our big competitors in the rig moving. Also in pipe and mud and chemical company. He was...he was involved in mud and chemicals too... In Jennings they had Ace Truck Line, I think it is. They lease trucks now but ...Ace Truck at Jennings was one of our competitors. So there was several of them around, at the time. But when we'd go to these meetings in Baton Rouge with the Louisiana Public Service Commission, we'd run into our competitors all the time. So I...I knew them all then. I'd get involved with them. But none of them, you know, everybody handled their business. I mean...we never did get into any dirty fights among the oil field because there was plenty of work for everybody. And just depends on how much.... on how well you did it, whether or not you got it, you know (Arthur Lee, 2002).

In all, Lee thought the oil work was a benefit for the people in the parish.

Well, ‘course it’s grown a lot. And then there are a lot of different people from a lot of different places, you know, coming into Houma. But they’ve got people down here now that because of the oil field that have money. They built beautiful homes and subdivisions. A lot of the businesses have come into Houma, which we didn’t have at all when we moved here. It was just downtown, that’s all. We didn’t have the mall. We didn’t have anything. And all of that has grown and really helped the area. We got better schools. ‘Course we have Nicholls [State University] in Thibodaux, which is not too far. Gives the kids a lot of opportunity to go to college there (Arthur Lee, 2002).

Charles Patterson, a “Texien” by definition, grew up in Arlington, midway between the oil centers of Fort Worth and Dallas. Elwin Duplantis was home-grown. Both perceived an entrepreneurial opening when the oil and gas industry turned its attention to the bayous, marshes, and lakes of south Louisiana in the 1930’s. Neither began, apparently, with much money of their own, nor were lending institutions willing to bankroll unknown entrepreneurs in a fledgling industry. But, piece by piece, truck by truck, they built a service to meet the needs of a growing economy of extraction. These truck lines then formed the base upon which a number of subsidiary businesses were developed – to take advantage of opportunities as they arose in oil and gas, to diversify into enterprises that catered to the growing population of the region. Duplantis stayed pretty much within the primary area of hauling and storage, as well as subleasing storage to other oil companies. Patterson expanded beyond hauling and storage into the oil field itself, providing drilling fluids, pile driving, and construction services. Patterson also entered real estate and provided financing for other community-based business activities. In somewhat different ways, then, Duplantis and Patterson embody the multiplier effect, the diffusion of oil-specific enterprises into other realms of the local and regional economy. The core task of oil field trucking – getting parts where they were needed, and quickly, remained even after the oil and gas industry moved well out onto the Outer Continental Shelf. Floatplane services, another niche where Houma took leadership, had a different fate.

4.2.3. Aviation:

4.2.3.1. Floatplanes in the Inshore Oil Industry: Of all the businesses that illustrate the change from inshore to offshore oil work, probably the most salient is aviation service. Aviation came early to the oil fields, in the form of Texaco amphibians, which were based at the precursor to the Houma Airport. So in essence, oil aviation came before municipal commercial aviation in Terrebonne Parish, and still dominates at the airport. Because of the unique problems of accessibility of drilling barges in water, Terrebonne saw pioneer development in floatplane aviation. Veteran pilots from World War II and the Korean Conflict learned firsthand about flying on floats over water and taught many other oil workers. Salesmen, mud engineers, geologists, all used the inexpensive and versatile floatplanes as “pickup trucks” in their calls on the rigs, and many of these “amateurs” put in more hours of flying time in floatplanes than many professional pilots. The rules and procedures were informal and essentially grew out of the problems of flying in a widespread field of activity, rather than on defined flight paths. These pilots also had a hand in adapting their planes to the inshore environment, where heavy barges

could easily cause great harm to light planes, or where landings and takeoffs had to be in shallow water for short distances under all sorts of wind, weather, and tidal currents.

Aviation needs in the oil fields of southern Louisiana were quite distinct from other parts of the country. The destinations were scattered, isolated, and often mobile, so aircraft were needed to service rigs, pipelines, barges, and production platforms spread over a large area. Much of this area was waterlogged (Terrebonne Parish has 8 percent land and 92 percent marsh and swamp) and conventional wheeled aircraft could not reach it. At the same time, the lakes, bayous and waters inshore of the barrier islands are calm enough so that a plane can taxi, land, and take off, granting special advantages to small, maneuverable craft (the favored floatplanes were the small, high-winged, Cessna 170, 180, and 185 models). Kenneth Perry reflects on the early days. Perry is president and general manager of Perry Flying Service in Patterson, Louisiana. He grew up in Houma and “swapped airplane wash jobs” for flying time and lessons at Houma Aviation. His professional flying started in 1976 as a salesman. By the early 1980’s he decided to be a professional pilot and opened Perry Flying Service in 1983, just before the downturn. Perry has continued to maintain his business but recognizes conditions have changed greatly.

Well, the primary airplane down here was the Cessna 180 and 185. The 180 is, both of ‘em were conventional gear airplanes that were being built, which is, they were tail draggers. They had been built for years. The 180 had 235 horsepower, the 185 had 300 horsepower and the 185 is what you used for an amphibian because you needed the extra power for the extra weight of the gear, made in Wichita by Cessna. There was three or four different float manufacturers you could choose from and there were dealers, I mean, it used to be, once again, back in the day, airplane dealers were kind of like car dealers. I mean, the man in Houma at Houma Aviation, the guy I learned how to fly with, was a Cessna dealer and he was also an Ido float dealer and so you would just go like you go to [a car dealer], and you would order one (Ken Perry, 2003).

The major oil companies made some use of amphibious “flying boats” starting in the 1930’s, and the Houma Airport had some that were based there. “Amphibs” had wheels that could be lowered for landing on conventional runways, but the bottom of the fuselage was boat-shaped and able to float. The majority of the Louisiana oilfield aircraft, however, were conventional small planes with floats instead of wheels. These planes could only land on the water and needed a special dolly to be pulled up on land. So conventional airports were secondary for much of oil field aviation. Later, as oil activity shifted further offshore, helicopters, operating from conventional airports, became more important.

...there was an airport in Houma, but the seaplanes were located along the Intracoastal Canal. There were three seaplane bases there. There was a seaplane base at Westwego. There was a seaplane base at Belle Chasse called Southern Seaplane. There was a seaplane base along Bayou Teche in New Iberia and then there was a seaplane base here [Patterson] because we have a seaway. Only later on did New Iberia dredge a seaway at the airport and relocate the seaplanes there. But that’s when the industry was primarily onshore and only say 20 or 30 miles offshore and so the helicopters – and back in those days the helicopters had a

much more limited range than they do now, they didn't have the speed, they didn't have the size – so basically as the helicopter industry has evolved, so has the offshore industry where they can go further and further offshore and then of course, it's more and more expensive (Ken Perry, 2003).

From the late 1940's to the mid-1980's, inshore became a teething area for the development of floatplane aviation and provided Louisiana with a pool of experienced floatplane pilots that may be unparalleled. While these aviators were sometimes trained, experienced pilots (former military fliers), they were more often engineers, mud specialists, salesmen, or other oilfield service workers who needed to commute to the rigs and found floatplanes were the only practical means of access. So the use of floatplanes was a routine part of business, not necessarily a job for specialist pilots. The dedicated aviators found their niche in training salesmen, engineers, or oil field specialists to fly. In the same way, the history of helicopters in industrial aviation is properly a story belonging to the development of offshore platforms, slightly after the inshore fields.

My first flying job in 1976 was a floatplane and I was a salesman. I flew out to production facilities and drilling facilities inshore along the Mississippi River down to the mouth of the river and the bays along the coastline and sold chemicals, treating chemicals for wells and cleaning chemicals and we did compressor valve repairs and starter repairs on these big compressors that compressed the gas that move it ashore, that push it through the pipelines that go up to the north to keep 'em warm. And that was a way to get into flying for a lot of guys back then was you became a salesman. So you became a flying salesman, you used your seaplane like a pickup truck. The first three flying jobs I had, that was my duties; where I sold chemicals, I sold drilling pipe, I sold bits, and got to where I knew... Not coming from a family who understood how oil got to the beach, I had to become familiar with that because that's what I was selling. Then as the industry kept growing in the late '70's to early '80's, I switched to become a full-time professional pilot as opposed to a pilot and a salesman (Ken Perry, 2003).

The result of this flight of floatplanes to widely scattered destinations was a sort of ground support flying pattern not dissimilar to the ground support operations of World War II. The airport was less important for floatplanes than bases opened on the Intracoastal Canal, where they could take off and land directly on water. The floatplanes could land almost anywhere on the water, all they needed was a depth of 12 to 14 inches and a channel width of about 40 feet. That made them incredibly versatile, convenient, and necessary for operations over a wide area.

...the rigs, the channels that were dredged in the marshes and the swamps were 40 feet wide. Usually they had trees on both sides. The floatplanes, the Cessna floatplanes, had 35-foot wingspans. You could get in there. A lot of the barge rigs, the inshore drilling rigs, up until just very recently, none of 'em had heliports. They were small rigs, so the only real way to get to them was by boat or by seaplane and if you were going to try to do it by boat, you had to have 100 of the damn things or you would never cover everybody. I remember when I was flying for Frank's Casing crew, which is my second sales flying job, and this was

when it was really busy, at one point, I had 68 rigs to call on. I was supposed to call on 'em every week which meant...I was doing 10 rigs a day, seven days a week and that was just in this area from the mouth of the Mississippi up until about here and up into the basin. We had another floatplane covering the west side, an amphib and then another one in Texas, just in that sort. You know, we could just rotate rigs. It was that busy (Ken Perry, 2003).

Another advantage of the floatplanes was low cost. This was especially important before the 1980's when helicopters were very expensive and not well developed.

...the cost differential was staggering. Back when I started flying floatplanes, you could buy a floatplane and a set of floats for about \$50,000 and even then a helicopter was \$500,000, you know. And nowadays, even a small helicopter is \$1 million. But people don't realize that some of these big helicopters that are flying these crew changes, these 14-18 passenger helicopters are in the neighborhood, are pushing, \$10 million apiece. So it was, you could buy 10 float planes for what you could buy one helicopter... You could set up a pilot and usually you got a plane, a company car, an expense account and then the whole thing, even if you bought a brand new airplane, you probably had less than \$75,000 invested in it in the first year. And it didn't take a lot of sales to get that money back from that and so that was, a small company could compete with a big company back then. You know, you could level the playing field pretty well (Ken Perry, 2003).

The Cessnas were tough, but the conditions within which they operated were also tough. They were usually too banged up to continue after a couple years of service.

The big part, the hard part about the floatplanes is the docking and undocking especially if you are a salesman and you are by yourself most of the time. Planes want to weathervane into the wind and you are always banging wing tips and running into something. So they are not very pretty after they have been worked for a while. They are good tough airplanes, but you'd beat the hell out of them. So a lot of times you would, a lot of companies back before it got ridiculously expensive, they would fly a floatplane – and back then the engines were sixteen hundred hour engines – they would usually change at about a thousand or a little more and then they would go through two engines and sell the plane, keep the floats and sell the plane, 'cause you just, that, especially the wings, they just took a beating. You'd dock somewhere and the tide would change or the wind would change and you would push off and the plane would bang into the rig and like I said, you would just beat the crap out of the airplane. It's kind of like a crop duster, you just beat it to death (Ken Perry, 2003).

4.2.3.2. The Art of Flying: Flying a floatplane in the oil fields of the lakes and marshes is quite different from operating a land-based plane. For example, landing and taking off in water meant moving in the channels no matter what the wind direction was, landing in water that could be moving itself, not having any brakes, and having to contend with all sorts of other water traffic. Lloyd Geist, considered the “dean” of the early pilot/businessmen, recalls the difficulties and the

dangers. Geist learned his trade as a fighter pilot during World War II, operating in the European Theater. On return to Louisiana after the War, he opened a flying school in Houma. In addition to training pilots, he found much of his work devoted to service work for Texaco. According to other informants, he was the first pilot known to put floats on aircraft in southern Louisiana; certainly he pioneered in this type of flying. In 1948 he started Geist Seaplane Service and opened the first Seaplane Base on the Intracoastal Canal at Houma in 1950.

Well, you've got currents to contend with. A lot of times you've got to land cross wind. A lot of time you have to land down wind. You don't have a choice, you know? And then tying up, tying up to these drilling rigs and barges and boats. So you had to know time, when to stop the engine. But you had to hurry. Get out on the float and go hold it off so you didn't bang into something. And to catch and be able to tie to whatever you were going to moor to. Crosswinds and currents I guess were the biggest thing in the water. Rough water and smooth is all different (Lloyd Geist, 2003).

Instead of taking off into the wind on a fixed runway oriented to the prevailing winds and dedicated only to aircraft takeoff and landing, the floatplanes had to take off wherever the water was – regardless of wind direction and other activity in the water. For the most part, the woodlands along the bayous would shelter them from crosswinds until they flew above the tree line; then they could be blown sideways as they climbed. The take offs and landings were also governed by the waterways which could at times be very short, or curved (several pilots noted that taking off from the Houma seaplane base required them to follow a curve in the Intracoastal Canal, rather than simply going out a straight-line runway). The width of the waterway was also a consideration, especially if there were boats or barges whose wakes could divert a light plane, or even worse, rock it so that a wing tip could hit the water. John Monteiro noted the only way to turn around in the narrowest of the bayous was to cut the engine and lay the rudder over hard so that the floats would bounce in succession from the bank and turn (carom) the plane completely around. Monteiro is an engineer and owner of the John Monteiro Construction Company, a mid-sized construction operation in the inshore fields. He found floatplanes were the only useful way to maintain contact with his construction operations. Eventually, he became chairman of the Houma-Terrebonne Airport Commission, responsible for management of the airport.

Landing required careful judgment of water, wind, and land. The land itself was changing, dredging and erosion created different conditions, as CJ Christ recounts. Christ was a B-29 pilot in the Korean War, returning to go to work in the oil fields after that. His experience was more varied than Geist, driving a cement truck and working as a mud engineer before being hired as a pilot. He became chief pilot for Magcobar Corporation in 1959, and set up a program for teaching mud engineers to fly floatplanes. In 1964, he founded Houma Aviation Services at the Houma Airport and operated there as a fixed base operator until 1989. Then, at age 61, he went back to work as a service boat captain.

...there was so much judgment involved. Our water, for instance, here was a common hazard: the water is so muddy that if they, this is why open water was so dangerous, if they would dredge a canal to put a drilling rig in it, well that canal had to be, I forget, eight or nine feet deep. So it left a spoil... for a while, but as

the wind and waves and weather and time, the spoil bank would get eroded, then from the time it went from visible to invisible, it might be this deep [hand gesture, about eight inches] (CJ Christ, 2003).



Figure 18. CJ Christ on the Magcobar Floatplane (photo courtesy of CJ Christ).

CJ Christ had a close call one New Year's Day as he and a pilot he was training flew out to check a rig in Timbalier Bay, not part of his normal flying area.

So we got in the airplane to go over there and I am just barely awake and John's flying the airplane and we look ahead and we are coming in for a landing at this drilling rig. The drilling rig had been there, it wasn't our territory. We [in Terrebonne Parish] had the woods, the woods has a different kind of [landscape], the swamp, and they'd dredge a canal and the trees 100 feet tall on both sides, you don't have to worry where the canal is, it's right there. But out there... sometimes those banks erode and go underwater; you can't see them. So we are on the short final [approach] to land full flaps down into the wind and I said, "John, those birds are walking! They are not swimming!" The water was this deep (hand gesture, about four inches) and before John could slam on power to go around with it, actually we touched down and the airplane went eeh, eeh, eeh, eeh, eeh, like this, but we got into deep water and it settled down. It could have just as easily gone over on its back. So that's one of the hazards of the open water, was that you never knew unless you were very diligent, you didn't know exactly

where the channel was. Now if you were very astute, you might take a drilling rig here and a drilling rig there and if you are on final approach and they are lined up, you can look and see that you are on course, or you could follow in the wake of a boat that just went by because he is going to go through three or four feet of water (CJ Christ, 2003).

Flying was only part of the process; taxiing in the water and tying up to barge or platform was an art that required water skills as well. This was especially the case because all boats had the right-of-way over aircraft; they were heavier and could produce a wake that could capsize a plane if pilots weren't careful. Jack Voss noted a key difference was that floatplanes had no brakes.

That was a unique way of flying. 'Cause in a floatplane you don't have brakes like a land plane, you're at the mercy of the wind. And every landing is different. I used to make a practice of – knock on wood, I haven't dented as much as a piece of paper on any of 'em – I used to always make a practice of flyin' over the rig and canal and everything, surveyin' everything – logs or boats that might be in the way, or whatever – before I'd land. I'd come in to the exact spot that I want, and tie up. And I worked that religiously. I've seen a lot of these guys that flop into the water and they don't know what the hell they're gonna do (Jack Voss, 2003).

Jack Voss estimated he had about 9,000 hours of flying time, making sales and service calls for over a half century. He started with Texaco in 1946. In 1947 he was a truck driver for National Oil Supply, becoming manager of their Houma store in 1950. In 1957 he was a pilot/salesman, making calls directly to the inshore rigs, for Southwest Oil Field Products, Houma Well Service, Latex Gulf Drilling, Falcon and Blake, and finally Tetra Oil and Gas Technology.

The process of taxiing required use of the engine and rudders, so tying up to a barge or platform demanded careful timing. The plane had to be headed straight in, the engine shut off so that the craft would gently thump on the destination, and the pilot had to climb out past the hot engine, jump onto the barge (sometimes a moving target from wave or wind action), and tie up before the airplane drifted back beyond the length of the line. The tie-line couldn't be too long, because the pilot and passengers had to climb back to the flying compartment on the return trip; yet it couldn't be too short because it had to allow for the play of waves and tides.

...out here, they'd dredge usually a 40 foot wide channel and then they'd dredge a little place to park the rig. They'd bring the rig in and put it right here and then they'd give a place for the barges that were needed and the crew boats. So you'd circle a rig to see it, number one thing you'd circle for your location to see if there was a place for you to tie up. That was the first decision you had to make. Often times, depending upon the wind and depending upon what was right next to the rig, if the barges were too tall or you didn't have the capability, you'd have to go, you'd have to, unless you had help, then if you were a salesman, nine times out of ten, you were by yourself. And if you had help that knew what the hell they were doing, because if you didn't know what you were doing, it was worse than if you didn't have any help at all... And so what you would do, you would circle around, check the wind, check the sea, you'd land usually towards the rig and then you'd

fall off the step right in. It was like a boat, you'd be on the step and you'd get off the step and you'd lower your water rudders and you'd start taxiing (Ken Perry, 2003).

“On the step” meant a preliminary stage in landing and taking off. The plane was taxiing in the water fast enough to hydroplane, allowing the floats to be skimming on the surface of the water. With the reduced friction “on the step,” it was then possible to take off. When landing, it was the point where the buoyancy of the airplane was primarily from wing lift, before slowing to allow the floats to take over.

After landing, the entire process of tying up a light plane with no brakes to a heavy steel boat in all sorts of wind and water conditions called for a complicated set of actions.

What we do down here differently from just about anywhere else in the world, is we usually tie up straight ahead, because most places up north have floating docks where you can swing the wing of the airplane over the dock and then just dock parallel, you know, like a car. You didn't have that luxury here because most everything was high – the sides of the barge, the sides of the boat, the sides of the rig. So what you'd have to do, you'd have to kind of judge the side, how high whatever it was where you were going to dock was out of the water and whether you could jump up that high and then you would dock straight ahead so your wings weren't, because a lot of times your wings were below whatever the top of whatever you were [on], but then you also had to make sure you could push the damn airplane off and get it cranked before whatever wing was into the wind was going to hit whatever there was. And that's where there were some injuries, especially with passengers. What we would do was, docking straight ahead meant one thing you had to do, you had to walk through the propeller arc (Ken Perry, 2003).

CJ Christ elaborates further on the landing process.

You always landed with your two pontoons touching wherever you had to go. Well, within instants after you shut the engine off, you have got to walk past that spinning propeller, where it was, the disc where it spins and go tie yourself up. And you don't have much time, because you don't have any brakes and you don't have any reverse. So you have got to figure when you shut that engine off, you have got to figure exactly what is that airplane [is] going to do between now and the time it hits something, because it is going to hit something. So if you make a mistake... the wingtip might hit first and when aluminum wing meets a steel drilling rig, it loses. Or if you have too much of a correction for what you think the wind and the current is going to do to you, then you might hit the upwind wing first. Or if you hit the pontoons in the wrong sequence and you are standing on the upwind pontoon, but the downwind pontoon hits, it's immediately going to do this number [twist] because the tail is back there like a weather vane, so now you can't reach to tie yourself up and so forth. So you have to really be able to maneuver very quickly. You have to shut the engine off; make damn sure you had it shut off. You had to back your seat up and then open the door, take your

seat belt off and then get out on the pontoon, get the rope that was lying on the pontoon, go under the wing strut, walk down the float past the hot engine, which you can't touch the cowl of; it's a hot engine. Then you have to make sure the propeller is not standing right in your way, so you have to turn the propeller to get it out of your way and now you have got to catch this pontoon the instant that it hits and grab something and put a rope around it if you have real strong wind conditions (CJ Christ, 2003).

Christ noted there were instances when mistakes were made and pilots would have to swim after their planes, providing roughnecks with a source of entertainment.

Taking off had its own issues, since the Cessna had no reverse and it was dangerous to crank up the propeller while attached to a barge. The pilot had to

...get on the float, untie it, and push it back. Let it...let the wind, if you had wind or current, take you back. If not you had to push hard enough to get far enough back to start it up and have a wing clear or whatever you thought of doing. The SeaBee [an amphibious aircraft] had a reversible prop, where you could actually put it in reverse. It worked about two-thirds of the time. The other one third it didn't work. So you'd ram something (Lloyd Geist, 2003).

CJ Christ adds:

When you are shoving off, especially if you are in a narrow canal, if you shove off too hard, you go backwards and hit the bank with your tail before you have a chance to get in and crank up the airplane. If you don't push hard enough, the crosswind will catch you just as you untie and go adrift; the crosswind will catch you and you will bang your wing against the drilling rig or against the boat or against the shore or whatever is there, so your shove-off has to be planned just right so that when you are ready to start that engine, the airplane has drifted in such a manner as you can start your engine now and go down clear water (CJ Christ, 2003).

Simply taxiing the craft on the water was hazardous because floatplanes, unlike land planes, have no landing and taxi strip dedicated solely to them in the water. They have to share the water with all kinds of boat traffic.

If you had a very busy day, you would have tug boats and barges and fishing boats, you would have, on Sunday afternoon and Saturday afternoon, you would have drunk water skiers, you would have fishermen, you would have people running their crab traps and people running their fishing lines and the tug boats passing tug boats with tremendous barges that drew 14 feet of water. If you have a tug boat that's got 600 feet of barge in front of it and that barge is 12 feet deep, he is moving a tremendous amount of water. So you have to know this as a seaplane pilot, because if you have one going thisaway and one going that way and they pass each other, and it takes a while for them to pass, then you have to know that it's – in between them and along the shores – there's going to be a

tremendous amount of current, uncontrollable by the seaplane pilot. So you have to know it's there. And of course, you get in the wake of one of these tug boats and that wake is good for, I don't know, 100 yards behind the tug boat, of disturbed water. So you need to know that too. So you get into one of those wakes and that will swing you right around if you are not watching. So these people from various parts of the country had to be taught the ways of the canals, if you will, and try to predict by the time he got to a touch down point on the water and he needed let's say, 400 yards to touch down and stop and be slow taxiing, then where was this boat going to be in that, and where was this boat going to be and this guy that's launching his boat from the side and this seaplane that's coming in from the opposite direction and this water skier over here that's half drunk already. You know, where are they going to be when it's time for me to touch down, because during the time between the time you touch the water and the time you actually fall off the step, like you would on a boat, a speed boat, you know what fall off the step means? You don't have any control and you can't fly again. And if it's a strong, for example, crosswind condition, then if your water rudder's not down back there, you're sitting in a weather vane. It's going to turn into the wind and somewhere between 15 and 20 knots, you are going to lose it. It's got more, a tendency to turn than you have control over it to keep it from turning (CJ Christ, 2003).

Christ noted that modifications had to be made on the floatplanes to aid the landing process. Some additions include a cowl handle on the engine that the pilot could grab to avoid the hot engine, a foam tip on the ends of the floats to cushion the impact, side fenders made of old tires to protect the sides of the floats, an attachment to keep the mooring rope from dangling loose as the pilot scrambled to get into the cockpit. As Ken Perry, noted, these fenders were not exactly built to factory specification, "most of the planes had "unauthorized [fenders]. They weren't really legal, big bumpers on the front because you were always banging into something, you know."

Anchors, of course, were needed if there was nothing to tie up to or to prevent drift.

I required they carried an anchor, because you shove off in the middle of a lake and you have ten knots of wind and your engine doesn't start. You are in a bunch of high-pressure gas wells out there, many, many, as many as 700 in one field and they are all just separated by little small pilings. So you could hit a gas well, you could hit another boat, you could tear up the airplane, so I required an anchor to be put aboard every one of our airplanes (CJ Christ, 2003).

At first, a lot of this flying was done with no radio, and there was danger of collision, especially in low visibility.

...in those days, you really didn't need a VHF radio at all. So we started having, as I said, every time there was a serious accident or a real close call even, we tried to make a rule to keep it from being very serious and one of the problems was these people kept flying and I guess we were guilty of it too, we kept flying until we were 200 feet above the ground and our antenna was up in the clouds. It was

real tight flying, but you're flying in the middle of nowhere, there's no obstructions and you knew the ground pretty well and so it wasn't that dangerous actually unless someone else was doing the same thing. And so, we had to start setting up rules that if you follow the Intracoastal Waterway, you would follow it depending upon how high the ceiling was. If the ceiling was 500 feet, you could fly it over here, but always within gliding distance of the water. In other words, if your engine quit here, you could make the water. So as the ceiling got lower, you had to get closer and closer to the water. Well, some people [with] just two more miles to go, would get in the middle of the canal with trees on both sides like this and they are 15 feet above water and flying 120 knots like this and so, and this particular thing happened to me. I was doing it one time. And Rebstock and Reeves, a drilling company here in town, had a big beautiful yellow airplane and I just, through the clouds and the mist, I saw, and you always turn your lights on by the way so you can see better, and I see this thing. He is coming right down the center of the canal and I am going right down the center of the canal and our rule was to do just like you would do on the highway. You break to the right. So he broke to the right and I broke to the right and we did this number like the Blue Angels in an air show. But we started making rules after that, that anybody that had a radio would announce every five minutes where he was, what was his altitude, what was his destination and so forth (CJ Christ, 2003).

Christ observed that the area was a good training ground for pilots. The water varied in depth, roughness, clarity, traffic, and obstacles. The weather was just as variable, ranging from clear skies to fog, to thunderstorm, to hurricane. A high level of skill was required in the air and on the water. He felt there were pilots in southern Louisiana with more floatplane experience than anywhere else in the world.

If you could fly in the conditions of South Louisiana, then you could go fly bush in Alaska or fly fish in Seattle or fly the Fire Island in New York or whatever. Yeah, you could do all that and their flying was so routine compared to ours. Our flying had so much judgment involved in it that there were never two days in a row that were exactly alike, 'cause you had the conditions of the wind, the conditions of the waves, the conditions of traffic, the conditions of loading of the airplane, conditions of weather, wind direction, velocity, clouds, you know, all these things to deal with at all times (CJ Christ, 2003).

4.2.3.3. Expansion: The heaviest growth period for floatplane aviation came from the mid 1940's, when the oil work itself took off, to the early 1980's. For starters, Lloyd Geist, by then a veteran WWII fighter pilot, opened his flying school in 1946, training pilots under the GI Bill as well as providing service for the Texas Company.

When I got out of the service in '45 the first flying thing that I did was we opened a flying school up here in Houma...we actually opened the flying school in '46. Myself and another...another ex-Air Force pilot, and [an] instructor from New Orleans who had experience in running a GI School. We got him in with us because he knew how to get everything set up. So we ran a school under the GI Bill of Rights (Lloyd Geist, 2003).

Geist was also one of the first pilots to put floats on a plane and check himself out on floatplanes (There weren't any qualified floatplane pilots to certify him at that time.). He was also the first to start his own seaplane business, Geist Seaplane Service (1950), operating from the Intracoastal Canal with a hangar leased from Cenac Towing Company at Pecan and Gum Streets.

We had an office there and a hanger. And I had...you see... a little later- after I opened the base, companies like Baroid , Magcobar, Hughes Tool Company, Reed Roller Bit. All the big service companies, they started buying their own airplanes. So they...their salesman would have transportation out there and they wouldn't have to rent a plane – you see? 'Cause they were renting before. And, 'course, I lost business when they'd do that but I got to keep their planes at my base so [I did] the maintenance and the fuel and all of them (Lloyd Geist, 2003).

From this beginning, there eventually grew to be three seaplane bases in Houma by the 1970's. At that time it was estimated there were about 200 to 400 floatplanes operating in south Louisiana. Charles Hammonds noted about 90 of these were based in Houma. Activity grew quickly. Lloyd Geist trained Charles Hammonds, who started out as a “dolly boy,” bringing floatplanes onshore and cleaning them, and learning many phases of commercial aviation from the ground up. Hammonds went to work for Geist at age 12, washing and helping service aircraft at the floatplane base. By age 18, he had both his pilot's license and instructor rating. In 1960, he started Hammonds Flying Service and developed it into a large operation over the next 20 years, including operating a commuter line along the Gulf Coast. The other pilots cite Charlie as the most experienced floatplane pilot in southern Louisiana. Christ, a B-29 pilot from the Korean War, left his position as chief pilot for Magcobar to set up Houma Aviation Services in 1964 (the sea and sky both had their holds on CJ , who had just prior to that become a partner in the Coastal Marine Company which provided offshore boat service). Later came Ken Perry, who traded wash jobs for flying lessons at Houma Aviation.

CJ Christ's story is also representative of the “wide-open” nature of the 50's oil field. After discharge from the Air Force, he finished his college degree (majoring in English), and then looked for work. While waiting for his applications to the airlines to come through, he took a job driving a cement truck for Halliburton.

...we were having a blowout down at Cameron, a very serious situation and with me driving a Halliburton high pressure pump truck, was hooked up to the well to control it and I saw a guy in a white car with a decal on the side, white coveralls on and a clipboard, running back and forth and waving his hands, giving instructions and finally I was sitting under the pipe rack having my lunch and he came under the pipe rack and sat down with me. I said, “Man what do you do? I would like to be one of whatever you are doing.” He said, “Well, I am a mud engineer.” And we talked for a while and he said, “The company's hiring.” And I said, “Well, I had just gotten out of the Air Force and I didn't know what I wanted to do, but I damn sure didn't want to drive a truck for the rest of my life.” So he said, “Well, they're hiring.” [I said] I had been in the Air Force. He said, “Well, they need pilots too.” So I went to work for Magcobar and worked for 'em for almost 10 years (CJ Christ, 2003).

CJ worked as a mud engineer about half his time with Magcobar. At the time, Magcobar had a few pilots to ferry people out to the rigs. As he noted, “The pilot would just take the airplane instead of a car and go out in the fields in Texas or Arizona. It was an airplane and he would go out in the marshes of Louisiana.” By the late 1950’s enough aircraft were around the area – flown by people with varying degrees of experience – that it was becoming hazardous.

What was happening was these managers have so much work to do and the seaplanes were so efficient in what they did that the manager would, this is my opinion, the management would push the pilots a little bit harder than the pilots had the proper judgment to take care of. I can’t think of a way to put it, but that’s my personal opinion (CJ Christ, 2003).

A series of accidents in his company, one fatal, brought in the insurance companies.

So by this time we had had three total losses, airplanes, the first two didn’t have any serious injuries, but when the third one happened, Insurance Company of North America... from Pittsburgh, told our company, “Unless we get somebody to run the operation and supervise the flying of these guys and have enough authority to make them safe, we are going to cancel and when we do, nobody this side of the ocean is going to pick you up and if you go to London, it’s going to cost you a bundle to insure those airplanes.” So Magcobar said, “Oh, then that’s what we’ll do.” And they reached around – somebody must have found my resume – and put me in charge of all the airplanes. So that’s what I did for the last six years I was with the company (CJ Christ, 2003).

As chief pilot for Magcobar, starting in 1959, Christ had to develop maintenance and training programs. One major decision was to train the mud engineers to become pilots, rather than seeking out pilots to train as mud engineers. Christ took over pilot training himself. The oil field was booming by the late 1950’s and rigs were scattered all over. The mud engineers were needed all over, and they needed to fly to reach the rigs. There was no other way. At the same, time, the insurance needs were so great that Christ had to have trained pilots and good aircraft.

So these pilots had to be taught all of these things and taught rather quickly because we needed them so badly and because the whole light was shining on me because I was the guy who said, “We need new airplanes. We need new pilots. We need better equipment. We need more powerful engines. We need all these improvements” (CJ Christ, 2003).

By 1964, Christ was ready to move into a complete flying job, and made himself available for a fixed base operation service at the airport, which had just a few years before come under the management of Houma City and Terrebonne Parish. He set up Houma Aviation Service, “I started the company at the airport and operated the first hangar, first commercial operation ever to go into the airport” (CJ Christ, 2003).

...I could see that my company (Magcobar) was not in the flying business and had I been with Eastern Airlines Marine Division or something like that, there was no

end to my climb. But when I did what I set out to do, then I spent another, I don't know, another year and a half or two years in Marine and Vehicular Safety as well as Airplane Safety and I got that down to where in my opinion, there wasn't much room for improvement, then I started looking around. And a friend of mine offered me to go into business with him and I did that long enough to wait for the franchise to operate the airport to come open 'cause I knew that they were getting ready to put a big hangar at the airport. Had done nothing since World War II and the parish and the city were getting ready to build a hangar out there and somebody was going to be able to operate it, so when I left the boat company – I stayed in that for almost a year – so when I left the boat company, I went to the airport and operated the airport 25 years (CJ Christ, 2003).

The boat service that he helped establish was Coastal Marine, now called Comar. In the 1980's downturn it survived by converting some of its fleet to dive boats, and expanded as offshore activity renewed. When Christ had to close the doors of Houma Aviation Service, he went to work for them as a boat captain.

For two decades, Houma Aviation Service was successful. At the peak, Christ had five hangars. As oil drilling ramped up in the 1960's and 70's, Christ noted the business climate was very suitable for entrepreneurs.

That's where the oil field shined... You would tell, I'll be more careful now, you could tell someone, "I want you to go pick up a gear at Minotowak, Wisconsin." "It's too big." "I am going to have to have it right away, so get your biggest airplane and go over there and just get it done." "Well, the weather..." "We don't want to hear all of that. Just get it done. So if you have to hire another airplane, just get it done."

And so that's where we shine and that's where in my opinion, the service companies that were in existence then and made it, that's where they would shine... They had a good track record and you were reliable and they could count on your word and you just hung up the phone and said, "I'll get it done," then you pretty much made it because there wasn't much concern about how much it cost. You have, as an example, you have to just pick a number of \$50,000, \$100,000 a day rig out there and it's shut down because of a gasket or a gear or something that's not available locally and they tell you to find someplace and get it, nobody ever asks how much it costs. They just say, "The rig is shut down, tell us what you need and go get it. So, it's a matter of having trucks waiting for you when you get back to the airport at 2:00 am in the morning or if you have got to go to Houston and wait for them to manufacture something and you sit there in the place where they manufacture it and wait for them to get finished and put it on a truck and take it back to the airport and you take it back to Houma and so forth. That's how things got done. And we were in that and it was, as I look back, so exciting because there was never, almost never a time when somebody said, "Now wait a minute, how much is that going to cost?" (CJ Christ, 2003).

4.2.3.4. Decline of the Floatplanes: The 1980's bust hit the floatplane services with a one-two punch. The first was simply the downturn in oil prices and revenues on the heels of the huge run-up in the previous ten years. That was typical of the oil fields in general and most of the business people expected that to happen. The second was the withdrawal of Texaco from the inshore fields. In 1984, Texaco sold most of its holdings in the inshore fields (they still have production at Caillou Island, but nowhere near 1970-80 levels) and joined the other major oil companies offshore. With the bulk of new investment offshore, the floatplane services had no market. Because floatplanes could not land in the rough waters of the Gulf, helicopters became more important for transport offshore. Heliports were built on the platforms and large vessels, and became the primary means of transport for personnel and valuable equipment.

The oil field started coming back but not necessarily the floatplane. One of the things is that the inshore drilling never did go to the peak it used to be and the drilling went farther and farther offshore. In fact, it's now in 3 or 4,000 feet of water and it's way out offshore and secondly, companies started rigging up to use helicopters and the cost of equipment, of course a helicopter is much more expensive than a floatplane, but the flexibility of that helicopter to pick up a big wheel getting off an airplane at New Orleans International and taking it directly to the drilling rig, do what he has got to do and then take him back to the airport, we couldn't do that (CJ Christ, 2003).

Helicopter use curtailed the informal flying over the oil fields. Professional pilots became dominant, and mud engineers or salespeople who wanted to reach the rigs chartered helicopters and pilots rather than learned to fly themselves. Insurance costs were also a consideration, because professional pilots working for larger corporations were able to afford insurance. Charles Hammonds noted insurance costs for helicopter work were very high, too high for a small operation. Charter companies like PHI (Petroleum Helicopters, Inc.) became major operators offshore, with sophisticated traffic control systems for monitoring and directing their offshore operations. At the same time, the helicopters themselves became more powerful and reliable enough to haul people and equipment, and a cadre of trained pilots was available with military experience.

Most, 99.9 percent, of the helicopter pilots are military trained. It's just extraordinarily expensive to do that. You don't see a lot of civilian-trained helicopter pilots. Like I said, most of them are military. The floatplane guys were either guys like me who were just a little too young for Vietnam or guys who had managed either to go to Vietnam as a non-flying guy and come back and use the G.I. Bill or guys who never went. So, the two don't, it's easier to go from a helicopter to a plane, to an airplane than it is to go from an airplane to a helicopter. It's just a whole [lot] different, it doesn't translate well in any other direction (Ken Perry, 2003).

Earlier, as helicopters were being developed, the floatplanes were more powerful and safer. However, Christ noted the aviators were monitoring helicopter capabilities and felt the ones from the 50's and 60's just weren't good enough.

We use these equipment, these machines to go to drilling rigs and check drilling rigs, we aren't going to take people for a ride to go look at the ground, we are doing work with these airplanes and so we need one that will take off with a reasonable load and we need one that will tie up to the drilling rigs.

Our competitors at the time were Baroid, which is Beaumont Sales, I can't remember the name of the parent company, and Millwhite, which turned into Millchem and I don't know what they are nowadays, they might be all merged as far as I know. But they each got a helicopter and I watched that very, very carefully, because I wanted to make sure that we were doing the best thing for our company and so I was watching and they were having all kind of trouble, strange trouble, like there is no place to land a helicopter in a marsh. And they would land them in the marsh, one skid would get stuck and go "whomp" and flip upside down trying to get out and things like that. And then they couldn't carry anything. They couldn't carry enough fuel to go to Grand Isle and back if you had a mud engineer aboard with his full kit and full fuel. So you couldn't carry anybody with you and so that completely eliminated the idea of taking an engineer and picking him up and putting him on a rig and so forth. So that wouldn't work, and the inland barges up till today, almost none of them ever got a suitable heliport. So they would land on the pipe rack or they would land in the marsh where they threw the garbage from the rig and the papers from the sacks that the mud came in and this sort of thing. And then you had to have a walkway to get to the drilling rig and all. It was very inconvenient and as I recall, it cost about as much as a floatplane, or maybe it was more, I don't know (CJ Christ, 2003).

CJ Christ recounted an interview with a helicopter salesman he had while working for Magcobar. After a discussion of payload, fuel supply, and other costs, Christ asked about insurance.

And when he said what the insurance premiums were going to be to fly this damn thing after all the terrible experiences they were having replacing these ones that got busted up – fortunately, nobody got hurt real bad – but the insurance was through the roof to fly them ... And when we finally got finished with all of that, he said, "Well, I'll take you for a ride." I said, "Okay, but I am going to make some rules, right now before we leave this restaurant. I believe that a helicopter will do autorotation. You don't have to convince me. I believe they will do it. Do not, I say again, do not demonstrate autorotation to me. I believe it's an accepted [fact], it's full blown and so forth. Don't do that. And don't take me beyond the airport." Because we were coming from town and going to the airport and a couple of other things. So we get into, well... halfway between the seaplane base and the airport, he reaches up and turns everything off. He said, "Well, I'll demonstrate autorotation." I said, "I didn't want to do that." And before I could say anything, we weren't but two or three or four hundred feet above the ground, before I could say anything, he had already come in and mis – "bang" – judged and hit the ground and that little helicopter was doing this number [flipping around]. I said, "This demonstration is over. Take me back to

the seaplane base.” He said, “But, but...” I said, “No, this demonstration is over. Take me back to the seaplane base. I told you not to give me an auto...” It scared the hell out of me and it hurt my back for months at a time after that was over with. I didn’t want to do it and he did it anyhow. So that was so much for the helicopters. We never did go into ‘em and our competitors dropped them not too long after that, because they just, they didn’t fit in inland drilling barges (CJ Christ, 2003).

Helicopters came into their own in the 1980’s as more oil work went offshore and the helicopters benefited from technological advances and a trained cadre of pilots after the Vietnam War. Travel to the rigs became a professional service, with trained pilots taking passengers to specific rig locations with dedicated landing sites. The dispersed nature of oil field flying still exists, but the more formal control system makes it more regularized. Aviation controls increased even more after September 11, 2001. Air space security over the oil producing areas, as everywhere else, has become much more important.

Probably the most important role of the floatplane aviators was as a means of tying the oil field network together. In the days before cell phones and wireless internet, radios and personal communication were the primary means of information exchange. Much of Charlie Hammonds’ activity was collecting reports and bringing them into the division headquarters in Houma or other places. This is done today by internet. Two other oil workers also noted that Hammonds and the other aviators were critical in bringing people to the rigs and back. One person noted that Hammonds would often wait for a person he knew was about to go off shift, and fly him back rather than force him to take a longer trip in the crew boat. The personal attention paid by the aviators to the oil field workers left them highly respected. In addition, the pilots themselves were very good about sharing information about their craft and developed a “fraternity” of their own.

...in the airplane business, from my personal experience, the old guys are trying to teach you something all the time. “Don’t do that,” or “You might get by with that this time, but you better not do it as a habit because this could happen and that could happen.” A lot of good help. That’s why you go to the bar when you land (laughter) (CJ Christ, 2003).

4.2.3.5. The Development of the Airport: The Houma-Terrebonne Airport is the outgrowth of a blimp base built for Navy anti-submarine patrols during World War II. In 1958 it was turned over to Houma City and Terrebonne Parish in a quitclaim deed for a dollar. The airport is managed by a commission appointed by the consolidated Houma-Terrebonne Parish Council. It is both an airport and an industrial district, with the rent from industrial tenants providing a significant amount of cash for supporting activities. The industrial district has maintained a strong client base since opening, primarily because it charges a low rent, and this cash cushion allows them to be flexible if lessees fall behind on payments during a down cycle.

The first known airstrip in Houma was built for a couple of barnstormers, who came to town in 1930 to give rides. An airstrip was cleared for them near Geist Street south of Bayou Black, less than a mile from the present Civic Center. As the street name implies, the Geist family was a

landowner in the area, and that family provided a nine-year old “watchman,” Lloyd, to watch the plane and keep the neighborhood children from climbing on the cloth-covered wings. In return, Lloyd was given a free ride and started on a lifetime of dedication to aviation.

In 1934, The Texas Company cleared an airstrip and built a hangar along Highway 24 and Bayou Terrebonne that eventually grew into the present day airport (Hammonds, 2002). Texaco needed aircraft to reach its rigs, and in the 1930s they used amphibious planes (flying boats with wheels attached so they could land on both land and water) that were based in Houma. The first plane was a Vintage Keystone (an amphibious biplane), and Gus Trotter, The Texas Company’s superintendent at the time, would have pilot Embry Hunt take him on his inspection tours.

Then, as far as the Keystone, that was when I first went to high school in 1934. Gus Trotter, you probably heard of him. He was the superintendent for Texaco. And he had a son, Gus Jr., who was in my freshman class. And I knew that Texaco had the Keystone. ’Course, I didn’t know what kind of airplane it was then. Just a biplane, I knew that, with an engine in-between the wings up high. And it was an amphib, because I used to... anytime I could get Daddy to take me out to the airport, the old Houma Airport, which was right on Bayou Little Caillou right on the side of the road... the air strip ran parallel to the road (Lloyd Geist, 2003).

Later in that decade, Texaco upgraded first to a Grumman Goose (piloted by Bill Moore in 1937/38); then to a Mallard, whose distinctive red coloring was a common sight in the air over Terrebonne until the 1990’s (Hammonds, 2002). Flying in the Keystone was an adventure.

Little Gus told me on Friday at school, he said, “Daddy said if you want to take a ride with us tomorrow we are going to go out. We are going to fly.” So I was out there the next morning. And we went to Lake Pelto And we had the ramps then. Where you taxi up on ramp, you know? And Mr. Trotter [would] get out and go to the camp. While he was there Mr. Hunt said, “Let’s go to the beach.” He said, “We’ll do a little fishing while we are waiting on him.” So we got back in the airplane and run down off the ramp. And he picked the wheels up and we’d taxi it on the step over to the last isle. And we got about, I guess, 100 yards from the beach and he was going to put the wheels down so we could taxi to go up on the sand and get up on the beach. Fish off the beach. Well, they went down. Evidently they hit the sand. Put the wheels down and you’ve got a hand crank right there on the side of the wheel. That hand crank was bolted to the floor, which was a wooden floor. With four bolts. And he strained on that crank to get the wheels down even though I guess they were on the sand or something. And the whole thing pulled up. It pulled the bolts through the wooden floor (Lloyd Geist, 2003).

The beginning of World War II brought U-boats into the Gulf of Mexico, which sank a few tankers and created quite a scare before being driven out by the end of 1942 (Christ, 2005). The U.S. Navy took over the airstrip, added two hard surface runways for conventional aircraft, and built a huge hangar for dirigibles to be used for patrolling the Gulf. This history gives the airport its alternative local name, the “Blimp Base.” Because Texas Company oil was so vital to the war

effort, it was the only private enterprise allowed to use the base during the war (Hammonds, 2002). After the war, the Navy once again permitted civilians to use the base, as they were gradually disengaging from the place. The transition to civilian control occurred in 1958, with the quit-claim transfer of the 1,750 acres of property to the City of Houma and the Parish of Terrebonne, which operated the airport through a jointly appointed commission until the city and parish government consolidated into a single unit. The Houma-Terrebonne Airport had enough land to support a healthy industrial park as well as a general aviation airport, and under the terms of its sale from the Navy, it became virtually self-sufficient.

In 1983, a Level II control tower was put into operation at the airport, just in time to preside over the major decline in all oilfield service industries in that decade. Texaco by then was pulling out of the inshore oil fields, and cut their distinctive Mallard amphibious airplane fleet from four to two, then to none by the early 1990's. Water around the offshore platforms was too rough for floatplanes and by then helicopter technology had developed to the point where they could furnish the bulk of offshore air transport needs. At the same time, the role of floatplanes as information collectors and inspectors inshore had declined in the face of computer based communications and remote sensing technology. Lloyd Geist had sold his company to Billy Wurzlów in 1969, and moved to Colorado. By 1978 he was back flying for Wurzlów, continuing until retirement in 1992. Hammonds and Christ had both filed bankruptcy by the mid 1980's. Christ paid off his debts by early 1989, dissolved the business that spring, and went to work for his friends at Coastal Marine as a boat captain, servicing the offshore rigs. Hammonds had to end his commuter airline business and scale back his charter services. After emerging from bankruptcy in the early 1990's, he became quite cautious about the work, doing more pilot training and charter work. In 2003, he shut down the last seaplane base in Houma.

The airport itself still has about as much operations activity as in the peak period, but a larger proportion of that activity is helicopter traffic rather than fixed wing aircraft. PHI has the largest number of operations (flights) from the airport. The runways are still WWII vintage, and a major lobbying effort is underway to strengthen and extend the runways to handle larger, jet aircraft. This effort to gain federal funding is based on the proximity of Houma Airport to the offshore rigs in the Gulf and the time that could be saved by basing an air rescue group there.

The airport has also operated as an industrial district. This started almost immediately after the transfer to local ownership. In 2003, the airport industrial district had 178 surface leases with 50 oil field tenants. The manager of the airport noted that they have been able to maintain their tenant base through the years. If one tenant is lost, usually someone else comes in quickly. The airport has a low rent and enough of a financial cushion to be able to make special payment arrangements with clients in trouble (Earl Hicks, 2002). A quick look at the statistics of longevity of airport tenants (Table 5) shows that about half the current tenants are relative newcomers, since 1991. Slightly over one third might be classed as "survivors," having been in residence before 1980 and gone through the 1980s downturn without going out of business. Only one company, Duplantís Truck Line, can trace its lineage back to 1958, when the airport was turned over to civilian control. Oil Field Rental Service is also one of the older tenants, having a lease since 1964, although it now does business as Enterra Oil Field Rental, a larger business listed on the stock exchange. Great Southern Development is the other tenant that leased in the 1960s. This development group was backed by the Houma City Council as

Houma’s answer to the Oil Center in Lafayette. One building was built, a number of oil companies leased office space there until the 1980’s downturn, and it has been on the decline since then.

Table 5

Houma-Terrebonne Airport Tenant Tenure

Time of First Lease	Number	Percent (N= 50)
1960 and earlier	1	2
1961-70	2	4
1971-80	15	30
1981-90	7	14
1991-2000	20	40
2001-2002	5	10

Source: Houma-Terrebonne Airport Lease Records

The ability of the Houma-Terrebonne Airport to maintain itself as both an industrial park and airport is a good example of the resilience of Houma itself. According to Earl Hicks, the airport manager, its level of flight activity makes it the third or fourth busiest airport in Louisiana, in spite of the fact that no scheduled commercial passenger flights travel there. The industrial tenant base is still strong, and the airport has been able to survive the shift away from inshore to offshore work that has been the doom of many individual businesses. The runways need improvement, although one has been lengthened to 6,500 feet from the original 5,000. The airport is well-positioned to reach the oil platforms in the Gulf by helicopter, and PHI has taken advantage of this to have a helicopter commuter operation at the site. Ironically, the local people feel their airport does not gain the federal interest that goes to airports with scheduled passenger airlines.

We are trying to do an airport expansion and strengthen the runways and all of that. The airport people wonder why they don’t get money. It is because they don’t have a scheduled airline in Houma. Every Tuesday and Thursday we are taking two and three thousand people offshore and bringing them back. We have to change the FAA’s definition of a scheduled airline. We are unique (Clifford Smith, 2003).

4.2.3.6. Summary: Floatplanes and Inshore Oil: The rise and fall of the floatplane industry is indicative of the adaptation required in oil work. The small aircraft with floats instead of wheels constituted a logical response to a combination of conditions:

- The dispersed and mobile nature of drilling operations, whose primary access was by water.

This required light, highly mobile airplanes that could cover large areas relatively quickly. Some of these work sites would require boat journeys of four to six hours, which was too slow,

especially for sales and service people. The dispersion also created more of a field of activity than a set of fixed flight routes.

- The need for a large group of service, supervisory, and support people to reach the scattered workplaces.

This need meant that engineers, specialists, supervisors, and sales people were trained as pilots on simple, relatively inexpensive airplanes. Professional pilots did the training and support activities, but much of the flying was done by “amateurs” (many of these people finished with many hours of flying time, although many also did not progress to more complicated ratings than VFR— visual flight rating – private pilot).

- Support for floatplanes had to move away from the solid-ground airports and runways to bases on water, such as the bases on the Gulf Intracoastal Waterway in Houma.

Takeoff and landing at such bases was much less formal or controlled than normal airport activity. Flight control over the oil fields was informal, depending on visual sighting, partly because so few pilots had instrument ratings, partly because radios were not very efficient in the 1950’s and 60’s.

- Floatplanes had a number of operational and technical problems that would not be associated with land-based planes taking off and landing on dedicated runways.

Floatplanes had to land in narrow, shallow channels, share the water with boats and barges of varying sizes, and develop their own techniques for landing and tying up to barges. The emphasis, then, was on light maneuverable craft that could tolerate some modifications to cope with these needs.

- While adaptable to currents, crosswind, and tides, the floatplanes could not land in the open waters of the Gulf of Mexico.

So when the major oil companies shifted onto the Outer Continental Shelf and beyond, the floatplanes were left behind and most of the floatplane charter and fixed-base operators could not stay in business.

Helicopters came into a dominant position when oil went offshore – the distances required air travel and helipads were built on the rigs so helicopters did not need to land in the water (the rigs were too high off the surface and water too rough for access from floatplanes). Use of helicopters required professional pilots, many of whom were veterans of the Vietnam War, and a professional support system. Helicopters were far more expensive and the insurance was much greater than for floatplanes, so corporate helicopter companies such as PHI became key to offshore access. At the same time, the hard-surface airports have once again become important as heliports.

The Houma-Terrebonne Airport exemplifies the conversion of a defense base to civilian use, although it must be remembered that it originally started as a base for Texas Company aircraft

flown to the rigs in the 1930's. After its sale to the Houma-Terrebonne governments in 1958, it prospered as both an airport and industrial park. Its dual roles supported each other as materials and supplies built and stocked by businesses at the airport were conveniently located to reach the oil fields, not far from air, land, or water access points. For the most part, the World War II era runways were able to handle the light craft that dominated in the pioneering inshore phase of oil development, and have been able to provide a solid base for helicopter operations. At present, access to the offshore platforms is less of a problem than access from land. The airport faces problems in highway access to New Orleans and Lafayette, and needs to upgrade the runways to support heavier jet aircraft.

4.3. Conclusion

Irving "Sammy" Daigle started working for Texaco in 1948. He was the marine supervisor for the company's Houma District, charged with staffing, provisioning, and dispatching a fleet of 200 boats working Texaco's inshore fields. He still lives in a subdivision close to the company's district office, now occupied by the engineering firm of T. Baker Smith and Sons. At its heyday, The Texas Company – Texaco – had district offices in Harvey, Houma, and New Iberia, and a headquarters across the river from Harvey, in New Orleans. When the company shifted its energy from the maturing inshore fields to offshore, it staged the new activity out of Morgan City. Daigle briefly reviewed the changing corporate landscape.

About '83 or 84, somewhere around in there, they closed the Houma District. And we moved to Harvey. And they were operating the two districts out of there. They had one district other than Harvey. And then, they sold all of this. Smith got the office building and Pride Offshore has the back part, the yard and the slip. And then they eventually closed New Iberia and sent them to Harvey also. These were the inshore districts. We had our offshore district in Morgan City at the time. But when we first went offshore, it was operated by the inshore districts at that time, when we first went offshore. That was before they formed they formed this offshore district, you see (Irving Daigle, 2002).

This dizzying corporate rearrangement was occasioned not only by the shifting emphasis to offshore. The abrupt and massive downturn of the 1980's – financially disastrous for Texaco, in fact – demanded a more streamlined and penny-wise approach to doing business. Another shake-up came in the late 1990's with the mega-mergers; again, company people and their families were moved; the job force was "downsized." Sammy Daigle, who retired in 1989, wasn't sure exactly where his former employer for 41 years is now.

I understand today that it's all operated out of, well, I want to say New Orleans, but I think it's going to be operated out of Lafayette, since Chevron and Texaco merged (Irving Daigle, 2002).

The service enterprises that grew up to support the exploration and production activities of the majors and the independents do not take their marching orders from them. But they do get their work orders there, and when the nature, location, and technology of such work changes, the service companies have to adapt, innovate, or, as countless have done, fold up shop. Some

operations changed their focus. T. Baker Smith moved from surveying inshore oil properties to engineering ways to continue to live in the fluid natural environment of south Louisiana. The trucking companies still had parts and supplies to move to staging bases for offshore rigs and platforms; they still had to store and deliver drilling pipe. The seaplanes are a thing of the past, but some of those trained, usually self-trained in the early days, could utilize their knowledge of flying to manage air-related services, or to train newer generations of pilots.

With the 1980's new challenges emerged. While this decade, and the present, is beyond the scope of this project, Sammy Daigle has already alluded to some of the corporate shake-ups. In the next section, we turn briefly to the stories of two Houma-based service companies as they tried to survive the downturn and the new demands of a global industry.

5. TURMOIL AND TRANSITION

While the inshore fields of Terrebonne Parish and throughout south Louisiana were matured and plugged by the early 1970's, the Outer Continental Shelf had taken off. Houma, with its navigation canal straight to the Gulf, could take advantage of this shift, and the decade was a prolonged and heady boom time. The OPEC embargo of 1973 and 1974, meant to punish the U.S. and the Netherlands for supporting Israel's war against the Arabs in 1973, shot domestic oil prices up and fueled the boom. Investment flooded into the industry along the Gulf Coast, and many locals – the proverbial “doctors, lawyers, and teachers” – couldn't resist the lure of the boom. They bought service and supply boats, bought shares of start-up companies, lent their life savings to entrepreneurially-inclined friends and neighbors.

On the consumption end of the commodity chain, drivers, angered at the long filling-station lines induced in part by the OPEC embargo, reduced demand through the decade, and the investment frenzy in the oil-producing regions of the 70's would prove to be excessive. But then, late in the decade, Iran took over the U.S. Embassy, the flow of crude oil from the Middle East was disrupted, prices for a barrel of crude in the U.S. spiked at \$40, and the boom got a new shot of adrenalin. Rapidly, demand dropped further in response to the spike in prices and the U.S. suddenly had a glut of oil available. The infamous bust along the Gulf of Mexico began about 1982. Then, the major international producers such as Saudi Arabia, which had cut back its own production in an effort to keep prices and revenues high during the downturn, choose the opposite strategy. In an effort to regain the market share it had lost when demand slowed, Saudi Arabia, in about 1985, began to produce and export enough supply to bring the price down to \$9 a barrel. For consumers throughout the U.S., this was welcome relief. For producing regions like the Gulf, this prolonged the agony. This was the new business climate in which Kerry Chauvin and the Bill Coyles, father and son, operated in the 1980's

5.1. Gulf Island Fabrication

Gulf Island Fabrication is the largest oil-related company in Houma. It is listed on the NASDAQ stock exchange and builds structures for offshore production and habitation. Kerry Chauvin is currently President, CEO, and Chairman of the Board of the company.

We basically build the structure to specifications, load it out on the barge, and someone else takes it and transports it, and installs it and commissions it, gets it ready for operations offshore. So we are basically limiting ourselves to fabrication (Kerry Chauvin, 2003).

As the offshore oil field has aged, Gulf Island has started to rehabilitate structures as well as build new ones. In part, this new emphasis reflects to rising costs of labor and materials for new-builds.

We do a lot of refurb[ishment] work. Recently, in the last five years that has been something that's changed. Used to be when you put a platform offshore you would pretty much design it for a 20 and 30 year life and [because of the] enormous [cost], they're out there forever. Now we are starting to see some of

the structures on the lesser fields... if you build a small structure and it goes out on a temporary basis for maybe three or five years, we bring it back in, recondition it, and ship it back out. So we are seeing some of that, that we have not seen in early days. Steel and labor were so cheap that it was very easy to... these finds were large enough where the additional cost of building the rig was not a problem (Kerry Chauvin, 2003).

Gulf Island grew out of the demise of Delta Industries. As oil production shifted from inshore to offshore, metal fabrication became more important. In Houma in the 1970's boom, the largest fabricator, and second largest employer other than The Texas Company, was Delta Industries. Delta had both a shipyard near New Orleans and a fabrication yard at Houma, not far from the airport. It was located on the Houma Navigation Canal for access to the Gulf. For a while, Delta was owned by a larger corporation, then part of a leveraged buyout, and later went bankrupt near the beginning of the 80's downturn. In the mid-1980's, its assets were bought by a partnership group from New Orleans and used to set up Gulf Island Fabrication. Kerry Chauvin was a young engineer when he started with Delta in 1973, and has risen to top management of Gulf Island at the present.

I began back in 1973 after I was released from the United States Air Force. I worked for a shipyard called Delta Shipyard, my first job until 1977 after which I went to work for a company called Delta Fabrication, which was a sister company. Shortly thereafter became general manager of that particular company which was a subsidiary of a very large conglomerate at the time called Chromalloy American Corporation (Kerry Chauvin, 2003).

Chromalloy was an unwieldy conglomerate. The oil services were sold to a set of investors with national connections. Delta Fabrication was part of this industrial complex. This 1980 buyout was highly leveraged and had no cash reserves to maintain itself through the 1980's downturn. By the mid-1980's, investors with extra capital were able to buy major assets outright. So Delta Fabrication's land and equipment were bargains. However, the buyers had to wait until the oil industry revived before turning a profit.

In 1980, five divisions or subsidiaries of Chromalloy American Corporation were then sold to an investor group that...decided to buy these five divisions and start a company called Delta Services Industries. Didn't last very long; in 1984 they went bankrupt. They just tried to do it with all debt and no equity and it just didn't work. In 1984 and 85...a group of investors decided that they would go ahead and take on the task and of course not with all debt, which was very good compared to other people's propositions. So we decided to try and buy this out of bankruptcy, which we were successful. Bought about 30 million dollars invested for 5.2 million, so we were very fortunate, and put it back to work at absolutely the worst time because the oil field just kept going down, down. Unemployment in Houma in '84 and '85 was running about 26 percent... pretty hard hit by the downturn of the oil and gas industry (Kerry Chauvin, 2003).

Among the major shareholders in Gulf Island was a very experienced oil man, Alden Laborde. Laborde was a pioneer in marine drilling and service, and took advantage of the downturn to assemble a powerful set of associated businesses. He seems to have been a tutor for the present leadership of the company. According to Kerry Chauvin,

... it was pretty rough but finally in 1987 the company started turning a profit... By 1986 we were down to two owners, two major owners. And one of them was Alden Laborde. He was world famous for his priming of the offshore industry. And the other one was Peter Wilson out of Baton Rouge, who made his fortune on a catalog showroom jewelry store. And so they, they owned the company 50/50. Each 50 percent. We moved along and I was President of the company at the time (Kerry Chauvin, 2003).

As the industry recovered, Gulf Island was able to take advantages of opportunities to grow. There was a concern with buying out potential competitors, but they were also being positioned for larger-scale fabrication.

But in 1989 we saw an opportunity. We did not know that it was an opportunity but we actually made a defensive move. There was a company in town, which was part of a very large corporation called Raymond International. And Raymond Fabricators had 437 acres right across the Houma Navigation Canal from where we are, and in 1989 we bought that facility where there was 50 million dollars invested. We ended up buying that for 2.5 million dollars. Raymond Fabricators were part of a very large leveraged buy out. Actually we bought the facility so we would stop somebody from moving in, as a defensive tactic so they wouldn't be competing for our labor and supervision. A year or so later the market picked up and we ended up having a staff, a yard, and put it to work (Kerry Chauvin, 2003).

After taking control of Raymond, Gulf Island's next acquisition was another of their Houma neighbors, Dolphin Services. This was a company founded by one of the original Delta stockholders.

Back in January 1997 we purchased another little company down the road called Dolphin Services.... Bobby Marmande, one of the old Delta people, you might say, spun off from Delta in 1980 and actually started the company. We purchased it in 1997 for about two times earnings, annual earnings. And we went public in April, at six times earnings so we tripled our money on that company in a matter of three, three or four months (Kerry Chauvin, 2003).

Offshore living environments were also becoming more important as production moved further from the shore, and Gulf Island's next purchase was a company that made quarters.

And in 1998 we started another company, well, we purchased another company called Southport, which builds living quarters. They were established in New Orleans on Harvey Canal. Two years later we actually moved that company to Houma. Bought another 20 acres of property right at the end of Thompson Road,

on the right, on the north side, and moved it closer to home so we could get a better handle on the management of the company (Kerry Chauvin, 2003).

The result of Gulf Island's careful set of purchases is an industrial complex of fabrication-related industries located next to the Houma Navigation Canal. This channel was built in the early 1960's and provides Houma direct access to the Gulf, something it had only through the bayous before then.

The reason we are here [is] because of the Houma Navigation Canal...Basically a state project that Senator Allen Ellender at the time put on the federal maintenance program. So we were very, very fortunate that it is maintained by the Corps of Engineers at no cost to the local people (Kerry Chauvin, 2003).

This canal is one of the primary reasons for Gulf Island locating in Houma. This is also a primary point of environmental and storm-safety contention in Houma, but for Gulf Island, it is of critical importance to their operations. As oil operations have moved further into deepwater, Gulf Island is under a strain to be able to transport larger equipment to the Gulf.

There was a deepwater, what we considered a deepwater channel at the time, only it was dredged to about 16 feet of water. By design hopefully in the near future, probably in the next five years we can get it deepened to about 20 feet. They are working on that now. Here it's a direct shot to the Gulf of Mexico. It has no overhead obstructions and the type of structures that we build here, we can't power rig them over obstructions in this channel. However as it is, it is getting somewhat outdated because of its capacity... As the offshore industry gets in deeper water and larger vessels, we ship a lot more products overseas than anytime in the past (Kerry Chauvin, 2003).

The industry has changed greatly since Chauvin started, going into far greater depths. He, too, was well aware that the move from inshore to offshore required larger size structures.

I guess I was a late person coming in to the whole entity of the oil field back in '73. In those days we saw there wasn't as much activity offshore. There was some but a very limited amount, mainly on what we would call shallow water, up to about a 200 foot water depth. What we were dealing with especially in the shipyard days was primarily small supply boats that would go offshore but we had a lot of inland barges and a lot of inland production in the lakes and bays in South Louisiana. We still have some but not nearly as much as we used to. So the transformation is, structures are getting bigger. Everything's deeper water. Everything now is more going toward the floating concept, because the water depths were just getting too great to put in fixed-type platforms. In the old days I remember they would actually build the offshore wooden platforms that didn't last very long, and then shortly thereafter went to the steel platform (Kerry Chauvin, 2003).

The company is upgrading its fabrication facilities. This new investment is important to keep up with the globalization of their business.

Probably seven to eight years ago we saw a need to become more international. Before that time all our products were basically bought in the Gulf of Mexico. About seven to eight years ago we knew we had to go international. And we have been shipping about 20 percent or 25 percent on an annual basis of our products are going to other areas other than the Gulf of Mexico and that included the Caribbean, Brazil, West Africa; some right now to Nova Scotia. We have shipped some housing units to Australia, the Middle East, and areas such as that, so we are doing more (Kerry Chauvin, 2003).

Globalization is also seen in materials supply for their work. Chauvin noted that steel for fabrication is not made in the United States; he gets it from overseas now.

The steels are getting more exotic where even the U.S. manufacturers of steel can't meet these requirements. We have to bring a lot of steel from overseas from more sophisticated mills that can produce steel to these new requirements. We see the oil field becoming a lot more international. You see a lot of major oil companies, the big guys, are being gobbled up by some of the big internationals, like British Petroleum and Shell, and some of these people brought a lot more international flavor to our business as well as Chevron, Texaco and all the rest of them. It is more worldwide. You see a lot more technical people coming in from Europe and other areas of the world now and not as many what I call U.S. citizens that you had in the past. So the contracting philosophy and business strategies are more changed, changing towards the European businesses' ways (Kerry Chauvin, 2003).

The payroll for skilled workers in fabrication is higher than for most other work in Houma, even though the average hourly pay for a welder, for example, is lower than the national average. The workers generally work longer hours and the cost of living is lower. Time demands are a part of the business cycle, as oil companies want their platforms to be operating as quickly as possible.

So the pay was a lot better in the shipyard and the oil industry, fabrication, whatever it may be... you got real good pay for that time frame. And made more. Now you put in the hours... made a long day's work, you know, 70, 80 hours a week is kind of normal. First, my first job in that shipyard, the boss told me "I'm gonna hire ya but I wanna' ta remember this, I'm hirin' ya for 7 days a week, 24 hours a day. And anytime the company gives you off to spend with your family, sleep, or whatever, the company gives you that. And remember, I'm hirin' you at this rate for 24 hours a day." And that's the mentality I had to enter with, which is good. Most people who are working an eight to five job or whatever, and you look at it in the oil field and it is just like, you know, bein' at work 60, 70, 80 hours a week (Kerry Chauvin, 2003).

The cyclical nature of the fabrication business is an important aspect of operations and labor retention, especially considering Gulf Island exists because of the bankruptcy of another company. Maintaining a labor force is only one of the issues. Gulf Island has tried to offset this cyclical quality by aggressively seeking out oil business opportunities on the international scene. When asked about looking for business beyond oil field work, Chauvin noted the level of precision needed for offshore fabrication makes it difficult to be competitive in onshore metal fabrication.

A lot of our competitors have tried it and we've looked at it. Our problem is that we deal with such big, heavy components that it's hard to find anything else that we would deal with other than [them]. We have a quality, level of quality, that far exceeds most industries, so our people would tend to overbuild it, you know, the quality would be inflated. So it makes it difficult for us to compete in what I call lesser quality construction, such as bridge construction...I can name you four of our competitors that's gone into bridge building, girder building. They just all lost their shirts and it's very difficult to build. The quality is just unreal, it's hard to get down to that quality level (Kerry Chauvin, 2003).

When asked about whether or not Gulf Island might leave Houma, the answer was that he had a personal preference for staying. While the Navigation Canal depth could be a problem, the industrial infrastructure and labor pool both made Houma a preferred location. There is a synergy in the oil service industry in the area that allows any oil business to have ready access to critical support and supply.

Now, one thing we do have in the United States is a pretty good infrastructure, of getting parts and pieces that go on these platforms. If you need a valve you go to a local supply store and get it. It is not a really specialized type of thing. When you build in an area such as Mexico, or let's say, you are trying to build in West Africa, you are going to have to ship in four or five of what you need because you cannot stop the production process and go down to the store and get it. So you've got to have more than what you need because if you destroy something or you find out you need to change something or whatever you just can't leave the place and go get it (Kerry Chauvin, 2003).

There is another set of qualities that keeps Gulf Island in general, and Kerry Chauvin in particular, in Houma. This is the sense of place. Tied to this are the small town atmosphere and the quality of life, especially for Cajuns with family connections.

A lot of Cajuns don't like to leave Houma. They like their crawfish. They like to go fishing and their hunting season and things of that nature. But it really is a tremendous place to live. I was born and raised in Houma. I was very fortunate. Other than college and Air Force, I never have left again. I managed to make a living and raise my children. Nice little city here. Very low crime and it's a good place to raise the kids (Kerry Chauvin, 2003).

5.2. BILCO Tools

Much of Terrebonne's oil business is found in relatively small service companies, with twenty or less workers. A number of these, like the trucking companies, were much larger during boom times. Like the oil workers themselves, the oil service workers also show the cultural mixing that occurred as the industry grew up. Some of the people who came to the parish helped create the tools that are used by the mature industry today.

Bill Coyle Sr. was one of the more creative people in the service industries in Houma. He came to Houma in 1958. According to his son, Billy Coyle, bad partners had destroyed two prior businesses in Shreveport.

Dad's 84. He's been in the manufacturing end of it for, I guess since the early '50's. He started it in North Louisiana with... and it was funny. He was a GE appliance distributor. Started, had, sold refrigerators and ovens and the first TVs that came out in that area and he was a real likeable guy, real easy-goin' and most of the people that bought from him, bought on credit. And a lot of them were relatives and never would pay him, so [he was] forced to look at something else he got paid for. He got started making oil field equipment and started with what they call "centralizers" and I think in that field alone, it is called primary cementing equipment where you are running casing and you want your casing centered in the hole and they put cement around it and it keeps it centered, the casing centered. And he must have, just in the centralizer primary cementing aid, probably made 25 patents or so in that area. He come up with some real innovative type stuff. And he lost two businesses. He was a manufacturing genius, but he didn't know anything about business and he'd bring the guys in that had the sales expertise and they would get the jobs, but one guy, the first company he had, I think it was called Hub Oil Tool Company, got quite a bit of money built up and all of a sudden he took off and they never could find him again. They found out he went to South America, so Dad had to pay off all the bills and start over. And another guy done that, he filed, well he didn't file bankruptcy, but the other guy wanted to. He just wanted to take the money and run. That happened to him twice and so he sold out to a company called Delta Ironworks (Billy Coyle, 2002).

Dad was put in charge of GEMOCO. Delta Iron Works bought the business, equipment, some of the business debt and all the patents owned by Bill Coyle, Sr. He could have filed bankruptcy on the personal debts in North Louisiana but instead he directed that a portion of his paycheck each month went to the North Louisiana banks and that meant for six years we had to live a meager life (Billy Coyle, 2006).

Delta and Chromalloy American were part of Delta Industries, the large fabrication entity that was acquired by buyouts of local businesses in the late '70's and went bankrupt soon after. While the senior Mr. Coyle had a number of patents, he had little money to show for all his hard work. Right before Delta collapsed, it became apparent that the owners had not only lost their

investment but also the pension fund for all their workers. This crisis is what motivated the beginning of a new business, a family business. As Billy Coyle, Jr., recalls,

It goes back to 1978. My Dad was turning 62, he was still working at GEMOCO at that time. It was part of Chromalloy and he wanted to look at early retirement at 62. He found out he had, I think it was right at \$20,000 in his life savings. At that time the pension plans could be invested by the principals of the corporation to make the best investment on behalf of the participants. Well, they lost most of their money, and he had \$19,000 left to his name. Signed over for a dollar, I don't know how many patents worth millions of dollars. So I was selling insurance, I have a marketing background...Well, he was sick. He just agreed because he had wasted the last 20 years and he had nothing in return to show for it. He was 62 and he wanted to start enjoying life and so I told Dad, I said, "Pop, I sell intangibles, what you have is a tangible. If I can sell something you can't see, I can surely sell something you can see." But I didn't realize how hard it was as far as the oil – different animal. I didn't have any contacts anywhere in the industry and so I started knocking on doors and back then we had right at 4,700 rigs working in the United States. Do you realize how many we have today? Right at 1,100.

...we started BILCO in February 1978 and he left GEMOCO and I mortgaged my home, he put up everything he had and I have a friend that let us use a 20 by 20 section of his building, a guy named Bud Williams, Pioneer Fish and Rental Tools. And we got a milling machine, a drill press and a welding machine and we had some castings made and I went out and started selling. When I was going to college and high school, my dad let me work in the machine shop and I learned how to use the machines and I helped make the equipment. We'd sell it and then I'd go out and run the equipment. I learned how to use it so we would go on the rigs and stay three or four days, whatever, and run the job and come back. Go sell another job and just little by little, we started growing like that. Then in '81 when things, when we had the 4,700 rig count in the United States, it looked like there was no end to it. Well, in '82 things changed and just like a rock dropped, things started going down (Billy Coyle, 2002).

With BILCO, Coyle Industries, Bill Coyle, Sr. invented equipment and took out new patents, primarily for pipe handling tools designed with alloys that could resist the chemical environment of deep drilling. Once again, the problems of oil drilling in the Gulf stimulated creative solutions.

So we have some technology that no one else has. We started what they call "CRA," chrome resistant alloys, that's chrome pipe and it's like, what do you call it, 22 chrome, let's see what's the term. There are certain oil field terms that they use, like 11 chrome or 22 chrome, but it's softer and the reason it's softer is that it has got a lot more nickel and magnesium and different components in it that prevents corrosion. So when you go into H₂S and CO₂ environments down in the ground, it doesn't get eaten up. If you take carbon steel, a regular, say an N80

type pipe and put it down into the ground for your production string, you get high contents or high concentrations of H₂S and CO₂, it would make little pinholes in it, so that way you get a leak. You couldn't get everything up the pipe. It would be like Swiss cheese, little needle holes all through it. So the chrome goes in and it protects it for a lot longer, because one thing, it's like your skin, if you peck it, you can get a localized corrosion mark there and it can go through eventually (Billy Coyle, 2002).

Billy Coyle, Jr. had to go into debt to buy out his brother and his father, since the intent was to provide Mr. Coyle, Sr. with enough money for retirement. This all happened just as the oil work in Terrebonne Parish was declining. Coyle, Jr. had to take the business into the international realm. This was an area that he did not know well.

We would rent them all over the Gulf Coast and then we would sell them overseas. That was my first trip overseas after I bought the company, and I went in debt for, I think I borrowed \$800,000, something like that. I didn't think I would ever pay it back, to pay my dad off and my brother and plus I had my dad on a note for \$600,000, I think it was. Right after I had done that, the oil fields continued dropping so I had to buy a one-way ticket to, well, I picked out several spots in the world. I took a *World Oil* magazine and it showed the rig locations, where all the rigs were working. The majority of the rigs were working in the Middle East and Southeast Asia and I was calling on a customer at Consolidated Natural Gas, which was owned by Dominion now and here, there was an Indian who said, "If you are going to go that way, why don't you stop in Bombay, India and call on my friend Rashid somebody in ONGC?" Eventually it added up to some sales for me in India. But my first trip, I had enough money to buy an around-the-world trip ticket, eat one meal a day. I had it spaced out, because I took everything I had and put it into that trip, because I was, like they say, I was dead, but I just hadn't fell over yet. I mean, I didn't have any money to pay the bank notes coming up and I was out on a limb because of the economy going down. So I started this trip with a stop in Bahrain in the Middle East... (Billy Coyle, 2002).

Thus, to survive, BILCO Tools had to go international. Because this was a new realm for Billy Coyle, Jr., he essentially had to start from scratch to build up contacts. BILCO's advantage in this larger theater of operations was the quality of Bill Coyle's patents.

5.3. Conclusion

As evident in these cases, the truckers, land survey, aviators, fabricators and service businesses are in a very high-pressure situation in which conditions can change rapidly. The risk of downturn is as much a part of doing business in the oil industry as the profits from prosperity. The 1980's ushered in a sea-change for the oil service industry as oil shifted from the inshore to continental shelf and into the deep water. The oil companies started a process of consolidation that continues to this day, imposition of corporate-centered controls over business reduced the

independence of the remote drilling and production supervisors, and the globalization of oil production required an international outlook for business.

So as long as you get good oil prices, the oil companies are going to go and make a profit. If they can sell it local, they will do that. Whether they will or not, who knows? Now I got notes to pay for the next umpteen years for my past mistakes. Where is all this guarantee stuff coming from for the oil? That's the fourth downturn I am going through. And what I have, I have got a nice lifestyle at times, but as far as having a lot of money in the bank, it's no way. I'll pay the payroll through this last downturn, yeah, and if things don't go all right, I could be out of business tomorrow. You lose big and you win big in this business and just short of 25 years, they've had four ups and four downs. And it takes you a year or so just to recover from the downs and there is no guarantees in it, but yet you have to mortgage everything you have, you're personally liable for everything that goes on and they can come and clean you out (Billy Coyle, 2002).

The impact of the cycles on the parish economy is powerful. Oil businesses and workers could go from prosperity to poverty in just a short time. Some people opted out of these cycles, taking lower wage but steady jobs like retail sales or government work. Each down cycle cast off a few more oil workers, just as each up cycle brought in more young adventurers and cash seekers. In the end, a kind of fatalism sets in. Billy Coyle put it this way:

It's happy laugh time when times are good. When times are bad, it's not happy, so how do you average that out? It's been good to me at times and it's been really bad and the only thing, the only way I can live through it is, I quit worrying about it (Billy Coyle, 2002).

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The Department of the Interior Mission

As the Nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The Department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.



The Minerals Management Service Mission

As a bureau of the Department of the Interior, the Minerals Management Service's (MMS) primary responsibilities are to manage the mineral resources located on the Nation's Outer Continental Shelf (OCS), collect revenue from the Federal OCS and onshore Federal and Indian lands, and distribute those revenues.

Moreover, in working to meet its responsibilities, the **Offshore Minerals Management Program** administers the OCS competitive leasing program and oversees the safe and environmentally sound exploration and production of our Nation's offshore natural gas, oil and other mineral resources. The MMS **Minerals Revenue Management** meets its responsibilities by ensuring the efficient, timely and accurate collection and disbursement of revenue from mineral leasing and production due to Indian tribes and allottees, States and the U.S. Treasury.

The MMS strives to fulfill its responsibilities through the general guiding principles of: (1) being responsive to the public's concerns and interests by maintaining a dialogue with all potentially affected parties and (2) carrying out its programs with an emphasis on working to enhance the quality of life for all Americans by lending MMS assistance and expertise to economic development and environmental protection.